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THE AMERICAN ARCHITECT
THE ARCHITECTURAL REVIEW

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Plates

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THE AMERICAN ARCHITECT
The ARCHITECTURAL REVIEW

VOL. CXXV WEDNESDAY, MARCH 12, 1924 NUMBER 2441

FINANCE *and the* ARCHITECT

BY EDWIN H. HEWITT, F. A. I. A.

BOTH the banker and the architect have a mission to perform in the development of the country, a mission requiring close co-operation between these two necessary elements in the construction field. That there has not always been this co-operative spirit in the handling of building projects is apparent on all sides. The writer confesses often to a feeling of discouragement when observing how apparently indifferent the various elements in a building project are in their attitude toward the economic aspect as well as the professional service required, whether in public or private work.

Art in the civic sense and architecture the art still require from the practitioner a knowledge of design based on tradition centuries old, governed by principles of proportion, scale and co-ordination of plan. The science and art of building construction have been profoundly changed and are constantly changing by reason of discoveries and innovations in engineering science, with the inevitable tendency to increasing complexity in building requirements. To cope with these ever expanding responsibilities the overburdened architect has been forced to create organizations able to handle the multitudinous and intricate problems involved in correct architectural practice.

The necessity of being the designer and the co-ordinator of the arts and sciences involved in the production of modern buildings calls into play a high degree of executive ability, as well as loyal team play on the part of the expert assistants necessary to the efficient functioning of the architect's office. This wide experience should assuredly fit the competent architect to be a most essential economic factor in all building operations.

The problems involved in the advancing of credit and the determination of those factors controlling the establishing of credit, demand also a keen sense of responsibility and are largely individual, both from the standpoint of the lender and of the borrower. When weighing the advantages or disadvantages of a project to be financed, even though the project has been designed by the engineer and architect in a sound manner, bankers will differ. To one the project may seem perfectly feasible from his individual viewpoint, and to the other's judgment may lack something, possibly selling value. After all, those underwriting issues of securities for building projects of one kind or another must always bear in mind the possibility of absorption on the part of the buying public. One might as well recognize at once that this must be a factor in the individual attitude on the part of the banker.

For the purposes of this discussion only broad generalities need be used. Nevertheless, and admitting the sins of commission and omission on the part of the architectural profession, the architects of ability of this country have proven again and again their right to be considered an essential element in the building industry. It would be tedious to labor this point. The writer insists that these very qualities admittedly required in a thorough study of a given problem, where talent in design, economic study, engineering science and the ability to co-ordinate in a masterly manner all the complex requirements of modern buildings are from time to time glaringly absent in buildings otherwise ably handled as far as details of financing are concerned.

The observing architect may therefore be pardoned for calling attention to this paradoxical aspect to be observed in certain building operations which come to his notice.

There seems to be a difference of point of view on the part of those financing a municipal or private building project on one hand, or the building of a revenue producing plant like a hydro-electric development project on the other. Even architects are approached from time to time by hopeful bond salesmen with offerings of securities representing these two varieties of building proj-

ects. If the architect is sufficiently interested as a potential buyer he studies with due regard to security, the underlying factors controlling the safety of the investments offered. In the one case the salesman bases his principal selling talk on a convincing array of expert findings. The legal phases of the development project are covered by the report of legal talent, whose very signature spells competence and respectability. The report of the constructing engineers, the financial questions involving markets, franchises, earnings, etc., are presented over the signatures of individuals of recognized standing; but in the matter of a loan on a municipal building program (tax exempt) such reassuring facts and figures are sometimes absent and stress is laid almost exclusively on those factors concerning the credit of the municipality, its tax rate, the borrowing limitations, etc. The same amount of money oftentimes is involved in both projects. It would be quite unthinkable that the power development project should be designed on obsolete lines, be inefficient, an economic burden, if not loss, at the moment of completion. No private corporation with this kind of project in mind would employ incompetent engineers, unreliable lawyers. Indeed no financing house would look at a project without all the above elements insuring safety being handled by the most expert practitioners, but to be frank, one is forced to recognize the difference of attitude when it comes to the matter of mere buildings. Here political influence, questionable bargainings, and methods generally considered unsound from a pure business standpoint oftentimes obtain. So that it is not to be wondered that your bond salesman is unable to bring out those facts which should be used in discussing the soundness of a building project, other than the purely credit elements. In the field of private or speculative building the same disregard for competent expert advice is noticeable. There surely is as much of an economic loss in a poorly designed building in the long run as in a poorly designed power plant. Nevertheless the fact does not seem to worry the building public. It is this situation which the architect observes with wonderment. We must be forced to the conclusion that in many cases poor business judgment is used in municipal or private building projects. There seems to be an unconcern on the part of responsible parties as regards the results achieved from the proceeds of the loans, which it seems to the writer requires analysis. Perhaps the answer lies in the fact that most laymen when it comes to building feel quite competent to assume responsibility and often fail to recognize that adequate professional skill is the first requisite.

Perhaps enough has been indicated in the above. The point of view which the writer desires to bring out on the whole matter might be illustrated by an anecdote, more or less characteristic. Some years ago quite a large bond issue was floated in this locality (Minneapolis) involving a municipal building operation in an adjacent state.

The writer was approached by a salesman with an issue of these bonds. For his own interest he examined into the situation sufficiently to discover that neither the bond salesman nor the house of issue seemed to have any knowledge as to who the architectural firm was to be, if responsible designers. There seemed to be little desire to go into this question since it apparently, in their minds, was of slight importance. The questions were asked largely to develop this fact. The credit of the community was above question, there was ample margin of safety in their borrowing capacity, it was a direct civic obligation which unquestionably guaranteed the safety of the issue. A year or so later the writer happened to be in the city where the municipal project was realized as the result of this bond issue. It occurred to him to ask a citizen of this place how their municipal project had prospered. The subject did not seem to awaken any enthusiasm, and finally after pressing, the gentleman said that the building was thoroughly unsatisfactory. There was some question of difficulty of arranging proper access for the public and other matters needless to mention. The fact remained that the building was unsatisfactory. So the writer wonders whether this state of affairs isn't after all thoroughly unbusinesslike and uneconomic. The question naturally occurs to one, how can the situation be corrected? The answer presumably is that bankers and houses of issue should really take to heart this question of responsibility toward the public, the standards of successful architectural practice should be perfectly apparent to financial interests, even though the public is still in ignorance as to what those principles are. It would seem the part of wisdom that every municipal or private project where there is any doubt should have its results more or less guaranteed by expert criticism. While this suggested solution may not evoke enthusiasm on the part of the profession in general, the above remarks at least suggest that care in the selection of the professional assistance is required for these projects. It is as feasible in a building project to have dependable expert advice as in the case of any other engineering project. Is there not some way to bring this matter before responsible bankers in this country?

PACIFIC AVENUE, DALLAS, LOOKING WEST FROM "FIVE POINTS," SHOWING PRESENT CONDITION. NEW MEDICAL ARTS BUILDING AT RIGHT, DALLAS ATHLETIC CLUB UNDER CONSTRUCTION AT LEFT

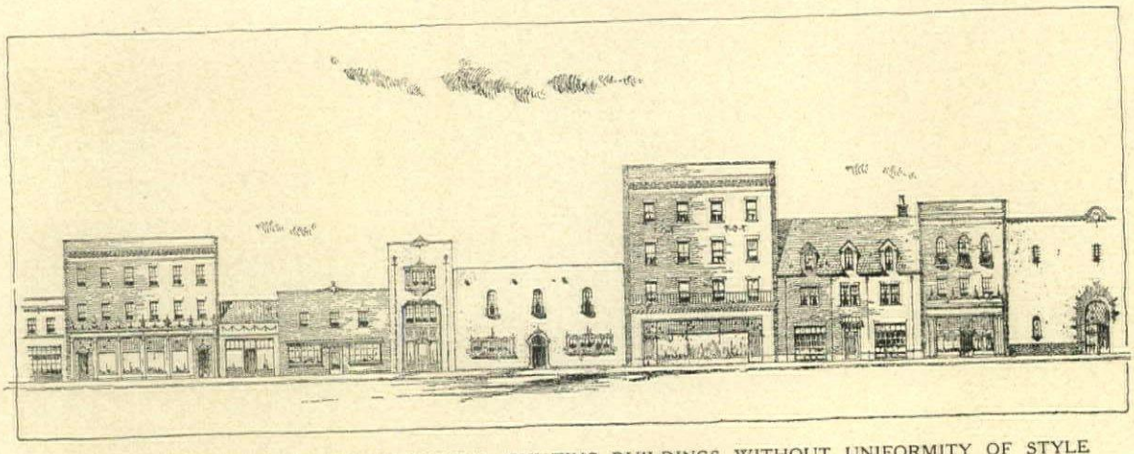
The VILLAGE THAT BECAME *a* METROPOLIS *and* HOW IT SOLVED *a* VITAL PROBLEM

SEVENTY years ago, more or less, a pioneer built him a cabin in the lowlands of a Texas water course and became the founder of what is now, with one exception, the largest city of the Southwest. Other pioneers came to build their cabins and the settlement soon came to be a village, expanding to the Eastward along its three parallel and adjacent thoroughfares. In time a transcontinental railroad came that way and chose for its right-of-way a fourth street parallel to its three predecessors and immediately adjoining them. Buildings were erected along this right-of-way, stores, warehouses, and the like, of one, two or three lofty stories, being for the most part the rear ends of the town's more pretentious store fronts, fashioned after the manner of the times, of common red brick, with long narrow openings capped by corbeled "three row-lock arches," and with iron window gratings and G. I. downspouts as embellishments. Thus Pacific Avenue, for so the right-of-way was named, was built.

Meanwhile the village became a town and the town became a city and the three quiet avenues of its early days became the downtown section of a progressive metropolis with an ever changing, more and more imposing, skyline. But there was scant expansion to the North of this district for Pacific Avenue with its grade crossings and its fast freights roaring to the Eastward, gathering all possible speed to make the sharp grade, constituted a mental hazard which no business dared cross. As a result Pacific Avenue and its architecture remained unchanged while a city grew about it.

In 1911 the late George E. Kessler, city planner, recommended in his report on a city plan for Dallas—for the city of this dissertation is Dallas—the removal of the tracks from Pacific Avenue, saying that such a step would be the most revolutionary and the most beneficial the city could take in its progress toward a better city plan. The virtues of such an action needed no further stressing to the people of Dallas and work was begun on the long road to this Herculean accomplishment.

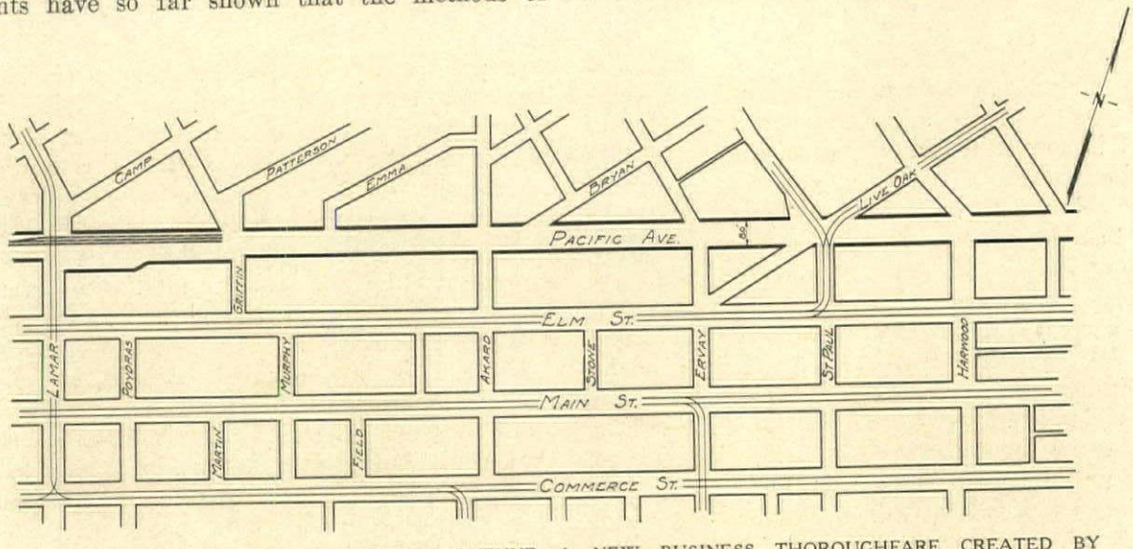
Recently there was held in Dallas the formal opening of Pacific Avenue, a broad, well paved, well lighted thoroughfare a mile in length, empty of railroad traffic—but lined with the façades of



SCHEME FOR REMODELLING OF TYPICAL EXISTING BUILDINGS WITHOUT UNIFORMITY OF STYLE
SUBMITTED BY THOMSON & SWAINE, ARCHITECTS

thirty years ago. And now as those responsible for the renaissance of this thoroughfare step aside in the knowledge of a work well done, there confronts the property owners and the architects of Dallas a responsibility that is alike an opportunity.

Pacific Avenue is a logical location for retail stores and shops and that it will eventually come into its own architecturally, as such, there can be little question. As to the ways and means of hastening this end, or the steps to be taken to bring immediate architectural beauty to the Avenue, there is a wholesome difference of opinion. Even if the solution of the problem rested solely with the architects of the community, events have so far shown that the methods of architecture, with as much individuality for the separate fronts as the style will allow, the one style making for harmony; some say that the only rule should be that of good taste in design, the resultant variety in fronts relieving a possible monotony; others believe that an art commission backed by the organization of property owners, passing upon the merits of proposed improvements would insure the final attractiveness of the Avenue; and some, less visionary, though perhaps more practical, say that inasmuch as the purse strings and the long-time leases of the property owners control the situation, all this excitement at this stage of the proceedings is merely a tempest in a tea cup and, given time, Pacific Avenue will work out its own salvation.



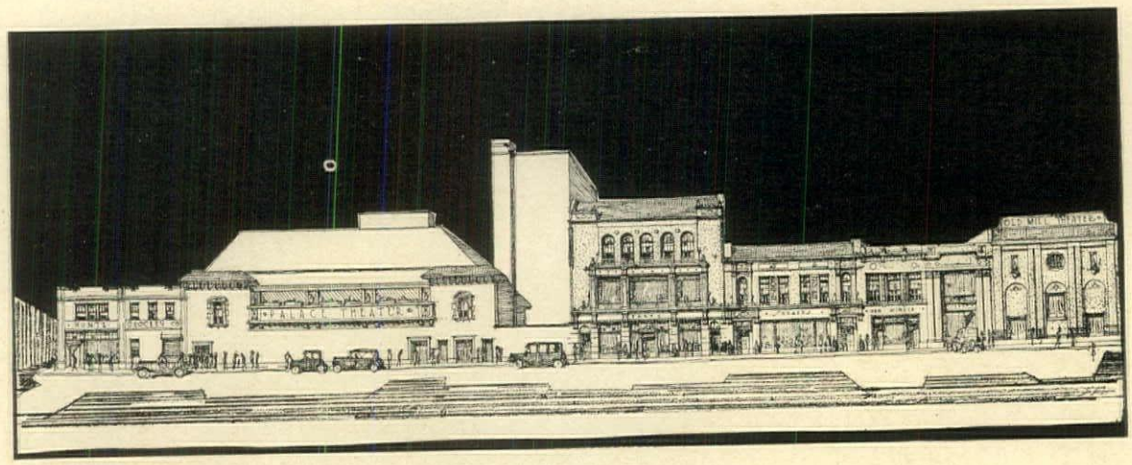
MAP SHOWING PORTION OF PACIFIC AVENUE, A NEW BUSINESS THOROUGHFARE CREATED BY REMOVAL OF TEXAS & PACIFIC RAILWAY TRACKS

attack would be several and varied. The one commonly accepted point of departure is that, for the present, the problem is one of remodelling the existing structures. Beyond this point there is a parting of the ways. Some say that this remodelling should be in a uniform style of

One plan has been brought forward for the renovation of the old structures from end to end of the street by means of a coat of stucco with additional minor enrichment, so that an economical transformation could be accomplished immediately, allowing the more permanent improve-

ABOVE: PACIFIC AVENUE LOOKING WEST IN 1919

BELOW: PACIFIC AVENUE LOOKING EAST IN 1919, SHOWING ELM STREET AND SKYSCRAPER SECTION AT RIGHT



ABOVE: SKETCH B, SUBMITTED BY HERBERT M. GREENE CO., ARCHITECTS. SEE ILLUSTRATION BELOW FOR COMPLETED DESIGN

BELOW: PACIFIC AVENUE, FROM ERVAY STREET. BUILDINGS SHOWN ARE THOSE IN SKETCH B ABOVE

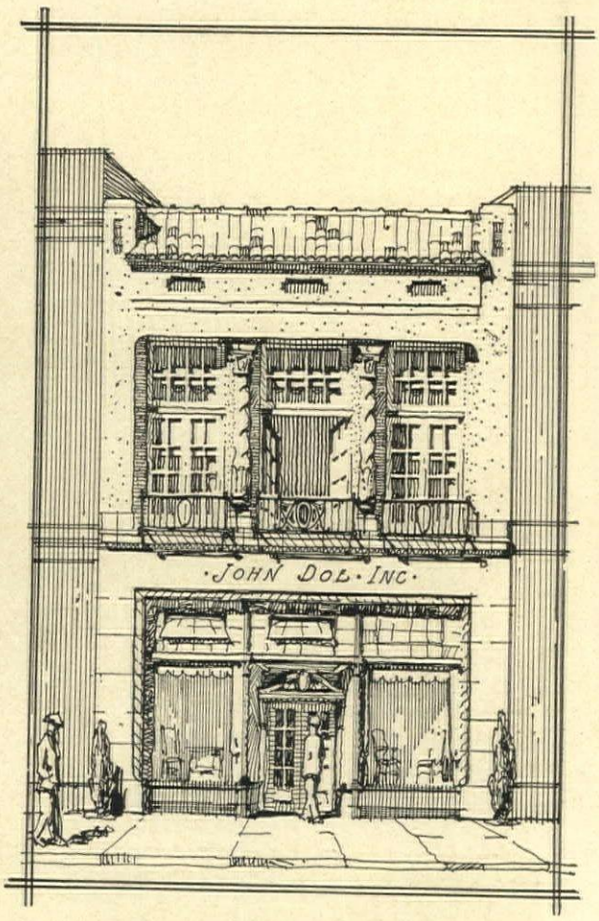
ments to be carried out as time went on. This recalls the rejuvenation of certain districts in New York wrought by cement plaster, green

BUILDING CHOSEN FOR THE SUGGESTED REMODELLING BY THE DALLAS ARCHITECTURAL CLUB

blinds and wrought iron railings. The adherents of this plan, however, are faced by the problem of getting all the property owners in the same frame of mind at the same time.

Prior to the formal opening of the street a number of Dallas architects, at the suggestion of the Dallas Society of Architects, prepared hurried sketches showing their respective ideas of the problem's solutions. These were transferred to slides and thrown on a screen at the occasion of the opening as a means of informing the citizens of Dallas of the possibilities latent in their new street. Several of these sketches are herewith reproduced illustrating a wide variation in the proposed ways of accomplishing the work ahead.

With Pacific Avenue in its present condition it is perhaps hard for the property owners to visualize the street of the future. But among these property owners, among the citizens at large, among the architects of Dallas and in that little organization known as the City Plan Commission of Dallas, there are men who see the opportunity, and whether their constant efforts along right lines are consummated in the near or in the distant future, Pacific Avenue must eventually be an achievement that will constitute its own reward.



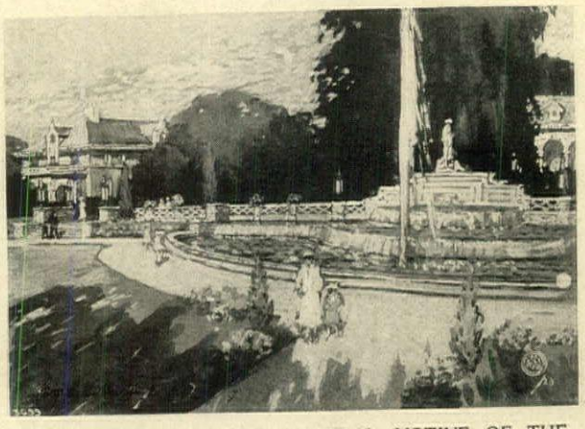
PROPOSED REMODELLING OF A SPECIFIC BUILDING, TO INCLUDE QUARTERS FOR DALLAS ARCHITECTURAL CLUB. SEE ACCOMPANYING ILLUSTRATION OF EXISTING BUILDING

The HINSDALE COMMUNITY DEVELOPMENT

GEORGE W. MAHER & SON, Architects and Town Planners

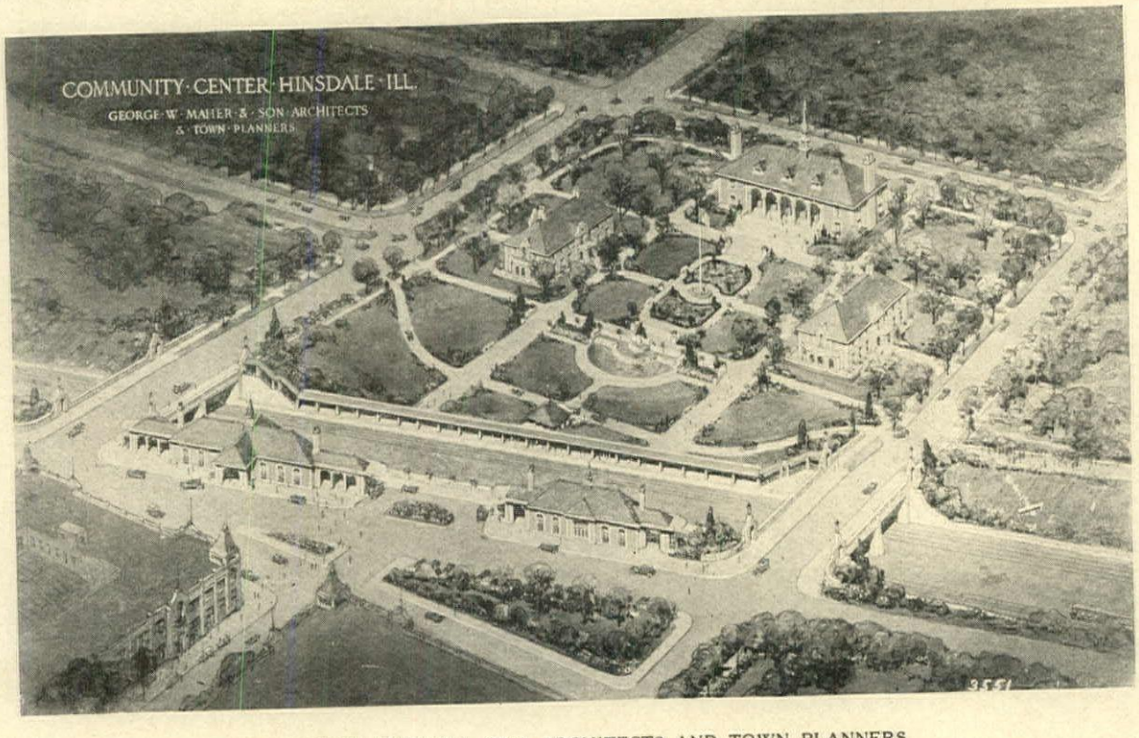
THE development of suburban areas is particularly an architectural problem. When conducted as such it creates a community that starts out to grow, properly conceived and economically projected, combining the artistic principles that should be the very essence of suburban development. An interesting case of community development is to be found at Hinsdale, a thriving suburb lying Southwest of Chicago. This development has been going forward for some time under the direction of George W. Maher & Son. As in many similar instances, the main problem, or the main corrective feature is to eliminate as far as possible the obtrusive presence of the railway tracks. The tendency in all suburban development or growth in this country is to group the early settlement around the railway station or along the right-of-way. As the suburb grows and takes on an added dignity, there always arises the question of what to do with the railway.

At Hinsdale this matter will be met by the depression of the railway tracks. A properly located community center is then established, wide thoroughfares laid out and future subdivisions decided on. But first and always first is the beautifying of the railroad right-of-way. It is not always possible, as in the case of Dallas, Texas, to induce the railway company to abandon a right-of-way long used, for one that encircles the outskirts of the town.

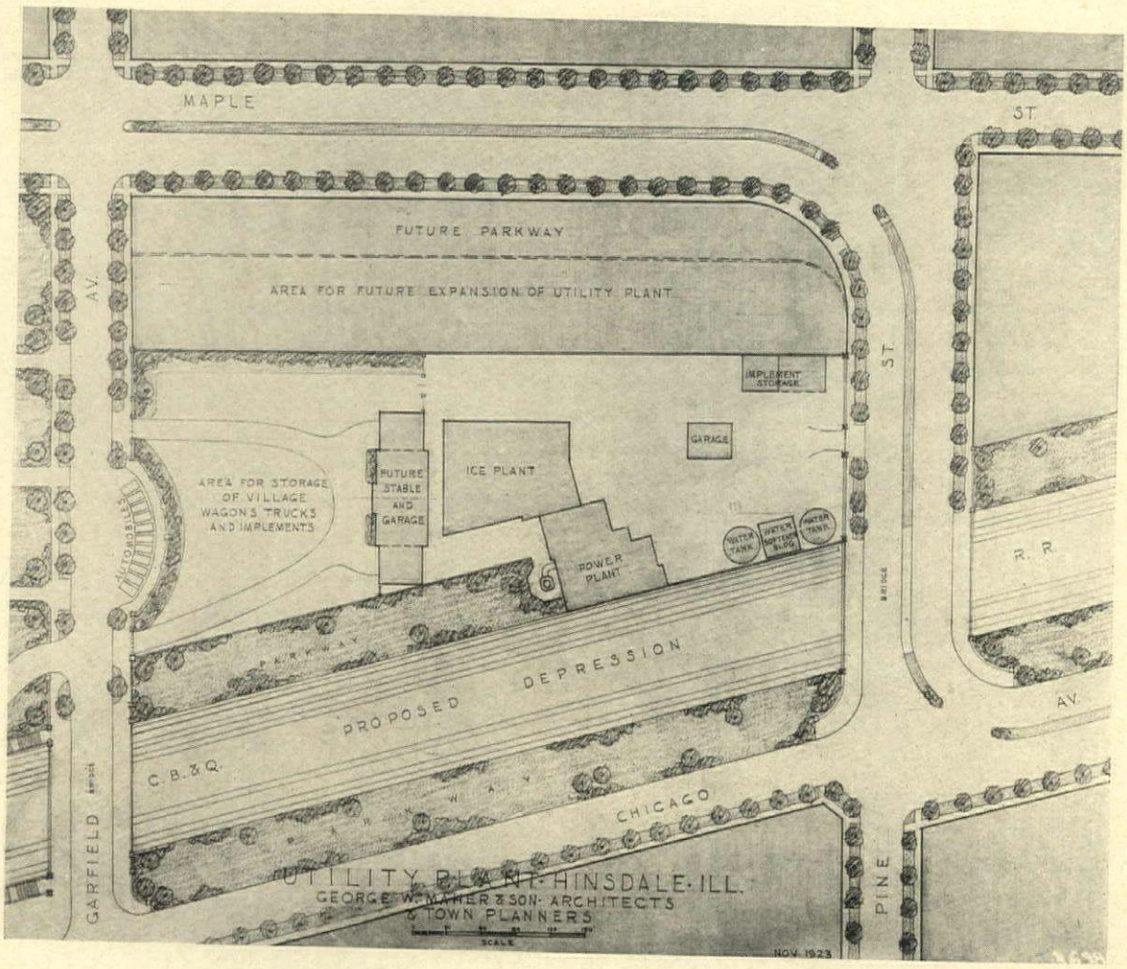


THE FOUNTAIN IS THE CENTRAL MOTIVE OF THE COMMUNITY CENTER

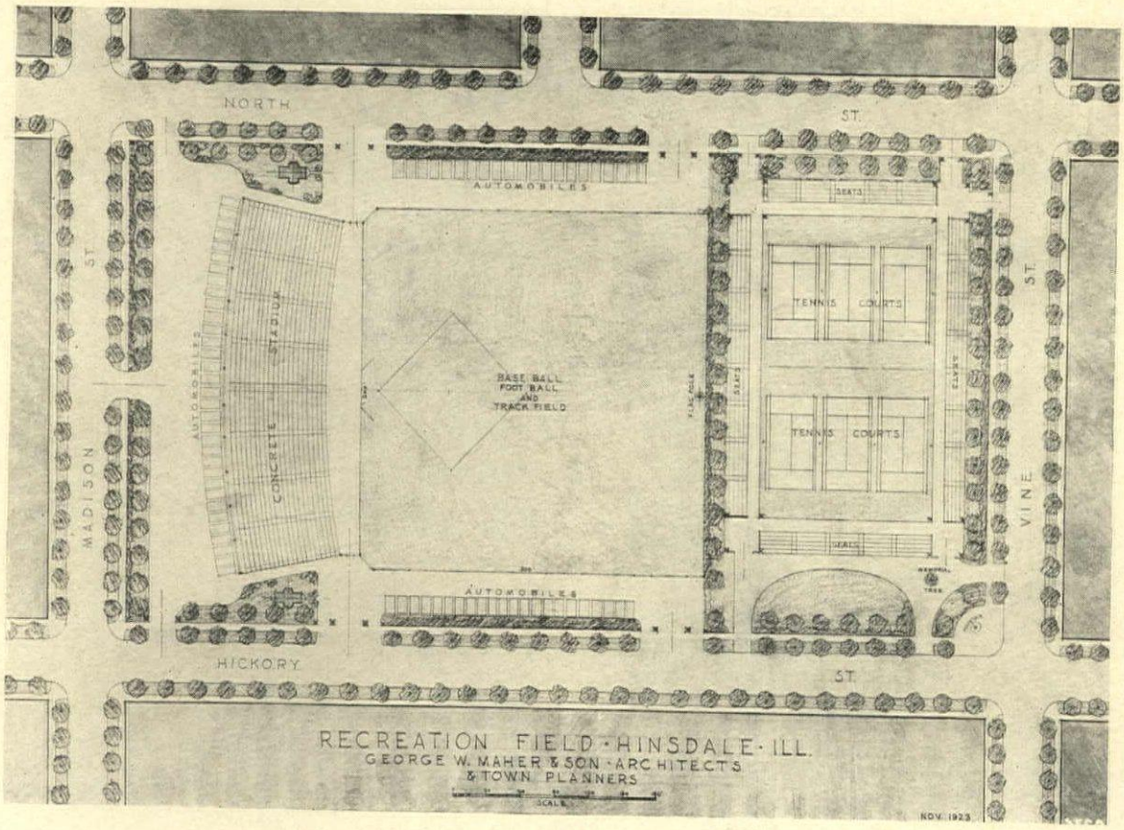
The utility plant plan shows just how the architects have provided for these necessary features after the depression of the tracks. Ample provision is made for possible future extension and the entire area screened by parks well located and carefully planted. Parking spaces and large areas for the storage of the village trucks and



GEORGE W. MAHER & SON, ARCHITECTS AND TOWN PLANNERS



SHOWING LOCATION OF UTILITY PLANT



THE RECREATION FIELD

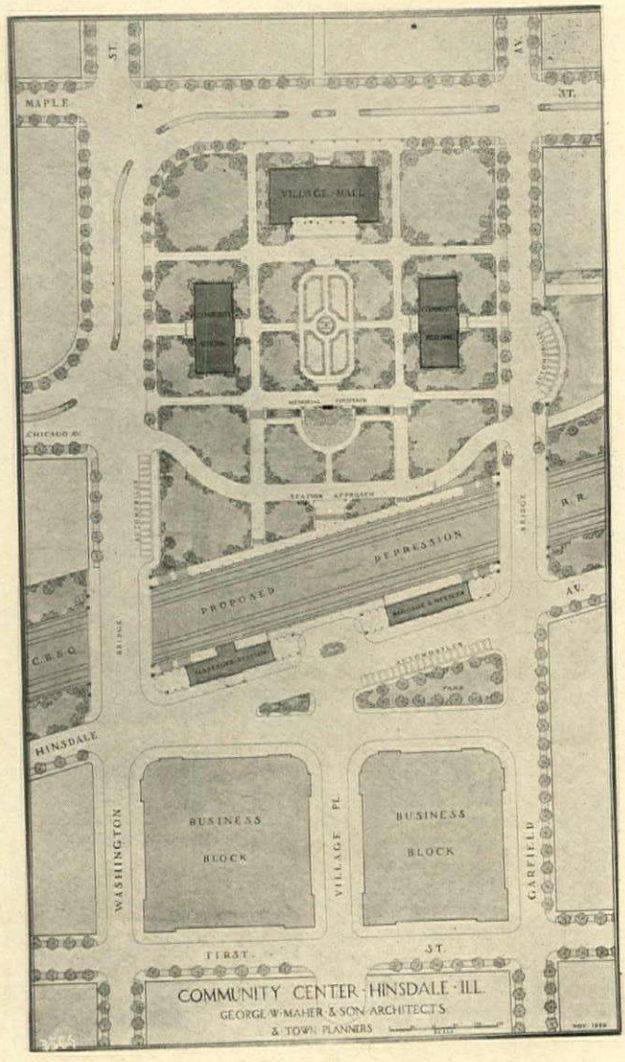
THE HINSDALE COMMUNITY DEVELOPMENT

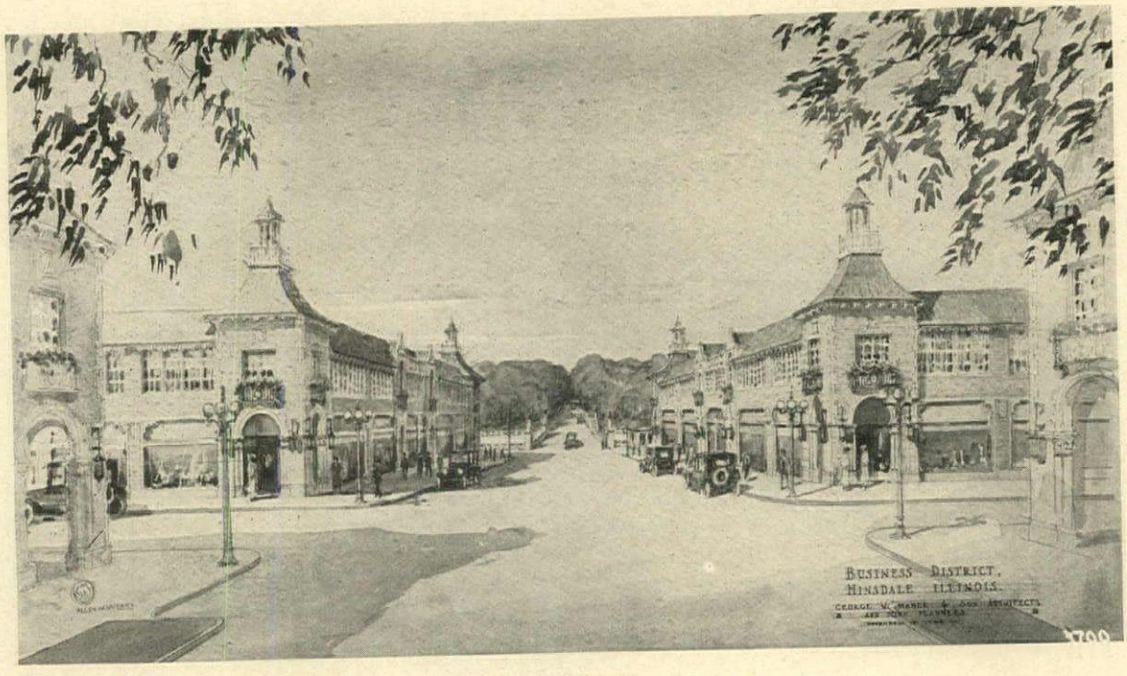
GEORGE W. MAHER & SON, ARCHITECTS AND TOWN PLANNERS

wagons are provided. The various power plants and municipal departments and utilities find location in this section, all of which is apart from the daily community life, and prevents their intrusion on correctly zoned sections.

The community center, one edge of which is bounded by the depressed tracks, is well placed and carefully conserved. In the business section and this community center, the architects have availed of the finest opportunities to create logical, well planned and thoroughly artistic features. Restrictions placed on the development of this community will prevent any radical interference with the design of buildings or their location, and the future is as well assured as it is well planned at the outset.

It is notorious how in this country we fail to conserve our architectural heritage. In every city and town throughout the United States, opportunity for well considered development is presented. So seldom is this opportunity availed of and so often does each property owner proceed on his own initiative, without regard for his neighbor, that whole sections are disfigured for all time. But in cases where communities carry out the proper community spirit and unite under the leadership of competent architectural advice, we reach a result such as is found at Hinsdale. The difficulty lies in overcoming the pernicious activities of local speculative "development companies" that are largely responsible for the unfortunate conditions that are present in so many community developments throughout the United States.





BUSINESS DISTRICT

GEORGE W. MAHER & SON, ARCHITECTS AND TOWN PLANNERS

OLD NEGRO QUARTERS ON MARYLAND STATE ROAD

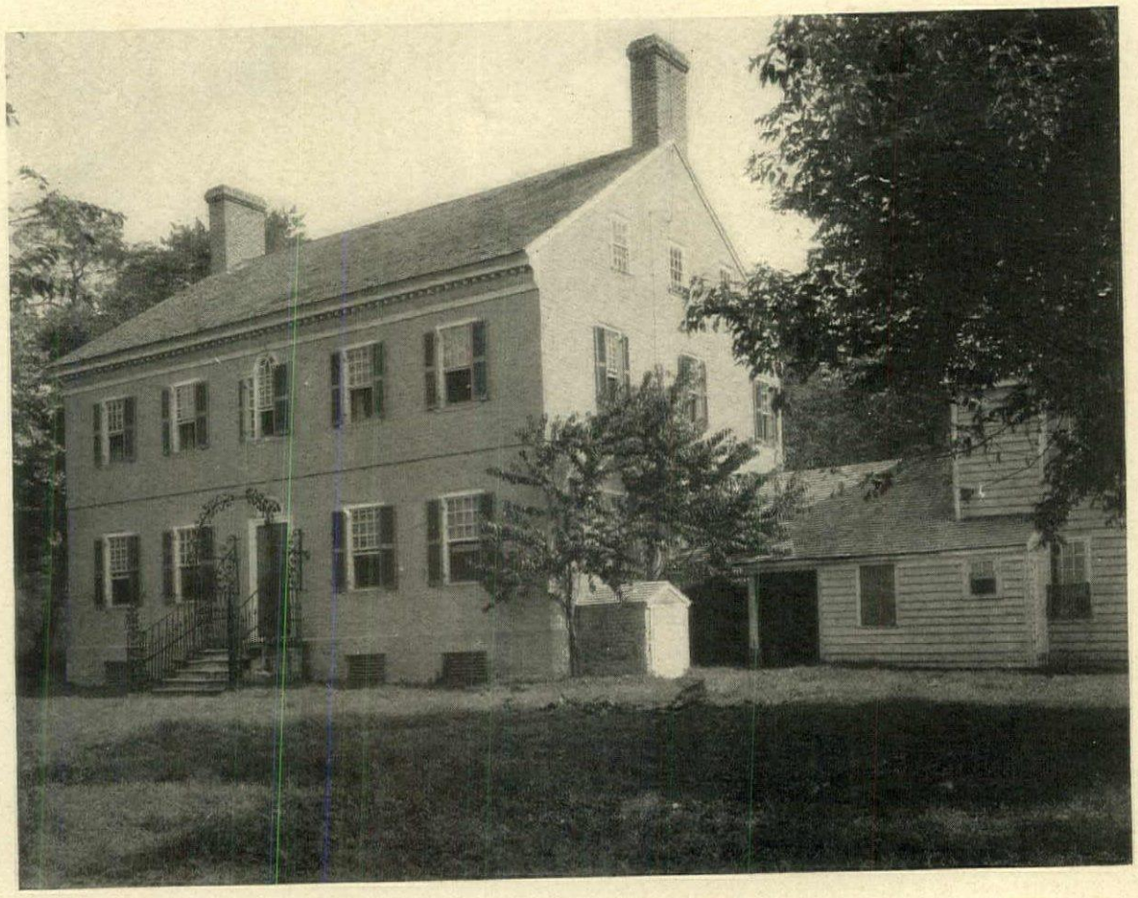
AN ARCHITECTURAL RAMBLE THROUGH MARYLAND

BY CARL A. ZIEGLER, Architect

IN LEAVING Virginia with regret and wandering homeward through Maryland and Delaware, one may find some consolation in the recollection that the original charter for that part of America, commonly called Virginia, included all the land between the thirty-fourth and the forty-first parallels of latitude. The thirty-fourth parallel passes through the middle of what is now South Carolina, near Cape Fear, and the forty-first parallel touches New York. The eastern boundary was the Atlantic Ocean and the western boundary was thought to be the "South Sea," which in those days was supposed to be so near the Atlantic and beyond—"Cathay and all the wealth of the Indies." There was no question in the minds of the early settlers that the "South Sea" was but a few days' march from Hatteras or Chesapeake. It was not their intention to abide very long at Jamestown, the original settlement on the James, but to push on up the large rivers, whose size conveyed the notion that they were huge estuaries running from sea to sea. In the instructions given to the colonists, they were cautioned to observe, "whether the rivers on which you plant, doeth spring out of mountains or out of lakes. If it be out of any lake the passage to the sea will be more easy, and like enough you shall find some spring which runs the contrary way toward the East India Sea." Had such been the case there would have been no Colonial architecture of Virginia or of any other section for that matter, for the lure of gold is not conducive to so simple an art, but to generations of men and women who endured years of hardship, and earned their daily bread by the sweat of their brows, (after the India bubble had been pricked), America owes the one architectural style that records her progress as a truly cultured people.

These events occurred shortly after Queen Elizabeth died in 1603 and James Stewart became King of England and Scotland, and after a treaty of peace ended the long war with Spain. Then it was that the English mind turned to thoughts of colonization in America. Wealth such as Spain had found, was the dazzling lure, and joint-stock companies, acting under the permission of the Crown, became the interesting topic of the time. The prototype of these companies was the East India Company which was formed in 1600 and its activities are recorded upon many of the pages of English literature. Thackeray would be minus many fine passages without its inspiration.

In 1606 the London and Plymouth Companies were formed under one charter. The Plymouth Company had letters patent for North Virginia, and sent two ships, the "Mary and John" and the "Gift of God," to what is now the coast of Maine. A settlement was started upon the banks of the Kennebec, where a church and a fort were erected, but a severe freezing winter with sickness and starvation caused the abandonment of the project; and not until the advent of the Mayflower was it resumed.



THE RIVER FRONT, "BEVERLY"

The London Company, afterwards known as the Virginia Company, in the winter of 1606, sent out three ships, the "Susan Constant," the "Godspeed," and the "Discovery." Small they were indeed and beside their crews, they carried only one hundred and twenty colonists, all men. Much wit has been expended over this attempt to establish a colony of one hundred bachelors but nevertheless they succeeded after many trials and tribulations in founding the Colony of Virginia.

In 1625, George Calvert, first Lord Baltimore, a Secretary of State under James, openly professed the Roman Catholic faith, a courageous thing to do in England during the seventeenth century. Had he not done so the history of Maryland might have been very different, but, straight thinker that he was, he foresaw that to avoid the "Recusancy Acts" a haven must be provided for his fellow Catholics and determined to plant a colony in the New World where there would be religious tolerance and a practical separation of Church and State, in which idea he was many years in advance of his time.

Some years before his conversion he had obtained from the King a grant to a part of Newfoundland which he called Avalon. Writing to King Charles he says:—"From the middle of October to the middle of May there is sad fare of winter on all this land. I am determined to commit this place to fishermen that are able to encounter storms and hard weather, and to remove myself with some forty persons to your Majesty's dominion of Virginia where, if your Majesty will please to grant me a precinct of land, I shall endeavor to the utmost of my power to deserve it." Being in favor with Charles, who had no real antagonism to the old religion, he received a grant covering what is now Maryland, Delaware and a part of Pennsylvania, but not without loud protest from the earlier settlers at Jamestown. This land he named Terra-Maria—Maryland—for Henrietta Maria, then Queen of England, with possibly such mental reservations as a good Catho-

lic would make in favor of a name so intimately connected with that religion.

Many there were who thought they saw the threat of a "Rome in America," but as the Sovereign was his friend and as Parliament had been dissolved by the King, not to be summoned again for eleven years, their protest availed nothing and Baltimore saw the signing of the charter, after the accomplishment of which he died suddenly in 1632.

His son, Cecil Calvert, second Lord Baltimore, as able and sagacious as his father, took up the burden and prepared to settle the new country, but so great was the clamor in London against this Catholic enterprise that the second Baltimore feared to leave England with his band of colonists lest the opposition might gain the King's ear to his disfavor and therefore he appointed his brothers Leonard and George to go to Maryland in his stead. Leonard he made Governor and Lieutenant General and late in November, 1633, the "Ark" of three hundred tons and the "Dove" of fifty tons set sail from the mouth of the Thames. Lord Baltimore reported that there were on board "two of my brothers with very near twenty-three gentlemen of very good fashion, and three hundred laboring men well provided in all things."

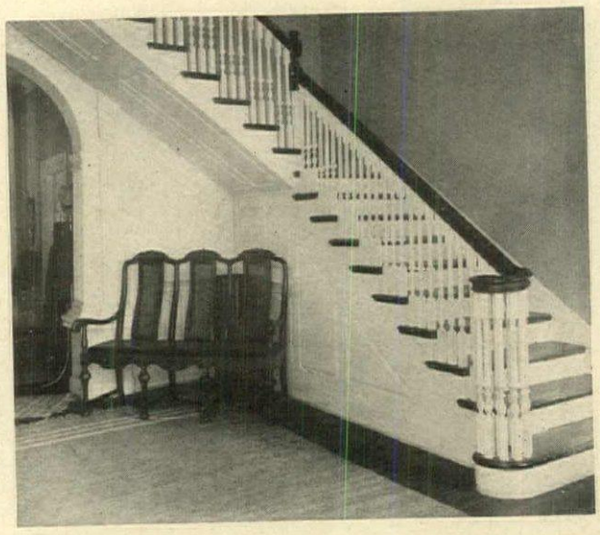
DETAIL OF RIVER ENTRANCE OF "BEVERLY" ON THE POCOMOKE RIVER

Note the curious transom over doorway. This occurs also on the main entrance. The ironwork was brought from England about 1770 and it was arched over the stairway to provide for a lantern which fitted into the ring

These, the first Marylanders, came to Point Comfort in Virginia in February, 1634, where they took on supplies, being treated with "courtesy and humanity," at the command of the King and from thence they sailed up the great Chesapeake Bay to the Potomac and landed at St. Clements Island. The island being found too small for their purpose, they sailed down the river and found a tributary stream flowing into it from the north. This was named the River St. George. Here was purchased from the Indians all their cleared and planted field and miles of surrounding forest, for which they paid in axes, hatchets, and cloth. It appears that this small Indian village was rapidly being extinguished by their stronger neighbors, the Susquehannocks and previous to the arrival of the Englishmen they had debated in council the advisability of abandoning the settlement. The Indians therefore departed, leaving the English with a clear title to the land and on March 27, 1634, the "Ark" and the "Dove" fired their pieces

FARMHOUSE NEAR WESTOVER, MD.

Maryland has many of these charming small houses

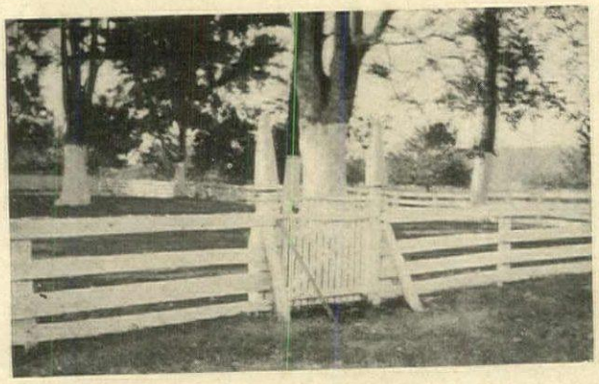


STAIR HALL, "BEVERLY" ON THE POCOMOKE RIVER

Many of the rooms in this house are panelled with wood, and very strongly indicate the Georgian influence

of ordnance and the Indian village became the English town of St. Mary's.

Thus we see how closely allied were Virginia and Maryland in their beginnings and from the photographs illustrating this article we find a similarity in the architectural record of their development in the years which followed. One leaves with genuine regret the calm, quiet, thoughtful atmosphere of Mt. Vernon, Westover, and Tuckahoe with all the romance that has centered about the long departed mode of living which they record, but if we follow the signboards truly we still have before us many a treat before we reach that commercial "Moloch," the metropolis, whose architectural expression is a battle of all the styles that the world has known, each placed strategically where it will do the most harm to the other, and which seems impotent to devise any new architectural form to hand down to posterity as a sign of its intellectual development, despite the strenuous effort of those who, like the frog, are distended near to bursting in a vain effort to give a noisy

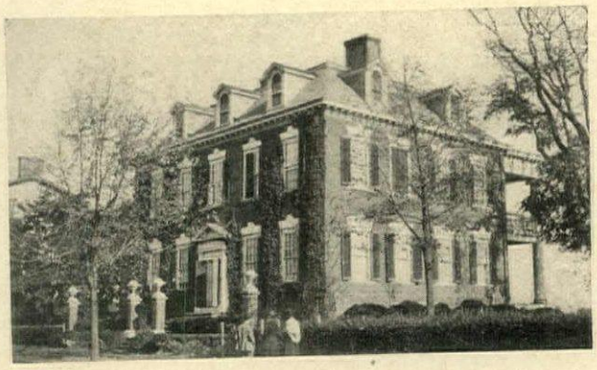


GATE TO AN OLD FARMHOUSE ON THE EASTERN SHORE

Note the English character of the post caps

expression that may pass as an entirely new American style. Of course architectural styles are not created because, forsooth, two or three long haired and flowing tied individuals gather together and pray for a revelation. The false construction of the modern office building is probably as adequate an expression of the aspirations of the times as one could desire, although one or two hundred years is as long as these steel structures may be expected to endure.

Perhaps the yearning for a proper architectural



A GEORGIAN HOUSE AT CHESTERTOWN, MD.

Considerably altered but retaining much of the character of its English prototype. The walls have all header brick on the face which is most unusual

sign wherewith to express modern thought and achievement may be answered as was a certain Board of Freeholders in the early days of New England. It appears that a certain Innkeeper having been engaged in a lengthy lawsuit in which he had spent most of his substance, finally won his case, but two of the members of the court had filed dissenting opinions, which so incensed the Publican that he caused to be painted upon the signboard of his Inn a picture ridiculing the dissenting Judges, much to the mirth of the community. The matter coming to the attention of the authorities he was ordered to remove the sign forthwith, but failed to do so. Whereupon the Freeholders in meeting assembled, decided to ride to the Inn in a body and demand a compliance with their resolution, but the Innkeeper having gained knowledge of the fact laid his plans to trap the representatives of the law and when they rode up to the hostelry, over their heads swung the sign on which had been lettered:—"A Wicked and Adulterous generation seeketh for a sign but no sign shall be given it."

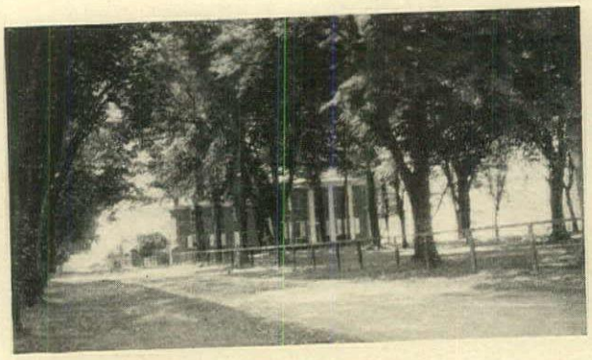
If Virginia has its "Westover," "Shirley," "Monticello," and "Carters Grove," Maryland is no less proud of its "Homewood," "Montebello," "Wye House" and "Doughoregan Manor" and the saunterer who wanders along the roads of Maryland may be sure that at very frequent intervals he will find the long, shaded, lanes leading to

"BEVERLY" ON THE POCOMOKE RIVER, MD.

BUILT IN 1774

A HOUSE IN CHESTERTOWN, MD.

Chestertown was the original port of entry for Maryland before Baltimore was chosen, and it retains the quaint atmosphere of the early Eastern shore towns



CORKRAN'S GRANGE, MIDDLETOWN, MD.

NEAR KINGSTON, MD.

architectural gems that reveal the fact that the people who settled this portion of our country were true gentlemen and sportsmen, cast in a fine mould that endows one with the love of the beautiful, as expressed in their gardens and houses, as well as the practical qualities necessary to the management of large plantations and the breeding of thoroughbred stock. Ruskin has said that a house should express something of the character of its occupants and these homes of the south certainly have caught some of the characteristics of the people who created them.

ENTRANCE DOORWAY TO A GEORGIAN HOUSE AT CHESTERTOWN, MD.

As in the buildings of Virginia, the architecture of Maryland shows unmistakable evidence of its derivation from the English Georgian work, especially in its more pretentious mansions, but almost without exception wood was used for the columns, cornices, etc., in place of the cut stone used in the best English Georgian work, and it is in these subtle changes in the proportions of the orders to suit the new material, that the early American designers showed their greatest skill. In Virginia and Maryland one sees very little, if any, attempt to make wood construction pass as stone, although this was done in other sections of the country. The more important buildings are all of red brick laid in the English bond, but the smaller farmhouses are of frame and not in any sense Georgian in type. These are usually long low buildings, of wide, white, clapboards, with shingle roofs and are usually devoid of any ornamentation whatsoever. Their charm consists in the splendid proportion of the mass, especially in the relation of the wings to the main building and the skillful handling of the gables and chimneys. The roof pitch of these old houses is somehow always pleasing even in the simplest slave quarters and as shown in the "Old Farm near Cecilton," the grouping of the build-

NEGRO QUARTERS, SHOWING CURIOUS EXTENSION TO THE ORIGINAL BUILDING

AN OLD HOUSE NEAR KINGSTON, MD., A COMMON TYPE IN THIS LOCALITY

HOUSE IN CENTERVILLE, MD.

OLD FRAME FARMHOUSE, NEAR CECILTON, MD.

ings shows an intuitive gift for composition. The buildings were designed almost without exception by laymen assisted by the carpenters of the day and many show evidence of having been added to by generation after generation always with that unerring skill which is innate in the logical mind. One sees very few examples of bad grouping in the old buildings, such as are so common in our modern towns and villages and to one who rambles through these byways there comes the inevitable conviction, that, however much we have progressed in scientific pursuits, we have certainly lost that simple, natural feeling for the beautiful in building, which was, perhaps unconsciously, possessed by the early colonists.

