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The American Architect
The Architectural Review

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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 cooperation between these two necessary elements in the construction field. That there has not always been this cooperative 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 coordination 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 hydroelectric 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-
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 bargains, 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 judgement 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 have 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?
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
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.

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 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 Com-

BUILDING CHOSEN FOR THE SUGGESTED REMODELLING BY THE DALLAS ARCHITECTURAL CLUB

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

mission 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.
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 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

THE FOUNTAIN IS THE CENTRAL MOTIVE OF THE COMMUNITY CENTER

GEORGE W. MAHER & SON, ARCHITECTS AND TOWN PLANNERS
SHOWING LOCATION OF UTILITY PLANT
wagons are provided. The various power plants
and municipal departments and utilities find loca-
tion in this section, all of which is apart from the
daily community life, and prevents their intru-
sion 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 logi-
cal, well planned and thoroughly artistic fea-
tures. Restrictions placed on the development of
this community will prevent any radical interfer-
ence 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, oppor-
tunity for well considered development is pre-
sented. So seldom is this opportunity availed
of and so often does each property owner pro-
ceed 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 re-
ponsible for the unfortunate conditions that are
present in so many community developments
throughout the United States.
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, doth 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 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."

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.
THE AMERICAN ARCHITECT—THE ARCHITECTURAL REVIEW

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

of ordinance 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

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 “Carter’s 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

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

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

GATE TO AN OLD FARMHOUSE ON THE EASTERN SHORE

Note the English character of the post caps

240
"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.
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.

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-
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 common in our modern towns and villages and to one who rambles through these byways there comes the inevitable conviction, that, however

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 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 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.
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. Metcger, 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 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, 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."


(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 the 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 1925, 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.
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.
SECOND FLOOR PLAN

FIRST FLOOR PLAN

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

CARL A. ZIEGLER, ARCHITECT
HOUSE ON EAST CLIVEDEN STREET, GERMANTOWN, PHILADELPHIA, PA.
CARL A. ZIEGLER, ARCHITECT
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
HOUSE OF A. W. FINLAY, BROOKLINE, MASS.

C. T. McFARLAND, ARCHITECT
PIAZZA
10'2" x 23'6"

KITCHEN
10'4" x 10'0"

ENTRY

LIVING ROOM
14'0" x 25'0"

DINING ROOM
14'0" x 14'4"

HALL
10'0" x 8'0"

ENTRY

KITCHEN
10'4" x 10'0"

LIVING ROOM
14'0" x 25'0"

DINING ROOM
14'0" x 14'4"

HALL
10'0" x 8'0"

FIRST FLOOR PLAN

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

C. T. McFARLAND, ARCHITECT
HOUSE OF WAYLAND M. MINOT, CAMBRIDGE, MASS.
WILLIAM F. KUSBIN, 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
"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 catacombs also dictate the wall thickness, this gives 1'-0" 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 foliage along the rear line. The building shall be placed near the rear of the lot, against this background of foliage.


NUMBER OF DRAWINGS SUBMITTED:—299.

AWARDS:


A candy manufacturer has purchased a rectangular piece of property facing on the principal street of a city. The lot, an interior one, is 60'-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.


FIRST MENTION PLACED:
CLASS "B"—II PROJET—A CANDY SHOP

E. K. McNinch  S. F. Archtl. Club

NOTE:—Drawing delayed in transit.

SUBJECT:—Perry Hill Inn, near Oswego, New York.
AWARD:—SECOND MEDAL:—J. S. Palmer, Syracuse University, Syracuse.
SUBJECT:—Peabody Hill House, Salem, Mass.
AWARD:—SECOND MEDAL:—H. A. King, Syracuse University, 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  
C. TATORE  
PATRON—L. FENTNOR  
FIRST MENTION PLACED

L. B. LAFARGE  
YALE UNIV.  
W. BICKNELL  
ATELIER DENVER  
FIRST MENTION PLACED

CLASS "B"—II ANALYTIQUE—A FAMILY TOMB
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN
FIRST MENTION PLACED—GEORGIA SCH. OF TECH.

W. I. GREGG

CLASS "B"—ANALYTIQUE—A FAMILY TOMB

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

FIRST MENTION PLACED—YALE UNIV.

P. M. DUNCAN

FIRST MENTION PLACED—CARNegie INST.

H. FINK
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.

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., 290 West 125th Street, New York City. This building was designed by Robert D. Kohn* and Charles Butler*, F.F.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-
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, F.F.A.I.A., ARCHITECTS, ASSOCIATED
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 irrush of cold air. This excess air 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 maintain-

ing a uniform temperature of about 70° F. Additional reheating vents 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.

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 behind 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 258,000 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'-4" to 25'-0" on centers; transversely they 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'-5" 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
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 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

girders are each reinforced at the column with two 5" x 3/4" x 9'-0" flange plates necessary to resist the bending moment at that plate. An important advantage of this type of construction is found columns. The uniform depth of beams and girders makes possible the unobstructed ceiling, the desirability of which is well known to architects and engineers.

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. 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.1 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 daily with soap and water for ten days in order to determine whether the paint would withstand such continued washing. 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 large growth of animals while colors of low luminosity exert an effect that retards development. 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 for four or five days. After a period of about six weeks the tests had afforded some information as indicated in the table.

<table>
<thead>
<tr>
<th>COLOR</th>
<th>PALE BLUE</th>
<th>WHITE</th>
<th>LIGHT TAN</th>
<th>DARK GREEN</th>
<th>BLACK</th>
<th>Dark Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st weighing</td>
<td>540</td>
<td>440</td>
<td>540</td>
<td>520</td>
<td>510</td>
<td>430</td>
</tr>
<tr>
<td>2nd -</td>
<td>540</td>
<td>420</td>
<td>520</td>
<td>520</td>
<td>500</td>
<td>430</td>
</tr>
<tr>
<td>3rd -</td>
<td>540</td>
<td>420</td>
<td>540</td>
<td>500</td>
<td>510</td>
<td>400</td>
</tr>
<tr>
<td>4th -</td>
<td>540</td>
<td>440</td>
<td>520</td>
<td>510</td>
<td>500</td>
<td>440</td>
</tr>
<tr>
<td>5th -</td>
<td>540</td>
<td>440</td>
<td>530</td>
<td>500</td>
<td>500</td>
<td>450</td>
</tr>
<tr>
<td>6th -</td>
<td>540</td>
<td>520</td>
<td>530</td>
<td>500</td>
<td>480</td>
<td>450</td>
</tr>
<tr>
<td>7th -</td>
<td>540</td>
<td>450</td>
<td>540</td>
<td>500</td>
<td>480</td>
<td>420</td>
</tr>
<tr>
<td>9th -</td>
<td>540</td>
<td>450</td>
<td>530</td>
<td>500</td>
<td>480</td>
<td>400</td>
</tr>
<tr>
<td>10th -</td>
<td>540</td>
<td>450</td>
<td>540</td>
<td>500</td>
<td>480</td>
<td>400</td>
</tr>
<tr>
<td>Increase</td>
<td>540</td>
<td>120</td>
<td>105</td>
<td>40</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

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.

*See Circular No. 197.
*Scientific Society 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 beds 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 lodging 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 lining 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 \( \frac{1}{4} \) 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 \( \frac{1}{4} \) in thickness. 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 \( \frac{3}{4} \) or \( \frac{1}{2} \) 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 backdrop to the landscape architect. 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.
THREE BALUSTRADES FROM THE VILLA D'ESTE AT TIVOLI
MEASURED AND DRAWN BY ROBERT M. BLACKALL, ARCHITECT

NUMBER II, SERIES III
FRENCH AND ITALIAN DETAILS

266
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
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 de-

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

signers 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 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 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 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, 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
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 moldings, 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 moldings 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 moldings 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 Pompeians. 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 floral 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
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.
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.

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.
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Outline of Tentative Specifications for Sewage Ejector

Serial No. 83

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Cutting Construction Costs

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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 essentials 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."
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.

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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.

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.

Has this ever happened to you?

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


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.

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The Powers Regulator Co.

