

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LXVI.

Copyright, 1899, by the AMERICAN ARCHITECT AND BUILDING NEWS COMPANY, Boston, Mass.

No. 1250.

Entered at the Post-Office at Boston as second-class matter.

DECEMBER 9, 1899.



SUMMARY:—

The General Movement to combine Local Art Societies into Larger Federations.—The present Phase of this Movement in New York.—The Desirability of a National Commission of Fine Arts.—An English Builder sued on a Withdrawn Bid.—The Court rules him Responsible in Damages.—The Legal Principles involved.—A similar Case in American Practice and its Result.—The Smith Monument in Fairmount Park, Philadelphia.	81
THE LEGITIMATE DESIGN FOR THE CASING OF STEEL-SKELETON STRUCTURES	83
REPORT OF THE COMMITTEE ON EDUCATION OF THE AMERICAN INSTITUTE OF ARCHITECTS.	84
MARBLE.—I.	86
BOOKS AND PAPERS.	87
SOCIETIES.	88
ILLUSTRATIONS:—	
Entrance Front: "Wyndhurst," House of John Sloane, Esq., Lenox, Mass.—Station for the Central Traction Co., Washington, D. C.—Chairs designed by Mr. P. G. Gulbranson, Architect, Boston, Mass.—Accepted Design for the Washington Public Library, Washington, D. C.—A Competitive Design for the Washington Public Library, Washington, D. C.	
Glasgow Cathedral.	
Additional: The Porte Cochère: "Wyndhurst," House of John Sloane, Esq., Lenox, Mass.—The Neustädter Thor, Tangermünde, Prussian Saxony.—The Library: Caversham Park, England.—Carlos Place, Grosvenor Square, London, Eng.	88
NOTES AND CLIPPINGS.	88

WHAT will be the result of the tendency which is to be observed throughout the country to combine local societies connected with various branches of fine-art into federations, which, while leaving to their component parts their independent existence, can exert, on occasion, a united and powerful influence in regard to subjects which have a common interest for all their members, it would be difficult to say; but that these federations are destined to play an important part in the development of American art cannot be doubted. In New York, where the system has been longest established, the Municipal Art Society, as the federation is called there, is treated by the public authorities with a respect which is most edifying, and its recommendations are, as a rule, carried out with almost comic alacrity by a city government which is, to say the least, not noted for the intellectual and artistic training of its members; and, in smaller towns, the power of a similar association, which is likely to represent a larger proportion of the community, and to have its work less interfered with by private jealousies than it is in New York, should be still greater. Even supposing it, however, to be proportionately the same, it would have, as we see in New York, an almost overwhelming influence in suggesting and promoting public improvements, in giving a wise direction to the expenditure of public money on works of art, and in uniting the resources and efforts of the lovers of the fine-arts in managing exhibitions and giving prizes; while, through these various activities, which would be infinitely more conspicuous if carried on in this way by an important organization, representing a large constituency, than if divided up among many independent bodies, it would attract the interest and attention of the public to artistic matters with an effectiveness which is beyond the reach of any other agency. If these municipal federations should multiply, as we trust they may, it would not be long before a rivalry would spring up between them, which would greatly stimulate them and their members, and, in consequence, the communities which they represented, and it need hardly be pointed out that this local rivalry has always been necessary to the highest development of art in any country. It seems now extravagant to say that the art-museums of the twenty-fifth century all over the world may have galleries labelled "School of Michigan"; or "School of Central Ohio"; or "Early New York School," where myriads of people will refresh their souls from the works of the great American masters of painting and sculpture; or that Commissioners of Conservation may, five hundred years hence, have in charge the precious remains of the American architecture of the twentieth century; yet the present intellectual, material and moral condition of our population

is extremely favorable to a rapid development of the arts, and nothing could do more to initiate such a movement than the spread of the system of which New York and Detroit furnish examples.

THE proposition for the consolidation of all the artistic societies in New York, for the purpose of enabling them to hold an exhibition each year in the interest of all the arts, and, in general, for promoting the mutual assistance which artists in this country need so much, seems to have excited a great deal of public attention, and the movement may, perhaps, be productive of good to art and artists. That the combined societies, even with the help of their friends, are ever likely to be able to build an immense exhibition building in the business district of the city, we do not believe, nor do we think that a combination of artists for the purpose of hiring able salesmen for their works would meet with favor, either from the public or from the artists themselves; but that there is a crying need of some great annual exhibition of the fine-art of the year, like the *Paris Salon*, or the Royal Academy Exhibition in London, where all the good work produced in the country can be shown, and the best of it rewarded with prizes worth contending for, is certain. Whether a combination of the present local societies in New York is the best agency for providing such an exposition is a very different question, and one which cannot be answered without a knowledge of the way in which the large organization would be formed, and its affairs managed afterwards. It may be taken for granted that any suggestion of its control by a clique, or by a combination of cliques, would be at once fatal to its usefulness; and the suspicions of attempts to use the influence of an association for private ends which have occasionally, although, as we think, unjustly, fallen upon certain of the individual artistic societies in New York, should be made impossible by throwing open the doors of the annual exhibition to the whole American world of art, and by leaving the choice of the jury to the competitors, or in some other way satisfying people outside the societies that they will have fair treatment. It is hardly necessary to say that an exhibition confined to the work of members of the societies concerned would have very little interest; and, as the New York artistic societies have always been very liberal in welcoming the work of outsiders, there is no probability that anything of the kind would be thought of; but the people who live in great cities are always regarded with distrust and jealousy by those who do not, and members of artistic societies are always the object of suspicion and detraction among their rivals outside; while artists are, of all people, perhaps the most inclined to mutual recrimination and criticism, and to jealous panics, which continually upset the plans made for their welfare; and all these circumstances must be considered in trying to arrange for anything like united effort on their part.

TO those of us who look forward to the time when American streets and American buildings shall be the most beautiful on earth, and shall be adorned with pictures and statues conveying to the beholder, with a power never known before, the noblest sentiments of the American mind, clothed in forms of perfect beauty, the prospect of uniting in harmonious coöperation the people who now take such delight in sending sneers at each other to the newspapers does not seem brilliant; yet something of the kind must be done if American art is to be supplied with the incentive which is now necessary to its progress. The natural way to accomplish the end would be for the National Academy of Design, or, let us say, the Fine-Art Commission of the United States, or some such body, holding an undisputed superiority, by virtue of its age or official rank, over all the other artistic societies, to provide for a great annual exhibition, with suitable rewards in the shape of prizes and medals, and, let us whisper, of gratuitous advertising, with the aid of all the other societies as subordinate in authority. Unfortunately, the National Academy of Design, which is, under its present constitution, partly a rival of the other societies, is not likely to take the initiative in any such enterprise, and the United States has no Fine-Art Commission, and if it had one, there is not much probability that its powers would extend to participation in such affairs; so that there seems to be nothing for the artists and art-lovers of the country to do but to work out a plan for themselves. At present, we must

confess that we have not seen any plan described that seemed to us very likely to be successful, but the object to be attained is well worth all the perseverance and tact that can be devoted to it.

AN interesting case was recently decided in England, involving the question of the validity of a contract consisting simply of an offer and its acceptance. A certain owner wished to make additions to his house, and had plans and specifications drawn up, and invited certain builders to bid on them. One of the firms of builders, after examining the plans and specifications, sent to the owner the following letter:—"Our estimate to carry out the sundry alterations to the above premises according to the drawings and specifications amounts to the sum of £1,230." The day after receiving this letter, the owner wrote to the builders, saying that he accepted their "offer to execute for the sum of £1,230" the work specified. After a time, he received another letter from the builders, saying that they had made a mistake in their figures, and withdrew their estimate. The owner then had the work carried out by another builder, at a higher price, and subsequently sued the first contractors for the difference between their estimate and what he had actually been obliged to pay, as damages for breach of contract.

THE builders fought hard, and the case was finally decided in the Queen's Bench Division of the High Court of Justice. Of course, the effort of the defendants was to show that the estimate and its acceptance did not form a binding contract, and that they were therefore not liable for damages for withdrawing from it. They brought several builders, who testified that it was a custom of the trade to give estimates in the form which was used in the present case merely as a sort of expression of opinion, while a definite proposal would have been made in such words as "we offer to execute the work"; and they further contended that, as the clause in the specification stipulating the time within which the additions should be completed was left blank, the owner could not have understood that he was making the final bargain for the work. The Court, however, rejected both these contentions. In regard to the omission of any stipulation as to the time of completion, it said that this simply left it to be implied that the work should be finished within a reasonable time; and as to the claim that the estimate of the defendants was, in accordance with a custom of the trade, merely an expression of opinion, and not a definite offer, it said that there was no such custom, and that if there were any it was contrary to the law. The question was not one of customs, but of what each party intended that the other should understand by his letter. In the opinion of the Court, there was no doubt that the builders intended the owner to understand their letter as an offer to do the work for the sum mentioned; and that the owner intended his letter to be taken as a definite acceptance of a definite proposition. These two things were all that was necessary in law to form a complete contract, to which either party could hold the other, and if the builders had made a mistake in their figures they must abide by the consequences; and judgment was accordingly given in favor of the plaintiff for two hundred and fifty pounds, and the costs of the suit.

BOTH the *Builder* and the *British Architect* comment on this case, and both of them, as we think, make mistakes in regard to the legal principles concerned. The *Builder* says that "where a builder, in reply to an inquiry, says that his estimate to carry out certain work is so much, there is no contract. Where, however, a building owner replies that he accepts the offer, then there is a completed contract." This is quite misleading. If a builder, in reply to an inquiry or otherwise, says that he estimates the cost of a given piece of work to be a certain sum, both parties understanding and intending this to be simply an expression of his opinion in the matter, no acceptance by the other party can convert the opinion into a contract; and, on the other hand, if an owner offers plans and specifications for definite tenders, he has a right to assume that the replies that he receives will be definite proposals, and, as those who send them know that he will so consider them, they ought not to be, and will not be, allowed to escape responsibility for them by vague wording. It is, in fact, very common for both builders and owners to try to get the better of each other by evasions of this sort, and if the law of the matter were

better understood, many losses of money and temper might be saved. It is very common, for example, for an over-sharp owner to ask a builder to look over certain plans and specifications, and give him an idea of the cost of carrying them out, and subsequently, if he thinks it for his interest to do so, to notify the builder that "his proposal is accepted," and try to terrify him, by threats of claims for damages, into carrying out the work at a loss. This proceeding is exactly similar to that of sending in, where definite bids are asked for, "estimates," or some other vague proposals, which the builder who makes them imagines he can repudiate later, if he chooses. The law is the same in both cases, that a proposition must be construed as the one who makes it thinks that the other one will understand it. In the first instance, if the builder who makes the estimate supposes at the time that the owner will regard it as simply an opinion, it is an opinion only, and no pretended acceptance can make a contract out of it; while, on the other hand, a letter which the one who sends it knows that the one who receives it will consider to be a definite proposal is a definite proposal, whatever its wording, and, by an unconditional acceptance, is converted into a binding contract. With the moral question of taking advantage of a builder's mistake in figures, the present case has nothing to do. If the owner knew that the builder had made a mistake in his estimate and concealed his knowledge, his acceptance would be fraudulent, and not binding on the builder; but, where the parties act in good faith, it is certainly more for the interest of honest people that those who make mistakes should manfully stand by the consequences of them than that binding agreements, on which, it must be remembered, many other agreements often depend, should be set aside on the discovery of real or pretended errors in the calculations of one of the parties.

THE law in this country on the subject is the same as that of England. We remember a case in which an architect was requested to make drawings and specifications for an alteration. The project was afterward abandoned, and the architect had to sue the owner for his pay. The owner, at the trial, recollected, as he said, that he had told the architect that the cost must not exceed a certain amount, and the evidence showed that a bid had been received from a responsible contractor to do the work for a sum within the alleged limit, and had been immediately and unconditionally accepted; but that it had been withdrawn, subsequent to acceptance, on the ground that a mistake had been made in the figures; and that the owner had decided not to try to compel the contractor to do the work; and it appeared also that the other bids received were higher than the alleged limit; and on this ground the owner refused to pay the architect anything. The court held that, supposing the architect to have been properly notified of the limit within which the cost of executing his design must be confined, the offer to carry it out for a sum within the specified amount, and its unconditional acceptance, constituted a valid contract, which the owner might have enforced if he had wished to do so; and that the fact of his having concluded not to enforce it, even though it was shown that the architect advised him not to have his work done by unwilling contractors under compulsion, gave him no right to claim that the architect had not fulfilled what he asserted to have been the instructions given him.

A MONUMENT is in process of erection in Fairmount Park, in Philadelphia, to the memory of the late Richard Smith, which is to cost half a million dollars, and will otherwise form one of the most interesting structures in the city. The idea of the architect, Mr. Windrim, is to divide the design into two portions, each consisting of a sort of colonnade, forming in plan an arc of ninety degrees, and terminating in a pedestal, on which stands a single gigantic column, supporting a colossal statue. The two statues, with the columns on which they stand, are separated far enough from each other to allow the main driveway of the Park to pass between them, the curved screens diverging on each side, so as partly to enclose one of those circular deserts, or "concourses," formerly beloved of park commissioners. Places are provided on the structure for a large number of statues, and Messrs. Daniel C. French, William Ordway Partridge, Paul W. Bartlett and J. Q. A. Ward have been already commissioned to execute the most important ones, while niches will be filled by works from the hands of Messrs. Bissell, Gaffey, Calder, Esekial and Murray, and Misses Bessie C. Potter and Katherine M. Cohen.

THE LEGITIMATE DESIGN FOR THE CASING OF STEEL-SKELETON STRUCTURES.¹

Wainscoting in the Fürst-eneckzimmer, Frankfurt-on-the-Main.

WHEN we ask ourselves what is the legitimate form or style of design to be adopted in connection with the skeleton-construction of buildings, we implicitly assume that there is some necessary connection between the design of a building and its structure; we assume that buildings must express structural qualities in their design if they are to be considered to be works of art. I have no doubt that many of you will be surprised that I think it worth while to call your attention to so self-evident a fact; and some may even feel some resentment that I take your time in discussing what you have come to look upon as an accepted principle of the art we practise; but I think it quite worth our while, before we argue concerning a subject which involves so broad an assumption, to examine the assumption itself with some care. As you will see, if you follow me to the end, I, myself, think this assumption, with some important qualifications, is warranted, and that the dogma to which it leads is of value to us; nevertheless, I do not think it can be held to be true in the form in which it is usually accepted, and this becomes clear when we note that if we accept this dogma, without limitations, and in connection with it study carefully contemporaneous buildings, we cannot help coming to the conclusion that architecture is, for us, a lost art. Indeed, we are compelled to go much farther, for serious defense of this dogma, in connection with the study of the buildings which have come down to us from the past, must convince us that no such thing as architecture has ever existed, and we must find ourselves led to the view, which seems to be maintained by at least one of our best-known architectural writers, that architecture ceased to exist long before any buildings were constructed of which any examples are now extant.

It is apparent from the words just uttered that I do not accept this dogma as valid; yet let me repeat that, in a way, I trust to it, and try in my practice to work by it; but this not because I believe that it is exactly true as usually stated, but because I believe that it covers a real truth, which we will do well to try to comprehend clearly.

The real guiding principle which is back of this dogma may best be brought to light if we note that this special architectural dogma is but an expression in relation to architecture of the general dogma of artistic realism.

This general dogma may be stated thus: "Fine-art is the expression of the true essence of the subject presented by the artist." This is a dogma not difficult to uphold if it is applied to literature alone, as it is by the literary realists of our day. But if we attempt to apply it to all fields of art, we at once find reason to doubt its validity; for evidently it does not apply to music, for instance, which clearly cannot be described as the expression of the true essence of the subject presented by the musical composer.

This difficulty has been met by restatements and limitations of the principle in relation to special arts, and the doctrine to which I am now asking your attention is the special adaptation of this supposititious principle to make it in some measure fit in with the actual facts of architectural development and practice.

Before discussing this special adaptation to architecture we may note for a moment one special ground for doubting the validity of the general principle of artistic realism, beyond the fact, just mentioned, that it must be restated and adapted to make it applicable to all the arts. This special ground is this: that if we consider the matter with the least care we at once note that, far from attempting to express anything like the full truth, each of the arts is based upon the deliberate acceptance of conventional falsities. The sculptor depicts beauty of form in living beings, but to do this in the best way he finds it necessary to use lifeless material, and, furthermore, to assume a falsity of colorlessness. The painter assumes a falsity, in depicting form on plane surfaces; he adopts conventional "keys" in the management of color, which are far and away from the "key" of nature. The draughtsman in black and white goes a step farther and assumes a falsity of colorlessness, expressing his thought in mere relations of shade and shadow. The dramatist assumes falsity of *entourage*, and the romance writer merely describes action, in place of truthfully presenting action; and to this the poet adds further falsifications of reality, in adopting rhyme and rhythm.

It were easy to show, were this the appropriate place, that these conventional assumptions of untruth in all the arts are adopted because thereby the artist is enabled to gain more of beauty than were

otherwise possible; but they, in my opinion, completely silence the upholders of the thoroughgoing doctrine of Artistic Realism.

Turning now again to the special adaptation of this doctrine to our own art, we find that it is held in something like this form: It is assumed that the essence of good architecture consists in its expression of practical and constructional truth; and that a building to be an architectural work must, first, express in its design constructional values, and, second, must suggest upon its exterior the uses of the interior. Let us consider these two assumptions in reverse order.

Without doubt, certain indications of the interior uses in the exterior design of a building are sources of satisfaction to the intelligent observer; but to hold that all such expression is beautiful becomes a manifest absurdity when we consider that if we carried out such a notion we should, in designing a work of perfect beauty, feel compelled to express, on the exterior design, the function of the most menial offices of a building, the existence of which must actually be entirely forgotten if we are to gain an impression of lasting beauty from the whole mass. Evidently we may express use in our design, but we cannot afford to do so unless this expression is inherently beautiful.

Turning now to the first assumption mentioned, here again we note that while no one will question the æsthetic value of certain expressions of constructional function, on the other hand it is manifestly absurd to claim that all expression of constructional function is necessarily æsthetic; for to make such a claim one would have to hold that all first-rate engineering structures are inherently æsthetic. Thought of the æsthetic horror of the average, structurally effective, cantilever bridge, for instance, suffices to answer any such argument. Evidently, then, we may express constructional function in the designs of our buildings, but we cannot do so properly, as artists, unless this expression is beautiful.

We may now, with advantage, look back again, for just a moment, to the general doctrine of Artistic Realism, to gain some inkling of the direction in which we should look for the truth which is veiled by the architectural dogma we are considering. A thoroughgoing examination of this doctrine of Realism, which I have made elsewhere, but which I have no time even to review here to-day, leads us to the conclusion that the dogma which we treat as a positive principle is really only a negative one. We note certain experiences of ours which give us a sense of ugliness, and we conclude that could we produce *opposite* experiences we would obtain a sense of beauty, which itself is the opposite of ugliness. But this is, of course, an illegitimate conclusion.

We note that unreality, untruth, is disagreeable and ugly, and we, therefore, thoughtlessly conclude that if we can manage to express reality and truth we shall gain an expression of beauty. But such a conclusion is manifestly absurd. If we avoid untruth, unreality, we shall, of course, avoid all such ugliness as is bound up with this untruth and unreality, but we shall not in that fact gain beauty; we shall gain merely the pale, uninteresting absence of ugliness.

If now we apply these considerations to our own art, we note that they teach us two important lessons. They teach us, first, that we must avoid pretense of constructional effects which cannot exist; in other words, we must avoid lying about our construction; for all such lying and pretense is disagreeable and ugly. But having done this we must, as strenuously, avoid expressions of structure which are not beautiful. I must not be misunderstood to mean that the beautiful expression of structure is an unimportant element in architecture. On the other hand, I think it a most important element. But what I do hold is that it is only one of many elements of which I may mention, as other examples, symmetry, composition, proportion, color, which have no relation whatever to logical truth. Indeed, the more beautiful expressions of structure we can incorporate in our buildings the better; but it is the beauty in all cases which counts, and expressions of structure which are not beautiful are not to be condoned on any account.

A similar argument might be presented in relation to the expression of the use of the interior of a building in the design of the exterior; but, as that relates but little to the subject of our present discussion, I shall pass it over with this brief mention.

I shall now ask you to consider with me a second application of our theoretical study, which has a direct bearing upon the subject of this discussion.

There have come down to us from our architectural ancestors many beautiful forms which have had their origin in constructional usage, more or less illogical, as we, with our superior engineering knowledge, now see. They are beautiful *per se*, and are so because they have been perfected by long series of experimental efforts to attain to beauty. Such, for instance, are certain forms of the arch, certain orders of columns, pilasters, cornices, mouldings, etc. These forms have become for us æsthetic elements of intrinsic beauty, and capable of employment as such for purely decorative purposes.

I see no reason why we as artists should not use them thus, as decorative elements, if we make no pretence that they have constructional function. In thus using them we indeed find it easy to go too far; in thus using them we tend to make ourselves decorative architects and fail of the highest possible architectural ideals; but we must not forget that it is impossible for any of us, as it has been impossible for any of our architectural ancestors, to avoid altogether such decorative use of old constructional forms; nor must we forget that if we logically eliminated all such forms we should deprive

¹ A paper read at the Thirty-third Annual Convention of the American Institute of Architects by Mr. Henry Rutgers Marshall.

ourselves of most of the beauties which we find of value in all existing architectural works.

It is not necessary for me to remind you that even the beautiful arch forms used on our exteriors do not indicate in any accurate way the lines of thrust; and that the arch which is proportioned accurately to accord with the forces acting upon the several *voussoirs* is a form most shocking to contemplate, and one which on this account is discarded even by the engineer.

In turning now to a brief consideration of the application of our contention to the special problem of the exterior design of steel-skeleton structures it may be well to review the points we have made. We have learned:—

First.—That we must avoid lying about our structures, for the simple reason that deceit is disagreeable and therefore ugly as soon as it is discovered. Nevertheless,

Second.—That for the sole purpose of adding beauty to a building there is no objection to the use, in a purely decorative way, of beautiful forms which have in the past been evolved because of constructional values other than those very markedly appropriate to our building, provided they are not used in a way that will deceive. This has always been the practice of architects in the past, and only by slow steps have styles been evolved in which decoration altogether inappropriate to new structural demands has been eliminated. We may labor to this latter end, but we cannot hope to retain beauty in our structures if we concentrate our attention upon logical development rather than upon beauty of effect. We learn,

Third.—That the expression of structure is in itself one of the most permanently effective elements of architectural beauty, and that, therefore, it should be emphasized, but only so far as this can be done without destroying other equally or more important elements of beauty.

Fourth.—Whatever else we do, we should strive to produce beautiful buildings, whether we express structure and use or not; and while we should never forget that the expression of structure and use are among the most effective elements in an æsthetic result, nevertheless we should bear in mind that they are always of less importance than beauties of line and proportion and mass.

In the modern steel-skeleton structure our problem is the construction of a beautiful screen wall. We must make a screen which will protect the steel structure from injury, and at the same time protect the occupants of the building from the elements.