THE TEACKLE HOUSE, PRINCESS ANNE, MD.

The "Entailed Hat," by (Gath) George Alfred Townsend, weaves a beautiful story about this house

The LAW *as to* ARCHITECTURE

BY CLINTON H. BLAKE, *Jr., of the New York Bar*

THE following problem has been submitted to me for comment.

After a business building had been begun, changes from the plans, as prepared by the architect, became necessary, because it then appeared that the grade of a public street at the rear of the property was higher than the grade in front of the property. Drawings made by the architect had shown both grades to be the same. The owner, in engaging the architect, had given him the size of the lot, but had not been asked to give, and had not made any mention of, the grades. The specifications, which were part of the contract, included the following clause:

> "The dimensions shown are believed to be correct, but the contractor shall survey the lot and report to the architect any discrepancies found, before proceeding with the work."

They also included the following clause:

> "If questions arise concerning plans or specifications, or omissions are found, they are to be immediately brought to the notice of the architect for clarification and revision, or for such further drawings or explanations as may be necessary, and the contractor shall conform to the same as part of his contract."

The contract also included the general conditions of the standard form of contract of The American Institute of Architects. The contractor claims that he had the lot surveyed, and verbally notified an employee of the architect of the difference in the grade. Such notification was never brought to the attention of the architect, and there is no record of it or evidence in support of it, other than the above claim of the contractor. As bearing on this point, it appears, also, that the contractor went ahead with the work, in accordance with the plans and disregarding the grade level difference, without apparently making any further attempt to bring the matter to the attention of the architect. There were certain additions to the building, which would have been necessary, in any case, irrespective of the fact that the drawings did not make proper provision for the grade difference.

The extra cost of the work to the owner, therefore, naturally fell into two classes, namely, the extra cost which the additions would have represented, in any event, had the drawings been properly made, and the extra cost which resulted from the disregard of the grade level and the change in the building to conform to the proper grade. The owner and the contractor claim that the cost of these extra items should be borne by the architect, due to the error in the plans in not making proper grade provision. The question of whether or not the contractor notified the architect of the difference in grade is a question of fact which, if the contractor testifies in the affirmative and the architect in the negative, must be decided by the court or jury. The contract does not require, it will be noted, that the contractor shall report the discrepancies to the architect in writing. Under these conditions, a verbal notification will be sufficient. If it is found that this notification was given and the architect, after receiving it, allowed the contractor to proceed with the work, such portion of the extra expense as is the result of the changes thereafter made necessary to conform to the proper grade is clearly chargeable to the architect. On the other hand, if it is decided that no notification was given to the architect, then the contractor is clearly in fault under the terms of the contract, and the extra expense must be borne by him. The owner is obligated to pay for his building the amount which it would have cost him, had there been no error in the plans and if the grade had been properly allowed for in the first instance. He cannot, as the result of an error of the architect, claim that he is entitled to get the work done for less than the amount which it would have cost him, if the error had not been committed. On the other hand, the contractor, assuming no notice was given, cannot take advantage of the error to collect an extra for work which directly resulted from his own failure to carry out the terms of the contract.

The foregoing situation would not, of course, arise in the ordinary case, where the contract provides for the furnishing of a survey to the architect, and where the latter insists on receiving the survey, before proceeding. It is a much safer practice for the architect to have the survey in his possession, before preparing the plans. If the plans are prepared without a survey, it is well to include a provision in the contract, clearly stating that the architect does not assume responsibility for any changes made necessary by grade conditions, which a survey may disclose. If, as in the case discussed this month, the survey is to be made by the contractor and any changes reported to the architect, the contract should at least provide that the notification to the architect shall be in writing. This will obviate any such issue of fact as that which has here arisen, and will be an added safeguard, not only to the architect, but to the client as well.

LEGAL DECISIONS

WHERE a builder enters into a contract with a lessee of a portion of certain premises and damages result from a negligent performance of the contract, the builder is liable to the owner for such damages.

Bauman vs. Metzger, 176 N. W., 497.

PLAINTIFFS, who are architects, sued to recover for services performed for the defendant in the erection of a residence. Their complaint contained two counts. The first was based upon an alleged express contract, under which they were entitled to 2½% of the cost of the building. The second was based upon *quantum meruit* and claimed the reasonable value of work done by the plaintiffs in making changes in the plans, after they had been prepared in accordance with the contract, and for revising and redrafting them. The defendant abandoned the building project and admitted that he should pay for a complete set of plans and specifications. He denied, however, any liability beyond this point, and denied that the architects were entitled to receive the value of their services in revising and redrafting the plans. The contract between the parties was in the form of a letter. It provided that the architects were to receive, for preliminary studies, plans and specifications, 2½%. It further provided that they were to make a draft of the plans, submit them to the owner for alterations, and, when he had noted his alterations, make a second tracing and that this procedure would be "continued through as many sets of sketches as are necessary to bring the residence to what you deem in your mind to be most satisfactory and at the same time complying with the proposed cost." The architects also stated that they would "guarantee absolute satisfaction in all particulars." Both the client and the architects, in their correspondence, which was quite voluminous, failed to preserve any clear distinction between sketches and plans. It was a question of fact on which the evidence differed—whether or not the plaintiffs completed plans and specifications which were satisfactory to and accepted by the defendant. The jury was charged that, if the plaintiffs had completed plans and specifications which the defendant accepted, the defendant would be liable for the additional services performed thereafter. The jury found that the plaintiffs had not done this, and the verdict was in favor of the defendant. The architects appealed from this judgment and the trial court, in deciding the case, affirmed the judgment. The court held,

> "The rule is that, if there be an express written contract between the parties, the plaintiff, in an action to recover for work and labor done, * * * must declare upon the written agreement so long as the special agreement remains in force and unrescinded, as he cannot recover under such circumstances upon a *quantum meruit*. * * * Implied promises or promises in law exist only when there is no express promise between the parties. * * *
> "The law, as well as business candor, required the plaintiffs, if they expected to make a claim for work upon plans and specifications outside of their written contract, to bring that subject clearly and unequivocally to defendant's attention. This they wholly failed to do."

The plaintiffs claim that the contract provision that they were not entitled to 2½% until they had completed plans satisfactory to defendant, coupled with the fact that the defendant admitted on the trial that he was liable for 2½% justified the conclusion that the plans and specifications furnished to him were satisfactory. The court held that this argument had much force in it, but that it would not justify the court in taking the case away from the consideration of the jury. The court held further that:

> "It was a duty of the plaintiffs under the contract to make plans and specifications for a residence which would be satisfactory to and approved by the defendant; and it was alone for the defendant to determine whether the plans and specifications of the proposed house were satisfactory to him."

The court further stated the law to be that the parties may, by a contract, condition the liability of one of them upon the other party to the contract being satisfied and, where this is done, the court held it is necessary that the party shall be satisfied and that, under such conditions, it is not for the jury to say whether he should have been satisfied, but that the issue is whether his taste and his fancy have been satisfied. The court in this case recognizes "that in matters of fancy, taste, or judgment there is no absolute standard as to what is good or bad," and each man is "free to act on his ideas or prejudice as the case may be."

Barnett v. Beggs, 208 *Federal Reporter* 255.

(Note) It is to be noted that under the decision in the above case, the architect would not be justified in claiming that the client's demands for successive sets of plans are unreasonable and, by doing so, avoiding his contract liability. His only chance of avoiding this would seem to be proof of actual bad faith on the part of the client, which, of course, would be an exceedingly difficult thing to show.

EDITORIAL COMMENT

IN AN INTERESTING and timely article in this issue, Edwin H. Hewitt, F.A.I.A., of the architectural firm of Hewitt & Brown, Minneapolis, shows that the financial interests relating to architecture and building have equal responsibility with the architect in protecting the public in the matter of their investments. The responsibility of the individual or corporation that furnishes the money to promote any enterprise seems to be fully recognized in every department of an economic program excepting architecture.

What is sound financing as affecting architecture, and to just what extent does the excellence of design and plan control the value of the investment? Mr. Hewitt's discussion of this feature is sound and safe. Unfortunately these ideas have not been sufficiently impressed on those who control the money invested in building operations.

Architecture may not be regarded as a vague function, something not founded on sound economic principles. The investing public is beginning to realize that there is something more to be considered than real estate values and the areas of rentable space. Investors are beginning to understand that the architectural merit of a building must be taken into consideration. Also, that lack of such merit very seriously impairs the loaning maximum on the project.

* * *

WHILE THE VALUE of J. P. Morgan's gift to the city of New York of the library designed by McKim, Mead & White for the late J. Pierpont Morgan to house a wonderful collection, is popularly stated as eight million dollars, that figure is probably below what such a building and collection would bring if privately sold. No gift of recent years to any American city approaches it. The nearest in art value is perhaps the Frick gift of the house now standing on the old Lenox Library site on Fifth Avenue, and the collection of old masters that Mr. Frick assembled.

The Morgan library on East Thirty-sixth Street is believed by many to have been McKim's masterpiece. Undoubtedly it is a very beautiful building. Its contents, hidden for years from the gaze of all but a few intimates, are unique in the way of art collections. Of first editions and of original manuscripts, it is probably the very choicest collection. No other can show as many rare first editions of the Bible. While there are comparatively few fine canvases, those that are a part of this gift have the highest collectors' value. In short, Mr. Morgan by a generous gift has made it possible for the public to secure the great educational advantages that access to this collection will afford.

* * *

THAT THE MOVEMENT for elimination of seldom used varieties of every day commodities is growing in scope and is saving millions of dollars to American commerce and industry, as manufacturers recognize the benefits from this simplification process, is shown in a report to Secretary of Commerce Hoover by William A. Durgin, head of the Division of Simplified Practice of the Department of Commerce.

During the last quarter of 1923, the report shows, ten industries, with the co-operation of the Division, put into effect eliminations and simplifications covering a vast number of varieties of their products, the effect being to bring down manufacturing costs, and to benefit distributors and consumers as well. In addition to these, several other industries are on the way to accomplish similar savings.

In the industries tied up with building construction, Mr. Durgin points out, simplifications affected metal laths, building bricks, range boilers and hollow building tile. Surveys of the brick industry showed 39 sizes of rough face brick and 36 sizes of smooth face brick. The conference of manufacturers, builders and architects adopted one size and style in each case, eliminating 73 numbers previously made. In dealing with hollow building tile the varieties of sizes and weights were reduced from 36 to 19; while in the case of metal laths, sizes and weights were reduced from 125 to 24. covering both flat and rib type laths.

* * *

WHILE NOT, as we understand it, definitely decided, there is strong probability that a feature of the architectural exhibition to be held in New York next year, concurrently with the convention of the Institute, will be the results to date of the finely organized efforts of the Russell Sage Foundation in evolving a regional plan of New York and its environs. While in a sense a purely localized effort, the preliminary work has resulted in a series of economic and industrial surveys that present a nationwide interest.

These surveys are a preliminary to the development of a regional plan of New York which will seek to make the five boroughs of Greater New York and the network of municipalities and sub-

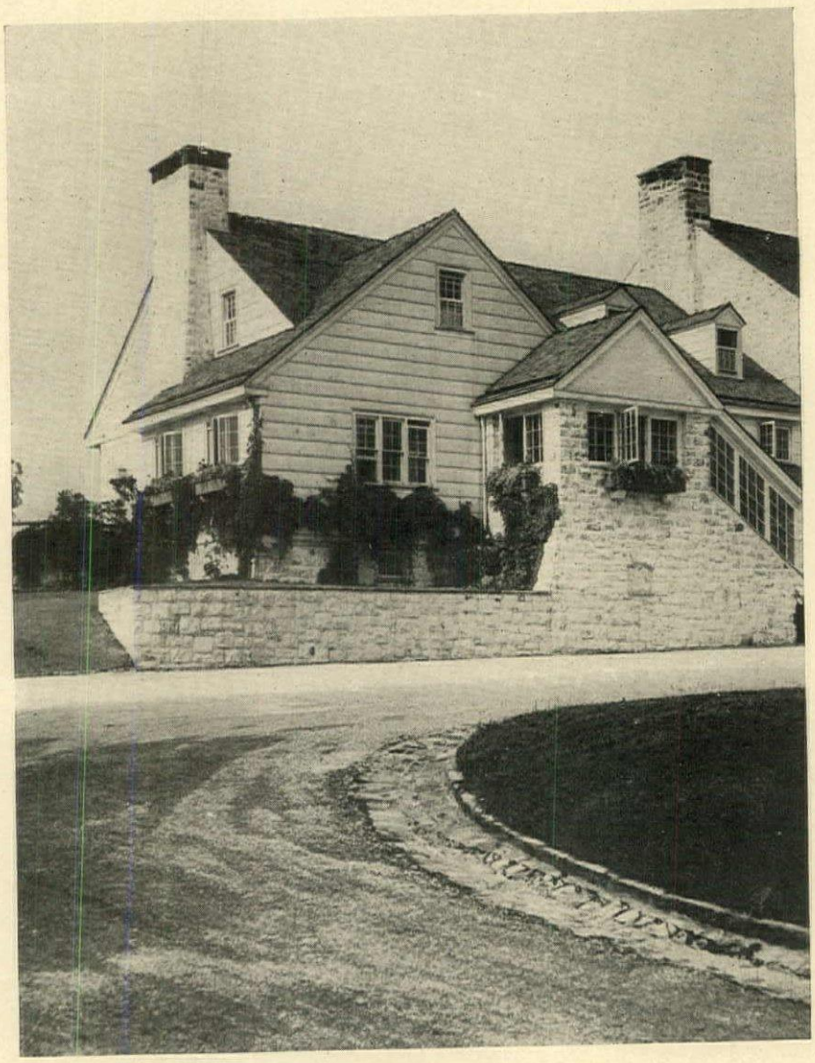
urban areas surrounding it within a radius of fifty to sixty miles in New York State, New Jersey, and Connecticut a more livable place. The economic survey is being done by a corps of field investigators under the direction of Robert Murray Haig and Roswell C. McCrea, professors of business economics at Columbia University.

Describing the purpose of the economic and industrial survey, in his introduction to the preliminary report of the chemical survey, Dr. Haig states:

"The determination of the width of streets and the size of blocks, the provision of transportation facilities, bridges and tunnels, the establishment of restricted zones, the reservation of open spaces, and many other problems of the regional planner must rest upon assumptions regarding the economic character of the uses to which the various sections of the area are to be devoted. To ask the city planner to construct a plan without making such assumptions is much like asking an architect to design a structure without knowing whether it is to be used as a cathedral or a locomotive plant. To increase the accuracy of these necessary assumptions was the essence of the problem of the economic and industrial survey."

The report shows, for instance, that of a sample of thirty-two large plants in one industry, whose migrations during the last twenty-five years have been traced, nine have moved out of Manhattan and none have moved in; eight have moved out of Brooklyn and one has moved in; one has moved out of New Jersey and fourteen have moved in. It shows that heavy chemical plants (defined as all except fine chemicals, soap and toilet preparations) have increased twenty-five times as fast in New Jersey as in the Brooklyn-Queens district since 1900.

These various surveys, graphically set forth, will provide an exhibition that will be of great importance and give to architects and town planners an opportunity to study a logical and well conducted effort in the solution of perhaps the greatest town planning scheme ever attempted.



DETAIL OF OAKLAND GOLF CLUB HOUSE, BAYSIDE, L. I., N. Y.
ROGER H. BULLARD, ARCHITECT

HOUSE OF CHARLES HENRY WILSON, PELHAM, N. Y.

JULIUS GREGORY, ARCHITECT

The roof is covered with ordinary cedar shingles laid irregularly and stained a warm gray

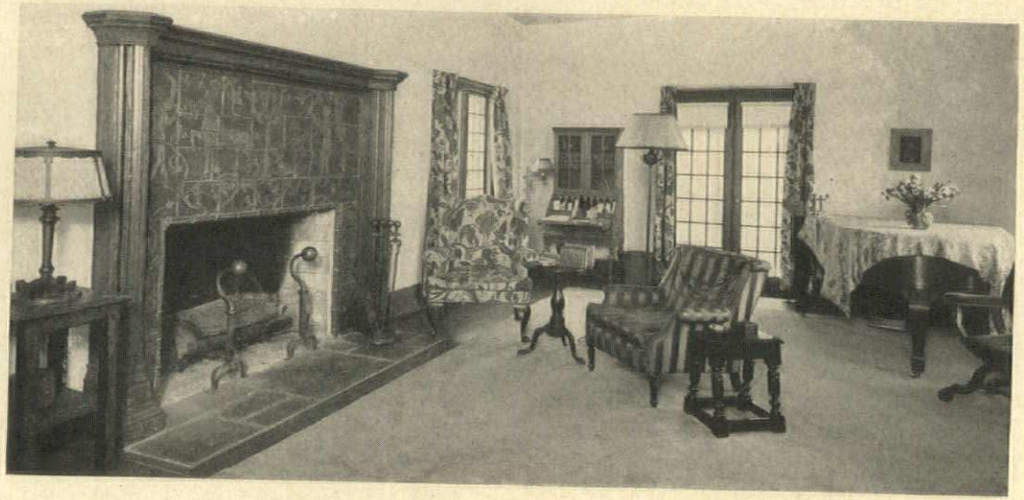
HOUSE OF CHARLES HENRY WILSON, PELHAM, N. Y.

JULIUS GREGORY, ARCHITECT

The tower walk paved with flagstone laid irregularly serves as an entrance to the front door which is of oak heavily battened

HOUSE OF CHARLES HENRY WILSON, PELHAM, N. Y.

JULIUS GREGORY, ARCHITECT



HOUSE OF CHARLES HENRY WILSON, PELHAM, N. Y.

JULIUS GREGORY, ARCHITECT

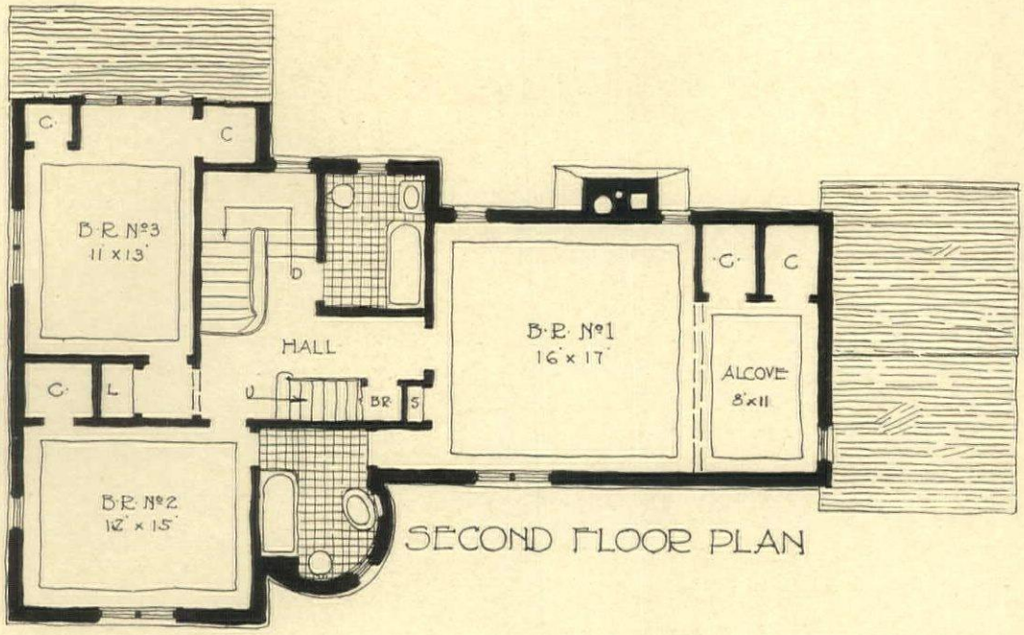
All the walls of the first floor are treated in rough finish white plaster, painted, rubbed and waxed in tones of warm gray which gives the quality of an old plaster cast.

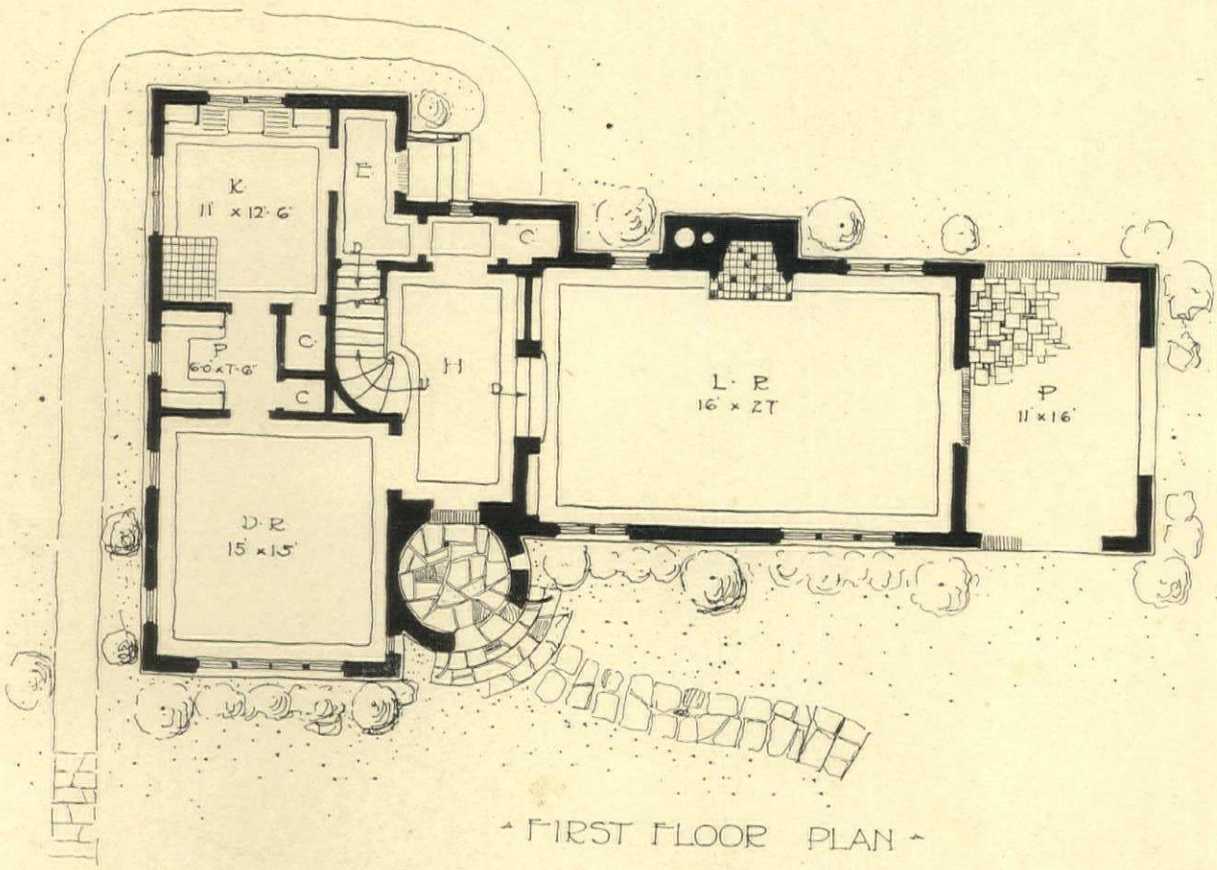
Floors are wide oak boards. There is a minimum of wood trim in the openings and the stairs are of dark oak with iron railing.

Lighting fixtures are of iron selected for their simple quality of design.

The fireplace is of tile made up from an old lace design and is framed by a heavy carved oak mantel.

The second floor is finished with painted woodwork and doors and papered walls.





HOUSE OF CHARLES HENRY WILSON, PELHAM, N. Y.

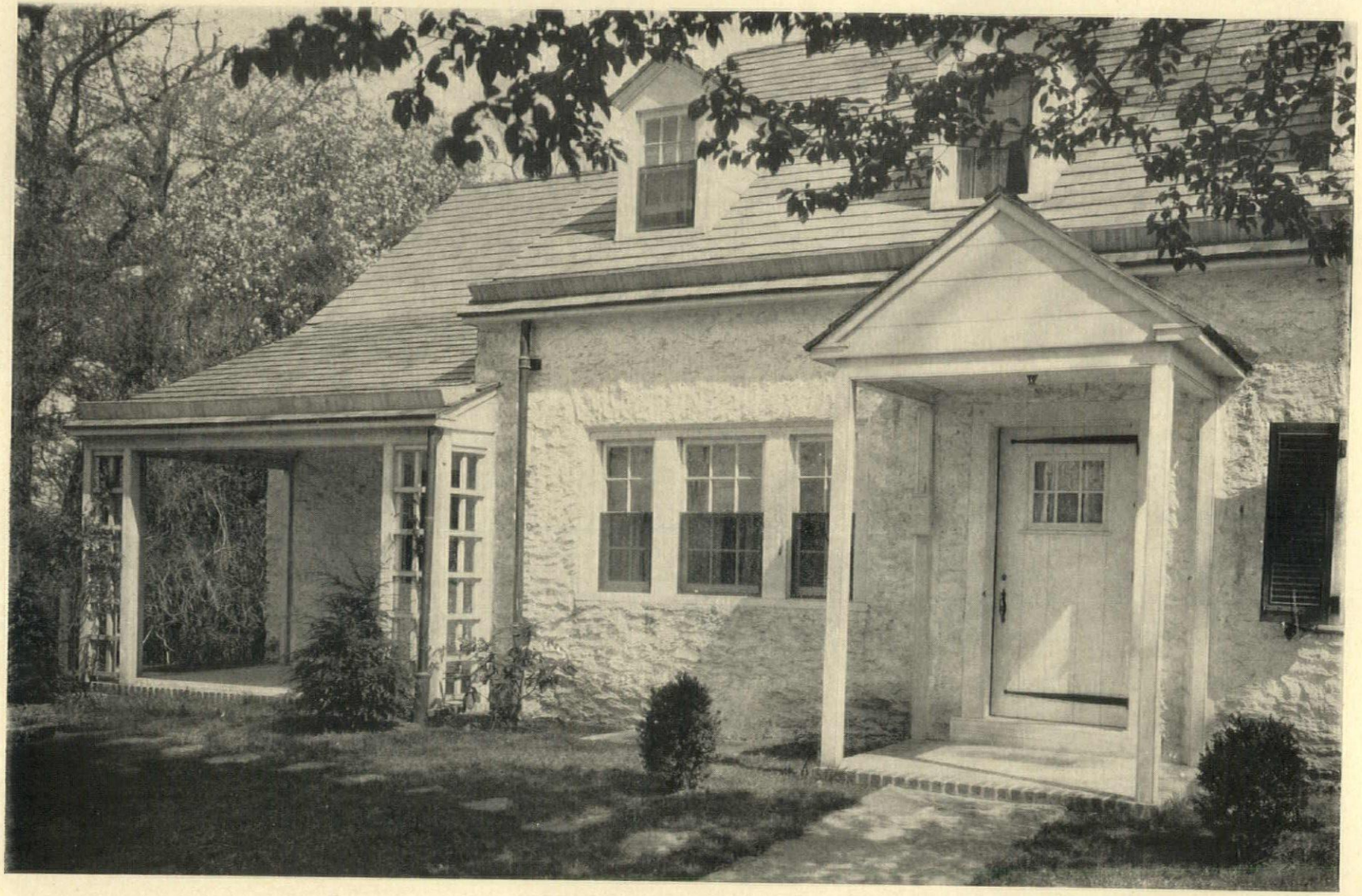
JULIUS GREGORY, ARCHITECT

HOUSE ON EAST CLIVEDEN STREET, GERMANTOWN, PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

This house was designed as a protest against the "Bungalow Mania" that seems to be sweeping over the country and filling the landscape with monstrosities.

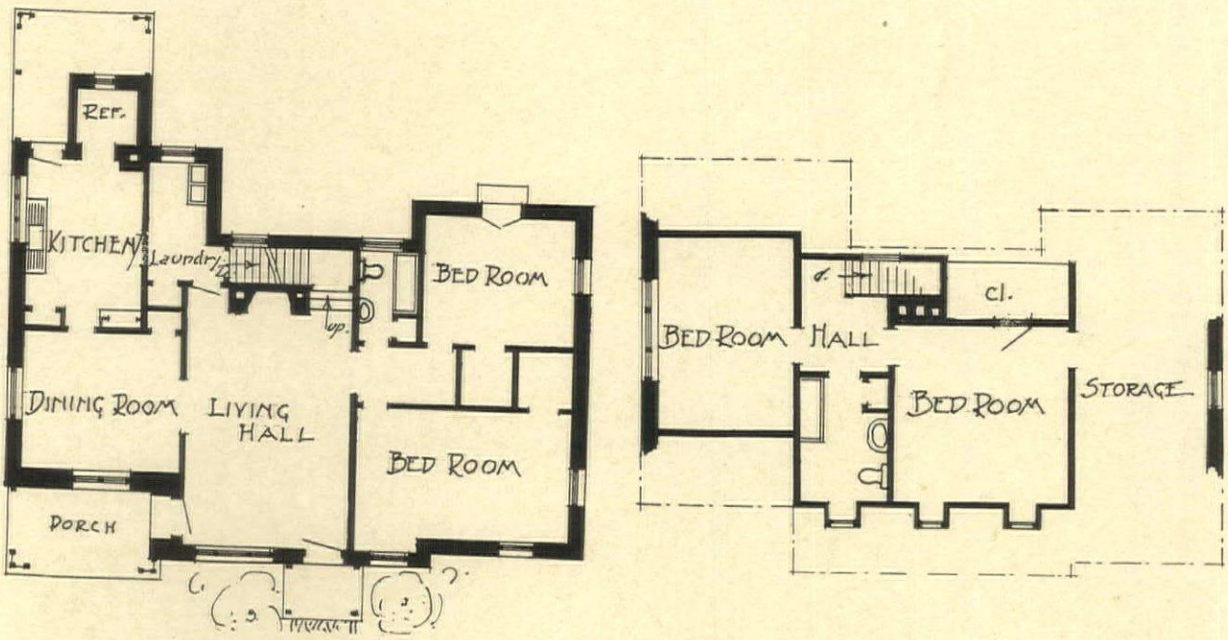
It is nothing more nor less than an adaptation of the "Early American" type which was created by the settlers in this country when they had neither time nor means to do anything elaborate in the way of housing. The results are simple, direct and inexpensive and it is hoped the house will serve the purpose of teaching the lesson that it is possible to build economically without defying the laws of proportion, color sense and economics.



HOUSE ON EAST CLIVEDEN STREET, GERMANTOWN, PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

REAR VIEW

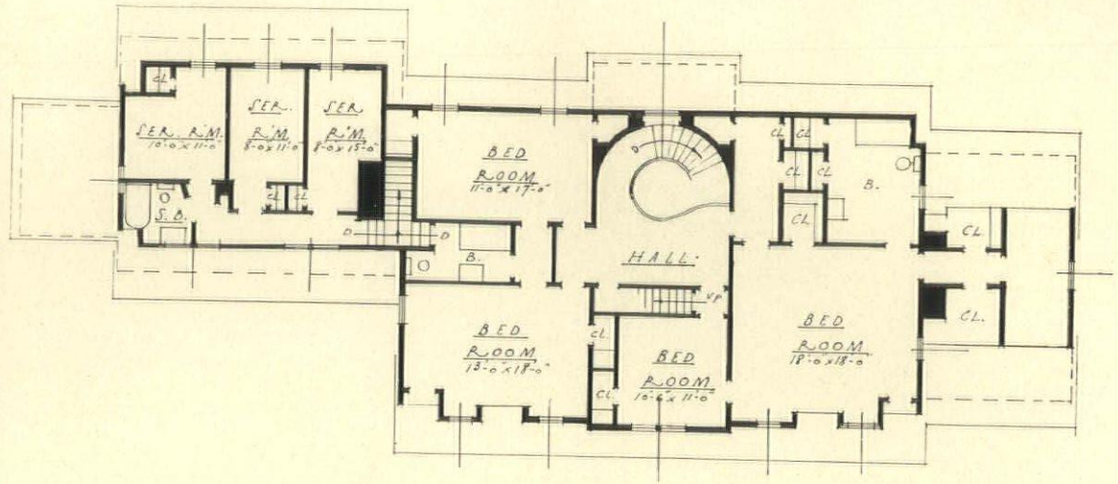


HOUSE ON EAST CLIVEDEN STREET, GERMANTOWN, PHILADELPHIA, PA.

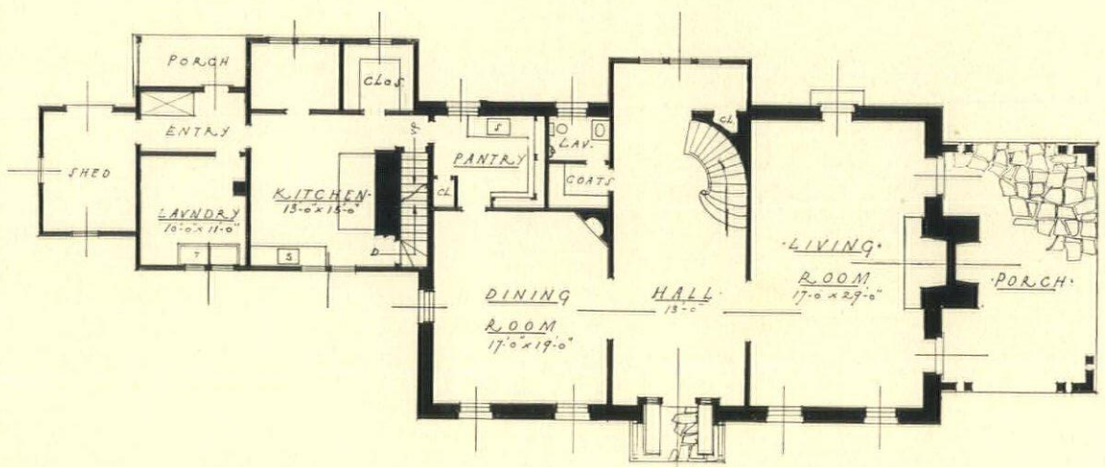
CARL A. ZIEGLER, ARCHITECT

HOUSE OF CHARLES M. HART, ARCHITECT, PELHAM MANOR, N. Y.

A stone and frame house with shingle and clapboard finish. First story shutters are cream, blinds are a green-blue, shingles natural color



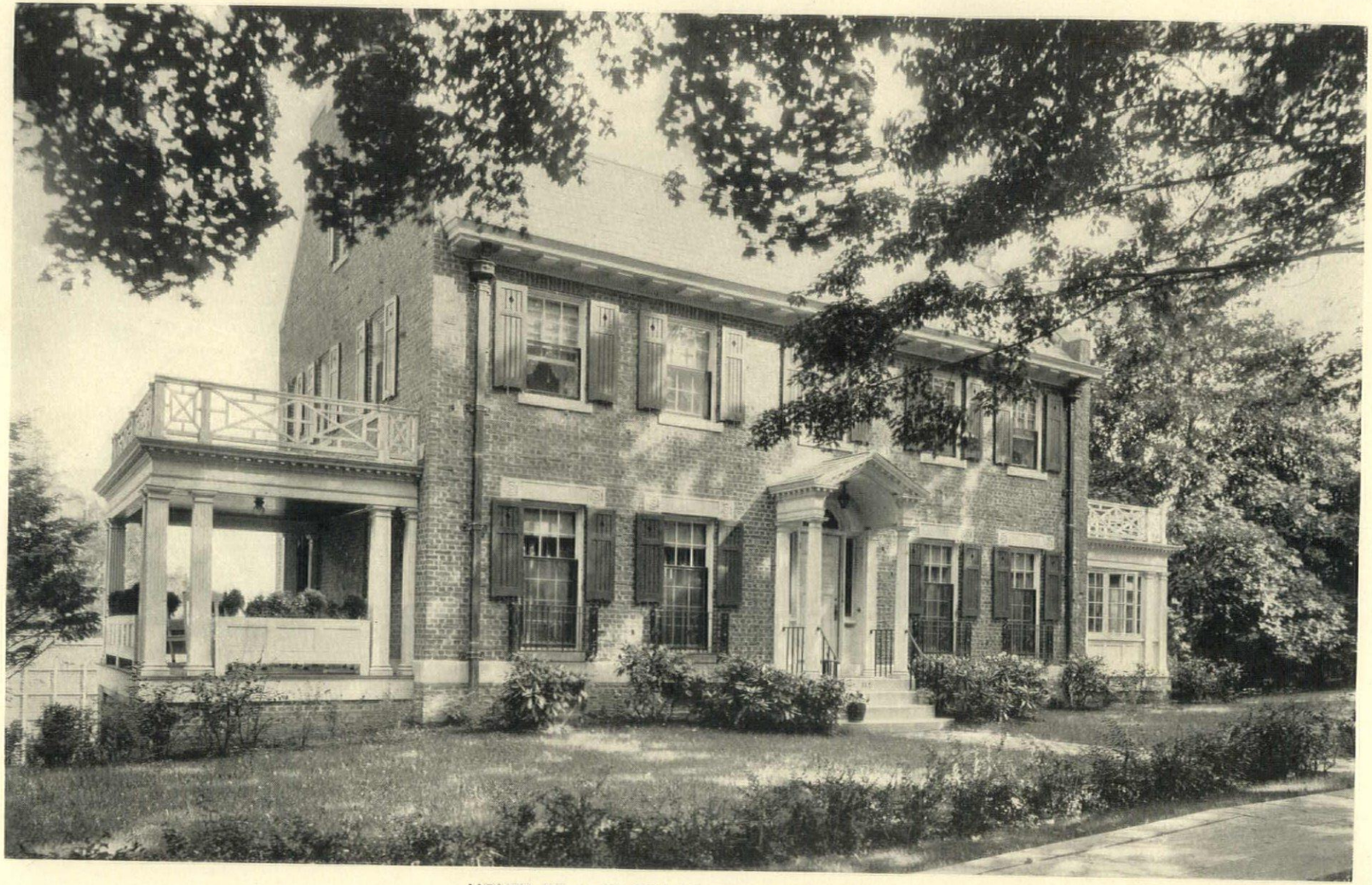
·SECOND · FLOOR · PLAN·



·FIRST · FLOOR · PLAN·

HOUSE OF CHARLES M. HART, ARCHITECT, PELHAM MANOR, N. Y.

This house throughout, and particularly the attractive entrance feature, carries out the tradition of its neighborhood, a location identified with our early Colonial history. The plan has much to commend it



HOUSE OF A. W. FINLAY, BROOKLINE, MASS.

C. T. McFARLAND, ARCHITECT

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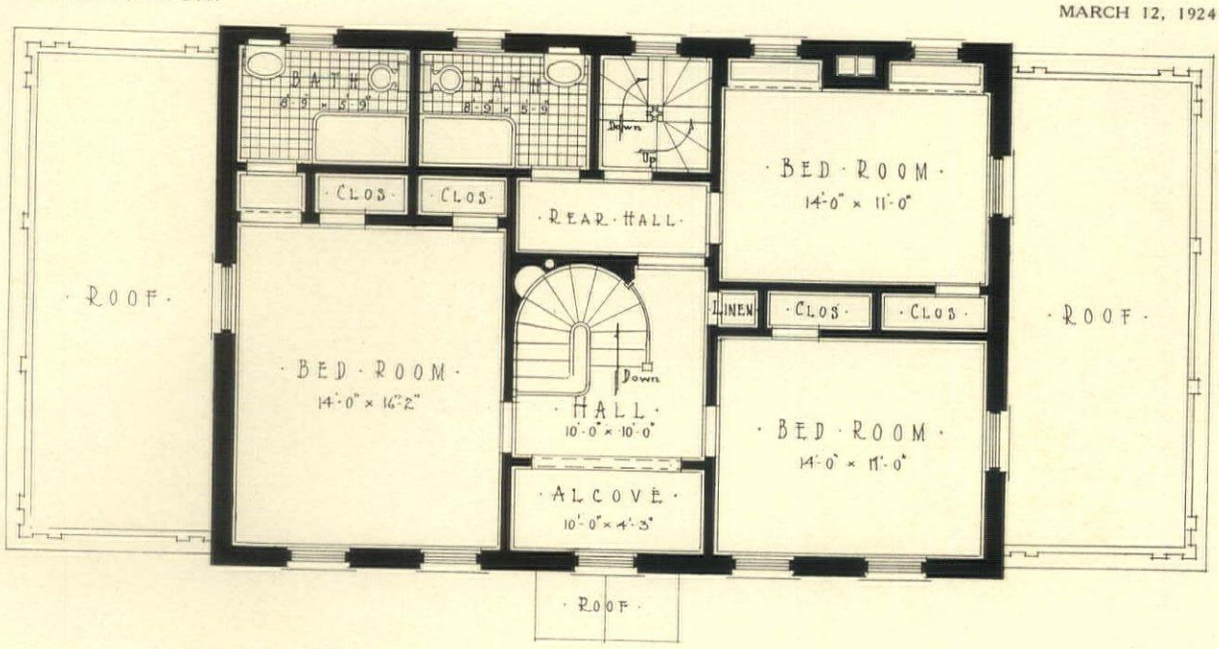
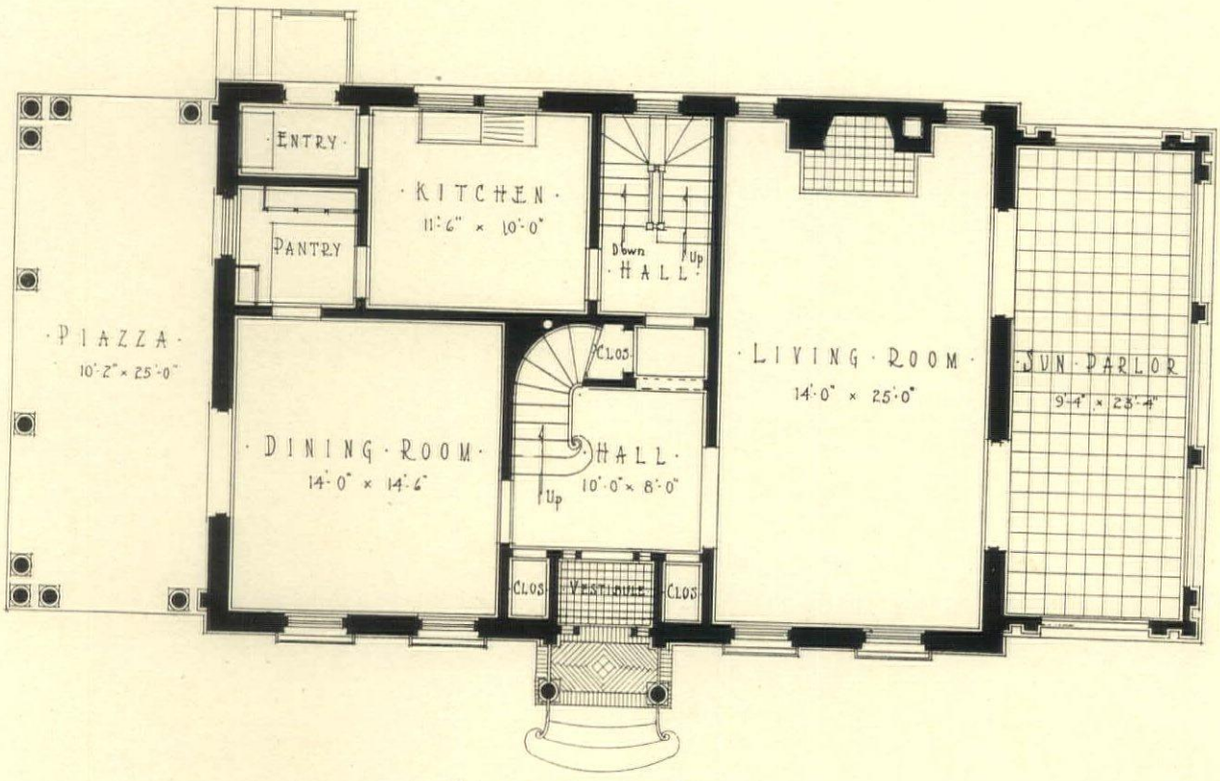


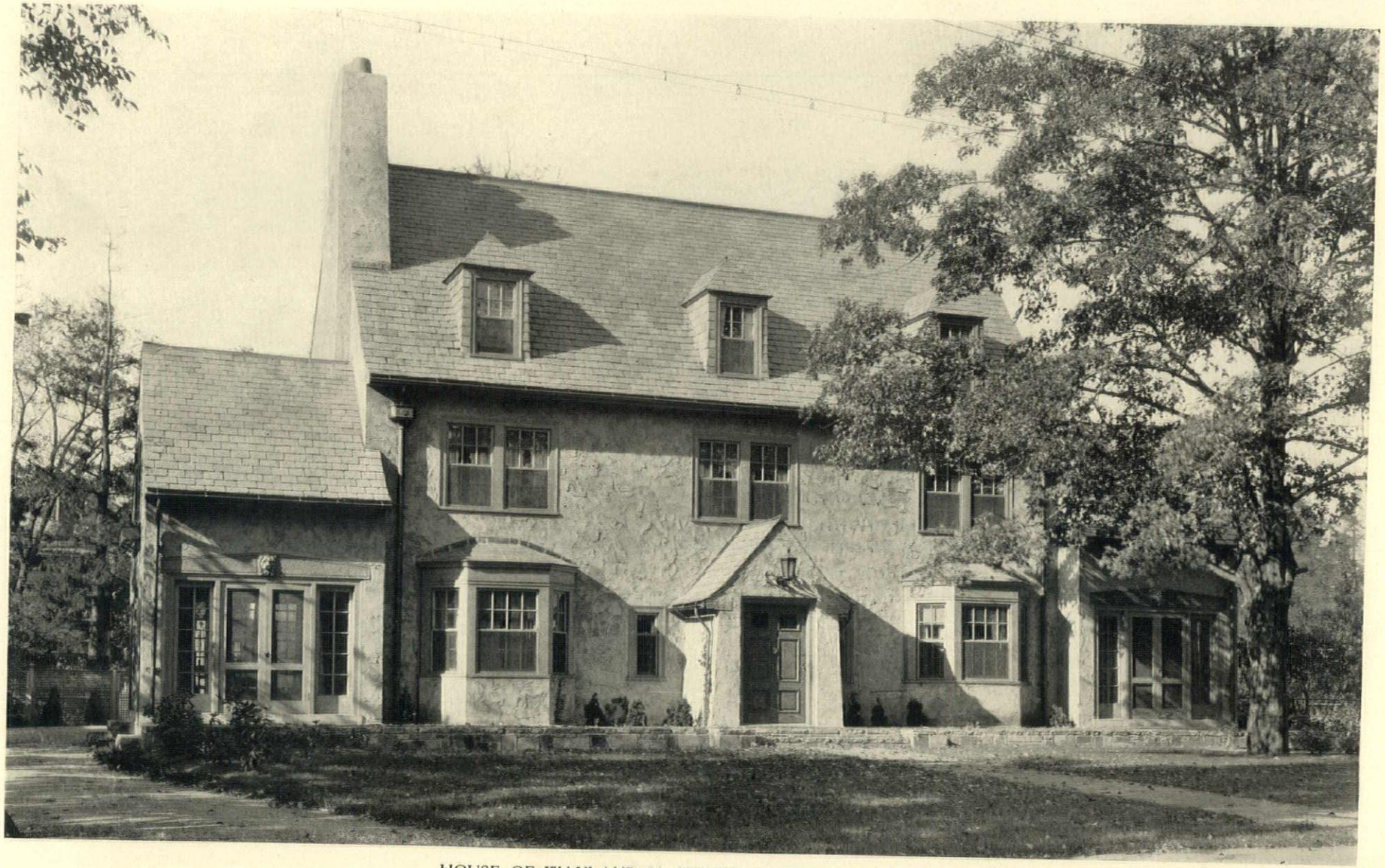
SECOND FLOOR PLAN



FIRST FLOOR PLAN

HOUSE OF A. W. FINLAY, BROOKLINE, MASS.

C. T. McFARLAND, ARCHITECT



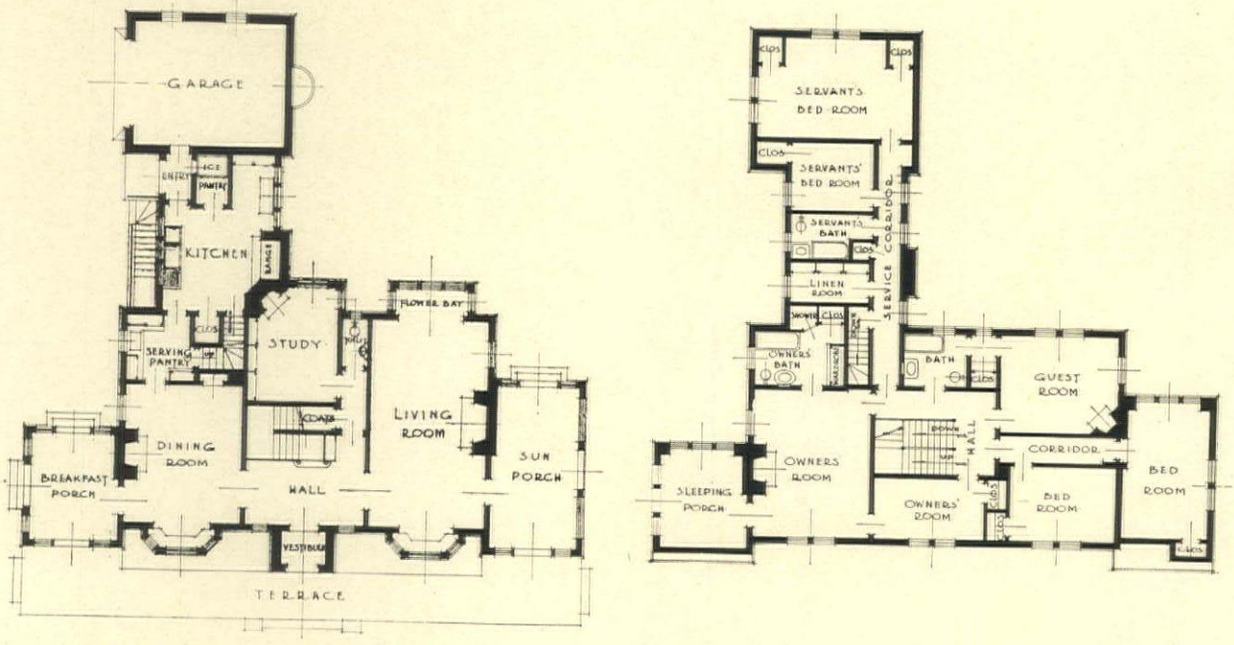
HOUSE OF WAYLAND M. MINOT, CAMBRIDGE, MASS.

WILLIAM F. KUSSIN, ARCHITECT

Frame construction, with colored, rough textured plaster on the exterior

HOUSE OF WAYLAND M. MINOT, CAMBRIDGE, MASS.

WILLIAM F. KUSSIN, ARCHITECT



HOUSE OF WAYLAND M. MINOT, CAMBRIDGE, MASS.

WILLIAM F. KUSSIN, ARCHITECT

BEAUX-ARTS INSTITUTE *of* DESIGN

ACTING DIRECTOR OF THE INSTITUTE—WHITNEY WARREN
ARCHITECTURE—RAYMOND M. HOOD, DIRECTOR
SCULPTURE—EDWARD FIELD SANFORD, JR., DIRECTOR INTERIOR DECORATION—FRANCIS H. LENYGON, DIRECTOR
MURAL PAINTING—ERNEST C. PEIXOTTO, DIRECTOR

OFFICIAL NOTIFICATION OF AWARDS

JUDGMENT OF JANUARY 22, 1924

CLASS "B"—II ANALYTIQUE

"A FAMILY TOMB"

A family owning a plot in a cemetery propose to erect a tomb in the form of a mausoleum, containing burial space for six caskets.

According to the rules adopted by the principal cemeteries, the spaces or "catacombs" as they are called, must be not less than 8'-0" long by 3'-0" wide by 3'-0" high. It is desired that these be placed in two groups, each group to contain three catacombs, one above the other. As the cemeteries also dictate the wall thickness, this gives 11'-6" as a minimum outside dimension of the mausoleum, as to width or length. In addition to this, there should be a space not less than 3'-0" either between the catacombs or in front of them, according to the design.

It is desired that this tomb be a mausoleum in any desired form, either square, round, octagonal or otherwise. The lot owned by the family forms an apex of a triangle, which faces down the center of an approaching avenue. The building shall be placed on the medial line of the triangle, facing this avenue. The lot is 90'-0" deep along this medial line; the angle between the two sides of 60 degrees.

As the lots adjoining at the back have already various kinds of structures, it has been decided to place a screen of planting along the rear line. The building shall be placed near the rear of the lot, against this background of foliage.

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, W. Warren, F. C. Farley, L. N. Gillette, J. L. Peabody, F. C. Hirons, S. Stevens, A. E. Flanagan, F. C. Hitchens, D. M. Kirkpatrick, and L. S. Lashmit.

NUMBER OF DRAWINGS SUBMITTED:—259.

AWARDS:—

FIRST MENTION PLACED:—H. Fink, Carnegie Inst. of Tech., Pitts.; W. Bicknell, Atelier Denver, Denver; W. I. Grecham, Georgia Sch. of Tech., Atlanta; C. Tatore, Patron—L. Fentnor, N. Y. C.; W F. Young, Atelier Vorse, Des Moines; P. M. Duncan and L. B. LaFarge, Yale Univ., New Haven.

FIRST MENTION:—J. F. Palumbo, E. Love, E. M. Butler, J. F. Glover, C. A. Markley, R. S. Craig. R. V. Harkless, and R. I. Winters, Carnegie Inst. of Tech., Pitts.; H. B. Herts, Jr., R. P. Hughes, and P. Trapan, Columbia Univ., N. Y. C.; E. D. Woods, Atelier Cairns, Memphis; N. P. Thompson and S. M. Ayers, Georgia Sch. of Tech., Atlanta; D. S. Nelson, Atelier Parsons—Chicago Archtl. Club, Chicago; G. B. Dudley and I. van der Gracht, Princeton University, Princeton; W. H. Moses, Jr., Pennsylvania State College—Dept. of Archt., State College; L. C. Hedrick, A. Wupper and H. W. Thomas, Univ. of Illinois, Urbana; A. M. Linn, Atelier Vorse, Des Moines; M. B. Smith, Yale University, New Haven.

