

THE AMERICAN ARCHITECT AND BUILDING NEWS

VOL. LXXVIII

SATURDAY, DECEMBER 6, 1902

No. 1406

CONTENTS.

SUMMARY:—

Frauds perpetrated on American Purchasers of reputed "Old Masters."—The Best being unobtainable it is worth while to put up with the Second-best.—Figure-painting.—Landscape-painting.—Death of Joseph M. Wilson, Architect and Engineer.—A new Up-town Court-house for New York suggested.—Parlor Matches and Fireproofed Wood.—Artistic and Inartistic Bridges.—The R. I. B. A. and the Vauxhall Bridge.	73
THE HENNEBIQUE SYSTEM OF ARMORED-CONCRETE CONSTRUCTION.—II.	75
LETTER FROM PARIS.	77
SOCIETIES.	78
ILLUSTRATIONS:—	
Emanuel Church, Newport, R. I.—Interior of the Same.—Design for a Bank Building, Dubois, Pa.—Warehouse for Studebaker Bros. Manufacturing Co., Kansas City, Mo.	
Additional: Vestibule of the German Section: Turin Exhibition of 1902.—The Main Entrance: Turin Exhibition of 1902.—The New Stadt Theatre, Cologne, Ger.—The Palladian Bridge: Wilton House, Wiltshire, Eng.—Derwent Hall, Derbyshire, Eng.—Bridges over the River Cam, Cambridge, Eng.: Clare Bridge;—King's Bridge.—Bridges over the River Cam, Cambridge, Eng.: Queen's College and Bridge;—Trinity Bridge.	79
NOTES AND CLIPPINGS.	79

THE New York *Evening Post* has a rather startling editorial upon the frauds practised upon rich American amateurs of works of art. Dr. Bode, the Director of the Berlin Museum, furnishes some of the material for this editorial, in an article in the new German artistic periodical, *Kunst und Künstler*, in which he traces the early history of some of the gems which now enrich great American collections; but the *Evening Post* has some information of its own to add, which goes to show that American amateurs of the present day, although richer than those of the last generation, and, as a rule, more familiar with works of art, are still unmercifully fleeced by the dealers and agents in Europe in whom they confide. As an example, the recent purchase of the Massarenti collection, in Rome, by Mr. Walters, of Baltimore, is mentioned. The *Evening Post* has a story to tell about this transaction which, for the present, it keeps to itself; but it justifies the warning which it gave when the collection was first offered for sale to Mr. Walters by quoting from Dr. Bode, who says that, "Whoever, like myself, has had the pleasure of seeing this collection knows that it would be difficult to name a second that is so void of good things, and contains so many mediocre pictures, and forgeries of great names." He adds that the Italian Government assessed a twenty per cent export tax of forty thousand francs on the collection, indicating that its experts valued it at two hundred thousand francs, or less than forty thousand dollars. The Italian appraisers were not likely to undervalue intentionally a collection of pictures to be shipped out of the country to an American purchaser; yet Mr. Walters is said to have paid five million francs for it, although, as Dr. Bode says, it "does not contain one noteworthy picture, one remarkable statue, or half a dozen works of a respectable mediocrity." It should be said that it does not follow from all this that Mr. Walters, who was brought up from childhood among the works of art collected by his father, one of the most discriminating amateurs that America ever produced, was deceived in his purchase. It is quite likely that he may have been imposed upon in the case of individual works, but if, as has been alleged, nearly all the experts and connoisseurs in Europe have for a hundred years been admiring, in the Sistine Madonna at Dresden, a copy, instead of an original Raphael, an amateur can hardly be expected to pass at first sight upon the genuineness of every work in a large collection; and it is much more likely that Mr. Walters was quite aware that the pictures were not of the first merit, but, knowing that pictures of the first merit of the Italian school are absolutely unattainable, and that works of the second merit will soon be equally so, he decided to take what he could get, and to pay what was demanded for it, rather than go without it. Nearly all our great museums have been glad to get specimens of Titian, or Rubens, or Rembrandt which would make but a sorry figure in the Salon Carré of the Louvre, but which, for all that, are priceless in America, as examples to students of the methods of the great painters. In the same way, although it is probably true that the Raphael recently purchased by Mr. Morgan has

been offered to the European museums for a much smaller sum than Mr. Morgan paid for it, and refused, it does not follow that any amateur would ever have been able to buy it for the price which would have been accepted from a museum, or that, while it would probably be eclipsed by the Ansidei Madonna, on the Belle Jardinière, or the Madonna della Seggiola, it may not be of inestimable value to artists and the public in this country as the only available example of the one painter of the world in whose perfect art there is not a single false note.