Now the simplest solution of this problem is the construction of a plain wall pierced at practically regular intervals with openings, and with no projecting cornices, and with no lines of shadow whatever. But such a structure can only in exceptional cases be anything but exceedingly ugly. We are bound to try to make it interesting, and to this end we ought first to attempt to divide our surface into masses of pleasing proportion, and this we may do by differences of color in the material used, or by the introduction of projecting parts which will divide the surface by means of the shadows cast.

With this end in view, I see no objection to the introduction of projecting cornices and even of applied Classical pilasters, or superimposed "orders," if you will; always provided these features do not pretend to be what they are not, and provided they are beautiful in themselves, as in our common practice is not always the case; and provided they divide the spaces into masses of beautiful proportions, as, I am free to confess, I think in our practice they seldom do.

Nor do I see any objection to the use of arches carried on piers running through many stories, which our friendly critic, Mr. Russell Sturgis, so much opposes; this again, however, provided there is no deception as to the interior structure or use, and always provided that the forms given to the mass are beautiful in their proportions and relations.

Having gained beautiful proportions, we should endeavor to beautify the subordinate parts by groupings of our minor openings and by appropriate ornament.

All this you will, perhaps, say is little more than a statement of platitudes. The question before us is whether we should make it our aim to express upon our screen wall the structure back of it. My answer to this is that if we ever evolve a perfectly satisfactory type of skeleton-construction building, it will inevitably, to a great extent, express this structure behind the screen; but I am convinced that the way to get at this happy result is to try to design a beautiful screen wall, for to do this we, of course, will incidentally have to see to it that it does not lie about the structure behind it. If we design in this way we shall be compelled to keep in mind the structure behind our wall, and presently, if we keep the thought of beauty always before us, we shall find that we are making beautiful buildings, and at the same time are expressing, to a great extent, their construction—as much so, at all events, as any other architects ever have done.

But let us never, on any ground, condone ugliness of proportion or detail. Let us never offer as a plea in extenuation of ugliness that our building is logical, that it truly expresses its internal use and its structural method. That is but the excuse of incompetence, and itself proves the man who offers such an excuse to be a builder merely, and not an architect. HENRY RUTGERS MARSHALL.

CELTIC RUINS IN SWITZERLAND.—Swiss archaeologists have decided that a certain ruin near Biel, which has been held to be one of the many Roman remains, is really Celtic, the only one of the kind in the country.—*Exchange.*

REPORT OF THE COMMITTEE ON EDUCATION OF THE AMERICAN INSTITUTE OF ARCHITECTS.

YOUR Committee on Education has held no stated meetings during the year, but several members have met together on different occasions and have discussed the subject-matters of this report, and the Chairman of the Committee has corresponded with all the members.

Your Committee, following its recent policy of endeavoring to keep the profession informed as to the condition of architectural education throughout the country, presents a brief report with regard to the principal architectural schools, based on statements received from those in charge of the instruction in these institutions.

As to numbers of students and the character of the curricula, there are no marked changes since the last report, so that it does not seem worth while to repeat the statistics which were gathered last year. It would be well that such statistical tables relating to the schools should be compiled at intervals, say, of five years, and the Committee hopes that the policy here suggested may be pursued by its successors.

The Department of Architecture of the Massachusetts Institute of Technology reports the opening of what promises to be a prosperous year, with important additions in its equipment, both in accommodations in the library and the collection of casts.

After the fire, which last year destroyed the upper portion of the building occupied by the Department of Architecture, this building was repaired and largely devoted to other purposes, while an entirely new and commodious building with more complete appointments was built adjoining the old building. This gives to the already ample equipment of the Department of Architecture at the Institute of Technology, more ample and more convenient accommodations to meet its growing needs, including a fireproof room for the library. Professor Homer has just returned from Europe, where he has been engaged in making fresh purchases of casts for the department. During the year, Mr. Willard P. Perkins left to the Institute of Technology \$10,000 for the foundation of a scholarship or scholarships.

At Cornell the reorganized "College of Architecture" under Professors Trowbridge and Van Pelt is now firmly established and is beginning to produce promising results, as is shown by its recently published year-book. The first appointment has been made under the recently founded travelling-scholarship, which is peculiar in providing for two periods of residence in Europe with an intervening period of study at Cornell. Two resident scholarships in architecture have also been founded.

The College of Architecture at Cornell endeavors to follow the system of instructions of the École des Beaux-Arts of Paris in all its details more closely, perhaps, than any other American school, and devotes a larger proportion of its time than most of the professional schools to the work of architectural design pure and simple. It gains time for this by reduction in the time devoted to the history of architecture and the fine-arts, and to general studies.

Professor Ricker, of the University of Illinois, reports that the number of students diminished slightly during the hard times commencing in 1893, but is now increasing with excellent prospects for a larger attendance. The library of the department has been greatly increased during the past two years, so that it is now an excellent working library for students, superior in real value to any library in Chicago.

To all appearance the School of Architecture, of Columbia University, is just the same as it was two years ago. The teaching force was then increased by the addition of two instructors, Mr. Partridge and Mr. Hornbostel, and the school had just taken possession of its new and delightful quarters in Havemeyer Hall. The two years have been spent in growing up to the standard of these personal and material acquisitions.

Meanwhile, the methods have not changed, but have been more thoroughly and efficiently carried out, the characteristic features of the school being rather emphasized than modified. These are chiefly, first, the prominence given to historical studies, so that the collections, museum and libraries, and especially the Avery Architectural Library, may be utilized to the utmost; second, a graded series of exercises, bridging over the gap between the study of the orders and the problems in design; third, the entire independence of the school, so that it does its mathematics, mechanics and architectural engineering, and is able to do them in an architectural way; fourth, the concentration of time upon exclusively professional work, with a minimum of physics, chemistry, etc., so as to be able to cover all the ground in three years, leaving the fourth year as a sort of post-graduate year, almost entirely free from recitations and lectures. This fourth year is entirely given up to design and to the preparation of papers embodying the results of research in the libraries and museums.

The number of students has remained about the same, but the character of the classes has somewhat changed. Some years ago, a large number of students passed the entrance examination, but many of them, finding either that the course was too difficult, or that their own interest was deficient, soon fell away, so that classes that first and last numbered thirty-five or forty graduated only a dozen or fifteen men. The entering classes are now somewhat smaller, but seem to be made up of more lasting material, while the special facilities offered to professional draughtsmen have kept up the number by the addition of a dozen or twenty older or more experienced

men, whose presence has helped materially to raise the character of the school.

The only other distinctive feature of the school is that it dispenses with the whole apparatus of mentions, medals, prizes and personal honors. In this particular it is as far as possible removed from the precedents of the School of Fine-Arts, while sedulously adopting or adapting what seems to be best in the French methods of teaching and study. Trusting, instead, to the intrinsic interest of the subject and to the serious purpose of the students is held to be more germane to American methods and to the character and spirit of our institutions, and to be more likely than the competitive rivalries of the French school to create and maintain the atmosphere and personal tone that is most to be desired.

At the University of Pennsylvania no changes are to be noted. Professor Laird was taken seriously ill toward the opening of the academic year, and, though he is happily recovering, it will be some time before he is able to return to his duties. Meanwhile, his work has been so arranged among the other instructors that his absence causes no interruption in the work of the department.

At Harvard University the Department of Architecture has important developments to report. The curriculum has been enriched by the addition of a course on "The Theory of Design," by Dr. Denman W. Ross, a course which has especial reference to decorative design. The corporation of Harvard College has established from the fund left by the late Edward Austin, the Austin Travelling Fellowship in Architecture, of the annual value of \$1,000, open to those who have taken the degree of Bachelor of Science in Architecture at Harvard with distinction. This is the seventh travelling-scholarship in architecture that has, therefore, been established in the United States. But of far greater importance for the department is the gift announced by President Eliot at the last Commencement of the sum of \$200,000 for the Department of Architecture by a donor whose name is as yet withheld. Of this sum, half is to be used for a building for the exclusive use of the department, and the other half as an endowment for its maintenance. The new building is being designed by Mr. McKim, and it is expected will be commenced next spring. It will stand in close proximity to the Fogg Museum of Fine-Arts and to Sever Hall, where some of the work of the Department of Fine-Arts is also carried on. All the fine-arts activities of the University will then be concentrated.

Apart from the advantage to the department of a large building, exclusively its own, and completely adapted to its work, the change of location to a point within the college-yard is of great importance, as it brings the department close to the Fogg Museum of Fine-Arts, with its collection of casts, drawings, engravings and nearly thirty thousand photographs, illustrating the history of fine-arts, a large proportion of them on architectural subjects, and close also to the University Library, with its large and growing collection of books on architecture and the fine-arts, which are most valuable adjuncts to the library and collection of casts which the department itself possesses. This close proximity to the centre of the life of the college will, it is hoped, enable the department still further to take advantage of the peculiar advantages of its situation.

The endeavor of the Department of Architecture at Harvard has been from the first to encourage the development on the scholarly side of our profession. The courses of Professor Morse and Mr. Edward Robinson in the history of Fine-Arts, and of Professors White and Greenough in Classical Archaeology, form important parts of our curriculum, while the Department lays the greatest stress on the study of architecture as a fine-art, and devotes the largest portion of the time at its disposal to drawing and design. We have naturally an increasing number of college graduates in our course, and the hope is that the Department will be more and more regarded as a post-graduate school. An experiment previously tentatively tried is now in full and successful operation: that of obtaining the assistance of the committee of architecture appointed by the Board of Overseers in the advanced instruction in the department.

The plan pursued is for each member of the Committee in turn to have charge of one of the advanced problems with the aid of the instructors in the Department. This brings the members of the Visiting Committee into direct contact with the students, and gives them a familiarity with the work of the school which is impossible under the plan, sometimes pursued, of having outside architects criticise the students' work after it is done.

The present members of the Committee are Mr. R. S. Peabody, Mr. Edmund M. Wheelwright, Mr. A. W. Longfellow, Jr., Mr. R. Clipston Sturgis.

The plan has worked very successfully and promises to give to the department the advantage of the aid of prominent practitioners in the advanced work of the school. In other respects the new year opens most promisingly for the department.

In addition to the schools the architectural clubs throughout the country are important factors in our architectural education. Now that these clubs have concentrated their forces and have formed a national organization, "The Architectural League of America," the way seems open for the American Institute of Architects to come into some direct relationship to them through the national body. "The American Institute of Architects" should embrace all the interests which affect the profession. Just as the older men in the profession do not perform their whole professional duty unless they establish helpful relations with the younger members, and especially with the draughtsmen in their own offices, so the Institute

will fail to completely exercise its proper function unless it also reaches the younger men. It is probable that this can best be done through the recently established "Architectural League of America," and it seems not impossible that the League might hold to the Institute some such friendly official relation as the Architectural Association in England holds to the Royal Institute of British Architects. Your Committee therefore suggests that the Board of Directors of the Institute be instructed to approach the officials of the Architectural League of America and invite them to appoint members of a joint committee to consider and formulate some scheme of mutually helpful coöperation.

In their last report, your Committee referred to the fact that the architectural schools are now turning out graduates at the rate of over seventy a year and that the number of graduates in the country far exceeds the number of members now in this Institute. They therefore recommend that the Institute consider the advisability of requiring that candidates for admission to its ranks shall be either graduates of a recognized school of architecture, or shall pass an examination, to be held by the Institute itself, as a test of fitness. Your Committee desires to renew this recommendation. All the members of the Committee feel that the time has come when this question should receive careful consideration, while a large majority join in urging that steps be immediately taken looking to this end. In England the requirement of a graded series of examinations for admission to the Royal Institute of British Architects has worked well and has not had the evil results its opponents feared.

After an interregnum, during which older practitioners could still be admitted without examination, the changed conditions have now for some years been in operation, and an architect can now become a Fellow only by going through the stages of probationer, candidate and associate. Moreover, in one respect, the conditions of the profession in this country are more favorable to such a step than those existing in England at the time when a somewhat similar step was taken there. The existence here of a number of thoroughly organized and equipped professional schools makes it easy to require that candidates shall be graduates of these schools, and does not involve the establishment of the elaborate machinery which was required in England. But your Committee feel it to be important, if this change is made, that a way shall be open for the admission to the Institute of those not graduates of the schools, by providing that they may pass a special examination to prove that their professional knowledge reaches the required standard. It is further quite clear that such a change should not be suddenly put into operation, but that a date should be set, several years ahead, after which the new requirements of admission would become entirely operative; and meanwhile, the new method could be immediately tried and both methods of admission could be simultaneously used. The younger and less known men could be admitted to associateship on examination, or on the strength of their diplomas from the architectural schools, after the requisite number of years spent in practice, while the older men could be admitted on the strength of their records. This plan would have the advantage (during the proposed interregnum) of allowing the Board of Directors to exercise its discretion, and to insist, in any doubtful case, upon the candidate taking the examination or producing the diploma of a recognized school. So far from tending to reduce the members of the Institute, it is believed that such a step would tend to increase its membership, as well as to strengthen its prestige. It is obvious that at present the Institute is very far from numbering in its ranks, or even in the ranks of its Chapters, all American architects of training and of good professional standing. If membership in the Institute becomes the sign of attainment of a definite standard, it will be recognized as an honor to be numbered in its ranks. It will seem worth while to join the Institute to many who have hitherto not cared to do so, and it will not be long before all those able to attain this honor will seek it.

It will be observed that this report contains two definite recommendations:—

First.—That a conference be invited with the Architectural League of America, looking, not to union, but to some form of official and friendly coöperation; and

Second.—That the Institute immediately consider the advisability of taking steps to so change its by-laws as to require, after a specified date, say after January 1, 1905, graduation from some recognized architectural school, or the passage of examinations to be held by the Institute, as a prerequisite of membership, and that meanwhile both methods of admission be simultaneously in operation, it resting in the discretion of the Board of Directors to require in any given case that the candidate enter by the new method.

Respectfully submitted for the Committee,

H. LANGFORD WARREN, *Chairman.*

THE NEW YORK SOLDIERS' MONUMENT.—The Soldiers' and Sailors' Monument Commission have again changed the site of the proposed monument. The site this time is changed from Mount Tom, at Eighty-third Street and Riverside Drive, to a place in the Drive between Eighty-ninth and Ninetieth Streets. The objections to the Mount Tom site were that two apartment-houses were erected there recently, which would spoil the appearance of the monument. The new site was referred to the Municipal Art Commission for approval. The Municipal Assembly has authorized the spending of \$250,000 on the monument. — *Exchange.*

MARBLE.¹ — I.

IN architecture the word marble conveys the idea of a stone of more importance than an ordinary building-material. It is a stone always possessed of some special beauty, either in texture, color, or both, and of sufficient hardness to take a polish. The varieties are almost infinite, and, numerous as they are, it is rare that any two quarries are precisely the same; there is always an individuality of some sort or another.

We have marbles of one uniform color, as white, black, gray, red, yellow, green, and so on; but in all cases, even in whites and blacks, there are differences. The whites of Carrara, Italy, vary from those of Greece, Spain and America. The blacks of Belgium are not the same as those of England and Ireland. The serpentines of The Lizards, Cornwall, vary from those of Banff, in Scotland and Anglesea, and further vary from those of the Continent and America. These variations are not to be wondered at when for a moment we study their origin and the different changes they have gone through as part of the earth's crust. Their ages are equally wide apart, some being, comparatively speaking, recent, while others are old, and some very old. The white crystalline marbles are now conclusively proved to be nothing more than ordinary sedimentary limestone rocks, like our chalk-cliffs, or carboniferous rocks, which have gone through a process of cooking or baking under great pressure, while being hermetically sealed by overlaying rocks, which have kept in the gases, causing the limestone rock to crystallize and alter its nature to that extent that rarely any of the fossils are now discernible; in short, a new rock is produced.

There are other whites that have been produced by hot springs carrying in solution a large quantity of lime and silica, which deposits directly the carbonic-acid gas is liberated in the atmosphere, often producing a rock of the purest whiteness, or colored by any metal that the hot water may pass through.

Black marble is a sedimentary limestone colored by carbon, which color is immediately destroyed by heat, producing the whitest of lime oxide.

We get black marbles with white veins, these white veins are usually younger than the rock itself, being infillings of the cracks produced by different causes in the history of the rock. These remarks about black rocks apply equally to red and yellow ones.

Another class of marble, the Breccias, have gone through all sorts of Nature's changes and disturbances; they are rocks that have been broken into irregular fragments and been cemented together again by Nature, and after that in some cases have gone through a baking process and the like.

Nearly all our green marbles are earlier rocks that have been altered, and in some instances been broken up and recemented, like Verde Antico. The greens are nearly all magnesia, while the whites in the same mass are lime; occasionally we get both white and green magnesia in the same mass.

This slight geological introduction will prove to you that, as marbles are produced under such varying conditions, the quality must be equally various both in hardness and durability.

Again, some marbles, like the Purbeck, are not much more than tremendously compressed mud and fossils; others are only baked compressed clays.

When used in damp situations these often go back to their original elements, and it further happens that a marble that behaves fairly well in Italy frequently will not stand at all with us.

And there are marbles that, like building-stones, have to be placed on their natural bed.

Most marbles will stand in isolated shafts or engaged pilasters, but experience shows us that only a very limited number used as slabs for wall-linings can resist the moisture of a newly-built wall. The destructive power of this moisture, be it hydraulic or chemical, is such that it very shortly destroys the face of many marbles; all those of a slaty or sedimentary nature face-bedded go directly — for instance, the Swiss Cipollino — but if cut across the bed, they stand fairly well. Then again, certain marbles, like Purbeck, Emperor's Red and Verona, which consist chiefly of flattish fossil-shells, these, when face-bedded on damp walls, become pitted with small holes, while across the bed they stand all right. Nearly all this class of fossil-marble is only obtainable in thin beds, so a large slab has to be face-bedded.

These same remarks apply to certain red marbles found near Carrara, which are red clays compressed and baked by the same heat that has produced the crystalline whites.

When the Greeks used marble in architecture it was always treated as an ordinary building-stone; no attempt was made to save material, everything was massive, and the blocks were ground or rubbed together until the whole structure was next to homogeneous, without the aid of mortar or cement.

Their columns, as you are aware, were built with thick drums; these blocks were worked roughly in the quarries, with projecting bosses on the sides, to which most probably were attached some wooden arms to enable the blocks to be revolved forwards and backwards on the wooden centres until the two faces came together with an almost invisible joint. When built the whole column mass was skilfully masoned into a pillar with all the Greek subtlety of diminishing entasis and delicate flutings.

The durability of this work, had it not been for earthquakes and the ravages of man, would have been perfect now.

Those who have not seen the Acropolis of Athens can scarcely realize the beauty of this immense marble pile. The sublimity of color is in harmony with the subtlety of form. It is not the cold blue-white marble of Italy, so common with us, but a translucent warm ivory tint, becoming often ochre-yellow; this deep color, which is only surface, is usually attributed to great age, but this is not correct, as is proved by the coloring of recent fractures on the Parthenon and by modern buildings in Athens, a good example of which is a high slab plinth round the Royal Palace. This marble is already nearly as yellow as the Parthenon. The marble contains minute crystals of iron pyrites, the decomposition of which yellow-ochre colors the marble.

In the Greek temples of Delphi, Sicily and Pompeii the common-worked stone was plastered over with a marble-like stucco, which is thought to be marble-dust with lime and alumen. I think now from what I saw recently in Greece that it may be white crystalline marble not quite burnt through into lime; this I saw being finely crushed with rollers by horse-power for plaster-work.

There is no doubt the Greek methods of quarrying became the Roman, but it is impossible to imagine that the Greek could have quarried better than what we find now remaining of Roman work, and this not only in the white quarries of Pentelicus, but in the various colored quarries found in many of the Greek islands. These old Roman workings you can always tell at a glance by the carefully-tooled upright face of the rock. I saw lately in an old quarry on the island of Scyros an axed face some sixty feet high.

Although the Romans took over all the Greek white quarries they were not content with this, but opened quarries of choice color wherever they could be found, and these they worked for monoliths to embellish their buildings in Rome and colonial cities.

The Roman method of quarrying monoliths for shafts and architraves was by working them *in situ* engaged to the parent rock, either horizontal or vertical, according to the bedding and the solidity of rock. In the Verde Antico quarries the upright large semicircular hollows remain, showing where the great Justinian columns for St. Sophia, Constantinople, were got.

Sarcophagi were quarried by being worked all round engaged to the rock at the bottom; they were then wedged off.

In the old Carystian quarries of Cipollino, there are many examples of both finished and unfinished work *in situ*. In one quarry, some two thousand feet up the very steep mountain side of "Oche," on a shelving mass of rock overhanging an awful precipice, are eight columns, 39 feet long, beautifully wrought, with entasis and top and bottom members quite finished and ready to be fixed, probably in the portico of a temple like that of Antonius and Faustina in the Forum of Rome; one of them is only a few feet off the sloping edge of the precipice. How they contemplated getting them away is and must, I fear, ever remain a mystery. In addition to these finished columns there are several of similar size, partially wrought, engaged to the horizontal face of the rock; other immense masses were stepped and partly worked for various purposes.

Roughly speaking, perhaps three-fourths of the white marble used in the world at the present day comes from the Carrara district of Italy. The marble mountains extend some twelve miles; they consist of mountain peaks going up to an altitude of 6,000 feet. The sides of these mountains are scored with valleys and ravines which have only three outlets — Carrara, Massa and Seravezza. On the sides of these valleys are the different quarries, of which there are some six hundred, "producing annually about two hundred thousand tons." The water coming from these ravines turns innumerable sawing-mills, which slab annually some sixty thousand tons of marble. The towns are full of workshops and studios. The marble businesses support in the district some ten thousand people. Any young man who likes mountain scenery, with picturesque sketching and architecture, cannot find a hunting-ground anywhere to surpass this. He will find beautiful Byzantine, Medieval and Renaissance work in marble that cannot be surpassed or rarely equalled in Italy. It was the land of the Medici, the playground of Michel Angelo and Donatello.

I believe a young man could spend a month, pay his fare from London and back, hotel accommodation, including food and Chianti wine *ad libitum*, for less than it would cost at an English seaside town. He would also pick up a little Italian. Nearly all the best statuary of the world is quarried at Mont Altissimo, Seravezza, near Carrara. This is the famous H-marked statuary of commerce, H being for Heuraux, the proprietor.

In Italy there are also old white quarries near the coast, not far from Grossetta, between Pisa and Rome. The cathedral of Milan was built from quarries above Baveno.

Spain has several extensive deposits of white marble. The best is the one the Moors used at the Alhambra, the quarries of which I visited some years ago; they are at Macael, between Lorca and Baza. There is good quality white marble in Trazos Montes, Portugal, where an enterprising company ten years ago quarried 20,000l. worth without any prospect of getting the blocks away, and there they are now.

France has white marbles at St. Beals, but there is little demand for them, although there is a considerable duty on foreign produce in France.

Norway has extensive deposits, but very little of it is good. Some

¹A paper by Mr. William Brindley, F. R. G. S., read before the Architectural Association, November 10, 1899.

was used for ashlar at the Junior Constitutional Club; it seems to be standing very well. The finest quality is at Velfjord; it is only about one hundred feet off very deep water for shipping. There is farther north a crystalline white marble which is a dolomite.