SECOND MENTION:—E. D. Hodges and A. E. Keller, Archtl. League of Kansas City, Kansas City; H. Rosenberg, Atelier Blum, N. Y. C.; F. O. Barber, B. Candller and H. A. Henson, Atelier Barber-McMurry, Knoxville; K. Fulmer, F. C. Boldry, A. C. Lackey, M. W. Bastian, E. B. Milligan, Jr., M. M. Leibowitz, W. Simboli, G. T. Popiden, J. Paul, A. N. Kelly, E. G. Wheeler, M. H. Goodwin, H. Rosenberg, H. B. Holt and H. E. Wagoner, Carnegie Inst. of Tech., Pitts.; F. H. McCrary and W. C. Ilgenfritz, Atelier Cunningham, Wash., D. C.; F. Bellini, C. A. Smart, J. Blumenkranz and H. A. Cook, Atelier Corbett-Koyl, N. Y. C.; N. Rodriguez, H. Weston, W. D. Gillooly, A. Castillo, E. Friedlander, A. I. Goldberg, H. Steincohl, C. R. Dunn, F. Calamita, W. Vollberg, A. C. Fohey, J. J. Schlick, J. Rivlin, W. Sambur, J. I. Sobol, J. J. Black, L. Selig, T. Baumann, S. Lewkowitz and S. H. Greenberg, Columbia Univ., N. Y. C.; H. Johnson and C. North, Atelier Cairns, Memphis; G. Franz and C. H. Gillespie, Cincinnati Archtl. Society, Cincinnati; J. J. McMahon, J. L. Reynolds, C. J. Keller, B. Vorsanger, G. T. Bassett and E. F. Hunt, Catholic Univ., Wash., D. C.; A. E. Jack and H. L. Hylton, Atelier Denver, Denver; E. E. League, Atelier Dunwody, Macon; K. L. Bonebright, Atelier Davis, Lincoln; M. J. Bochnie, Atelier Foster, Wilkes-Barre; E. C. Blanks, I. C. Garber, Jr., J. A. Davis, W. H. Breen, J. O. Stakely, F. H. Griggs, M. Smith, W. I. Wells, S. Franklin, S. Seki, M. O. Saggus, J. A. Gramling, R. R. Nash, J. L. Robeson, C. W. Heery, Jr., and G. Long, Georgia Sch. of Tech., Atlanta; M. E. Myers, R. B. Hobbs, C. M. Meigs, B. M. Hedrick, C. N. Wentworth, D. C. Kline, A. G. Powell, Margaret Kane, and L. Caronel, George Washington Univ., Wash., D. C.; R. H. Fox, Atelier Harding, Westfield, Mass.; R. W. Legg, H. V. Yarus, J. L. Delamar, and C. L. Oischner, Atelier Hirons, N. Y. C.; W. B. Durand, R. B. Johns, J. H. Arnold, A. F. Surre, R. Smith, J. Oetzel and Catherine Merriman, John Huntington Poly. Inst., Cleveland; H. B. Smith, F. O. Reyenga, W. J. Meyer and F. C. Bartenbrock, Los Angeles Archtl. Club, Los Angeles; J. R. Mills, 88 Elliot Avenue, Yonkers, N. Y.; C. E. Sheffield and W. W. Baggesen, Miami Archtl. Club, Miami; Mrs. Carino E. Mortimer, Patron—S. Stevens, New Haven; H. L. Virnelson, F. Wolcken, W. F. Petty and C. Meakin, Atelier Norfolk, Norfolk; O. T. Hayes; H. Crews and L. A. O'Brien, Atelier Northup, Winston-Salem; W. Nevara, Atelier Parsons—Chicago Archtl. Club, Chicago; M. C. Fleming, Jr., Princeton University, Princeton; W. H. Moses, Jr., Pennsylvania State College—Dept. of Archt., State College; E. J. Parnum and W. H. Dahner, Reading Archtl. Club, Reading; J. A. Scott, A. N. McAninch and N. C. Withrow, South-West Atelier, Little Rock; S. E. Chambers and R. B. Allen, Syracuse University, Syracuse; K. E. Adams, Tulsa Archtl. Club, Tulsa; E. J. Potter, Thumb Tack Club, Detroit; N. L. Pyles, J. J. Kohler and H. A. Schuh, "T" Square Club, Phila.; W. Tode and N. Wood, Thumb Tack Atelier, Toronto; E. C. Lea, A. E. Drabnick and R. W. Hunn, University of Louisville, Louisville; J. W. Gregg, J. L. Hamilton, Jr., H. J. McKee, A. F. Ranahan, A. Temple, E. W. Vollintine, H. Sobel, K. Helms, F. R. Robertson, V. Norkaitis, R. H. Kloppenburg, K. Jacobson, W. P. Kramer, R. Isenbarger and Mary T. Worthen, Univ. of Illinois, Urbana; C. C. Simmons, C. D. Fairchild, A. Fehr, P. M. Howell, G. Harker, A. H. Evans and O. Boese, Univ. of Texas, Austin; W. B. Tupper, N. E. McIlvain, C. Strawn, F. von Rehder, C. E. Smith, S. Shimoyama, F. Parsons, J. Hughes, J. E. Belden, D. S. Law, E. F. Anderson, Helen Belford, E. C. Abrams and R. Allison, Univ. of Southern California, Los Angeles; R. C. Cordon, C. F. Chowenhill, S. A. Dukler, S. F. Jeter, Jr., M. B. Ives, J. H. Messineo, D. H. Holden, R. V. Stearns, R. A. D'Avino, P. Petrofsky, G. M. Cohen, H. G. Lindsay, E. Studds, C. M. Stickney and N. E. Iovanna, Yale University, New Haven.

CLASS "B"—II PROJET

"A CANDY SHOP"

A candy manufacturer has purchased a rectangular piece of property facing on the principal street of a city. The lot, an interior one, is 50'-0" wide on the street, and 100'-0" deep, with a service alley at the rear. On this plot, he intends to erect one of his important branches, which in addition to the candy shop itself will contain a restaurant where tea, lunches and light dinners will be served.

The candy shop will be on the ground floor, and should have a receiving and work room at the rear where the candies will be received and prepared for placing on sale in the shop. A soda fountain will naturally be a very important feature of the shop.

On the second floor, reached by one or more important staircases from the candy shop, will be the restaurant. The kitchen for the restaurant should have connection by lift and service stairs with the service entrance at the back of the building.

Being in an important location, the owner desires to give the shop a very distinctive and attractive character, both as to the exterior and the interior.

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, W. Warren, B. W. Morris, J. M. Howells, J. O. Post, J. W. O'Connor, F. C. Farley, L. N. Gillette, A. Mertzanoff, H. W. Corbett, F. C. Hirons, S. Stevens, A. E. Flanagan, O. Faelton, F. C. Hitchens, and L. S. Lashmit.

NUMBER OF DRAWINGS SUBMITTED:—170.

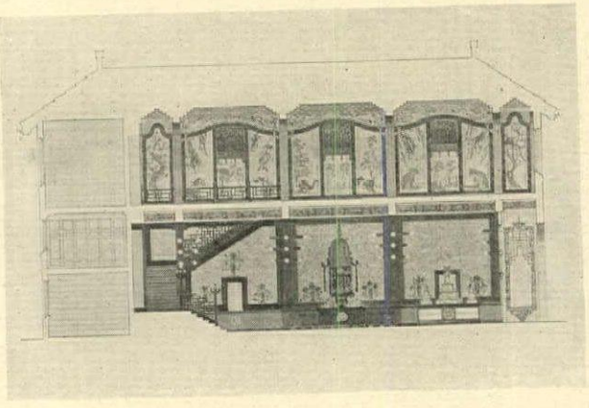
AWARDS:—

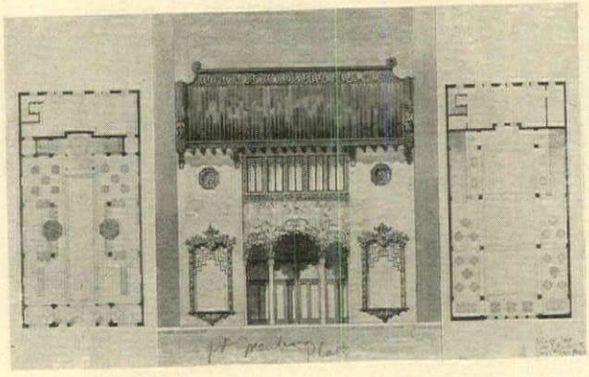
FIRST MENTION PLACED:—J. Tillotson, Carnegie Inst. of Tech., Pitts.; Betty Barber, Columbia University, N. Y. C.; E. K. McNinch, San Francisco Archtl. Club, San Francisco.

FIRST MENTION:—L. Swiger, W. F. Koppes, and H. W. Osmay, Carnegie Inst. of Tech., Pitts.; A. M. Koch, Columbia Univ., N. Y. C.; T. Locraft, Catholic Univ., Wash., D. C.; S. Baum, Atelier Hirons, N. Y. C.; D. A. Campbell, Pennsylvania State College—Dept. of Archt., State College; V. Galier, "T" Square Club, Philadelphia; W. Keine, Univ. of Texas, Austin; W. H. Shilling, C. J. Hill, F. C. Johnson and S. C. Haight, Yale Univ., New Haven.

SECOND MENTION:—R. J. Kredel, J. Douglass, M. A. Brace, S. Fiordelise, A. M. Ham, H. H. Thayer, L. C. Stevens, A. H. Rousseau, G. A. Deacon, E. M. McMillin, A. K. Goehring, U. Schoenberger, D. S. Garber, J. R. Reed and J. Crowgey, Carnegie Inst. of Tech., Pitts.; P. H. Williams, M. C. Hobson, L. Chatelain, Jr., Dorothea Porter and C. L. Nutt, Atelier Cunningham, Wash., D. C.; S. Ackerman, A. G. Schwarz, F. J. Ryan, P. Sanfilippo, Jr., and W. G. Eichler, Atelier Corbett-Koyl, N. Y. C.; B. Boerum, C. H. Jagemann, R. De Joannis, A. Goodman, W. W. Hook, A. J. Waldeier, H. Barone, F. DeRosa, G. S. Dudley, K. G. Kruchten, J. Coggeshall, G. S. Schoenthal, R. J. Young, C. M. Cowan, P. V. Obninsky, Rafael deCardenas, S. F. Abrahms, M. Grodinsky and R. M. Pott, Columbia Univ., N. Y. C.; G. S. Brock, Jr., Catholic University, Wash., D. C.; R. M. Hovanetz and W. E. Munn, Cleveland Sch. of Art, Cleveland; T. H. Dreihs, Cincinnati Archtl. Society, Cincinnati; J. M. Hodgdon, Chicago Atelier, Chicago; A. M. Butt, Jr. and F. O. Kellman, Atelier Denver, Denver; W. G. Kafes, French Curve Atelier, Trenton; G. A. Chandler, J. E. Pierson, Jr., B. C. Norton, G. G. Santiago, U. L. Manning, J. R. Britt, A. P. Almond, T. W. Cothran, M. E. Sanders, D. L. Spooner, A. B. Merry, J. E. Swain, Jr., B. Dunbar, O. W. Long and W. C. Cobb, Georgia Sch. of Tech., Atlanta; F. Leota Soars, D. Sutton, Dorothy M. Sigman, L. S. Keefauver, C. A. Hough, T. S. McClelland, C. M. Woodward and J. F. Wolfe, George Washington University, Wash., D. C.; H. A. Simpson, H. B. Hays, G. E. Kirkpatrick and J. J. Murno, Atelier Hirons, N. Y. C.; R. W. Pearson, B. Krinsky, A. B. Mitchell and H. S. Zajack, John Huntington Poly. Inst., Cleveland; L. Korn, J. R. Daniels, J. E. Rogers and G. B. Briney, Los Angeles Archtl. Club, Los Angeles; C. W. Oborn and D. H. Early, Ohio State University, Columbus; G. W. Rustay and C. E. Maule, Pennsylvania State College—Dept. of Archt., State College; E. F. Wallden, L. Pirola and F. Eiseman, Atelier Parsons—Chicago Archtl. Club, Chicago; H. Langley, K. E. Ponsford, W. C. Clifford and H. T. Anderson, San Francisco Archtl. Club, San Francisco; J. C. Ehrlich, Atelier Sibley, Palisade, N. J.; L. S. Lowell, Syracuse University, Syracuse; W. R. Harer, W. C. Chance and W. J. Brach, "T" Square Club, Philadelphia; W. E. Fraser, W. A. Rolleston, C. T. Miers, E. C. Newcomb, E. H. Naegele, K. Reeve, W. I. Hamby, L. D. Babcock, C. T. Paul and H. F. Pfeiffer, Univ. of Illinois, Urbana; H. S. Gannaway, Univ. of Texas, Austin; H. B. Little, Atelier Wynkoop-Seymour, N. Y. C.

H. C.:—F. Brodsky, Columbia Univ., N. Y. C.; J. R. Welsh, French Curve Atelier, Trenton; C. O. Dickson, Georgia Sch. of Tech., Atlanta; W. H. Deitrick, Jr., Atelier Hirons, N. Y. C.





E. K. McNINCH — S. F. ARCHTL. CLUB

FIRST MENTION PLACED

CLASS "B"—II PROJET—A CANDY SHOP

JUDGMENT OF JANUARY 8, 1924

SUBJECT:—Perry Hill Inn, near Oswego, New York.

AWARD:—SECOND MEDAL:—J. S. Palmer, Syracuse Univ., Syracuse.

SUBJECT:—Peabody Silsbee House, Salem, Mass.

AWARD:—SECOND MEDAL:—H. A. King, Syracuse Univ., Syracuse.

SUPPLEMENTARY JUDGMENT OF DECEMBER 4, 1923

CLASS "B"—I ANALYTIQUE

"A WELL HEAD"

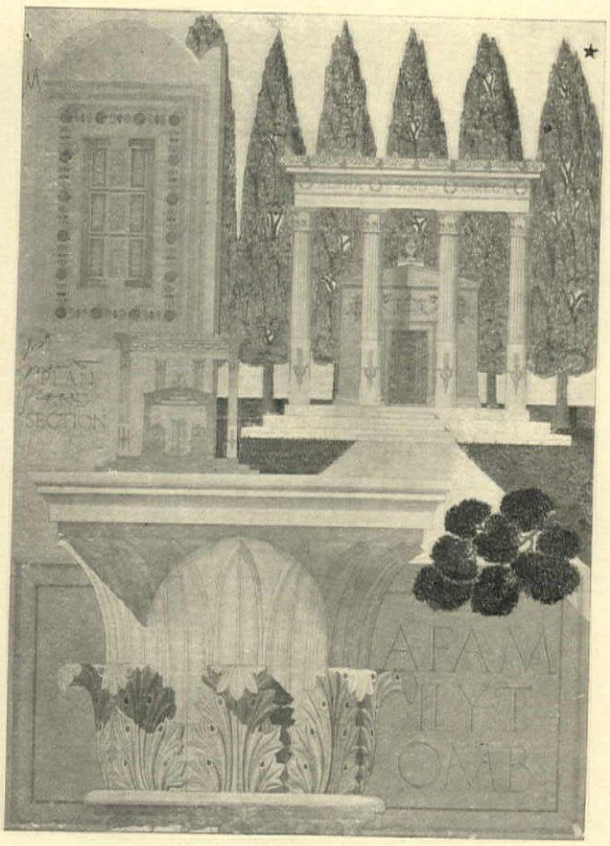
AWARD:—SECOND MEDAL:—J. A. Brown, Armour Inst. of Tech.—Dept. of Archt., Chicago.

NOTE:—Drawing delayed in transit.

W. F. YOUNG

ATELIER N. T. VORSE

FIRST MENTION PLACED



C. TATORE

PATRON—L. FENTNOR

FIRST MENTION PLACED

L. B. LaFARGE

YALE UNIV.

FIRST MENTION PLACED

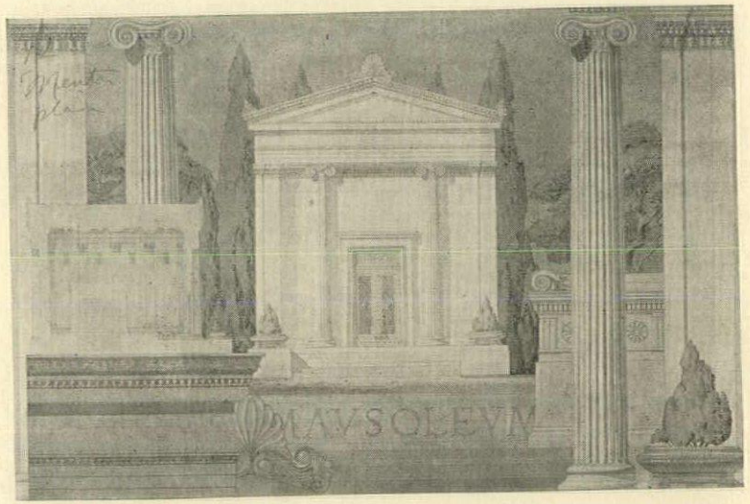
W. BICKNELL

ATELIER DENVER

FIRST MENTION PLACED

CLASS "B"–II ANALYTIQUE—A FAMILY TOMB

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



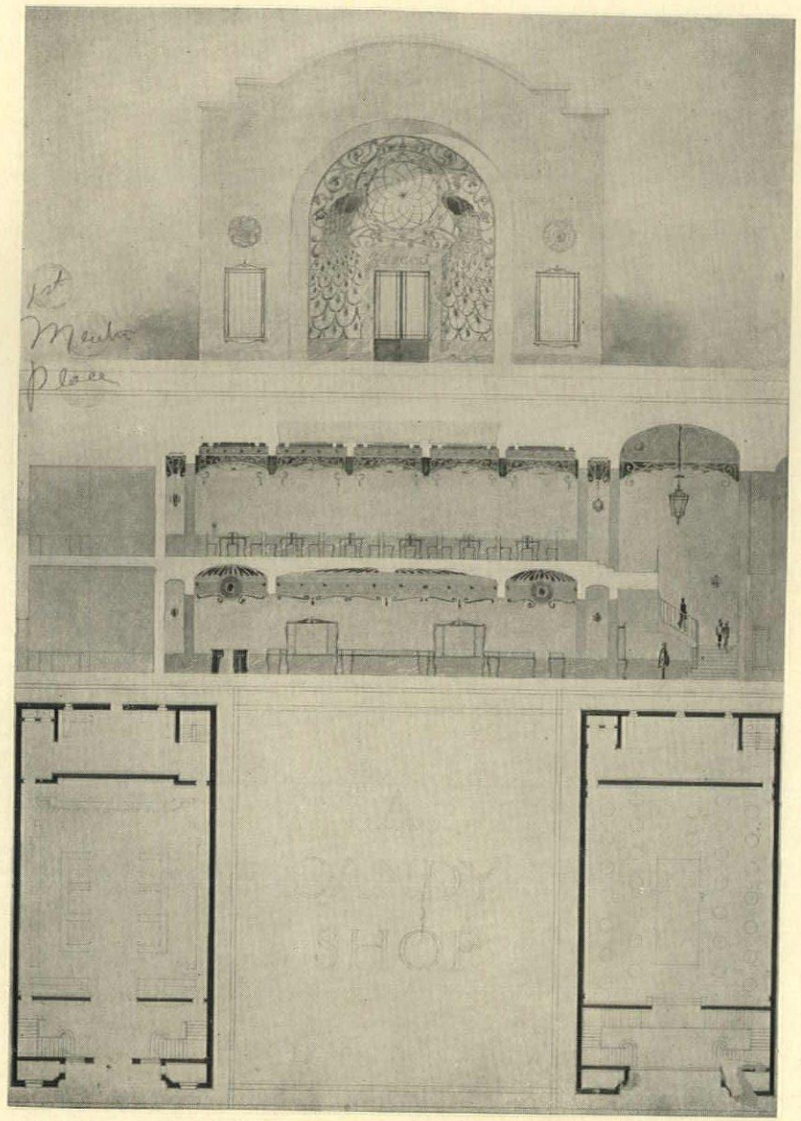
P. M. DUNCAN FIRST MENTION PLACED YALE UNIV.

W. I. GRECHAM FIRST MENTION PLACED GEORGIA SCH. OF TECH.

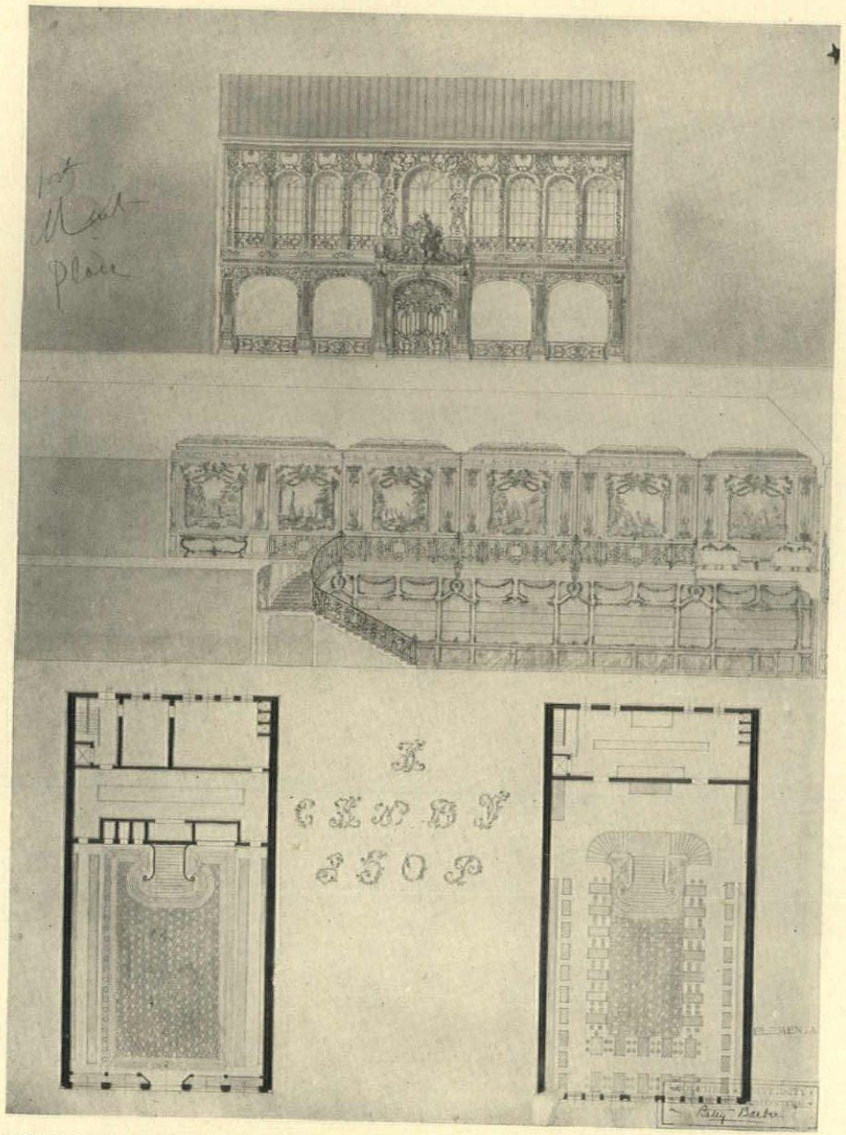
H. FINK FIRST MENTION PLACED CARNEGIE INST.

CLASS "B"–II ANALYTIQUE—A FAMILY TOMB

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



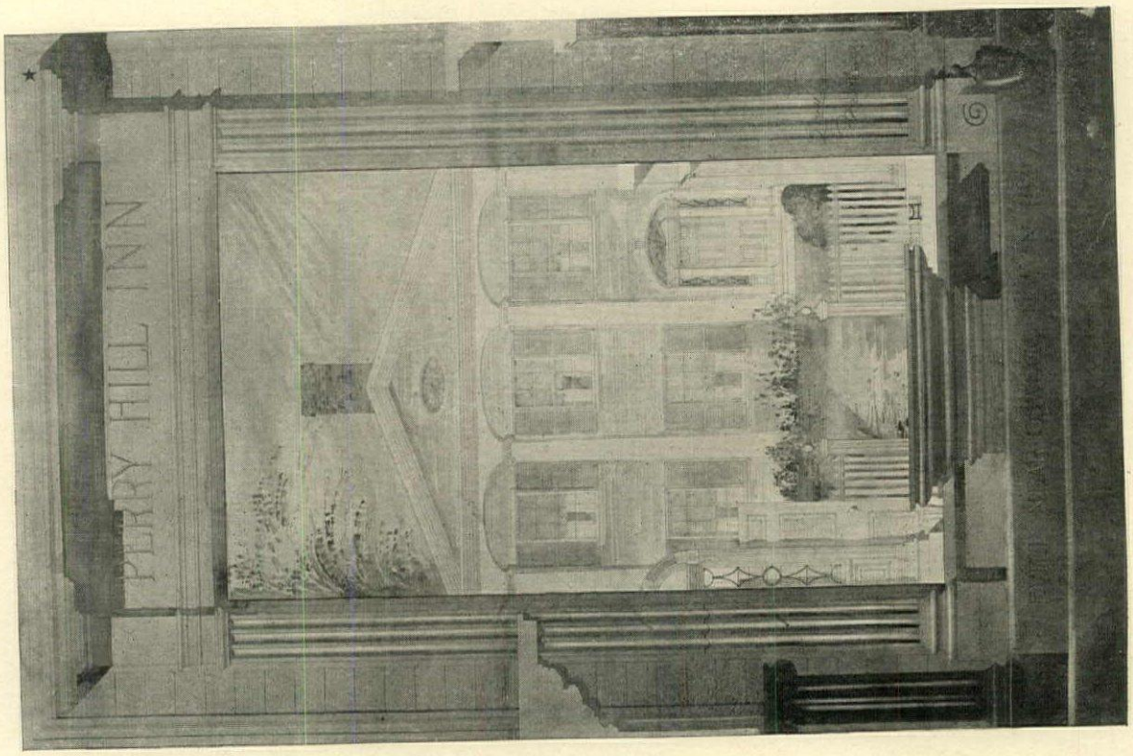
J. TILLOTSON FIRST MENTION PLACED CARNEGIE INST.



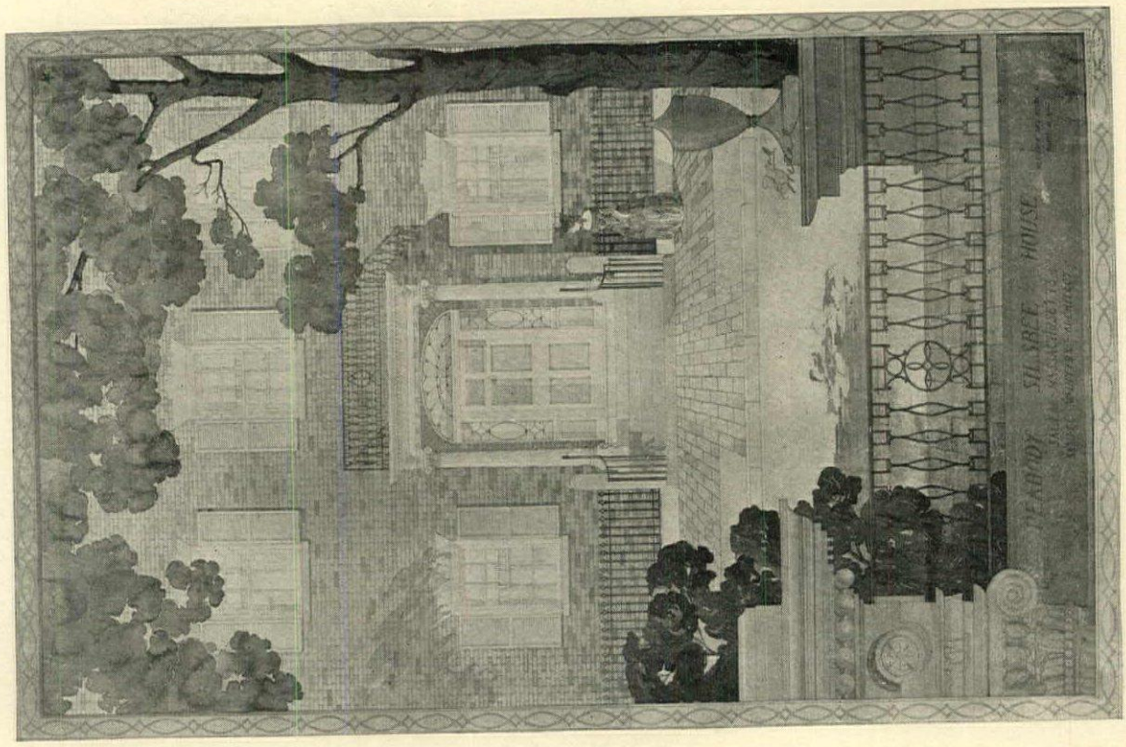
BETTY BARBER FIRST MENTION PLACED COLUMBIA UNIV.

CLASS "B"–II PROJET—A CANDY SHOP

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



J. S. PALMER — SECOND MEDAL — SYRACUSE UNIV.



H. A. KING — SECOND MEDAL — SYRACUSE UNIV.

CLASS "A" AND "B"—ARCHAEOLOGY—MEASURED DRAWINGS

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

ARCHITECTURAL ENGINEERING

The MODERN DEPARTMENT STORE—*Its* PLANNING, CONSTRUCTION *and* MECHANICAL EQUIPMENT

THE changes in the methods of retail merchandising are naturally reflected in the buildings designed for that use. The development of the department store scheme of merchandising has been comparatively recent and buildings erected for that purpose are of importance. Naturally this kind of business is of several grades depending on the class of purchasers, the kind of merchandise sold and the volume of business. What may be called medium sized establishments of this kind are found in metropolitan cities which have distinct and separate business centers and in the smaller cities and towns throughout this country. The successful solving of such a problem is of interest to a large number of architects and owners.

VIEW OF GROUND FLOOR TAKEN FROM REAR BALCONY LOOKING TOWARD MAIN ENTRANCES

The selling of merchandise is the principal use of a department store and the plan must conform to that requisite. An apparent economy exercised in the construction, such as the close placing of columns, inadequate display windows, low story heights, insufficient heat and ventilation, seriously interferes with the chief purpose of the enterprise. First, the goods must be attractively displayed and then sufficient and agreeable accommodations must be provided for the customers. The building should be attractive in appearance and reflect the high standard and reliability of the business and its owners. All of the essentials of a model department store of medium size have been incorporated in the building recently erected for L. M. Blumstein, Inc., 230 West 125th Street, New York City. This building was designed by Robert D. Kohn* and Charles Butler*, FF.A.I.A., architects associated, and associated architects, Frank H. Holden*, Clarence S. Stein*, John J. Knight* and Frank E. Vitolo*; A. M. Feldman†, Member Am. Soc. M.E., consulting mechanical engineer, and Eugene W. Stern*, Member Am. Soc. C.E., consulting structural engineer.

The building has a frontage of 85′-6″ on 125th Street and 162′-6″ on 124th Street with a depth of 200′-0,″ being L shaped in plan. The principal elevation is on 125th Street and is con-

*56 *West 45th Street, New York City*
†145 *West 45th Street, New York City*

structed of Indiana limestone; the grilles, ornamental mullions, spandrels, balconies and marquises are made of heavy sheet copper. The stone work is severely plain which, with the simply, carefully detailed copperwork, gives to the elevation a harmony and balance that is notable. Two entrance vestibules with a communicating cross aisle afford a maximum of display windows.

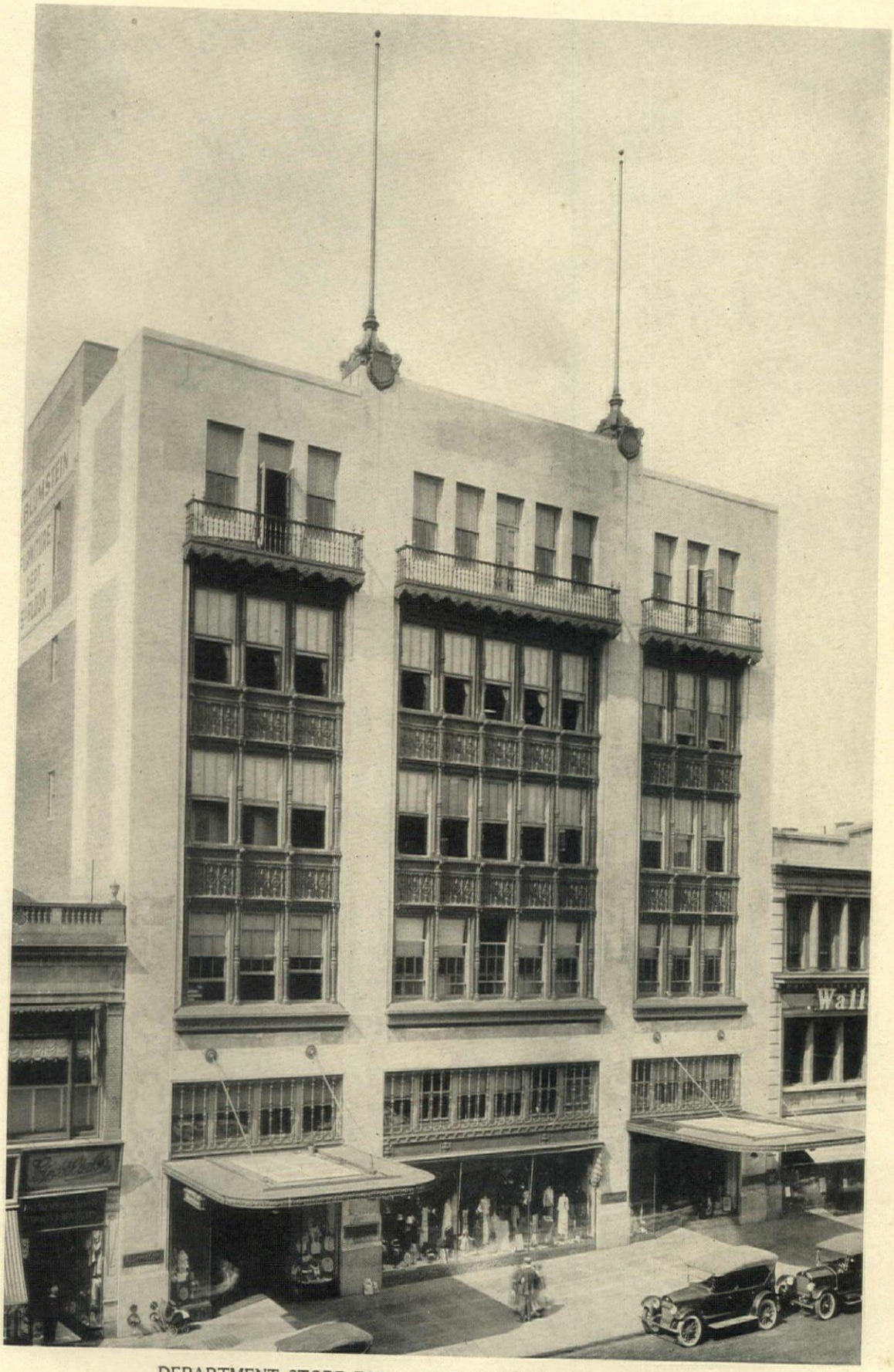
A striking feature of the store is the spacious effect secured by the elimination of columns and small panel bays. In doing this, there was no great increase in cost as it was accomplished by consistent and careful designing of the structural frame and floor system. The absence of projecting girders and beams in the ceiling, the restrained detailing of the column capitals, the general proportions and arrangement of the parts, are elements that make possible this unusually fine sales room. The arrangement of the fixtures and the relative area of sales space and customers' aisles are carefully studied. The practicability of the plan is demonstrated by its successful use and the appearance of the building is satisfying.

The invisible parts of this building are, as usual, of an engineering nature and the most important engineering features in this project are the heating and ventilating plant and the structural design. The heating and ventilating plant consists of direct radiation in the upper floors and a small amount in the service portions of the first floor and in the front of the basement under the sidewalk. The basement and first floor are heated by warm air delivered and exhausted mechanically by blowers. This portion of the plant is so designed as to produce desirable results.

In entering any mercantile establishment during the Winter months it is noticeable that an inrush of cold air occurs even when there is an enclosed vestibule. For the protection of the employees there are sometimes erected plate glass shields to divert the draught of cold air. This does not overcome the difficulty as it fails to protect the employees from the danger of respiratory diseases and does not prevent the discomfort of the customer. This condition of inrushing cold air is caused largely by the aspirating effect of open

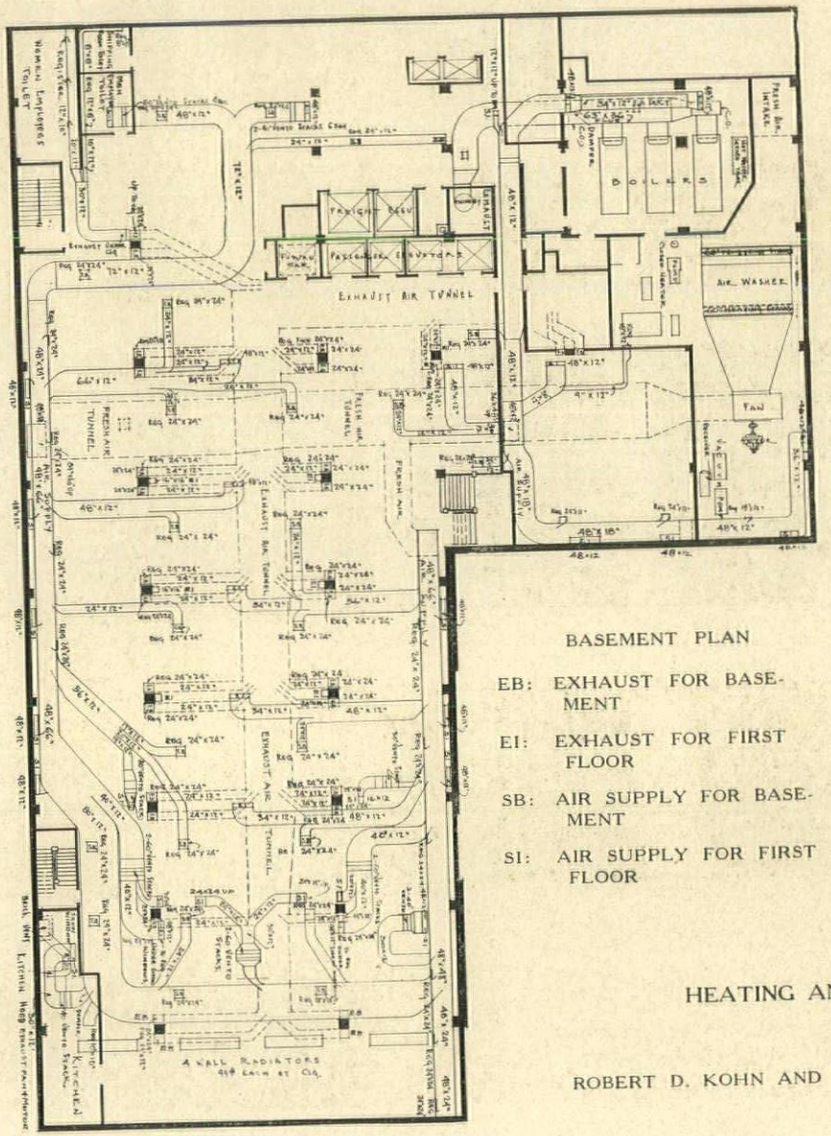
DEPARTMENT STORE FOR L. M. BLUMSTEIN, INC., NEW YORK

ROBERT D. KOHN AND CHARLES BUTLER, FF.A.I.A., ARCHITECTS ASSOCIATED



DEPARTMENT STORE FOR L. M. BLUMSTEIN, INC., NEW YORK

ROBERT D. KOHN AND CHARLES BUTLER, FF.A.I.A., ARCHITECTS, ASSOCIATED



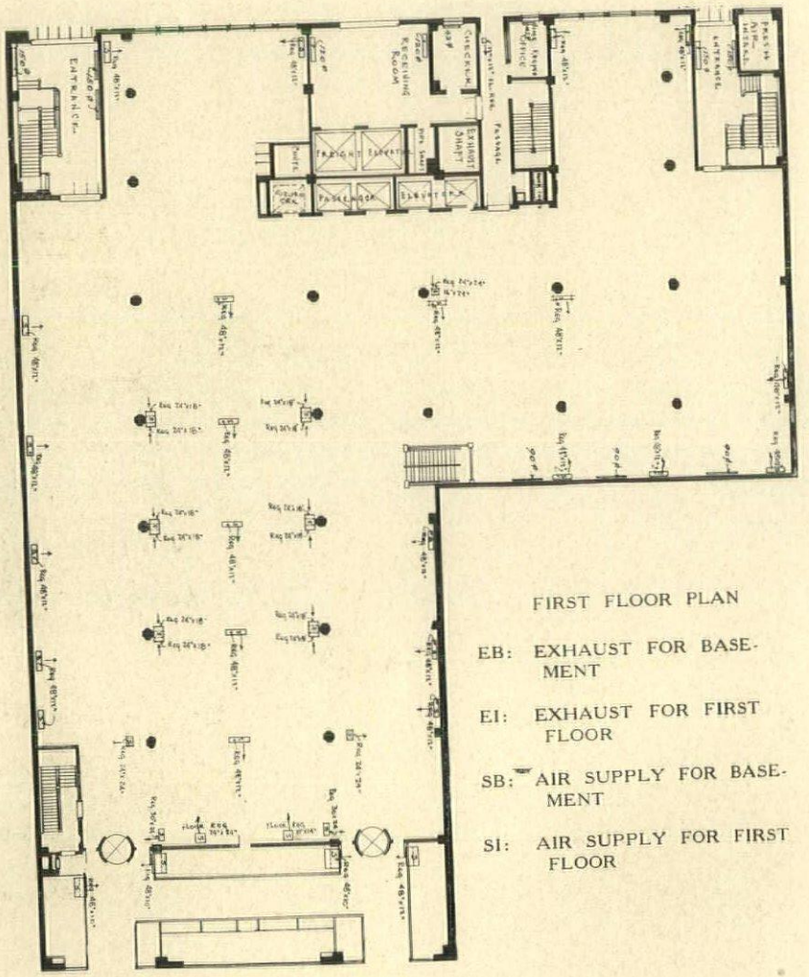
BASEMENT PLAN

EB: EXHAUST FOR BASEMENT

EI: EXHAUST FOR FIRST FLOOR

SB: AIR SUPPLY FOR BASEMENT

SI: AIR SUPPLY FOR FIRST FLOOR



FIRST FLOOR PLAN

EB: EXHAUST FOR BASEMENT

EI: EXHAUST FOR FIRST FLOOR

SB: AIR SUPPLY FOR BASEMENT

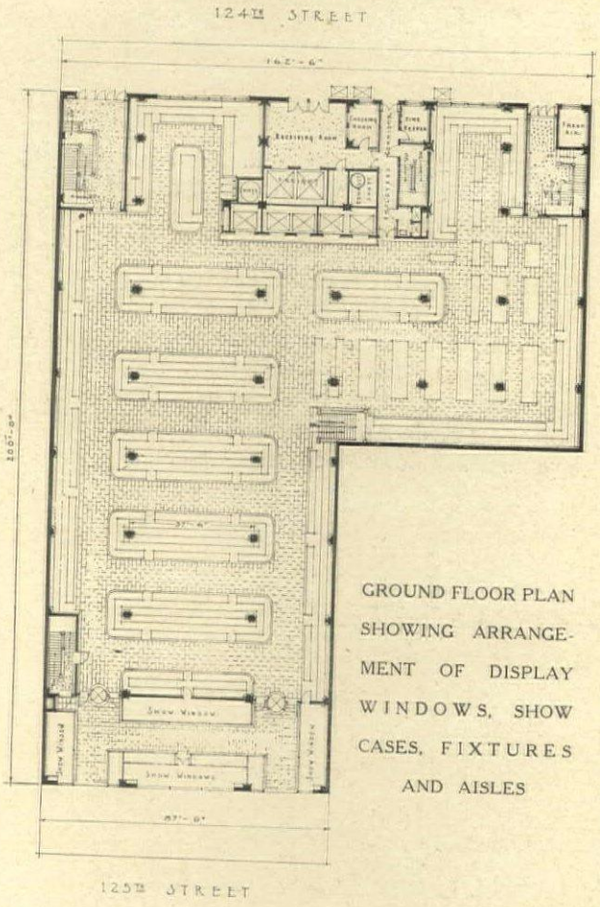
SI: AIR SUPPLY FOR FIRST FLOOR

HEATING AND VENTILATING PLANS FOR DEPARTMENT STORE FOR L. M. BLUMSTEIN, INC., NEW YORK

ROBERT D. KOHN AND CHARLES BUTLER, FF.A.I.A., ARCHITECTS ASSOCIATED—A. M. FELDMAN, CONSULTING MECHANICAL ENGINEER

well holes extending through several stories, open stairways and elevator enclosures and an improperly balanced heating and ventilating system.

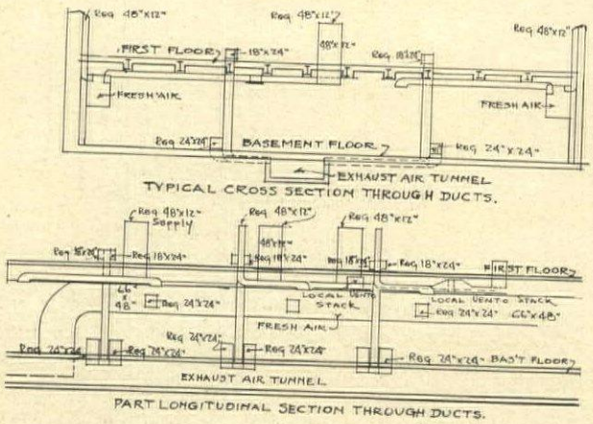
This is a matter to which the architect should give careful study in collaboration with the ventilating engineer. In the store here described, Mr. Feldman has made a logical design to overcome this general difficulty, similar to one that he successfully carried out in the Lindner Department Store in Cleveland. The system is so designed that the input of fresh air is greater than the exhaust, which results in a sufficient plenum to cause the air in the store to escape through the entrance doors when opened and thus prevent the inrush of cold air. This excess air



GROUND FLOOR PLAN SHOWING ARRANGEMENT OF DISPLAY WINDOWS, SHOW CASES, FIXTURES AND AISLES

can escape only through these doors and the elevator shafts. The elevator doors are of solid construction and the air enters the shaft only by leakage about the doors and when the doors are open. The stairs, excepting those leading to the basement, are enclosed.

The temperature of the warm air is regulated automatically by means of thermostats and diaphragm valves. The warm air leaves the blower at a temperature of about 74° F. and is delivered through the registers at about 68° to 70° F. This is found satisfactory in maintaining a uniform temperature of about 70° F. Additional reheating vento stacks are placed in the basement ceiling ducts near the entrances where air, at a much higher temperature, is delivered at these entrances and into the exterior open vestibules. The temperature in the vestibules is sufficiently pleasant, even in the coldest weather, to induce the passersby to stop and inspect the window display. The supply and exhaust systems in the basement are of equal capacity.



SECTIONS THROUGH BASEMENT, SHOWING ARRANGEMENT OF FRESH AIR AND EXHAUST DUCTS AND TUNNELS

The warmed fresh air is discharged into a tunnel, under the basement floor, connecting with two vertical galvanized iron risers which supply a system of horizontal ducts above the furred ceiling of the basement. From these ducts outlets supply the basement. Through risers along the first floor walls back of the show cases with outlets discharging about 6′-9″ above the floor and through registered panels in the show case bases, the first floor is supplied with warm air.

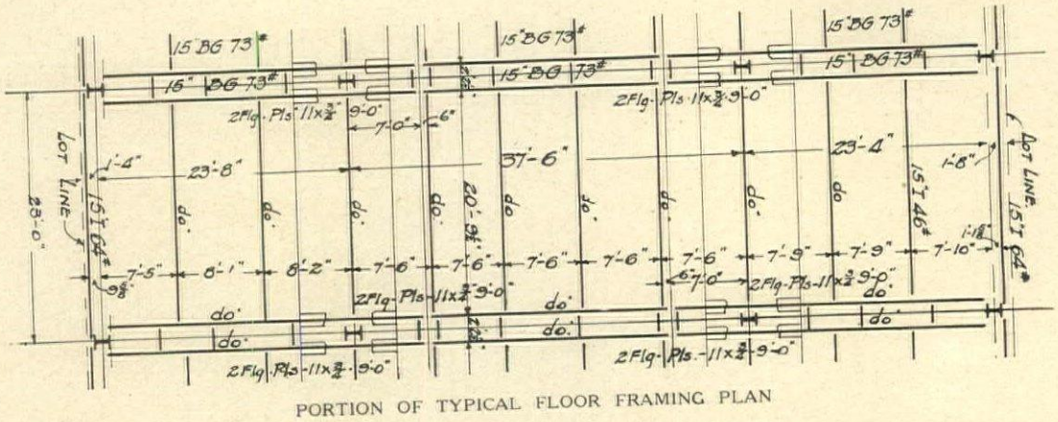
The first floor exhaust is through ducts which are incorporated with the fireproof covering of the columns. The basement exhausts open into galvanized iron ducts beneath the display counters and these, with the first floor exhaust ducts, connect with main ducts under the basement floor which lead to the main exhaust shaft leading to the roof. In this shaft is placed the steel smoke-stack, the heat of which aids the exhaust fan that is placed on the roof.

The net cubical contents of the basement is 253,000 cu. ft. and that of the first floor is 311,565 cu. ft. The fresh air supply fan has a maximum capacity of 100,000 c.f.m., requiring a 50 HP motor to drive it. If the space occupied by the fixtures, goods and persons is considered, the supply is equivalent to a complete change of air each four or five minutes. During the Winter months it is found that operating the fan at 70 per cent of its capacity gives satisfac-

tory results. During the Summer the fan is operated at full capacity.

Mr. Feldman's scheme of applying a differential between supply and exhaust is by experience shown to be correct.

Mr. Stern has incorporated the principle of the continuous girder in the structural frame of this building in a very interesting and satisfactory manner. The columns are spaced longitudinally from 23'-0" to 25'-0" on centers; transversely they

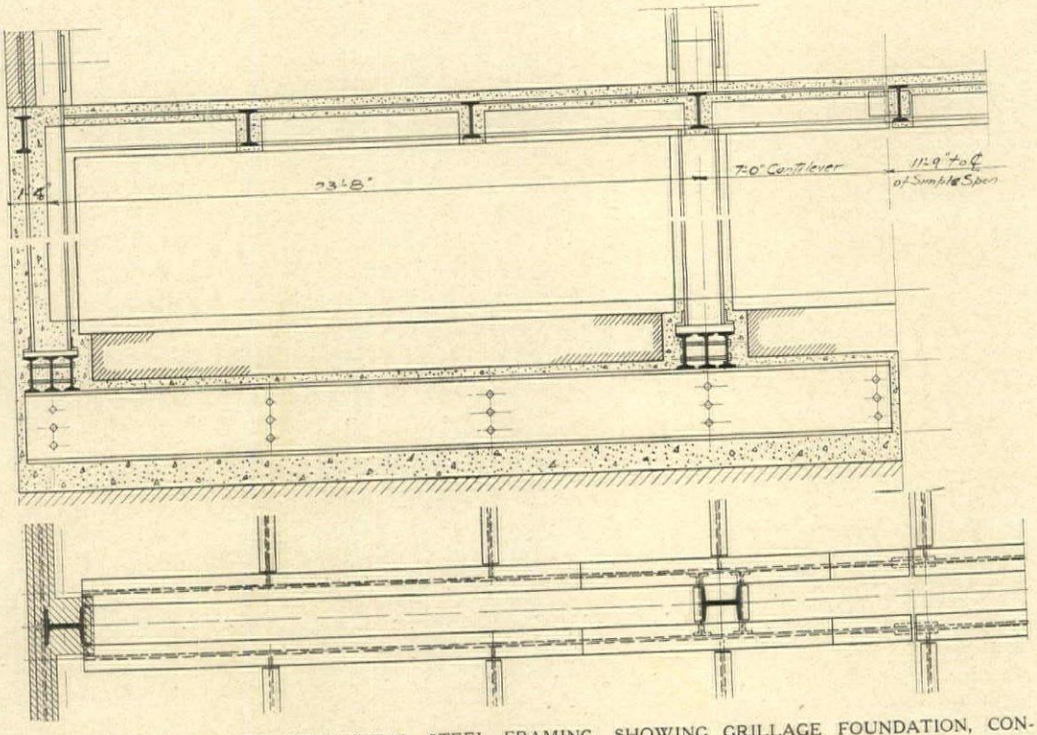


PORTION OF TYPICAL FLOOR FRAMING PLAN

In the early days of structural steel frame construction the wrought iron and steel beams and channels, exceeding a certain length, entailed an extra cost. To overcome this, engineers designed for simple beams supported at each end. Even when this penalty for overlengths was removed, engineers continued to overlook the advantages of continuous effect. The introduction and development of reinforced concrete construction have made engineers familiar with the design and advantages of continuous girders and beams.

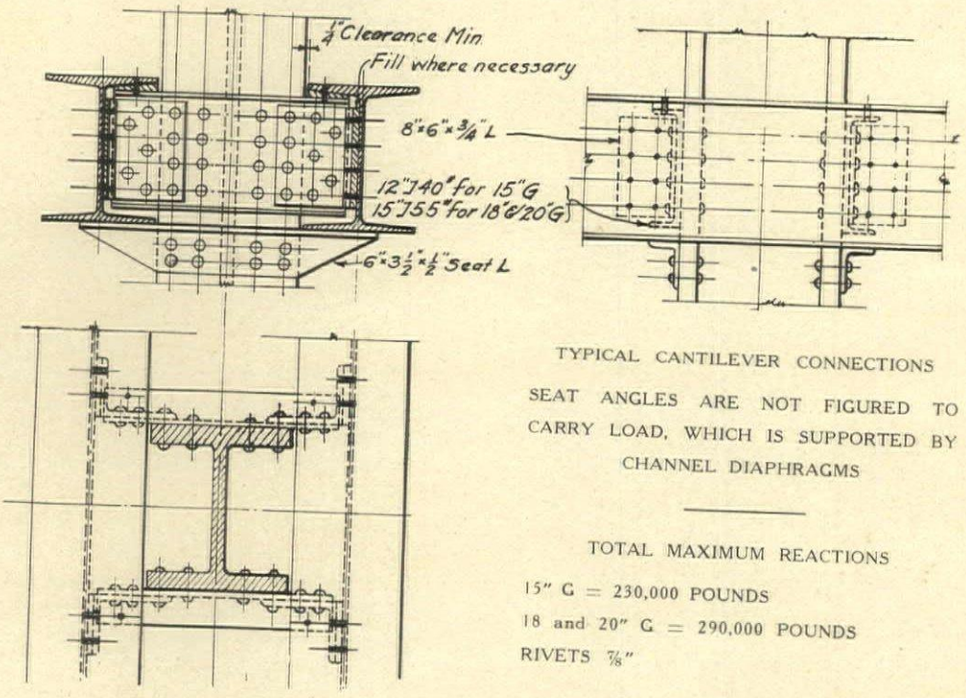
are spaced 23'-4", 37'-6" and 23'-8" respectively. This arrangement eliminates at least one row of columns which the usual construction would demand and permits of panels 23'-0" x 37'-6" through the center of the store. This is very desirable from the merchandising standpoint.