ALTHOUGH men so thoroughly familiar with good art as Mr. Morgan and Mr. Walters, while they may be willing to pay high prices for inferior specimens, if these specimens are the best to be had, and cannot be purchased for any less, are not likely to be grossly deceived in what they are buying, it must be acknowledged that a great deal of trickery is practised upon American amateurs of less discrimination; and the *Evening Post* is justified in its desire that some method might be devised for equipping rich people who wish to buy pictures with the knowledge requisite for escaping deception. Unfortunately, our millionaires cannot often afford the time necessary for studying antique sculpture and cinque-cento painting, to say nothing of the lack of examples here to study; but we might suggest that it is always within the power of amateurs to observe the beauties of nature, and a person, particularly a person of the American race, the most sensitive of any to beauty, who follows his own instinct, cultivated by the observation of American sunset and sunrise skies, morning mists, flowers, and the faces and forms of young and innocent Americans, without allowing himself to be led astray by famous names, will not often be grossly deceived. If there is anything which impresses itself particularly upon the student of painting, it is that no one but a great artist can paint a beautiful face, as Americans understand beauty. The beauty may be of a superficial kind, like that of Greuze's smiling, pink-cheeked damsels, or it may be the ineffable purity and love of the Sistine Madonna, or of the Pre-Raphaelite saints and angels; but the amateur, particularly the American amateur, may be quite sure that if he sees in a picture a face that charms and touches him, the picture is worth buying, whatever may be the name appended to it; and, on the contrary, if the faces in a picture which he is asked to buy do not positively attract him, he had better let the picture alone, whoever may be its reputed author. It is true that there is often some quality in figure-painting which may give it value, independent of the beauty of the faces, as, for example, the color-effects in the curious daubs of Monticelli, or the tricks of chiaroscuro of some of the inferior Italians; but these qualities are easily copied, so that an amateur capable of appreciating them could not, without lifelong study of details of touch, be sure of the genuineness of such pictures; while a beautiful face can never be copied, or, at least, can be copied only by an artist of as great power as the one who originally painted it. A painter of inferior capacity, whether he copies, or paints from nature, or from his own inspiration, can never get rid of the woodenness, or the theatrical exaggeration, or the affected simper which is in his own mind, and which, in spite of him, shows itself in his work. When he can get the affectation and insincerity out of his own mind, he can get it out of his painting, but not until then; and the man who can paint with absolute truth, either to nature or to his own ideal, is already great.

EVEN in figure-painting, the American eye, when unprejudiced by theories or fashions, is singularly correct in its judgment. It would be far too much to say that great artists have always led moral lives, or that morality alone can make a great artist; but we believe that most painters will say that no one who does not keep in his soul some little sanctuary of purity can paint the figure, particularly the nude, as the great artists paint it; and Americans, who are still preëminent in continence above all other civilized people, are, for that reason, quick to discover the apathetic indifference, the affectation, or, worst of all, the venomous brutality, with which the cold-blooded, the hypocritical or the degraded artist inevitably treats what to a great painter or sculptor is the incarnation of love.

IN regard to landscape-painting, it is much more difficult for the amateur to escape imposition than in figure-painting, but even here Americans, if they will forget all about schools, and pay no attention to the names signed on the pictures, are capable of excellent judgment. It would hardly be too much to say that American collectors were the first to discover the merits of the Barbizon School of French landscape painters. Corot was still neglected in France when American amateurs began buying his pictures, and many of the most beautiful pictures of Rousseau, Daubigny, Diaz, Corot, Ziem and others of the modern French school of landscape-painting were brought to America before their authors had become famous in France. This seems to have been the result of the greater quickness of Americans, sensitive by nature to landscape beauty, and indifferent to the artistic traditions and prejudices of the old world, to appreciate the truth of the new work; and the same instinct may be relied upon by the amateur to a much greater extent than is generally supposed. If he is careful not to put into a picture, from his own imagination, what is not really there, a form of self-deception which is not uncommon, the cultivated American, accustomed to feel the sentiment of actual landscape, can easily pick out of a dealer's or an auction-room collection the pictures which inspire in him the sentiment of the real scene. There are not likely to be many of them in an average collection, but those that do fulfil this condition are tolerably sure to be the work of great artists. Some of the artists may be young, and still unknown to fame, but their pictures may still be bought with confidence that the talent which produced them will meet with its reward in due time.