Over 30 years of specialization in automatic temperature control

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PIERCE ANDERSON DEAD

PIERCE ANDERSON, of the architectural firm of Graham, Anderson, Probst & White, died at his home in Chicago on February 8.

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. I. Berg, architect, has moved from 901 West Thirty-fourth Street, Los Angeles, to 5247 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 2733 Broadway to 504 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 334 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.
As Silent and Sure as the Close of Day

The inevitable close of day is no more silent nor more sure than the positive operation of all doors equipped with the—

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The R-W Door Closer and Check is made and assembled with watch-like precision. Many notable features are included in its construction, such as instant adaptability to right or left hand doors; simple adjustment of closing pressure controlled by a single milled screw; arrangement which prevents spring from being wound beyond the safety limit; high lubricating property of special liquid, and leakproof construction.

All these advantages plus the R-W imprint, which is the “sterling mark” of standard hardware, combine in the production of the perfect door check and closer. Write to Dept. D for catalog containing complete line and detailed descriptions.

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 cooperation 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 Diplômés 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 archi-

THE AMERICAN ARCHITECT—THE ARCHITECTURAL REVIEW
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.

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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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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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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, guayed steel stacks, design of a guayed 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.


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.

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Anaconda Brass Pipe permanently protects the water supply of the Westinghouse High School, Pittsburgh, Pa. This rustless pipe, which will not clog or discolor the water, was installed at an additional expense of less than 5% of the total plumbing cost.

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REFERENCE LIST OF BUSINESS LITERATURE

This list of the more important business literature of Manufacturers of building material and equipment is published by The American Architect and The Architectural Review, 243 West 35th 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.


AIR CONDITIONING—See also Heating and Ventilation

The Ballyer Manufacturing Company, 724-726 Greenwich St., Milwaukee, Wis.

482. Bulletin No. 21. This bulletin is descriptive of the Ballyer Air-Analyzer, the Ballyer 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 drawings. 32 pp. Ill. 7 1/4 x 10 3/4 in.

ARCHITECTURAL IRON WORK—See also Ornamental Work

ASBESTOS—See also Lumber, Roofing

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

746. Johns-Manville Service to Power Users. A catalog containing valuable data on all forms of asbestos insulation, asbestos and mica blanket, steam trap, high temperature ce­ments, asbestos used in building materials, asbestos brick blocks and linings, asbestos mastic, etc. 200 pp. Ill. 8 1/2 x 11 in.

ASBESTOS ROOFING—See also Roofing

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

588. Air, Fire and Ice. Bulletin illustrating and describing directories made by this company providing air, fire and ice protection. 12 pp. Ill. 8 1/4 x 10 3/4 in.

ASH HOISTS—See also Heating and Ventilation

Gillis & Georghegan, 450 West Broadway, New York, N. Y.


BANK EQUIPMENT

Art Metal Construction Company, 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 furnishing in bronze and steel. 72 pp. Ill. 8 1/2 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 for installing brick, artistic, sanitary and economic reasons, comparative costs, and brick safety with photographs and drawings, and illustrates ancient and modern architectural works of note in brick. Size 7 x 9 3/4 in.

137. Face Brick Construction Development. The history of brick making, types of face brick, showing methods 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 8 1/2 x 11 in. 156 pp. Price $1.00.


371. Specified 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 annotated sets of drawings, covering the use of brick and tile in building. Sent free to architects, engineers, builders, etc. Price $1.00.

454. Basement 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. 8 1/2 x 11 in. 25 cents each. Price 60 cents for the four.

BRICK AND TILE—See also Brick

BUILDING CONSTRUCTION

Cement-Gun Company, Allentown, Pa.

506. Side-Wall, Slope-Wall, and Cove-Wall. A report of fire tests made by Underwriters' Laboratories on Gomite walls, resulting in giving them a three-hour fire resistance classification. 50 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 Mayer Steel-form Construction is emphasized and tables are given of sizes and ribbed concrete floors. 40 pp. Ill. 8 1/2 x 11 in.

Curtis Companies Service Bureau, Clinton, Iowa.

062. Better Door Honors. Vol. XIII. This volume contains floor plans and perspectives of twenty one family homes. The design of each was made by Trowbridge and Ackerman, Architects, New York, and illustrations rendered by Schell Lewis. Printed in sepia on heavy cream colored paper, with the Rockey, requesting it on business stationery, otherwise price $1.20. 24 pp. Ill.

McKeown Bros. Co., 21 East 46th St., New York, N. Y.

434. Clear Floor Space. A folder showing uses and advantages of McKeown's "Lattis" and "Bowstring" long span wood roof trusses. 4 pp. Ill. 8 1/2 x 11 in.

Milwaukee Corrugating Co., 28th Ave. and Burnham St., Milwaukee, Wis.

780. Metal Construction for the Modern Home. A hand­some illustrated catalog describing the use of metal lath, corner beads, door and window casings and picture moldings. Also Spanish metal tile and American Tilelock tile. 16 pp. Ill. 8 1/2 x 11 in.


505. Concrete Floors—Prepared 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 terracing floors. 19 pp.

Trucon Steel Company, Youngstown, Ohio.

317. Trucon Floor-Tyle Construction. Form D-358. Contains complete data and illustrations of Floor-Tyle installations. 16 pp. Ill. 8 1/2 x 11 in.


319. Trucon Building Products. Form D-356. Contains a brief description of each of the Trucon Products. 112 pp. Ill. 8 1/2 x 11 in.

320. Modern School Construction. Form D-350. Contains illustrations of schools, with typical elevations, showing ad­vantages of Trucon Products for this construction. 16 pp. Ill.

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.

BUILDING HARDWARE—See Hardware

BULLETIN BOARDS


588. Two pamphlets describing the Clark Changeable Bulletin Board and Directories for Office Buildings, Hotels, Business Build­ings, etc. 8 pp. and 4 pp. Ill. 8 1/2 x 9 in.

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

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

CABINETS

Hens Warming & Ventilating Co., 1204-7 Tacoma Building, Chicago, III.

390. The Best Samart Cabinet Lacocks 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 52 pages describing metal ceilings and wains­coting, with list prices and rates for esti­mating. 7 x 10 in.

CELLAR SASH—See Doors and Windows
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For example, the English type home on this page, owned by Frank H. Westlake, 3018 Kingsley Road, Shaker Heights, Cleveland, O., contains Curtis Interior Trim C-1650, Dressing Table C-810 and Tray Case C-812, French Doors C-321 and Casement Sash C-1030. Architect Philo R. Brooke and Contractor A. L. Miles of Cleveland found these designs easily adaptable to their plans and in perfect harmony with the house design as a whole.

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143 Curtis Building, Clinton, Iowa
Curtis Companies, Inc., Clinton, Iowa
Curtis Bros. & Co., Clinton, Iowa
Curtis & Yale Co., Waukon, Wis.
Curtis Sash & Door Co., Sioux City, Iowa

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

CEMENT
The Carney Co., Mankato, Minn.
449. The Bond That Guarantees the Wall. Attractive catalog for architects, engineers, contractors, and dealers. Describes fully the characteristics, durability, and beauty of Carney cement, and contains many of the nature and uses of Carney cement that requires no time. Contains simple formulas for mixing and illustrations of Carney concrete buildings. 24 pp. Ill. 8 1/2 x 11 in.

599. A circular describing improvements in manufacturing the material and the uses of Carney cement. Built buildings with architect's and contractor's names. 8 pp. Ill. 8 1/2 x 11 in.

Dahmke Stone Co., 422 East 3rd St., New York, N. Y.
419. Duran Brand Cement. A description of a cement which matches any stone or marble, any color or texture. Can be used in molds and also used for walls or plain surfaces. Illustrations are given of beautiful work executed with this material.

Dahmke Stone Co., Louisville, Ky.
694. Brixten for Perfect Mortar. A description of the chemical and physical properties of Brixten, advantages of its use in mortars for brick and stone masonry, tests of strength and directions for use. In cover form. 16 pp. Ill. 8 1/2 x 11 in.