The floor beams are spaced from 7'-6" to 8'-2" on centers and have a depth of 15". In order to use girders of the same depth two continuous cantilever girders project into the central bay 7'-0" beyond the column center. Attached to the end



SECTION AND PLAN OF STRUCTURAL STEEL FRAMING, SHOWING GRILLAGE FOUNDATION, CONTINUOUS CANTILEVER GIRDER, CENTER SPAN GIRDER AND FLOOR BEAMS, ALSO FLOOR SLAB AND SUSPENDED CEILING

of and supported by the ends of the cantilever girders there are two beams of the same depth and weight. These are designed as simple beams supported at each end. The continuous cantilever girders are each reinforced at the column with two 9″ x ¾″ x 9′-0″ flange plates necessary to resist the bending moment at that plate. An important advantage of this type of construction is found in utilizing the space between the girders, adjacent to the columns, for the passage of ventilating ducts, pipes, conduits and other utilities which can be incorporated with the fireproofing of the columns. The uniform depth of beams and girders makes possible the unobstructed ceiling, the desirability of which is well known to architects and engineers.



TYPICAL CANTILEVER CONNECTIONS

SEAT ANGLES ARE NOT FIGURED TO CARRY LOAD, WHICH IS SUPPORTED BY CHANNEL DIAPHRAGMS

TOTAL MAXIMUM REACTIONS

15″ G = 230,000 POUNDS

18 and 20″ G = 290,000 POUNDS

RIVETS ⅞″

VIEW OF GROUND FLOOR LOOKING WEST. ELEVATORS AND BALCONY AT LEFT

PAINT *and the* EFFECT *of* ITS COLOR

THE elements embraced in building construction are so numerous and diversified that architects need to select their sources of information with the utmost care. Much of this information is the result of investigation and experimentation by associations of manufacturers. In the main, these data are reliable. Some of these investigations pertain principally to manufacturing processes and are of little interest to architects; other investigations reveal the best manner of usage or physical properties which always interest the architect who would be informed about construction developments.

Of these associations, the Paint Manufacturers' Association of the U. S. and the National Varnish Manufacturers' Association (Co-operating), issue a valuable series of circulars. These circulars are written by or under the supervision of H. A. Gardner* from whom they can be procured. A large proportion of them is of direct interest to architects, a few of the late issues being noted here.

Circular No. 196 is entitled Decoration and Stain Prevention of Copper Structures. The staining of painted surfaces, stone, marble or granite by rain washing the slightly corroded surfaces of copper gutters, flashings, screens or statuary, is seen on every hand. On old copper surfaces when the verdigris coating has been brushed off, a good metal paint can be applied in the usual manner. New surfaces should have the grease or loosely adherent matter removed by brass polish, abrasive soap cake, benzol saturated rag or dilute nitric acid. It has been found that a coating of exterior varnish applied to screens prevents corrosion. Such an application or a clear, transparent, wax-like coating applied to statuary and occasionally renewed will prevent the unsightly staining of the supporting pedestals. Perhaps some prefer this staining as an "artistic effect."

Circular No. 197 treats of Some Experiments on the Washability and Durability of Interior Wall Paints. Concerning the serviceability of prepared sanitary wall paints of the washable varnish type, Mr. Gardner reports about the longevity of the paint and varnish on the walls of his laboratory which was erected in 1911, as follows:

The walls were made of Portland cement and sand on expanded metal. Probably three weeks after plastering they were coated with a solution of zinc sulphate (2 lbs. of crystals to a gallon of water) to neutralize any free lime present.† After drying, the paints were applied in three-coat work, about five days being allowed between coats. A flat finish was used on many of the wall surfaces and ceilings and a gloss finish on the remaining walls. After exposure for seven years, they were still in good condition. At that time some of the walls were given one coat of the same type of paint, the others not being treated. At this time (twelve years after the original painting) the surfaces are in excellent condition. No scaling, flaking, or cracking has been observed.

To demonstrate the washability of the paints, a circular area thirty inches in diameter was marked up with several kinds of pencils, crayons, and with ink. One-half of the area was washed with a sponge wet with soapy water. By wringing the sponge out to an almost dry condition, better removal of the soil marks was obtained than with a very wet sponge. Solid vulcanized oil gum erasers were found very efficient for removing wax or grease pencil marks and ink.

On another similar area, the surface was washed twice daily with soap and water for ten days in order to determine whether the paint would withstand such continued treatment. After the twenty washings referred to, the coating was still in very good condition but a gloss had developed on the surface, as a result of the constant polishing action of the rubbing.

Possible Influence of Wall Colors on Body Weight of Animals, Circular No. 198. Considerable has been written regarding the psychological effect of various colors.* Some tests have been made by Mr. Gardner which might indicate a relationship between the physical condition of persons and the color of the walls of the rooms occupied by them. In these tests the effect of colored walls was measured in terms of increase or decrease in body weight.

The tests were made on guinea pigs and the results may have some significance as to the effect on persons. A series of large boxes was fitted up as compartments and arranged with sanitary equipment so that guinea pigs could be kept in them under healthful conditions. Each box was painted in a different color with sanitary flat wall paints. The animals were first kept in cages for a period of two months to observe their condition before placing them in the colored compartments. They were then fed daily the same amount of food and weighed every four or five days. After a period of about six weeks the tests had afforded some information as indicated in the table.

TABLE SHOWING WEIGHT IN GRAMS OF GUINEA PIGS KEPT IN COLORED COMPARTMENTS. WEIGHINGS MADE EVERY FOUR DAYS

COLOR	Pale Blue	White	Light Tan	Dark Green	Black	Dark Red
1st weighing	420	425	530	550	430	435
2nd "	440	415	520	525	395	410
3d "	475	425	520	540	415	420
4th "	462	445	515	575	435	400
5th "	475	480	540	560	435	415
6th "	520	485	550	570	455	420
7th "	535	520	570	580	445	430
8th "	540	535	595	575	445	440
9th "	545	540	615	585	435	445
10th "	550	545	635	590	440	440
Increase	130	120	105	40	10	5

If these tests warrant any conclusion, it appears that light colors of high reflection values are most favorable to the rapid growth of animals while colors of low luminosity exert an effect that retards development.

Breeding experiments gave negative results in compartments painted with black, dark brown and dark green, no young being born in a period of over four months. In the tan colored box two pigs were born and one each in the white and pale blue compartments. These latter results are given merely as of general interest and no attempt is made to draw any inference therefrom based on such a very limited series of tests.

*1845 *B Street, N. W., Washington, D. C.*
†*See Circular No.* 147.

**Scientific Section Bulletin No.* 38.

SPECIFICATIONS

Brick Masonry Specifications—(*Continued*)

SPECIFICATIONS for the laying of fire brick work must be divided into two classes —the first class, which is by far the one in which work is done by the majority of architects, is the smaller work for low pressure heating, and for flues and fireplaces. The second class is the high pressure power house and boiler plant work where fire brick is used for the setting of boilers. In many cases, the specifications for either of these classes are similar and usually there is the same quality of work demanded no matter what the purpose intended, but a number of things must be observed in the laying of fire brick for steam boiler settings that require the detailed attention of the specification writer, while in the residential work the tightness and appearance of exposed installations are given a greater consideration.

In either event, the brick itself must be the best quality of its class obtainable. Some fire bricks are burned harder than others, but as a general rule, fire brick are a soft brick. The harder burned fire brick are not considered as good for high pressure work as the softer brick, but in the residential construction there is not enough heat placed against the brick that would cause untoward damage to it. For residential construction work, fire brick most often are used only for lining the smoke flues and the hearths of fireplaces, with of course their use in the setting of low pressure heating boilers. For fireplace work the fire brick should be carefully selected for freedom from spalls or chips and broken brick should not be used except where bats are necessary to fill out the lengths of courses. Specifications should require that the mason set the fire brick for fireplaces with manufacturer's imprint or trademark concealed and it might not be amiss to emphasize this stipulation by the use of capital letters, as one sees so frequently several if not at least half of the brick in the fireplace lining with the name of the manufacturer exposed, and to make it worse, with the name placed upside down so that the curious person must stand on his head to see whence they came.

For the lining of smoke flues, the brick is usually laid on the bed although where conditions restrict the allowable thickness of walls, it may be permissible to lay the fire brick on edge. The specification writer must know whether this latter method is accepted by the local building authorities, as of course he must know when to use fire brick in place of the fire clay tile linings. In the setting of fire brick for boilers on low pressure systems, the specifications ordinarily need not have very much to say about this work as it is usually done by men skilled in boiler setting. The brick may be laid on beds or on edges according to the requirements of the boiler manufacturer.

For all domestic purposes, fire brick is used to afford protection against hot gases, flames and soot, and in fireplace and chimney work, it is most essential that all joints be tight so as to prevent the passage of flames, or to prevent the lodgment of soot, which may ignite and cause damage by fire. The mortar used for fire brick setting is composed of fire clay with water mixed to bring it to the thick, creamy consistency, necessary for all good work of this character. A proper way to lay fire brick is to immerse the edges or beds that are to be built into the wall in a pail of mortar and then grind the brick down on the preceding brick and against the adjoining brick to make the joint as thin as possible, yet having it completely filled with the mortar. Much work of this character has been laid with the mortar mixed to a rather stiff, creamy consistency with the mortar troweled or buttered onto the built-in edges or faces, rather than by using a dipping process. Since the only purpose is to gain a thin joint, filled with mortar, the specification writer should know what local custom is in setting the fire brick, or he should specify the laying of brick with minute detail. For the usual fireplace lining work there is no necessity for the use of bond brick. However, it may be that the size of the lining may require a tie or bond into the backing brick, in which case, of course, the fire brick will be used in the way of headers, laid either horizontally or vertically. In the lining of smoke flues, the fire brick may be bonded to the backing brick, that is to say, the surrounding walls, or as is most usually the case where fire brick are used for this purpose, there is left a 2″ air space between the fire brick and the main masonry walls of the flue. In this case the use of headers is permissible and of course where the lining is of some height and considerable length on each side, bond headers must be used for substantial construction of the lining. Where fire brick are allowed to be laid on edge for flue linings, it is probable that such permission should not require the use of a 2″ air space. It is probable that practice in chimney construction generally requires brick laid on a 4″ bed for flues over 24″ sq. The laying of fire brick for these uses must be done similar to that noted above for fireplace linings, but more careful attention must be given

to the making tight of all joints, and keeping the inner face of the smoke passage perfectly smooth, not only to prevent the lodgment of soot or passage of flames, but to prevent the deteriorating effects of flames and hot gases against the corner edges of the bricks as they may project out against the general plane of the face, or to prevent the reduction of actual flue diameter by interposing retardation influences for the passage of smoke and gases. The size of the flues must be net. It is quite often found that the droppings of mortar in the flue tend to fill up and choke the base of the flue, which of course is extremely detrimental to its use as a smoke passage, especially where the base of the flue is at the level of the thimble or breeching inlet. The specifications, and of course the drawings, should require that the flue be extended at least 2 feet below the bottom of the inlet, and they should also require that the flue be cleaned of all projecting mortar after construction, or if it is especially high, after each 10 or 15 feet have been erected, by using a sweep of some kind that will knock off all protruding lumps of mortar. This chimney sweep will also reveal whether there are projecting bricks that might seriously impair the efficiency of the flue. Since the drawings do not always indicate the height of fire brick lining, the specifications should state, where this omission occurs, that such lining should extend upward from the top of the breeching inlet a distance equal to ten diameters of the flue, and if the gases that are to pass through the flue are to be exceptionally hot, the lining should be extended a greater distance.

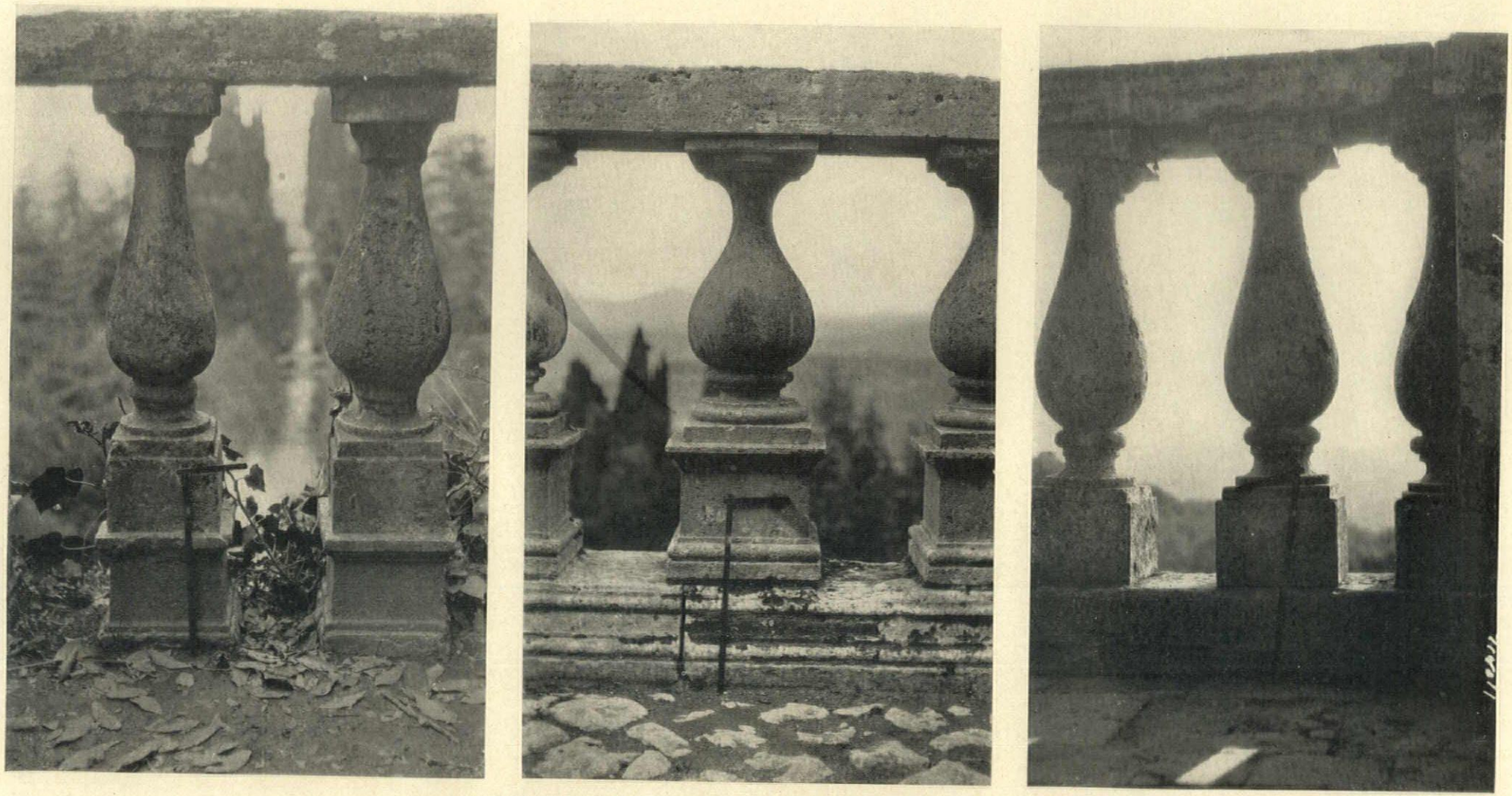
The laying of fire brick for low pressure boiler settings must be done with fire clay mortar in the manner specified above. The matter of bonding must be specified as noted above, and of course the faces of the brick work exposed to the passage of flames and gases must be left smooth and to the proper form or contour. As indicated at the head of this article, the manufacturers of the boiler usually issue blueprints and their own specifications for the setting of brick, and in many cases the work itself is done by experienced men on whom dependence can be laid that the work will be of good quality.

The laying of fire brick for high pressure boiler work is a much more intricate operation, but the specifications need only require a certain kind of fire brick of stated quality, dipped in mortar with joints ground down as fine as possible, and with whole faces of brick exposed to the passage of flames or gases. In preparing specifications for this work, the architect must consult the boiler manufacturer for his recommendations, and incorporate them in his specifications. If, however, the boiler manufacturer is to install the boiler and the settings, the responsibility is his and there is not much need to go into the detail as to how the work is to be accomplished. This is one case where the results to be obtained may be depended upon through the operation of a guarantee to insure good workmanship, so that the desired end will be accomplished without difficulty.

The installation of enameled brick should be specified to be done generally in accordance with previous suggestions for laying of face brick, especially as to mortar and bonding. The face brick that are enameled are usually delivered wrapped, or packed in straw. The specifications should require one or the other method of delivery, and of course they must require that the brick be delivered at the building site free from chips, spalls or other defects, especially where the enameled face is depended upon to provide a sanitary surface. The operation may call for special sizes and shapes of enamel brick such as coves, bullnoses, returns and angles, sills, etc., and if such is the case, each special kind of brick should be mentioned in the specifications and in more detail if the drawings do not illustrate all of these necessities. These specials are quite expensive and in a large operation, an extra charge of great size might be assessed against the owner if the entire requirements are not known.

The mortar for laying face brick may be lime and cement mortar or gauged cement mortar, using the natural colored Portland cement, white Portland, or a colored mortar. Since the joints in enameled brick work are to be kept as thin as possible, usually about $\frac{1}{8}''$ to $\frac{3}{16}''$ in thickness, the mortar must be thin to provide a compact joint accomplishing the very thin bed required. The sand must be fine and pretty well graded as to fineness. The enameled brick may be bonded by means of blind headers or metal ties, but the thickness of the joint may preclude the use of the usual corrugated tie that requires about $\frac{1}{4}''$. Blind headers, of course, are more expensive, but since the general material itself costs quite a bit of money, the use of blind headers should be specified to insure the substantial installation of the expensive material. Where the appearance of the wall is not damaged by the use of through headers arranged in regular courses, they may of course be specified.

Specifications for this class of work must be quite rigidly drawn as to the kind of workmanship that is expected. The jambs, corners and beds must all be level and plumb, and the general wall surface itself should be plumb. The bricks all should be laid uniformly to the same vertical or horizontal plane, without bricks projecting $\frac{1}{16}''$ or $\frac{1}{8}''$ beyond adjoining or projecting brick, and of course every brick laid in the wall must be left free from defects of any kind.

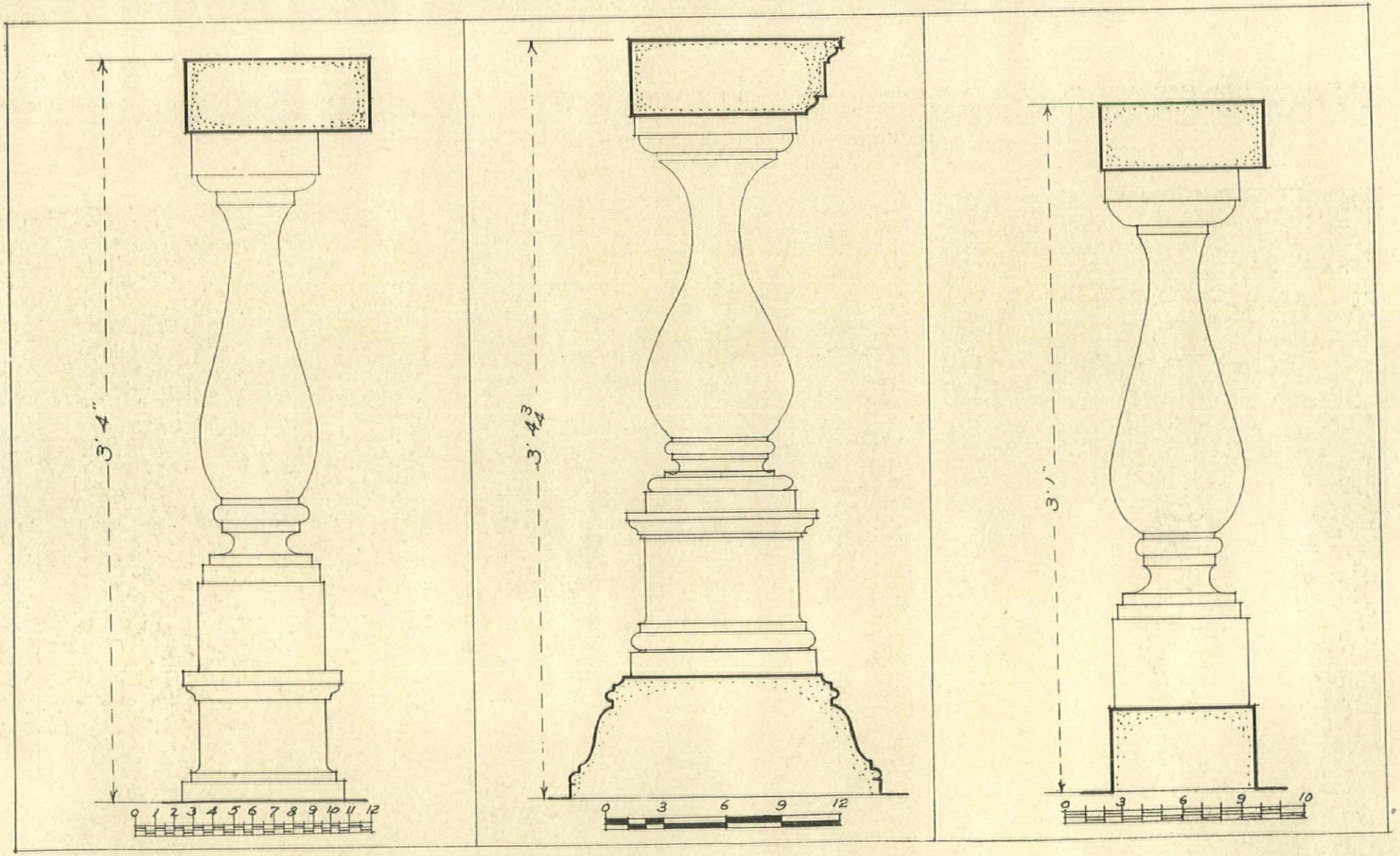


THREE BALUSTRADES FROM THE VILLA D'ESTE AT TIVOLI

MEASURED AND DRAWN BY ROBERT M. BLACKALL, ARCHITECT

One of the most important architectural features of any garden layout is the handling of the wall treatment forming a background to the landscape architecture. The top of this wall treatment is usually a balustrade, or some more developed architectural treatment. In the Villa D'Este, there are three major designs of balustrades forming the top of the walls. The details of balusters are shown on the accompanying drawings

NUMBER II, SERIES III.
FRENCH AND ITALIAN DETAILS



THREE BALUSTRADES FROM THE VILLA D'ESTE AT TIVOLI

MEASURED AND DRAWN BY ROBERT M. BLACKALL, ARCHITECT

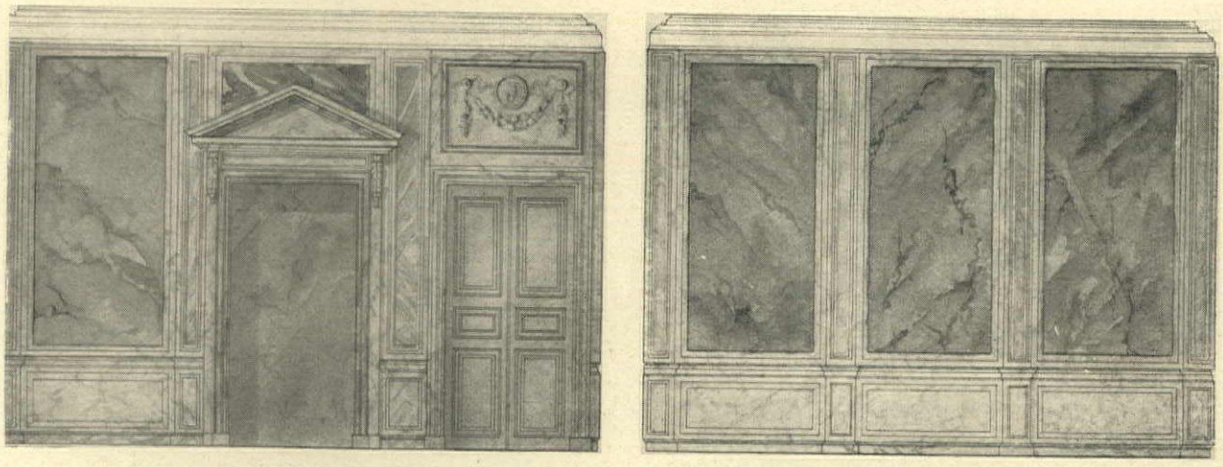
INTERIOR ARCHITECTURE

Characteristics *of the* Louis Sixteenth Period

THE value of studying the historic styles and periods of decoration and becoming acquainted with their lines and details, lies not alone in their possibilities of adaptation to our modern designing problems, but also in showing us how periods originated from inspiration derived from the styles.

It is unfortunate, in this light, that so much of the published material which forms the basis of our education of the periods concerns the palatial interior, and takes such slight cognizance of the simple room. Especially does this seem to apply to the French periods of the Louis regime, for, while no one could or would question the beauty of the Petit Trianon or the Louis XV rooms of the Palace of Fontainebleau, nor doubt the benefits to be derived from their study, it must be admitted that they do not offer much that could be adapted to our modern informal rooms. It is undoubtedly because of the use of this type of interior as the principal means of studying the style, that the impression is so general that rich decoration and severe formality are the most vital factors in the French periods. As a typical illustration of this circumstance, it is necessary to look back only fifteen or twenty years to see the place that the French periods occupied in our homes then. The formal drawing room and reception room were still a part of the average house plan, and the lines of the French styles, as most architects had come to know them, seemed to embody, better than any other style, the formal quality that they wished to portray. The several Louis periods were almost done to excess. In our present-day houses, however, where the most conspicuous element in the design of every room and interior is informal simplicity, the French periods have been unfortunately discarded with the idea that

LOUIS XVI SALON IN THE PARIS ATELIERS OF THE NEW YORK SCHOOL OF FINE AND APPLIED ART



ELEVATIONS OF THE OLD DINING ROOM IN THE ANCIENT HOTEL DE CHAULNES, 9 PLACE DES VOSGES, THE PARIS ATELIERS OF THE NEW YORK SCHOOL OF FINE AND APPLIED ART. THE OPPOSITE WALLS ARE IDENTICAL. THE ENTIRE WOODWORK AND PLASTER WALLS ARE MARBLEIZED. THIS IS A FINE EXAMPLE OF THE SIMPLE LOUIS XVI DESIGNS

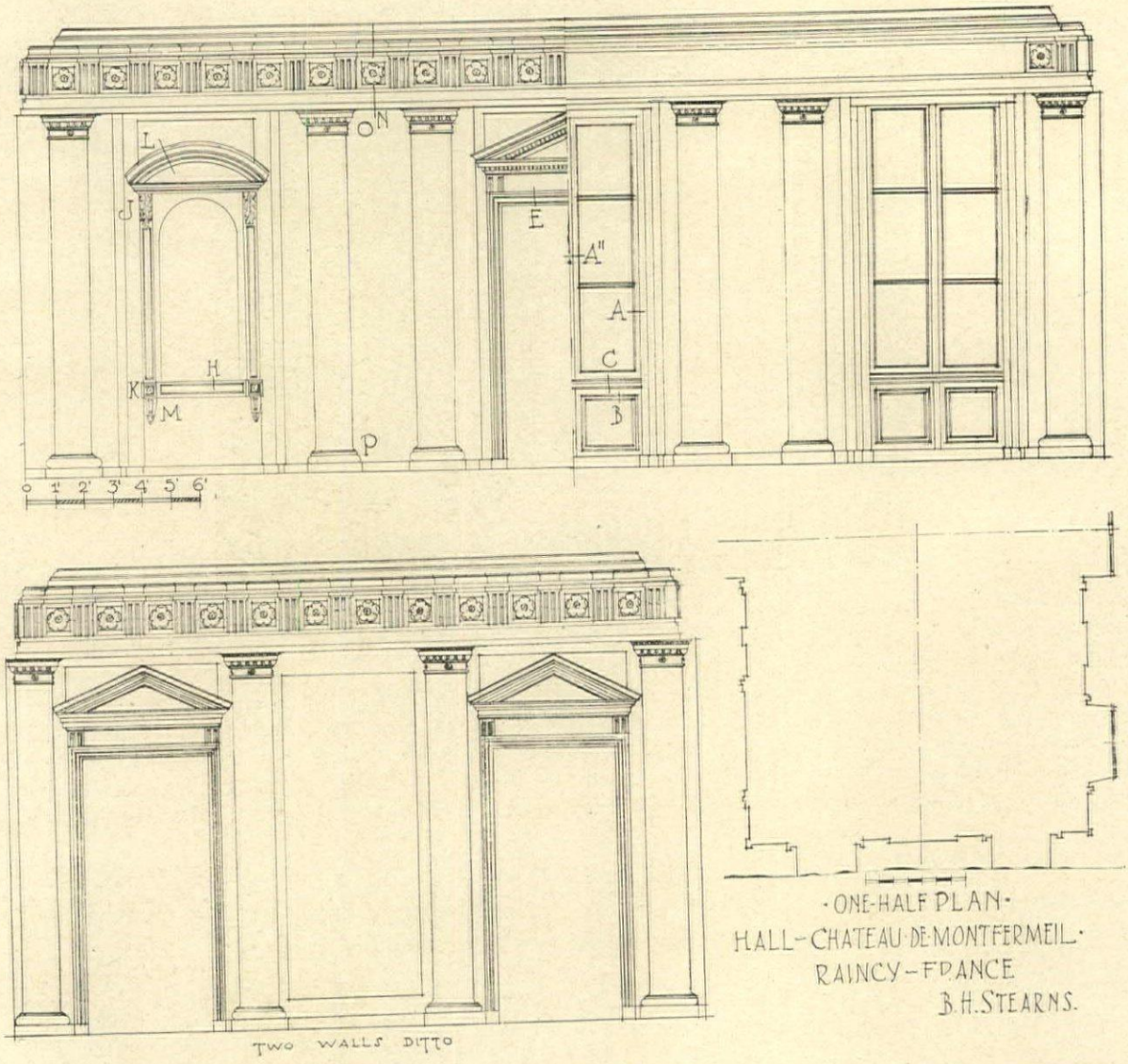
(Measured and drawn by Dan Cooper)

they have no place in that type of scheme. It is also a fact that even the architect who finds his way to France to study at first hand the work of the originators of these sterling periods, discovers, to his regret, that these same palatial interiors are the only ones which he is allowed to see, and returns home with only an added inspiration which the actual seeing of these famous and magnificent architectural achievements evoked.

It is greatly to the advantage of future designers and architects that the students of the Paris Ateliers of the New York School of Fine and Applied Art are permitted to visit many of the simple French homes, which are closed to the outsider, and allowed to make measured drawings of the decorations and furniture. Several of these drawings are reproduced here as illustrating the Louis XVI style of decoration, as originally applied to the simple home or interior.

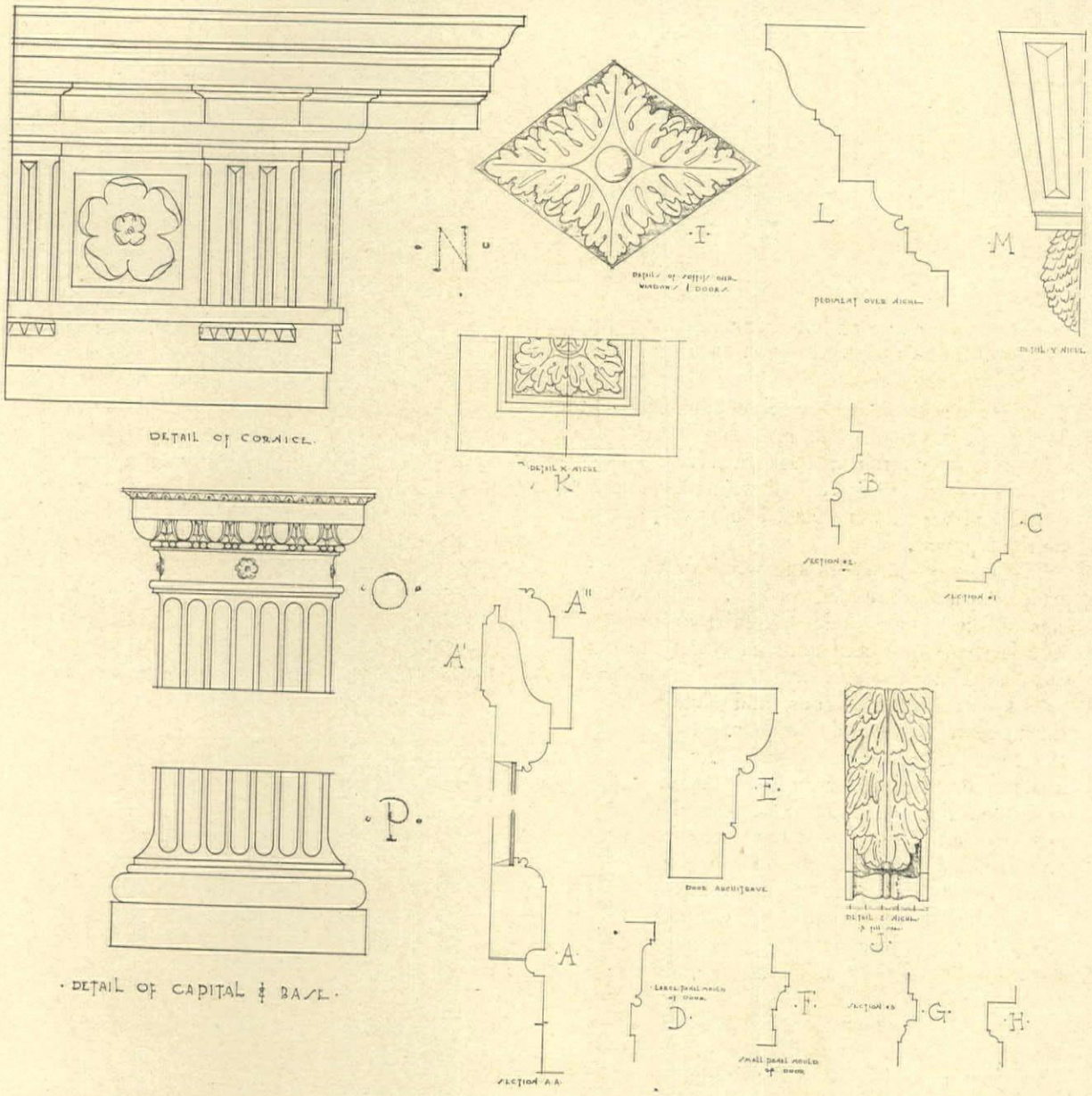
The Louis XVI style actually made its appearance long before the ending of the reign of Louis XV. The excavation of Herculaneum and Pompeii had had a striking effect of reviving interest in classic architecture and the architects of France were guided by this sway as were those of Italy, England, and, in fact, the whole of Europe. But it was not until 1774 that Louis XVI reached the throne, and, therefore, although not accurate, the period is bounded by that year and the year of his dethronement, 1793.

The one outstanding feature of the designs and details of the period of Louis XVI is its classic bearing. In reality, the style might be classed as a chaste adaptation of classic models. Its Greek tendencies are discernible in the severe lines of its designs. Unlike the Louis XV, the architecture and the ornament were in perfect accord. In fact, the style was grounded on architectural principles, symmetry and good proportion being ever present, and the disposition to balance window and door openings always conspicuous. The designs were based on rectangular



forms and straight lines, and ornament was added more to decorate the rectangular outline than to conceal it. Window and door heads were generally rectangular, and when they were round arched, straight lines were so added and placed to emphasize their rectangular bearings. Walls were commonly panelled of wood and painted, but plain plaster or papered walls were sometimes

moulding of two and a half to three feet high, between which and the base were small panels corresponding in width to the wall panels above. Mantels were low and followed the straight classical lines and were as frequently of wood as of marble. Mirror frames, which had become so popular during the preceding period, were often placed above the mantel shelf, but resting on it,



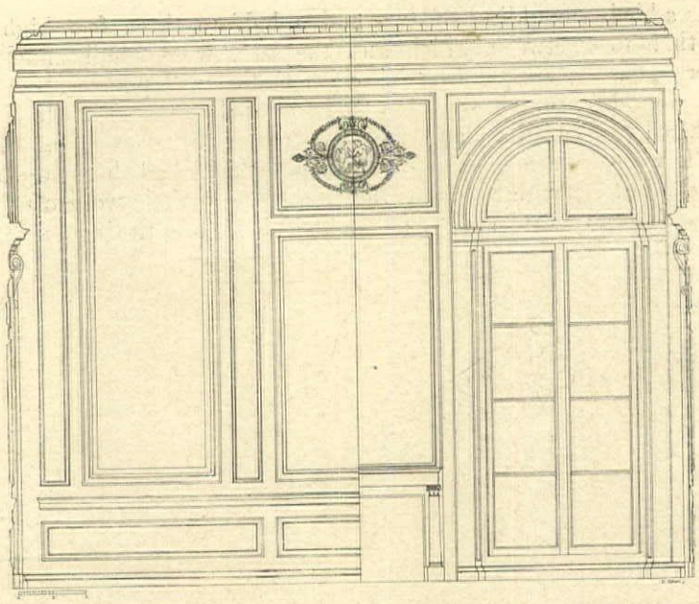
SCALE: ¾ INCH = 12 INCHES

SCALE: $\frac{3}{16}$ INCH = 1 INCH

DETAILS OF HALL, CHATEAU DE MONTFERMEIL

used. Panels were frequently arranged by a broad panel and a narrow one alternating. These panels were square shaped and all ornament was confined within the limits of their rectangular mouldings. The corners of panels were frequently broken by a square re-entrant angle, in which was often placed a rosette or other typical ornament. The wall panels commonly surmounted a dado

instead of being arranged as a wall panel. Their shape was generally square, as the wall panels, but sometimes round arched, with the rectangular lines continuing in the woodwork, with characteristic ornament, as a floral garland, draped over the top. The ceilings again became straight, the cove being only seldom used, and the cornice which surmounted or capped the woodwork was



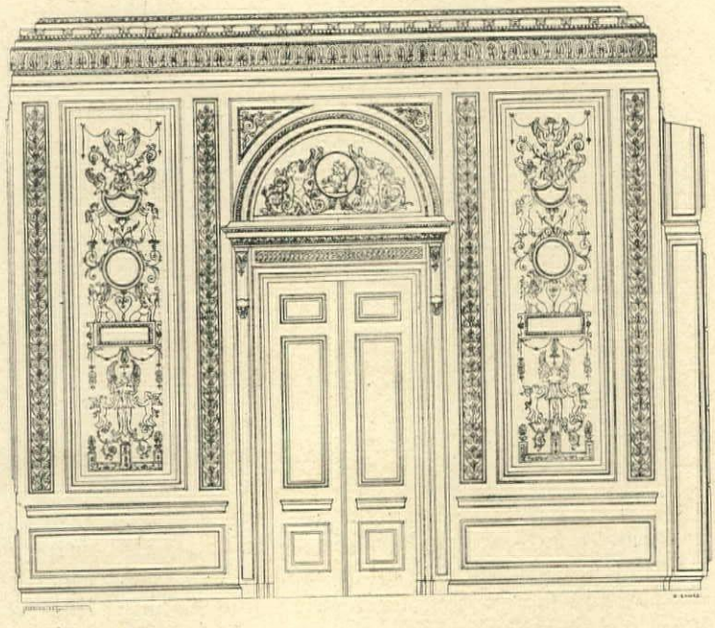
ELEVATION OF OPPOSITE WALLS OF THE SALON IN THE PIERRE GOUTHIÈRE HOUSE AT 6 RUE PIERRE BULLET, PARIS

of purely classic detail. Several members of the cornice were ornamented and the frieze treated with a strictly architectural pattern. The ceilings were sometimes enriched with formal plaster mouldings, which were placed so as to form symmetrical panels.

The trim of the doors and windows was of low projection and of refined contour. All the mouldings of the panels, dado and mirror frame were of this same type and adhered closely to classic details. Pilasters were often used as door surrounds with classic caps and detail throughout. Often narrow panels took the form of pilasters on each side of a door or window with no cap or base mouldings of any kind. The detail of all ornament was delicate and refined and, as has been implied, was more a part of the architecture than a decoration to it. This was solely the purpose of the ornament used by the Greeks and was adopted from them.

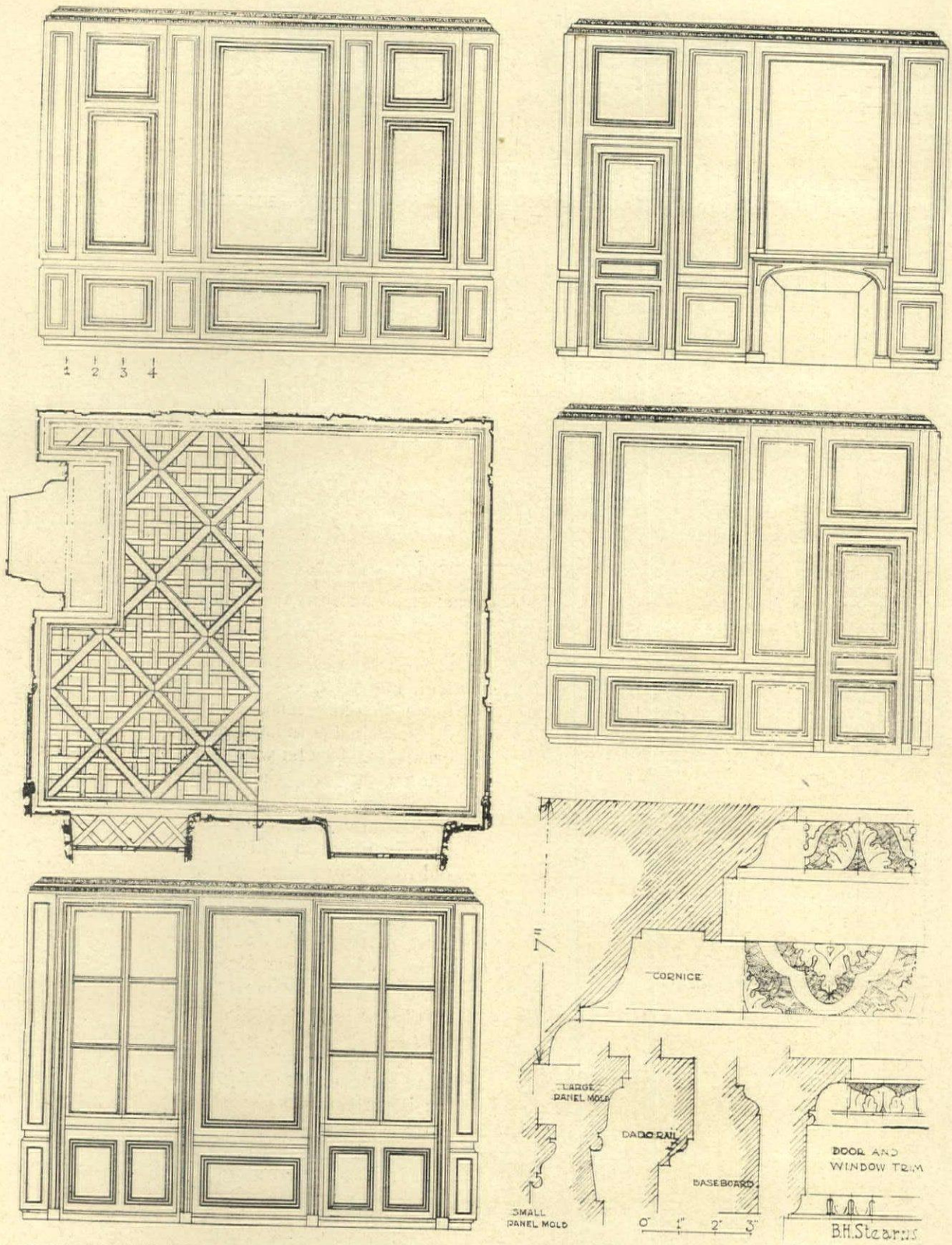
The classic tendencies of the architecture of the Louis XVI period applied just as positively to the design of the furniture of the period. The rectangular forms, straight lines and delicate ornament were a conspicuous part of furniture details. Legs of chairs and tables lost the cabriole shape, and took the form of a slender, tapering shaft, free from any underframing. It was often fluted, and the foot was capped with a ring or acanthus cup or a vase-like terminal as used by the Pompeiians. The top of the leg was carved by a wreath or beading. Bronze mounts were still used, but not so freely as before. Chair backs were not necessarily square, but, if not, the curves were very simple and regular. The frames for the upholstery were still much in evidence, and were extensively carved in simple and delicate ornament. Arms of chairs rested on the front legs, and curved gracefully and comfortably to their meeting with the frame of the chair back. Fabrics for furniture covering were still as rich as could be made, for the beautiful tapestries from Beauvais and Aubusson could not be surpassed by any. Delicate colors were as much in favor here as in the other decorations, and the stripe with small florid patterns interspersed was typical of the period. Furniture was frequently gilded, but much of it, too, was enamelled. Mahogany, tulipwood and rosewood were much used, finished in their natural color. Marble tops were commonly used on tables.

Decorative paintings were largely employed in the Louis XVI period, generally of either architectural or landscape subjects. In many cases, whole panels were filled with classic decoration, but this was generally confined to the smaller panels. Although the classic lines were strongly visible in the ornament, as in other details, there was a decided feeling of the Italian Renaissance discernible. Other more purely French motifs embodied in ornamentation were the arrows of

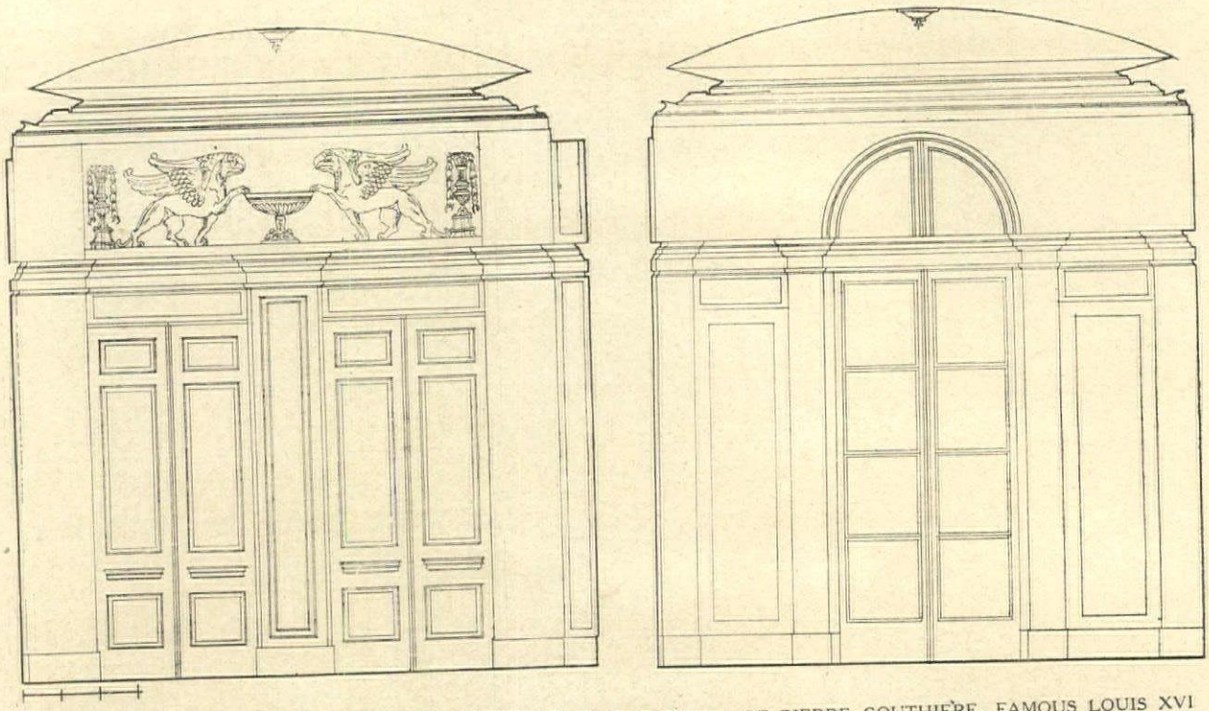


THIS ROOM OFFERS A GOOD EXAMPLE OF THE USE OF ALLOVER ORNAMENT IN WALL PANELS IN THE LOUIS XVI PERIOD. THERE IS DECIDED EVIDENCE OF THE CLASSIC IN ITS DETAIL

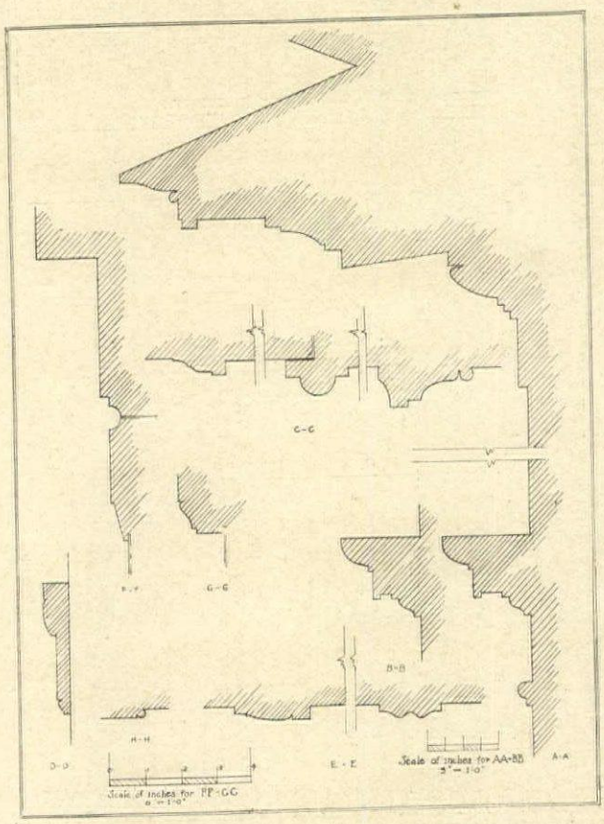
(Measured and drawn by D. Dawes)



ELEVATIONS AND DETAILS OF A SMALL ROOM IN A HOUSE AT COMPIÈGNE. THE LARGE WALL PANEL FLANKED BY A SMALL ONE ON EACH SIDE IS VERY TYPICAL OF LOUIS XVI ARRANGEMENT. THE DETAILS OF THE CORNICE AND WALL PANEL MOULDINGS ARE STRONGLY REMINISCENT OF THE CLASSIC. A DECIDED FEELING OF ARCHITECTURE PREVAILS THROUGHOUT THE ENTIRE DESIGN



ELEVATIONS OF TWO WALLS OF THE VESTIBULE IN THE HOUSE OF PIERRE GOUTHIÈRE, FAMOUS LOUIS XVI CISELEUR. THE OPPOSITE WALLS ARE IDENTICAL. THE ROOM IS IN LOUIS XVI STYLE, ALTHOUGH THE ORNAMENT WOULD SEEM TO BE MORE OF THE EMPIRE PERIOD, PERHAPS HAVING BEEN ADDED LATER



DETAILS OF THE VESTIBULE SHOWN ABOVE. NOTE THE SIMPLE CLASSIC LINES OF THE MOULDINGS AND THE LOW PROJECTION OF THE WALL AND DOOR PANEL MOULDINGS

(Measured and drawn by B. S. Williams)

love, accessories of music and garlands of flowers, fruit and foliage. Sconces and chandeliers were made of gilded metal or carved wood, and were designed in the same straight lines and simple ornament. Crystal was in great favor for lighting fixtures at that time, too. Colorings of the Louis XVI period were much more varied than is generally understood. Entire rooms were frequently tinted in dull greens or blues. Original old rooms are seldom seen in these colors now, for most of them have been covered with white paint. All colors used in decorative schemes, however, were of soft, dull tints, with grays, greens and blues predominating. Ornament was often brought out in gold. Upholstery and drapery fabrics were also rich in colors, and the whole period could be considered as one abounding in the use of soft and harmonious colors. Window draperies were elaborately trimmed and draped and formed an important part of the decorative scheme. The gorgeous tapestries which were being made during those times were used extensively for wall decorations as well as for furniture covering and draperies and often were the feature about which an entire room was designed. Floors were generally of a parqueted pattern in light woods, while marble was frequently used in large and elaborate rooms.

The illustrations accompanying this article were all measured and drawn by students of the Paris Ateliers of the New York School of Fine and Applied Art.

The AMERICAN SPECIFICATION INSTITUTE

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THE Board of Governors represent memberships in the following national societies: American Institute of Architects; American Society of Civil Engineers; American Society of Mechanical Engineers; American Institute of Electrical Engineers; American Society for Testing Materials; American Concrete Institute; American Iron and Steel Electrical Engineers; indicating the scope and activities of The American Specification Institute.

THE American Architect and the Architectural Review has gratuitously set apart this section for use by The American Specification Institute. The Editors and Publishers assume no responsibility for any statements made, or opinions expressed.

The purpose, simply stated, is to afford an organization which, it is believed, will become a most important element in architectural practice and building operations, a medium through which it may, without expense to itself, reach a class of readers that are most intimately identified with the field of the activities of The American Specification Institute.

Publishers, The American Architect and The Architectural Review.