The late war of the Greeks and Turks would seem to have enriched the Athenians, for they are pulling down their old buildings and erecting lofty Pentelic marble ones in their places. They are full of architectural detail, which is very well done. The marble is chiefly obtained from the south or Athens side of the mountain, near the ancient workings.

A company is now working the north or Marathon side. I have examined the different quarries very carefully, and am of opinion that they are the same beds as the south side, but the famous old cave statuary is not yet found. They are extracting large blocks, some of which are being used in the safety repairs of the Parthenon. We are working blocks of this marble which those interested can see. It is considerably harder and more costly to work than Carrara.

In marble quarrying considerable skill and judgment is required; the mass of rock is rarely solid enough to be stepped down as in ordinary stone quarries, and blasting cannot be employed, except for clearing away masses of inferior material.

The coloring and marking of such marbles as Pavonazzetto does not extend through the face of the rock, but is a veined mass or bed in the statuary formation, the same quarry producing first and second quality statuary and first and second Pavonazzetto. The system is, when a choice solid mass is found, to work away from the top and sides all inferior rock round the good mass. It is then sawn or wedged into blocks as large as can be obtained free of shakes. A few months ago I saw in the quarry of Crestola a solid mass so cleared, of about one hundred tons, worth over one thousand pounds sterling.

The removal of the blocks when quarried is done in a very skilful manner by a specially-trained group of workmen, and it is surprising with what ease and rapidity they will remove blocks, often twenty-five tons weight, from the quarries and down a steep declivity to the loading-place, where they are taken away on a specially-built truck drawn by sometimes as many as thirty-six oxen.

There are no lifting-cranes in the quarries — only crowbar levers are used. The men get round the block, each with his lever, and they all lift at the same instant, the signal being given by a lively sing-song.

The blocks are lowered down the mountain-side by means of ropes passed round posts. The block being on a sort of sleigh is slid over hardwood sleepers greased with a bar of soap. A man rides on the block, and passes the sleepers given him from behind to front.

The old Rhondona and Breche Violets are usually underground quarryings, and extracted by the aid of long saws, a channel being cut first over the block to free it from the roof and a chamber at each end for the men to saw in. By this means they sometimes get a block of sufficient size to produce two monolith columns 14 feet long. The red Levanto Breccia and Genoa green is also sawn out of the rock.

The re-found Verde Antico of Thessaly, of which there are thirty-six columns in front of St. Mark's, Venice, is a hard Breccia of greens, greys and whites. The quarrying of this is by the aid of the wire saw, which is a three-strand endless steel cord of over two thousand feet in length running over descending pulleys, and being fed with sand and water: this cuts the marble. This method of extraction is the latest and most improved, as it in no way injures the marble.

It was from the quarries of Synada, in Asia Minor, that the Romans got their beautiful red purple-veined Pavonazzetto, and all other sorts of this marble; these quarries also produced beautiful pure-white statuary, and a rare variety of delicate flesh-tint. There is on the walls a series of photos of these quarries taken by Baron Schwiter; also specimens are shown. The antique marbles, Numidian Yellow, Laconian Red, Thessalian Green, Africano Breccia, Carystian Cipollino, Egyptian Porphyry, Laconian Serpentine, Breche Universal — these are unique, and have no modern representatives.

Unquestionably the best yellow marble known is the Giallo Antico of the Romans. The columns of the Arch of Constantine, which were Trajans, and half those of the Parthenon, are of this marble. It varies from deep ochre-yellow to pale and a delicate rose-color; its markings are red and blue purples, the grain is crystalline, and it is translucent. This is the marble found in the encrustation of the palaces of the Cæsars, the Baths of Caracalla — in short, it was the only yellow used in old Rome.

The quarries, which are very extensive, are in Tunis, near the frontier of Algeria; they were extensively worked about fifteen years ago by a Belgian company, which went to grief owing to having an engineer as chief of the quarries instead of a practical quarryman. The next in quality is the yellow of Sienna, which is familiar to all. The best quality of this yellow is now not obtainable. Beautiful panels are often seen in old Adam's chimneypieces. The South of France, Spain, and North Italy produce about a dozen yellow varieties, but they are all inferior in quality to the two first named.

The colored marble most used by the Romans was the Carystian (Cipollino) from the island of Eubœa; there was more of this used in Rome than all the other colors added together. The first reason may have been owing to the immense size monoliths could be got as

supports for their porticos and basilicas, but great quantities were also used for decoration; it opens out into chevron pattern more beautifully than any other marble.

[To be continued.]

BOOKS AND PAPERS

IT is perhaps fortunate for those overcome by the itch of book-making that there are certain liberally endowed societies and libraries which can be counted on to buy enough of the books, when ultimately put on the market, to minimize the loss that, seemingly, must inevitably fall on the unwise publisher, or, as is more likely, upon the overconfident and unworldly author. If it were not for this possibility, it is more than likely there would be fewer books like this which describes Glasgow Cathedral in a quarto volume of 450 pages and weighing nearly nine pounds.

Clerics, antiquaries and archaeologists very likely find interest and value in the long extracts in high Latin and low Latin, low Scotch and Middle English, unintelligible legal forms and curious spellings, that it seems to be necessary to scatter without limit through such works as this, if the author would in the eyes of those who share his tastes be held worthy of fellowship with them. But to the lay reader such minutiae, such proof of erudition and painfully conscientious research, do but increase the sense of weariness with which he seeks for the few kernels of information which can interest him.

The scheme of this particular work¹ is very complete, as it begins with the founding of Glasgow and ends with a reasonably good index of the book, and in between is given the history of the patron saint of the church, St. Kentigern, the history of the Church Society under Catholic and Protestant administrations, the lives of bishops, priests and clergy, an account of the church fabric and the changes that have befallen it, and a shorter one of the bishop's castle, and then follow chapters on the stained-glass, the monuments and inscriptions and on the prebends and prebendary manses.

While the book, in all that concerns the art of book-making, is a handsome one, its power of attraction for architects may be gauged by the fact that about half its several chapters — for it is the result not of individual but of associated effort — are written by reverend gentlemen, and though the literature of architecture owes much to the patient labors of intelligent clergymen, it is nevertheless true that they are prone to give more attention to the archaeological history of their subject than to its structural or artistic qualities.

Glasgow Cathedral is, like all the remains of Scotch architecture, less well known than the results of contemporary effort either in England or on the Continent, and it is rather strange that this should be so, since Scotch work has a very distinct quality of its own and Scotch stone-masons were masters of their craft, and so, while Scotch work is often cold and lacks interest through absence of much sculptural ornament, it has a purity of line and a common-sense of construction that are quite its own. The two features that distinguish Glasgow Cathedral amongst its kind are the western towers — perhaps we should use the past tense, since the towers disappeared half a century ago — and the fact that, like S. Francesco at Assisi, it has an upper and a lower church, a distinction that it shares with the Church of St. Gregory at Spoleto and the church at Rheindorf, on the east bank of the Rhine. This lower church, though it is sometimes called a crypt, is not a crypt, since its floor is above the level of the ground and in all the old documents is spoken of as "ecclesia inferior."

This lower church occupies all the space below this choir of the upper church and from its northeast corner opens the square two-story chapter-house, the upper story of which is used as the sacristy. Balancing this structure, as it were, at the southwest angle of the lower church is Archbishop Blacader's Crypt, so-called, though it, too, is wholly above ground. This crypt has all the air of being intended to be the lower story of the south transept, but no upper story was ever built, and so the upper church has no transepts, neither south nor north, although the bays of the aisles to the north and south of the crossing are in the plan of the upper church styled "transepts." One of these transepts, however, the northern one, has no other function than to accommodate the stairs leading to the lower church.

The effect of this arrangement on the upper church is to create an exceedingly impressive interior, as its length is 283 feet, while its width is 61 feet 9 inches. One other feature of the church is unusual, and that is that this is one of the few churches which have double aisles across the east end, both in the upper and the lower divisions. As the several bays of the outer aisle are each used as a separate chapel — in the lower church being separated from one another by a solid wall — it results that the inner aisle is the usual

¹ "The Book of Glasgow Cathedral." A History and Description edited by George Eyre-Todd, with special chapters written by Archbishop Eyre, D.D.; J. F. S. Gordon, D.D.; P. M. Adam Muir, D.D.; John Honeyman, R.S.A.; James Paton, F.L.S.; A. H. Millar, F.S.A., Scot., and Stephen Adam. Profusely illustrated with one hundred and eighteen views, drawings, etc., including beautiful full-page photographs on Japanese vellum by T. & R. Annan & Sons; and pictures by David Small, Herbert Raiton, J. A. Duncan and others. The architectural beauties reproduced by photographic process being in many instances unique; with facsimiles of Episcopal seals, writings, etc., not before brought together. The edition for sale will be limited to 1,000 copies. Price, 42s. net. Glasgow: 1898.

channel of communication. The most notable feature of the structure is the vaulting of the lower church, which is rich and complicated to a degree, the fact being that, as Sir Gilbert Scott once pointed out, the observer cannot place himself in a position from which he can perceive two compartments covered by vaults of the same arrangement. But when the vaulting is seen drawn out on plan, it is apparent that it was laid out with extreme ingenuity and that the arrangement is furthermore absolutely symmetrical.

The other feature once of interest was the two western towers, a feature which this cathedral shared only with the buildings at Elgin, Aberdeen and Brechin, all other Scottish cathedrals wanting them, as this does now. These towers were further singular in that they were built in projection from the west front, so that the west gable wall, with its doorways, stood recessed between them, their east walls forming parts of the western wall of the cathedral. The northwest tower, 32 feet square, rose to a height of 118 feet and was then crowned by a spire, which added 26 feet to its height. The southwest tower was slightly larger on plan, but rose square to a height of 54 feet, and was then covered by gables, which added 16 feet to its height. Although these towers were built only after, but immediately after, the completion of the thirteenth century nave, they were venerable with years, and must have added to the dignity of the structure. At all events, they deserved a better fate than to be pulled down some forty years ago—although in a state of perfect preservation—by order of Her Majesty's First Commissioner of Works, during a "restoration" conducted under the orders of that intelligent gentleman!



DETROIT ARCHITECTURAL CLUB.

THE Detroit Architectural Sketch-Club by amendment will be known hereafter as the Detroit Architectural Club.

The officers for the season of 1899-1900 are Geo. H. Ropes, President; H. A. O'Dell, Vice-President; J. A. Gillard, Secretary; A. Blumberg, Treasurer; J. W. Case, D. R. Wells and C. F. J. Barnes.

Preliminaries for the coming Club Exhibition are being directed by Mr. F. S. Swales and his committee.

The attendance and interest in the Club is increasing.

J. A. GILLARD, Secretary.



[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

ENTRANCE FRONT: "WYNDHURST," HOUSE OF JOHN SLOANE, ESQ., LENOX, MASS. MESSRS. PEABODY & STEARNS, ARCHITECTS, BOSTON, MASS.

[Gelatin Print, issued with the International and Imperial Editions only.]

STATION FOR THE CENTRAL TRACTION CO., WASHINGTON, D. C. MR. W. B. WOOD, ARCHITECT, WASHINGTON, D. C.

CHAIRS DESIGNED BY MR. P. G. GULBRANSON, ARCHITECT, BOSTON, MASS.

ACCEPTED DESIGN FOR THE WASHINGTON PUBLIC LIBRARY, WASHINGTON, D. C. MESSRS. ACKERMAN & ROSS, ARCHITECTS, NEW YORK, N. Y.

A COMPETITIVE DESIGN FOR THE WASHINGTON PUBLIC LIBRARY WASHINGTON, D. C. MESSRS. W. S. WHITEHEAD, JR., AND GORDON B. PETERS, ASSOCIATED ARCHITECTS, NEW YORK, N. Y.

[The following named illustration may be found by reference to our advertising pages.]

GLASGOW CATHEDRAL. DRAWINGS BY MESSRS. HERBERT RAILTON AND D. SMALL.

This plate is copied from "The Book of Glasgow Cathedral." See book-note above.

[Additional Illustrations in the International Edition.]

THE PORTE COCHÈRE: "WYNDHURST," HOUSE OF JOHN SLOANE, ESQ., LENOX, MASS. MESSRS. PEABODY & STEARNS, ARCHITECTS, BOSTON, MASS.

[Gelatin Print.]

THE NEUSTÄDTER THOR, TANGERMÜNDE, PRUSSIAN SAXONY.

[Gelatin Print.]

THIS old Saxon town, which at one time was the favorite seat of Emperor Charles IV (1347-'78), had many gates, of which but few are preserved. The finest, as well as largest, is the Neustädter Thor, guarding the west approach to the town. It consisted originally of an outer gateway, now almost entirely gone, a stone-arch bridge spanning the moat, and an inner gateway, the latter forming the subject of our plate, as seen from the outside, with the west tower of St. Nicholas's Church rising directly back of it. The arched gateway is flanked on both sides by towers, a larger round one and a smaller one of trapezoidal plan. The platform over the arch was at one time topped with battlements of brick, but was later closed-in and covered with a tiled roof. A frieze of square terra-cotta plates, bearing grotesques, runs along above the archway and is continued around the big tower. The wall-faces of the latter are enlivened by rows of glazed brick of a dark-green, arranged in spiral and zig-zag lines. Unfortunately, the upper ring of battlements, with four characteristic dormer-like features, is badly ruined. A circular defensive gallery (*Wehrgang*), about midway up the tower, which rested on corbels, has crumbled away, leaving but few fragments of its original appearance. The difference in the styles of the two towers is accounted for by the fact that the building took the place of an older gate, parts of which were fused into the new structure. The small tower dates from the early part of the fourteenth century. Above the friezes of pointed arcades the original battlements may still be recognized by the inequality of the brickwork. About the beginning of the fifteenth century, this tower was carried up higher, by filling up the gaps between the battlements and running up a new tier of battlements above. At the same time, too, the present archway and big round tower were erected.

THE LIBRARY: CAVERSHAM PARK, ENGLAND.

CARLOS PLACE, GROSVENOR SQUARE, LONDON, ENG. MESSRS. ERNEST GEORGE & PETO, ARCHITECTS.



WATER-METERS AFFECTED BY ELECTROLYSIS.—It has been discovered in St. Paul that electric ground-connections, made by attaching wires to water-pipes, not only ruin the pipes by electrolysis, but seriously interfere with the operation of the water-meters. In one case a meter through which a large quantity of water was being discharged failed to register. This was an extreme case and easily detected, but what the effect has been upon the indicators in cases where the current is not so strong the officers of the Water Board have no means to determine. To protect themselves, however, they have ordered the removal of all electric wires from the water-pipes. It is a measure of safety, too, for the employes of the board, many of whom have been severely shocked while at work upon the pipes and meters.—N. Y. Evening Post.

MODERN CHAIN-ARMOR.—Among the many industries connected with the iron and steel trades, there is one survival from former times in England, which is of great interest. This is the mail chain-armor manufacture in Walsall. J. W. Hawkins & Co., Limited, who contract with the Government for the supply of spurs, bits, stirrups, harness, buckles, chains, etc., also supply mail chain jackets and other steel productions for use in India, Central and South America and other countries. These jackets of mail, which weigh from fifteen to eighteen pounds, are worn by army officers, and sometimes by Indian native princes, and are made of steel rings of 3-8 inch diameter. It takes about three thousand rings to make a square foot of armor. These rings are formed out of soft-steel wire of 14, 15, 16 or 17 B. W. G., which is revolved around mandrels 4 inches long, and of the same diameter as the rings required, each mandrel taking about six feet of wire, and subsequently divided by a hand-saw. Hardening is accomplished by putting them upon trays and plunging them when red hot into oil, after which they are polished in revolving drums—*Journal of the Franklin Institute*.

OLD RUGS FOR NEW.—The story of the late M. Piot and the Persian carpet is told in two reviews last month, *The Fortnightly* and *The Nineteenth Century*. Mr. Wallis's version in the latter review is as follows: Once, when at Venice, he engaged a gondola to make an excursion in the city. On taking his seat the gondolier apologized for the absence of a carpet, saying that some forestieri whom he had taken to Torcello the preceding day had soiled the one belonging to the boat by upsetting over it some fruit and wine, obliging him to wash it, and that it was not yet dry. Piot's eye glanced to where it lay spread out on the front of the boat. He quietly asked the gondolier whether he would part with it in exchange for a new one. The reply was that Sua Eccellenza was only too generous. Piot then gave directions to be landed at the first shop where carpets were sold. He there selected the smartest and gaudiest article in the establishment, which was straightway, to the great joy of the gondolier, laid down in the boat; Piot returned to his hotel carrying off the old one, and its examination soon revealed the treasure he had secured. The carpet had probably lain hidden away in some neglected corner of an old Venetian palace, and when found sold to a dealer in second-hand goods as a thing of little value. Piot eventually ceded it to a Parisian amateur for the sum—so it was stated—of 25,000*f.*—*London News*.

f
t
d
a
t
e
f
t
e
s
y
o
t
e
o
e
r
t
e
t
e
t
o
e
f
t
l
e
r
t
l
r
a
s
e
e
f
r
t
n
l
a
e
o
g
s
t
t
a
e
d
e
s
e
y
d
i





BRARY. CAVERSHAM PARK.

MELBOURNE PRINTING CO. BOSTON.

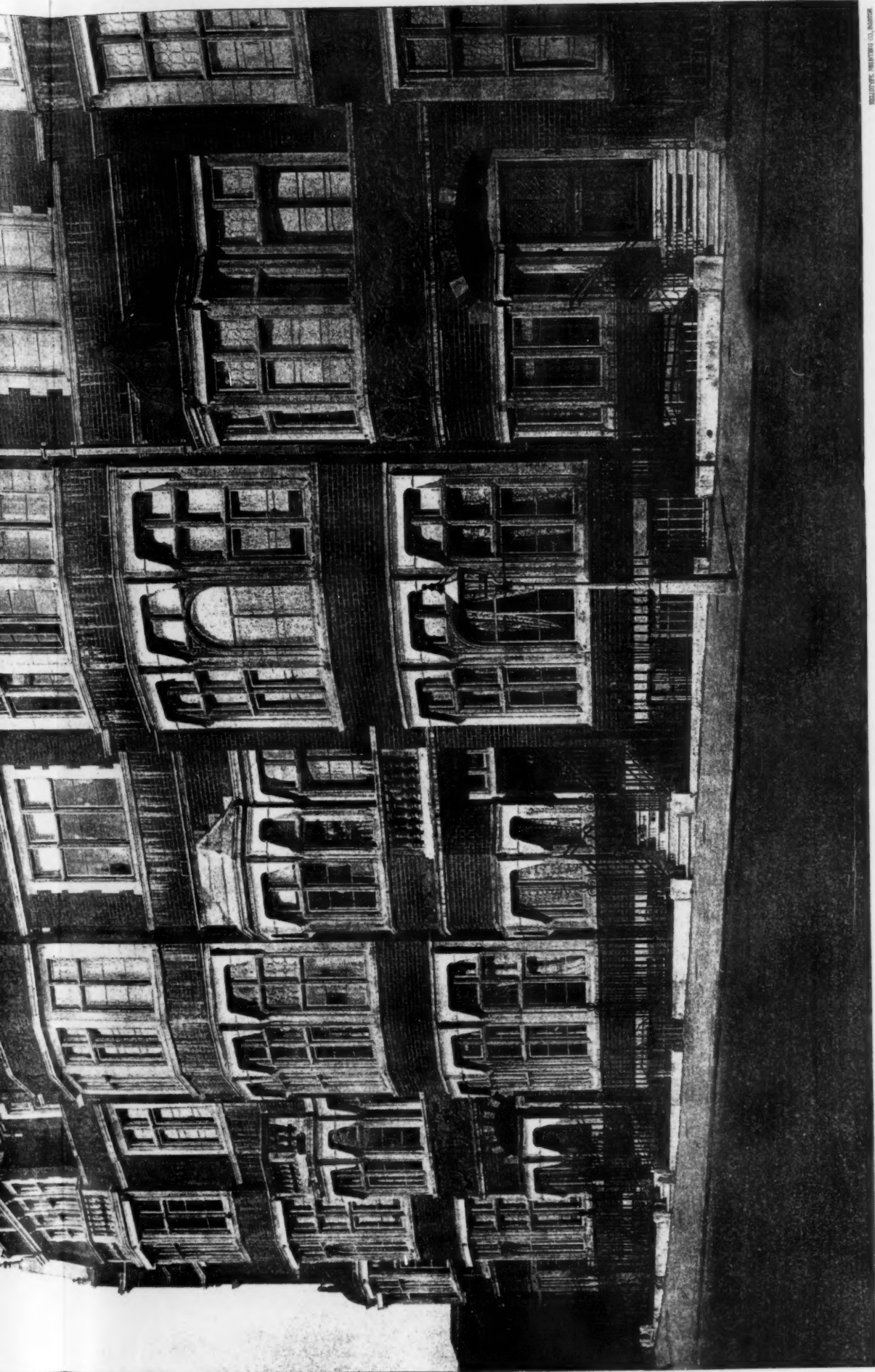
No. 1250.

DEC. 9, 1899.

AMERICAN ARCHITECT AND BUILDING NEWS.

COPYRIGHT 1899 BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.





CARLOS PLACE, GROSVENOR SQUARE.

Messrs. ERNEST GEORGE & PETO, Architects



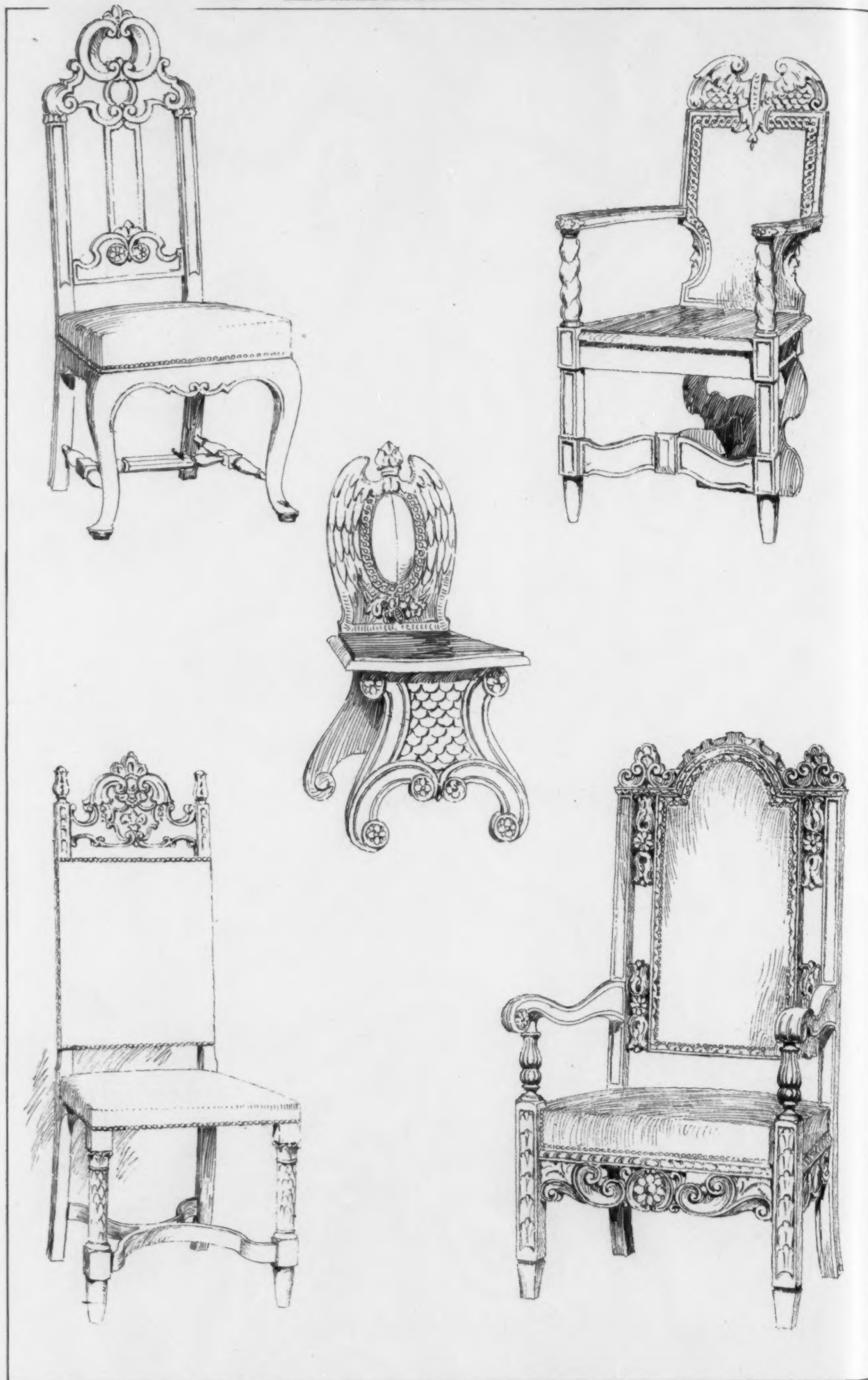
Negative by H. H. Sidman.