Portland Cement Association, 111 West Washington St., Chicago, Ill.
626. Concrete Data for Engineers and Architects. A valuable book containing the reports of the Structural Materials Research Laboratories at Lewis Institute, Chicago, in abbreviated form, together with criticisms and suggestions to writers of specifications. 18 pp. Ill. 8 1/2 x 11 in.

250. Concrete Floors. Contains the tentative specifications of the Standards Committee Institute for concrete floors of all kinds, with notes on floor finishing, types of frames, typical construction, and computing data. 10 pp. Ill. 8 1/2 x 11 in.

CHAIRS—See also Laundry Equipment
The B. L. Marble Chair Co., Bedford, Ohio.
597. Office Chairs, Catalog No. 4. Describes a complete line of seating fixtures, for offices, directors' rooms and other places, consisting of stationary and swivel chairs, settees and couches, both in leather and wooden varieties. Also characterizes the chair, stools, waste baskets, coat trees and accessories. 76 pp. Ill. 9 x 12 in.

CHUTES—See also Laundry Equipment
Edwin A. Jackson & Bros., 507 Beckman St., New York, N. Y.
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 3 1/2 x 5 1/2 in. 16 pp.

CLOCKS
Landis Engineering and Manufacturing Co., Wayneboro, Penna.
409. Landis Electric Time and Program System. A bulletin of building time and program systems. Size 11 x 10 in. 150 and 163, dealing with master and secondary clocks, equipment, time stamps, and receipts. Contains a reproducible filing cover of tough paper. 48 pp. Ill. 8 1/2 x 11 in.

COLENS
Lally Column Co. of New York, 234 Calyer Street, Brooklyn, N. Y.

CONCRETE, REINFORCED—See also Reinforcing Steel
CONDUITS—See Pipe

DAMPPROOFING—See also Waterproofing
DOORS AND WINDOWS
Anderson Lumber Company, Bayport, Minn. (formerly the Superior Hardwood Company, Bayport, Minn.)
599. Complete Catalog for Architects and Builders. Describes Anderson Standard and Special Factory Built Colors instead of 57 and may be assembled and mailed in 10 minutes. Shows windows and special construction for 100 doors and 100 window styles. 24 pp. Ill. 7 1/2 x 10 1/2 in.

Crittall Casement Window Co., Detroit, Mich.
172. Crittall Universal Casements, Catalog No. 22. Contains complete description, photographs, specifications and details of steel casement windows for banks, schools, churches, churches, and other buildings. Details of construction and specifications. 26 pp. Ill. 8 1/2 x 11 1/2 in.


Dahmke Metal Door Co., Jamestown, N. Y.
674. Architectural Catalog. Illustrated catalog showing styles and types of Dahmke Standard Construction Hollow Steel Doors and Trim, Conduit-Base, etc. Also various types of frames, jamb construction and architectural shapes. 178 pp. Ill. 5 1/2 x 8 1/2 in., in loose leaf.


8. H. Pomeroy Company, 222 East 134th St., New York, N. Y.
614. Solid Metal Door Hung Windows Type "A." Bulletin 71. Contains specifications and details of each frame, sash and steel and stow in. 4 pp. Ill. 5 1/2 x 11 in.

Truscon Steel Sash. A catalog containing designing data, tables and views of stock sash installations. 6 pp. Ill. 8 1/2 x 11 in.

Transcon Steel Sash. This handbook has been prepared for detailers and specification writers. The descriptions are clear and the details are complete. 80 pp. Ill. 8 1/2 x 11 in.


The Willy Zilts Lighting Corporation, 240 Madison Avenue, New York City.
697. The Fenestra. A catalog describing a metal ventilating panel installed in wood and metal doors, always night-proof and can be closed sound-proof and serves the purpose of a transom. 14 pp. Ill. 7 1/2 x 11 in.

J. G. Wilson Corporation, 11 East 26th St., New York City.
170. Wilson Airlock Fire Doors. A leaflet describing fire tests, construction details, appearance, resistance to corrosion and Underwriters' limitations. 8 pp. Ill. 5 1/2 x 8 1/2 in.

DRAFTING MATERIALS
American Lead Pencil Co., 220 Fifth Ave., New York, N. Y.
288. Booklet Co., TruHeon Steel Sash Windows, 221 Main St., Kansas City, Mo.
194. Several pamphlets describing various types of floor and area drains. 3 1/2 x 5 1/2 in.

620. Josam Floor, Shower and Roof Drains. Catalog F. A loose leaf catalog illustrating complete line of steel age devices for floors, showers, baths, roofs, swimming pools, railroad and deck drains, special use drains and strainers and accessories. Details and dimensions. 55 pp. Ill. 8 1/2 x 11 in.

631. Josam Plate Number. 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. 8 1/2 x 11 in.

DUMB-WAITEES—See also Elevators
Kaestner & Hecht Co., 1500 No. Branch St., Chicago, Ill.

Sedgewick Machine Works, 144 West 15th Street, New York.
68. Hand Power Elevators and Dumb-waiters in Modern Architectural Construction. Illustrated catalogue. 4 1/2 x 8 1/2 in.

ELECTRICAL EQUIPMENT—See also Lighting
Frank Adam Electric Co., St. Louis, Mo.
296. Catalog No. 22. A catalog of switchboards, panel boards, steel cabinets, switchboard material. 83 pp. Ill. 2 x 16 1/2 in.
Portland Cement Stucco Is Quality Stucco

The high recognition accorded Portland Cement Stucco by the architectural and engineering professions is due primarily to its dependability. The reason for this dependability is the fact that its most important ingredient—Portland Cement—is standardized.

Not only has Portland Cement Stucco superior strength and durability; applied in accordance with the most advanced specifications, it assures structures of distinction and beauty.

Our new booklet, “Portland Cement Stucco,” gives all details of good practice. From these you can write your own specifications.

This booklet is yours for the asking. It is a practical “how-to-do-it” book for the superintendent and foreman, as well as a reference book for the architect, engineer and contractor. Here are a few of the things it contains:

- Typical Construction Details with Sketches.
- Varieties of Surface Finish and How Obtained.
- Notes on Coloring Pigments.
- Proportioning Mixtures.
- Use of Hydrated Lime.
- Back Plastered Work.

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A National Organization

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ELECTRICAL EQUIPMENT—See also Lighting


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Crouse-Hinds Company, Syracuse, N. Y.


Harvey Hubbard, Inc., Bridgeport, Conn.


PEERLESS MANUFACTURING COMPANY, INC., LOUISVILLE, KY.

FILTERS—See Air Filters

FINANCING OF ENTERPRISES

MOUNTING BUSINESS PLACES AND MANTELS

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

Fireplaces and Mantels

FLOORING

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

Business Floors. A handbook for architects, engineers, contractors, and architects. 222.

Colony Crane Company, Council Bluffs, Iowa.

Lancaster, Armstrong's Cork Co., Linoleum Department.

Lancaster, Distinctive Floors. A booklet describing uses and methods of application, including application over old floors. Separate specifications for flooring, waterproofing and covering uses. 24 pp. Ill. 6 x 9 in.


Building Specifications for Installation of Battledore Linoleum Over Concrete. A book containing specifications and explanations, notes for laying Battledore Linoleum Over Concrete and Wood, with detailed drawings. 30 pp. Ill. 8 x 11 in. A. I. A. File No. 28, Ill.

Georgia Trinidad Lab Appliance Co., New York.

The Perfect Floor. Tests for strength and attrition and other physical properties including fire resistance. 8 pp. Ill. 8 x 11 in.

Franklyn R. Muller Co., Waukegan, Ill.

The Universal Flooring for Modern Buildings. Illustrated booklet. Describes uses and contains specifications for Marble- hold flooring, base, wainscoting, etc. Size 6 x 9 in. 32 pp.

Marblehold for Schools. A bulletin showing schools in which Marblehold flooring is used. It is a composition 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. 6 x 9 in.


Redwood. This firm publishes a treatise on the advantages of Redwood Block Floors in factories, warehousse, hotels, public buildings, department stores, etc. 668.

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

Modern Oak Floors. A book that tells the complete story of Oak Flooring. 24 pp. Ill. 6 x 9 in.