OUTLINE OF TENTATIVE SPECIFICATIONS FOR SEWAGE EJECTOR

Serial No. 83

I. CONTRACT AND LEGAL

1. Parties:
2. Drawings:
3. Agreement:
4. Terms of Payment:
5. General Conditions:
6. Regulations and Codes:
7. Standards:
8. Patents:

II. ECONOMIC

9. Scope of Contract:
   - 9-1. Work Included:
   - 9-2. Schedule of Work:
   - 9-3. Schedule of Work not Included:
10. Method of Analysis and Comparison of Bids:
    - 10-1. Methods:
    - 10-2. Basis:
    - 10-3. Form of Bids:
11. Conditional Payments:

III. GENERAL DESCRIPTIVE

12. Characteristics:
13. Service Conditions:
    - 13-1. Location:
    - 13-2. Railroad Siding:
    - 13-3. Visiting Site:
    - 13-4. Working Limitations:
14. Ultimate Requirements:

IV. PRELIMINARY PREPARATION

15. Field Measurements:
16. Shop Drawings:
17. Samples:
18. Models:

V. MATERIALS

19. Properties, Chemical and Physical:
20. Sizes, Weights, Gauges:
21. Quantities:

VI. DESIGN AND CONSTRUCTION

22. Shop Work:
    - 22-1. Ejector Capacity and Design:
    - 22-2. Ejector Location:
    - 22-3. Ejector Openings:
    - 22-4. Check Valves, etc.

22-5. Automatic Air Valve:
22-6. Gate Valves:
22-7. Valve Operating Gear:
22-8. Air Compressor (Electric Driven):
22-9. Electric Motors:
22-10. Automatic Control:
22-11. Electric Wiring:
22-12. Air Compressors (Steam Driven):
22-13. Steam Connections:
22-14. Air Receiver:
22-15. Sewer and Water Connections:
22-16. Air Piping:
22-17. Lagging:
22-18. Forced Lubrication:
22-19. Piping:
22-20. Foundation Bolts, Templates, etc.:
22-21. Foundations:
22-22. Gauges:
22-23. Tools:
23. Field Work:
23-1. Foundation:
23-2. Erection:
24. Finish:
25. Protection of Work:

VII. SCHEDULES

26. Shop Production:
27. Field Operation:
28. Shipment and Delivery:

VIII. RESULTS

29. Inspection and Performance:
30. Guarantees:
30-1. Workmanship Guarantee:
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31. Tests:
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31-2. Pump Test:
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APPRENTICESHIP TRAINING

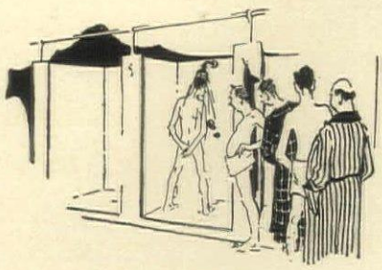
MR. JOHN W. COWPER, in an address delivered before the industrial section of the National Society for Vocational Education at Buffalo on December 6, 1923, very clearly set forth the essences of the problems of vocational training. He stated, in part:

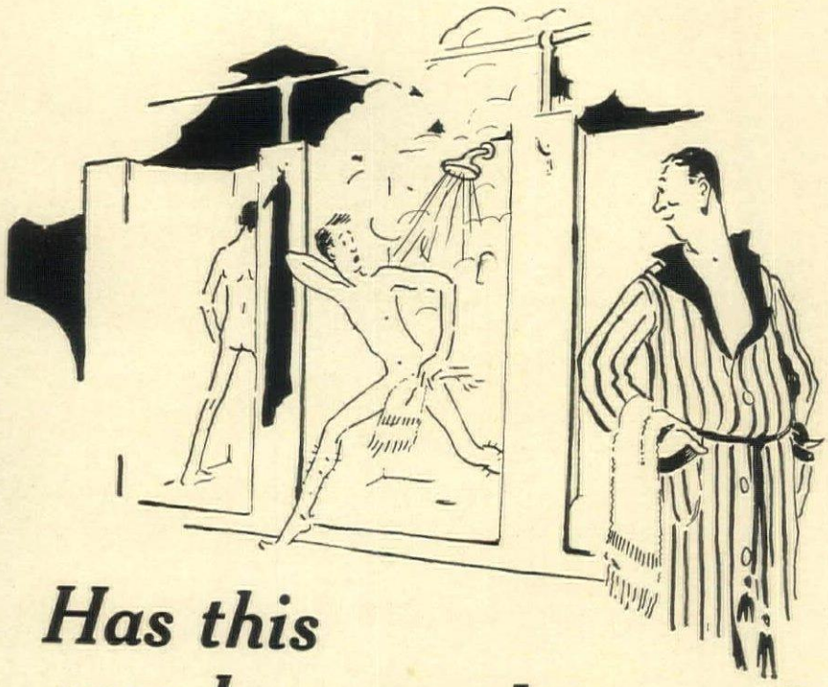
"The question of vocational education, or, as we in the construction industry, look at it, apprenticeship training, is one of the paramount problems that the educator as well as the employer of large numbers of mechanics is facing and, in the construction industry, if not in all lines, we are still looking somewhat blindly for the method of solving the shortage of building mechanics, and as much as I should like to solve the problem, it is one that should have the combined action of the very best minds.

"Our schools, in recent years, have had too great a tendency in their educational courses to fit the average young man for the so-called 'white collared' class rather than for the real problems of every day life in which a good practical training in a trade is a valuable asset. I am taking the privilege of here quoting from a recent sermon of one of our most eminent clergy, Dr. Holmes, which so splendidly expresses this idea:

" 'So much of the world's work is being done half-heartedly and sluggishly, so many dislike exertion and treat it as a burden to be endured instead of a privilege to be welcomed. This same spirit of indolence is evident in the process of acquiring an education. The average American school boy and college youth is bent on taking things easy, and avoiding the slightest risk of overwork, and, unhappily, some of our educational institutions are catering to this demand. All of which simply means that our young people are going out into life with indolent habits, without fixity or diligence of purpose, and ready to take life on the easiest terms.'

"My observation is, there has grown up an idea of a distinct aloofness from trades and crafts. There is certainly no disgrace or dishonor in earning a living by 'the sweat of one's brow,' and I would like, in this connection, to draw attention to the fact that some of our eminent engineers, scientists, and leaders in other professions have been men who served their apprenticeship at the bench and became expert and finished mechanics as a step toward fame in their chosen profession."





Has this ever happened to you?

Have you ever been cheated out of a pleasant, enjoyable shower by an unfriendly "shot" of cold or scalding hot water? This menace to your complete enjoyment of a safe and comfortable bath is eliminated by the Powers Shower Mixer.

Thirty years of specialization in temperature control behind this Mixer. The Powers Shower Mixer is different from all other mixers. Turn the handle of the ordinary mixer to "Warm," and if cold water is drawn from nearby showers, faucets, flush valves, etc., the reduced pressure on the cold water line allows a "shot" of hot water to reach the bather. Ordinary mixers give no protection against changing water pressures.

How the Powers Mixer Works. A simple all-metal pressure balancing valve instantly equalizes the pressure of hot and cold water before they enter the mixing chamber, so that regardless of pressure changes, a Powers Mixer always holds the temperature of the water right where you want it.

They Stood in Line at the Union League Club

The showers of this prominent Chicago club were formerly equipped with ordinary mixers. The management decided to test the Powers Mixer on one of the showers. Members say that the men quickly found out that it did all we claim for it and actually stood in line to use it, rather than use the showers equipped with ordinary mixers.

Some Recent Installations

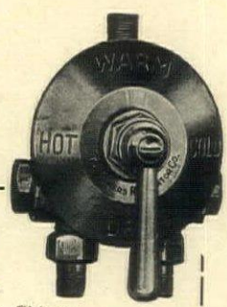
The Union Club, New York City, Illinois Athletic Club, Chicago, Calumet Country Club, Homewood, Ill., Big Oaks Golf Club, Chicago, Postl's Health Club, Chicago, Frank Carsey Health Club, Cubs Ball Park, Chicago, Lake View Golf and Country Club, Port Credit, Canada, Cleveland Athletic Club, Evanston Golf Club.

Make this 30 Day Test Free

A 30-Day free trial of The Powers Shower Mixer will conclusively prove every claim we make. It comes in four styles. For exposed and concealed piping. Made of solid brass with nickel plated dial and handle. It is ruggedly built and has no delicate parts to get out of order.

Coupon brings full particulars

Style A for exposed piping



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Gentlemen: Send me full information, roughing-in dimensions, prices, etc., on the Powers Shower Mixer.

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PERSONALS

PIERCE ANDERSON DEAD

PIERCE ANDERSON, of the architectural firm of Graham, Anderson, Probst & White, died at his home in Chicago on February 9.

Mr. Anderson was born on February 20, 1870, at Oswego, N. Y. He was educated at Harvard and Johns Hopkins universities and was a post graduate of Ecole des Beaux-Arts, Paris. He was appointed by President Taft in 1922 as a member of the commission of fine arts.

He is survived by his mother Mrs. Hannah Louisa Pierce Anderson, and a sister, Mary Louise Anderson.

LEWIS COLT ALBRO DEAD

Lewis Colt Albro, architect, died at his home in New York on March 1. Mr. Albro was for a number of years in the office of McKim, Mead & White and later of the firm of Albro & Lindeberg. For the past few years Mr. Albro had practiced independently.

G. Meredith Musick, architect, has moved his office from 320 to 219-221 Guardian Trust Building, Denver, Col.

G. L. Lockhart, architect, Inc., announces the removal of offices to 527-533 Minnesota Street, St. Paul, Minn.

Francis T. Hammond, architect and engineer, announces his removal from 545 to 590 Pleasant Street, New Bedford, Mass.

Announcement is made that Thomas & Allen, architects, have moved their offices to Room 39 in the Swope Block, Terre Haute, Ind.

S. L. Berg, architect, has moved from 901 West Thirty-fourth Street, Los Angeles, to 3247 East Fifteenth Street, Long Beach, Cal.

Wayne Everett Bell, architect, has moved his offices from 624 Wayne Street East to 613-614 First National Bank Building, Fort Wayne, Ind. Manufacturers are requested to correct their mailing list accordingly.

C. C. Britsch, architect, has moved his offices from 4335 Berwick Avenue to 402 Smith and Baker Building, Toledo, Ohio. Manufacturers' new catalogs and samples are desired.

Harry Silverstein, architect, announces the removal of his offices to 574 Jefferson Avenue, Brooklyn, N. Y., where he will continue the practice of architecture. Manufacturers' catalogs and samples are requested.

Harry I. Hirsch, architect, announces a change of address from 2783 Broadway to 564 Riverside Drive, New York City.

Announcement is made that George R. Callis, Jr., architect, has moved his office from Catonville, Md., to the eighteenth floor of the Hearst Tower Building, Baltimore, Md.

Jos. Van G. Hoffecker, architect, is now located in the Ford Building, Wilmington, Del. Mr. Hoffecker was previously at 803 Eighth Street, Ocean City, N. J.

It is announced that Jacobson & Jacobson, architects and engineers, have moved their office from Owatonna, Minn., to 350 Northwestern Life Building, Minneapolis, Minn.

G. Whitecross Ritchie, architect, announces a change of address from 845 South Normandie Avenue, Los Angeles, to 354 Rodeo Drive, Beverly Hills, Cal.

Maynard O. Klemmt, architect and engineer, announces that he is retaining offices at 942 Broad Street, Newark, N. J., formerly occupied by Neil J. Convery and Maynard O. Klemmt, associated.

Robert Holt Hitchins, architect, has established offices in the MacFarlane Building, Cumberland, Md. Manufacturers are requested to send catalogs and samples.

W. B. Boone, architect, has moved his office to 316 Post Office Building, El Dorado, Ark., where he would be pleased to receive manufacturers' catalogs and samples.

Theodore B. Wells, architect, has moved from Minot, N. D., to Kearney, Neb., where he has opened an office for the practice of architecture under the firm name of Helleberg & Wells, architects.

Cyril Edward Schley, architect, announces the opening of new offices at 1121-1122 Lafayette Building, Detroit, Mich. For the past eight years Mr. Schley had been associated with C. Howard Crane and Elmer G. Kiehler, architects, of Detroit.

Richard M. Bates, Jr., architect, announces that William R. Frampton and H. L. Bowers have been taken into the firm which will now be known as Bates, Frampton & Bowers, architects, 412-414 Eleventh Street, Huntington, W. Va.

D. EVERETT WAID AND M. B. MEDARY NOMINATED FOR PRESIDENCY OF INSTITUTE

THE following item is clipped from the February issue of the *Monthly Journal of the Illinois Society of Architects:*

D. Everett Waid, F.A.I.A., of New York City, and for many years Treasurer of The American Institute of Architects, who was formerly a member of the profession in Illinois has been nominated by petition for President of The American Institute of Architects by the members of the Chicago and Central Illinois Chapters. The editor is unofficially advised that petitions are being circulated in many other Chapters for Mr. Waid.

With two such prominent candidates for the Presidency of the Institute as Mr. Waid of New York and Mr. Medary of Philadelphia, the coming convention of the Institute promises to be a most interesting one.

In the past the Illinois delegations to the national conventions have been usually fortunate in picking the winner, and if history repeats itself, Mr. Waid will be the next President of The American Institute of Architects.

COMPETITION FOR A SMALL HOUSE

THE Indianapolis, Ind., *News* in co-operation with The Architects' Small House Service Bureau will conduct a second competition, the present program being for a typical small bungalow.

The Jury of Award will be composed of persons competent to judge not only from an architectural standpoint, but also from the viewpoint of the home owner and builder and the one most greatly concerned in efficiency of the home, the housewife.

To the end that the contestants may be spared all unnecessary labor, thereby devoting themselves to the essentials of the problem, the members of the committee in charge of the program, profiting by their past experience, have endeavored to reduce the program to its simplest terms and require the least possible in the way of drafting and presentation.

First prize, $250; second, $125; third, $75 and fourth, $50.

For further particulars address Herbert W. Foltz, Professional Advisor, Wild Building, Indianapolis, Ind.

CHARLES MOORE RECEIVES MEDAL

THE Medal of Honor of the Société des Architectes Diplomés par le Gouvernement, which is given from time to time to laymen for distinguished service in the advancement of art and architecture, has been awarded this year to Charles Moore who, as is well known to architects, has been for many years chairman of the National Fine Arts Commission in Washington, the only body in our national government which occupies itself with art. The presentation of this medal took place at a dinner given by the S. A. D. G. at the Metropolitan Club in New York on Saturday evening, March 1, at which addresses were made by His Excellency, the French Ambassador, M. Jusserand, Royal Cortissoz, Mr. Moore, Dr. John H. Finley of the New York *Times,* and Chester H. Aldrich, of the architectural firm of Delano & Aldrich, president of the American Group of this society. Among those present were: Cass Gilbert, Thomas Hastings, John Russell Pope, William M. Kendall, Louis C. Ayers, Harvey W. Corbett, H. V. B. Magonigle, Charles A. Platt, Siddons Mowbray, James A. Fraser, Frederic A. Delano, Edwin H. Denby, Herbert Adams, Thomas Adams, Donn Barber, John M. Howells, Benjamin W. Morris, and John Van Pelt.

YALE UNIVERSITY SCHOOL OF FINE ARTS AWARDED MEDAL

THE medal given by the Société des Architectes Diplomés par le Gouvernement to the School of Architecture having the best record of accomplishment for the year was awarded to Yale University School of Fine Arts at a meeting held on March 3 at the University. Addresses were made by Chester H. Aldrich, who presented the medal, and by President James R. Angell of Yale University.

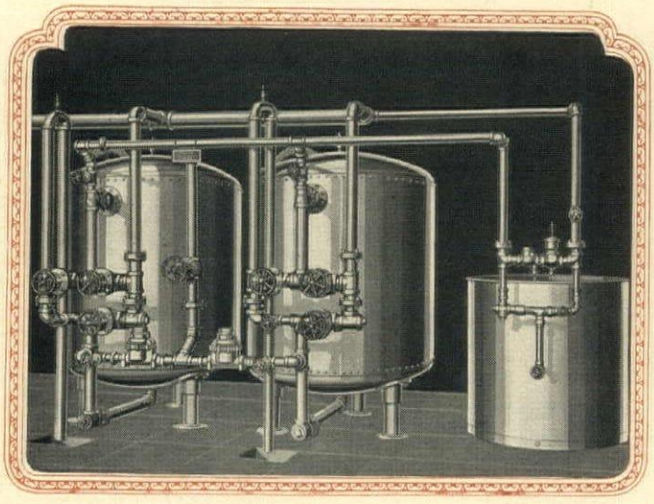
RESEARCH GRADUATE ASSISTANTSHIPS

APPLICATIONS will be received until April 1, 1924, for appointments to the position of Research Graduate Assistant in the Engineering Experiment Station, University of Illinois, Urbana, Ill. The University maintains fourteen such assistantships in this department and two additional ones are established under the patronage of the Illinois Gas Association. The appointments must be accepted for two consecutive collegiate years of ten months each. Half of the time of an assistant is required in connection with the department to which he is assigned, the remainder of his time being available for graduate study.

Complete information can be secured by addressing the Director of the Station.

RUTGERS COLLEGE TO HAVE NEW DORMITORY

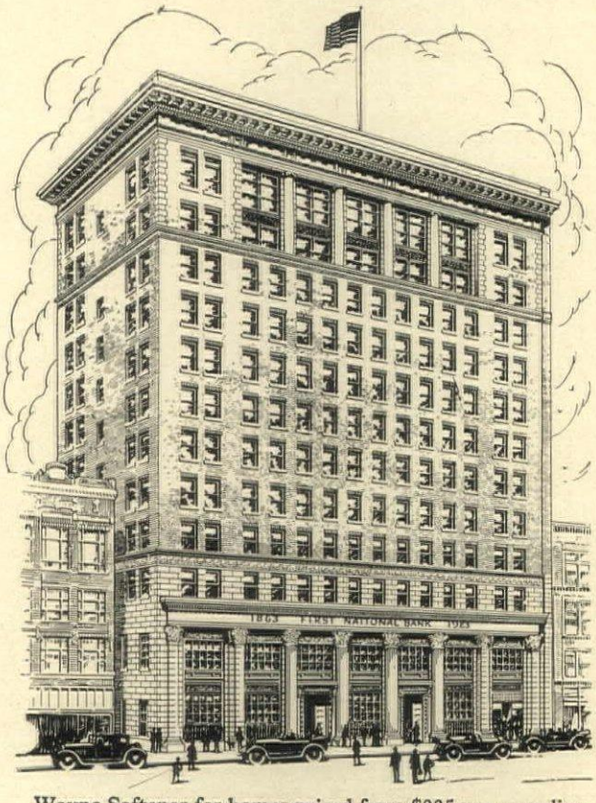
A GIFT of $150,000 to be used in the construction of a dormitory at Rutgers College, New Brunswick, N. J., was recently announced by President William H. Demarest. The gift comes from the estate of John Rogers Hegeman, former President of the Metropolitan Insurance Company.



Wayne Wins Suit

For the information of the purchasers of Wayne Water Softeners or those of any other make, particularly such purchasers as those who have been threatened with suits to recover royalties, Judge Arthur J. Tuttle in the United States District Court at Detroit on November 8, 1923, found the Gans patent No. 1,195,923 to be void. This is the patent which one of our competitors claimed to be infringed by all zeolite water softener manufacturers.

Sure Way to Stop Plumbing Repair Expenses in Public Buildings



Wayne Softener for homes priced from $225 up, according to size. Write for book giving facts about the healthful benefits of Wayne Soft Water in the home.

It is a well established fact that Wayne Rapid Rate Water Softeners absolutely prevent the formation of hard water deposit or scale in piping, boiler tubes, plumbing fixtures, water heaters and pumps.

These deposits are caused by lime and magnesia. The Wayne Softener removes the lime and magnesia from the water—and does it at the regular pressure of the supply.

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The Wayne Softener is today the safest, surest and most economical means of assuring soft water supply—and of so eliminating the repair and upkeep expenses that hard water causes.

Authoritative Book Free

Write for copy of our book "Water Softening and Filtration." It is a complete treatise on the subject, carefully written and worthy a place in your office library. Gives facts and figures that you want to know.

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BOOK NOTES

ART IN THE UNITED STATES

THE American Federation of Arts has prepared under the title of "Art in Our Country," what is practically an inventory of art in the United States. This small book presents the evidence of our artistic heritage and the accumulation of those things that may properly be classed as the result of the practice of art in all its various branches of architecture, sculpture, painting and the higher craftsmanship. It is a good book to have on hand when the question is asked if we have any real art. Even to those that believe that they have some knowledge of these matters this handy and well prepared volume is something of a surprise. It is learned from its contents that we not only have a decidedly secure art foundation, the creation of American artists, but that it is not localized in our great cities and may be found widely distributed. The American Federation of Arts has performed a real and valuable service in the issuing of this volume. Its contents will be studied with interest and will stimulate those pessimistic people who are inclined weakly to accept the assertion of some foreign critics that we have no art in this country.

This book sells for $1.50, post paid, and may be had by a remittance to The American Federation of Arts, 1741 New York Avenue, Washington, D. C.

STEEL AND TIMBER STRUCTURES

THIS is the fifth volume of what can be termed the "engineer's sextette." The editors-in-chief, Messrs. Hool and Kinne, have collaborated with fifteen associate editors, well selected. Like the preceding volumes, this is self-contained and complete and entirely usable without reference to the other books of the series. It is of the same high standard that has characterized the series; the make up, arrangement, illustrations and printing leave nothing to be desired in these particulars.

The book contains eleven sections—buildings, steel office buildings, steel mill buildings, timber framed floors and roofs, slow-burning mill construction and building terms; roof trusses, general design, detailed design of a wooden roof truss, detailed design of a steel roof truss, detailed design of a truss with knee-braces, arched roof trusses and ornamental roof trusses; short span steel bridges, steel railway bridges and steel highway bridges; timber bridges and trestles; steel tanks, vertical cylindrical tanks and elevated tanks and towers; chimneys, draft and size of chimney, general considerations, guyed steel stacks, design of a guyed steel stack, self-supporting steel chimneys and design of a 265′-0″ self-supporting steel chimney; structural steel detailing; fabrication of structural steel; steel erection; estimating steelwork; materials, cast iron, wrought iron, steel and timber; and three appendices.

It will be seen that the scope of this book is unusual. Seldom do new books treat of wood construction so completely and intelligibly. In fact, a survey of recent literature would indicate that reinforced concrete was the basis of modern engineering construction and it is gratifying to the engineer and architect who employs *all* materials within their economic and physical limitations, to have this book available for use. The sections devoted to detailing, fabrication, erection and estimating of steelwork make the book valuable to those who do not confine their efforts to designing exclusively. The sections devoted to the execution of the design will be found of great benefit to the designer.

The completeness of this volume at once appeals to those interested in the subject and it should find a place among the working books in the architect's and engineer's drafting room library.

Steel and Timber Structures, by George A. Hool and W. S. Kinne, Professors of Structural Engineering, University of Wisconsin, and fifteen associate editors. 695 *pages, illustrated, cloth. McGraw-Hill Book Company,* 370 *Seventh Avenue, New York City. Price* $6.00.

STANDARD PRACTICAL PLUMBING

THIS is the seventh, revised and enlarged edition of this book. The continued demand for it is evidence of its usefulness. It is eminently practical and covers the entire range of plumbing practice and is brought up-to-date in all of the developments of the science. Every feature is completely illustrated by plain, easily understood drawings. This volume is of value to students and practicing architects and will give them a comprehensive knowledge of plumbing practice.

Standard Practical Plumbing. By R. M. Starbuck. Seventh revised edition. 364 *illustrations,* 432 *pages,* 6 x 9 *in. Norman W. Henley Publishing Company,* 2 *West Forty-fifth Street, New York City. Price* $3.50.

REFERENCE LIST OF BUSINESS LITERATURE

A service arranged for the use of the Architect, Specification Writer, and Architectural 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 and The Architectural Review, 243 West 39th Street, New York, or obtained directly from the manufacturers. Either the titles or the numbers may be used in ordering.

ACOUSTICS

Johns-Manville, Inc., 294 Madison Ave., New York, N. Y.

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

AIR CONDITIONING—See also Heating and Ventilation

The Bayley Manufacturing Company, 732-760 Greenbush St., Milwaukee, Wis.

486. *Bulletin No. 23.* This bulletin is descriptive of the Bayley Turbo-Atomizer, the Bayley Turbo Air-Washer and Air Conditioner, for cleaning, cooling, tempering, humidifying and dehumidifying air. It contains an interesting treatise on air conditioning methods together with useful tables and a set of specifications. 32 pp. Ill. 7¾ x 10½ in.

ARCHITECTURAL IRON WORK—See also Ornamental Metal Work

ASBESTOS—See also Lumber, Roofing

Johns-Manville, Inc., 294 Madison Ave., New York, N. Y.

709. *Johns-Manville Service to Power Users* A catalog containing valuable data on all forms of asbestos insulation, asbestos packings, steam traps, high temperature cements, asbestos brake blocks and linings, asbestos building materials and general technical data. 260 pp. Ill. 8½ x 11 in.

ASBESTOS ROOFING—See also Roofing

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

380. *Asbestos versus Fire.* Booklet in colors. Contains information about asbestos; data on Carey Prepared and Built-up Asbestos Roofing; pictures of buildings on which they have been used. 15 pp. Ill. 6 x 9 in.

ASH HOISTS—See also Hoists

Gillis & Geoghegan, 545 West Broadway, New York, N. Y.

329. *General Catalogue.* Contains specifications in two forms, (1) using manufacturer's name, and (2) without using manufacturer's name. Detail in ¼ in. scale for each telsecopic model and special material handling section. Fully illustrated with photographs of actual installations and descriptive matter of same. 20 pp. 2 colors. 8½ x 11 in.

BANK EQUIPMENT

Art Metal Construction Company, Inc., Jamestown, New York.

545. *The Banking House in Art Metal.* A book of bank interiors showing the use of art-metal. It is an illustrated encyclopedia of bank furnishings in bronze and steel. 72 pp. Ill. 8½ x 11 in.

BRICK

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

103. *The Story of Brick.* Contains the history of, and basic requirements of building brick, artistic, sanitary and economic reasons, comparative costs, and fire safety with photographs and drawings, and illustrates ancient and modern architectural works of note in brick. Size 7 x 9¼ in. 56 pp.

137. *A Manual of Face Brick Construction.* The history of brick making, types of face brick, showing details of construction for walls, chimneys and arches. Details of use of tile and brick construction and different types of bonds are given. A series of plans and elevations of small brick houses, descriptions, useful tables and suggestions are illustrated and described. Size 8½ x 11 in. 116 pp. Price $1.00.

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

371. *Architectural Details in Brickwork. Series One, Two and Three.* Each series consists of an indexed folder case to fit standard vertical letter file, containing between 30 and 40 half-tones 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.

454. *Bungalow and Small House Plans.* Four booklets containing plans for attractive small brick houses, containing 3-4, 5, 6, and 7-8 rooms. 50 pp. Ill. 8½ x 11 in. 25 cents each, $1.00 for the set.

BRICK AND TILE—See also Brick

BUILDING CONSTRUCTION

Cement-Gun Company, Allentown, Pa.

563. *Report on Gunite Walls.* A report of fire tests made by Underwriters' Laboratories on Gunite walls, resulting in giving them a three-hour fire resistance classification. 90 pp. Ill. 6 x 9 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. Ill. 8½ x 11 in.

Curtis Companies Service Bureau, Clinton, Iowa.

662. *Better Built Houses.* Vol. XIII. This volume contains floor plans and perspectives of 21 two family houses. The designs were made by Trowbridge and Ackerman, Architects, New York, and illustrations rendered by Schell Lewis. Printed in sepia on heavy cream paper. Sent free to architects, east of the Rockies, requesting it on business stationery, otherwise price $1.00. 24 pp. Ill. 9 x 12 in.

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

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

Milwaukee Corrugating Co., 36th Ave. and Burnham St., Milwaukee, Wis.

F708. *Metallic Construction for the Modern Home.* A handsomely illustrated catalog describing the use of metal lath, corner beads, door and window casings and picture moldings. Also Spanish metal tile and American Titelock tile. 16 pp. Ill. 8½ x 10¾ in.

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

595. *Concrete Floors.—Proposed Standard Specifications of the American Concrete Institute.* Specification 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. 6 x 9 in.

Truscon Steel Company, Youngstown, Ohio.

317. *Truscon Floortyle Construction. Form D-352.* Contains complete data and illustrations of Floortyle installations. 16 pp. Ill. 8½ x 11 in.

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. Ill. 8½ x 11 in.

319. *Truscon Building Products. Form D-376.* Contains a brief description of each of the Truscon Products. 112 pp. Ill. 8½ x 11 in.

320. *Modern School Construction. Form D-396.* Contains illustrations of schools, with typical elevations, showing advantages of Truscon Products for this construction. 16 pp. Ill. 8½ x 11 in.

BUILDING DIRECTORIES

The Tablet & Ticket Co., 1015 West Adams St., Chicago, Ill.

517. *Office Building Directory.* Bulletin illustrating and describing directories made by this company providing for any required number of names. Frames of wood or metal with glass cover or doors. Name strips with one quarter inch white letters furnished. Size 7 x 10 in. 4 pp.

BUILDING HARDWARE—See Hardware

BULLETIN BOARDS

R. W. Clark Mfg. Co., 1774 Wilson Ave., Chicago, Ill.

588. *Clark Directories and Clark Changeable Bulletin Boards.* Two pamphlets describing the Clark Changeable Bulletin Board and Directories for Office Buildings, Hotels, Business Buildings, etc. 8 pp. and 4 pp. Ill. 6¼ x 9 in.

The Tablet & Ticket Co., 1015-1021 West Adams Street, Chicago, Ill.

516. *T. & T. Changeable Bulletin Display Boards.* Describes bulletin boards with changeable type which has a self-spacing device so the lettering always looks neat and regular. 24 pp. Ill. 6 x 9 in.

CABINETS

Hess Warming & Ventilating Co., 1204-7 Tacoma Building, Chicago, Ill.

386. *The Hess Sanitary Medicine Cabinet Lockers and Mirrors.* Description with details of an enamelled steel medicine cabinet for bathrooms. 20 pp. Ill. 4 x 6.

CASEMENTS—See Doors and Windows

CEDAR LINING—See Lumber

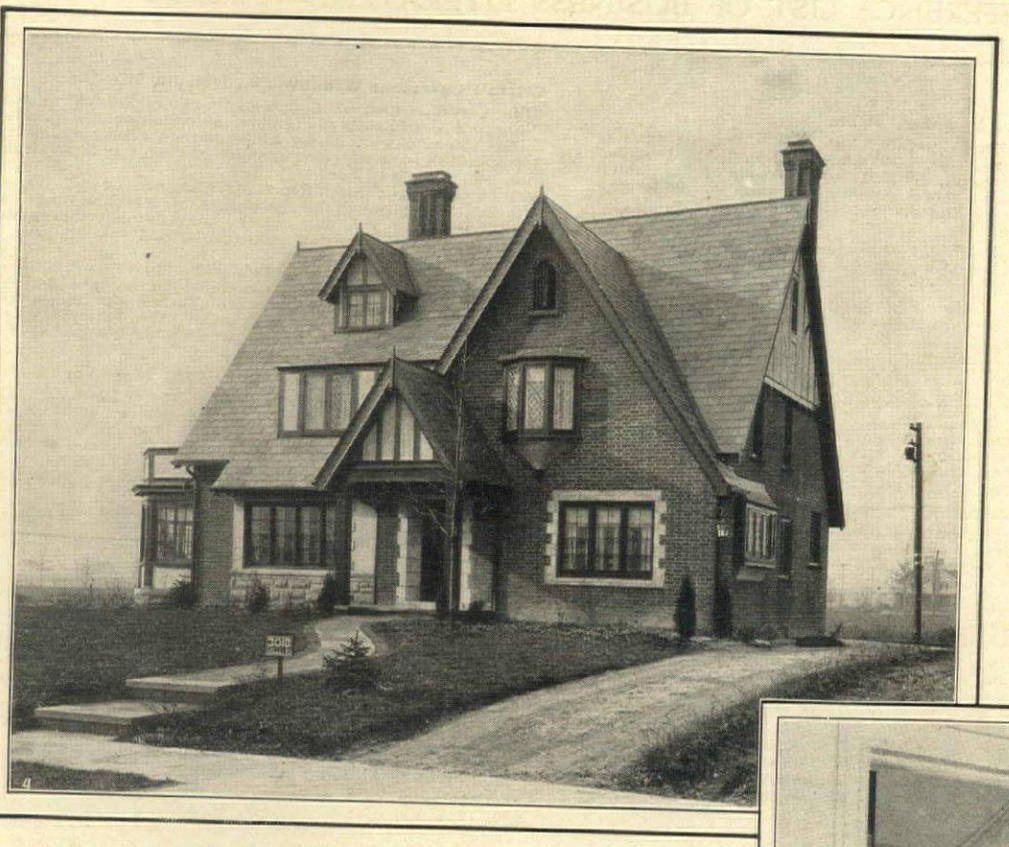
CEILINGS, METAL

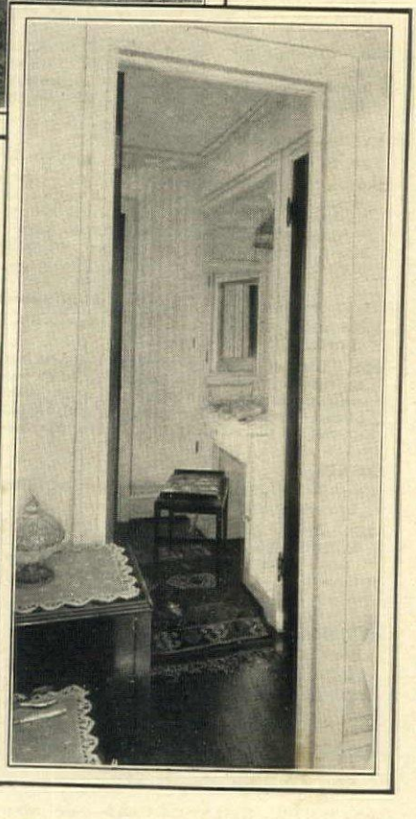
The Edwards Manufacturing Company, Cincinnati, O.

193. *Pamphlet* of 32 pages describing metal ceilings and wainscoting. Well illustrated, with list prices and rules for estimating. 7 x 10 in.

CELLAR SASH—See Doors and Windows

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





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143 Curtis Building, Clinton, Iowa

Curtis Companies, Inc., Clinton, Iowa

Curtis Bros. & Co., Clinton, Iowa
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Curtis Sash & Door Co., Sioux City, Iowa
Curtis, Towle & Paine Co., Lincoln, Nebr.
Curtis, Towle & Paine Co., Topeka, Kan.
Curtis-Yale-Holland Co., Minneapolis, Minn.
Curtis Door & Sash Co., Chicago, Ill.
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REFERENCE LIST OF BUSINESS LITERATURE—Continued

CEMENT

The Carney Co., Mankato, Minn.

448. *The Bond That Guarantees the Wall.* Attractive catalog for architects, engineers, contractors, and dealers. Describes fully the characteristics, durability and economy of this nature-mixed cement that requires no lime. Contains simple formula for mixing and illustrations of Carney-laid buildings. 24 pp. Ill. 8½ x 11 in.

599. A circular describing improvements in manufacturing the material, cost comparisons, physical tests and specifications for use. 4 pp. Ill. 8½ x 11 in.

711. *A Perfected Cement.* An attractive circular describing late improvements in manufacturing Carney, cost comparisons, physical tests, specifications and testimonials. List of Carney-built buildings with architect's and contractor's names. 8 pp. Ill. 8½ x 11 in.

Durastone Co., 422 East 3rd St., New York, N. Y.

418. *Durastone Brand Cement.* A description of a cement which matches any stone or marble, any color or texture. Can be cast in molds and also used for walls or plain surfaces. Illustrations are given of beautiful work executed with this material. 12 pp. 8½ x 11 in.

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

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. Ill. 8½ x 11 in.

Portland Cement Association, 111 West Washington St., Chicago, Ill.

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. Ill. 8½ x 11 in.

650. *Concrete Floors.* Contains the tentative specifications of the American Concrete Institute for concrete floors of all kinds, with notes on floor finishes, coverings, typical construction designs and computing data. 16 pp. Ill. 8½ x 11 in.

CHAIRS—See Furniture

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

587. *Office Chairs, Catalog No. 31.* Describes a complete line of seating fixtures, for offices, directors' rooms and other places consisting of stationary and swivel chairs, settees and couches, both plain and leather upholstered. Also stenographer's chairs, stools, waste baskets, coat trees and accessories. 75 pp. Ill. 9 x 12 in.

CHUTES—See also Laundry Equipment

Edwin A. Jackson & Bro., Inc., 50 Beekman 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.

CLOCKS

Landis Engineering and Manufacturing Co., Waynesboro, Penna.

469. *Landis Electric Time and Program System.* A collection of bulletins No. 100, 110, 120, 130, 150 and 160, dealing with master and secondary clocks, equipment, time stamps, etc. Bound in expansible filing cover of tough paper. 48 pp. Ill. 8½ x 11 in.

COLUMNS

Lally Column Co. of New York, 334 Calyer Street, Brooklyn, N. Y.

122. *Lally Columns. Handbook.* Detailed construction diagrams for various types of steel construction. The text describes advantages of endurance and economy of the column. Various tests, tables of sizes, dimensions, weight, carrying capacities, and data on other structural materials are given. Size 4⅝ x 6⅝ in. 81 pages.

CONCRETE, REINFORCED—See also Reinforcing Steel

CONDUITS—See Pipe

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. Ill. 6¼ x 9½ in.

DAMPPROOFING—See also Waterproofing

DOORS AND WINDOWS

Andersen Lumber Company, Bayport, Minn., (formerly South Stillwater).

559. *Complete Catalog for Architects and Builders.* Describes Andersen Standard Window Frames and Cellar Sash Frames, which are in 7 units instead of 57 and may be assembled and nailed in 10 minutes. Shows uses in special construction for it comes in 121 sizes and styles. 24 pp. Ill. 7¾ x 10¾ in.

Crittall Casement Window Co., Detroit, Mich.

672. *Crittall Universal Casements, 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. Ill. 9 x 12 in.

695. *Crittall Solid Steel Reversible Windows, Catalog No. 1-24.* A catalog explaining the advantages of reversible metal windows for office buildings, schools, hospitals and other substantial buildings. Details of construction and specifications. 20 pp. Ill. 8½ x 11½ 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, Condue-Base, etc. Also various types of frames, jamb construction and architectural shapes. 178 pp. Ill. 8½ x 11 in., in loose leaf.

Henry Hope & Sons, 103 Park Ave., New York.

65. *Hope's Casements and Leaded Glass.* Portfolio. Gives specifications, description and photo-engraving, of Hope Casements in English and American Architecture, full size details of outward and inward opening and pivoted casements, of residential and office types. Size 12¼ x 18½ in. 32 pp.

S. H. Pomeroy Company, 282 East 134th St., New York, N. Y.

614. *Solid Metal Double Hung Window. Type "A." Bulletin A.* Complete specifications and details of sash, frame, stools and stool and apron. 4 pp. Ill. 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

315. *Truscon Steel Sash.* A catalog containing designing data, tables and views of Stock Sash installations. 6 pp. Ill. 8½ x 11 in.

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. Ill. 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. Ill. 8½ x 11 in.

Van Zile Ventilating Corporation, 280 Madison Ave., New York City.

697. *The Ventadoor.* A catalog describing a metal ventilating panel installed in wood and metal doors, always sight-proof and can be closed sound-proof and serves the purposes of a transom. 14 pp. Ill. 3½ x 6 in.

J. G. Wilson Corporation, 11 East 36th St., New York City.

F799. *Wilson Airkore Fire Doors.* A leaflet describing fire tests, construction details, appearance, resistance to corrosion and Underwriters' limitations. 8 pp. Ill. 3½ x 6¼ in.

DRAFTING MATERIALS

American Lead Pencil Co., 220 Fifth Ave., New York, N. Y.

268. *Booklet C-20. Venus Pencil in Mechanical Drafting.* An interesting illustrated booklet showing the possibilities of the Venus Drawing Pencil for drafting. 6 x 9 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. Ill. in colors. 3¼ x 6 in.

DRAINS—See also Plumbing Equipment

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

194. Several pamphlets describing various types of floor and area-way drains. 3½ x 6¼ in.

The Josam Manufacturing Co., 2d and Canal Sts., Michigan City, Indiana.

630. *Josam Floor, Shower and Roof Drains. Catalog F.* A loose leaf catalog illustrating complete line of adjustable drainage devices for floors, shower baths, roofs, swimming pools, railroad and deck drains, special use drains, strainers and accessories. Details and dimensions. 55 pp. Ill. 8½ x 11 in.

631. *Josam Plate Numbers.* A loose leaf portfolio containing blue print details with dimension schedules of drainage fixtures for floors, showers, roofs, decks and special uses. 25 pp. Ill. 8½ x 11 in.

DUMB-WAITERS—See also Elevators

Kaestner & Hecht Co., 1500 No. Branch St., Chicago, Ill.

508. *Electric Dumb-waiters. Bulletin No. 520.* Illustrated catalog, 8 pp. 8½ x 11 in.

Sedgwick Machine Works, 144 West 15th Street, New York.

60. *Hand Power Elevators and Dumb-waiters in Modern Architectural Construction.* Illustrated catalogue. 4¼ x 8¼ in. 80 pp.

ELECTRICAL EQUIPMENT—See also Lighting

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

296. *Catalog No. 25.* A catalog and price list of knife switches switchboards, panel boards, steel cabinets, switchboard material. 83 pp. Ill. 3 x 10½ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

ELECTRICAL EQUIPMENT—See also Lighting

Benjamin Electric Mfg. Co., Chicago, Ill.

671. *Benjamin Industrial Lighting Equipment. Bulletin No. 52.* Contains lighting data and general information, complete catalog of reflectors, interchangeable devices, vapor proof units, indoor and outdoor equipment, store and office fixtures, show case lighting, fittings and accessories. 80 pp. Ill. 8 x 10½ in.

Burke Electric Company, Erie, Pa.

562. *Bulletin 126. Direct Current Motors and Generators.* A bulletin describing motors and generators developed especially to meet the most severe requirements and conditions encountered in mills, factories, small power plants, office buildings, etc. 8 pp. Ill. 8 x 10½ in.

Crouse-Hinds Company, Syracuse, N. Y.

FS00. *Condulets for Switch and Plug Receptacle Outlets.* Folder No. 8. A folder illustrating a complete line of single and two gang tandem condulets and two, three and four gang parallel condulets, covers and plug receptacle housings. 12 pp. Ill. 6½ x 12¾ in.

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. Ill. 8 x 10½ in.

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

699. *H. & H. Electrical Wiring Devices, Catalog "R."* Catalog of a complete line of switches, sockets, plugs, receptacles, plates, rosettes, cut-outs, elexits and accessories. Two identical catalogs in two sizes. 152 pp. Ill. 5 x 6¼ and 8 x 10½ in.

700. *Gold and Silver Star Switches.* A new type of switch with composition base having a gold star or a silver luminous star in on the button. 4 pp. Ill. 3½ x 6 in.

Minneapolis Heat Regulator Co., Minneapolis, Minn.

570. *The Minneapolis Thermostatic Relay Switch.* Used in connection with any Minneapolis Thermostat, provides a means of temperature control for automatic oil burners, electric refrigerating apparatus, electric heating units and any similar equipment where it is necessary to operate an electric switch in accordance with temperature changes. 4 pp. Ill. 8½ x 11 in.

National Metal Molding Co., Pittsburgh, Pa.

481. *Liberty Rubber Insulated Wires, Cables and Cords.* A descriptive catalog of insulated wires, cables and cords for electric wiring. Contains much special information together with useful tables. 20 pp. Ill. 6 x 9 in.

ELEVATORS—See also Dumb-waiters and Hoists

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

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

American Elevator & Machine Co., Louisville, Ky.

196. *Illustrated Catalogue* showing elevator equipment for various uses. 32 pp. 2½ x 9½ in.

Kaestner & Hecht Co., 1500 No. Branch St., Chicago, Ill.

597. *Electric Traction Elevators, Bulletin No. 500.* Illustrated catalog describing gearless traction elevators and worm-geared traction elevators. 31 pp. 8¼ x 11 in.

Kimball Brothers Company, Council Bluffs, Iowa.

330. *Kimball Elevators.* An illustrated catalog of hand power, sidewalk, and garage elevators and dumb-waiters and electric passenger, freight and push button elevators. 32 pp. Ill. 7¾ x 10½ in.

Otis Elevator Co., 260 Eleventh Ave., N. Y. C.

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. 8½ x 11 in.

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

335. *"Ideal" Elevator Door Equipment.* Catalog showing elevator door hangers for one, two and three speed doors, also doors in pairs and combination swing and slide doors. Door closers and checks. 24 pp. Ill. 8½ x 11 in.

ESCALATORS

Otis Elevator Co., 260 Eleventh Ave., N. Y. C.

652. *Elevators 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. Ill. 8½ in.

FILTERS—See Air Filters

FINANCING OF ENTERPRISES

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

183R. *Forty Years Without Loss to Any Investor.* A book describing the Straus Plan of investments. This firm underwrites and sells only first mortgage serial bonds secured by newly improved income producing properties, or high grade industrial properties. 37 pp. Ill. 5 x 8 in.

FIRE DOORS AND SHUTTERS—See Doors and Windows

FIREPLACES AND MANTELS

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. Ill. 8¼ x 10½ in.

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

79. *Hints on Fireplace Construction.* Diagrams of construction and installation of Covert "Improved" and "Old Style" dampers and smoke-chambers, and other fireplace accessories. Size 5⅝ x 8½ in. 12 pp.

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

92. *Dampers, Chutes, Doors and Dumps.* Illustrated catalog. Equipment and appurtenances of various types, construction and installation, data, dimensions and prices.

Peerless Manufacturing Company, Inc., Louisville, Ky.

513. *The Lure of the Fireplace.* This booklet contains information and diagrams for the design and building of fireplaces, together with descriptions of modern domes and dampers so that a fireplace will work effectively at all times. Contains many illustrations of tasteful mantel designs. 24 pp. Ill. 5 x 7 in.

FLOOR COVERING—See Flooring

FLOORING, SUB—See also Stucco Base

FLOORING

Armstrong Cork Co., Linoleum Department, Lancaster, Pa.

222. *Business Floors.* A handy reference on floors for public and semi-public buildings, containing specimen specifications, directions for laying and other helpful data. Illustrated in color. 6 x 9 in.

223. *Armstrong's Linoleum Floors.* A handbook for architects, published in the file form (8½ x 11 in.) recommended by the American Institute of Architects. A technical treatise on Linoleum containing general information, tables of grades, gauges and weights, specimen specifications, and detailed directions for laying linoleum. Profusely illustrated in colors.

The Barber Asphalt Co., Philadelphia, Pa.

659. *Genasco Trinidad Lake Asphalt Mastic.* A book describing its manufacture, uses and methods of application, including application over old floors. Separate specifications for flooring, waterproofing and roofing uses. 34 pp. Ill. 6 x 9 in.

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

615. *Standard Specification for Installation of Battleship Linoleum Over Concrete.* A booklet containing specifications and explanatory notes for laying Battleship Linoleum Over Concrete and Wood, with detailed drawings. 8 pp. 8½ x 11 in. A. I. A. File No. 28. Ill.

653. *Gold-Seal Treadlite Tile.* An illustrated booklet showing Treadlite Tile installations and containing general information, specifications, etc., with reproductions of the product in colors.

669. *Distinctive Floors.* An attractive publication illustrated in color, describing Gold Seal Rubber Tile for floors. 8 pp. Ill. 8 x 10¾ in.

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 illus. 5⅛ x 7⅝ in.

The Marbleloid Co., 461 Eighth Ave., New York.

61. *The Universal Flooring for Modern Buildings.* Illustrated booklet. Describes uses and contains specifications for Marbleloid flooring, base, wainscoting, etc. Size 6¾ x 9¾ in. 32 pp.

523. *Marbleloid for Schools.* A bulletin showing schools in which Marbleloid flooring is used. It is a composition flooring applied in a plastic state. Other bulletins show where it has been used in various classes of buildings. 4 pp. Ill. 3½ x 11 in.

Franklyn R. Muller Co., Waukegan, Ill.

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

Oak Flooring Bureau. 1014 Ashland Block, Chicago, Ill.

493. *Modern Oak Floors.* A book that tells the complete story of Oak Flooring 24 pp. Ill. 6⅛ x 9¼ in.

The Novocrete Co., 522 Fifth Ave., New York City.

FS02. *Novocrete.* A catalog which describes a plastic flooring material made of Portland cement and a mineralized sawdust aggregate. Tests for strength and attrition and other physical properties including fire resistance. 8 pp. 5¼ x 8 in.

The Rodd Co., Century Bldg., Pittsburgh, Pa.

688. *Redwood Block Floor Booklet.* A treatise on the advantages of Redwood Block Floors in factories, warehouses, hotels, office buildings, department stores, hospitals, etc. Details, dimensions and specifications for installing. 14 pp. Ill. 4 x 9 in.

A section of the 40,000 feet of Marbleloid Flooring laid in the Buhl & Sons Office Building, Detroit, Mich. Messrs. John Scott & Co., Architects

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THE MARBLELOID COMPANY, 463 Eighth Ave., New York, N. Y.

MARBLELOID

The Universal FLOORING for Modern Buildings

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

REFERENCE LIST OF BUSINESS LITERATURE—Continued

FLOORING

Stedman Products Co., South Braintree, Mass.

585. *Stedman Naturized Reinforced Flooring.* A circular describing a product formulated from rubber reinforced with cotton fibre, made in various colors and used for floors, wainscoting, sanitary base, stair treads, interior decorative units, wall coverings, table and desk tops and drain mats. 6 pp. Ill. 8½ x 11 in.

FLOORS—See Building Construction

FRAMES—See Doors and Windows

FURNACES—See Heating

FURNITURE—See Chairs

GARAGE CONSTRUCTION—See also Building Construction

GARAGE INCLINES AND RAMPS

American Abrasive Metals Co., 50 Church St., N. Y. C.

677. *Feralun Anti-Slip Treads for Garage Inclines and Ramps. F179.* A folder explaining the advantages of and illustrating the actual use of Feralun Anti-Slip Treads on ramps and inclines in public garages. 2 pp. Ill. 8½ x 11 in.

GARBAGE DESTROYERS

Kerner Incinerator Company, 1029 Chestnut St., Milwaukee, Wis.

384. *The Sanitary Elimination of Household Waste, M-3 Folder.* Description of construction, installation and operation of the Kernerator for residences. Illustrated by views of residences in which the Kernerator is installed, with cuts showing all details. 15 pp. Ill. 4 x 9 in.

Kewanee Boiler Co., Kewanee, Illinois.

573. *Water Heating Garbage Burners, Tabasco Water Heaters and Tanks, Catalog No. 75.* A descriptive catalog of steel water heating garbage burners, water heaters, hot water storage tanks, pneumatic tanks, gravel basins, blow-off receivers and air receivers. Tables of sizes, dimensions, capacities and pressures. 30 pp. Ill. 6 x 9 in.

GARBAGE RECEIVERS

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

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

GARDENS

Julius Roehrs Company, Rutherford, N. J.

406. The Ten-Ten books issued three times a year—covering nursery stock in general, such things as fruit trees, roses and perennials. Also one general greenhouse catalog, listing orchids and greenhouse plants.

GLASS

Plate Glass Manufacturers of America, First National Bank Bldg., Pittsburgh, Pa.

484. *The Part that Plate Glass Plays in the Life of Every Man.* An illustrated folder describing the many uses of plate glass. Ask also for special circular for work in hand. 6 pp. Ill. in color. 3½ x 6¼ in.

GRANITE—See Stone

GUNITE

Cement Gun Company, Allentown, Pa.

564. *The Cement Gun, Its Application and Uses.* Reprint of a paper by Byran C. Collier, M. Am. Soc. C. E. A description of what the cement gun is and how it works, together with reports on tests. 21 pp. Ill. 6 x9 in. Ask also for companion pamphlet "Gunite Slabs" containing working tablets for designers and reports on slab tests. 30 pp. Ill. 6 x 9 in.

GUTTERS AND DOWNSPOUTS—See also Roofing

The New Jersey Zinc Co., 160 Front Street, New York, N. Y.

226. *Zinc Spouting.* Describes leaders, gutters, etc. "Made from Horse Head Zinc," giving information concerning their economy and durability. 8 pp. Ill. 6 x 9 in.

HARDWARE

Allith-Prouty Co., Danville, Illinois.

596. *General Catalog No. 90.* This catalog embraces a description of a complete line of door hangers and tracks, garage door hardware, spring hinges, rolling ladders, fire door hardware, overhead carriers, light hardware and hardware specialties. 144 pp. Ill. 7¾ x 10½ in.

The Casement Hardware Co., 227 Pelouze Bldg., Chicago, Ill.

627. *Win-Dor Casement Hardware.* A booklet describing the general use of casement windows and description, specifications and details of the casement window and the operating devices suitable for all uses. 22 pp. Ill. 5½ x 8½ in.

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 when locked against entrance. 4 pp. Ill. 8¾ x 11¾ in.

Monarch Metal Products Co., 5060 Penrose St., St. Louis, Mo.

438. *Monarch Casement Hardware.* A book describing hardware for casement windows. This Manual and folder comply with all suggestions made by the Structural Service Committee of the A. I. A. 18 pp. Ill. 7½ x 10½ in., in heavy folder for vertical file properly indexed.

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

336. *Modern Hardware for Your Home.* Catalog of hangers for vanishing French doors; "Air-Way" multifold hardware for sun parlors and sleeping porches; "Slidtite" garage door hardware. 24 pp. Ill. 8½ x 11 in.

435. *Distinctive Garage Door Hardware. Catalog No. A-22.* This is more than a catalog. It is a treatise for architects and builders on the door equipment of garages, covering sliding, folding and combination sliding and folding doors, with their hardware. 94 pp. Ill. 8½ x 11 in.

436. *Sliding Door Hardware. Catalog No. A-17.* A catalog of sliding door hardware of Parallel, Accordion and Flush Door partitions. 32 pp. Ill. 7 x 10 in.

632. *Distinctive Garage Door Hardware. Catalog A No. 20.* A complete treatise on garage doors of every kind both hand and mechanically operated with description of standard and special hardware and accessories. 66 pp. Ill. 8½ x 11 in.

Russell & Erwin Mfg. Co., New Britain, Conn.

609. *Russwin Period Hardware.* A brochure illustrating hardware trim in twelve architectural styles or periods. 71 pp. Ill. 5 x 8 in.

610. *Catalog of Hardware, Volume Fourteen.* A complete catalog of building hardware, trim, locks, butts and accessories. 359 pp. Ill. 8 x 11 in.

Sargent & Company, New Haven, Conn.

560. *Sargent Locks and Hardware for Architects.* The latest complete catalog of locks and hardware. 762 pp. Ill. 9 x 12 in.