THE PORTE COCHÈRE: HOUSE OF JOHN
PEABODY & STEARNS



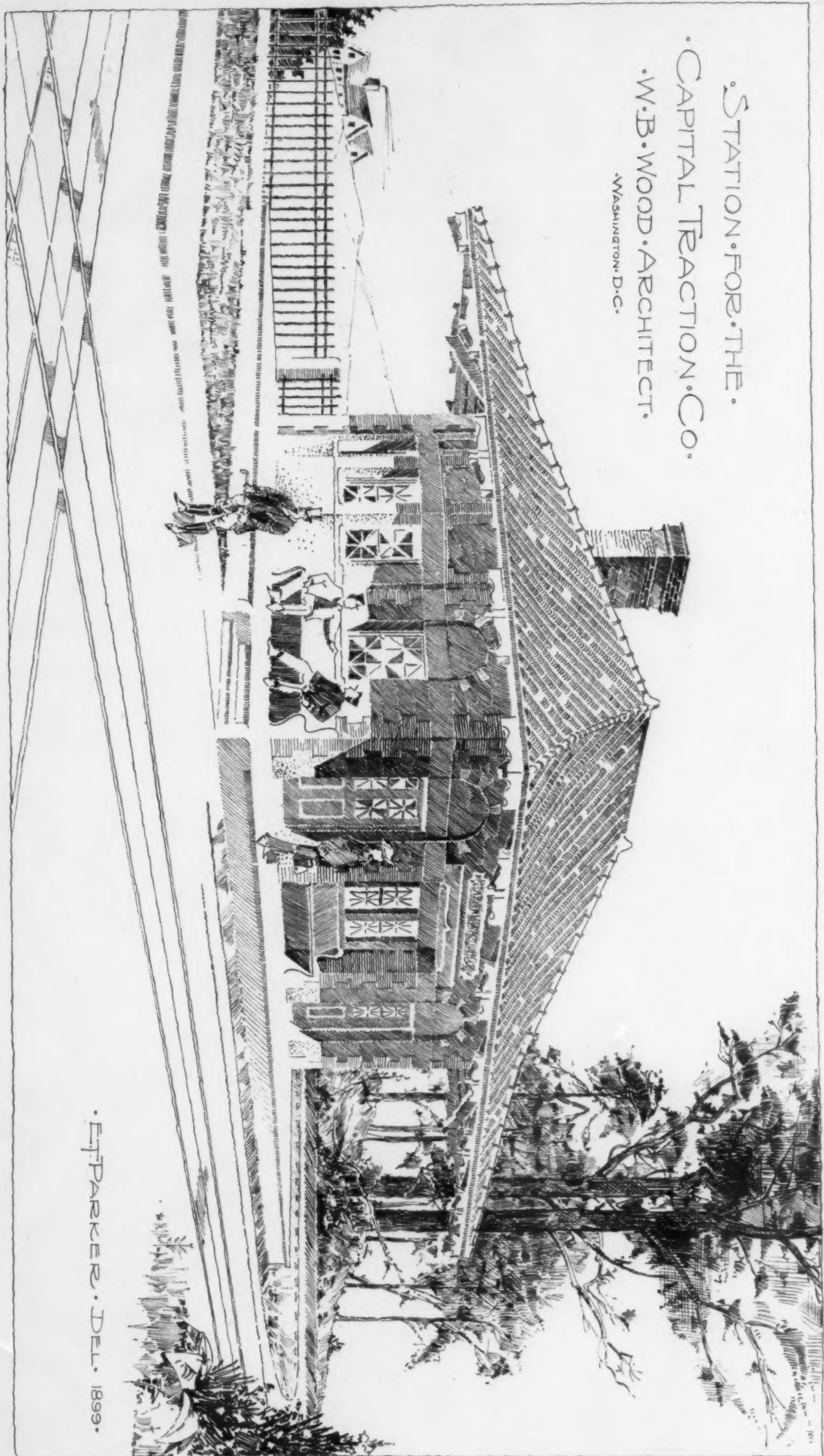
Heliotype Printing Co.

OF JOHN SLOANE, ESQ., LENOX, MASS.
ARNS, ARCHITECTS.



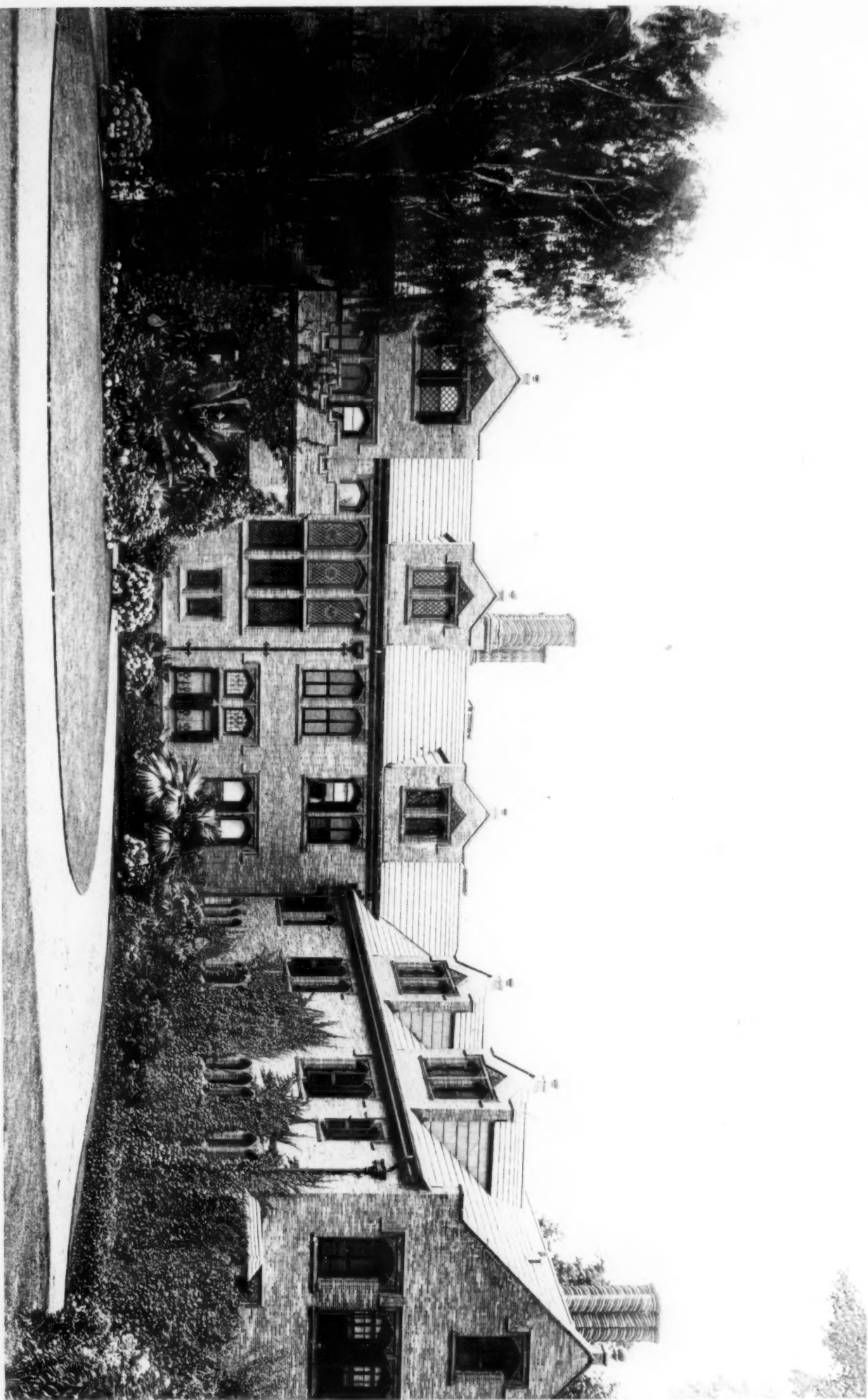
CHAIRS DESIGNED BY P. G. GULBRANSON, ARCHITECT.

STATION FOR THE
CAPITAL TRACTION CO.
W.B. WOOD ARCHITECT.
WASHINGTON, D.C.



E. J. PARKER, DEL. 1899.

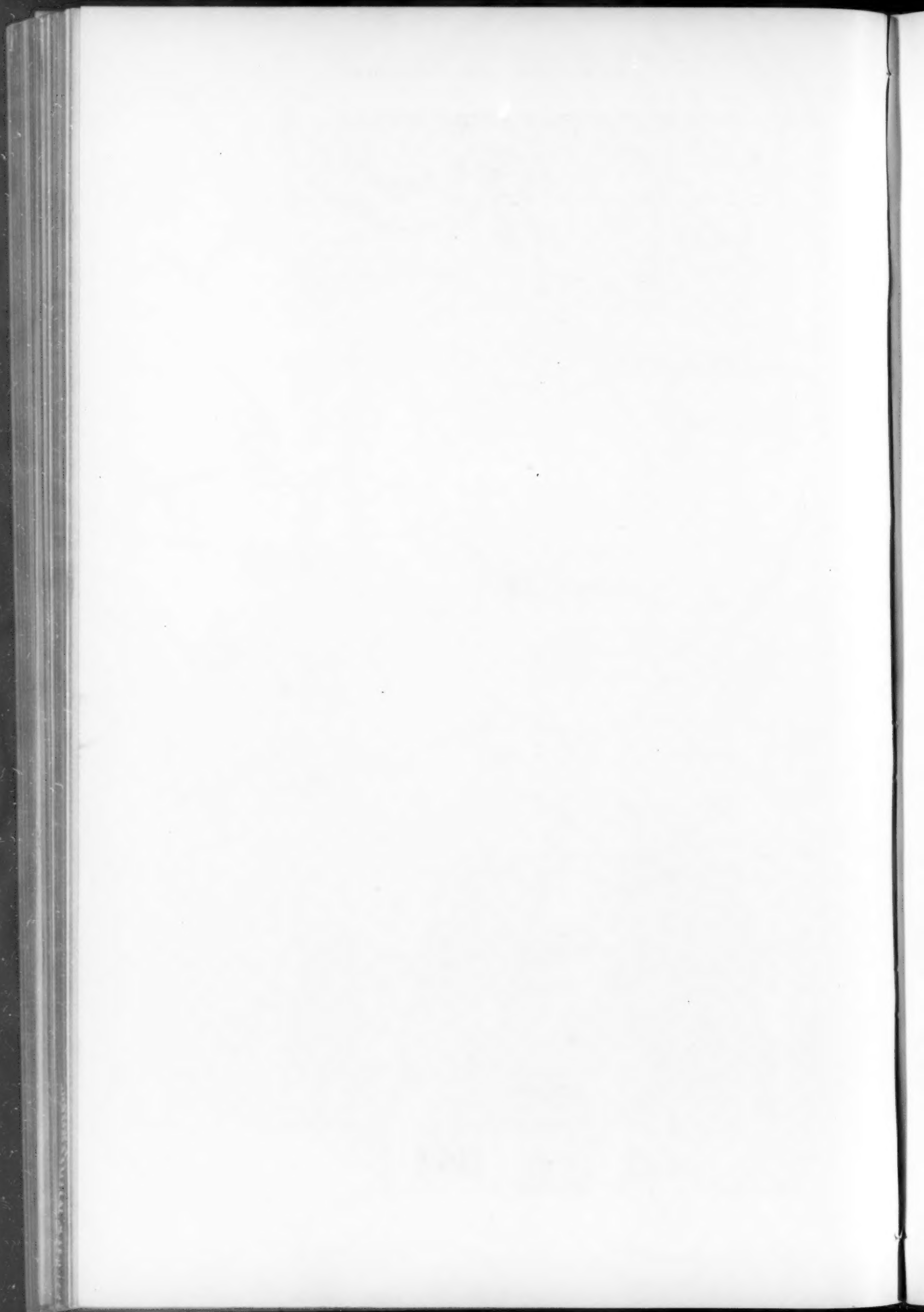
Negative by H. H. Siddons.



THE ENTRANCE FRONT: HOUSE OF JOHN SLOANE, ESQ., LENOX, MASS.

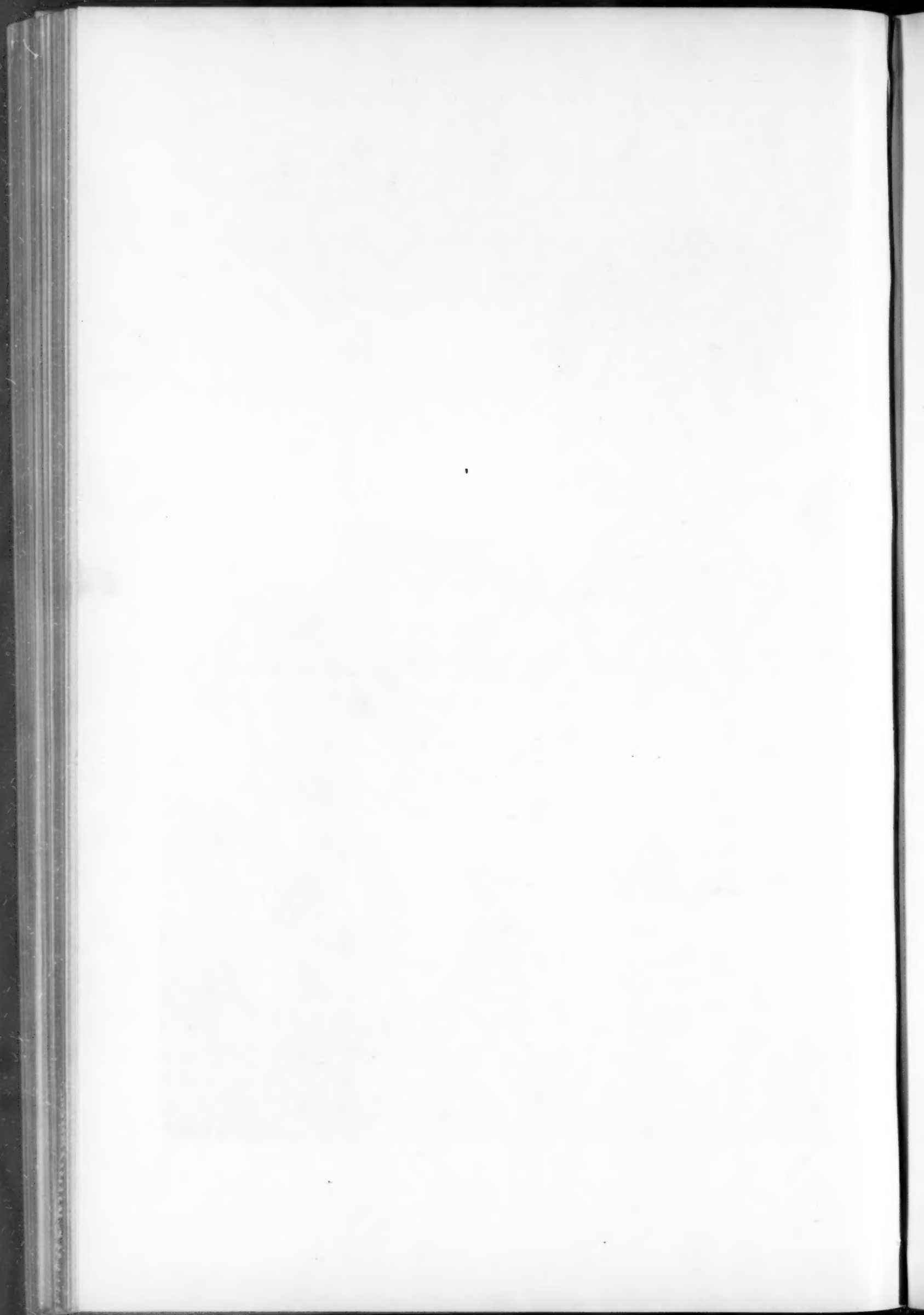
PEARSON & STEARNS, ARCHITECTS.

Heliotype Printing Co.





THE NEUSTÄDTER THOR, TANGERMÜNDE, PRUSSIAN SAXONY.



THE AMERICAN ARCHITECT AND BUILDING NEWS

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

VOL. LXVI. — No. 1250.]

SATURDAY, DECEMBER 9, 1899.

PRICE, { REGULAR ISSUE, 15 CENTS.
IMPERIAL " 25 "

ARCHITECTURAL INSTRUCTION.

COLUMBIA UNIVERSITY, IN THE CITY OF NEW YORK.

SCHOOL OF MINES.
SCHOOL OF CHEMISTRY.
SCHOOL OF ENGINEERING.
SCHOOL OF ARCHITECTURE.
SCHOOL OF PURE SCIENCE.

Four years' undergraduate courses and special facilities for graduate work in all departments. Circulars forwarded on application to the Secretary of the University.

HARVARD UNIVERSITY.

LAWRENCE SCIENTIFIC SCHOOL.

ENGINEERING,
ARCHITECTURE, Etc., Etc.

For Descriptive Pamphlet apply to

M. CHAMBERLAIN, Secretary,
N. S. SHALER, Dean. Cambridge, Mass.

BOSTON, MASS.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

DEPARTMENT OF ARCHITECTURE.
Professor: F. W. Chandler.

BROOKLYN, N. Y.

PRATT INSTITUTE.

W. S. Ferry.

CAMBRIDGE, MASS.

HARVARD UNIVERSITY.

LAWRENCE SCIENTIFIC SCHOOL.
Professor H. Langford Warren.

CHAMPAIGN, ILL.

UNIVERSITY OF ILLINOIS.

SCHOOL OF ARCHITECTURE.
Professor: N. Clifford Ricker.

ITHACA, N. Y.

CORNELL UNIVERSITY.

DEPARTMENT OF ARCHITECTURE.
Professor: Charles Babcock.

CHICAGO, ILL.

ART INSTITUTE.

SCHOOL OF ARCHITECTURE.
Louis J. Millet.

LA FAYETTE, IND.

PURDUE UNIVERSITY.

ARCHITECTURAL DEPARTMENT.
Professor: Fred. Morley.

NEW ORLEANS, LA.

TULANE UNIVERSITY.

Professor: Wm. Woodward.

WHITTIER MACHINE CO.,

Public Library.

PASSENGER AND FREIGHT

ELEVATORS.

53 STATE STREET, BOSTON.

LOOMIS FILTERS.

IMPROVED SYSTEM.

RESULTS GUARANTEED.

Main Office, 402 Chestnut St., PHILADELPHIA.

NEW YORK OFFICE,
33 Church St., Havemeyer Building.

SCAIFE FILTERS.

10 to 10,000 Gallons per Hour.

NO CHEMICALS REQUIRED.

RESULTS GUARANTEED.

WM. B. SCAIFE & SONS,
Pittsburgh, Pa.

THE LIBRARY of CONGRESS,

WASHINGTON, D. C.

Architects: Smithmyer & Pelz:

P. J. Pelz; E. P. Casey.

Twenty Gelatine Plates, in Portfolio,

14" x 16 1-2".

PRICE - - \$5.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.
BOSTON, MASS.

MAITLAND ARMSTRONG & CO.,

STAINED GLASS & DECORATIVE WORK.

Interior Decorations and work in American Mosaic Glass from the designs of Mr. Armstrong. English Painted Glass from the designs of Messrs. Clayton & Bell.

Sole Agents for

CLAYTON & BELL, GLASS STAINERS, LONDON
61 Washington Square, South, New York, N. Y.

FLYNT

BUILDING AND CONSTRUCTION CO.

GENERAL OFFICE, PALMER, MASS.

We contract to perform all labor and furnish all material of the different classes required to build complete

CHURCHES, HOTELS, MILLS, PUBLIC
BUILDINGS AND RESIDENCES.

Also for the construction of
RAILROADS, DAMS AND BRIDGES.

We solicit correspondence with those wishing to place the construction of any proposed new work under ONE CONTRACT, which shall include all branches connected with the work. To such parties we will furnish satisfactory references from those for whom we have performed similar work.

Columbian Marble Quarrying Co., RUTLAND, VT.

OUR COLUMBIAN MARBLE is the best for building work. It stands the weather.

OUR CHAMPLAIN MARBLES (12 varieties) produce the richest effects for interior decoration.

Samples and prices on application.

The WINSLOW BROS. COMPANY, CHICAGO,

Ornamental Iron and Bronze.

NOW COMPLETE:

THE ARCHITECTURE OF

CLASSICAL ANTIQUITY

and the
RENAISSANCE,

By I. BUEHLMANN.

Seventy-five steel engravings and photo-lithographic plates in portfolio, with descriptive text translated by G. A. Greene, \$18.

The work is divided in three parts, which can be bought separate.

Part I. The Orders of Columns (Vignola)
28 plates with text, \$6.50.

Part II. Facades, Arches, Doors and
Windows, 25 plates with text,
\$6.

Part III. Development and Decoration of
Rooms, \$7.50.

To purchasers of two of the three parts the remaining part will be sold at a reduced figure, so that the total amount for the three parts will not exceed \$18—the price of the complete work—if purchased at once.

American Architect and Building News Co.

ROBERT C. FISHER & CO.

Successors to Fisher & Bird,

MARBLE AND GRANITE WORKS.

97, 99, 101 and 103 EAST HOUSTON STREET,

Established 1830.

NEW YORK.