MR. JOSEPH M. WILSON, of Philadelphia, of the noted firm of Wilson Brothers, equally distinguished as an architect and engineer, died suddenly in his office a few days ago. Mr. Wilson was born in Phoenixville, Pa., sixty-four years ago, his father being an engineer of great distinction. Young Wilson graduated as a civil engineer at the Rensselaer Polytechnic Institute of Troy, N. Y., and after devoting himself for a short time to the study of analytic chemistry, took up engineering again in the service of the Pennsylvania Railroad Company. He was rapidly promoted, and, a few years later, was made "Engineer of Bridges and Buildings" to the Company. In 1873, he entered the competition for the buildings of the Centennial Exhibition in Philadelphia, in association with John McArthur, Jr., and was one of the ten architects selected for the work, the Main Exhibition Building and the Machinery Hall being entrusted to him, jointly with Henry Pettit. Although so much engaged in outside work, Mr. Wilson was still retained in the service of the Pennsylvania Railroad Company, and continued his connection with it for many years after the firm which he established with his brother, for engineering and architectural work, had grown famous. Naturally, much of Mr. Wilson's work in architecture was carried out for the Pennsylvania Railroad Company, for which he built the Broad Street Station, in Philadelphia, and many smaller ones; but he also designed, in connection, we believe, with Mr. Kimball, the Philadelphia and Reading Station, in Philadelphia, and was the architect of the Drexel Building, in Philadelphia, the Drexel Institute, the Presbyterian Hospital, and many other noted structures.

A NEW element has been introduced into the discussion over improvements in the New York Court-house by the declaration of Justice Truax, of the Supreme Court, Chairman of the Justices' Committee on court-house improvements, that it is impracticable to alter the present building by adding stories, in the way which has been suggested by the Municipal Art Society, so as to make it acceptable to the justices; and that, if the building cannot be extended on the ground, which is opposed by the Municipal Art Society, as well as by all those who interest themselves in the preservation of the Park, it would be best to abandon it, and build a new and modern court-house at least as far up town as Twenty-sixth Street. There is, apparently, no reason why this suggestion should not be carried out, to the advantage of the courts, which would find in the neighborhood of Madison Square better air and light, and less noise, than on Chambers Street, and also to the advantage of the City-hall Park, from which the old building could be cleared away. Some of the newspapers express the fear that the removal of the court-house from the Park would

be inconvenient for lawyers, many of whom have offices in lower Broadway; but most lawyers care very little about being near the court-house, proximity to their clients being with them a much more important consideration. In fact, very many eminent lawyers never go into a court-house, devoting their time entirely to consultations, and leaving to assistants or junior partners the care of filing papers and conducting cases. This is especially true of New York, and, if the court-house should be moved to Madison Square, very few legal firms would think of following it.

THE city of New York is likely to be made, in time, as safe against fire as Vienna, if official action can bring about that result. Notice has already been given that the storage, sale and use of parlor matches in the city will be prohibited after January 1, next; and it is quite likely that the use of gasoline may be next regulated; and, in another branch of official activity, Commissioner Stewart, of the Department of Buildings, has been vigorously enforcing the law in regard to the use of fireproofed wood in lofty structures, more than one hundred thousand feet of this material, which had been tested by the department experts, and found defective, having been rejected in a single week.