The Stanley Works, New Britain, Conn.

11. *Wrought Hardware. New 1921 Catalog.* This new catalog describes additions to the Stanley line of Wrought Hardware, as well as the older well known specialties and various styles of butts, hinges, bolts, etc. 376 pp. Ill. 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.

13. *Eight Garages and Their Stanley Hardware.* Booklet Plans, drawings and complete hardware specifications. Size 5 x 7 in. 32 pp.

127. *The Stanley Works Ball Bearing Butts.* Booklet, illustrated. Description with full size illustrations of many typed butts and their parts, dimensions and finish. Size 5 x 7½ in. 32 pp.

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

Vonnegut Hardware Co., Indianapolis, Ind.

309. *Von Duprin Self-Releasing Fire Exit Devices.* A catalog and educational work on panic-proof, burglar-proof self releasing exit devices for doors and windows of buildings of any kind of occupancy. 41 pp. Ill. 8 x 11 in.

310. *Prince Self-releasing Fire Exit Devices. Supplement to Von Duprin Catalog No. 12.* Contains valuable information for architects on the selection, detailing, etc., of Prince devices for doors and windows to insure safety against fire panic. 32 pp. Ill. 8 x 11 in.

HEATERS—See Water Heaters

HEATING

American Radiator Company, 104-108 W. 42nd St., New York, N. Y.

427. *Ideal-Arcola Heating Outfits.* 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. Ill. 6 x 8½ in.

Crane Company, 836 So. Michigan Ave., Chicago, Ill.

241. *Steam Catalogue.* A book containing full descriptions of the complete line of Crane valves, fittings, etc. 800 pp. Ill. 6 x 9 in.

The Farquhar Furnace Company, Wilmington, Ohio.

355. *Healthful Helpful Hints.* A discussion of furnace and chimney design and capacity for hot air heating and ventilation 16 pp. Ill. 4¾ x 9¼ in.

356. *A Plain Presentation to Dealers.* A book of selling talk for dealers in Farquhar Furnaces. Four model heating layouts are shown and there is a page of useful "Do and Don't" advice. 24 pp. Ill. 8½ x 11 in.

General Boilers Company, Waukegan, Ill.

444. *Catalog No. 7.* A catalog completely describing the construction and operation of Pacific Steel Boilers. Contains also specifications and price lists. 32 pp. Ill. 6 x 9 in.

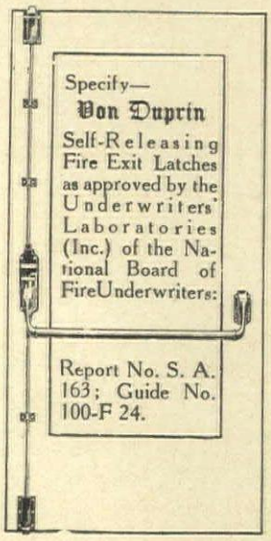
The Hart & Cooley Co., New Britain, Conn.

703. *H & C Wrought Steel Grilles.* A new type of ventilating grille permitting passage of air but not sight, also plain square mesh grilles, made of steel, bronze and brass. Details and specifications. 4 pp. Ill. 8½ x 11 in.

Von Duprin

Self-Releasing Fire Exit Latches

A New Reference Book



The **Von Duprin** *Reference Book* for Architects will be ready for mailing about the time this advertisement reaches you.

The Reference Book is the first complete digest of information on panic devices to be published. It shows by text and illustration just which type of **Von Duprin** to use on any door. It illustrates all **Von Duprin** models, and with each one it shows the door hardware and trim to be used with the device. Diagrams give the technical information necessary for specifying panic devices for any type of door, and charts for reinforcing hollow metal doors, giving also proper lock locations for hollow metal construction.

The **Von Duprin** *Reference Book* will be well worth your looking over. We are attempting to mail it to every practising architect in the country, but if you should, by any chance, fail to receive your copy by March twentieth, a postal request will bring it to you by return mail.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.
Manufacturers

William N. Byers Junior High School
Denver, Colorado
William N. Bowman Co., Architects

REFERENCE LIST OF BUSINESS LITERATURE—Continued

HEATING

Hess Warming & Ventilating Co., 1209 Tacoma Bldg., 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.

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

501. *Illinois Heating Systems. Vapor Details Bulletin 20.* This bulletin contains typical plans and elevations of heating systems, with description of details and "Standards for Computing Radiation and Boiler Sizes" of the Chicago Master Steam Fitters' Association. 18 pp. Ill. 8 x 10¾ in.

502. *Illinois Bulletins.* No. 102 contains detailed description with capacities and dimensions of Eclipse Pressure Reducing Valves. 20 pp. Ill. Nos. 202, 302, 452, 502 and 703 describe, with illustrations, Steam Specialties, Back Pressure Valves, Stop and Check Valves, Exhaust Heads, Balanced Valves, Separators, Steam Traps.

Jenkins Bros., 30 White St., New York, N. Y.

235. *Catalog No. 12.* This catalog contains descriptions of all the valves, packing, etc., manufactured by Jenkins Bros. Includes also dimensions and price lists of valves and parts. 271 pp. Ill. 4 x 6¾ in. Stiff paper cover.

237. *The Valve Behind a Good Heating System.* This booklet describes Jenkins Radiator Valves, Automatic Air Valves and other valves used in connection with steam and hot water heating. 16 pp. 4½ x 7¾ in. Stiff paper cover.

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 temperatures. 63 pp. Ill. 8½ x 11 in.

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

Kewanee Boiler Co., Kewanee, Illinois.

572. *Kewanee Radiators, Catalog No. 72.* A descriptive catalog of the standard types of cast iron radiation including wall radiation, wall boxes, radiator brackets and accessories. Tables of capacities, roughink in dimensions and other data. 23 pp. and supplement. Ill. 6 x 9 in.

Minneapolis Heat Regulator Co., Minneapolis, Minn.

660. *Minneapolis Dual Control.* This circular describes in detail the No. 65 Hydrostat and No. 70 Pressurestat and their application for the automatic heat control of hot water, steam or vapor systems. 12 pp. Ill. 3¼ x 6 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 this principle with views of buildings where the V-V-P system is installed. 14 pp. Ill. 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. Ill. 8 x 10½ in.

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. Ill. 8½ x 11 in.

Sterling Engineering Company, 419 Third St., Milwaukee, Wis.

430. *Sterling Bulletins.* No. 33 describes the Sterling System of vacuum heating. 11 pp. No. 32 describes the Sterling System of vapor heating. 14 pp. No. 31 describes the Sterling slide valve return trap. 4 pp. They are all illustrated. 6 x 9 in.

Tuttle & Bailey Mfg. Co., 2 West 45th St., New York, N. Y.

395. *About Radiator Enclosures.* A booklet showing how easily and effectively unsightly radiators may be concealed by enclosures which adorn a room. 15 pp. Ill. 6¾ x 9¾ in.

396. *Special Designs. Catalog 66A.* A book of designs for grilles, screens, registers and ventilators to be used in connection with heating installations. Made of bronze, brass, iron and steel. 40 pp. Ill. 6¾ x 9¾ in.

Utica Heater Company, Utica, N. Y.

557. *Utica Imperial Super-Smokeless Boilers.* These boilers burn all fuels and consume soft coal without smoke. The illustrated catalog contains complete technical data with lists of illustrations. 76 pp. Ill. 8½ x 11 in. (Separate bulletins may be had featuring the following buildings: Schools, Churches, Public Buildings, Apartments, Hotels, Residences, Industrial Buildings, Office and Theatres.)

558. *Warm Air Heating.* A folder featuring warm air heating equipment including *New Idea* pipeless furnaces. Superior pipe furnaces and *Super-Smokeless* furnaces for burning soft coal.

HEATING AND VENTILATION

American Blower Co., Detroit, Mich.

361. *Sirocco Service.* A quarterly publication containing descriptions of heating and ventilating systems installed by the American Blower Company, together with useful data for architects and engineers. 16 pp. Ill. 8½ x 11 in.

362. *General Catalog "ABC" Products.* A book full of useful data for all men who have to deal with heating and ventilating problems. 132 pp. Ill. 8½ x 11 in.

645. Special bulletins describing in detail all of the apparatus in their general catalog. Sent on request. Ill. 8½ x 11 in.

Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.

215. *Buffalo Fan System of Heating, Ventilating and Humidifying.* Catalog 700. This contains a general discussion of heating and ventilating under four heads. Part 1, Public Buildings. Part 2, Industrial Plants. Part 3, Buffalo Apparatus. Part 4, Fan Engineering.

Garden City Fan Co., McCormick Bldg., Chicago, Ill.

673. *New Sectional Catalog No. 200.* Describing the latest improved cycloidal multivane fans for heating, ventilating and drying also standard steel plate fans and pipe coil heaters. Details, capacity tables and specifications, 24 pp. Ill. 7½ x 10½ in.

The H. W. 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. Also "Supplement A" on Air Conditioning. 12 pp. Ill. with half-tones, line drawings and designing charts. 8½ x 11 in.

HOISTS—See Elevators and Ash Hoists

INCINERATORS—See Garbage Destroyers

INSULATION—See also Stucco Base

The Celotex Co., 111 W. Washington St., Chicago, Ill.

701. *Celotex Insulating Lumber.* An insulating material made from cane fibre in form of boards of various lengths and thicknesses. Specifications, physical properties and tests. Several catalogs, booklets and leaflets.

Insulite Division, Minnesota & Ontario Paper Company, International Falls, Minn.

487. *Universal Insulite in Building Construction.* Describes a clean, sanitary, odorless and vermin proof board made from selected waterproofed wood fibres, felted into light, strong, uniform sheets. Examples are given for use indoors and outdoors together with details and useful data. 37 pp. Ill. 8½ x 11 in.

The Hydrex Asphalt Products Corp., 120 Liberty St., New York.

64. *Sound Deadening Insulation.* Illustrated and descriptive booklet. Specifications and suggestions for use of Hydrex "saniflor" Sound Deadening Felt. Size 8½ x 11 in. 18 pp.

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

83. *The Uses of Mineral Wool in Architecture.* Illustrated booklet. Properties of insulation against heat, frost, sound, and as a fire-proofing, with section drawings and specifications for use. It gives rule for estimate and cost. Size 5¼ x 6⅝ in. 24 pp.

IRON AND STEEL—See also Metals

The American Rolling Mill Co., Middletown, Ohio.

658. *The Story of Commercially Pure Iron.* A most interesting booklet recounting the historical development of iron and its present day manufacture in commercially pure, durable form. 48 pp. Ill. 6 x 9 in.

682. *What's Under the Galvanized Coating?* A booklet describing the process of galvanizing, its protective service and also the necessity for pure iron as a basis for galvanizing. 16 pp. Ill. 3¼ x 6¼ in.

Mitchell-Tappen Company, 15 John St., New York, N. Y.

257. *Booklet 14 on Standardized Metal Caging.* Description of various ways of reinforcing the concrete fireproofing on structural steel work, with particular reference to Standardized Metal Caging.

KITCHEN EQUIPMENT—See also Stoves

Bramhall, Deane Co., 261-A West 36th St., New York.

59. *The Heart of the Home.* Booklet, illustrated. Deane's French Ranges (all fuels), cook's tables and plate warmers. Size 6 x 9 in. 32 pp.

The Prometheus Electric Co., 352 West 13th St., New York.

145. *Promethus Electric Plate Warmers.* Leaflets illustrating the plate warmer, describing its construction, utility and types, adaptable for residences and hotels, according to specifications. Sizes and dimensions. Size 5⅝ x 9 in.

LATH, EXPANDED WOOD

Expanded Wood Lath Corporation, 818-155 N. Clark St., Chicago, Ill.

605. *Ex-Wo Expanded Wood Lath.* An expanded wood lath made in sheets and attached to a sheathing paper. Description, directions for installation, specifications and tests. 2 and 4 pp. Ill. 9 x 11½ and 7½ x 11 in.

LATH, METAL

American Steel & Wire Co., Chicago, Ill.

228. *Stucco Houses Reinforced With Triangle Mesh Fabric.* A pamphlet containing valuable data on stucco work with tables of qualtities of material and many illustrations of houses covered with stucco applied on Triangle Mesh Fabric. 24 pp. Ill. 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.

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

REFERENCE LIST OF BUSINESS LITERATURE—Continued

LATH, METAL

The General Fireproofing Co., Youngstown, Ohio.

592. *Building for Permanence and Beauty.* A booklet containing illustrations and plans of residences with stucco exteriors and describing proper stucco construction on Herringbone Metal Lath. 36 pp. Ill. 5½ x 7¾ in.

685. *The Right Angle.* A monthly magazine devoted to fireproof construction involving the use of metal lath, expanded metal and steel lumber. Specifications and details. Circulation free to architects and contractors. 16 pp. Ill. 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 construction. 6 pp. Ill. 8½ x 11 in.

LAUNDRY EQUIPMENT

Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.

66. *Laundry Appliances.* Illustrated catalog. Descriptions of Laundry Dryers, Electric Washing Machines and Ironing Machines, especially adapted for use in residences, apartment buildings and small institutions. Size 8½ x 11 in. 48 pp.

The Pfaudler Company, Rochester, N. Y.

581. *Glass Lined Steel Laundry Chute.* Catalog describing a glass lined steel laundry chute with flushing ring at top and drain connection at bottom, specifications, dimensions and details adapted to hospitals and hotels. 14 pp. Ill. 5⅛ x 7⅜ in.

LIGHTING—See also Electrical Equipment

Frank Adam Electric Co., 3649 Bell Ave., 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 theatres with distribution schedules and specifications. Also applications of control to Masonic buildings, schools and colleges. 32 pp. Ill. 8 x 11 in.

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

613. *Erikson Reflectors, Catalog No. 90.* Description of and details for installing reflectors in show windows, display cases, art galleries, rug racks, banks, churches, and other buildings. 32 pp. Ill. 6¼ x 9½ in.

I. P. Frink, Inc., 24th St. and 10th Ave., New York.

150. *Light Service for Hospitals. Catalogue 421.* 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 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. Ill. 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. Ill. 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. Ill. 8¼ x 11 in.

Harvey Hubbell, Inc., Bridgeport, Conn.

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. Ill. 8 x 10 in.

Mitchell Vance Co., Inc., 503-511 West 24th St., New York, N. Y.

369. *Catalog No. 25.* A descriptive catalog, with prices, of the "T. R. B." Lighting Unit, for perfect distribution of light without glare and without shadows. 24 pp. Ill. 8 x 10 in.

LIME

The Ohio Hydrate & Supply Co., Woodville, Ohio.

494. *A Job that Took a Million Years.* A description of how limestone is formed and how it is later converted into lime. All the processes are shown in detail and the uses of lime are illustrated. 16 pp. Ill. 8½ x 11 in.

LINCRUSTA-WALTON—See also Wall Covering

The Lincrusta-Walton Company, Hackensack, N. J.

519. *Lincrusta-Walton.* This book gives directions for buying, caring for and applying Lincrusta-Walton; together with color chart and many pages showing patterns. 67 pp. 8½ x 11 in. Ill. Bound in boards.

LOCKERS, STEEL—See Factory Equipment

LUMBER

Arkansas Soft Pine Bureau, Little Rock, Ark.

649. *Arkansas Soft Pine Handbook.* An exceptionally well prepared book containing technical descriptions, grading rules, standard molding designs including those by the American Institute of Architects and the National Lumber Manufacturers' Association. Price 50 cents. 82 pp. Ill. 8½ x 11 in.

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

533. *Now the Cedar Clothes Closet.* A book illustrated in colors describing "Bruce Cedaline," for lining clothes closets as a complete protection against moths. 12 pp. Ill. 4¼ x 6 in.

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

203. *From Tree to Trade.* This book tells the story of the manufacture of lumber. Gives an idea of the scope of the business and the care and attention given to the manufacture and grading of Long-Bell trade-marked products. 100 illustrations. 48 pp. 8½ x 11 in.

The Pacific Lumber Company of Illinois, 2060 McCormick Bldg., Chicago, Ill.

363. *Construction Digest*—The use of California Redwood in residential and industrial construction. Contains illustrations, grading rules, specifications and other technical data for architects and builders. 16 pp. Ill. 8½ x 11 in.

364. *Engineering Digest*—The use of California Redwood in industrial construction and equipment for factories, railroads, mines and engineering projects. 16 pp. Ill. 8½ x 11 in.

LUMBER, ASBESTOS

Asbestos Shingle, Slate & Sheathing Co., Ambler, Pa.

54. *Ambler Asbestos Building Lumber.* Catalog illustrated. Describes uses of this fireproof product for both exteriors and interiors. Tables of sizes and illustrations of various types of buildings in which it has been used. Size 8½ x 11 in. 32 pp.

MANTELS

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

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.

MAIL BOXES

The Chism Mail Box Co., 2511 Union Central Building, Cincinnati, Ohio.

704. *The Chism Mail Box.* A folder describing a mail box to prevent the theft of mail in apartment houses, which is approved by and complies with the regulations of the U. S. Post Office Department. 4 pp. Ill. 8½ x 11 in.

MARBLE—See Stone

The Georgia Marble Co., Tate, Pickens Co., Ga., New York Office, 1226 Broadway.

634. *Why Georgia Marble is Better.* Booklet 3⅜ x 6 in. Gives analysis, physical qualities, comparison of absorption with granites, opinions of authorities, etc.

635. *Convincing Proof.* Booklet 3⅜ x 6 in. 8 pp. Classified list of buildings and memorials in which Georgia Marble has been used, with names of architects and sculptors.

METALS—See also Iron and Steel—Roofing

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

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

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. Ill. 2½ x 4½ in.

Bridgeport Brass Co., Bridgeport, Conn.

483. *Seven Centuries of Brass Making.* A brief history of the ancient art of brass making and its early (and even recent) method of production—contrasted with that of the Electric Furnace Process—covering tubular, rod and ornamental shapes. 80 pp. Ill. 8 x 10½ in.

Copper & Brass Research Association, 25 Broadway, New York, N. Y.

466. *How to Build a Better Home.* A book on building written for the prospective builder. It contains keyed illustrations of houses and details of houses and should be of value to architects in explaining technical terms to clients. 30 pp. Ill. 7¾ x 10½ in.

Rome Brass & Copper Company, Rome, N. Y.

473. *Price List No. 70.* A loose-leaf binder containing full price list of Rome Quality products, together with useful tables. 5⅛ x 7¼ in.

METAL MOLDINGS

National Metal Molding Co., Pittsburgh, Pa.

152. *Hand-book for the Man on the Job.* An illustrated book of fittings and methods with description and instructions for installing National Metal Molding under all conditions; a book meant to be conveniently carried and used on the job. Size 4⅜ x 6 in. 102 pp.

MILLWORK—See also Lumber—Building Construction—Doors and Windows

MORTAR—See also Cement

Louisville Cement Company, Inc., Louisville, Ky.

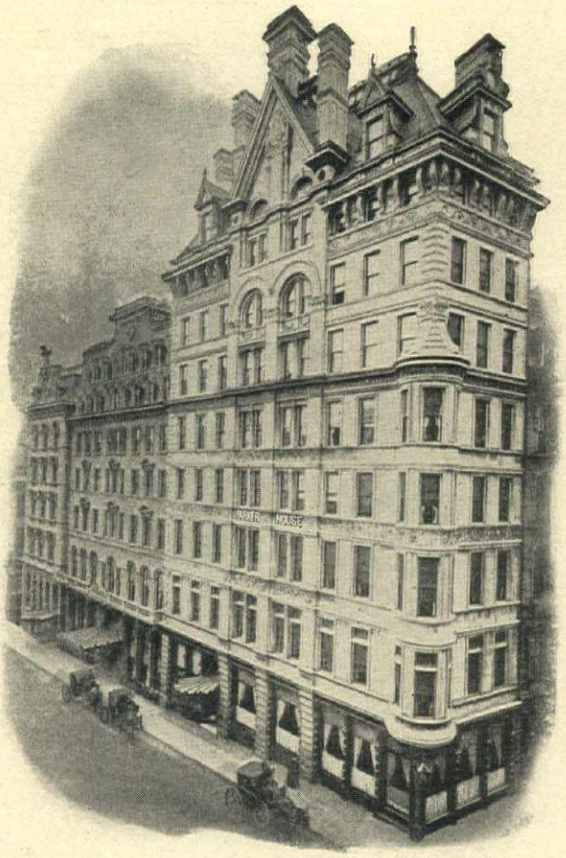
311. *Brixment, the Perfect Mortar.* The reading of this little book gives one a feeling that definite valuable information has been acquired about one of the oldest building materials. Modern science has given the mason a strong water-resisting mortar with the desirable "feel" of the best rich lime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

OFFICE EQUIPMENT

The General Fireproofing Co., Youngstown, Ohio.

686. *Allsteel Office Furniture.* A descriptive catalog of steel office furniture, filing cabinets, desks, tables, counterheights, steel shelving, fireproof safes. 96 pp. Ill. 5½ x 7¾ in.

BRASS PIPE
in Service 67 Years Without Repairs



The original Brass pipe hot and cold water service in the old Parker House, Boston, has seen 67 years of continuous service without a repair; and apparently is good for many years more of equally satisfactory service.

THE OLD PARKER HOUSE building was completed in 1856. In 1890 an annex was built. It, too, was piped with Brass.

The hotel's chief engineer says the only repair made to the Brass piping in either building has been replacement of a short section broken by an employee who swung from it doing gymnastics.

In recent years the city of Boston has materially increased its water pressure without any effect on the Brass piping, testifying to its unweakened condition.

Sixty-seven years of trouble-proof service, an uninterrupted supply of rust-free hot and cold water—that is the kind of service you get from Brass pipe.

"Brass is cheaper because you pay for it only ONCE"

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RESEARCH ASSOCIATION
25 Broadway - New York

REFERENCE LIST OF BUSINESS LITERATURE—Continued

ORNAMENTAL IRON AND BRASS

The American Brass Co., Waterbury, Conn.

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

PAINTS, STAINS, VARNISHES—See also Waterproofing

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

342. *Cabot's Creosote Stains.* Description of a standard stain for shingles, siding, boarding and timbers, with covering capacity and specifications. 16 pp. Ill. 4 x 8½ 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. Ill. 3¼ x 6¼ in.

Samuel H. French & Co., Philadelphia, Pa.

312. *French's Paints and Varnishes.* A catalog and price list of paints, stains, varnishe , mortar, mortar colors, cement colors and materials for plasterers, with instructions for selection of colors, etc. 44 pp. Ill. 4 x 8 in.

The Glidden Company, Cleveland, Ohio.

F797. *Architectural Specifications.* Specifications covering practically every operation in painting and allied work. 32 pp. 8¼ x 10¾ in.

National Lead Company, 111 Broadway, New York, N. Y.

389. *Color Harmony.* Color card for glass finish and flat finish together with useful notes on painting and a collection of approximate formulas for obtaining the colors shown on the color card. 8 pp. Ill. 3⅜ x 8½ in.

708. *Early American Architecture.* An attractive portfolio of selected sketches and measured drawings showing Colonial and Georgian design containing 34 plates, 8¼ x 10¾ in. Suggested color schemes are included.

The New Jersey Zinc Co., 160 Front St., New York, N. Y.

227. *Painting Specifications.* A booklet full of useful information concerning paint mixtures for application on various surfaces.

Parker, Preston & Co., Inc., Norwich, Conn.

357. *Art in Shingle Stains.* Description of waterproof, odorless shingle stains and waterproof coating for walls and floors with covering capacities and directions for use. 27 pp. 3 x 4½ in.

Ripolin Co., The, Cleveland, Ohio.

419. *Ripolin Specification Book.* 8 x 10¼ in., 12 pp. Complete architectural specifications and general instructions for the application of Ripolin, the original Holland Enamel Paint. Directions for the proper finishing of wood, metal, plaster, concrete, brick and other surfaces, both interior and exterior, are included in this Specification Book.

Standard Varnish Works, 443 Fourth Ave., New York, N. Y.

565. *Immaculate Distinction.* A book describing Satinette Enamel, and enduring white enamel for interior and exterior use. Specifications are given for use on new and old work, metal, plaster, etc. 22 pp. Ill. 5 x 7 in.

566. *Architectural Reference Book, Third Edition.* A readily accessible and concise compilation of practical finishing information from which specifications readily can be written on varnishes, stains, fillers and enamels. 24 pp. Ill. in colors with samples on wood, etc. 8½ x 11 in.

PARTITIONS

J. G. Wilson Corp., 2 East 36th St., New York.

618. *Folding Partitions and Sectionfold Partitions.* Two catalogs describing folding partitions operated on pivoted castors working in narrow flush floor track with overhead guide track, all doors equal width. 16 and 14 pp. Ill. 8½ x 11 in.

PILES, CONCRETE

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

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 formulæ for working loads, and relative economy. Size 8½ x 11⅛ in. 60 pp.

PIPE—See also Metals

Bridgeport Brass Company, Bridgeport, Conn.

556. *Brass Pipe and Piping; When and How it Should be Used. Bulletin No. 15.* This book contains valuable tables, charts and examples for the design of hot water installations, with illustrations of details and connections. It also discusses the use of pipe of different materials; various processes for preventing rust and corrosion in iron and steel pipes. It is a valuable treatise for all architects and engineers. 47 pp. Ill. 8 x 10½ 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. Ill. 8 x 10¾ 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. Ill. 8 x 10¾ in.

The Duriron Company, Dayton, Ohio.

548. *Duriron Acid-Proof Drain Pipe.* This is a handbook for the architect and engineer on Duriron drain pipe fittings, exhaust fans, sinks, etc. Contains specifications for installations, detail dimensioned drawings, reports on corrosive tests, long partial list of successful installations, etc. 20 pp. Ill. 8 x 10½ in.

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

670. *National Bulletin No. 25B. 3rd 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. Ill. 8½ x 10¾ in.

Rome Brass and Copper Company, Rome, N. Y.

509. *Bulletin No. 1. Seamless Brass Pipe.* This bulletin illustrates in colors nine installations of hot water heaters between range boiler, basement furnace, tank and instantaneous heaters for one and two-family houses and larger buildings. Contains also a number of estimating and designing tables, rules and formulas. 22 pp. Ill. 7½ x 11¾ in.

A. Wyckoff & Son 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 computations. 92 pp. Ill. 6 x 9 in.

PIPE COVERING

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. Ill. 6 x 9 in.

PLUMBING EQUIPMENT—See also Drains

Bridgeport Brass Co., Bridgeport, Conn.

461. *Plumbing Supplies.* Catalog of adjustable swivel traps; basin and bath supplies and waste; basin and sink plugs; low tank bends; iron pipe sizes of brass pipe. 20 pp. Ill. 8 x 10½ in.

Crane Company, 836 So. Michigan Ave., Chicago, Ill.

240. *General Plumbing Catalogue.* A very complete and well illustrated booklet describing the complete line of Crane plumbing goods. 80 pp. 8½ x 11 in.

Philip Haas Company, Dayton, Ohio.

524. *Catalog B.* This catalog contains a complete description of the full line of waterclosets made by this company, together with illustrations of combinations for every type or class of service. Wall hanging closets are an innovation here fully described. A feature of interest to designers is the series of roughing in plates with dimensions. 91 pp. Ill. 6⅛ x 9¼ in.

Jenkins Bros., 80 White St., New York, N. Y.

236. *Jenkins Valves for Plumbing Service.* This booklet contains all necessary information about Jenkins Valves commonly used in plumbing work. 16 pp. Ill. 4¼ x 7¼ in. Stiff paper cover.

Kohler Company, Kohler, Wisconsin.

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. Ill. 5⅛ x 8 in. Roughing-in Measurement Sheets 5 x 8 in.

531. *Catalog F.* This is a complete catalog of Kohler enamelled ware for plumbing installations, together with high grade fittings. There is also a brief and interesting description of the manufacture of high grade enamelled ware and a statement of the facts about Kohler village one of the discussed experiments in modern industrial town building. 215 pp. cloth bound. Ill. 7½ x 10⅜ 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 sinks and laundry trays, also seats, faucets, bathroom fixtures and accessories. Completely illustrated with roughing in diagrams. 242 pp. Ill. 8 x 11 in.

Speakman Company, Wilmington, Del.

691. *Speakman Showers and Fixtures, Catalog H.* A complete catalog treating of everything pertaining to the mixing and control of water used in all kinds of shower and tub baths, lavatories and sinks, also strainers, drains and traps. Complete roughing-in measurements are included. A valuable catalog. 20 pp. Ill. 4½ x 7½ in.

The Vulcan Brass Manufacturing Co., Cleveland, Ohio.

678. *Paragon Brass Goods, Catalog C.* New catalog showing sectional drawings, illustrations and text describing exclusive feature of "Paragon" self closing basin and sink faucets and stops; high pressure ball cocks, vitreous china bubblers, compression and quick-compression work. 60 pp. Ill. 7⅛ x 10½ in.

PUMPS

The Dayton Pump and Manufacturing Company, Dayton, Ohio.

475. *Electric House Pumps and Water Supply Systems.* A heavy paper binder containing illustrated bulletins 8½ x 11 in. These bulletins describe pumps as well as complete automatic electric and gasoline water supply systems and all accessories, together with specifications, detail drawings and tables of dimensions. 48 pp.

In St. Louis

The Pipe Basis for Modern Building

THE architectural excellence exemplified here has contributed greatly to the attractiveness of this city. Prominent among the good materials which accompany these architectural assets is "NATIONAL" Pipe. Thus, high quality tubular material has contributed in large measure to making the metropolis of Missouri *"a city of better buildings"*.

The buildings illustrated are taken from Bulletin No. 25—"NATIONAL" Pipe in Large Buildings. The new edition of this publication, revised and enlarged will be sent upon request.

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DISTRICT SALES OFFICES IN THE LARGER CITIES

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

REFERENCE LIST OF BUSINESS LITERATURE—Continued

REFRIGERATION

The Automatic Refrigerating Co., Hartford, Conn.

298. *The Mechanics of Automatic Refrigeration and Automatic Refrigeration for Hospitals and Sanatoriums.* Two essential booklets for the library of designers and specification writers. 24 and 28 pp. Ill. 8½ x 11 in.

370. *Automatic Refrigeration for Retail Markets.* A valuable treatise on the subject matter mentioned in the title. 30 pp. Ill. 8½ x 11 in.

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

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

Jamison Cold Storage Door Co., Hagerstown, Md.

569. *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. Ill. 5¾ x 9 in.

REFRIGERATORS

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. Ill. 8½ x 11 in.

698. *Jewett Solid Porcelain Refrigerators.* This improved refrigerator has an interior finish of one-piece solid porcelain ware for both food and ice compartments. Complete line with dimensions, types and prices. 22 pp. Ill. 8½ x 11 in.

McCray Refrigerator Co., Kendallville, Ind.

472. *Refrigerators and Cooling Rooms. Cat. 53.* A catalog of cooling equipment for hotels, restaurants, hospitals, institutions, colleges and clubs. Catalog No. 96 deals with refrigerators for residences. 52 pp. each. Ill. in colors. 7½ x 10 in.

REINFORCING STEEL—See also Concrete, Reinforced

Rail Steel Products Association, Reinforcing Bar Division, Arcade Bldg., St. Louis, Mo.

582. *Rail Steel for Concrete Reinforcing.* A book describing the manufacturing, fabrication and physical properties of re-rolled, billet and rail steel bars with specifications for their use. 84 pp. Ill. 8½ x 11 in.

RESTAURANT EQUIPMENT—See Kitchen Equipment

ROOFING—See also Slate—Metals—Shingles

American Brass Company, Main Office, Waterbury, Conn.

515. *Copper Roofing. Service Sheet.* This service sheet contains details for laying copper roofing together with standard specifications. 17 x 22 in. folding to 8½ x 11 in. printed both sides.

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

463. *Copper—its Effect Upon Steel for Roofing Tin.* Describes the merits of high grade roofing tin plates and the advantages of the copper-steel alloy. 28 pp. Ill. 8½ x 11 in.

Asbestos Shingle, Slate & Roofing Co., Ambler, Pa.

53. *Ambler Asbestos Corrugated Roofing.* Catalog gives complete data for specifying, drawings, methods of application, tables, etc. Size 8½ x 11 in. 20 pp.

The Barber Asphalt Company, Land Title Bldg., Philadelphia, Pa.

422. *Standard Trinidad Built-Up Roofing Specifications.* Contains two specifications for applying a built-up roof over boards and two for applying over concrete. Gives quantities of materials and useful data. 8 pp. 8 x 10½ in. Ask at same time for Good Roof Guide Book. 32 pp. Ill. 6 x 9 in.

702. *Specifications.* A pamphlet containing standard specifications for Genasco Standard Trinidad Lake Asphalt Built-up Roofing, Genasco Economy Trinidad Lake Asphalt Built-up Roofing, Genasco Membrane Waterproofing and Genasco Asphalt Flooring. Illustrated with sketches showing construction. 16 pp. Ill. 8 x 11¼ in.

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. Ill. 8½ x 11 in.

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

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 Copper and Brass Research Association, 25 Broadway, New York, N. Y.

468. *Copper Roofing.* Weights of various roofing materials. Up-to-date practice in the laying of copper roofs—Batten or wood rib method. Standing seam method, flat copper roofs. Copper shingles. Suggestions for avoiding error and obtaining the full value of copper. Decorative effects and how to obtain them. Flashings, reglets, gutters and leaders. Cornices. Copper-covered walls. Specifications. 32 pp. Ill. 8½ x 11 in.

The Edwards Manufacturing Company, Cincinnati, Ohio.

535. *Shingles and Spanish Tile 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. Ill. 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.

154. *The Roof Beautiful.* Booklet. Well illustrated with photographs and drawings, giving history and origin of roofing tile, and advantages over other forms of roofing. Types shown by detailed illustrations. Size 8 x 10¼ in. 32 pp.

The Richardson Company, Lockland, Cincinnati, Ohio.

492. *Viskalt Membrane Roofs.* Contains specifications for applying Membrane roof over boards and also for applying over concrete. Illustrated with line drawings of several approved methods of flashings. 3 pp. 8½ x 11 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 drawings 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. Ill. 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. Ill. 6 x 9½ in.

Vendor Slate Co., Easton, Pa.

333. Occasional brochures on architecturally pertinent phases of roofing slate sent on request. See also listing under Slate.

ROOF-LIGHTS—See Glass Construction

SANDSTONE—See Stone

SASH—See Doors and Windows

SCREENS

American Wire Fabrics Company, 208 So. La Salle St., Chicago, Illinois.

305. *Catalog of Screen Wire Cloth.* A catalog and price list of screen wire cloth, black enamelled, galvanized, aluminoid, copper, bronze. 30 pp. Ill. 3½ x 6¼ 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. Ill. 8½ x 11½ in.

New Jersey Wire Cloth Company, 614 South Broad St., Trenton, N. J.

409. *A Matter of Health and Comfort. Booklet No. 2331.* A booklet telling all about screens, the durability of copper and its superiority over all other metals for screen purposes. 16 pp. Ill. 5 x 7¾ in.

SHELVING—STEEL

Art Metal Construction Company, Inc., Jamestown, New York.

543. *Art Metal Steel Shelving.* Describes steel shelving for the storage of goods from stationery to heavy castings in stock and storerooms; for the display of goods in retail establishments; for the orderly disposal of material in vaults and offices. 34 pp. Ill. 6 x 9 in.

SHINGLES—See also Roofing

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

381. *Carey Asfaltslate Shingles.* Folder containing illustrations of attractive buildings and residences on which Carey Asfaltslate Shingles have been used. Describes this type of shingle, showing its special claims and advantages.

SIDEWALK LIGHTS—See also Vault Lights

SLATE—See also Roofing

Vendor Slate Co., Inc., Easton, Pa.

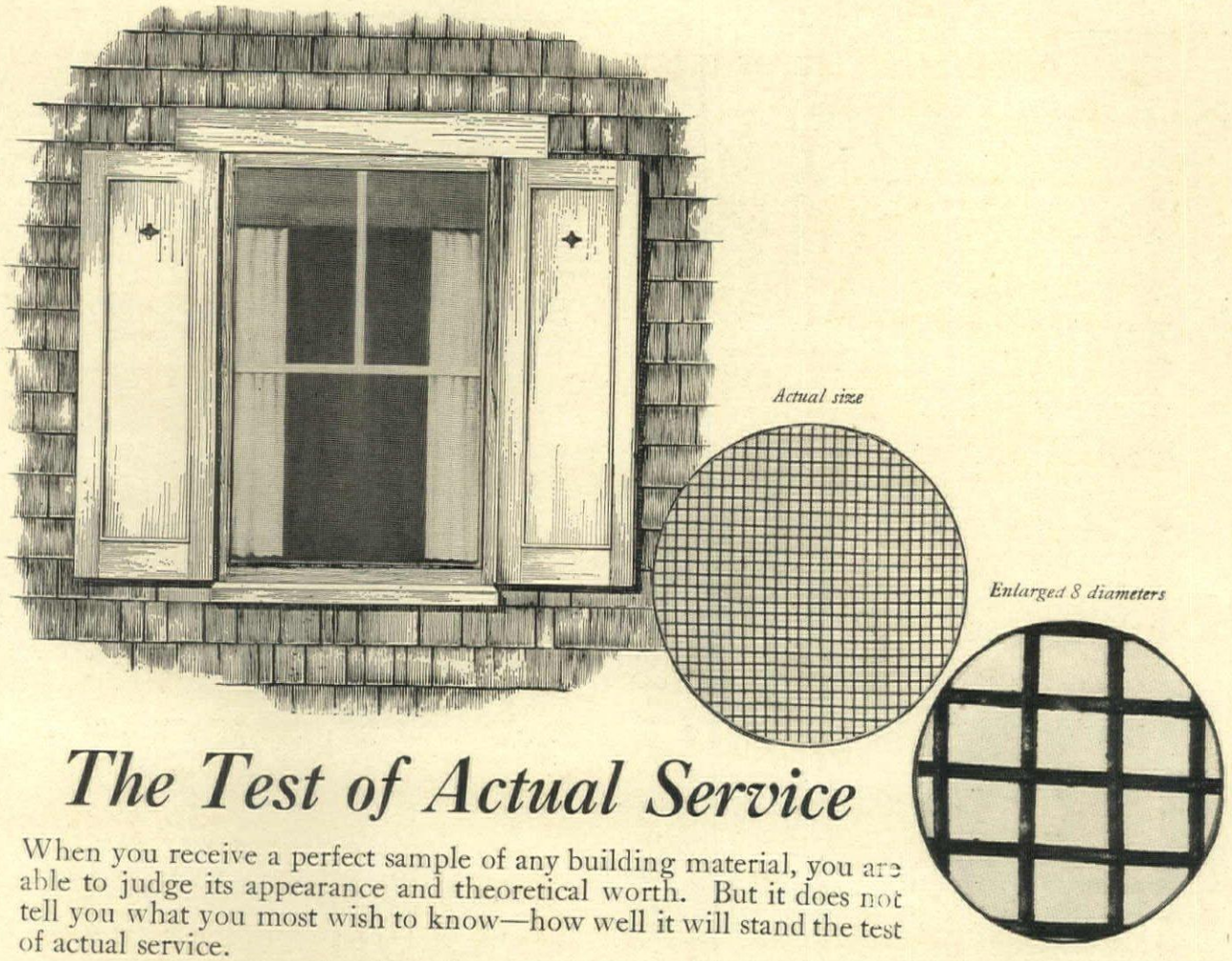
332. *The Vendor Book of Roofing Slate for Architects.* Contains original information on slate in various architectural uses; history, geology, sundry practical matters; complete descriptive classification; extended treatise on architectural roof design and specifications. 24 pp. Ill. 8½ x 11 in.

STAINS—See also Paints, Stains, Varnishes

STEEL JOIST CONSTRUCTION

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. Ill. 8½ x 11 in.



The Test of Actual Service

When you receive a perfect sample of any building material, you are able to judge its appearance and theoretical worth. But it does not tell you what you most wish to know—how well it will stand the test of actual service.

To give that information about our Copper Insect Screen Cloth we show the above photographs of a piece of cloth which has been in service for nearly thirteen years under the most severe conditions.

Copper Screen Cloth made by The New Jersey Wire Cloth Company, which has been subjected to the action of salt air for more than twelve years.

This Copper Cloth, heavy grade, was installed in 1910 on a cruising yacht owned by Mr. Fred McCormick, architect, of Wilkes Barre, Penna. It has been exposed to the salt air and briny spray along the Atlantic coast for nearly thirteen years. Mr. McCormick wrote us: "To all appearances it will last another thirteen years."

You will notice how infinitesimal is the corrosion shown, even in the photograph enlarged eight diameters. One would conclude that it has been in service but a few weeks.

We can offer no more convincing evidence of the durability of screen cloth 99.8% pure copper.

The unusual durability of Jersey Copper Screen Cloth is due to the fact that the wire is made of copper 99.8% pure and is subject to a special Roebling process which gives it stiffness and tensile strength comparable to that of steel.

Samples of Jersey Copper Screen Cloth, the stiffness of which you may test for yourself, will be sent on request. No annoying sales efforts will follow.

THE NEW JERSEY WIRE CLOTH COMPANY
614 South Broad Street
Trenton New Jersey

TRADE JERSEY MARK

Copper Screen Cloth

Made of Copper 99.8% Pure

REFERENCE LIST OF BUSINESS LITERATURE—Continued

STONE

The Appalachian Marble Company, Knoxville, Tenn.

503. *Appalachian Tennessee Marble.* A new booklet on the qualities to be demanded in marble and a treatise on Tennessee marble by T. Nelson Dale (Retired Geologist, U.S.G.S.). Contains also illustrations of the plant of the company, buildings in which Appalachian Tennessee Marble has been used and four-color process plates of the six major Appalachian marbles. In tough paper indexed cover. 12 pp. Ill. 8½ x 11 in.

Indiana Limestone Quarrymen's Assn., P. O. Box 503, Bedford, Ind.

265. *Folders, Series D.* Structural detail and data sheets showing methods of detailing cut stone work in connection with modern building construction. 4 pp. each. 8½ x 11 in.

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. Ill. 8½ x 11 in.

693. *Indiana Limestone Homes, Series B, Vol. 5.* A portfolio containing sixteen designs for small and moderate-sized dwellings of different styles of architecture and sizes of lots. Plot plan, floor plans, perspective and description. Free to architects and draftsmen requesting same on employer's business stationery. 84 pp. Ill. 8½ x 11 in.

National Building Granite Quarries Asso., Inc., 31 State Street, Boston, Mass.

416. *Architectural Granite No 1 of the Granite Series.* This booklet contains descriptions of various granites used for building purposes; surface finishes and how obtained; profiles of moldings and how to estimate cost; typical details; complete specifications and 19 plates in colors of granite from various quarries. 16 pp. Ill: 8½ x in.

STORE FRONTS

Brasco Mfg. Co., Chicago, Ill.

56. *Brasco System of Hollow Metal Store Front Design.* Folio of Detail Sheets. Full size detail sheets 1, 2, 3 and 4. Corner bar, division bar, reverse bar and three-way bar, head transom sill and jamb sections. Sheets 18 x 22½ in.

57. *Hester System Store Front Construction and Design.* Folio of Detail Sheets. Full size detail sheets, a, b, c and d, of hollow metal store front construction, giving full size sections of head transoms, sill and jamb with moulding profiles and bar cover to house awning construction. Sheets 18 x 22½ in.

Detroit Show Case Co., Detroit, Mich.

77. *Designs.* A booklet. Store fronts and display window 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.

467. *A Collection of Successful Store Front Designs.* Illustrations of recently erected modern store fronts with all framing covered with solid copper. Maximum show window surface secured by these designs. Many classes of occupancy shown. 64 pp. Ill. 6¾ x 9¼ in.

530. *Catalog L, 1922-1923 Edition.* Details of solid copper store fronts construction. This is a treatise on the installation of copper store fronts and contains sectional and detail views of Kawneer sash, corner and division bars, jambs, sill and transom bar coverings and other members. Intended for the detailer. 32 pp. Ill. 8½ x 11 in.

STOVES

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

506. *Catalog No. 94, Second Edition.* A catalog of Direct Action Gas Ranges equipped with Lorain Oven Heat Regulator; also cookers, laundry stoves, hot plates, kitchen heaters and waste burners, automatic water heaters, coil heaters, ovens, etc.

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

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

STUCCO—See also Cement

Portland Cement Association, 347 Madison Ave., N. Y. C.

594. *Portland Cement Stucco.* Illustrated leaflet of recommended practice for Portland Cement Stucco. Contains data on materials, proportions, application and curing. Table of colors for various tints, photographs of surface textures and drawings of construction details also given. 15 pp. Ill. 8½ x 11 in.

STUCCO BASE

The Bishopric Manufacturing Company, Cincinnati, Ohio.

451. *Bishopric for All Time and Clime.* A booklet describing Bishopric materials; giving building data, detailed drawings and specifications. Illustrated with half tones from photographs of houses built of Bishopric materials. 52 pp. Ill. 8 x 10½ in.

TELEPHONES

Automatic Electric Co., 945 W. Van Buren St., Chicago, Ill.

683. *Architect's Specifications for Interior Telephone System.* A complete and short specification for the installation of interior telephone systems adapted to all kinds of buildings and uses. 4 pp. 8½ x 11 in.

684. *The Straight Line.* A booklet devoted to interior communication by use of private automatic exchanges and the P-A-X Code Calls. Description of switchboards, instruments and accessories. 38 pp. Ill. 5 x 8 in.

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

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. Ill. 7¾ x 10 in.

TERRA COTTA

Atlantic Terra Cotta Company, 350 Madison Avenue, New York, N. Y.

425. *Questions Answered.* A brief but full description of Atlantic Terra Cotta and its use in buildings. 32 pp. Ill. 5¼ x 7 in.

551. *Monthly Magazine,* Atlantic Terra Cotta. February issue contains fine illustrations of the work of Giovanni della Robbia, 1469-1527, glazed in colors. 16 pp. Ill. 8½ x 11 in.

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

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

666. *Color in Architecture.* An illustrated treatise upon the principles of color design and appropriate technique. 38 pages. Ill. 8½ x 11 in.

667. *Present Day Schools.* Illustrating 42 examples of school building architecture with an article on school house design by James O. Betelle, A. I. A. 32 pp. Ill. 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. Ill. 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 façades, of moving-picture houses, office buildings, shops, vestibules and corridors in which Northwestern Terra Cotta was used. Size 8½ x 11 in. 78 pp.

TILE—ORNAMENTAL

The Associated Tile Manufacturers, Beaver Falls, Pa.

358. *Home Suggestions.* A new book in colors describing and illustrating the use of tiles in floors, walls, ceilings, fireplaces, garages, for exterior embellishment, etc. Full of suggestions. Sent to architects on request. 7½ x 10⅝ in.

359. *Basic Information on Tiles.* Book giving practical information on ingredients, processes, gradings, sizes, shapes, colors, finishes and nomenclature. Sent to architects on request. 7½ x 10⅝ in.

374. *Basic Specifications for Tilework and Related Documents. No. K-300.* This specification is prepared in a very systematic manner for the use of architects and builders. It is printed on one side of a sheet with facing page blank to receive memoranda. Various colored sheets make reference easy and simplify greatly the work of a specification writer in specifying tilework. 38 pp. 7½ x 10⅝ in.

375. *"Work Sheets" for Specification Writers.* To be used in connection with "Basic Specification for Tilework and Related Documents." 16 sheets 7½ x 10⅝ in.

706. *Glazed Tiles and Trimmers, Publication K-400.* An invaluable book for use in laying out glazed tile work. Details of standard tiles, mouldings, curbs, sills and other trimmers with illustrations of assembling for many uses. Free to architects and members of their staff only. 86 pp. Ill. 7¾ x 10¾ in.

TIME CLOCKS—See Clocks

TOILET PARTITIONS—See Wainscoting

TRIM—See also Doors and Windows

TRUSSES—See Building Construction

VARNISH—See Paints

VAULT LIGHTS

American Three Way Luxfer Prism Co., 13th Street and 55th Court, Chicago, Ill.

424. *Daylighting. Catalog 21.* A complete catalog on glass prisms for use in transoms, sidewalk and floor lights, skylights, etc., for lighting places inaccessible to direct daylight. Contains also measurements, specifications and other data required by designers. 42 pp. Ill. 8½ x 11 in.

VENTILATION—See Heating and Ventilation

REFERENCE LIST OF BUSINESS LITERATURE—Continued

VENTILATORS

The Burt Manufacturing Co., Akron, Ohio.

207. *General Catalogue* covering entire line of Ventilators, Exhaust Heads and Filters. Separate leaflets on each type of ventilator, vent and damper.

525. *The Great Outdoors Brought Inside.* In this book is a description of the new rectangular combination skylight and ventilator; the Burt fan ventilator for removing odors, fumes, etc., when atmospheric conditions interfere with the gravity process; and a table giving prices, dimensions, weights and gauges of iron of the Burt Ventilator. Some good general information about ventilators is included. 16 pp. Ill. 3⅜ x 6¼ in.

WAINSCOTING

The Vitrolite Company, Chamber of Commerce Building, Chicago, Ill.

648. *Toilet Partitions and Wainscoting. Architects Tile Bulletin No. 7.* Describing the uses of Vitrolite, its physical properties, details of installation and specifications. 32 pp. Ill. 8½ x 11 in.

WALL COVERING—See also Lincrusta-Walton

Standard Textile Products Co., 320 Broadway, New York, N. Y.

111. *Sanitas, Modern Wall Covering.* Folio. Plates of color renderings of various interiors, with suggestions for the library, living room, dining room, boudoir, kitchen and church wall covering, using Sanitas. Size 11½ x 6 in. 15 plates.

112. *Sanitas, and Its Uses.* Booklet. Text and color illustrations of Sanitas as a wall covering, with tables for wall and ceiling measurements. Notes on sanitary character, cleanliness and durability of Sanitas. Size 5 x 7 in. 28 pp. 6 color plates and 2 sample sheets.

113. *Sanalining Sanitas Lining and Prepared Lining.* Folder. Notes on durability and cleanly character of the above three products. Size 3¾ x 6 in.

114. *Hints to Decorators.* Booklet. Instructions and specifications for the application of Sanitas, with notes on finishes and material. Size 5 x 6¾ in. 20 pp.

WATER HEATERS

Ruud Manufacturing Co., Pittsburgh, Pa.

567. *Ruud Gas Water Heaters.* Bulletins in filing folder describing instantaneous automatic water heaters for small homes and special uses, multi-coil automatic storage systems, automatic storage systems and tank water heaters. Details for connections, hot water service and specifications. 19 pp. Ill. 8½ x 11 in.

589. *Ruud Automatic Storage Systems.* Catalog of automatic hot water storage systems for domestic, industrial and commercial uses. Details, capacities, dimensions and other data. 24 pp. Ill. 6 x 9 in.

590. *Ruud Multi-Copper-Coil Automatic Storage Systems.* Catalog describing automatic hot water storage systems of large capacity for large residences, apartment buildings, hotels, hospitals, gymnasiums and factories. Details, capacities and dimensions for complete line. 32 pp. Ill. 6 x 9 in.

WATERPROOFING—See also Dampproofing

The General Fireproofing Co., Youngstown, Ohio.

646. *The Waterproofing Handbook* (Sixth Edition). A revised edition of this valuable book treating of sub-structure and super-structure waterproofing, cement and wood floor preservatives, technical paints and coatings and GF waterproofings, preservatives and their uses. 72 pp. Ill. 8½ x 11 in.

WATER PURIFICATION

The R. U. V. Company, Inc., 165 Broadway, New York.

606. *Ultra Violet Ray Sterilization.* Bulletins treating of water sterilization for homes, hotels, office buildings, hospitals, schools, industrial plants, breweries, ice plants, swimming pools, water works and other places. Ill.

WATER SOFTENERS

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

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.

482. *Bulletin No. 1600.* This bulletin treats of the value of soft water in the house and describes the Wayne Domestic Water Softening System. 6 pp. Ill. 8¼ x 10½ in.

Wayne Tank and Pump Co., Fort Wayne, Ind.

687. *Water Softening and Filtration.* A valuable treatise on the subject of slow-acting and quick-acting types of water softeners and their application to commercial, industrial and domestic uses. The construction of and uses for Wayne Pressure Filters are also adequately described. 32 pp. Ill. 8¼ x 10½ in.

WATER SUPPLY—See Pumps

WEATHER STRIPS

The Diamond Metal Weather Strip Co., Columbus, Ohio.

616. *The Diamond Way.* A catalog of full size details showing the application of Diamond metal weather strips to double hung and casement windows and doors with complete specifications. 34 pp. Ill. 8½ x 11 in.

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

354. *Higgin Metal Weather Strips.* A booklet of considerable value to architects and builders on the use of weather strips. Ask also for the companion book on "The Reason Why." Each booklet 12 pp. Ill. 6 x 9 in.

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

512. *Monarch Metal Weather Strips.* The publication embodies all the suggestions for advertising literature made by the Committee on Structural Service of the American Institute of Architects. It contains a treatise on inleakage around windows together with description of Monarch Metal Weather Strips. Contains many detail working drawings. 48 pp. Ill. 7½ x 10½ in.

WINDOWS—See Doors and Windows

WIRE AND CABLE—See Electric Wire and Cable

WOODWORK—See also Doors and Windows—Lumber

Curtis Companies Service Bureau, Clinton, Iowa.

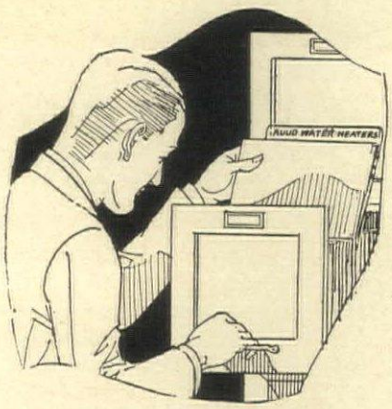
663. *Keeping Down the Cost of Your Woodwork.* A book illustrating Curtis interior woodwork and built-in cabinets and fixtures designed by Trowbridge and Ackerman, Architects, New York. Colored illustrations and details. 16 pp. Ill. 7 x 9¼ in.

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

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

The Hawthorne Hill, Dayton, Ohio, Home of Orville Wright. A Ruud Automatic Gas Water Heater is the source of an ever-ready supply of steaming hot water.

Ruud in Distinguished Company



Make Your Files Complete

The Ruud Architect's Specification Folder is as accurate in detailed information as Ruud Automatic Water Heaters are adequate in service. All necessary data for specifications is here in compact and workable form. Write for your copy.

DECEMBER 17, 1923, the Twentieth Anniversary of the First Successful Airplane Flight of the Wright Brothers, the home of Orville Wright served as guest-house for many distinguished, nationally-known men.