THE AMERICAN ARCHITECT—THE ARCHITECTURAL REVIEW VOL. CXXV, NO. 2441

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WHEN the architect specifies Marbleloid Flooring he is maintaining and upbuilding his professional reputation for a knowledge of modern economical materials.

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

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Stedman Products Co., South Braintree, Mass.
258. Stedman's Reinforced Flooring. A circular describing a product formulated from rubber reinforced with various colors, 20 pp. Ill., 3. 3. 3 x 1 in.

FLOORS—See Building Construction
FRAMES—See Doors and Windows
FURNITURE—See Chairs

GARAGE CONSTRUCTION—See also Building Construction

GARAGE INCLINES AND RAMPS

American Abrasive Metals Co., 59 Church St., N. Y. C.
677. Permalon Anti-Slip Treads for Garage Inclines and Ramps. A folder explaining the advantages of and illustrating the actual use of Permalon Anti-Slip Treads on ramps and inclines, 2 pp. Ill., 3. 3 x 1 in.

GARAGE DESTROYERS

394. The Kernerney Elimination of Household Wastc, 23 P. folded, 2. 3 x 8 1/2 in.

Kewnan Roller Co., Kewanee, Illinois.
572. Water Heating Garbage Burners, Tobacco Water Heaters and Tanks, Catalog No. 29. A descriptive catalog of steel and tin hot water storage equipment, graved basins, blow-off receivers and air receivers. Tables of sizes, dimensions, capacities and prices, 46 pp. 2. 2 x 3 1/2 in.

GARAGE RECEIVERS

Edwin A. Jackson & Bro., Inc., 56 Bookman St., New York, N. Y.
170. Booklet showing general construction and sizes of garage receivers placed underground for suburban use; also types to be built into the wall of city homes and apartments; also type of combination wall with opening on inside for the maid and outside for the garbage man. Size 3 3/4 x 5 1/4 in. 16 pp.

GARDENS

Julius Rochrse Company, Rutherford, N. J.
466. The Ten-Ten books issued three times a year—covering nursery stock in general, such things as fruit trees, roses and perennial flowers, a general greenhouse catalog, listing orchards and greenhouses and 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. 4 pp. Ill., 2. 2 x 3 1/2 in.

GRANITE—See Stone

Cement Gun Company, Allentown, Pa.
569. Cement Gun, Its Applications and Uses. Reprint of a paper by B. C. Collie, 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., 3. 3 x 6 in. Ask also for companion booklet "Grout Tank" containing working tables for designers and reports on lab tests. 30 pp. Ill., 3. 3 x 6 in.

GUTTERS AND DOWNSPOUTS—See also Roofing

The New Jersey Zinc Co., 100 Front Street, New York, N. Y.
226. Zinc Spouting. Describes leaders, gutters, etc. "Made from Hot Rolled Zinc." Text giving information concerning their economy and durability. 8 pp. Ill., 3. 3 x 6 in.

HARDWARE

Aber-Prouty Co., Danville, Illinois.
227. ABER-PROUTY HARDWARE. This catalogue embraces a description of a complete line of door hangers and tracks, garage door hardware, sliding hinges, rolling ladders, fire door hardware, overhead carriers, light hardware and hardware specialties. 164 pp. Ill., 2. 2 x 3 1/2 in.

The Casement Hardware Co., 227 Pelecone Bldg., Chicago, Ill.
627. The 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., 3. 3 x 6 1/2 in.

P. 1. 7 pp.

590. Automatic Exit Fixtures. A catalogue 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., 3. 3 x 11/8 in.

Monarch Metal Products Co., 5040 Ponrose St., St. Louis, Mo.
438. Monarch Casement Hardware. A book describing hardware for casement windows. This Manual contains all suggestions made by the Structural Service Committee of the A. I. A. 3. 3 x 10 1/2 in., in heavy folder for vertical file properly indexed.

338. Modern Hardware for Your Home. Catalog of hangers for vanishing French doors; "Air-Way" multifold hardware for sun parlors and sleeping porches; "Sideline" garage door hardware. 24 pp. Ill., 3. 3 x 11 in.

433. Distinctive Garage Door Hardware. Catalog No. A-27. 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., 3. 3 x 11 in.


632. Distinctive Garage Door Hardware. Catalog A No. 39. A complete treatise on garage doors giving illustrations of both types, which are mechanically operated with description of standard and special hardware and accessories. 66 pp. Ill., 3. 3 x 11 in.

609. Rust proof Door Hardware. A brochure illustrating hardware trim in twelve architectural wood stains. 6 pp. 3. 3 x 5 1/2 in.

610. Catalog of Hardware, Volume Fourteen. A complete catalog of building hardware, trim, locks, bolts and accessories. 250 pp. Ill., 3. 3 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., 3. 3 x 11 in.

The Stanley Works, New Britain, Conn.
11. Wrongo Hardware, New 1917 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 butt, hinges, bolts, etc. 374 pp. Ill., 3. 3 x 5 1/2 in.

12. Garage Hardware. Booklet, illustrations and their equipment, such as hinges, locks, door holders, latch sets, chain and hand bolts, showing illustrations and text with dimensions of garages, describing the Stanley Works product. Size 4 x 9 in. 24 pp.


147. The Stanley Works Ball Bearing Butts. Booklet, illustrated. Description with full size illustrations of many types and their parts, dimensions and finish. Size 5 x 7 1/4 in. 12 pp.

195. Stanley Detail Manual. A catalogue of five sections on Butt, Bolt, Blind and Shutter Hardware, Stanley Garage Hardware, Screen and Sash Hardware. Detail drawings are given, showing full size illustrations of many types of hardware. Size 3 x 5 1/2 in., in heavy folder for vertical file properly indexed. 116 pp. Ill., 3. 3 x 11/2 in.

Vaneget Hardware Co., Indianapolis, Ind.

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., 3. 3 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., 3. 3 x 5 1/2 in.

241. Steam Catalogue. A book containing full descriptions of the complete line of Crane valves, fittings, etc. 600 pp. Ill., 3. 3 x 11 in.

The Farquhar Furnace Company, Waukegan, Ill.
355. Heartful Heating Hints. A description of furnace and chimney design and capacity for hot air heating and ventilation purposes. 64 pp. Ill., 3. 3 x 6 in.

356. A Plain Persuasion 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., 3. 3 x 5 1/2 in.

General Boiler Company, Waukegan, Ill.
444. Catalog No. 7. A catalog completely describing the construction and operation of Pacific Stoves. Contains also specifications and price lists. 25 pp. Ill., 3. 3 x 11/2 in.

The Hart & Cooley Co., New Britain, Conn.
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179. Perfect Warm Air Furnaces. J. D. Downes. A descriptive bulletin, giving the details of construction, operation, advantages and characteristics of the Perfect Warm Air Furnaces, as installed in a number of buildings. Illustrations. 24 pp. 11 x 17 in.

HEATING AND VENTILATING

36. Universal Ventilation. H. S. Kellogg. A scientific treatise on ventilation for schools, offices and similar buildings; with 48 pages of engineering data on ventilation for architects and engineers. 72 pp. Also "Supplement A" on Air Conditioning. 12 pp. Illus. with half-tone, line drawings and charts. 8 1/2 x 11 in.

HOISTS—See Elevators and Ash Hoists

INCINERATORS—See Garbage Depositors

INSULATION—See also Stucco Base


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

64. Sound Deadening Insulation. Illustrated and descriptive booklet. Specifications and suggestions for use of Hydros "amphol" Sound Deadening Felt. 9 3/4 x 11 in. 18 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 manufacturers in commercially pure, durable form. 48 pp. Illus. 6 x 9 in.

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


434. Prometheus Electric Plate Warmers. Leaflet illustrating the plate warmer, describing its construction and type, adaptable for residences and hotels, according to specifications. Sizes and dimensions. Size 5 1/2 x 9 in.

LATH, EXPANDED WOOD

Expanded Wood Lath Corporation, 815-155 N. Clark St., Chicago, Ill.