IT is astonishing that a city like London should think of building, or, rather, of rebuilding, a great bridge without the aid of a trained artist. The Tower Bridge, although the architect who designed it was an official, known more for his amiability and business talent than as an artist, meets with considerable cleverness and success a very difficult artistic problem; and the Vauxhall Bridge is not only more conspicuous, but lends itself far better than the Tower Bridge to artistic treatment. In Paris, where all the permanent bridges, except the railway viaduct, are beautiful, and the last, the Alexander Third Bridge, is one of the most masterly examples of metal-work design in existence, or in St. Petersburg, where designs for two bridges have lately been thrown open to competition among architects of all nations, or in New York, where designs for new bridges must not only be made under the supervision of the very accomplished architect attached to the Bridge Commission, but must receive the approval of the Art Commission, the idea of giving an engineer license to indulge his notions of the "Gothic" style in cast iron in one of the most conspicuous bridges in the city would be received with universal protest; and it is strange that London should be contented with what the Muscovites and the Yankees repudiate. Even Boston, which possesses few bridges, and those of a very inconspicuous character, has been careful to commission an architect to advise in the design of a simple "rapid transit" bridge; while its park bridges, some of which are of considerable importance as engineering structures, are models of variety and beauty, having been designed by different architects, selected for the purpose. As for the cities of a more ancient civilization it is interesting to imagine what the Florentines of the Renaissance would have thought of a scheme for putting an iron bridge, designed in engineers' Gothic, across the Arno, or what the Romans would have said to such a proposition. The city of London is so rich that it is reproached with the recklessness with which it spends money on objects of doubtful utility, and it can certainly afford to devote some thought, if not money, to the agreeable appearance of one of the most conspicuous objects in the Metropolitan District.

THE Royal Institute of British Architects has petitioned the London County Council to join an architect with the engineer of the new bridge which is intended to replace Vauxhall Bridge. Apparently, the designs for the proposed structure have been prepared exclusively by an engineer, who has conceived them in what he imagines to be the "Gothic" style. They have, through the courtesy of the officials, been examined by the Council of the Institute, and architects will be quite ready to believe that the Council puts the case mildly when it says that, if they are carried into execution, the bridge will be a "discredit" to the art of the century. The Council represents, in colors none too strong, the importance of giving to a monument so conspicuous as a great bridge an artistic character; and, while expressing its wish that engineering exigencies might permit the erection of a bridge all of stone, it says that even one of iron and stone can, and should, be artistically designed.

THE HENNEBIQUE SYSTEM OF ARMORED-CONCRETE CONSTRUCTION.¹—II.

I HAVE now described in particular the different elements which compose a building designed on the Hennebique system; but it yet remains to prove their resistance to fire. Of the many tests which M. Hennebique and various European Governments have made on buildings of his design, I will describe the fire-test of a two-story pavilion

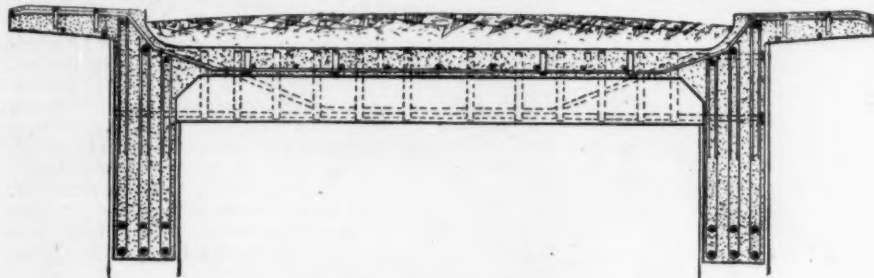


Fig. 17. Cross Section of a Bridge.

at the Exhibition of Ghent, in Belgium, in 1899. This pavilion, measuring 20' x 15', was built entirely of ferro-concrete, and the windows and doors were provided with Siemens wire-glass. In all, two tests were made. In the first test the second floor was loaded with 300 pounds per square foot, or one and a half times the load for which it was designed, and a deflection of $\frac{1}{800}$ of the span was produced. On September 9 the lower room was filled with about 220 cubic feet of wood and coal. This material was sprinkled with petroleum and set on fire. The conflagration lasted one hour, and produced a temperature of about 1,300 degrees Fahr. The walls were red hot on the inside; yet, notwithstanding that their thickness was only 4 $\frac{1}{2}$ inches, the hand could easily be held on the outside without experiencing any discomfort.

The temperature of the second floor increased only 4 degrees, which means that no mercantile product whatsoever would have suffered damage. The deflection of the floor increased to $\frac{1}{10}$ of an inch, but two hours after the extinction of the fire was diminished by $\frac{1}{2}$ an inch, so that under a very heavy load the permanent deflection resulting from the fire was scarcely perceptible.