Specify Three Coats

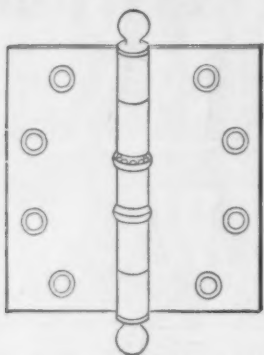
I. X. L. No. 1,

If you want to get the most elastic and durable finish for hard woods, stained or grained work on the exterior trim of public and private buildings, etc. It is free working, dries with a full and brilliant surface, and can be rubbed to a dead finish in from three to four days. This article produces the best possible waterproof coating for bath-rooms and the like. In color it is sufficiently pale for almost all requirements.

Other varnishes for other purposes. Booklet on request.

EDWARD SMITH & CO., Varnish Makers and Color Grinders, 45 Broadway, New York.

STANLEY'S BALL-BEARING STEEL BUTTS.....



are heavily electro-plated and highly polished, and compare favorably in appearance and durability with solid metal butts.

It is impossible to wear them down, and they never creak.

Samples and literature free to architects.

THE STANLEY WORKS, Dept. "C."
NEW BRITAIN, CONN.
79 CHAMBERS ST., N. Y.

FITCH SASH LOCKS LOCK THE WINDOW. RATTLE, COLD AND DUST OUT. SIMPLE, DURABLE, SAFE.

SOLD BY HARDWARE DEALERS EVERYWHERE
TRIAL SAMPLE FREE
THE W. & E. T. FITCH CO. NEW HAVEN, CONN.

"La Construction Moderne,"

A journal of whose merits our readers have had opportunity to judge because of our frequent reference to it and our occasional republication of designs that are published in it, is the most complete and most interesting of the French architectural journals.

The thirteenth annual volume is now in course of publication.

Subscription, including postage. 35 francs.

Each weekly issue contains, besides the illustrations included in the text, two full-page plates, which by themselves are worth double the amount of the annual subscription.

PRICE OF BACK ANNUAL VOLUMES,
:: 40 Francs. ::

Address for subscriptions and catalogues,
LIBRAIRIE DE LA CONSTRUCTION MODERNE,
13 Rue Bonaparte, Paris, France.

FOR INFORMATION ABOUT U. S. MAIL CHUTES

WHICH ARE
A necessity in Office Buildings and Hotels,
write to the sole makers.
THE CUTLER MFG. CO., ROCHESTER, N. Y.
PATENTED. AUTHORIZED.

CLINTON WIRE-CLOTH

Sole Proprietors and Manufacturers of

WIRE LATH DOUBLE TWIST WARP STIFFENED (Iron Furred) CLINTON CORRUGAT'D

Plain, Japanned or Galvanized.

The Most Perfect and Economic System of FIREPROOF Construction.

SEND FOR CIRCULAR.

BOSTON,
199 Washington St.

NEW YORK,
76 Beekman St.

CHICAGO,
137 Lake St.

FACTORY,
CLINTON, MASS.

KEUFFEL & ESSER CO.
MANUFACTURERS AND IMPORTERS OF.....
DRAWING MATERIALS AND SURVEYING INSTRUMENTS.
117 Fulton Street - - - NEW YORK.
Branches: Chicago and St. Louis.
We make and carry the most complete and best assorted stock in America. Our goods are recognized as the standard of quality. They all bear our trade-mark and are warranted by us. Our prices are reasonable. Our lavishly illustrated catalogue minutely and correctly describes our goods. It contains much valuable information. Sent gratis on application.

BUILDING MATERIALS.

Reported for the American Architect and Building News.

BUILDING MATERIALS	New York.	Boston.	Philadelphia.
STONE. (P cubic foot, rough.)	(Wholesale Prices.)	(Prices to Builders and Contractors.)	
Foundation:			
Dimension.....	5 00 P ton.		5 00
Block.....	4 60 P perch.		Conshohocken
Rubble.....	1 25 @ 1 50		1 45 @ 2 50
Sandstone:			
Longmeadow.....	80 @ 90		
Kibbe.....	90 @ 1 10		95 @ 1 05
Brown (Connecticut).....	1 00 @ 1 30		1 05 @ 1 25
Amherst Ohio.....	90 @ 95		85 @ 95
Berea.....	75 @ 1 00		85 @ 75
Berlin.....	75 @ 1 00		85 @ 95
Belleville.....	80 @ 1 25		1 00 @ 1 10
New Brunswick (Dorchester).....	1 00 @ 1 30		1 05 @ 1 15
Potsdam Red.....	1 30 @ 1 40		1 40 @ 1 40
Olsen.....	1 05 @ 1 05		1 25 @ 1 35
Carlisle, English.....	1 05 @ 1 05		95 @ 1 05
Corse Hill (Scotch).....	60 @ 60		95 @ 1 05
Granite: (Maine)			55 @ 65
Bedford.....	45 @ 1 25	95 @ 1 00	75 @ 85
Joliet.....	1 00		Richmond
Lemont.....			75 @ 1 50
Serpentine.....		10 50 per ton.	Perch 4 50 @ 5 50
Bluestone: (P sq. ft.)			1 in. th. 10 @ 25
Sidewalk.....	30 @ 5 00	40 @ 1 75	37 @ 50
Planned.....	50 @ 6 00	@ 75	
Marble: (P cu. ft.)			
Lee, Mass.....	@ 1 75 @ 2 50		2 00 @ 2 50
Rutland, white and blue.....	@ 3 00		2 00 @ 3 00
Sutherland Falls.....	1 25 @ 1 75	@ 2 00	1 70 @ 3 00
Glens Falls, black.....			4 00 @ 4 50
Italian, blue-veined.....			2 50 @ 2 75
" Sienna.....			@ 5 00
Tennessee, red.....			4 00 @ 6 00
" Knoxville.....			3 00 @ 4 00
Pennsylvania, blue.....			2 00 @ 3 00
Vermont, white.....			2 25 @ 3 00
Slate: Roofing (P square)			
Green.....	5 00 @ 6 00	4 75 @ 5 25	2 90 @ 3 00
" unfading.....	5 00 @ 6 00	5 50 @ 6 50	4 25 @ 5 00
Purple.....	5 00 @ 6 00	5 50 @ 6 50	4 50 @ 5 50
Red.....	@ 10 00	10 00 @ 11 00	11 50 @ 13 00
Black, Lehigh.....	4 25 @ 4 75		4 00 @ 4 35
" Chapmans.....	@ 4 35 @ 5 50	4 75 @ 5 50	4 50 @ 5 00
Genuine Bangor.....	6 00 @ 8 50	6 00 @ 8 50	4 35 @ 5 50
Unfading black.....	5 50 @ 8 00	5 50 @ 8 00	6 50 @ 9 00
".....			6 50 @ 9 00
Tiles, Am..... P M.....			5 75 @ 28 00
N. Peach Bottom, war. unfading	8 00 @	8 00 @	8 00 @ 6 25
Fire Clay Roof Tile on care at fac.			
LUMBER. — P M.			
Boards: (Ordinary dimensions.)			
Pine, 1st quality, clear.....	65 00 @ 75 00	70 00 @ 80 00	47 50 @ 60 00
" 2d quality.....	55 00 @ 60 00	65 00 @ 70 00	38 00 @ 48 50
" 3d quality.....	18 00 @ 22 00	55 00 @ 60 00	27 50 @ 36 50
Spruce.....	@ 25 00	19 00 @ 23 00	15 00 @ 21 50
Hemlock.....	ea 134 @ 14	15 00 @ 19 00	11 50 @ 13 75
Yellow pine.....	20 @ 40	21 00 @ 35 00	14 00 @ 29 00
Cypress.....	@ 35 00 @ 55 00		30 00 @ 38 00
Clapboards:			
Pine.....	@ 35 00 @ 55 00		14 00 @ 25 00
Spruce.....	@ 30 00 @ 36 00		Not sold.
Framing Timber:			
Pine.....	14 00 @ 16 00	20 00 @ 23 00	25 00 @ 37 30
Spruce.....	12 00 @ 16 00	15 00 @ 18 00	15 00 @ 21 50
Hemlock.....	18 00 @ 21 00	26 00 @ 55 00	14 00 @ 20 00
Yellow pine.....			22 50 @ 30 00
Laths:			
Pine..... Round Wood	@ 3 50	2 25 @ 2 50	2 75 @ 3 00
Spruce..... Slab.....	@ 3 00 @ 3 25		2 30 @ 2 25
Shingles:			
Pine, shaved..... P M.....	5 00 @ 6 00	@ 450	
Pine, sawed.....	4 00 @ 5 00		
Spruce, sawed.....	1 50 @ 2 00	1 50 @ 2 00	
Redwood..... P 125.	1 40 @ 1 60	3 50 @ 4 00	
Cedar split..... P M.....		@ 6 00	
Cedar sawed.....	@ 3 00 @ 4 00		
Cypress, Split..... 7 x 24 ..	18 00 @ 20 00	5 00 @ 6 50	

30" \$35 @ 40
24" 8 @ 31
30" 25 @ 14
11 00 @

Laughlin-Hough Patent Drawing Tables

Endorsed
by
World's
Experts



It is to
Drawing
what
Shorthand
is to
Writing

"A great saving in time."—*Baker.*
"Better work can be done with it."—*Stokes.*
"The longer I use it the better I like it."—*Galt.*
"A great convenience and economizer of time."—*Wright.*
"Convenience in working is greatly increased."—*Harrison.*
"It reaches into entirely new fields or systems of procedure."—*See.*
"We would not like to be without it at almost any price."—*King.*
"Your tables have made draughting a source of pleasure."—*Hunt.*
"The operator enjoys ease and comfort in his work."—*Wilson.*
"I have found it a most efficient and time-saving device."—*Budden.*
"It is essentially a labor and therefore a time-saving tool."—*Harrison.*

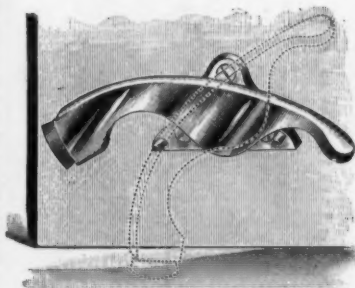
SAVES
TIME.

SAVES
LABOR

LAUGHLIN-HOUGH CO.
30 BROAD ST.,
NEW YORK.

"It marks a wonderful step in advance of the old kind of drawing table."—*Ure.*
"Would not revert to the old-style method under any consideration."—*Simpson.*
"The Table will pay for itself in a few months in the saving of time alone."—*Hernu.*
"The Detail Table removes all the ordinary difficulties and obtains perfect lines."—*Lowther.*
"I have used and tested the sliding straight-edge and could not find a fault with it."—*Stokes.*
"I now consider the instruments heretofore used as things of the past; in fact, obsolete."—*Hunt.*
"It is a great labor-saving device, and no draughtsman could fail to be pleased with it."—*Ure.*
"They enable the draughtsman to dispense entirely with protractors, T and set squares."—*Bovey.*

EMPIRE DOOR HOLDER



Operated by a light pressure of the toe. No bending over. The Rubber Tip and spring action make it particularly desirable for use on carpet, polished wood, or tiled floor.

Manufactured by
Caldwell Manufacturing Co.
3 JONES ST., ROCHESTER, N. Y.

G. BICKELHOUP, PATENT



**METALLIC
SKY-LIGHT
WORKS.**

242 and 245 West 47th Street, New York.
Telephone: 675 39th St. a few doors west of Broadway.
Send for Catalogue.

87,000 Lbs. of MURESCO

were used on the walls and ceilings of the public-school buildings in Chicago during July and August, because the experience of past seasons has shown it to be better than kalsomine or any other wall finish. **MURESCO** has great covering qualities and will not crack, rub off, flake or peel; it produces a smooth, silky effect that is pleasant and restful to the eyes, and is sanitary and fire-proof. **MURESCO** is unequalled for public buildings, churches, school-houses, hospitals, hotels, theatres, office-buildings, etc. White and fourteen tints.

Call for Muresco in your painting specifications.
Send for booklet and color card.

BENJAMIN MOORE & CO.,
BROOKLYN, NEW YORK, 244-258 Water Street.
CHICAGO, ILL., 208-210 West Lake St.
GOULD & CUTLER, New England Agents, 69-75 Union St., Boston, Mass.



BUTCHER'S BOSTON POLISH

is the best finish for

FLOORS, . . .

Interior Woodwork and Furniture.

Circulars Sent on Application.
For Sale by Dealers in Painters' Supplies.

MANUFACTURED BY THE
BUTCHER POLISH CO.,

356 Atlantic Ave., Boston, Mass.

DRAWING OFFICE.

DRAWINGS

Rendered in line or color with reasonable despatch.

Address EDITORS AMERICAN ARCHITECT

Ready, Part IV "Georgian Period"

PART IV

“THE GEORGIAN PERIOD”

Part IV in addition to its 36 plates—12 of which are gelatine plates—contains a considerable amount of text, illustrated by more than one hundred cuts.



[Date, 1755.]



[Date, 1796.]

Cupolas for the Pennsylvania Hospital, Philadelphia, Pa.

[Half-tone Reduction of Gelatine Print in Part IV.]

Retail price per single copy \$6.00
 Price to non-subscribers to the *American Architect* who have already subscribed for Parts I, II and III 5.00
 Price to subscribers to the *American Architect* for 1899 4.00

[PUBLISHED OCTOBER 15, 1899]

PART IV

Price, \$6.00 [\$4.00 to Subscribers to the
American Architect.]

Contains 36 pages text and 36 plates as follows:—

1. Wrought-iron Newels, New York, N. Y.
[Gelatine.]
- 2, 3, 5, 6, 8. Sundry Details from Salem, Mass.
4. Doorway of Lefferts Homestead, Brooklyn, N. Y. Date, 1750.
[Gelatine.]
7. Mantel in Erasmus Hall, Brooklyn, N. Y.
Date, 1787.
[Gelatine.]
9. House of John Bartram, Philadelphia, Pa.
Date, 1730.
- 10=13. St. Paul's Chapel, Broadway, New York,
N. Y. Date, 1764=94.
[Two Gelatines.]
- 14, 15. Old South Church, Boston, Mass. 1729.
16. St. John's Chapel, New York, N. Y. Date,
1803=6.
[Gelatine.]

17. First Church, Hingham, Mass. 1681.
18. The Cloisters ["Saal"] Ephrata, Pa. 1744.
- 19, 20. Taylor House, Roxbury, Mass. 1790.
[One Gelatine.]
- 21, 27, 29. Independence Hall, Philadelphia, Pa.
1729=34.
[Two Gelatines.]
28. Mantels in a South Third Street House,
Philadelphia, Pa.
[Gelatine.]
- 30, 32, 33, 35, 36. Mount Pleasant Mansion, Philadelphia, Pa. Date, 1761.
31. Interior of Christ Church, Philadelphia, Pa.
Date, 1727.
[Gelatine.]
34. Cupolas from the Pennsylvania Hospital,
Philadelphia, Pa. Date, 1755=96.
[Gelatine.]

TEXT

- "The So-called Colonial History of the United States,"
Olof Z. Cervin
- "The Roof of the Old South Meeting House,"
W. G. Preston
- "The Seventh Day Baptist Church, Newport, R. I.,"
G. C. Mason
- "The Virginia Border=Land,"
Glenn Brown
- "Six Hours in Salem, Mass.,"
C. F. Bragdon

PART V [in press.]

FURTHER PARTS IN PREPARATION.



BLATZ HOTEL, MILWAUKEE, WIS. OTTO STRACK, ARCHITECT.

FLOORS SOUND-PROOFED BY . . CABOT'S SHEATHING AND DEAFENING . . . "QUILT."

The lightest, cleanest, cheapest and most efficient deafener made. A non-decaying, unflammable, insect and vermin-repelling cushion of dead air spaces, in which the sound-waves are absorbed and lost. Nothing haphazard about it, but a scientific and remarkably efficient non-conductor of sound or heat.

ASBESTOS QUILT.

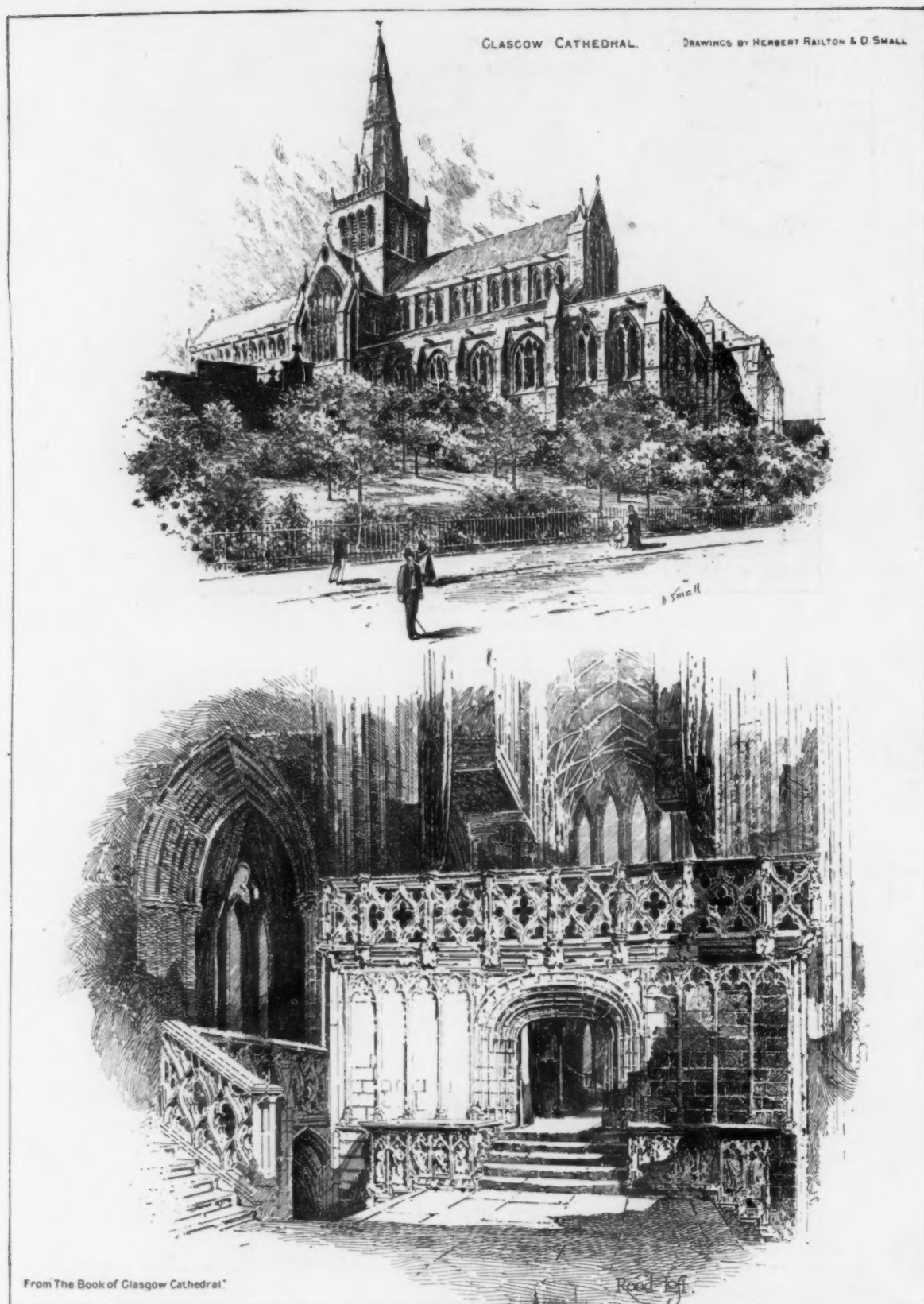
The only sheathing made that is fireproof and at the same time heat-proof and soundproof.

Send for samples and full information.

SAMUEL CABOT, Sole Manufacturer, BOSTON, MASS.

215 Dearborn Street, Chicago, Illinois.

AGENTS: V. H. Schnieder, 12 Wooster St., New York; Samuel H. French & Co., Philadelphia, Pa.; Charles J. Waterhouse, San Francisco, Cal.; P. H. Mathews, Los Angeles, Cal.; Whitelaw Brothers, St. Louis, Mo.; George H. Lawes & Co., St. Paul, Minn.; John H. Corning, Washington, D. C.; Brady & Co., Detroit, Mich.; The National Building Supply Co., Baltimore, Md.; C. H. Brown & Co., Portland, Oreg., and Seattle, Wash.; Cleveland Builders' Supply Co., Cleveland, O.; Seymour & Co., Montreal, and at all other central points.



— 1889 —

PARIS EXPOSITION,
MEDAL FOR RUBBER INSULATION



TRADE MARK
THE STANDARD FOR RUBBER INSULATION.

— 1893 —

WORLD'S FAIR,
MEDAL FOR RUBBER INSULATION

THE OKONITE CO., Ltd.,
SOLE MANUFACTURERS OF

OKONITE WIRES, OKONITE TAPE, MANSON TAPE, CANDEE WEATHERPROOF WIRES.

WILLARD L. CANDEE, }
H. DURANT CHEEVER, } MANAGERS.

GEO. T. MANSON, Gen'l Supt.
W. H. HODGINS, Sec'y.

253 BROADWAY, NEW YORK.

DIXON'S SILICA GRAPHITE PAINT

FOR TIN OR SHINGLE ROOFS AND IRON WORK. Tin roofs well painted have not required repainting for 10 to 15 years.
IT IS ABSOLUTELY WITHOUT AN EQUAL.

If you need any paint it will pay you to send for circular.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

Flexible Door and Shutter Co.,

Manufacturers of Patent Improved

Partitions
:: Doors

FLEXIFOLD SPECIALTIES.

Shutters ::
Wardrobes, etc.

Simple in construction. Easy to operate. No springs, weights or cords.

Main Office: WORCESTER, MASS. Send for illustrated catalogue. New York Office: 1125 BROADWAY.

ESTABLISHED 1858

SKYLIGHTS HAYES LATHING & NEW YORK.

71-8TH AVE. (METALLIC) FIRE-PROOF CONSTRUCTION

BOSTWICK STEEL LATH. The Best Metal Lath on the Market.

ACME METAL CORNER STRIP. The Best Metal Corner Bead on the Market.

Write for Samples and Prices.
Boston Agency: WALDO BROS., 102 Milk St. Bostwick Steel Lath Co., Niles, Ohio.



PNEUMATIC TUBES

For Rapid Transmission of Cash, Orders, Papers, Documents.

USED IN Prominent Department Stores, Dry Goods Houses, Wholesale Establishments, Newspaper Offices, Banks, etc. Write for Estimates.

BOSTEDO PACKAGE AND CASH CARRIER CO.,
CHICAGO, 156 Lake Street. NEW YORK, 156 Fifth Avenue.

Specify the Best

Each Sheet Stamped with Brand and Thickness

ONE OF THE
OLDEST AND
BEST TRIED
BRANDS IN
THE COUNTRY

**OSBORN'S
GUARANTEED
IC
OLD STYLE**

IC OR IX

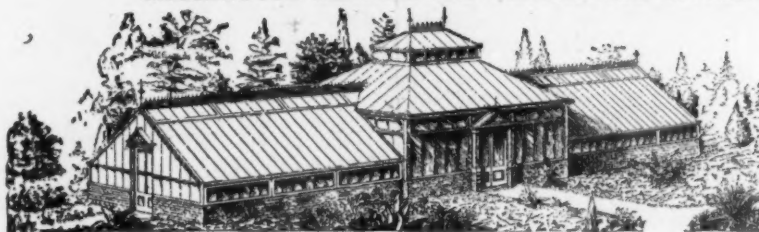
HAS STOOD
THE TEST
OF TIME
AND WEAR

A ROOFING PLATE cannot be made better than this: Coated by the Palm Oil Process; Redipped by Hand Evenly Coated over Entire Sheet; Contains the Best Working Quality of Steel.