608. Eva-Wo Expanded Wood Lath. An expanded wood lath made in sheets and attached to a supporting framework. Description, directions for installation, specifications and tests. 2 and 4 pp. 9 x 11 1/2 in. 1/16 x 11/16 in.

LATH, METAL

American Steel & Wire Co., Chicago, Ill.

328. Stucco Houses Reformed With Triangle Mesh Fabric. A complete containing valuable data on stucco work with tables of qualities of material and many illustrations of houses covered with stucco applied on Triangle Mesh Fabric. 24 pp. Illus. 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.


Buffalo Forge Co., 456 Broadway, Buffalo, N. Y.

318. Buffalo Fan System of Heating, Ventilating and Humidifying. Catalog 570. This contains a general discussion of heating and ventilating systems, as well as a full list of heating and ventilating appliances. Size 5 3/4 x 11 in.

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

673. New Sectional Catalog No. 200. Describing the latest improved multivane fans for heating, ventilating and drying and also standard steel plate fans and pipe coil heaters. Details, capacity tables and specifications. 24 pp. Illus. 6 1/2 x 9 1/2 in.

The H. W. Nelson Corporation (formerly Moline Heat), Moline, Ill.

411. Universal Ventilation. Architects' and Engineers' Edition. A scientific treatise on ventilation for schools, offices and similar buildings; with 48 pages of engineering data on ventilation for architects and engineers. 72 pp. Also "Supplement A" on Air Conditioning. 12 pp. Illus. with half-tone, line drawings and charts. 8 1/2 x 11 in.
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146 Broadway,
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Gentlemen:

ILLINOIS ENGINEERING CO. VACUUM VALVES
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From a review of our experience with this equipment, I am of the opinion that it gives good, economical service, and that maintenance cost is practically negligible.

Very truly yours,

[Signature]

General Manager.

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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.

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The New Bridge Brass Co., Waterbury, Conn.

139. Illustrated Pamplete. Describes the modern and adaptability of gold, bronze, and brass for architectural uses. Contains tables, diagrams, and specifications. 8 1/2 x 11 in.

Joseph Dixon Crucible Iron & Brass, Newark, N. J.

322. Dixon's Silica-Graphite Paint. A pamphlet describing the properties of silica-graphite paint and wide difference between it and ordinary protective paints. Contains also sample color card with specifications. 20 pp. and 6 1/2 x 8 1/2 in.


312. French's Paints and Varnishes. A catalog and price list of paints, stains, varnishes, paints, mortar colors, cement colors and materials for plasterers, with instructions for selection of colors. Complete. 34 pp. 8 1/2 x 11 in.

The Gildden Company, Cleveland, Ohio.

277. Painting Specifications. A booklet full of useful information concerning paint mixtures for applied on all sorts of surfaces.

PARKER, PRESTON & CO., Inc., Norwich, Conn.

257. Description of waterproof, odorless, lime, and water paints and directions for use. 27 pp. 3 x 4 1/4 in.

Ripolli Co., The, Cleveland, Ohio.


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

565. Immaculate Distinction. A book describing latex paint and finishing white enamel for interior and exterior use. Specifications are given for use on new and old wood, 40 pp. 8 1/2 x 11 in.

Architectural Reference Book, Third Edition. A readily accessible and comprehensive compilation of practical finishing information, from which specifications readily can be written on all materials for painting, installations, etc., 34 pp. III., in colors 8 1/2 x 11 in.

PARTITIONS


615. Folding Partitions and Sectional Partitions. Two catalogs describing folding partitions operated on pivoted castors and rubber wheels with overhanging floor track with overhanging guide track, all doors equal width. 16 and 14 pp. III., 3 x 8 1/2 in.

PILES, CONCRETE

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

156. Raymond Concrete Piles—Special Concrete Work. A book with data concerning the scope of the Raymond Concrete Co., for special concrete work. It classifies piles, gives specifications and calculations for practical construction.

Pipes, Cast Iron

Bridgeport Brass Company, Bridgeport, Conn.

556. Brass Pipes and Fittings: When and How It Should Be Used. Bulletin No. 3. This book contains valuable tables, charts and explanations for the design and installation of hot water piping systems, with illustrations of details and connections. It also discusses the use of pipe of different materials; various processes for preventing rust; and the characteristics and steel shanks on a valuable treatise for all architects and engineers. 47 pp. III., 8 1/2 x 11 in.

A. M. Byers Company, 1400 White St., New York.

548. Darling Acid-proof Drain Pipe. This is a handbook for the architect and engineer dealing with Darling drain pipe fittings, etc. Contains specifications, detail drawings, reports on corrosion tests, long partial list of successful installations, etc. 26 pp. Ill., 8 1/2 x 11 in.

Northland Tube Co., Erie, Penna.

670. National Bulletin No. 56. 3rd Edition. Devised to the installation of metal in large buildings, architectural and corrosion engineering; gas piping; specifications and tables of strength and properties.

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

500. Bulletin No. 1. Seamless Brass Pipe. Catalog contains illustrations 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. 90 pp. 8 1/2 x 11 in.

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

307. Wysor Wood Pipe, Catalog A. A description of machine-made wood-pipe and Wyckoff's express steam pipe coating. Contains also a number of pages of useful formulas and tables for hydraulic computations. 92 pp. 8 1/2 x 11 in.

PIPE COVERING

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

379. Pipe and Fitting Coverings. Catalog C. A catalog and manual and pipe and covering, elements, etc. Contains a number of valuable diagrams and tables. 71 pp. Ill., 8 1/2 x 11 in.

PLUMBING EQUIPMENT—See also Heating Equipment

Bridgeport Brass Co., Bridgeport, Conn.

461. Plumbing Supplies. Catalog of adjustable swivel traps; basin and bath supplies; wash basins, bathtub, and sink fittings. Contains specifications for installation of steel pipe in large buildings, architectural and corrosion engineering; gas piping; specifications and tables of strength and properties.

Cranes, Crane & Co., 826 So. Michigan Ave., Chicago, III.

240. General Plumbing Catalogue. A very complete and well illustrated booklet describing the complete line of Crane plumbing goods. 80 pp. 8 1/2 x 11 in.

Philip Hass Company, Dayton, Ohio.

242. Catalog D. This catalog contains a complete description of the full line of water fittings made by this company, together with specifications for wall hanging closets and direction for installing. Contains also an innovation here fully described. A feature of interest to designers is the selection of roughings in plates with dimensions. 93 II., 6 x 9 1/4 in.

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

238. Jenkins Values for Plumbing Service. This catalogue contains all necessary information for the designer, plumber, and buyer. Jenkins Values commonly used in plumbing work. 16 pp. Ill., 4 x 5 1/2 in. Soft paper cover.

Kohler Company, Kohler, Wisconsin.

200. "Kohler of Kohler." A booklet on enamelled plumbing ware described. Contains a complete catalog of finished goods, with high grade fittings. There is also a brief and interesting description of the manufacture of high grade enamelled ware, with a statement of the facts about Kohler village one of the discussed experiments in modern industrial town building. 215 pp. cloth binding. Ill., 7 3/4 x 10 in.

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

606. Vitreous China Plumbing Pictures. This catalog is complete catalog of vitreous china lavatories, drinking fountains, basins, water closets, sinks, soap sinks, bathroom sinks, and accessories. Completely illustrated with roughing in diagrams. 242 pp. III., 8 x 11 in.

Spaulding Company, Wilmington, Del.

602. Spaulding's Catalog. Catalog H. A complete catalog treating of everything pertaining to the mixing and control of water used in all kinds of shower and tub basins, lavatories and sinks, also strainers, drains and traps. Complete roughings in measurements are included. A valuable 200 pp. 8 1/2 x 11 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" action; single and double spouts; high-pressure ball cocks, vitreous chinaubbels, compression and quick-connection work. 60 pp. Ill., 7 3/4 x 10 in.

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The Dayton Pump and Manufacturing Company, Dayton, Ohio.

475. Electric House Pumps and Water Supply Systems. A heavy page, 41/2-inches, full of illustrations describing pumps as well as complete automatic electric and gasoline driven water supplies. These drawings describe pumps together with specifications, detailed drawings and tables of dimensions. 48 pp.