In order to prove that an armored-concrete floor which had been subjected to fire was still capable of bearing the same loads as before, M. Hennebique made a new test on September 28; this time loading the floor with 400 pounds per square foot, or double its intended load. When the 300 pounds mark was reached the deflection was found to be precisely the same as before the first test. At 400 pounds per square foot the deflection was only $\frac{1}{2}$ of an inch.



Fig. 19. Footbridge over Railroad, Lorient, France.

The lower room was completely filled with wood and coal, the upper room partially filled with the same materials, and the roof was loaded with 200 pounds per square foot. At six minutes past four

the fire was lighted on both piles and lasted until half-past six. The fire played so fiercely against the sides and ceiling that the plastering of the latter was calcined, and the wire-glass of the windows and doors melted.

The building was momentarily forced out of shape (expanded), but showed no cracks and only very fine fissures, which in no case let the hot air escape. Again the contact of the hand with the outside of the walls could easily be endured. The deflection of the second floor reached a maximum of $\frac{3}{4}$ inch at twenty minutes to six; after this time no further increase could be observed.

At half-past six, when, after continual firing, no change in the state of the building could be detected, the commission agreed to extinguish the fire, which was done by directing a stream of water from a hose against the walls and ceiling and afterward against the coal-piles.

When, on the following day, the fire-authorities examined the building, it was found that the conflagration had not injured the general structure in any way. There was no permanent set in

the floors and the few fissures caused by the expansion were completely closed. A series of pyrometers indicated a temperature of 2,200 degrees Fahr.

Lime-kilns, constructed entirely of concrete, dispensing with fire-bricks and steel shell, have endured for years a temperature of 2,200 degrees to 2,500 degrees Fahr.

From every point-of-view armored-concrete buildings are superior to those of any other type. They are monolithic; settlement of the

ground is properly transferred and equalized by means of their enormous stiffness; they consist of practically one material, and variation of temperature cannot produce unsightly cracks; they become stronger with age, concrete forming an artificial stone better than the best stone which ever came from a quarry; the buildings are cool in summer and warm in winter.

Considering, moreover, the facility with which the materials can be procured, so that only a few months are needed to erect the largest building, together with the surprisingly low cost, it must be evident that the time of steel-skeleton buildings, with all their flimsy lug and bracket connections, their insufficiently protected columns and their high cost, is past, and that they must give way to a far superior type which will be the construction of the twentieth century.

The photographs show the great range of work done by M. Hennebique, including factories of all kinds, as flour and spinning mills, ice-factories and foundries with heavy traveling-cranes, the runways being also of concrete-steel, smoke-stacks, storage-houses and power-blocks, apartment and office buildings of fifteen stories in height, department-stores, theatres, museums, banks and fireproof vaults, domes and churches, markets, railroad-stations and small switch-houses, free-supporting staircases, floors of any practical span (those in the Grand Palace of Fine-Arts in Paris having a span of 33 feet and a cantilever of 11

feet), exhibition-buildings, coal-bins, water-towers, grain-elevators, power and irrigation canals, tunnels, retaining-walls, wharves and piers, and (last, but not least) bridges.

Armored-concrete bridges are indestructible, requiring no supervision or repairs. If of moderate span, they are cheaper than steel bridges and have always a fine architectural appearance.

¹A paper by Mr. Leopold Mensch, C. E., read at a meeting of the Civil Engineers' Club of Cleveland, and printed in the *Journal of the Association of Engineering Societies*. Continued from No. 1405, page 70.

Through the columns of *Engineering News* of this year, we have learned the disastrous results of adopting the so-called "leg bridges" for country roads. They consist of steel pipes, forming the abutments, and plate or lattice girders carrying the floors, the two being connected by brace-angles. They failed by scores. A few concrete-

Bridge in New York; and the lightness of this structure explains its surprisingly low cost of hardly \$35,000.

The foundations of the bridge were easily laid, the calcareous rock being found at 5 feet below low-water mark. The piers and abutments consist of heavy ribs, corresponding to the four arched ribs and connected by curtain-walls 5 inches thick, to give them their external shape and stiffness. They were filled with low-grade concrete of hydraulic lime.

The bridge was calculated for the passage of two 16-ton wagons, and for a uniform load of 100 pounds per square foot. The concreting of the bridge was done in less than three months, and five weeks later the centring was removed. The tests with stationary loads were made in the following manner: each span was loaded over its total length, then on each half, then on its central part, with moist sand at the rate of 165 pounds per square foot on the roadway and 123 pounds on the sidewalks.