The honor guests included: Vilhjalmur Stefanson, Arctic Explorer; Carl E. Akely, Big Game Hunter; Major General Mason M. Patrick, U. S. A. Air Service; and others of international prominence.

Invented by Edwin Ruud in 1889, Ruud Automatic Hot Water Heaters had long passed the experimental stage when Orville Wright made his first flight in 1903.

Its destinies are still guided by its inventor. The *Ruud* is proving its right to your recommendation by providing Perfect Hot Water Service in every type of home, store or factory.

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PITTSBURGH, PENNA.
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RUUD AUTOMATIC GAS WATER HEATERS

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Federal Reserve Bank of Minneapolis

Meeting Specifications with 10,000 Pounds of Eagle White Lead *in Oil*

CASS GILBERT of New York is the Architect of the Federal Reserve Bank of Minneapolis. F. A. Leekley, of Minneapolis, is the painting contractor. To meet the specification requirements for the painting, Leekley stocked 10,000 pounds of Eagle.

An architect specifying Eagle White Lead in Oil will find the painting contractor receptive to his choice.

The virtue of Eagle White Lead in Oil for fine painting lies in the Old Dutch Process of manufacture. The Old Dutch Process has been the standard for the production of white lead for the past several centuries. The basic principles of the process antedate the Christian era. The process was refined by the Venetians and reached a high point of development with the Dutch corroders during the seventeenth and eighteenth centuries.

The Eagle Brand first appeared in the market in 1843. Since that time Eagle White Lead in Oil has been pure Dutch Process White Lead. The Old process has been refined and improved since that time, but the basic principle of manufacture has been the same slow corrosion.

The qualities of Eagle White Lead in Oil made by the Old Dutch Process are developed during the ninety days the white lead is forming in the corroding pots in the tan bark beds.

The Old Dutch Process insures that Eagle White Lead in Oil will be a uniform product of greater covering power, long continued whiteness, and durability.

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EAGLE *Pure Old Dutch Process* WHITE LEAD

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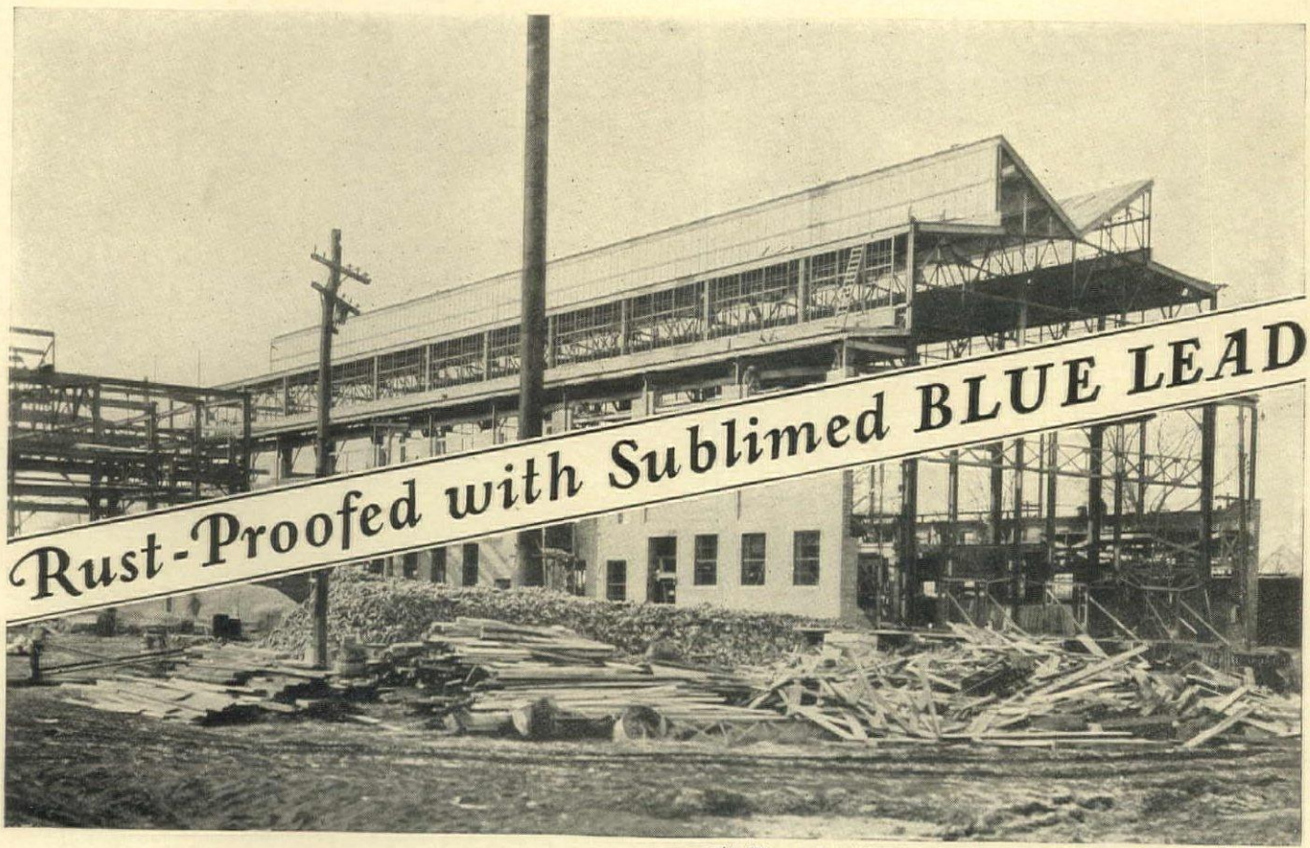


The Western Cartridge Company Brass Mill and Casting Shop, Alton, Illinois

Why Contractors and Painters Agree on Sublimed Blue Lead

AFTER many years of practical experience in the painting of structural steel with rust-inhibitive paints, the Wimmer Contracting Company of St. Louis standardized on Sublimed Blue Lead in Oil for all rust-proofing purposes. The photograph shows one of their recent jobs where 1500 tons of steel were rust-proofed with Sublimed Blue Lead in Oil.

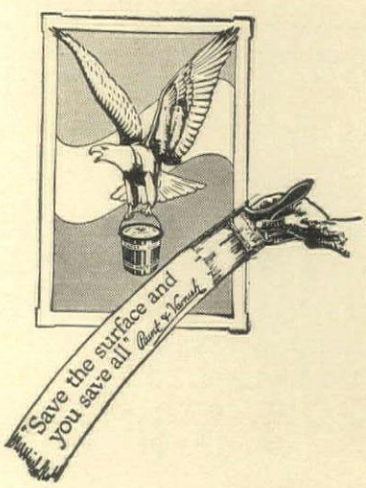
Mr. W. L. Wimmer says: "Actions speak louder than words. Look on your records and you will find many repeat orders placed by us for Sublimed Blue Lead.

"We believe it to be an excellent protection of metal and the cost is reasonable. Our painters report to us that because of the ease with which it flows from the brush they can cover more surface than they can with other metal covering paints.

"This last job has only strengthened our conviction that this is the stuff for metal."

A hundred pounds of Sublimed Blue Lead will cover 5216 square feet of metal. It is adapted to brushing, spraying or dipping. The paint film produced grips the metal tenaciously and is free from breaks, runs, and alligatoring. It will not harden in the container.

The durability of Sublimed Blue Lead in Oil as a long-time protector of metal surfaces has been proven both in tests and in the field. Send for your copy of "Fighting Rust with Sublimed Blue Lead."



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Plants: CINCINNATI NEWARK GALENA, KAS. HENRYETTA, OKLA. PICHER, OKLA.
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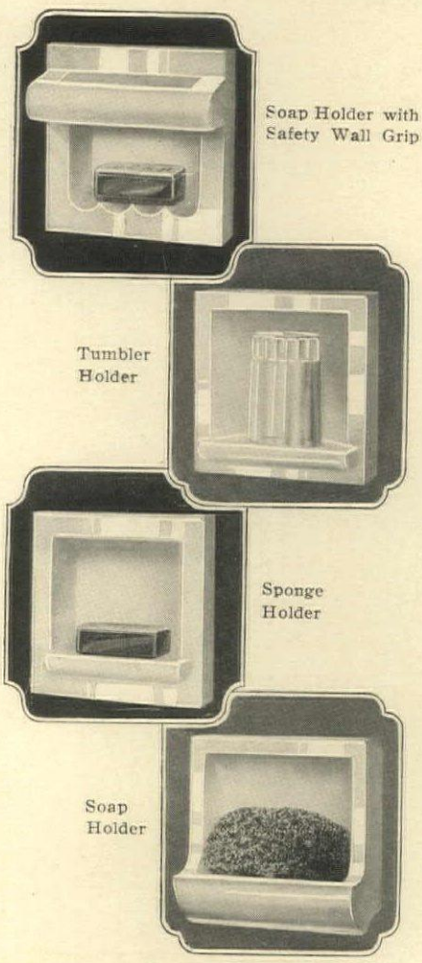
The superiority of china for bathroom fixtures



Soap Holder with Safety Wall Grip

Tumbler Holder

Sponge Holder

Soap Holder

FAIRFACTS FIXTURES are made of snow-white china. They should be put in the walls at the time the house is built or remodeled. The man to do this work is the contractor who also installs tile sidewalls and floors.

A tiled bath with china fixtures is not only beautiful but as durable as the house itself. The perfect harmony that exists between the toilet, tub and the glistening whiteness of FAIRFACTS CHINA FIXTURES lends itself to any color combination or tint of tile and sidewalls that the owner may desire.

FAIRFACTS FIXTURES are made of china because it is the only material that will not become stained, checked or dingy. They may be cleaned simply by wiping with a damp cloth. There is a wide variety to meet every need—soap holders, towel bars, shelves, safety wall grips, sponge holder, paper holders and tooth brush holders, tumbler holders, electric radiators and combinations of wide variety.

For the convenience of tile contractors, all FAIRFACTS CHINA FIXTURES where possible bear standard bases and may be installed in tile side-walls without interruption of the tile pattern and with a minimum of cutting.

THE FAIRFACTS COMPANY, Inc., *Manufacturers*
Dept. B. - - 234-36 West 14th Street
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Look for this BATHROOM Fairfacts FIXTURES *Trade mark*

Fairfacts Fixtures

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Improved Asbestocel

Saves more heat for a longer time

CORRUGATIONS running around the pipe as well as lengthwise (see illustration) give Improved Asbestocel two decided advantages.

Efficiency is increased, because the cross corrugations interrupt possible air circulation through the lengthwise ones, thereby preventing heat loss.

Strength is much greater and appearance better because the added corrugations cross-brace the insulation making it more rigid. This gives the insulation strength to maintain its high efficiency through years of service.

Specify Improved Asbestocel for its greater efficiency, durability and better appearance.

JOHNS-MANVILLE Inc., 294 Madison Ave. at 41st St., N.Y.C.
Branches in 61 Large Cities
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JOHNS MANVILLE SERVICE
COVERS THE CONTINENT
Through
Asbestos
and its allied products
INSULATION
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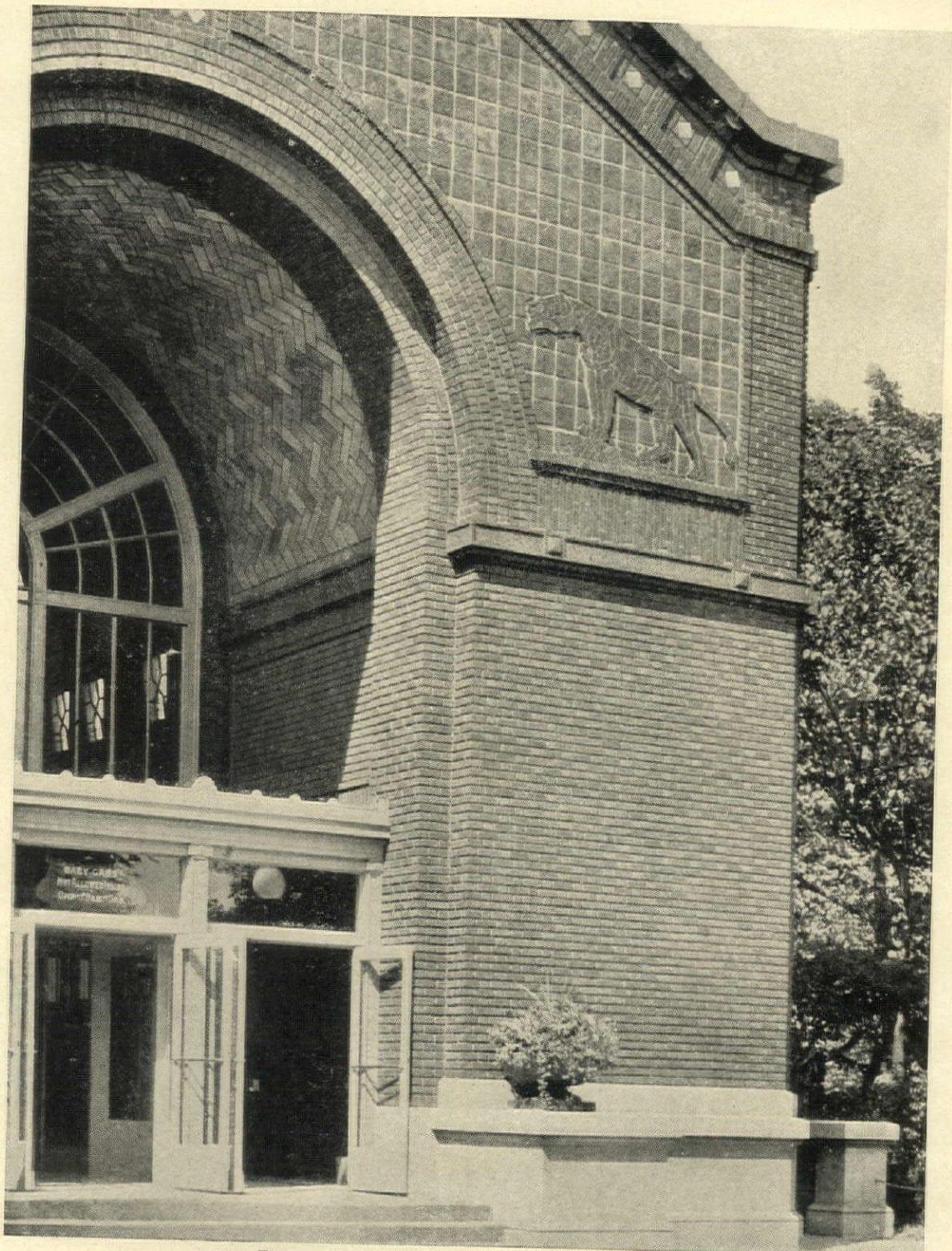
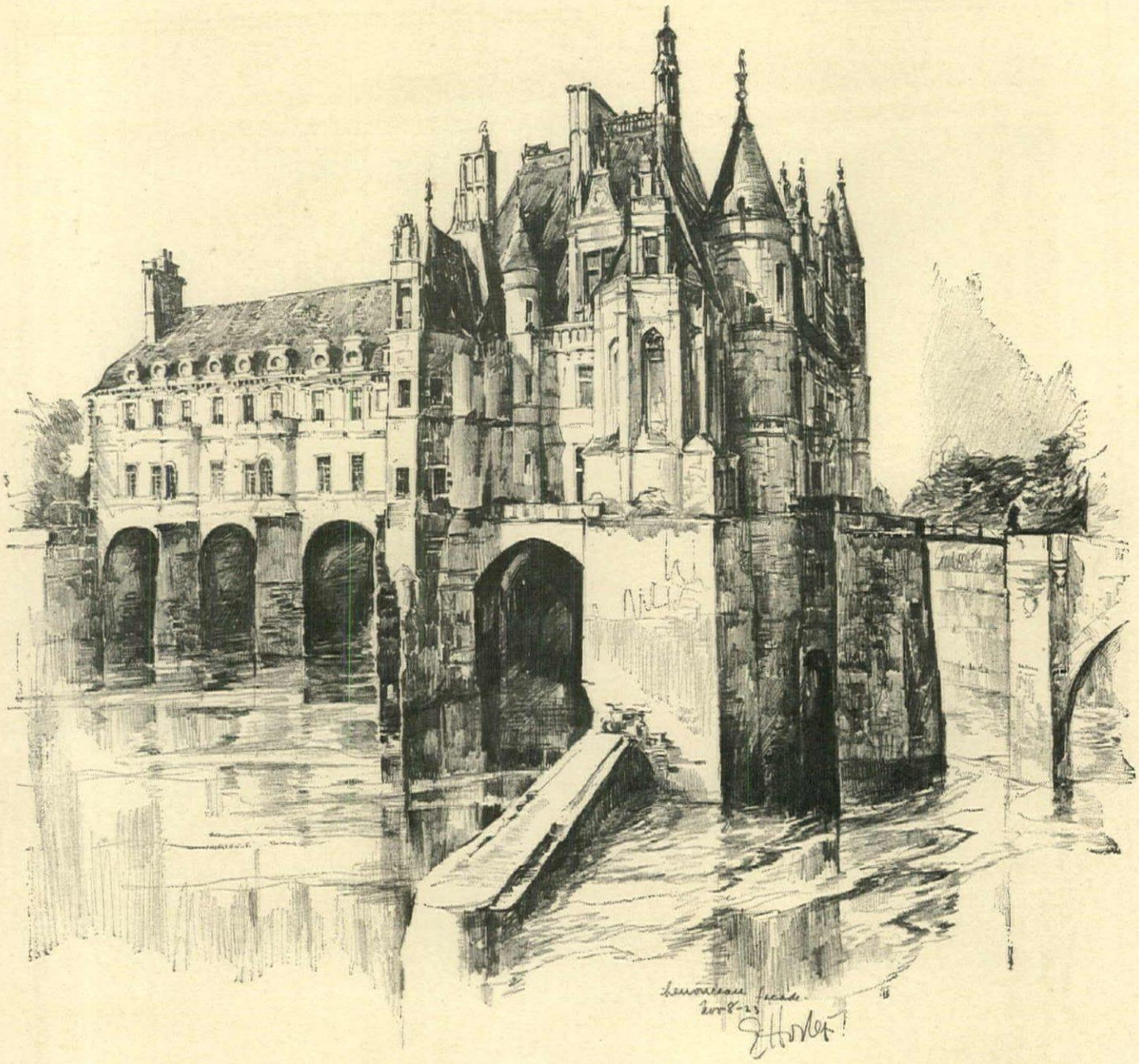


Entrance Detail, Lion House, Lincoln Park, Chicago, Ill. Perkins, Fellows & Hamilton, Architects

THIS splendid arched entrance of soft-toned brick, mellowed by the shadows of the raked joints, blends admirably with the landscaping of the park. Even the lion is of brick, set by an artistic mason who cut standard sizes into shape on the spot as the work progressed. In "Architectural Details in Brickwork" you will find many examples of artistic brickwork in which only standard brick are used. The halftone plates, issued in three series, each in an enclosed folder ready for filing, will be sent to any architect requesting them on his office stationery. Address, American Face Brick Association, 1754 Peoples Life Bldg., Chicago, Ill.



THIS pencil drawing of the chateau of Chenonceaux, on the river Cher, in central France, is one of the most charming renderings Earl Horter has ever made. Ten pages of manuscript could bear no more eloquent testimony to the quick responsiveness and superlative quality of

DIXON'S ELDORADO

"the master drawing pencil"

JOSEPH DIXON CRUCIBLE COMPANY
Pencil Dept. 14-J Jersey City, N. J.
Canadian Distributors, A. R. MacDougall & Co., Limited, Toronto

DIXON'S ELDORADO ERASER

A worthy partner of Dixon's Eldorado pencil. Soft—pliable—yet firm enough to clean the drawing without crumbling into aggravating little bits. Made in 12 sizes. Write for a sample. Free on request.

SAMPLE OFFER Write for full-length free samples of *"The master drawing pencil"* and of Dixon's "BEST" Colored Pencils. In their field, the "BEST" Colored Pencils hold the same position of supremacy as Dixon's Eldorado.

Its many fine features of serviceability make the Crittall Reversible Window ideal as an office installation

Crittall Reversible Windows are used throughout in the Capitol Building & Loan Building, Topeka, Kans., George G. Elmslie, Architect

CRITTALL

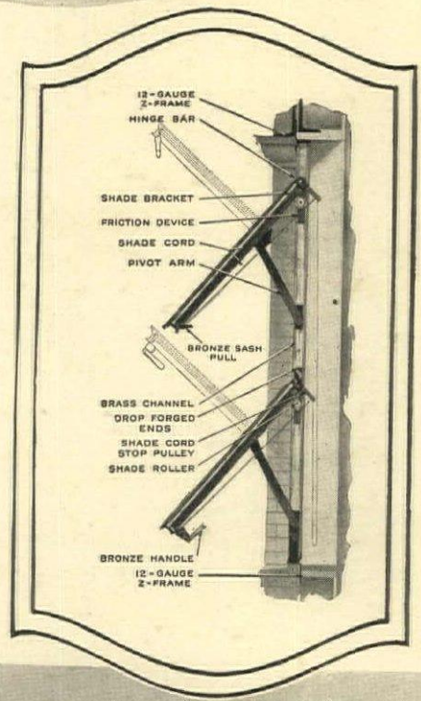
Reversible Windows

With highest utility, fine appearance and superior quality, the Crittall reversible window also offers a price advantage that cannot fail to impress architects and builders.

It combines maximum light with a wide, easily adjusted ventilating range. It is ideal for schools, hospitals, office buildings, and factory offices. Never out of order. Silent and smooth in operation. Complete reversibility permits windows to be washed from inside. Construction is simple and strong and materials of highest selected quality. This window will last the life of the building without repair or mechanical attention.

The services of our engineers are gladly placed at the disposal of architects for assistance in the solution of unusual window problems.

All Crittall Casements and Windows are Made of Crittalloy—the Copper Bearing Steel



CRITTALL CASEMENT WINDOW CO. · · *Manufacturers* · · DETROIT

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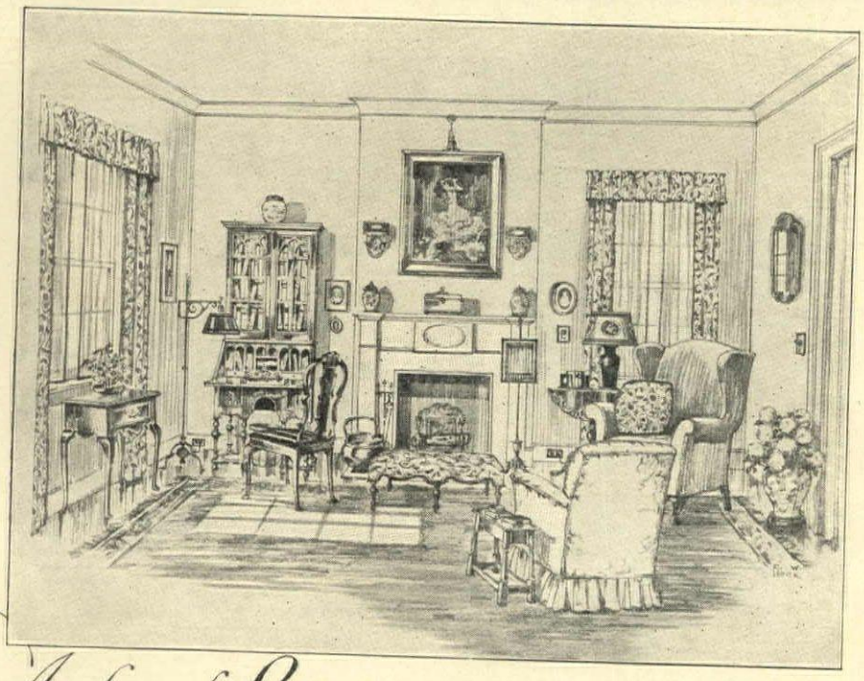
HUBBELL

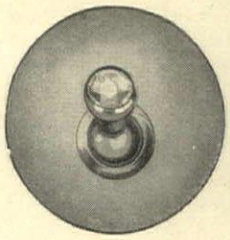


At the doorway—
A TOGGLE SWITCH

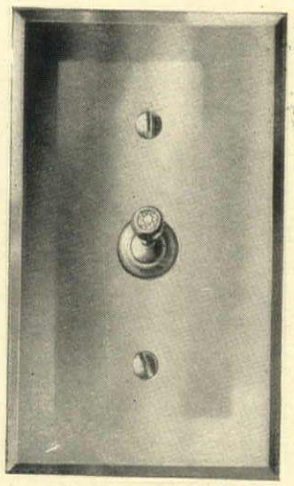
—for here convenience is of paramount importance.

Just a flip of the finger or a lift of the elbow will operate a Hubbell Toggle Switch. When equipped with a luminous tipped toggle arm, it can be instantly located even in the darkest room.

Hubbell Toggle Switches are handsome in appearance and lend dignity to any room. They are made in single pole, double pole, three-way and four-way types, with plain or luminous tipped toggle arms.



Luminous Toggle Arm. Tipped with a faceted glass jewel covering genuine *Undark* Radium Luminous Material.



Hubbell DeLuxe Toggle Switch, No. 8121. Plate No. 8291. Equipped with luminous tipped toggle arm

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ELECTRICAL WIRING DEVICES
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ELECTRICAL WIRING DEVICES

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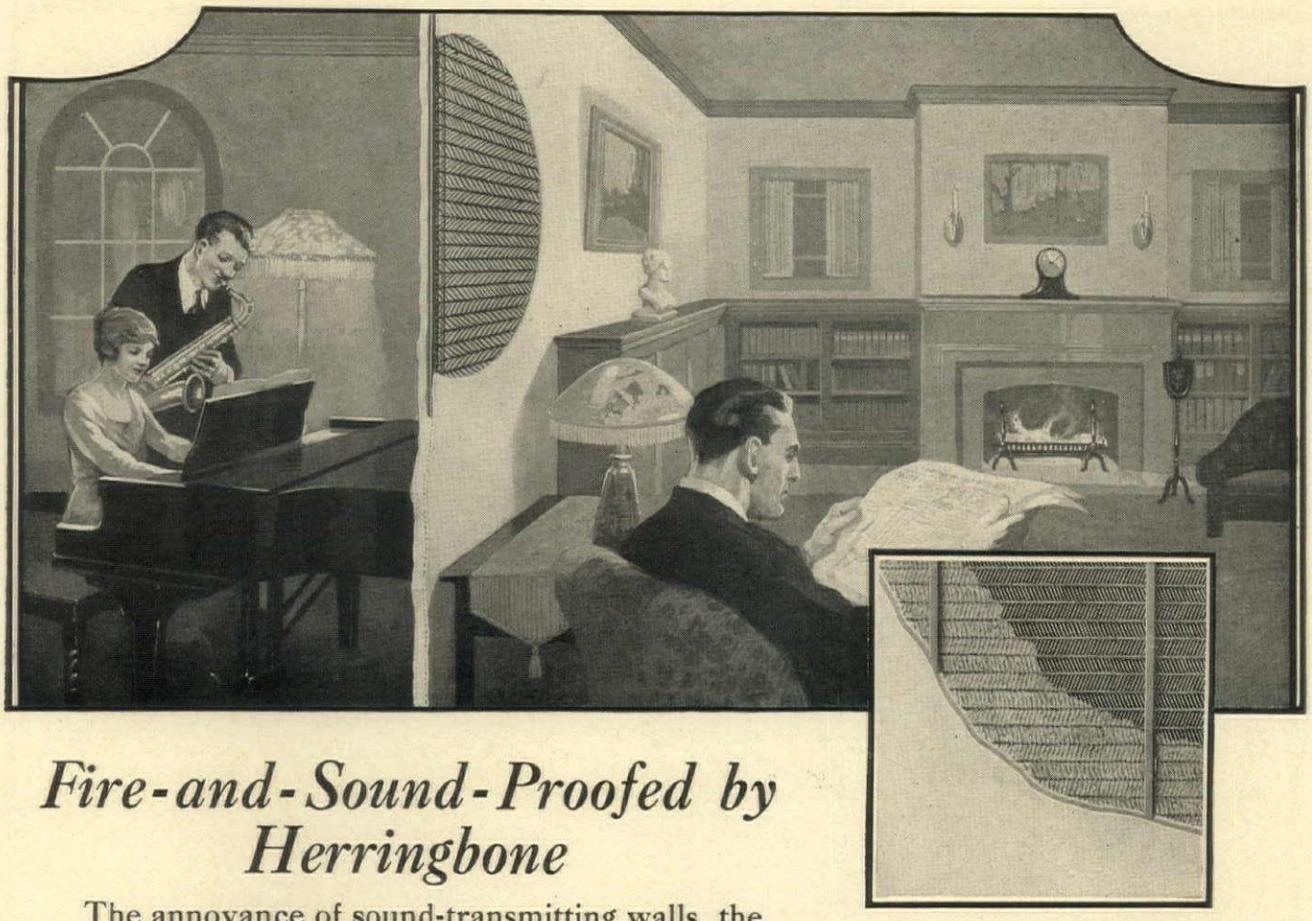

Fire-and-Sound-Proofed by Herringbone

The annoyance of sound-transmitting walls, the fire-danger of wood-plaster partitions, can be completely removed by GF solid partition construction—Herringbone Rigid Metal Lath on GF Steel Channels.

The light, rigid, two-inch plaster wall formed by Herringbone on GF Steel Channels has been proven an effective barrier to the most penetrating sound.

Fire-and-sound-proof, non-cracking, sanitary, economical of space and construction, Herringbone on GF Channels forms the ideal partition for apartments, hotels, hospitals and office buildings.

Architects and builders who economically construct the best specify

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Self-Sentering—A combined form, lath and reinforcement.

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GF **Expanded Metal**—A concrete reinforcement.

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Write for illustrated literature.

ARMCO

GF Herringbone Rigid Metal Lath

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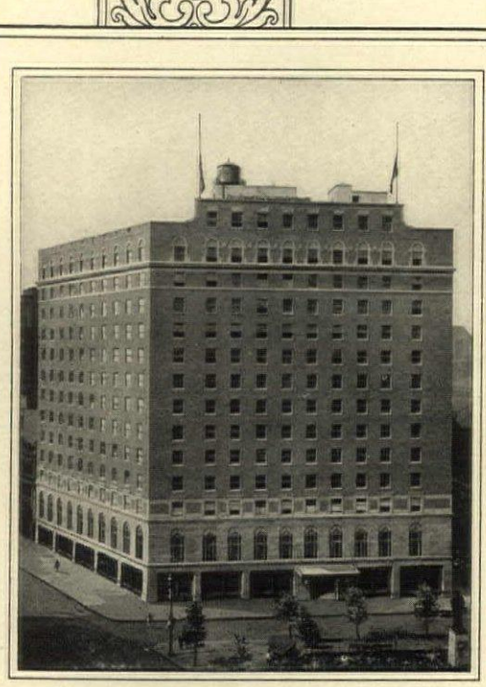

THE NEW EMPIRE HOTEL
Broadway & 63rd St., New York City, fronting on Lincoln Square

Architect: Frederic I. Merrick, Empire Bldg., Pittsburgh, Pa.

Appearance Was Essential But *Durability Doubly So!*

The first requirements were for Varnishes, Enamels and Paints that would stand hard wear. Hotel guests are not careful customers.

Appearances were equally important. The public will not patronize a poorly painted hotel.

The architect took these two important factors into consideration when he selected "BREINIG-BUILT" products, knowing that they would stand every test.

Robert E. Mackay Company of New York City, did the painting which in itself is assurance that nothing but the best material was used.

"BREINIG-BUILT" PRODUCTS are recognized by architects and painting contractors as being able to fill every exacting requirement.

Breinig Brothers, Inc.
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VARNISHES-ENAMELS-PAINTS

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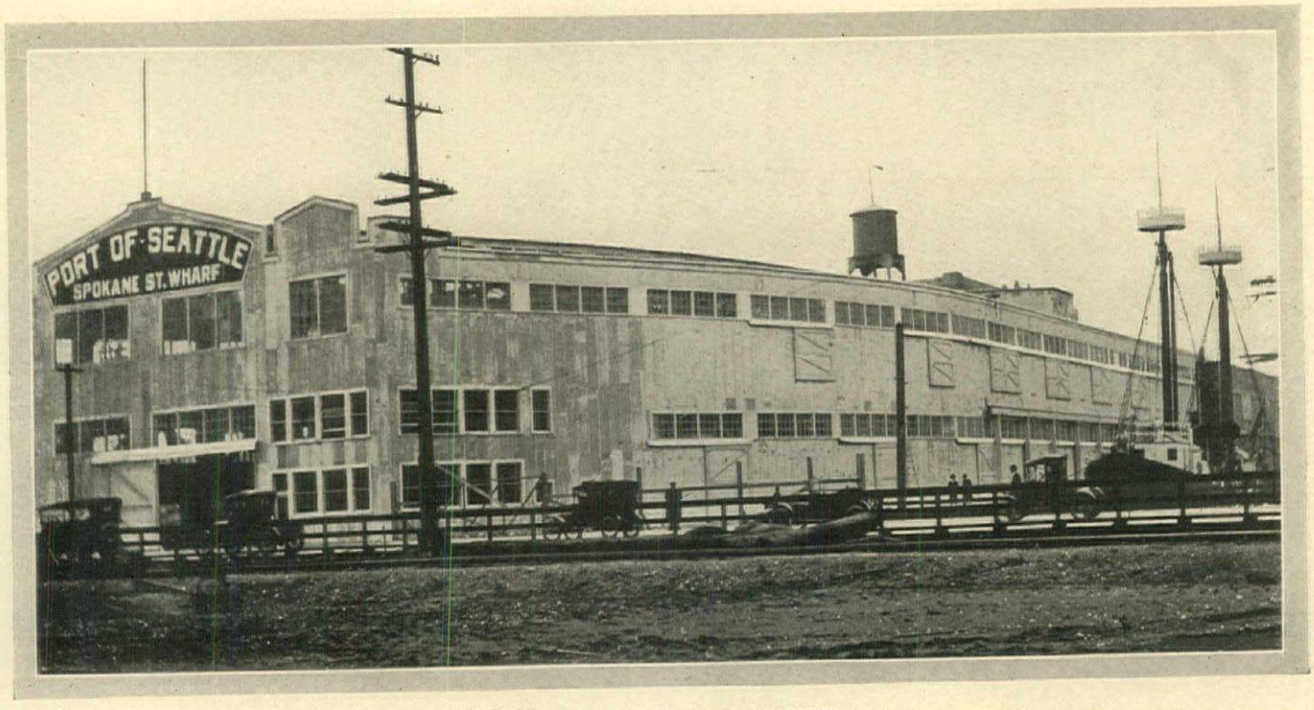

Covered and sided with galvanized ARMCO-Ingot Iron

It is Armco-Ingot Iron

ENGINEERS for the *Port of Seattle* have used ARMCO-Ingot Iron since 1915 for roofing and siding. Although exposed to the attack of salt-laden air, this iron has given a service that "more than pleased."

ARMCO-Ingot Iron is a commercially pure iron. It has proved time and again that it withstands corrosion and gives a splendid return for the dollar invested.

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Architects and engineers can specify Ingot Iron and feel assured that, from a maintenance standpoint alone, it eventually makes up for its small additional cost over other material.

ARMCO Ingot Iron

Send post card for interesting booklet:
"Economies in Building with Iron that Lasts"

ARMCO
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INGOT IRON

The American Rolling Mill Co., Middletown, Ohio

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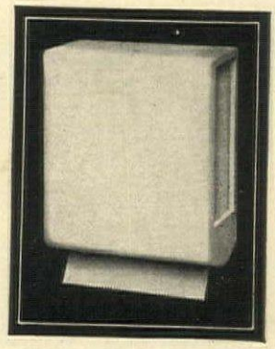
SPECIFY THESE ONLIWON CABINETS

AN equipment that remains in constant use throughout the life of any building should have the serious consideration of the architect. And yet, to specify toilet paper fixtures that will give continuous economical performance is a refinement of service that many overlook, leaving this item to the discretion of the client after the building is completed.

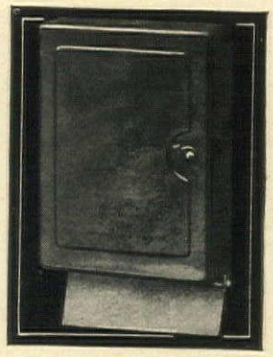
Specify ONLIWON Toilet Paper Cabinets. They are strong and durable; contain no working parts to get out of order; are quickly refilled and require less time and attention than any other type of fixture. And on account of the unique method of serving the paper—just two interfolded sheets at a time—Onliwon cabinets effect a saving ranging from 15 to 50 per cent, an economy that your client will appreciate.

There is an Onliwon cabinet to suit any style of installation and to harmonize with any interior, furnished in surface or recess type. Finishes are solid white porcelain, nickel-silver and gun-metal.

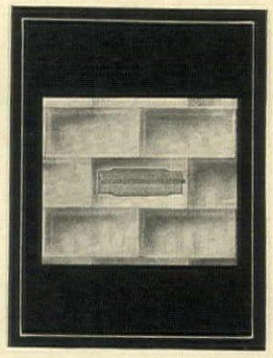
Refills are obtainable anywhere in the United States.



Onliwon White Porcelain Toilet Paper Cabinet.



Onliwon Nickel Silver Toilet Paper Cabinet.



Onliwon White Porcelain Recess Toilet Paper Cabinet.

Send for Your File Card

A. P. W. Paper Co., Albany, N. Y.
Please send me your ARCHITECTS' FILE CARD showing illustrations and dimensions of all types of ONLIWON Toilet Paper and Paper Towel Cabinets.

.....

.....

.....

Quality Toilet Paper Products
REG. IN U. S. PAT. OFF.

C9

A.P.W. PAPER CO. ALBANY N.Y.

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

Herewith is pictured the residence of J. M. Studebaker III at Sunnyside, South Bend, Ind., Austin & Shambleau, Architects, one of the many fine town and country homes equipped with a McCray refrigerator

Built to Serve, and *Endure*

You architects appreciate the handsome exterior of a structure, but you know that many of the qualities that will give the owner enduring satisfaction lie hidden from the eye. The same is true of a refrigerator.

The name McCray on a refrigerator signifies in-built quality that goes through to every hidden detail. Efficiency is built into the McCray by the use of highest grade materials—each proved best for its particular purpose—expert craftsmanship, rigid adherence to the highest ideals of quality and the McCray patented system which assures a constant circulation of cold, dry air through every compartment.

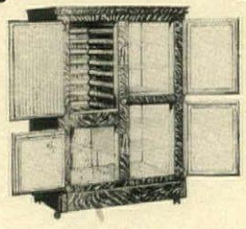
You will find McCray refrigerators—not only in the finest homes—but in the foremost hotels, clubs, hospitals, institutions, florist shops, grocery stores and markets. McCray builds refrigerators for *every purpose*.

Send for our latest catalogs for your files. McCray builds to order to meet any requirement and will gladly co-operate with you in every way possible. *Free Blue Prints* of suggested equipment will be provided—simply send a sketch of your client's requirements.

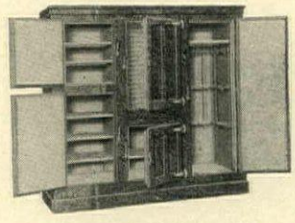
McCray Refrigerator Co.
2461 Lake Street Kendallville, Ind.

SALESROOMS IN ALL PRINCIPAL CITIES
(See Telephone Directory)

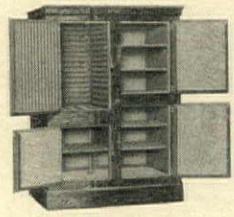
McCRAY
REFRIGERATORS
for all purposes



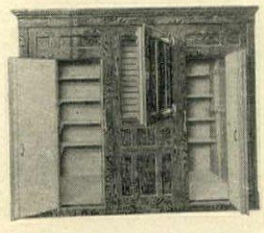
McCRAY NO. 460



McCRAY NO. 1135

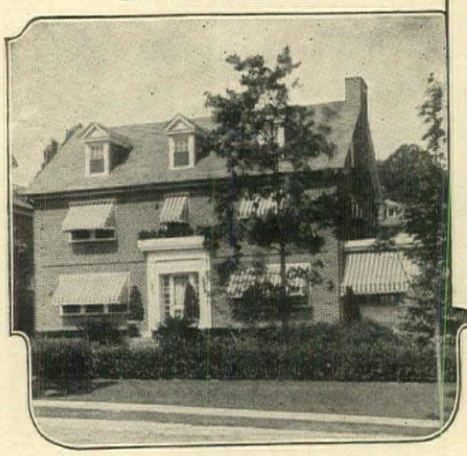


McCRAY NO. 75



McCRAY NO. 171

Residence at 603 Cliveden Avenue, Germantown, Philadelphia. Architect and Builder, Mr. Don Peters, Philadelphia. Owner, Mr. John W. Latcham, Philadelphia. Kitchen equipped with Direct Action Gas Range with Lorain Oven Heat Regulator.



Showing type of Direct Action Lorain-equipped Gas Range in residences illustrated on this page.

Residence at McCallum & Ellett Streets, Germantown, Philadelphia. Architect and Builder, Mr. Don Peters, Philadelphia. Owner, Mr. George Knies, Philadelphia. Kitchen equipped with Direct Action Gas Range with Lorain Oven Heat Regulator.

Lorain-equipped Homes Are Easier to Sell, Rent or Live in

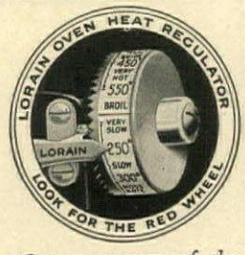
ANY residence or apartment building with *modern* conveniences is easier to rent or to sell.

Especially is this true where the kitchens are furnished with gas ranges equipped with the famous Lorain Oven Heat Regulator. Women look upon a Lorain-equipped Stove as a real home necessity because it produces ideal results in Cookery by the modern Time and Temperature Method.

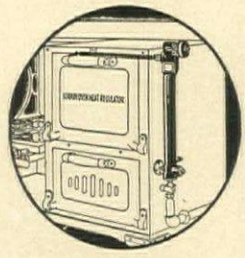
Thousands upon thousands of happy housewives all over America know from daily experience that a Lorain-equipped Gas Range insures uniform baking-results—that it eliminates "pot-watching"—that it permits a Whole Meal to be cooked in the oven at one time, unwatched and with perfect results—and that it enables them to do their Canning easier, quicker and better than by any other method.

Over 900 of the finest schools and universities of the United States use Lorain-equipped Gas Ranges for instruction in Cookery. Hundreds of apartment buildings, hospitals, churches and other types of high-grade structures are using them to facilitate cooking and baking tasks.

If you want to build houses or apartments that rent or sell more quickly, install Lorain-equipped Gas Ranges. For particular data see pages 2315-2324 inclusive, 18th Edition Sweet's Architectural Catalog. Descriptive catalogs, prices, etc., on request.



One easy turn of the Lorain Red Wheel gives you a choice of 44 measured and controlled oven heats for any kind of oven cooking or baking.



View of construction of the Lorain Oven Heat Regulator as applied to the gas range oven.

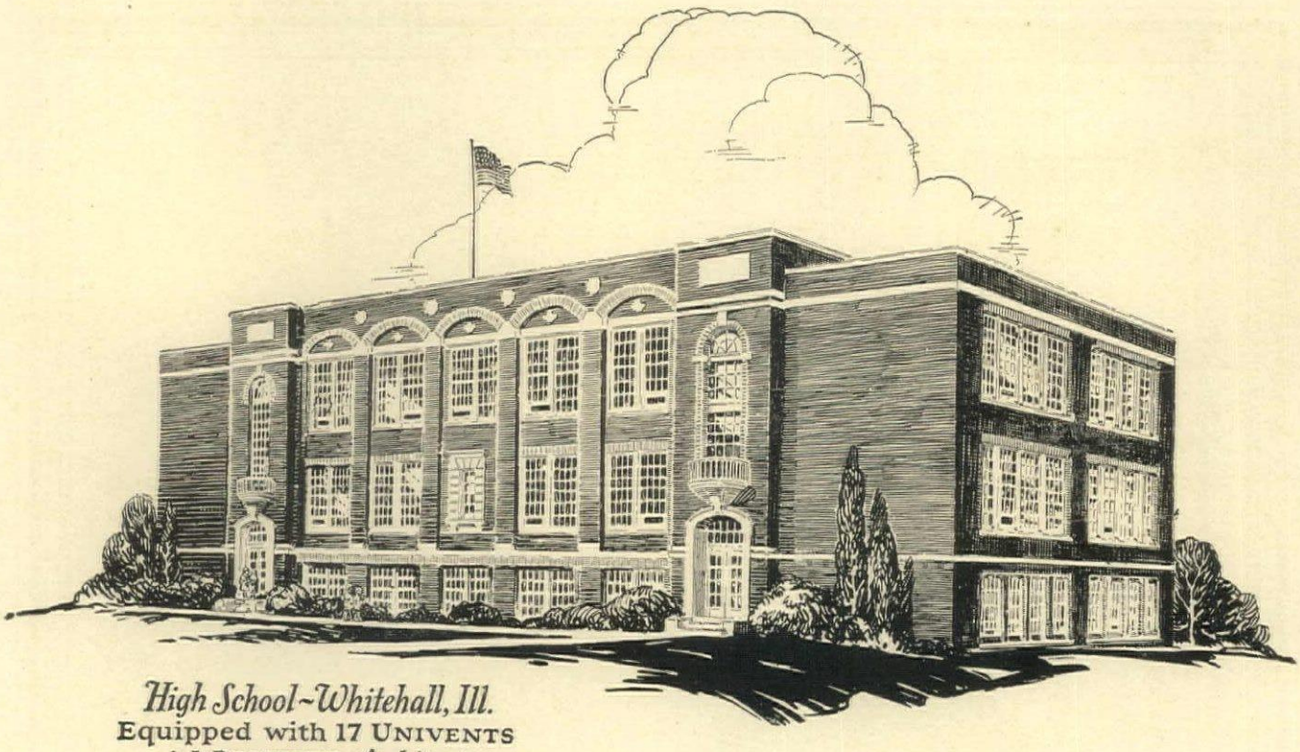
These famous gas stoves are equipped with the Lorain Oven Heat Regulator: Direct Action, New Process Quick Meal, Reliable, Clark Jewel, and Dangler.

AMERICAN STOVE COMPANY, 333 Chouteau Ave., St. Louis, Mo.

Largest Makers of Gas Ranges in the World

LORAIN OVEN HEAT REGULATOR

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



High School~Whitehall, Ill.
Equipped with 17 UNIVENTS
A.L. PILLSBURY, *Architect*
Bloomington, Ill.

Building the Next Generation

Not only higher standards of beauty, but higher standards of health and efficiency guide the American Architect. His advanced ideas of sanitation and ventilation are not only shown in the school building he plans—but in the alert, happy vigor of the children who attend those schools.

It was the architects appreciation of the need for ventilation direct from outdoors, individually diffused in every nook and corner of each room without draft, that inspired the creation of the Univent. It was their co-operation that assured its widespread acceptance.

Mindful of our obligation, we are always glad to co-operate with architects. Write for our architects' edition of Univent Ventilation.

UNIVENT
"LIVE OUTDOORS-INDOORS"
(TRADE MARK)

If it isn't manufactured by The Herman Nelson Corporation it isn't the Univent

THE HERMAN NELSON CORPORATION *Moline. Ill.*

1979 Third Avenue

Branch Sales and Service Stations

BELFAST, ME.	PHILADELPHIA	CLEVELAND	MINNEAPOLIS	KANSAS CITY	PORTLAND
BOSTON	SCRANTON	COLUMBUS	CHICAGO	DENVER	SEATTLE
NEW YORK CITY	PITTSBURG	DES MOINES	ST. LOUIS	SALT LAKE CITY	SAN FRANCISCO
ROCHESTER	GRAND RAPIDS	MILWAUKEE	EMPORIA	SPOKANE	OMAHA

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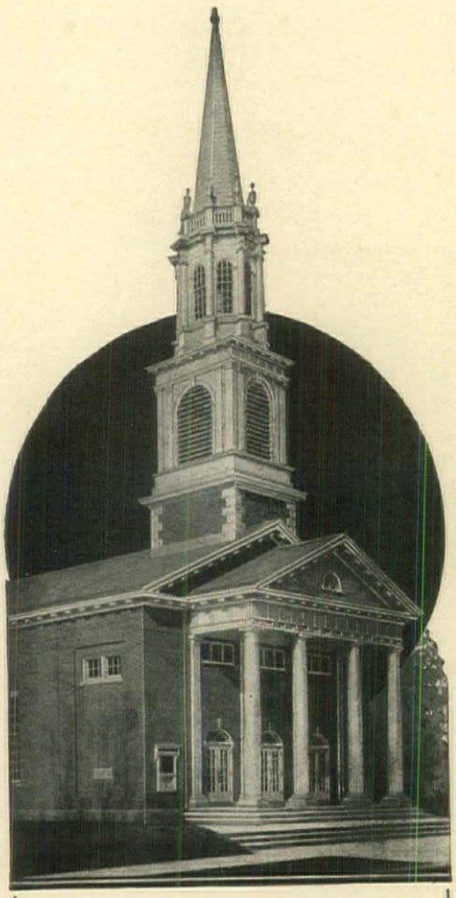


FIRST CONGREGATIONAL CHURCH
Wauwatosa, Milwaukee, Wisconsin
SUPER-SMOKELESS HEATED
Herbert & Kuenzle, Architects

SUPER-SMOKELESS Boilers are giving splendid service in hundreds of churches throughout the United States. Their smokeless operation prevents discoloration of beautiful edifices and permits the use of soft coal where smoke ordinances are rigidly enforced.

SUPER-SMOKELESS Boilers are extremely economical with fuel. They also respond readily whenever rapid heating service is required. Our Church Heating Bulletin illustrates and lists many important installations.

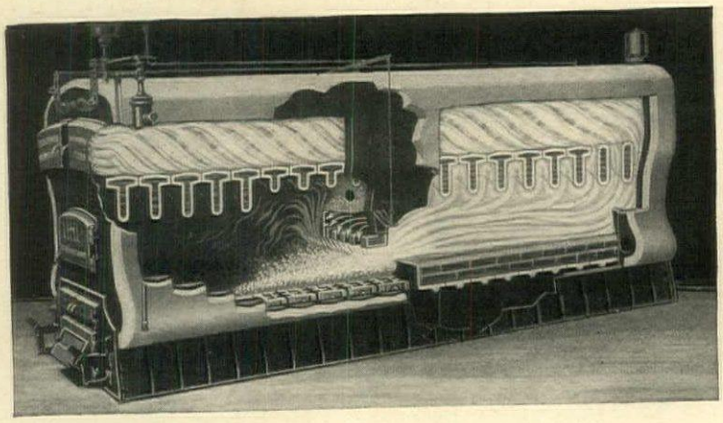
Church Heating Bulletin or Complete Catalog of Boilers sent upon Request.

Smokeless Heating *of* Fine Buildings

WITH

UTICA-IMPERIAL

SUPER-SMOKELESS BOILERS



THESE patented smokeless boilers are specified by foremost architects and heating engineers for all types of large buildings. Remarkable fuel economy is demonstrated wherever other boilers are replaced—savings of fifty per cent are not unusual.

SUPER-SMOKELESS Boilers are already heating thousands of buildings everywhere. They burn all grades of soft coal smokelessly, use any available fuel during emergencies, and are especially suitable for oil burner installations.

High efficiency and smokeless operation are attained by the scientific admixture of heated air to the ignited gases beneath the protected baffle wall—the smoke and soot being used as valuable fuel within the boiler.

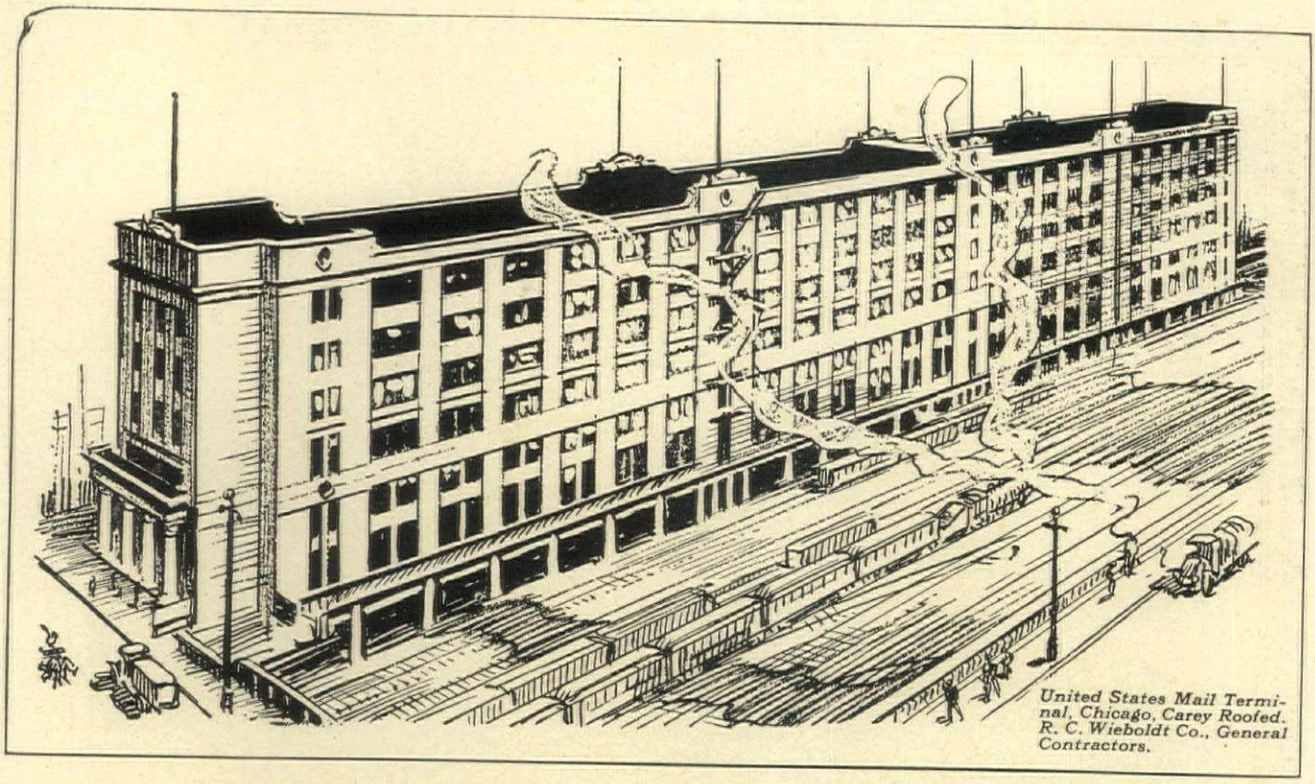
Send for list of installations and literature describing these easily installed, rust-resistant, single-grate smokeless boilers.