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The Automatic Refrigerating Co., Hartford, Conn.


370. Automatic Refrigeration for Retail Markets. A valuable treatise on the subject matter mentioned in the title. 30 pp. Ill. 8% x 11 in.

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

601. Baker System Refrigeration. A catalog explaining the application of refrigeration for hotels, hospitals, institutions and storerooms; contains also specifications for hinged and sliding cold storage doors for every equipment. Also description of cold storage windows and ice chutes. 79 pp. Ill. 6% x 9 in.

REINFORCING STEEL—See also Concrete, Reinforced

Bailey Metal Products Association, Reinforcing Bar Division, Arcade, Ill. 514.

RESEARCH EQUIPMENT—See Kitchen Equipment

ROOFING—See also Slate—Metal—Shingles

American Brass Company, Main Office, Waterbury, Conn.

515. Copper Roofing. Service Sheet. This service sheet contains complete details for laying copper roofing together with standard specifications for their installation and prices. size 8% x 11 in.

American Sheet & Tin Plate Co., Elkhart, Ind.

562. Steel Roof for Concrete Reinforcement. A book describing the manufacture, installation and physical properties of rolled, billet and rail steel bars with specifications for their application. 106 plates. size 11 x 17 in.

Asbestos Shingles, Slate & Roofing, Ambler, Pa.

52. Asbestos Corrugated Roofing. Catalog gives complete data for specifying, drawings, methods of application, sizes 8% x 11 in. 29 pp.


32. Roofing. Styles of Metal. Standard Trinidad Asphalt Building Roofing, Gencaco, Economically priced, Waterproofing and Gencaco Asphalt Flooring, illustrated with sketches showing construction. 10 pp. Ill. 8% x 11 in.

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

33. Architectural Metal Roofing Book on Built-up Roofing. A manual for architects and engineers. Contains complete specifications for each type of Architectural Built-up Roofed. 26 pp. Ill. 8% x 11 in.


212. Boyle's Bayonne Roof and Deck Cloth. List No. 2. A preparation for the orderly disposition of material in vaults and offices. 34 pp. Ill. 6x9 in.

The Copper and Brass Research Association, 25 Broad St., New York City.

468. Copper Roofing. Weights of various roofing materials. Up-to-date price quotations. 90 photos. 20pp. 8% x 11 in. Copper Roofing—See also Metals—Shingles

The Edwards Manufacturing Company, Cincinnati, Ohio.

535. Shingles and Spanish Tile of Copper. This book, illustrated in colors, describes the forms, 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.

Ludlow-Celadon Co., Chicago, Ill.

120. Roofing Tile. A detailed Reference for Architects' Use. Sheets of detailed construction drawings to scale of the sections of various types and dimensions, giving notes of units and sizes for various details. 9% x 13% in., 100 plates.

154. The Roof Beautiful. Booklet. Well illustrated with photograms and drawings, giving history and origin of roofing tile, and advantages over other forms of roofing. Types shown by detailed illustrations. Size 8 x 10 in. 32 pp.

The Richardson Company, Lockland, Cincinnati, Ohio.

482. Flashing Membrane Roof. 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. 8% x 11 in.

Rising and Nelson Slate Company, 161 Park Ave., New York, N. Y.

469. 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 specifications are prepared in co-operation with architects. Special grades are described in detail and illustrations and specifications of buildings with Tudor slate roofs. Contains also specifications of laying slate. 4 pp. Ill. 8% x 11 in.

571. Tudor Stone Roofs. A brochure describing the special grades of Tudor Stone and the 7 ton American slate produced by this company with illustrations of many structures on which it has been used. 28 pp. Ill. 6% x 9 in.

Vendor Slate Co., Euston, Pa.

332. 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, 258 So. La Salle St., Chicago, Illinois.

365. Catalog of Screen Wire Cloth. A catalog and price list of screen wire cloth, black enamelled, galvanized, aluminium, copper, bronze. 20 pp. Ill. 3% x 6% in.

The Higgin Manufacturing Co., 5th and Washington Ave., New York, N. Y.

352. Your own Home in the Higgin Way. A description of Higgin door and window screens with practical data. 16 pp. Ill. 8% x 11% in.

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

409. A Matter of Health and Comfort. Booklet No. 2371. A booklet telling all about screens, the durability of copper and its superiority over all other metals for screen purposes. size 11 x 14 in.

SHELLING—STEEL


543. Art Metal Sheling. Describes steel shelving for the storage of goods from stationers 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.

351. Carey Asfalto slate Shingles. Folder containing illustrations of attractive buildings and residences on which Carey Asfalto slate 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., Euston, Pa.

332. The Vendor Book of Roofing Data 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. 8% 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. 22 pp. Ill. 8% x 11 in.

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

STONE

The Appalachian Marble Company, Knoxville, Tenn.

Appalachian Terra Cotta, Inc., 2525 Clybourn Ave., Chicago, Ill.

TERRA COTTA

The Associated Tile Manufacturers, Beaver Falls, Pa.

TILE—ORNAMENTAL

The Associated Tile Manufacturers, Beaver Falls, Pa.

TRUNKS—See See Building Construction

VARNISH—See Paints

TELEPHONES

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

STOIC FRONTs


STOVES

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

STUCCO—See also Cement

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

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A True Story of The Beginning of A Nation-Wide Service

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Sixty-six years ago I. P. Frink lived in the country. Someone had smashed the glass in one of his tiny cellar windows. To keep out the cold, and perhaps cats or wild animals he tacked a piece of white cardboard over the window. That night the wind blew a gale. The next day a beautiful sunshiny one.

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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-resistant floors
Patches that hold
Stronger tile-concrete slabs
Double use of forms

A few nationally known building projects in which Cal has been used

- Chicago Union Station
- Riga National Bank, Washington
- B. & O. Grain Elevators, Baltimore
- Warren Harding Memorial High School, Bridgeport, Conn.
- Western Electric Factory, Kearny, N. J.

Security Cement and Lime Company

New York
30 E. 42d St.
Phone Vanderbilt 8666

Hagerstown, Md.

Chicago
322 S. LaSalle St.
Phone Wabash 8846

ARCHITECTS will find much to interest them in this installation as the Main Organ is built in a space beneath the roof with tone outlets through gothic organ screens, to be seen above the grand staircase. The Keyboard Console shown to the right of the illustration is recessed in a space on the second floor of the residence. In the lower left hand corner is shown an old Cassone, or chest. Behind this chest is a wall opening leading into the basement in which an Echo Organ is located.

Architects preparing plans for residences in which pipe organs may be installed are asked to make free use of our technical department as to location of organ, size of space required and acoustic possibilities of tone outlets desired.

THE WELTE PHILHARMONIC RESIDENCE PIPE ORGAN
MAY BE HEARD INFORMALLY, AT ANY TIME, AT
THE WELTE-MIGNON STUDIOS, 665 FIFTH AVENUE, AT 53rd STREET, NEW YORK

ALSO OWNER OF THE WORLD-FAMOUS ORIGINAL WELTE-MIGNON

WHETHER beauty is the only consideration, or when economy comes first, Vitralite, the Long-Life Enamel meets all the requirements of the architect. In Vitralite, he has a combination of outstanding beauty and remarkable economy. Vitralite produces an immaculate finish that lasts so long and wears so well that it is less expensive than cheaper enamels. From the painter's standpoint it is economical because of its ease of application and its great spreading properties.

PRATT & LAMBERT VARNISH PRODUCTS

An old style Roof in a new style Material

Everybody knows Standing Seam Roofing. The ease with which it is installed and its weather-proof qualities have established it as one of the most desirable types of roofing.

Standing Seam Roofs are now available of Horse Head Rolled Zinc—a Zinc so pure it may be bent and formed with the greatest ease and safety to the material.

Standing Seam Horse Head Zinc Roofing is shipped in casks complete with clips, nails and full instructions. Each cask contains sufficient roofing to cover one square.

Horse Head Zinc roofs endure. They do not rust. They need no protective coating. They are moderate in price. They last a lifetime.