The official report of the test says:—

The maxima of the deflections were $\frac{1}{4}$ inch for the arch of the left shore, $\frac{1}{2}$ inch for the arch of the right shore, and $\frac{1}{4}$ inch for the central arch, that is, $\frac{1}{1000}$ and $\frac{1}{1000}$ of the spans respectively. The specifications allowed deflections of $\frac{9}{16}$ inch for the 135-foot span and of 2 inches for the 164-foot span. After removing the loads no permanent deflection could be detected.

The moving-test load was composed of:—

First.—One 16 ton steam roller.

Second.—Two two-axle wagons weighing 16 tons in all.

Third.—Six single-axle wagons weighing 8 tons in all; making a total of 40 tons moving simultaneously over the bridge, the sidewalk of which had to carry also 80 pounds per square foot. The maximum deflection reached was less than $\frac{1}{1000}$ of the span.

Furthermore, 250 infantrymen were made to cross the bridge, first in ordinary marching order, then in double-quick time. Also, strips of wood were strewn over the roadway in order to produce shocks when the steam roller passed over them.

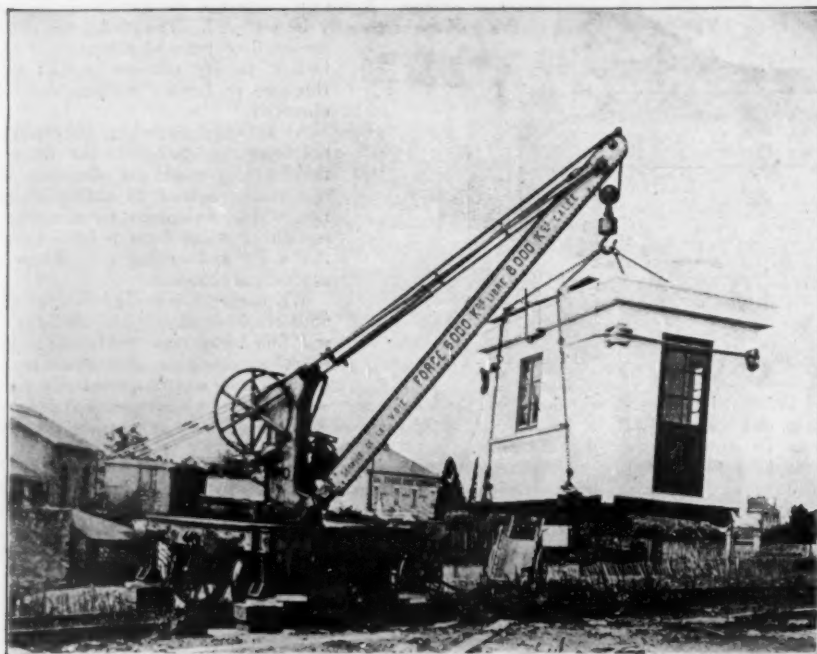


Fig. 20. Transportable Guard-house for Orleans Railroad, France.

steel piles and a 4-inch curtain-wall as abutments, a few armored-concrete piles mid-span and a concrete-steel floor, monolithically connected with these piles, will make a bridge as cheap as a "leg bridge," but far better and indestructible.

Figure 17 shows a typical cross-section of a ferro-concrete bridge of moderate span. The floor of the roadway and the cantilever sidewalks form the compression-flange, while the rods in the bottom of the girders proper form the tensile-flange of a huge girder, and, for the same reason as in floors, this type of bridge is much stiffer than are plate-girder bridges. The cross-girders, roadway and sidewalks are all built of ferro concrete.

Figure 18 shows a longitudinal section of the bridge of the Quai Debilly, in Paris. This is composed of twelve armored-concrete arches of 46 feet span, placed about 8 feet apart. The rise is 2 feet, or $\frac{1}{23}$ of the span. The floor for the roadway and sidewalks varies in thickness, and is supported by armored-concrete cross-girders and is about 100 feet wide. The abutments and foundations, also built of armored concrete, are of special design.