Made Solely by **J. M. & L. A. OSBORN, Cleveland and Columbus, Ohio**

HITCHINGS & CO.,

Established 50 years
HORTICULTURAL ARCHITECTS AND BUILDERS
and largest Manufacturers of
GREENHOUSE HEATING AND VENTILATING APPARATUS.



The highest awards received at the World's Fair for Horticultural Architecture, Greenhouse Construction and Heating Apparatus. Conservatories, Greenhouses, Palmhouses, etc., erected complete with our Patent Iron Frame Construction.

Send four cents for Illustrated Catalogue.
233 MERCER STREET, N. Y. CITY.



**NEW ENGLAND
FELT ROOFING
WORKS.**

13 Post Office Sq., BOSTON.

Originators of Felt Roofing in New England.

Inventors and only Manufacturers of the Celebrated
"BEEHIVE BRAND"

ESTABLISHED 1852.
Incorporated 1891.
Capital \$80,000
LEVI L. WILLIAMS, Pres.
EPH. C. DAVIS, Treas.

Heliotype Printing Co.,

241 Tremont Street, Boston.

ESTABLISHED 1872.

- PHOTO-LITHOGRAPH.
- PHOTO-COLOR-LITHOGRAPH.
- PHOTO-GELATINE.
- PHOTO-GRAVURE.
- PHOTO-ENGRAVING.

COPIES OF ARCHITECTURAL,
MECHANICAL AND OTHER
DRAWINGS, MAPS, PLANS, ETC.,
PORTRAITS, VIEWS AND ALL
BOOK ILLUSTRATIONS.

Heliotype Printing Co.

The Yale Locks, Builders' Hardware, Art Metal Work,

The Yale & Towne Mfg. Co.
9-11-13 Murray Street, NEW YORK CITY.



S. J. PARKHILL & Co.

PRINTERS

226 FRANKLIN STREET, BOSTON, MASS.

Book and Miscellaneous Printing
Illustrated Trade Catalogues
Town Histories and Genealogies
Mercantile and Commercial Printing
Electrotyping and Stereotyping

With all the most approved modern machinery and material in each department, the excellence of the work at fair prices is assured.

WORKS ON ARCHITECTURE A SPECIALTY

Information regarding work in any department will at all times be cheerfully and promptly furnished, either personally or by correspondence.

Ready, Part IV "Georgian Period."

ASPHALT ROOFING AND PAVING MATERIALS.

WARREN'S "ANCHOR BRAND" NATURAL ASPHALT ROOFING. WARREN'S NATURAL ASPHALT READY ROOFING.
Send for circulars, samples and specification forms to
WARREN CHEMICAL & MFG. CO. • • • 81 & 83 Fulton Street, NEW YORK, U.S.A.

WE CLAIM THE FOLLOWING MERITS FOR JENKINS BROS.' VALVES.

1. Manufactured of the best Steam Metal.
2. No regrinding, therefore not constantly wearing out the Seat of the Valves.
3. Contain JENKINS DISC, which is suitable for all Pressures of Steam, Oil and Acids.
4. The Easiest Repaired, and all parts Interchangeable.
5. Every Valve Tested before leaving the factory.
6. ALL GENUINE stamped with Trade Mark.

JENKINS BROTHERS, New York, Philadelphia, Chicago, Boston.



L. HABERSTROH AND SON
INTERIOR DECORATORS AND PAINTERS
9 Park St. Cor. Beacon
Boston Mass.
Artistic Relief Processes. Tapestry-Leather Mosaic Effects.
Established in 1848

Send for Samples. **SAMSON SPOT CORD**
If you SPECIFY
You can tell at a glance that no other cord is substituted. It is warranted to be of pure Cotton, smooth finish and perfect braid.
Samson Cordage Works, Boston, Mass.



BOMMER
SPRING HINGES
ARE THE BEST
"PRACTICALLY UNBREAKABLE"
SAYS THE WORLD'S FAIR AWARD.
MADE OF WROUGHT STEEL, BRONZE & BRASS
For sale by Dealers in Builders Hardware.

W. & J. Sloane

having established a special

Department of Decoration

are now prepared to undertake the decorating and furnishing of residences and buildings.

An exclusive stock of domestic and imported Carpets, Rugs, Wall Papers, Textile Fabrics, Furniture, Curtains, etc., together with fine examples of Ceiling and Wall Decoration in color and relief, Cabinet Work, Leaded Glass, etc., is offered for inspection.

DESIGNS AND ESTIMATES SUBMITTED
WORK EXECUTED PROMPTLY

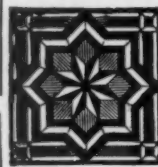
Broadway & 19th Street
NEW YORK

ASPHALT FLOORS, ROOFS, SIDEWALKS AND CARRIAGE-WAYS

Of Public Buildings, Hospitals, Warehouses, Stables, Cellars, etc.
Laid with VAL de TRAVERS ROCK ASPHALT, DURABLE, FIREPROOF AND IMPERVIOUS.
For estimates and list of works executed, apply to
THE NEUCHATEL ASPHALT CO., Limited,
265 BROADWAY - - - NEW YORK.

PARQUET FLOORS.

The National Wood Manufacturing Co.,



139 5th Avenue, New York.

WAINSCOTINGS AND CEILINGS.

Inlaid Wood Floors 3-16 and

7-8 inch thick.

Solid work, Tongued and Grooved

in each piece.

Designs & Estimates on application. Established 1867.

F. W. DEVOE & CO.

(Established 1852.)

Fulton St., cor. William, New York.
No. 176 Randolph St., Chicago.

Pure Ready-mixed Paints.

We desire to call attention of consumers to the fact that we guarantee our ready-mixed paints to be made only of pure linseed oil and the most permanent pigments. They are not "Chemical," "Rubber," "Patent," or "Fireproof." We use no secret or patent method in manufacturing them by which benzine and water are made to serve the purpose of pure linseed-oil.

Sample cards, containing fifty desirable shades sent on application.

FINE VARNISHES.

Hard Oil-Finish & Wood-Stains.

Illustrated Catalogue of Engineers' and Architects' Supplies, 250 pages, 700 Illustrations, on request.

White-Lead Colors in Oil and Japan.

HIGH-GRADE WOOD MANTELS

...AND ALDINE GRATES

40-Page Illustrated Catalogue FREE.

ALDINE MANUFACTURING CO.,
101 Court St., Grand Rapids, Mich.



80-Paged Illustrated Catalogue of over 250 Designs of Superior

WEATHER VANES, TOWER ORNAMENTS, CHURCH CROSSES, FINIALS, Etc., Etc.

Mailed to any address for 2-cent stamp—half the postage.

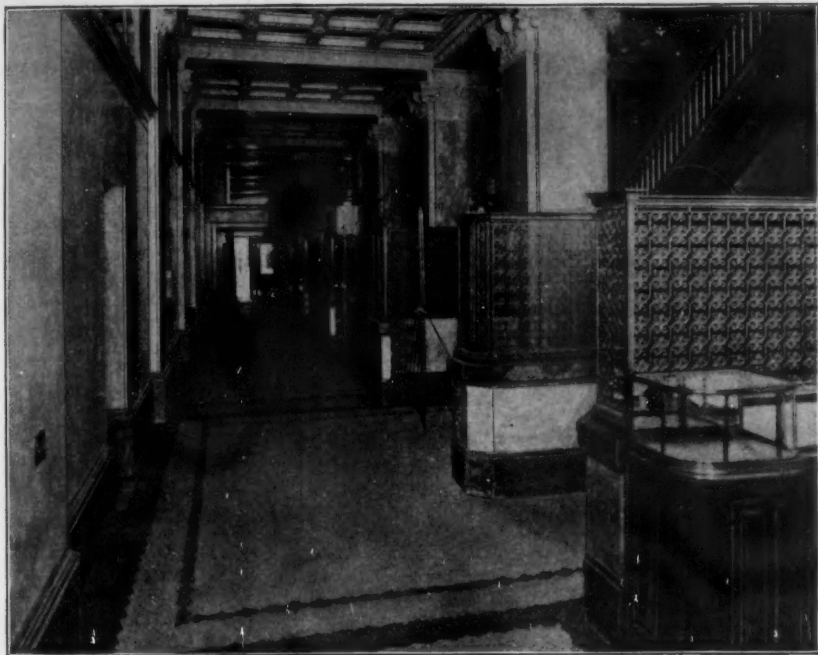
T. W. JONES, Manufacturer,
18 FLETCHER ST., NEW YORK.

Conservatories, Greenhouses, Vineries, Etc.

Designed, erected and heated. Catalogue, also special plans and estimates, on application.

LORD & BURNHAM CO.,
1133 Broadway - - - New York City.

Ready, Part IV "Georgian Period."



INTERLOCKING RUBBER TILING

as laid by us in the main corridor and booths of the Park Row Building, New York City. Noiseless, non-slippery, waterproof, sanitary, extraordinarily durable. A perfect floor for stores, offices, banking rooms, court rooms, school rooms, libraries, hospital wards, cafés, bath rooms, billiard rooms, vestibules, halls, piazzas, etc. Laid directly on wood, stone, cement, concrete, or iron. Call or write.

New York Belting & Packing Co., Ltd.

New York 25 Park Place
Philadelphia 308 Chestnut St.
Chicago 143, 145, 150 Lake St.
St. Louis 411 No. 3d St.
San Francisco 509-511 Market St.
London, W. C. A. L. Gibson, 20 John St., Adelphi

The American Architect and Building News

IS PUBLISHED EVERY SATURDAY BY

The American Architect and Building News Co.,
211 TREMONT ST., BOSTON, MASS.

Advance Subscription Rates.

Regular Edition, \$6.00 per year; six months, \$3.50.
Imperial Edition, \$10.00 per year; six months, 6.00.
International Edition, per year in advance, 25.00.
quarterly 26.00.

[Foreign Postage Extra.]

Payment should be made to American Architect and Building News Co. direct, either by draft or post-office order.

Address all business correspondence to the publishers direct.

Advertising Agents:

New York City:—
H. M. Carleton, Temple Court, 5 Beekman St.

Chicago and the Central States:—
A. B. Titcomb, 177 LaSalle St., Chicago, Ill.

Agents at Large:—
F. P. Spokesfield, 211 Tremont St., Boston, Mass.
Burrell & Fowler, 310 New England Bldg.,
Cleveland, O.

Advertising Rates: For "wants" and "proposals," 15 cents per line (8 words to the line), each insertion. 50 cents the least charge. Other rates on application.

New Advertisements.

THE OHIO BRASS AND IRON MFG. CO. (Cleveland, O.), Traps. Page xlii.

See last or next issue for the following advertisements:—

Dwight Lumber Co.
Kearby & Mattison Co.
Merchant & Co.
Morse, Williams & Co.
Spaulding Print Paper Co.
Sprout & McGurran
Taylor, N. & G. Co.
Thorn Co., J. S.

See the first issue of the month for the following advertisements:—

Alsen's Portland Cement Works.
Atlas Cement Co.
Brooks & Co., T. H.
Dayton Automatic Elevator Gate Co., The.
Folsom Snow Guard Co.
Grand Rapids Moulding Co.
Ludlow Saylor Wire Co.
Nelson, C. T. & Co.
New Jersey Zinc Co.
Pitt, Wm. R.
Thiele, E.
Vance Boiler Works.

WANTED.

CORRESPONDENCE.—An experienced artistic architect desires position. Correspondence solicited. Address "Competency," this office.

1252

ASBESTOS FIRE-FELT COVERINGS

STEAM PIPES,
BOILERS, &c. &c.

THE PERFECT
NON-HEAT-CONDUCTORS.

APPLICATION SIMPLE
& INEXPENSIVE.

FELT-LIKE
& FIRE-PROOF.

H. W. JOHNS MFG CO.

NEW YORK · CHICAGO · PHILADELPHIA · BOSTON

MAKERS OF
ASBESTOS MATERIALS. LIQUID PAINTS & STAINS.
ROOFING MATERIALS. ELECTRICAL MATERIALS.

JOHN WILLIAMS, 544 to 556 West 27th Street, New York.

WROUGHT IRON AND BRASS WORK TO SPECIAL DESIGNS ONLY.

REFERENCES: Tiffany & Co., N. Y.; Cottier & Co., N. Y.; L. Marcotte & Co., N. Y.; McKim, Mead & White, N. Y.; Babb, Cook & Willard, N. Y.; Bruce Price, N. Y.; R. M. Hunt, N. Y.; Bailey, Banks & Biddle, Phila.; Frank Hill Smith, Boston; A. H. Davenport, Boston.

To the Architect and Builder:

If you will investigate our glass globes for illuminating purposes, you will use them because they are scientifically designed, artistic and ornamental, and superior to anything yet made.

Our book "Light vs. Illumination" explains the subject thoroughly.

HOLOPHANE GLASS CO., No. 1 Broadway, New York.

WANTED.

SITUATION.—Wanted, position by first-class designer and constructionist. Fourteen years' experience in New York. New York or Boston only. "A. X. Z., care American Architect." 1251

BUILDING PATENTS.

[Printed specifications of any patents here mentioned together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for five cents.]

637,522. CLEAN-OUT FOR SEWER PIPES OR TRAPS.—John J. Phelan, Worcester, Mass.
637,532. RULER.—Myer Rosenberg, New York, N. Y.
637,541. VAULT-COVER.—Ben Willard, New Orleans, La.
637,547. EXTENSIBLE TRESTLE.—Edwin C. Bishop, Hartford, Conn.
637,552. SPRING-HINGE.—George W. Chandler, Ogden, Kan.

BUILDING PATENTS.

637,563. VENTILATOR.—John A. Gavin, Rock Island, Ill.
637,577. HEATER.—Peter F. McCaffrey, Pittsburgh, Pa.
637,596. FIREPROOF PARTITION-WALL.—Vincent Venezia, Boston, Mass.
637,597. FIREPROOF WINDOW.—Frank Voigtmann and Silas H. Pomeroy, Chicago, Ill.
637,531. WINDOW-SCREEN.—Aaron Graham, Christiansburg, Va.
637,535. BLOCK FOR BUILDING MOLES, DAMS, PIERS, ETC.—Nicolas J. Jeckel, Skagen, Denmark.
637,556. MEANS FOR SECURING CEILINGS, FLOORS, ETC., TO SOLID FLOORS.—Adolf Katz, Stuttgart, Ger.
637,537. WOODEN WALL.—Paul F. Kestig, Ottawa, Kan.
637,543. CONSTRUCTION OF CEILINGS AND FLOORS.—Carl Pötsch, Minden, Ger.
637,549. SHUTTER-SLAT HOLDER.—William G. Smith, Garwin, Ia.
637,567. VALVE DEVICE FOR WATER-CLOSERS.—Patrick J. Madden, Chicago, Ill.
638,002. FLUSHING APPARATUS.—Jas. W. Berry, Iowa City, Ia.

Ready, Part IV "Georgian Period."

E. ELTON DEANE,

Architectural Colorist and Draughtsman.
63 Seymour Building, Fifth Ave., cor. 42d St.
NEW YORK CITY.

PERSPECTIVES RENDERED

IN PEN-AND-INK AND WATER-COLOR,

WALTER M. CAMPBELL,

51 Devonshire St., Boston, Mass.

MASON SAFETY TREAD.

UNWEARABLE. NON-SLIPPING.

The approved stair covering. Refer to Brooklyn Bridge and Boston Subway. For information address American Mason Safety Tread Co., 40 Water Street, BOSTON.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

[Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.]

ADVANCE RUMORS.

Akron, O.—The German Societies of this city are said to be interested in the erection of a \$50,000 building.

Alton, Ill.—It is stated that the St. Louis, Chicago & St. Paul R. R. Co. is having plans prepared for a passenger station and a brick freight warehouse. H. W. Gays, Gen. Mgr., St. Louis, Mo.

Ambler, Pa.—Jacob Myers & Son are asking estimates for building a two-story and loft stone, brick, iron and frame house, 30 1/2 x 106 1/2, for William H. Hart. The plans are by Architect George Bispham Page.

Ames, Ia.—The trustees of the Iowa State College will ask the legislature for an appropriation of \$150,000 for a fireproof engineering building.

Baraboo, Wis.—Plans are being drawn for a courthouse for Sauk County to cost about \$100,000. J. M. True, chairman building committee.

Birmingham, Ala.—The Grasselli Chemical Co., of Cleveland, O., has purchased a site of 100 acres, of ground near Hillman, four miles from Bessemer, for a site for a large chemical works. It is stated that between \$100,000 and \$200,000 are to be expended in the building and equipping the plants.

Brunswick, Me.—Bowdoin Chapter, Zeta Psi Fraternity, has bought a lot of land on College St., opposite the college buildings, on which it will build, next spring, the largest and most elegant college fraternity building in Maine. It will be a handsome structure, in the style of an old colonial mansion, to cost from \$12,000 to \$15,000, and will be elaborately fitted up.

Bucksport, Me.—The heirs of John G. Moore, late of the New York banking-houses of Moore & Schley, are having preliminary sketches made of a memorial building to be erected in connection with the East Maine conference seminary, at which Mr. Moore was at one time a student.

Buffalo, N. Y.—Architect W. L. Schmolle is preparing for a large and finely appointed apartment-house to be built for himself, at Potomac Ave. and Chapin Parkway. It will be divided into 16 apartments and cost about \$75,000.

The Lippold Planing Mill Co. are having plans drawn for a two-story brick office to be erected at 920 Seneca St. L. P. J. Eckel, architect.

Architect Frederick C. H. Mohr has prepared plans for a two-story brick tenement-house to be built for Charles E. Dickinson at the northeast corner of Eagle and Adams Sts.; cost, about \$5,000.

The Buffalo Railway Co. will build a one-story paint-shop, 90' x 179', at the corner of Main and Michigan Sts.; cost, \$5,000.

Evelina Spanner has had plans drawn by Architect W. L. Schmolle for the erection of a two-story brick apartment-building of unique design at 41-43 Potomac Ave.; cost, \$15,000.

Architect L. P. J. Eckel has drawn plans for a four-story brick factory, 90' x 120', to be built for Charles Polakoff, at 820 Broadway; cost, about \$30,000.

Cedar Rapids, Ia.—Plans are being prepared by Josselyn & Taylor, 119 First Ave., for an extensive addition to St. Luke's Hospital.

Chicago, Ill.—Final action has been taken by the Buildings and Grounds Committee of the Board of Education recommending the purchase of sites and the construction of new school-buildings in 1900. Fourteen new schools or additions are to be provided for and sites purchased at an estimated cost of \$1,000,000, to be paid out of the Board of Education budget of next year.

Denver, Col.—It is announced that the Christian Science Society will build a \$75,000 church on its recently acquired property at the corner of 14th St. and Logan Ave.

Plans have been prepared by E. Edbrooke for the new armory to be built in this city at a cost of \$50,000.

Des Moines, Ia.—Hallett & Rawson, architects, are preparing plans for a large warehouse which F. M. Hubbell & Son will erect for the use of the Advance Thrasher Co. Work will be started in the spring.

Liebke, Nourse & Rasmussen, architects, are making plans for a public library building at Nevada, Ia. It will be pressed brick with cut stone trimmings, two stories, modern, with steam heat and electric lights; cost, about \$6,500.

D. R. Ewing has offered to build a \$45,000 library building for Drake University. Gov. Drake has agreed to erect an extension of the chapel, to cost \$5,000.

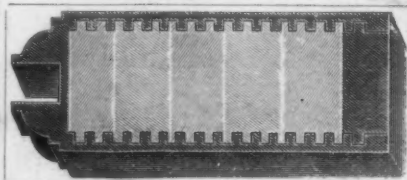
METAL CEILINGS

Suitable for
Residences, Offices, Stores, Schools,
Hospitals & Churches

Can be applied over old plaster
without removal of same. Depend on Price
Give Measurements for estimate

N. Y. METAL CEILING CO.
21 ST. AND 13TH AVE.
NEW YORK, N. Y.

Boston Office: 48 Congress St., Room 23



VARNISHES

FOR HOUSEWORK

Are a specialty with us, and whether for finest or ordinary work, none will give better satisfaction than the

HARRISON VARNISHES

Harrison Bros. & Co., Inc.

PHILADELPHIA CHICAGO NEW YORK

Descriptive Varnish catalogue sent on request.

J. W. TAYLOR'S PHOTOGRAPH SERIES

151 MONROE ST., CHICAGO OF AMERICAN ARCHITECTURE.

Removed to Owings Building.

Send two 5 cent stamps for Catalogue.

THE COMPOUND DOOR CO.,

Manufacturers of

**Veneered Hardwood Doors,
Stiles and Rails.**

FINE INTERIOR FINISH.

Office and Factory - - - ST. JOSEPH, MICH.

"JUST A MOMENT!"

Invaluable

TO THE

Architect and Builder

ARE

BERGER'S

"Classified Designs"

IN

METAL CEILINGS.

The Berger Mfg. Co., Canton, O.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Architects Liebke, Nourse & Rasmussen are preparing plans for a three-story and basement brick laboratory, 120' x 198', to be erected on W. 6th and Park Sts., for the Chamberlain Medicine Co.; cost, \$75,000.

Dubuque, Ia.—It is announced that an addition will be erected to Mercy Hospital in the spring. A new hospital will be erected and the present one remodelled and a new front put in. The present chapel will be torn down and replaced by a large addition; cost, \$25,000.

Duluth, Minn.—The Protestant Hospital Association, St. Luke's, is stated to have accepted plans for a \$50,000 fireproof hospital, and will begin construction in the spring.

Architect Chas. R. Sedgwick, Lumber Exchange, Minneapolis, has prepared plans for a two-story pressed-brick and terra-cotta store and flat building for George Besser, of Minneapolis; cost, \$6,000.

Kau Claire, Wis.—The Board of Commissioners of Eau Claire County voted to borrow \$75,000 with which to build a County Insane Asylum.

Fall River, Mass.—Plans have been prepared by Louis G. Destramps for a 16-room brick and stone parochial school for Notre Dame parish. Rev. J. A. Prevost, Trustee. Cost, \$60,000.

Fitzgerald, Ga.—At a meeting of the citizens it was decided to erect a \$60,000 cotton-mill at this place. W. R. Bowen was elected temporary president.

Fredericksburg, Va.—Architect M. J. Dimmock, Richmond, has prepared plans for a four-story store and office building, 60' x 100', for the Enterprise Co.; cost, \$30,000.

Fremont, O.—A party of Cleveland capitalists have organized a \$500,000 stock company to build and operate a beet-sugar refinery. The plant is to cost \$400,000. The incorporators are: E. F. Dyer, E. H. Weatherhead, J. Q. Riddle and others.

Grand Rapids, Wis.—The court-house will be enlarged and improved at a cost of \$13,500.