The New Jersey Zinc Company
Established 1848
160 Front Street, New York City

Mineral Point Zinc Company The New Jersey Zinc Sales Co.

The world's Standard for zinc products

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.

—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 qualities 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"

The Economy of Rust-resistant pipe

is best appreciated when analyzing the various items of cost in a pipe installation. Such analysis, made of a variety of pipe systems, in mines, mills, office buildings, etc., shows that the pipe alone rarely amounts to more than 20% of the total cost. Yet, on the relatively thin walls of the pipe depends the life of the whole investment. If the pipe rusts out, the replacement cost for the whole system, or any part thereof, is even greater than the original installation cost. The growing appreciation of these facts is responsible for the steadily increasing use of Byers genuine wrought iron pipe for industrial, process and power piping, water supply, heating and drainage systems.

Byers pipe is made of genuine, old-fashioned hand-puddled wrought iron, which has become so favorably known for its great immunity to corrosion.

FREE ON REQUEST

Bulletin No. 38 "The Installation Cost of Pipe" containing cost analyses of a variety of pipe systems

A.M. BYERS COMPANY Established 1864 PITTSBURGH, PA.

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Distributors in all Jobbing Centers

Look for the Name and Year rolled in every length
23 inches of vacuum — secured with the Hoffman Vacuum Valve!

ISRAEL O. ENDICOTT
32 BLOODY STREET
MANCHESTER — N.H.

Oct. 19,

Mr. Edward F. Pierce, Jr.,
Hoffman No. 2 Air and Vacuum Valves
Invisible Buildings,
29 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 left out Sunday afternoon. Shortly after generating steam and starting up it gradually began to make a vacuum, increasing gradually to 23 inches up to Monday 6 P.M., I have since noticed the following standings with the system all closed:

<table>
<thead>
<tr>
<th>Day</th>
<th>10 A.M.</th>
<th>11 A.M.</th>
<th>12 M.</th>
<th>1 P.M.</th>
<th>2 P.M.</th>
<th>3 P.M.</th>
<th>4 P.M.</th>
<th>5 P.M.</th>
<th>6 P.M.</th>
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<tr>
<td>Monday</td>
<td>23</td>
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</table>

For a period of 94 hours the loss of vacuum is significantly 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 continually expect soon to see something of a vacuum.

I thought you would like to hear from your valves.

Yours truly,

Israel O. Endicott

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.
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Main Office and Factory: Waterbury, Conn. Branches: Chicago — Los Angeles

In Canada: CRANE, Limited, branches in principal cities

The beautiful interior metal work in this bank is wrought in Rome Quality Bronze.
Located at Covington, Va.

Alfred C. Blossom, Architect

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Architects specify Rome Quality Bronze, Brass and Copper because they know “Rome Quality” signifies something more than the manufacture of a good product. It signifies service.

With the problems faced by architects in designing bank buildings—which must afford complete protection of cash and securities without sacrificing beauty of interiors—choice of materials is of great importance.

It is a significant fact that Rome Quality Sheet Bronze, Brass and Copper, Brass Pipe and rods of these metals are used in some of the largest and best known financial institutions in America. But the smaller institutions have been served equally as well, for size of institution is not a factor in the nature of the service given.

With adequate facilities for the execution of any order, prompt deliveries are assured.

And the methods employed by Rome Mills assure constant maintenance of the uniform high quality which has always distinguished Rome metal.

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ROME ---- NEW YORK

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MEANS SERVICE

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 Waco doors is large enough to supply the homes of a million people.

Now the Laminex vertical grain fir door!

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 waterproof 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

Manufacturers of "Woco" Douglas Fir Doors and Fir Sash

LAMINEX DOORS
WILL NOT SHRINK, SWELL OR WARP

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
3. Only one source of supply avoiding trouble and delays
4. Complete shop fabrication assuring high grade workmanship
5. Promptness in delivery and speed in erection
6. Permanent and fireproof—steel windows and doors
7. Complete service of a nation-wide organization

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.

TRUSCON STEEL CO.
Youngstown, Ohio

Warehouses & Sales Offices from Pacific to Atlantic

For addresses see phone books of principal cities
Canada: Walkerville, Ont.
Foreign Div.: New York

Leading manufacturers of Reinforcing Steel, Steel Windows, Standard Steel Buildings, Steel Joists, Highway Products, Metal Lath, Pressed Steel Stampings and Foundry Flasks

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, with 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.

CONCRETE ENGINEERING CO.
Omaha
Chicago—Des Moines—Omaha—Milwaukee—Kansas City—Des Moines—Dallas

MEYER STEELFORMS
for lower formwork costs

When a Man Builds
—does he want a house or a Home?

HOME owners are beginning to realize the tremendous difference between various types of heating equipment. Gradually folks are beginning to appreciate the distinction between mere heat for a house and invigorating warmth for a home.

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.

The Farquhar Furnace Company
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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.

THE BARBER ASPHALT COMPANY

Philadelphia

GENASCO

STANDARD TRINIDAD Built-up Roofing

Toughness

A material which possesses toughness is defined by Webster as one possessing flexibility without brittleness; capability of resisting great strain or severe abuse; strength. The enormous strain which railroad rails receive in track service is ample proof that they possess toughness to a very high degree. They withstand, unprotected, the pounding of heavy equipment, whereas the reinforcing bars rolled from these rails are embedded in concrete and, although constantly stressed, they are not directly subjected to shock and impact. The logical conclusion, therefore, is that rail steel having proven its ability to withstand abuse as a rail, unprotected by any surrounding medium, possesses the quality of toughness and that this same steel rolled into reinforcing bars, the additional heating and rolling of which still further improves the steel, also possesses toughness. Then, when the bars are embedded in concrete they possess resistance to stress far in excess of any demands that will ever be made upon them as a concrete reinforcement.

In 1917, Professor Talbot, of the University of Illinois, conducted a series of tests on the Western Newspaper Union Building which was being wrecked for the new Union Passenger Station. This building was nine years old and of the flat slab type reinforced throughout with rail steel reinforcing. After various loadings which failed to exceed the elastic limit of any of the bars, a weight of about 1600 lbs. was dropped on the floor, above the column capital of the floor below, until the capital and the slab had been entirely shattered. This same method was followed on the floor slabs between columns until the bars were entirely exposed. The bars were then cut out with an acetylene flame. It should be noted that after this severe abuse the bars had to be cut—they did not break under the terrific impact of the weight, which is conclusive proof that Rail Steel Bars possess excess toughness as a reinforcing medium embedded in concrete.

Specify your reinforcing steel to meet A.S.T.M. Specification A-16-14 or equal.

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Send for this Valuable Book—FREE

The first and only authoritative and comprehensive treatise on concrete reinforcing bars and containing most important information on the manufacture, qualities and use of Rail Steel Bars. The cost of this booklet makes it necessary for us to control its distribution and we ask that your request for copy be sent us on the letterhead of an architectural or engineering firm. Address the nearest office, Dept. D.

RAIL STEEL FOR CONCRETE REINFORCING

McCabe Special Folding Door Hanger No. 405

Any number of doors can be used with this type Hanger—all doors hinged together. Bottom carrier and top guide are used on every other door. Entrance door in partition can be provided with use of odd number of doors. Adapted for use where head room is limited. Simple in construction and easily applied.

TYPE NO. 72
Single hung from center of each alternate door. No track or guide required in floor. For Accordion doors.

Write for "Brown Book and Detail Set"

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New York City

McKEOWN
"Lattis-Trusses"
used in
Auxiliary Armory
Louisville, Ky.
Captain Branton B. Davis, Architect

Economy of Erection
Efficiency of Construction
Assured Clear Floor Space
Unequaled Roof Construction
are outstanding features

McKeown Bros. Co., Inc.
Established 1894
Contractors and Engineers
Builders and Erectors of Wooden Lattice and Beamstring Trusses

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A new feat in Balanced Movement—
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).

The Hart & Hegeman Mfg. Co. Hartford, Conn.

The criticisms of all Program Machines as used in connection with Electric Time and Program Clock Systems, have established the fact that we can offer the trade the simplest, most compact and most flexible equipment made.