Figure 23 shows a section through the retaining-walls. A curtain-wall, 6 inches thick, is connected by means of deep ribs with a platform at mid-height. This platform supports a load of earth 10 feet deep, which in the simplest manner prevents overturning of the walls. The bridge was calculated for a uniform load of 123 pounds per square foot, and for a train of 10-ton wagons. It was tested on February 6, 1900, by a uniform load of 123 pounds per square foot, 248½ tons in all, and gave a maximum deflection of only $\frac{1}{4}$ inch, or $\frac{1}{1000}$ of the span.

A second example is the bridge of Chatellerault, over the river Vienne, in France. This is the greatest work of art that has been constructed on the Hennebique system. The total length of the bridge is 443 feet, and consists of three spans, the end spans of 135 feet with a rise of 13 feet, and a central span of 164 feet and a rise of 15 feet 8 inches. Four arched ribs in armored concrete, 20 inches deep, support the floor of 25 feet width by means of 8" x 8" posts. The sidewalks partly overhang. The total thickness of the bridge at the crown is only 28 inches.

It will be noticed that this bridge is designed on the same lines as would be expected in steel-arch bridges, such as the Washington



Fig. 21. Limekiln, Luzec, France.

But the most remarkable feature shown by these tests was that the three arches were in fact continuous, so that the load which caused a depression in one arch produced at the same time a rise of the other arches, an evident proof that ferro-concrete structures are monoliths.

You will be surprised at the numerous applications of the

Hennebique system. The explanation is simple. The inventor has been able to interest in his system a great many engineers, architects, practical and scientific men, who have imparted to him their ideas and have become his collaborators.

Europe is to-day in the lead of concrete-steel structures. Let us hope that the enterprising American spirit will, as energetically as

pleted certain studies in a satisfactory manner, but this diploma is a very special affair, and, consequently, elective, and many capable

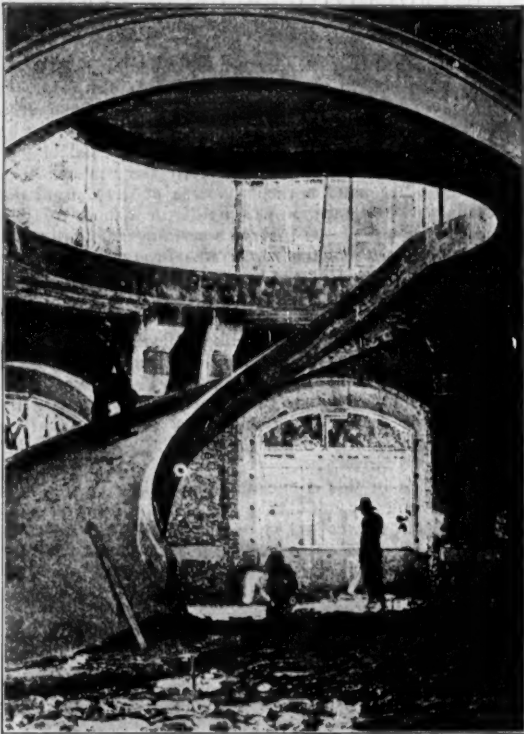
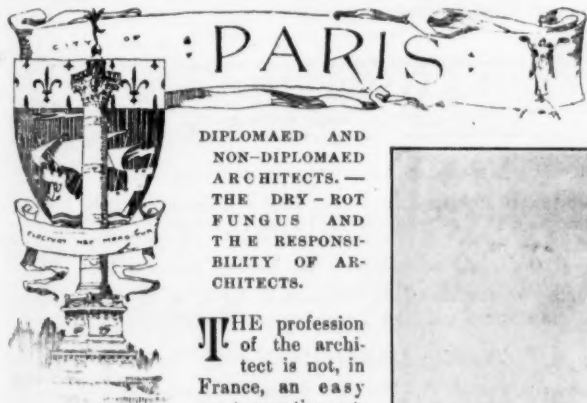


Fig. 22. Staircase in the Palace of Fine-Arts, Paris Exposition of 1900.

formerly with regard to steel, take up and lead in this, which is undoubtedly the greatest industry which we have to expect in the twentieth century.