Greensburg, Pa.—It is reported that H. Y. Haws, Johnstown, has purchased a piece of property at Pennsylvania Station, and will soon begin the construction of a \$100,000 fire brick plant.

Hartford, Conn.—Ernest Flagg and Geo. M. Bartlett, 15 Broad St., N. Y. City, are stated to have completed the plans for a \$100,000 building for the Scottish Union National Insurance Co.

Hobart, Ind.—It is reported that the Lutheran

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Society are considering the erection of a \$50,000 church structure.

Hudson, Mass.—It is announced that a four-story brick factory will be erected near the present works of the Apsley Rubber Co. It will be 225 feet long and 60 feet wide, and will be used in making rubber boots and shoes, giving employment to more than 500 operatives.

Kansas City, Mo.—The Nickel Wheel Scraper Co., of Independence, have purchased a site on Broadway and 24th St., for the erection of a factory.

Kenosha, Wis.—The County Board is interested in the erection of an insane asylum, to cost \$45,000.

The Wauban Improvement Co. will erect an office-building to cost \$10,000.

Lancaster, Pa.—Herman Wehson, Green St., was awarded the contract for the building to be erected for the Young Men's Christian Association, after plans prepared by C. E. Urban, 40 N. Queen St. The building will contain a theatre, gymnasium, lecture-rooms, bowling-alley, etc., and will cost about \$100,000.

Lyons, N. Y.—It is announced that New York capitalists will erect a beet-sugar factory here having a capacity of 450 tons daily and encumbering the product of 4,000 acres. William Buchheit has been representing the syndicate in the preliminary work. It is stated that the buildings will cost \$650,000, and that building operations will begin January 1 next. The company will be capitalized at \$2,000,000, of which \$1,000,000 will represent the cash capital.

Merrill, Wis.—The Lincoln County Board will erect a poor-house to cost about \$10,000.

Milford, Conn.—An \$18,000 stone and frame house is to be erected for H. G. Taylor of New York City. Jos. W. Northrup, architect, is drawing plans.

Milwaukee, Wis.—Arrangements are under way for the erection of an extensive modern sanitarium to cost from \$125,000 to \$175,000. Adolph Spiegel, agent.

Ferry & Clas have drawn plans for the L. J. Petit Co. for a salt shed to be erected at the company's docks, at a cost of \$20,000.

Frank Hunholz has had plans prepared for a four-story building which he will have erected at 11th and State Sts., at a cost of \$40,000.

John Roth, architect, has prepared plans for a dwelling for William Ellis, to be erected at Booth and Lee Sts., at a cost of \$5,000.

Ready, Part IV "Georgian Period."

CALIFORNIA REDWOOD LUMBER

COSTS NO MORE THAN PINE

and will last for generations. Resists fire. Does not SWELL, SHRINK, CHECK or SPLIT, and EXCELS all other woods for BUILDINGS.

REDWOOD SHINGLES have no equal. Will last 50 to 75 years.

REDWOOD can be bought at retail of the following named dealers:

HOLT & BUGBEE,	Boston, Mass.	BUTTRICK LUMBER Co.,	Waltham, Mass.
BLACKER & SHEPARD,	" "	LEXINGTON LUMBER Co.,	Lexington, "
CURTIS & POPE LUMBER Co.,	" "	O. WOODS & Co.,	Natick, "
J. W. BAILEY & SONS Co.,	" "	UNION LUMBER Co.,	" "
E. A. CARLISLE POPE & Co.,	" "	J. P. LANGMAID & SON,	Salem, "
W. B. POPE & Co.,	" "	S. B. BALKAM & Co.,	Hyde Park, "
C. E. HOWE,	Lowell, "	TAYLOR & GOODWIN,	Haverhill, "
F. W. LIBBY,	Amesbury, "	J. H. BURT & Co.,	Mattapan, "
W. P. RICE,	Somerville, "	BEAN & POORE,	Lawrence, "
I. MITCHELL & Co.,	Brockton, "	STOUGHTON LUMBER Co.,	Stoughton, "
J. B. RHINES & Co.,	Weymouth, "	BERLIN MILLS Co.,	Portland, Me.

We have in stock and in transit from one to two millions of Redwood and can furnish any sizes required. Read our references from week to week; also write us for descriptive booklet.

BARTLETT LUMBER CO.,

Telephone Boston 1911.

Room 409, Exchange Bldg., State St., Boston, Mass.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

The Wisconsin Telephone Co. has purchased a site on 5th St., between Grand Ave. and Wells St., upon which a six-story brick building will be erected within a few months, at a cost of \$75,000. The company also plans the erection of five sub-exchange buildings.

The Milwaukee Brass Manufacturing Co. will erect brick and stone buildings at Lapham and Barclay Sts. for foundry purposes; cost, \$15,000. C. F. Ringer, architect.

Architect E. R. Liebert, Marshall Building, is preparing plans for a five-story store-building for August von Baumbach, to be erected on Broadway and Huron St.; cost, \$50,000.

Architects Crane & Barkhausen, 89 Wisconsin St., have prepared plans for interior alterations to the iron block at the corner of Wisconsin and E. Water Sts.; cost, about \$75,000.

The Northern Glass Works, William Franzen, proprietor, are about to award contracts for the rebuilding of their plant on Chase St. The plant was recently destroyed by fire, entailing a loss of \$35,000.

It is announced that the E. P. Allis Co. has decided to build an addition to its plant next spring; cost, about \$400,000.

The Cream City Sash & Door Co., 7th Ave. and Park St., will erect a three-story brick addition, 40' x 50', to its factory, and an additional story, 40' x 110'; cost, \$20,000.

Minneapolis, L. I., N. Y.—Randall & Miller, of Freeport, have been awarded the contract for the erection of the Nassau Hospital at \$22,747. The operating-room is to cost \$5,000, and will be built under another contract.

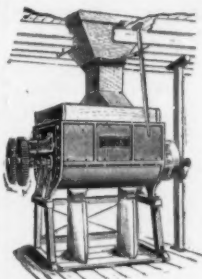
Muncie, Ind.—Press reports state that the Big Four Railway has decided to erect a 10-stall roundhouse early in the spring. It was also decided to erect a 5-stall roundhouse in Anderson. W. Garstang, superintendent motive power, Indianapolis.

New York, N. Y.—Press reports state that \$350,000 has been placed at the disposal of the Trustees of the Teachers' College to erect a building for the Horace Mann School, plans for which have already been prepared.

A resolution was adopted by the Council November 22, authorizing the issue of \$245,300 bonds for a high school on 59th St. and 10th Ave.

The trustees of the Mt. Sinai Hospital have received a gift of \$150,000 which will be used to erect a four-story ward building on 5th Ave., to be named after the donor. Arnold W. Brunner, 36 Union Sq., is the architect.

Ross & McNeill, architects, 39 E. 42d St., are preparing plans for six private residences, on a lot 100' x 102', on W. 84th St., for Messrs. Matthews & Eppenstein.



The Broughton ...MIXER

For HARD PLASTER, LIME, CEMENT, ETC.

Description and Prices on application....

W. D. DUNNING,

239 W. Water St. SYRACUSE, N. Y.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Press reports state that out of eight competitors Geo. B. Post has been selected as the architect of the new Stock Exchange building. Rudolph Keppeler, Pres. of the Exchange, says that no plans have yet been chosen and probably will not be for some time. Mr. Post's appointment means rather that he will be supervising architect of the new building.

William W. Astor, through his agent, Charles A. Peabody, Jr., has filed plans with Commissioner Brady for an eight-story brick and stone building, to be erected on the site of the Star Theatre, Broadway and 13th St., and extending to 4th Ave., fronting 62 7 feet on Broadway, 225 feet on 13th St., and 135 6 feet on 4th Ave. The building which will cost \$400,000, according to the estimates of Clinton & Russell, architects. John Downey will build the structure.

Plans for the Russian Orthodox Church which recently purchased land in 97th St. will be drawn in Russia. The church will be the first Russian Orthodox Church built in the United States and will conform in general style to buildings of its kind in Russia. It was thought that better results could be had by having the plans drawn there by men who are more familiar with the character of the building required than are the New York architects.

Notre Dame, Ind.—Notre Dame University is to build a new home for priests at Mount St. Vincent, after plans by H. Von Herbulis. It will be a four-story structure, 60' x 300', with modern conveniences.

O'Neill, Neb.—J. E. Dietrich, of Omaha, has prepared plans for the St. Mary's Academy, to be built at a cost of \$30,000.

Perth Amboy, N. J.—The extension of the Fur-

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

nace Building for the Raritan Copper Works will be furnished by the Berlin Iron Bridge Co., of East Berlin, Conn.

Philadelphia, Pa.—Armstrong & Printzenhoff have the contract to build a \$12,000 store for David M. Ellis on Pear St., east of Levan.

St. Mary's Hospital, Frankford Ave. and Palmer St., has bought the two adjoining properties on Frankford Ave., and will probably build an addition next spring, doubling the present capacity of the hospital.

The University of Pennsylvania announced a subscription of \$230,000 for the creation of a laboratory of physics. The name of the giver, a Philadelphian, is for the present withheld, but in due time the laboratory will be named after him.

Contractors Edmond Molloy & Sons have plans and are taking estimates on extensive alterations and additions to the Columbia Hotel.

Mr. and Mrs. John Wanamaker last week gave to Bethany Presbyterian Church, at 22d and Bainbridge Sts., a check for \$31,000. This is to pay for renovating and repairing the church auditorium and Bible Union room. The repairs when completed will give the church a seating capacity of 3,000, and make it one of the finest in the city.

Pittsburgh, Pa.—A plant to cost more than \$1,000,000 backed by Andrew Carnegie, J. Pierpont Morgan and other capitalists, will be erected on the Monongahela River, 16 miles above McKeesport. The new concern will manufacture grate-bars, furnace doors, fire boxes and other attachments connected with the production of steam in big mills and on locomotives.

Architect F. H. De Arment, 708 Penn Ave., is preparing plans for an eight-story stone and pressed brick warehouse, to cost \$50,000.

Ready, Part IV "Georgian Period."

Iron Work.

THE BERLIN IRON BRIDGE CO.

Notice to Architects, Contractors
and Builders :: :: :: :: ::We carry constantly in stock 8,000 to
10,000 tons of Beams, Channels, Gird-
ers and Angles, and can supply this
material promptly.

DESIGN AND BUILD ALL CLASSES OF

STEEL STRUCTURES

The above illustration is taken direct from a photograph and shows the Steel Roof built by us for the
Forbes Library, at Northampton, Mass., the completed building being from the designs of Wm. C. Brocklesby,
Architect, Hartford, Conn.BOSTON OFFICE:
200 Equitable Building.NEW YORK OFFICE:
Room 718 Bennett Building.
Cor. Fulton and Nassau Streets.

Main Office and Works, EAST BERLIN, CONN.

JACKSON ARCHITECTURAL IRON WORKS,

ESTABLISHED 1840.

IRON

Fronts for Buildings, Cornices, Lintels and Sills, Doors and Shutters, Girders and Beams, Fire-escape
Balconies and Ladders, Columns and Roofs, Sky and Floor Lights, Stable Fittings and Fixtures,
Sidewalk Lights. Artistic work in Wrought and Cast Iron, Brass and Bronze.
Designs and Estimates of Cost Furnished for Work in any Department.

Foundry and Shops, East 28th and East 29th Sts. Office, 315 East 28th St., New York.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Architects E. M. Butz & Co., Park Building, are
preparing plans for six brick residences to be
erected on Baywood St., for Joseph L. Pyle; cost,
\$40,000.Architect H. D. Gilchrist, 524 Fourth Ave., has
drawn plans for a four-story apartment-house, to
be erected at the lower end of Friendship Park for
Thomas MacConnell; cost, \$15,000.Port Chester, Conn. — The new car barn for the
Port Chester Street Railway Co. will be furnished
by the Berlin Iron Bridge Co., of East Berlin. The
building will be one of the largest of its kind in the
country.Providence, R. I. — The Clyde Steamship Co. have
placed the contract with the Berlin Iron Bridge
Co., of East Berlin, Conn., for a new pier shed and
dock here. The building will be 40' x 600'.Quincy, Mass. — It is reported that the N. Y., N.
H. & H. will, early in the spring, begin the erection
of a new railway station to displace the present
wooden structure.Rochester, Minn. — Plans are being perfected by
which L. Holmes, of Chicago, Ill., will erect a
modern opera house here at a cost of \$20,000. It
will be three-story, of pressed brick front, with a
seating capacity of 1,000.Rochester, N. Y. — Leon Stern, Chamber of Com-
merce building, has completed plans for the new
club-house for the Rochester Athletic Club. The
building will be three stories high, constructed of
stone; cost, \$40,000.San Francisco, Cal. — Plans prepared by Martens
& Coffey, 819 Market St., for the proposed \$250,000
hospital, have been accepted.Spokane, Wash. — The School Board will expend
\$75,000 in new buildings next year. A new build-
ing will be constructed in the fourth ward and one
in the Second State addition. A ten-room addition
will be built to the Lincoln School.The Hypotheek bank has taken out a permit for
the erection of a three-story brick building; cost,
\$6,000.Superior, Wis. — Dr. T. W. Bishop, Platteville,
will erect a two-story brick store and flat building
on Tower Ave.; cost, \$10,000.Waukegan, Minn. — Foundation work will be started
in the early spring for a new church for the Catho-
lic Society, to cost \$30,000.Winnetka, Ill. — Chas. H. Thorne will erect a resi-
dence soon on a piece of property at the corner of
Sheridan Road and Willow St. recently purchased
at a cost of \$17,000.

BUILDING INTELLIGENCE.

ALTERATIONS AND ADDITIONS.

Chicago, Ill. — S. Halsted St., Nos. 4183-85, two-st'y
bk. addition, 50' x 65'; \$15,000; o., James O'Leary;
a., Z. T. Davis.Webster Ave., Nos. 107-109, four & six-st'y bk.
addition to brewery, 52' x 64'; \$14,000; o., Birk
Bros. Brewing Co.; a., L. Lehle, Schiller Building.Jersey City, N. J. — Johnson Ave., three-st'y bk.
extension to factory, 48' x 95'; \$12,000; o., Mer-
sereau Metal Bed Co.; a., Eugene Kelly.Milwaukee, Wis. — Park St., addition to factory,
66' x 218', 80' high; \$45,000; o., Milwaukee Har-
vester Works.Philadelphia, Pa. — Academy Road, cor. Bristol
Pk., alterations, interior alterations & two-st'y fr.
extension, 32' x 40'; \$9,000; o., Chas. A. Porter; a.,
James H. Windrim.

APARTMENT-HOUSES.

Buffalo, N. Y. — Virginia St., cor. 10th St., three-
st'y bk. apart., 70' x 95'; \$35,000; o., J. H. Tilden;
a., Henry T. Perrom.Chicago, Ill. — Woodlawn Ave., nr. 47th St., three-
st'y bk. & st. apart., 88' x 90', comp. roof, steam;
\$45,000; o., Swenson Bros.; a., A. Sandgren, 185
Dearborn St.Prairie Ave., Nos. 5818-28, 5 three-st'y bk. flats,
25' x 75'; \$50,000; o., S. T. Cooper; a., L. M. Mitch-
ell, 145 La Salle St.Cincinnati, O. — Windsor St., Mt. Auburn, 2½-st'y
fr. apart., 48' x 68', slate & tile roof, hot air; \$15,-
000; o., Lewis Voight; a., G. W. Rapp.Minneapolis, Minn. — S. Third Ave., Nos. 1512-18,
and E. Sixteenth St., No. 221, 3 four-st'y bk. flats,
105' x 125', flat roof, steam; \$60,000; o., W. J.
Lynch; b., C. J. Weston; a., Harry W. Jones.Newton, Mass. — Center and Pleasant Sts., three-
st'y bk. stores & aparts., 60' x 108', steam; \$50,000;
o. & b., John W. Bowers; a., James Murray.Oak Park, Ill. — Peoria St., No. 6035, three-st'y
st. & bk. apart., 50' x 80', comp. roof, steam; \$20,-
000; o., M. A. Halgren; a., A. Sandgren.Worcester, Mass. — Newbury St., four-st'y bk.
apart., 48' x 48'; \$15,000; o., Thos. Skelthorne; b.,
John Skelthorne; a., A. J. Harrington.Zanesville, O. — Three-st'y bk. apart., 33' x 80',
steam; \$8,000; o., J. L. Holden; a., H. C. Lindsay.

EDUCATIONAL.

Buffalo, N. Y. — Fillmore Ave., cor. Irving St.,
three-st'y bk. school; \$24,000; o., St. Magdalene's
Parish; a., Carl Schmill.

Jersey City, N. J. — Brunswick and Sixth Sts., 2½-

Structural and Ornamental.....

IRON WORK, CASTINGS, :: ::
STEEL BEAMS, Etc.

..... WRITE US

DAVENPORT FOUNDRY and MACHINE CO.,

1678 W. 4th St., Davenport, Iowa.

Contracts executed anywhere.

PASSAIC ROLLING MILL CO.,
PATERSON, N. J.Steel Beams 4 inches
to
20 inches
deep.

ALL STRUCTURAL SHAPES.

NEW YORK OFFICE . . . 45 BROADWAY.

Boston Office, No. 31 State Street.

BUILDING INTELLIGENCE.

(Educational Continued.)

st'y bk. & st. parochial school; \$28,000; o., St.
Anthony's Parish; a., L. H. Giele.

FACTORIES.

Cincinnati, O. — Dane Ave. and C. H. and D. Road,
4 one & three-st'y factory buildings, 100' x 230',
60' x 200', 40' x 60', 60' x 100', hot blast; \$75,000; o.,
James L. Haven Co.; 11 Elm St.; a., M. H. Burdin.Seneca Falls, N. Y. — Three one & three-st'y bk. &
st. factory buildings, 90' x 130', 100' x 120', 30' x 70',
comp. roof, hot blast; \$50,000; o., Goulds Mfg. Co.;
a., B. L. Baldwin & Co., Perin Building, Cincin-
nati, O.Thomson, Ga. — Bk. factory, comp. roof, steam;
\$50,000; o., J. E. Smith Mfg. Co.; a., D. A. Tomp-
kins Co., Charlotte, N. C.

HOUSES.

Boston, Mass. — Geneva St., nr. cor. Holmes St.,
2½-st'y fr. dwell., 38' x 47', pitch roof, furnace;
\$5,000; o., a. & b., Richard J. Kiley.Seaver St., nr. Humboldt Ave., 2½-st'y fr. dwell.,
28' x 45' x 56', pitch roof, steam; \$20,000; o., Jas.
F. Morse; b., B. W. Neal, Jr.; a., J. A. Schwenfuth.Townsend and Hazelwood Sts., 2 two-st'y fr.
dwell., 28' x 36', pitch roofs, furnaces; \$10,000; o.,
Oscar Stone; b., Thos. Griffiths; a., W. H. Brainard.Draper St., nr. Bowdoin St., 2½-st'y fr. dwell.,
25' x 48', pitch roof, furnace; \$5,000; o., Maria Me-
Donough; a. & b., D. J. McDonough.Centre St., two-st'y fr. dwell., 36' x 36', pitch
roof, furnace; \$5,000; o., E. F. Dunham; a. & b.,
Howard Bros.Greenwood St., nr. Fowler St., two-st'y fr. dwell.,
26' x 43', pitch roof, furnace; \$5,000; o., a. & b.,
Lewis A. Belyea, 17 Greenwood St.Allston St., cor. Mechanics St., 2½-st'y fr. dwell.,
33' x 40', pitch roof, hot water; \$7,000; o., William
Smith; b., L. O. Warren.Chicago, Ill. — S. Ashland Ave., three-st'y bk. dwell.,
38' x 75'; o., M. Henkel; a., F. E. Laver.Douglas Boulevard, Nos. 903-951, two 1½-st'y bk.
dwell., 28' x 84'; \$10,000; o., William Lorimer; a.,
Watson & Hazelton.Ellis Ave., No. 3966, two-st'y bk. dwell., 20' x 77',
tile roof, hot water; \$40,000; o., Geo. E. West; a.,
Wilson & Marshall.Cincinnati, O. — Maple Ave., 2½-st'y bk. & st. dwell.,
40' 6" x 55', tile roof, furnace; \$8,000; o., Mrs. Mary
Ebersole; a., Des Jardins & Hayward.Germantown, Pa. — Morris St., 4 three-st'y bk.
dwell., 18' x 66'; \$25,000; o. & b., Harry B. Shoe-
maker & Co.Sixty-ninth Ave. and Eleventh St., Oak Lane,
three-st'y fr. & st. dwell., 43' 9" x 46' 2"; \$5,500; o.,
Robert Neely; b., J. H. & T. W. Dagney.Minneapolis, Minn. — Blaisdell Ave., nr. Franklin
St., 2½-st'y bk. & half-timbered dwell., 31' x 50',
pitch roof, comb. heat; \$6,000; o., L. B. Newell; a.,
Chas. R. Aldrich.Philadelphia, Pa. — Lancaster Ave., Nos. 4146-48,
three-st'y bk. & st. dwell., 16' x 69' 9"; \$5,000; o.,
Adolph Kreutzer; b., Harry T. Saunders.Old York Road, nr. 68th St., three-st'y bk. &
Germantown st. store & dwell., 36' 9" x 49', flat
roof; \$7,000; o., Chas. Longmier; b., Harry Hinker.St. Louis, Mo. — Maryland Ave., 2½-st'y bk. & st.
dwell., 32' x 44', pitch roof, steam; \$7,000; o., Miss
Natalie Pattee; a., F. C. Bonsack.Forest Park Boulevard, nr. Taylor Ave., three-
st'y st. & bk. dwell., 38' x 40', tile & comp. roof,
hot water; \$9,000; o., W. Hibbard; a., A. Blair.Cabanne Pl., 2½-st'y bk. & st. dwell., 28' x 46',
furnace; \$8,000; o., Mrs. E. F. Hummert; a., Geo.
B. Reid.Delmar Ave., nr. Union & Lake, 3 two-st'y bk.
dwell., 46' x 69' each; \$15,000; o., W. Wunder.Cabanne Ave., Nos. 5621-23, 2½-st'y bk. dwell., 41'
x 45'; \$8,500; o., Florence B. Longstreth; c.,
Baeroldt.Caplin St., bet. Compton & Louisiana, 2½-st'y bk.
dwell., 35' x 56'; \$8,300; o., Adolph Braun; c., J.
F. Brecher.Shawmut Pl., bet. Miviera & Ridge Aves., 2
two-st'y bk. dwell., 22' x 35'; \$5,000; o., E. B. John-
son & Son.St. Paul, Minn. — Fairmont St., nr. Grotto St., two-
st'y fr. dwell., 31' x 42', pitch roof, hot water;
\$5,000; o., Jas. E. Kickett; b., Olaf Holme; a., Louis
Lockwood.

Worcester, Mass. — Lenox St., two-st'y fr. dwell.,

Ready, Part IV "Georgian Period."

THE KENNEY FLUSHOMETER



Showing application of Flushometer.

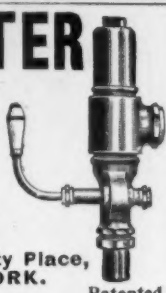
An ingenious device for flushing water-closets. Takes the place of noisy and dirty overhead flush-tanks. It has passed the experimental period; can be adapted to conform to almost every conceivable requirement, and the only system that will operate successfully at all times one or any number of closets under the varying conditions of water pressure. No Cup Leathers or Springs.