**Our Engineering Department**

is at your service. Send us your preliminary plans, let us prepare and submit detailed specifications, conduit and wiring layouts, with complete data for your general electrical specifications.

**Some Users:**

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Manufactured and Sold by

LANDIS ENGINEERING AND MFG. CO.
WAYNESBORO, PA., U. S. A.

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The line of most resistance

DURIRON universally acid-proof

Made only by

The Duriron Company
Dayton, Ohio.

Koll Lock-Joint Columns Make Beautiful Entrances

The Tucker-Rice porch illustrated is now preserved in the Essex Institute garden. It was erected in 1800, being evolved by Samuel McIntyre of Salem, who realized the possibilities of the Corinthian column and entablature.

We can reproduce this and many other beautiful entrances, using Koll Lock-Joint Columns. Our 25 years' experience assures architectural correctness, clear material and positive permanence of construction.

Write for catalog W47.

Hartmann-Sanders Co.
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315 West 39th Street, New York City

Insulated Plaster Base—Wall Board—Sheathing

Wrapped 6 Sheets to the Bundle Wall Board Wrapped Separately

Insulite Insulation
NOT A PLASTER BASE
Board Form Insulation of Quality and Economy

The Insulite Co.
Subsidiary—Minnesota & Ontario Paper Company
BUILDERS EXCHANGE BLDG. MINNEAPOLIS, MINN.
No Upkeep Cost

The first cost of Appalachian Tennessee Marble is its only cost.

The original appearance of Appalachian Tennessee Marble is its permanent appearance.

Architects and contractors, familiar with Appalachian Marble, know it never requires waxing or other expensive refinishing. They can unhesitatingly recommend it not alone for its superb coloring, but for its lasting beauty that requires no expenditure for upkeep.

Appalachian Tennessee Marble interiors are an enduring record of the architect and contractor’s careful work. They are interiors that each passing year gain the greater appreciation of their owners. Upkeep cost is of exceptional importance to those contemplating the erection of buildings requiring luxurious appearing interiors of beauty and dignity.

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419 Third Street - Milwaukee, Wisconsin

Flexibility in Room Arrangement

Wilson Rolling Partitions provide flexibility of floor space for schools, churches and public buildings. They form large or small rooms as occasion demands, and are adaptable to old buildings as well as new.

Write today for 40-page catalog No. 2.

The J. G. WILSON Corporation
11 East 36th Street, New York City
WHERE QUALITY COUNTS

CHAS. R. PEDDLE, Archt.

COLONIAL ARCHITECTURE is especially difficult to roof satisfactorily. Yet this roof of Vendor Slate supplied from regular stock leaves little to be desired. The same quality obtains throughout every detail of Vendor Service and especially into the rarer colors and materials of Vendor Architectural Slate. Let us handle your slate roofing problem.

Largest Shippers of Roofing Slate in the World

VENDOR SLATE CO. INC.
LASTON-PENNSYLVANIA

Sketch shows No. 40 sash and No. 6 corner bar at underside of our No. 28 awning transom bar with No. 149-A undercovering over entrance way and No. 1437-A used as a headjamb in return.

Kawneer Resilient Store Front Construction affords the architect an efficient member for every requirement from lintel to floor and from wall to wall. Full information, details and estimates will be mailed upon request. We have more than seventy branch offices and sales connections from which your requirements can be filled promptly.

Kawneer SOLID COPPER STORE FRONTS

In the house that is being built today it will possibly be many years before the ease of renewing the seat in Speakman Hi-Seat valves is appreciated. However the simplified construction of these valves can be appreciated right now. The seat is in one piece and can be screwed out and another put in its place within a few minutes. Any flat or square tool, even the end of a pair of pliers can be used.

Speakman Renewable Hi-Seat Valves are part of all Speakman Built-in compression valve showers and fixtures.

We will gladly send Folders on the Renewable Hi-Seat Valve, also our Catalog H.

Speakman Company
Wilmington, Delaware

Speakman Showers

Hot-Water Warmth in the garage from a steam boiler in the basement!

Sounds a bit peculiar, doesn't it?

Yet it's a very simple installation and is working satisfactorily in a great many garages this winter.

TACO Water Heater, attached below the water line of this steam boiler, and connected by covered pipes with hot-water radiators in the garage, keeps the garage comfortably warm all winter without attention or any noticeable difference in the coal bill.

This is but one of many effective ways in which TACO can be used. Its main job is to heat hot water for homes, apartments, office buildings, etc., by the effective indirect method described above—using heat that is already paid for.

Booklets, diagrams and full information covering the different designs and sizes in which TACO is made will be furnished immediately on request.

Thermal Appliance Company
342 Madison Avenue New York City
Let the Best Glass Make a Better Schoolhouse

MODERN schoolhouse design continues to indicate the progressive thought and superior wisdom of architects in providing for the health and comfort of the younger generation.

The roofs of many recently constructed schoolhouses are revelations in the way glazing is utilized to provide more air, light, and sunshine.

Art classes work under the advantages of the professional studio with an abundance of good north light; young botanists culture their specimens all year 'round in well equipped greenhouses; and lunch and rest rooms are flower and sunshine filled. Good glazing makes all this possible just as "The Best Glass" makes good glazing possible.

Our improved mechanical process of drawing and blowing enables us to produce a glass uniform in thickness. It is flat, containing no reverse curves, and is of a perfectly smooth surface and brilliant polish unequaled in any other window glass.

Every box of genuine glass produced in our factories is stamped with our elliptical trade mark signifying manufacture according to our own improved mechanical process, and guaranteeing the quality of the contents.

The best glass is carefully packed in strong, well-made boxes bearing markings which signify grading to the highest quality.

Our grading is the recognized standard for the United States, and is higher than foreign standards.

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Of the same superlative quality that has made the VENUS Pencil famous; soft, gray rubber that erases clean without a smudge. Made in 12 sizes.

At stations, drafting supply dealers and stores throughout the world.

American Lead Pencil Co.
228 Fifth Ave. New York
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QUIET AND ODORLESS
HANDSOME AND DURABLE

RODD FLOORS of California Redwood Blocks are equally suitable for the office or factory. Light in color, odorless and quiet, they can be sanded smooth or given an attractive wax or varnish finish.

Heavy traffic only irons the surface out harder. All Rodd Blocks are kiln-dried by a patented process. Moisture does not cause the blocks to swell and the floor to heave. Dryness does not shrink and loosen a Rodd floor of Redwood blocks. Redwood floors stay flat and tight. A natural, odorless preservative protects Redwood against fungus decay.

Quiet, resilient, dustless, Rodd Redwood block floors mark a big advance over other types of floors for use in factories, warehouses, shops, foundries, mills, offices and private residences.

To Architects and Builders we will gladly send Rodd Floor Specifications for new buildings or old buildings to meet any conditions of wear or load.

THE RODD CO.
900 Century Building
Pittsburgh, Pa.
Eastern Contract Engineers for Redwood Block Floors
Manufactured by the Pacific Lumber Company

Rodd Floor of California Redwood Blocks in the office of The Lion Specialty Co., Chicago, Ill.

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Home Office: 112 South 16th Street
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Swimming Pool of the Kansas City Athletic Club, safeguarded 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 through 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 re-heating. Furthermore, the operation of an R.U.V. Sterilizer requires no skilled attention. It is as simple as snapping on the electric light.

Won't you let us send you—without obligation—literature and complete data on fully guaranteed Swimming Pool Recirculating Systems or Drinking Water Systems?

KERNER INCINERATOR COMPANY
1019 CHESTNUT STREET MILWAUKEE, WIS.

"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 Kernertor-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—

KERNER INCINERATOR COMPANY
1019 CHESTNUT STREET MILWAUKEE, WIS.

KERNERATOR
Built-in-the-Chimney

Drop all waste here

—then FORGET it!
How these elegant apartments, idle for months—were quickly rented

Oak flooring turned a loss into a profit

These new modern apartments, in a high-class residential district of St. Louis, were a failure. Why? Because people wouldn’t live on the cold hard terrazzo floors with which they were equipped.

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