Utica Heater Company

UTICA, New York

218-220 W. Kinzie St. CHICAGO | **707 Union Bldg. CLEVELAND** | **1843 Grand Cent. Term'l NEW YORK**

Atlanta	Charlotte, N. C	Detroit	Kansas City	Nashville	St. Louis
Birmingham	Cincinnati	Fort Wayne	Louisville	New Haven	San Angelo
Boston	Columbus	Grand Rapids	Memphis	Omaha	Salt Lake City
Buffalo	Dayton	Harrisburg	Milwaukee	Philadelphia	Toledo
Cedar Rapids	Denver	Indianapolis	Minneapolis	Pittsburgh	Washington



United States Mail Terminal, Chicago, Carey Roofed. R. C. Wieboldt Co., General Contractors.

Carey Roofed United States Mail Terminal Building Chicago

THE great new United States Mail Terminal building is another of Chicago's outstanding Carey Roofed Buildings.

The Terminal in the railroad district, the Chicago Coliseum in the business area, the Municipal Pier on the water front and the Tivoli theatre on the South Side each carries a different Carey roof specification, adapted to the particular conditions of construction and design which these four structures typify.

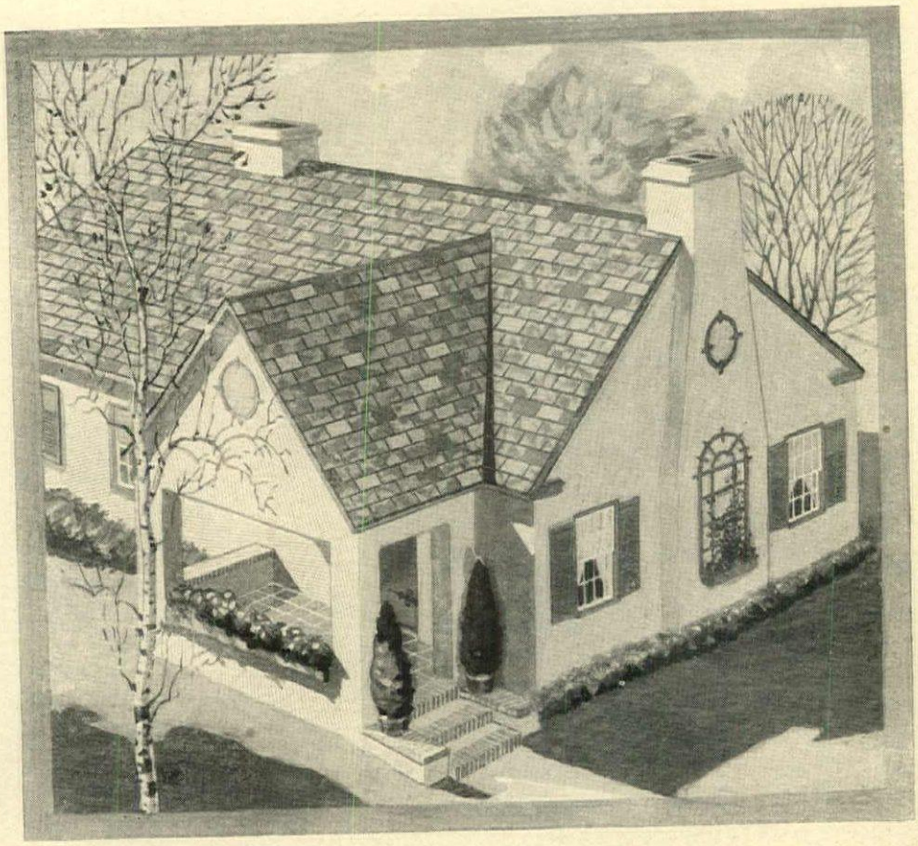
Every right and permanent roof specification is governed by the size and purpose of the building and its atmospheric environment. There is a tested Carey specification to meet every such set of conditions. Write for details.

THE PHILIP CAREY COMPANY
505-525 Wayne Ave., Lockland, Cincinnati, Ohio

3A-23

Carey
REG. U.S. PAT. OFF.
BUILT-UP ROOFS

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



RICHARDSON Product

From the makers of Flex-a-tile Housetops, Viskalt Membrane Roofs, Viskote, and similar products

The Richardson opal roof shown on the bungalow, designed for House Beautiful *magazine by Puckey and Jenkins, Architects, Chicago*

Never before such a roof as this!

Rare beauty of color in the opal *roof blended by Richardson from gems of slate*

Skillfully blending rare gems of color in slate, Richardson now offers an *opal* roof of exclusive new beauty.

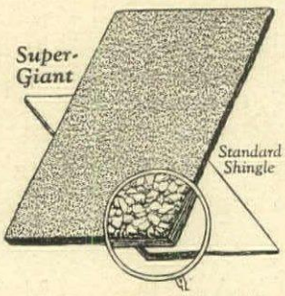
This beautiful new roof is built from shingles on which are combined in almost infinite variety the two favorite Richardson colors in slate—weathered brown and jade green.

Applied to the roof just as they come from the bundle, Richardson opal shingles give a coloring like autumn leaves floating on a woodland pool.

Architects, home owners and builders who have seen this roof agree that it offers the most distinctive of the color combinations in Richardson Multicrome Roofs.

The Richardson Multicrome Roof

In addition to opal, the Multicrome Roof is laid in other pleasing color effects. The rare *weathered brown*, an exclusive Richardson color in slate, has proved especially popular when applied in combination with other Richardson shingles of *jade green, tile red,* or *black pearl.* In fact, there is a Multicrome Roof to harmonize with every color scheme, and to please every client's taste.



The Super-Giant Shingle—50% thicker, 100% more rigid, and 35% more economical in cost of laying

The new colors, opal and weathered brown, are used only on the Richardson Super-Giant Shingle—famous for its beauty and endurance.

With its inner foundation of Richardson felt, for fifty years recognized as the best; coated and saturated with Viskalt, the vacuum-processed waterproofing, 99.8% pure bitumen, the Super-Giant assures you *lasting* beauty for your roof.

50% thicker, it casts a deeper shadow-line on the roof, thus it is suitable for more expensive homes as well as for those of moderate cost.

Write for our new booklet

If you have not already discovered the *lastingly* beautiful effects made possible by the new weathered brown, write us. We will send you our beautiful new booklet, *Roofs of Distinction*, together with samples of Richardson Super-Giant Shingles in weathered brown and other colors. And, remember—for every roofing use there is a Richardson product.

The RICHARDSON COMPANY
Lockland (Cincinnati) Ohio

Chicago New Orleans New York City
Atlanta Dallas

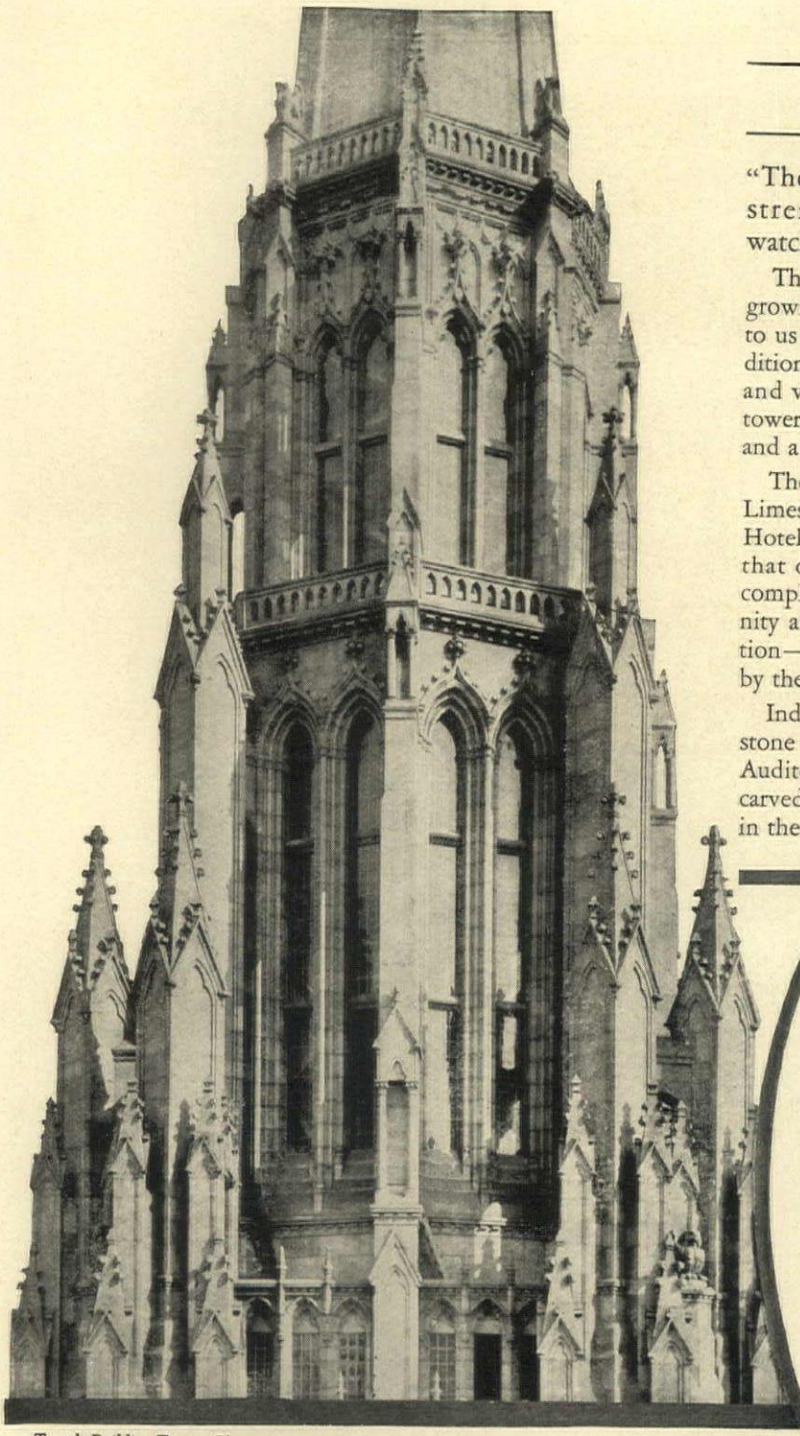
RICHARDSON ROOFING

Clip and mail this coupon

THE RICHARDSON COMPANY
Dept. 30-C, Lockland, Ohio
Gentlemen: Please send me samples of Richardson Super-Giant Shingles, your new booklet, and further facts about Richardson Roofing.

Name .....

Address .....



Temple Building Tower, Chicago,
Holabird & Roche, Architects.

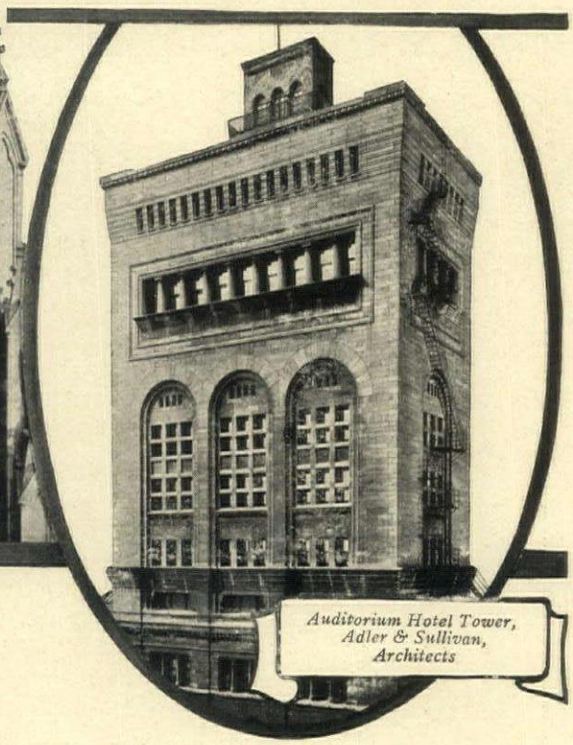
1884 — 1924

"The tower, in its origin, is a building for strength of defense, and faithfulness of watch," says Ruskin.

This original purpose has long since been outgrown; nevertheless, the tower has been preserved to us through the ages as one of the best loved traditions of architecture. Viewed across a sea of roofs and volleying smoke-stacks, a city's dominating towers are at once a challenge to the imagination and a stimulus to industry.

The towers here illustrated are built of Indiana Limestone, the one being that of the Auditorium Hotel, Chicago, erected forty years ago, the other that of the Temple Building, Chicago, recently completed. Note in the first, the expression of dignity and strength; in the other, grace and inspiration—expression made effective in both instances by the use of this natural stone.

Indiana Limestone is beautiful when simply laid, stone upon stone with no ornamentation, as in the Auditorium Tower, or when elaborately and precisely carved and fashioned into turrets and pinnacles as in the Temple Building Tower.



Auditorium Hotel Tower,
Adler & Sullivan,
Architects

Our handsomely illustrated booklet on bank building will be sent free upon request. Address, Indiana Limestone Quarrymen's Association, Box 765, Bedford, Indiana.

BUILD THE NATION SECURELY WITH

INDIANA LIMESTONE

The NATION'S BUILDING STONE

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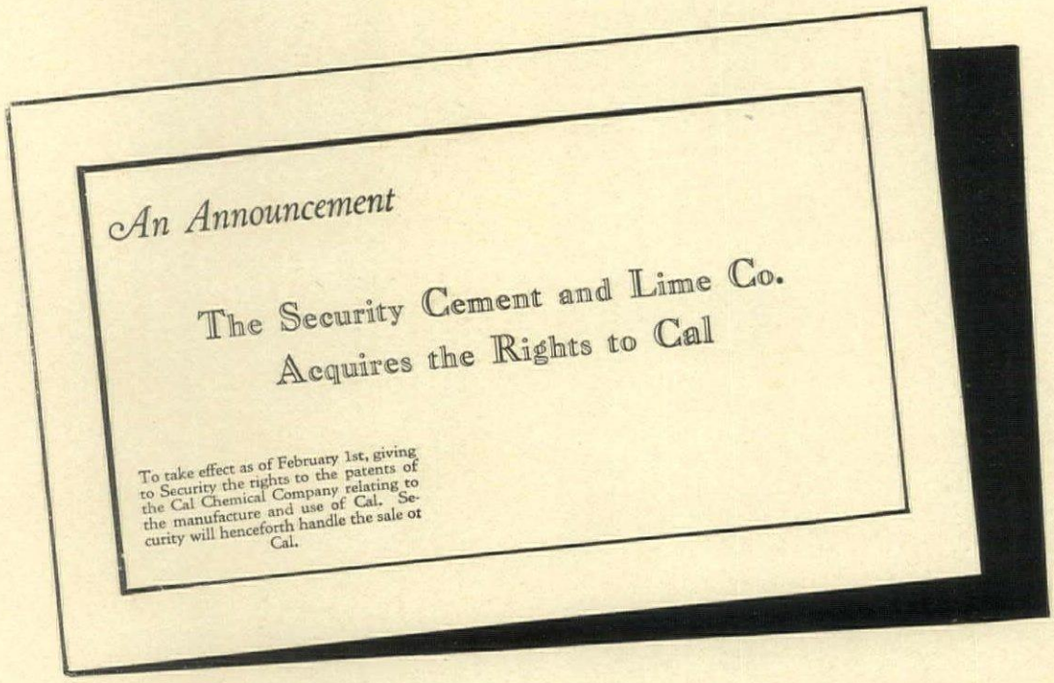


See the Cal pages 108 and 109 in Sweet's Architectural Catalog, 18th Edition.

CAL is

a white powder, a chemical compound for controlling the set, increasing the early strength and improving the cure of all Portland cement mixtures. With the approval and endorsement of the U. S. Bureau of Standards, in Technologic Paper 174, it has been used with repeated success by many of the foremost engineers of the country.

CAL gives

the Set and Strength in half the time
Fat, easy-working mixtures that dump easily from buggies and flow well in chutes
Waterproof Concrete
Weather-proof mortar and stucco
Hard, wear-resisting floors
Patches that hold
Stronger tile-concrete slabs
Double use of forms

A few nationally known building projects in which Cal has been used

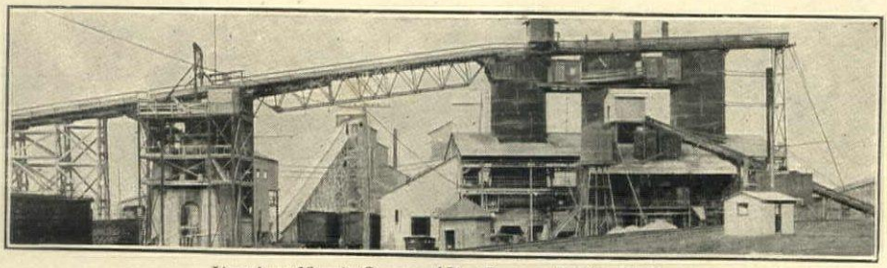
Harris Forbes Building, Boston
Evening Star Building, Washington
Chicago Union Station
Riggs National Bank, Washington
B. & O. Grain Elevators, Baltimore
Phoenix Portland Cement Co. Storage Tanks, Nazareth, Pa.
Warren Harding Memorial High School, Bridgeport, Conn.
Western Electric Factory, Kearney, N. J.

Security Cement and Lime Company

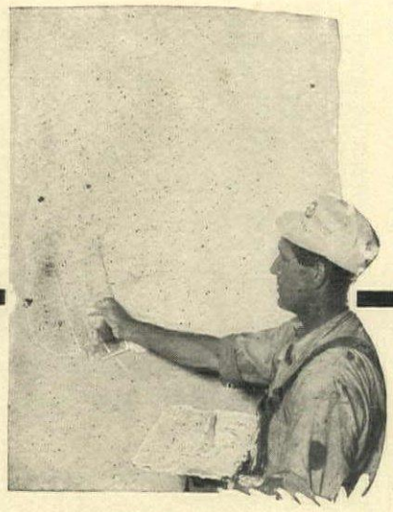
New York
30 E. 42d St.
Phone Vanderbilt 8066

Hagerstown, Md.

Chicago
327 S. LaSalle St.
Phone Wabash 8246



Lime plant of Security Cement and Lime Company, Berkeley, W. Va.



6500 dealers sell it. Plasterers everywhere prefer it.

Ask the Plasterer—He Knows

To the average individual, lime is lime only. To the plasterer, however, it is more than mere lime—it is one of the tools with which he earns a livelihood.

Ask him about Finishing Hydrate and he'll tell you it should be exceedingly pure and white, hard setting, always dependable and so "fat" or plastic as to slide easily off a trowel, stay put and smooth up with least trowelling. With such a product he knows he can produce a better wall.

OHIO HYDRATED "it spreads so easy" FINISHING LIME

—is more than 99½% pure. It's unusual chemical content, plus the peculiar natural composition of the limestone rock from which it is made, results in a smooth, hard, pure white wall, free from pits and pops.

These same properties are also responsible for the sound-proofing, metal-preserving and fire-resisting qualites of the wall finished with Ohio White Finishing Lime.

And its "fatness" or plasticity enables the plasterer to cover more wall in a given time with less effort.

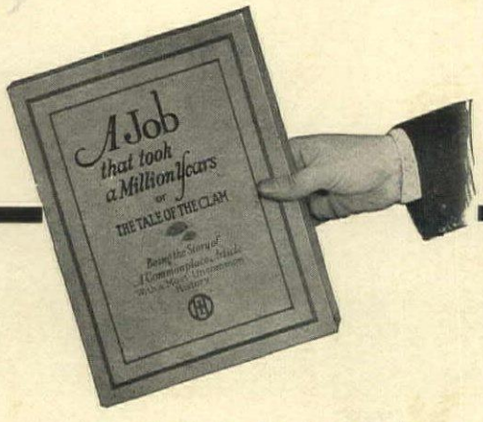
Modern methods of manufacture insure the uniform dependability of Ohio White Finishing Lime.

A permanently satisfactory result is assured where Ohio White Finishing Lime is specified.

The Ohio Hydrate & Supply Co.

WOODVILLE, OHIO

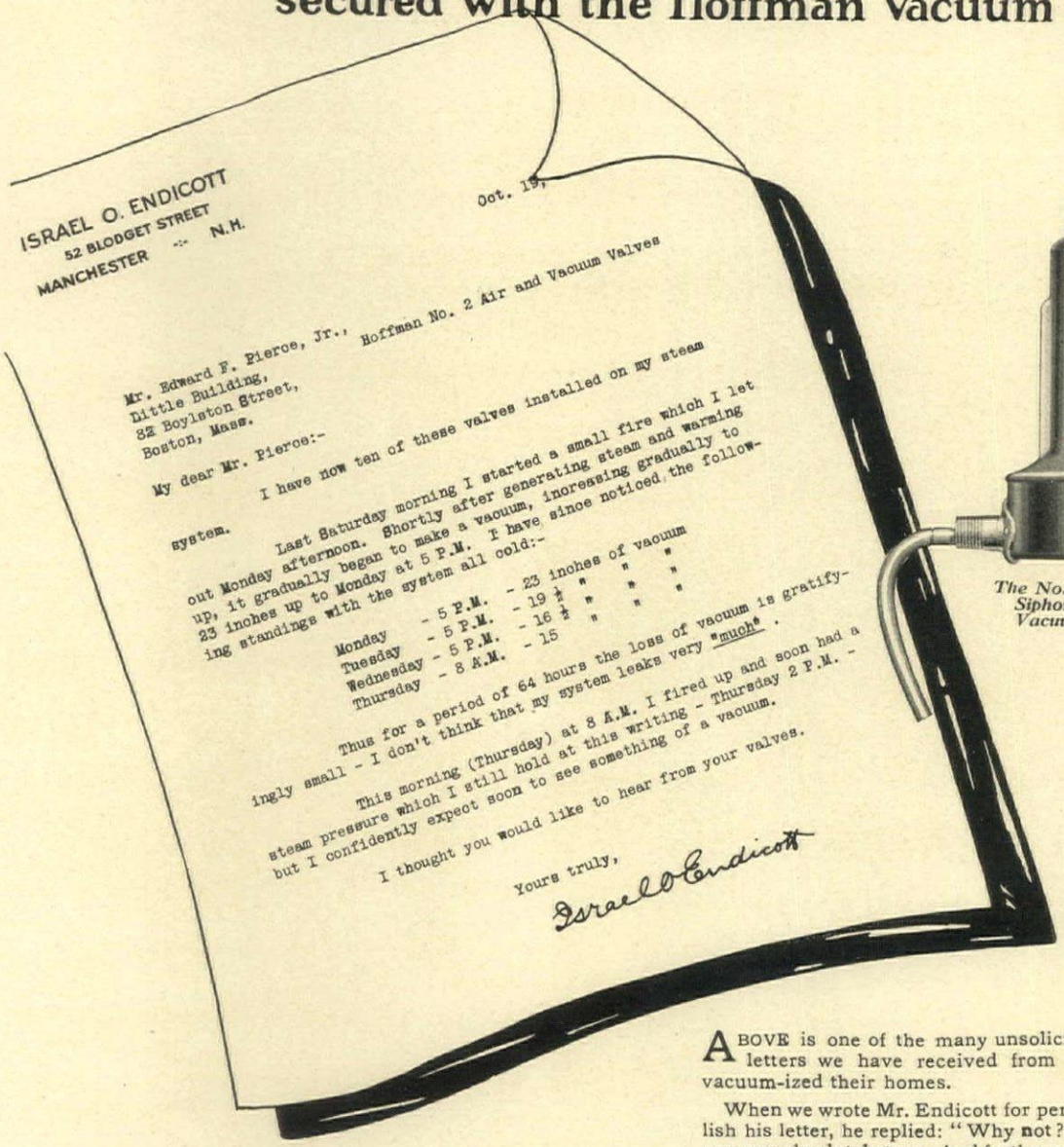
"The Lime Center of the World"



Write today for this interesting Booklet, "The Tale of the Clam."

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

23 inches of vacuum ~
secured with the Hoffman Vacuum Valve!



ISRAEL O. ENDICOTT
52 BLODGET STREET
MANCHESTER N.H.

Oct. 19,

Mr. Edward F. Pierce, Jr., Hoffman No. 2 Air and Vacuum Valves
Little Building,
82 Boylston Street,
Boston, Mass.

My dear Mr. Pierce:-

I have now ten of these valves installed on my steam system.

Last Saturday morning I started a small fire which I let out Monday afternoon. Shortly after generating steam and warming up, it gradually began to make a vacuum, increasing gradually to 23 inches up to Monday at 5 P.M. I have since noticed the following standings with the system all cold:-

Monday - 5 P.M. - 23 inches of vacuum
Tuesday - 5 P.M. - 19½ " " "
Wednesday - 5 P.M. - 16½ " " "
Thursday - 8 A.M. - 15 " " "

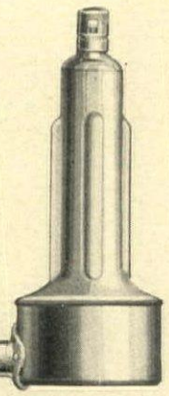
Thus for a period of 64 hours the loss of vacuum is gratifyingly small - I don't think that my system leaks very "much".

This morning (Thursday) at 8 A.M. I fired up and soon had a steam pressure which I still hold at this writing - Thursday 2 P.M. - but I confidently expect soon to see something of a vacuum.

I thought you would like to hear from your valves.

Yours truly,

Israel O. Endicott



The No. 2 Hoffman Siphon Air and Vacuum Valve

ABOVE is one of the many unsolicited testimonial letters we have received from men who have vacuum-ized their homes.

When we wrote Mr. Endicott for permission to publish his letter, he replied: "Why not? What I wrote you was absolutely true. And furthermore, while I paid $45.00 for ten of your No. 2 Valves, if I could not get more like them, I would not sell what I have for $45.00 apiece."

The complete installation of No. 2 Hoffman Vacuum Valves at every point where air is vented will create the advantage of Vacuum Vapor Heat in an ordinary one-pipe steam system.

Send for our new booklet describing these valves, "Locking the Door Against the Heat Thief."

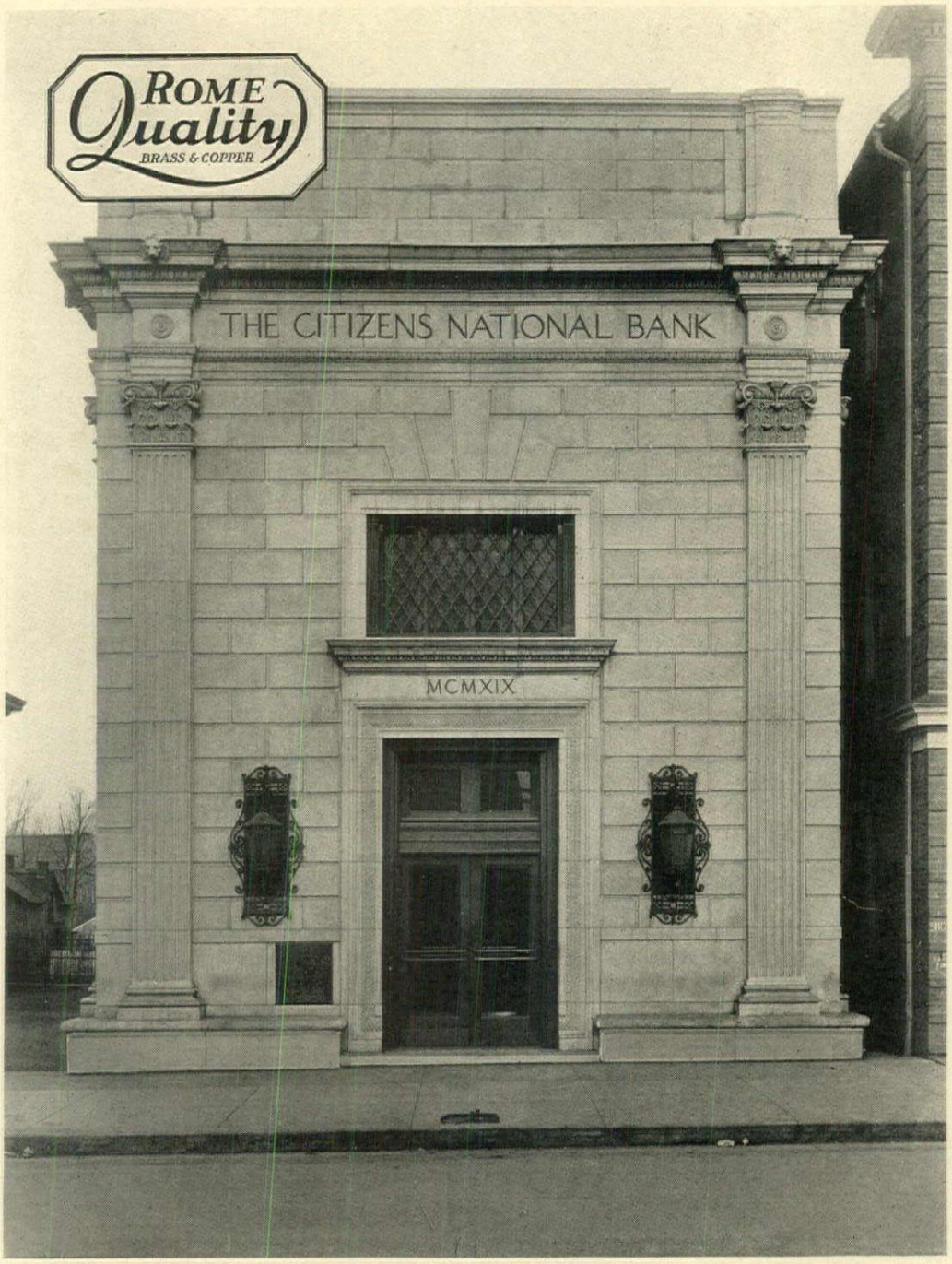
HOFFMAN VALVES
more heat from less coal

HOFFMAN SPECIALTY COMPANY, Inc.
Dept. 6-2, 512 Fifth Avenue, New York City

Main Office and Factory: Waterbury, Conn. *Branches:* Chicago - Los Angeles

In Canada: CRANE, Limited, branches in principal cities

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



The beautiful interior metal work in this bank is wrought tn Rome Quality Bronze.
Located at Covington, Va. *Alfred C. Blossom, Architect*

ROME QUALITY

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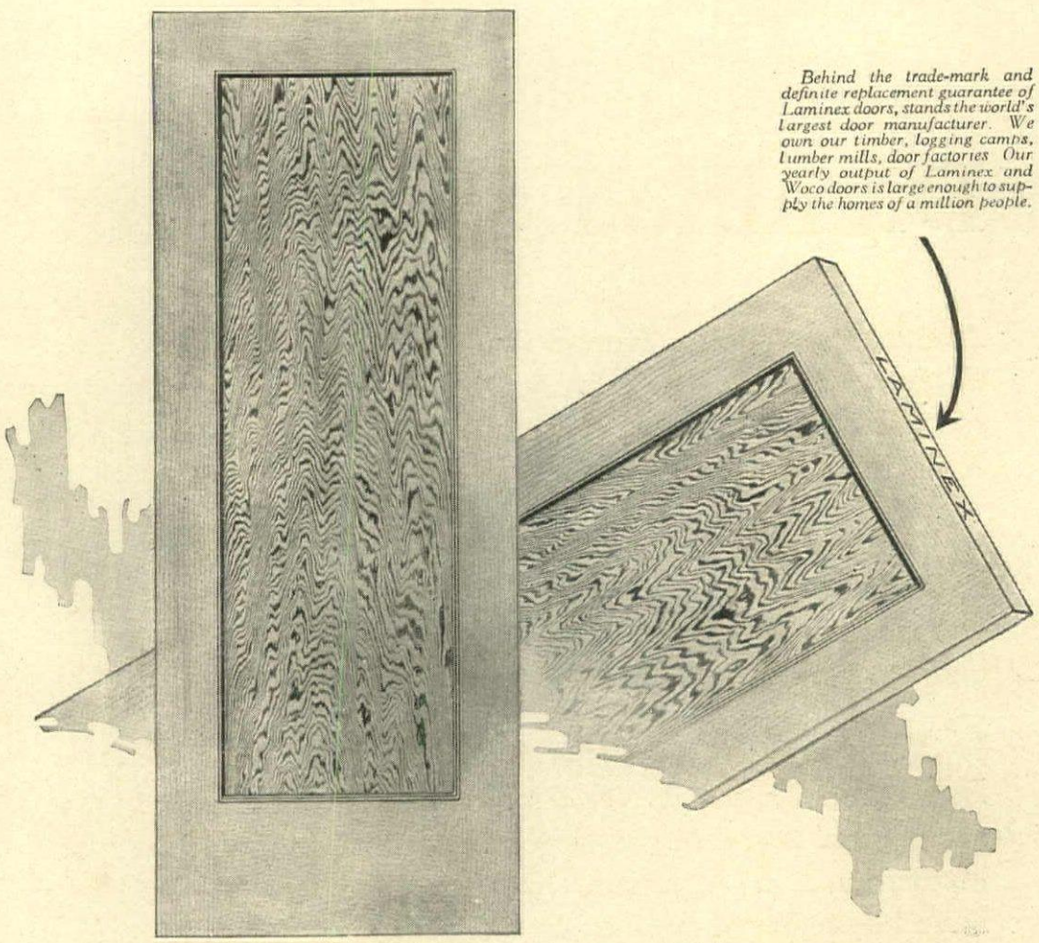
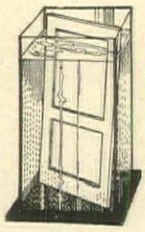
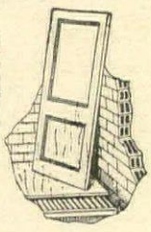


Behind the trade-mark and definite replacement guarantee of Laminex doors, stands the world's largest door manufacturer. We own our timber, logging camps, lumber mills, door factories. Our yearly output of Laminex and Woco doors is large enough to supply the homes of a million people.

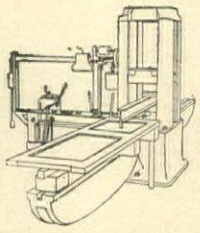
Now the Laminex vertical grain fir door!



Water test—24 hours' soaking showed complete absence of warping in Laminex doors. All parts of the doors remained rigid and strong. Tests made by the Forest Products Laboratories, University of Washington, School of Forestry.



Heat test in commercial dry kiln—No shrinking, warping or checking in Laminex doors resulted from 24 hours in heat of 185° F. with humidity of 30 per cent.



Strength test—Laminex panels in a 200,000 pound Olsen testing machine, stood an average load of 912 pounds without warping.

Not only does the Laminex construction mean a perfected built-up door *which will not shrink, swell or warp*, but it means a door which is in constant demand for white enamel and high grade paint work. Laminex vertical (close) grain stiles and rails form a smooth base for enamel work.

Laminex all-flat grain doors bring out the natural beauty of Douglas fir. No other soft wood takes stain and varnish so perfectly.

The Laminex type of door construction is the result of long research and experience by the largest manufacturer of doors in the world. By this process *we overcome the common faults* in doors, which have always been taken for granted. These are due to the nature of the wood as it grows in the tree. In Laminex doors we build up the parts that go into the construction of the door, using a special Laminex water-proof cement and squeezing the whole together by tremendous hydraulic pressure, into one solid piece.

You can obtain Laminex doors in standard designs from building material dealers everywhere. Every Laminex door is trade-marked and bears our gold label replacement guarantee. Write for special monograph on Laminex construction.

The Wheeler, Osgood Company

Tacoma, Washington, *"The Lumber Capital of America"*

Sales Offices: Chicago, Memphis, Los Angeles, San Francisco, Spokane

A WOCO PRODUCT

Manufacturers of "Woco" Douglas Fir Doors and Fir Sash

LAMINEX DOORS

WILL NOT SHRINK, SWELL OR WARP

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IRONTON STOVE & MANUFACTURING CO., IRONTON, OHIO
A factory group combining Sawtooth and Type 3-M Truscon Standard Buildings.

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The design of an industrial plant includes many buildings that are strictly utilitarian and should not entail the expense of special fabrication. Truscon Standard Buildings are of great value to architects in meeting this need.

You have unrestricted choice in planning your buildings as regards layout, length, width and height, arrangement and size of doors and windows, and various shapes of roof. Sidewalls may be copper-steel, brick or concrete as desired.

Our engineers will work with you closely and assist you in getting the results you are after. You have in every sense an individually designed building with the following added advantages:

(1) Exceptional low cost because made of standardized units

(2) Exact estimates of costs without extras

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(4) Complete shop fabrication assuring high grade workmanship

(5) Promptness in delivery and speed in erection

(6) Permanent and fireproof—steel windows and doors

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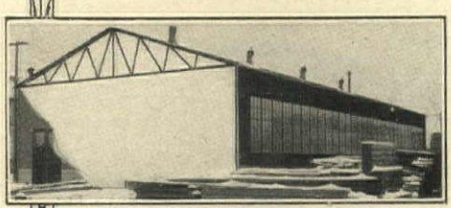

Type 1 (clear span)
Widths: 8′, 12′, 16′, 20′, 24′, 28′, 32′, 40′, 48′, 50′, 60′, 68′

Write for useful suggestions

If you are interested in any industrial construction, we can give you valuable assistance. Investigate these buildings; write for our suggestions.

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Youngstown, Ohio

Warehouses & Sales Offices from Pacific to Atlantic

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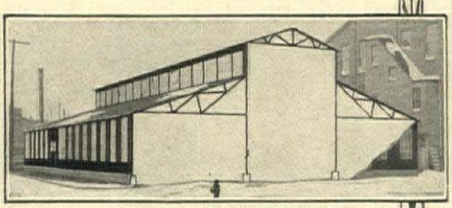
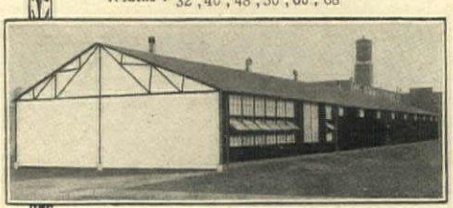
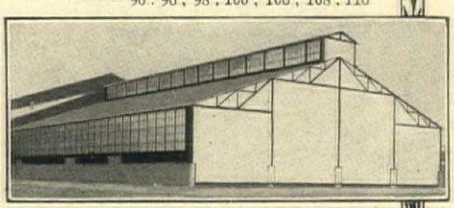


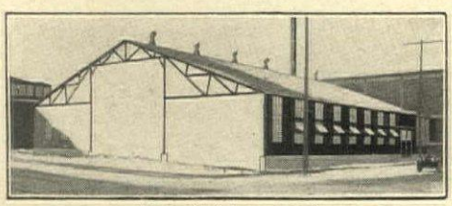
Type 3-M (monitor)
Widths: 60′, 64′, 68′, 72′, 76′, 80′, 84′, 88′, 90′, 96′, 98′, 100′, 106′, 108′, 116′



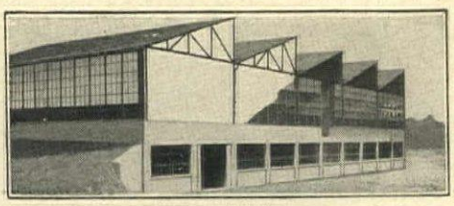
Type 2 (two bay)
Widths: 40′, 48′, 50′, 56′, 60′



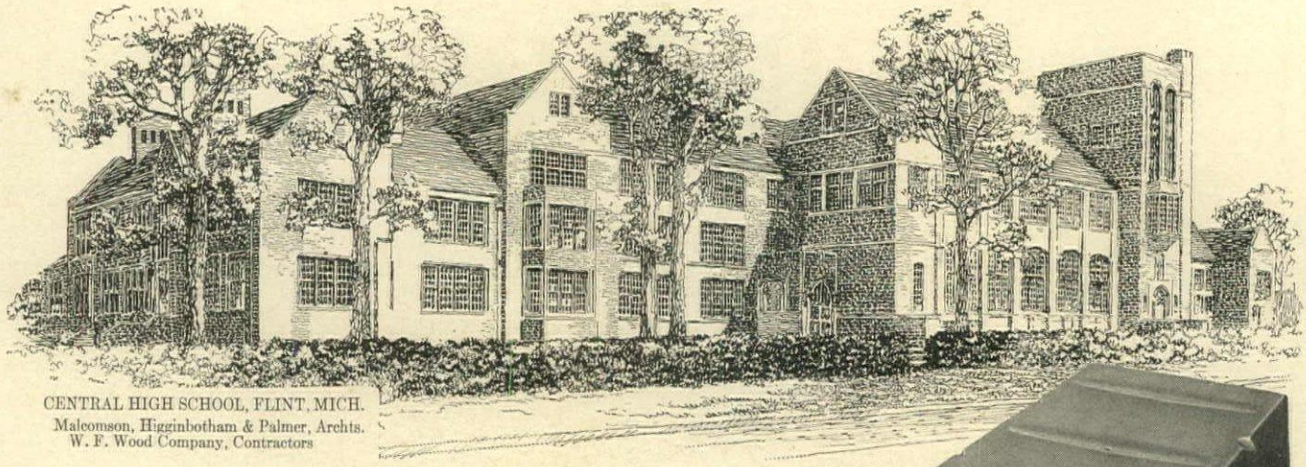
Type 4 (four bays) with lantern
Widths: 80′, 100′, 112′



Type 3 (three bays)
Widths: 56′, 60′, 64′, 68′, 72′, 76′, 80′, 84′, 88′, 96′, 98′, 106′, 108′, 116′



Sawtooth Type
Widths: Any multiple of 28′ 0″



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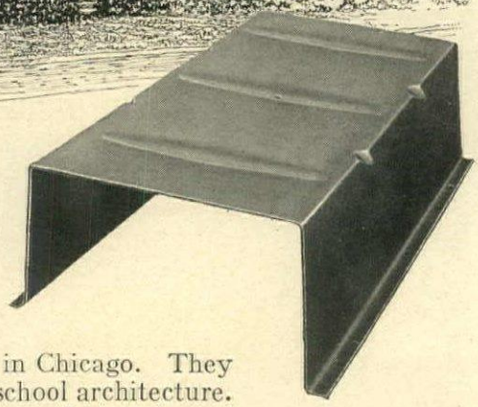

Schools and Colleges Build for Permanence

Here are shown the new Flint, Michigan, high school which cost a million and a half to construct, and one of the beautiful buildings of the new Rosary College group in Chicago. They are striking and splendid examples of modern school architecture. And, withal this pleasing design, practicability and economy of construction lie underneath. Meyer removable Steelforms were used. This is guarantee of fireproof building; of economical construction; of a better built, more lasting structure.

Our other permanent building materials went into these buildings—Ceco reinforcing steel and fireproof lathing materials. Our installation service was employed.

Other fine schools all over the country have also had the advantages of Meyer Steelform construction, among them, Wichita, Kansas; Omaha, Nebraska; Sioux City, Iowa, High Schools. Your next building, regardless of type or size, will receive important consideration as to permanence and lower cost. Investigate Meyer removable Steelform construction.

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Kram & Ferguson, Archts.
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W. G. Carter, Contractor

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—does he want a house or a Home?

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In other words, there is a growing demand for better ventilation by which the stale, devitalized air may be automatically removed, to be replaced with pure, fresh air of the proper temperature and full of the life-giving principle.

Then there must be no leakage of gases and fire poisons; no waste of fuel, and the fire should be automatically controlled to make frequent attention unnecessary and provide the element of safety so often needed.

Such results are exclusive features with the FarQuar, which explains why the FarQuar equipped house becomes a home of satisfaction.

When you are considering the subject of heating equipment for your clients, investigate the merits of the FarQuar System, as fully explained in both Sweet's Catalog and the American Architect Specification Manual. Or, write for interesting booklet for Architects, sent free on request.

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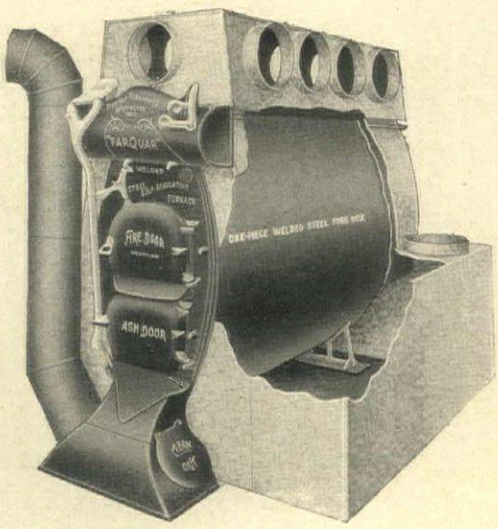

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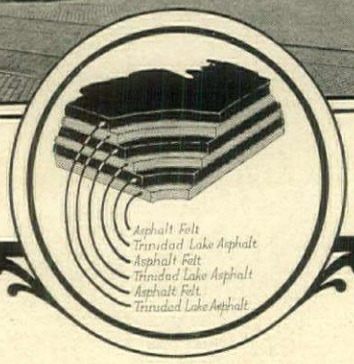
Vocational Training School
Milwaukee, Wisconsin,
roofed with Genasco Standard
Trinidad Built-up Roofing
Materials



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Van Ryn and De Gelleke
Roofing Contractor—
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SO waterproof, storm-tight and fire-safe as to give complete and lasting protection to the building. So rugged and resilient as to serve as a recreation floor for the students.

These were the demands that confronted the Architect in his selection of a roofing for Milwaukee's new Vocational Training School. *And he unhesitatingly chose Genasco Standard Trinidad Built-up Roofing materials.*

Genasco Standard Trinidad is the smooth-surface built-up roofing supplied by the Barber Asphalt Company, maker of the famous Genasco Line of asphaltic protective products, and the world's largest miner, refiner and distributor of native-lake asphalts.

Write at once for valuable and interesting facts regarding the materials used in this remarkable roofing—Genasco Standard Trinidad.

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STANDARD TRINIDAD Built-up Roofing

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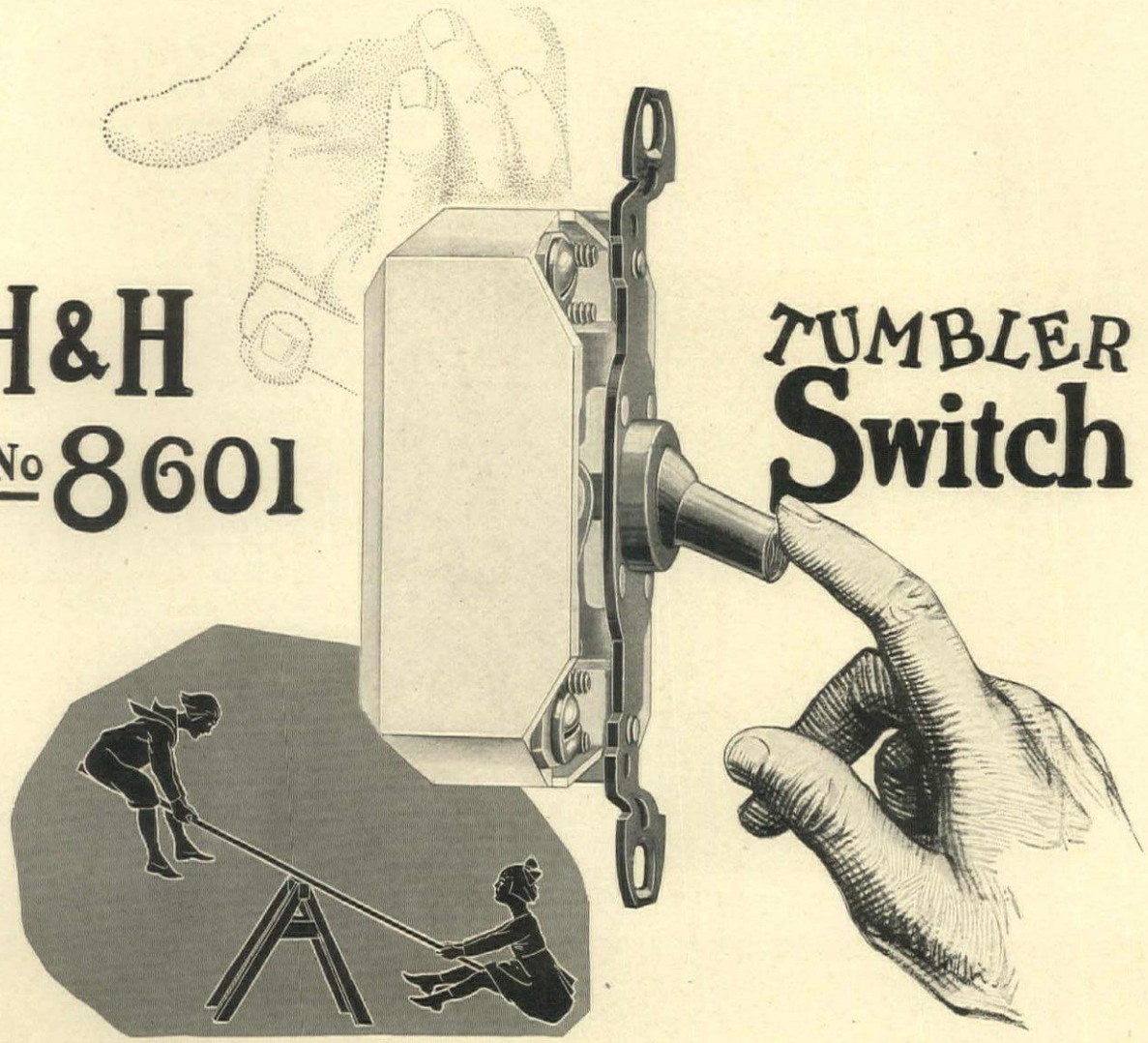

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like Helping you Throw the Lever

It works as if the up-and-down movement were *balanced*. As if a helping hand might be lifting on the other end, as you press down the lever.

Actually, a balancing force *is* thrown into the movement of the mechanism, before it reaches the point of the usual tension in throwing a tumbler.

When you first start the lever you store up energy in a compression spring. At the point where you'd meet with the real resistance, this spring-energy is *released*—thrown in back of your press—helping you throw the lever.

While the lever action is ever so smooth, the *switch* action is positive; *more* positive in fact than in mechanisms that *feel* much stiffer.

Though compact and contained in the 1-inch (*shallow*) switch, the "works" have the simplicity that lasts. And the lack of strain, the quieted impact, adds still more to their service-life.

No. 8601 Tumbler puts a noticeably refined switch into the hands of the architect or his electrical engineer. Yet it *costs* no more than its sister switch, the 4401 NUTMEG. Write us for the specification data (circular).

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Swimming Pool of the Kansas City Athletic Club, safe-guarded by an R. U. V. Sterilizer

Modern Swimming Pool Sanitation

THE first and most important requirement of a successful swimming pool is that the water contained in it shall always be free from any element which may directly or indirectly cause disease or prove injurious to the bather.

You will find, upon investigation, that R.U.V. (Ultra Violet Ray) Sterilizers, in conjunction with a recirculating system, answer every requirement for the modern pool. Not only does the attractive sterilizer add a distinct "advertising value" to the pool but it can be depended upon to positively automatically and economically purify every drop of water entering the pool. As this purification is accomplished thru the Ultra Violet Rays there can be no harmful element added to the water. As the water in the pool is kept in constant motion out of the pool —to be used over and over again—there is quite an item saved in the cost of the water and reheating. Furthermore, the operation of an R.U.V. Sterilizer requires no skilled attention. It is as simple as snapping on the electric light.

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The R.U.V. Company, Inc.

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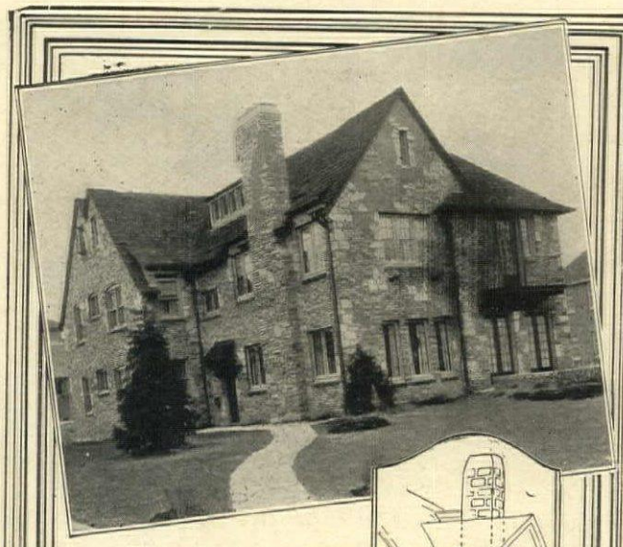
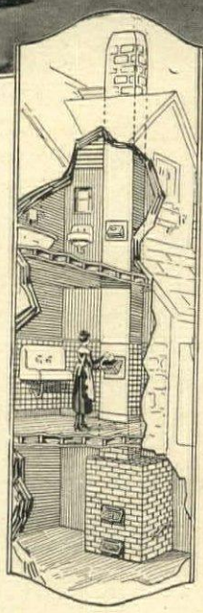


Kernerator-equipped Duplex apartment, Milwaukee. Thomas Van Alyea, architect.



"Duplex" Design Cries out for this Convenience

DISPOSAL of garbage and waste, particularly from the second floor apartment, is a nuisance inherent in modern "duplex" residence construction. Hence it is that, other things being equal, the Kernerator-equipped "duplex" is assured of steady rental and is a source of constant satisfaction to owner and tenant.

The small initial investment soon pays its way, for there is *no up-keep cost.* The garbage, sweepings, tin cans, broken glass — in fact litter and waste of all sorts—dropped through the hopper doors in or near both kitchens, falls to a brick combustion chamber, built at the base of the chimney in the basement when the building is erected. There, an occasional lighting burns everything combustible, while non-combustibles, flame-sterilized, are removed with the ashes. *There is no fuel required.*

Pages 2340-41, Sweet's (1923) contain full details. For additional information, or references as to nearby installations, write —

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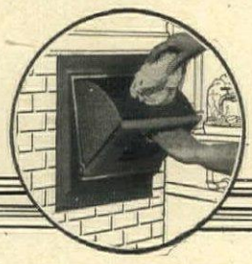

Drop all waste here — *then FORGET it!*

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∴ *ANNOUNCEMENT* ∴

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The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least two years of office experience.

The competition will be held from May 24 to June 2.

Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the Committee, but these drawings must be sent to Boston for judgment.

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