SIMPLE, SURE AND SANITARY

Endorsed and Specified by Leading Architects in all Sections of the Country.

Write for Catalogue and List of Installations.

THE KENNEY CO., 72-74 Trinity Place, NEW YORK.



Patented.

"IMITATION THE SINCEREST FORM OF FLATTERY."

The success of our "Monarch" Automatic Instantaneous, Gas Water Heater has led others to make poor imitations. To protect the public, and our own interests, we give

NOTICE! We believe all forms of water heaters now manufactured, in which the flow of gas to the burner is controlled by variations of water pressure in the heater, are infringements on one or more of the following patents, which are owned by this company:

No. 584,326, Jun. 15, 1897
No. 563,275, May 25, 1897
No. 583,276, May 25, 1897
No. 591,588, Oct. 12, 1897

No. 620,888, Mar. 14, 1899
No. 601,426, Mar. 29, 1898
No. 608,540, Aug. 2, 1898
No. 606,972, Aug. 9, 1898

All manufacturers, sellers or users of such heaters are doing so contrary to law, and it is our intention to protect our rights under the patents by all legal means.

MONARCH WATER HEATER CO.

MANUFACTURERS OF THE

"Monarch" Automatic, Instantaneous Water Heater,
306 WOOD ST., PITTSBURGH, PA.



THE J. L. MOTT IRON WORKS,

88 Beekman St.,
NEW YORK, N. Y.

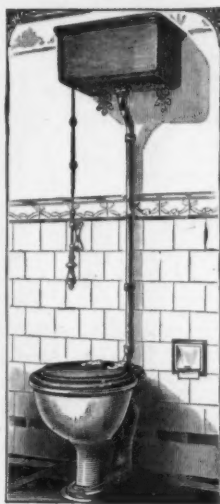
The Primo Improved Vitro-Adamant.

PLATE 495 R.

No. 33 Design I. Cistern with Nickel-plated Brass Brackets, Nickel-plated Brass Flush Pipe, Nickel-plated Chain, Hardwood Pull, and Brass Floor Flange.

Copyrighted, 1897.

Copy of Circular furnished on application.



ADAMS SEWAGE LIFT.

Automatically operated by water or sewage.

Drains Sanitary Fixtures in Basements of Buildings, Flat and Low Level Districts.

HIGHEST REFERENCES.

ADAMS SEWAGE LIFT CO.,

Stephen Girard Building,

PHILADELPHIA, PA.

Also of London, Glasgow, Dublin.



PROPOSALS.

18, for a court-house to be erected on block 21 of the city of Santa Ana. W. C. BECKETT, clerk. 1251

JAIL.

[At Stockton, Cal.] Sealed bids are wanted until December 19, for erecting a jail. OTTO GRUNSKY, clerk board of supervisors. 1251

LATERAL WING.

[At Mansfield, O.] Sealed proposals will be received until December 20, for the construction of the east cell and lateral wing of the Ohio State Reformatory. C. H. WORKMAN, sec. board of mgrs. 1251

COUNTY JAIL.

[At Alexandria, Minn.] Sealed proposals will be received until January 4, 1900, for the erection and construction of a county jail for Douglas County. E. P. WRIGHT, county aud. 1252

COURT-HOUSE.

[At New Martinsville, W. Va.] Sealed bids will be received by the Clerk of Wetzel County until December 6, for the erection and completion of a two-story brick and stone court-house for Wetzel County, according to plans and specifications prepared by W. Chamberlin & Co., architects, Knoxville, Tenn. 1250

ELECTRIC LIGHT PLANT.

[At Christiansburg, Va.] Sealed bids will be received December 1st for the construction of an electric-light plant to cost \$10,000. GEO. W. WALKER, clerk. 1251

AUDITORIUM.

[At Topeka, Kan.] Bids will be received until December 15 for the erection of an auditorium. P. L. WISE, city eng. 1250

WATER-WORKS.

[At Charlestown, Mass.] Sealed proposals will be received until January 1 for the construction of a water-works and electric-light plant. C. R. HAY, eng. 1251

JAIL.

[At Greensboro, N. C.] Bids are wanted December 6 for a jail. W. C. BOREN, Chmn. Bd. Co. Commrs. 1251

ALTERATIONS TO COURT-HOUSE.

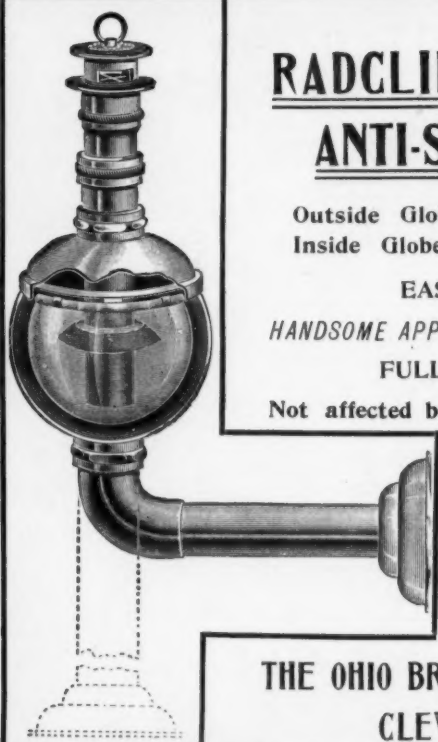
[At Ventura, Cal.] Bids will be received December 19 by the Ventura County Supervisors for alterations to the Court-house, estimated to cost about \$12,000. J. H. BRADBEER, of Los Angeles, architect. 1251

COUNTY JAIL.

[At Alexandria, Minn.] Bids will be received until January 4 for the erection of a county jail, from plans by Buechner & Jacobsen, architects, St. Paul. E. P. WRIGHT, county auditor. 1251

CHURCH.

[At Roanoke, Va.] Plans will be received until December 1 for a brick and stone Catholic Church. J. J. GARRY. 1249



... THE ... RADCLIFFE IMPROVED ANTI-SYPHON TRAP.

Outside Globe Heavy Drawn Brass.
Inside Globe Heavy Annealed Glass.

EASILY CLEANED.

HANDSOME APPEARANCE. PERFECT FINISH.

FULLY GUARANTEED.

Not affected by Acids or Mineral Waters.

**ABSOLUTELY
NON-SYPHONABLE.**

**THE OHIO BRASS & IRON MFG. CO.,
CLEVELAND, OHIO.**

BUILDING INTELLIGENCE.

(Houses Continued.)

33' x 37'; \$10,000; o., Minard Wood; a., Frost, Briggs & Chamberlin.
Monadnock Road, 2½-st'y dwell., pitch roof, steam; \$6,500; o., Arthur H. Ballard; b., A. N. Booth; a., Ben S. Newton.
Vernon St., fr. dwell.; \$5,000; o., Gertrude I. Donahue; b., J. A. McDermott; a., M. J. Reidy.

COMPETITIONS.

CITY-HALL.

[At Winchester, Va.] Plans will be received by R. T. Barton, Chairman Building Commission, until November 30, for a brick and stone city-hall, to cost about \$35,000, to be built on Fairfax Sq. The court-room, judges' room, jury room, council chamber, etc., will be on the first floor; a theatre, with a seating capacity of 800 on the second floor. 1248

PROPOSALS.

SANITARIUM.

[At Pueblo, Col.] Bids will be received after January 1 for the construction of a sandstone and brick sanitarium, to cost \$60,000. WESTON & CO., Pueblo. 1252

Treasury Department, Office Supervising Architect, Washington, D. C., November 29, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 1st day of February, 1900, and then opened, for the construction (except heating apparatus, elevator, electric wiring and conduits), of the U. S. Public Building, Boise, Idaho, in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at Boise, Idaho, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1251

COURT-HOUSE.

[At Santa Ana, Cal.] The Board of Supervisors of Orange County will receive plans and specifications until December

Ready, Part IV "Georgian Period."

INCREASE YOUR SALARY

by study "after hours." We fit you to fill the highest places. We have started thousands of young men and women to prosperity through

EDUCATION BY MAIL

in Electrical, Mechanical, Steam, Mining and Civil Engineering; Metallurgy, Art, Architecture, Journalism, English Branches, Stenography, Machine Design and Mechanical Drawing. Low price; easy terms. Sent free to those who enroll now. a complete drawing outfit worth \$11.10. The

United Correspondence Schools

154 Fifth Ave., New York.

Most thorough and complete course of any correspondence school in the world.

Send for catalogue No. 102.

**The New System OF EDUCATION****Architecture**

Architectural Drawing; Steam, Electrical, Mechanical; Civil and Mining Engineering; Drawing; Surveying; Chemistry; Plumbing; Book-keeping; Shorthand; English Branches

TAUGHT BY MAIL Over 50 Courses

We have helped thousands to better positions and salaries. Send for free circulars, stating the subject in which you are interested.

THE INTERNATIONAL CORRESPONDENCE SCHOOLS,

Box 986, Scranton, Pa.

The Heliotype Printing Co.

LITHOGRAPHERS, ETC.

211 Tremont Street
Boston

FAC-SIMILE REPRODUCTIONS IN COLOR
OR MONOCHROME A SPECIALTY



Lithography

Heliotype

Color Printing

Photogravure

Maps, Plans, etc.

BEST WORK ONLY
PROMPT DELIVERY
REASONABLE PRICES

WRITE FOR ESTIMATES

Ready, Part IV "Georgian Period."

Professional Ethics.

The following . . .

. . . CODE OF ETHICS . . .

Prepared in Conformity with the Best Standards of Practice, and Recommended to its Members by the Boston Society of Architects, was

ADOPTED BY THE SOCIETY, FEBRUARY 1, . . . 1895. . .

SECTION 1. No Member should enter into partnership, in any form or degree, with any builder, contractor, or manufacturer.

SECTION 2. A Member having any ownership in any building material, device or invention, proposed to be used on work for which he is architect, should inform his employer of the fact of such ownership.

SECTION 3. No Member should be a party to a building contract except as "owner."

SECTION 4. No Member should guarantee an estimate or contract by personal bond.

SECTION 5. It is unprofessional to offer drawings or other services "on approval" and without adequate pecuniary compensation.

SECTION 6. It is unprofessional to advertise in any other way than by a notice giving name, address, profession, and office hours, and special branch (if such) of practice.

SECTION 7. It is unprofessional to make alterations of a building designed by another architect, within ten years of its completion, without ascertaining that the owner refuses to employ the original designer, or, in event of the property having changed hands, without due notice to the said designer.

SECTION 8. It is unprofessional to attempt to supplant an architect after definite steps have been taken toward his employment.

SECTION 9. It is unprofessional for a Member to criticize in the public prints the professional conduct or work of another architect except over his own name or under the authority of a professional journal.

SECTION 10. It is unprofessional to furnish designs in competition for private work or for public work, unless for proper compensation, and unless a competent professional adviser is employed to draw up the "conditions" and assist in the award.

SECTION 11. No Member should submit drawings except as an original contributor in any duly instituted competition, or attempt to secure any work for which such a competition remains undecided.

SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot give proper personal attention.

SECTION 13. No Member shall compete in amount of commission, or offer to work for less than another, in order to secure the work.

SECTION 14. It is unprofessional to enter into competition with or to consult with an architect who has been dishonorably expelled from the "Institute" or "Society."

SECTION 15. The assumption of the title of "Architect" should be held to mean that the bearer has the professional knowledge and natural ability needed for the proper invention, illustration and supervision of all building operations which he may undertake.

SECTION 16. A Member should so conduct his practice as to forward the cause of professional education and render all possible help to juniors, draughtsmen and students.

Fire-proof Building.

TRADE
RARITAN

**FRONT BRICK.
HEARTH TILE.
FIREPROOFING.**

MARK. MANUFACTURED BY
RARITAN HOLLOW AND POROUS BRICK CO.
Henry M. Keasbey, Vice-Prest. Office, 874 Broadway, New York. Rowland F. Keasbey, Sec. and Treas.

PIONEER FIREPROOF CONSTRUCTION CO.,

1515 Marquette Building, Chicago.

Manufacturers and Contractors for every description of

Tile for Fireproofing
ALL KINDS OF BUILDINGS.

Our Goods embody all the latest Scientific ideas for rendering buildings Thoroughly Fireproof.
CONTRACTS TAKEN IN ALL PARTS OF THE UNITED STATES. Send for Illustrated Catalogue and Price List.

PITTSBURGH TERRA COTTA LUMBER CO.,

Manufacturers and Contractors for the Erection of

POROUS AND DENSE
TERRA-COTTA.

FIRE PROOFING

Works: PITTSBURGH, PA.
WASHINGTON, N. J.
E. PALESTINE O.

General Offices: Carnegie Building, Pittsburgh, Pa.
Eastern Offices: Townsend Bldg, New York, 411 John Hancock Bldg, Boston, Mass.

The Roebling System of Fireproofing.



Highest efficiency in fire and water tests of the New York Building Department and now the recognized standard of fireproof construction. Send for catalogue.

The Roebling Construction Company,
121 Liberty Street, New York.

The Atlas Clay Material Co. :: ::

GERMAN NATIONAL BANK BUILDING, PITTSBURGH, PA.

Manufacturers and
Contractors of

FIREPROOFING

All material made at our own plants. Contracts taken anywhere.

MINERAL WOOL

FIRE, SOUND and VERMIN PROOF INSULATOR.

Samples and Circulars Free.

U. S. Mineral Wool Co., 1 Cortland Street,
NEW YORK.

FOR A SUMMER CRUISE TAKE THE COAST LINE to MACKINAC

NEW STEEL PASSENGER STEAMERS

SPEED, COMFORT AND SAFETY. . . .

D&C

The Greatest Perfection yet attained in Boat Construction. Luxurious Equipment, Artistic Furnishing, Decoration and Efficient Service.

To Detroit, Mackinac, Georgian Bay, Petoskey, Chicago

No other Line offers a Panorama of 460 miles of equal variety and interest.

Four Trips per Week Between

Toledo, Detroit and Mackinac
PETOSKEY, "THE 800," MARQUETTE AND DULUTH.

LOW RATES to picturesque Mackinac and return, including Meals and Berths. Approximate cost from Cleveland, \$19; from Toledo, \$16; from Detroit, \$13.50.

Send 2c. for Illustrated Pamphlet. Address,
A. A. SCHANTZ, G. P. A., DETROIT, MICH.

Every Day and Night Between

CLEVELAND,

PUT-IN-BAY

and TOLEDO.

Day and Night Service Between

DETROIT AND CLEVELAND . . .

Fare, \$1.50 Each Direction.

Berths, 75c., \$1. Stateroom, \$1.75.

Connections are made at Cleveland with Eastern Trains for all points East, South and Southwest, and at Detroit for all points North and Northwest.

Sunday Trips, June, July, August, September and October Only.

Detroit and Cleveland Navigation Company.



Steel Rolling Shutters

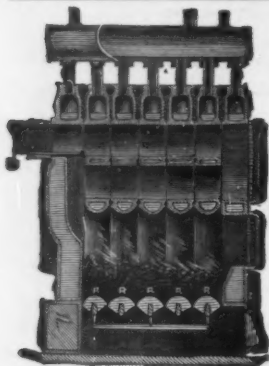
Stamped Steel Ceiling

(KINNEAR'S PATENTS)

The accompanying cut shows our rolling shutter as it appears on a freight house when closed. These shutters have no equal for protection against fire.

.....Catalogue upon request.

The Kinnear & Gager Co., Manufacturers, Columbus, O.



Mercer Boiler.

THE H. B. SMITH CO. 133-135 ...
Centre Street, New York.
MANUFACTURERS.

Steam and Water Heating Apparatus,

Factory: Westfield, Mass.

ESTABLISHED 1853.

Send for Catalogue.

NEW YORK, PROVIDENCE
PHILADELPHIA.

DRAWING-OFFICE.

Drawings rendered in line or color with reasonable despatch.

ADDRESS THE EDITORS OF THE AMERICAN ARCHITECT

BUILDING MATERIALS.

Reported for the American Architect and Building News.

	New York.	Boston.	Chicago.	Philadelphia.
BRICK.—P. M.				
(Wholesale Prices.) (Prices to Builders and Contractors.)				
Common: Cargo afloat.				
Pale.....	2 00	Domestic Com.	Building 4 50	
Jersey.....	5 25 @ 5 50	8 50 @ 9 50	sewer add 1.00	
Long Island.....		Domestic Face	hollow, add 1.25	
Up River.....	5 25 @ 5 50	18 00 @ 25 00	Enam. Imp. Bk.	
Haverstraw Bay 2d.....	5 50	Philadelphia }	125 00 @ 145 00	
" 1st.....	5 25	35 00 @ 40 00	Enam. Domes.	
Hollow.....	7 00	10 00 @ 11 00	70 00 @ 85 00	
Fronts:			Select Red Sand-	
Croton, Brown.....	12 00	Phila. mould }	Mold.....10 00	
" dark.....	12 00	50 00 @ 80 00	St. Louis Hyd'ic	
" red.....	12 00		Press.....27 00	
Chicago pressed.....		Enamelled B'k.	Collinsville, do	
" Moulded.....		Imported	22 00	
Baltimore.....	37 00 @ 41 00	Enam. (edge)	Findlay, do 22 00	
Philadelphia.....	19 00 @ 21 00	105 00 @ 120 00	Chicago, do	
Trenton.....	17 50 @ 18 50	" (edge & end.)	assorted shades	
Milwaukee.....		120 00 @ 135 00	16 00 @ 20 00	
Moulded:		Domestic.	Chicago, do	
Red Pressed.....	29 00	Enam. (edge)	Brown.....24 00	
Buff.....	27 00	90 00 @ 100 00	Chicago, do Red	
Moulded Red & Buff.....	45 00 @ 70 00	" (edge & end.)	Roman.....24 00	
Enamelled: Imp.		110 00 @ 115 00	Chicago, do Br'n	
Enamelled (edge).....	85 00 @ 100 00		Roman.....27 00	
Enamelled (edge and end).....	90 00 @ 110 00		Bushnell Buff	
CEMENT, LIME, etc. (P. cash.)			25 00	
Rosendale Cement.....	90 @ 1 00	5 00 @ 1 00		
Louisville.....	Not sold.		Not sold.	
Utica, Akron, Buffalo, Milw'ke.			75 @ 1 00	
Portland, Eng. (Gibbs).....	2 25 @ 2 50		75 @ 1 00	
" (K. B. & S.).....	2 50 @ 3 00		2 50 @ 2 00	
" (Black Cross).....	2 25 @ 2 50		2 50 @ 2 00	
" (Burnham).....	2 50 @ 2 50	2 20 @ 2 50	2 50 @ 2 00	
" (White's).....	2 55 @ 3 00		2 50 @ 2 00	
" French (Lafarge).....	3 00 @ 3 75		3 75 @ 4 25	
" Ger. (Aisen).....	2 90 @ 3 25	2 75 @ 3 00	2 90 @ 3 20	
" (Fewer).....	2 25 @ 2 40	B'ks, Shoobridge		
" (Vorwöhler).....	2 50 @ 2 90	& Co.,		
" (Lagerdofer).....		English 2 30	2 80 @ 2 90	
" (Dyckerhoff).....	2 75 @ 3 00	2 75 @ 3 00	3 10 @ 3 30	
" (Hanover).....	2 50 @ 3 00		2 75 @ 2 90	
" Stettin, (Anchor)	2 35 @ 2 45		2 85 @ 3 00	
Roman.....	2 75 @ 3 00	3 50 @ 4 00	2 75 @ 3 25	
Keene's coarse.....	4 25 @ 4 75	8 00 @ 9 00	6 00 @ 7 00	
" superfine.....	6 50		9 00 @ 10 00	
Lime:				
Lime of Tell.....	4 00		Not sold.	
Hydraulic Lime.....	1 45		45 @ 55	
Chicago Lime in bulk.....	St. John		45 @ 55	
Wisconsin Lime.....			Not sold.	
Rockland and Rockport, (Com.)	75 @ 80	90	Not sold.	
Rockland, finish.....	85 @ 90	95	1 00 bulk, 75c.	
Kelley Island Lime, finish.....			Not sold.	
State, Com. cargo rates.....			Not sold.	
State, finishing.....	65		Not sold.	
Plaster-of-Paris (calcined).....	1 30 @ 1 40	1 85 @ 2 00	Not sold.	
" (casting).....	1 60	2 25	1 65 @ 1 75	
Hair (cattle) & bush.....	14 @ 16	25 @ 30	1 75 @ 1 90	
" (Goat).....	17 @ 19	30	12 @ 20	
Sand, & load.....	1 00 @ 1 25	1 00 @ 1 75	20 @ 25	
			1 00 @ 1 25	

SEYSEL ROCK ASPHALT

and Bitumen Damp Course,
NEW YORK MASTIC WORKS,
32 Broadway, New York.

PERTH AMBOY TERRA-COTTA COMPANY,

—OF—
PERTH AMBOY, NEW JERSEY.
OFFICE, 160 Fifth Ave., NEW YORK.

BOSTON AGENTS:
WALDO BROS., 102 MILK STREET.

THE Northwestern Terra-Cotta Co. Manufacturers of Architectural Terra-Cotta.

WORKS & MAIN OFFICE: CITY OFFICES:
Cor. Olybourn & Wright- Room 1118 Rookery Bldg.
wood Avenues. Cor. La Salle & Adams St.

CHICAGO.
Estimates given on application. Send for
Catalogue and Samples.

Crumbling Corners

No more of them. No wooden heads
either. Woods' Steel Corner for plaster
walls is the remedy. It's a galvanized
steel corner strip, unique in make up and
in the way it works. The cost is slight.

Woods' Steel Corner

FOR PLASTER WALLS

Is fastened to the lath or other construction, is
embedded in the plaster and protects the corner.
Makes the grounds for the plasterer also. A
booklet and sample free on request.

GARA, MCGINLEY & CO., Sole Mfrs.,
Philadelphia, Pa.

Agents with stock in most of the large cities.

Monumental Staircases,

being No. 2 of a Series of

"ARCHITECTURAL ODDS AND ENDS."

40 Gelatine Prints. \$5.00 per Copy.

FOR SALE AT THIS OFFICE,

211 TREMONT STREET, BOSTON, MASS.

NEW ENGLAND MATERIAL-MEN & CONTRACTORS.

BLUE PRINTING.

CHAS. E. MOSS,
Rapid Printing Papers.
14 Broad Street, Boston.
Telephone: Boston, 3731-2.

GRAVITY CONCRETE MIXERS.

CONTRACTORS PLANT CO.,
79 Water St., Boston, Mass.

PERSPECTIVE DRAWINGS.

AMERICAN ARCHITECT AND
BUILDING NEWS CO.
211 Tremont St.
Boston, Mass.

SASH CORD.

SILVER LAKE CO.
78 Chauncy St.
Boston, Mass.

WATERPROOF CELLARS.

FRANK B. GILBRETH,
160 Fifth Ave.,
55 Water St., Boston, New York.

SEAM-FACE GRANITE.

GILBRETH SEAM-FACE GRANITE
CO.,
160 Fifth Ave.,
55 Water St., Boston, New York.