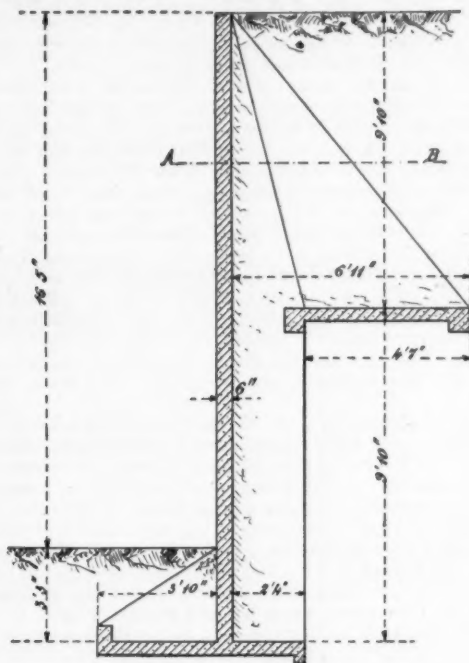


DIPLOMAED AND
NON-DIPLOMAED
ARCHITECTS. —
THE DRY-ROT
FUNGUS AND
THE RESPONSIBILITY OF ARCHITECTS.

THE profession of the architect is not, in France, an easy one to practise, yet, demanding, as it does, a multifarious practical knowledge and a certain amount of artistic education, it is nevertheless open to every one, and each man can, between one day and the next, assume the title of "architect" without having had to furnish any proof of his capacity. Being obliged to fill the delicate office of proxy for another, an architect is not compelled to give any bond to the man whose interests he undertakes to defend. Physicians cannot practise medicine until they have won the title of "doctor," advocates cannot plead in court until after they have obtained from the Faculty of Law the title of "licentiate," and have passed several examinations; and from engineers are exacted diplomas declaring their successful passage through the great schools of the State. But from the architect nothing is demanded.

The École des Beaux-Arts does, indeed, confer a diploma declaring that an architect has there com-

architects cannot have a diploma although they have passed through



Plan AB

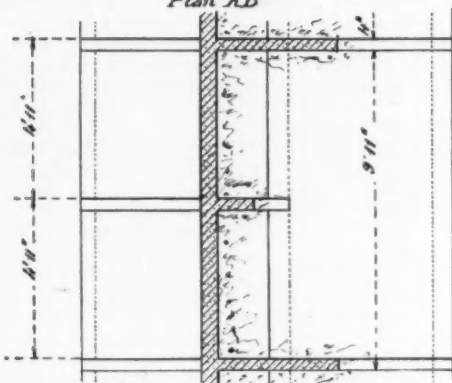


Fig. 23. Retaining-wall of the Quai Debilly, Paris, France.

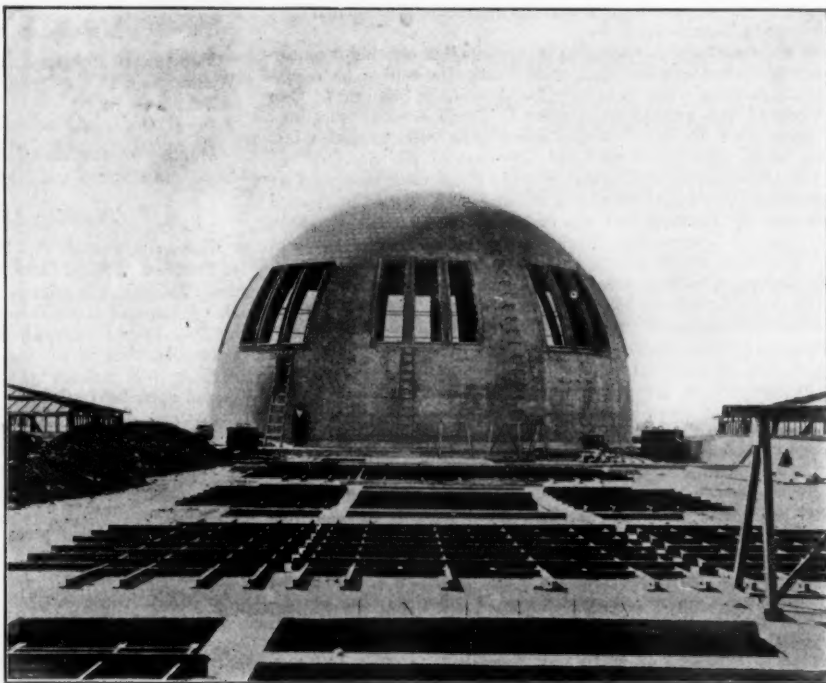


Fig. 24. Dome of the Museum of Egyptian Antiquities, Cairo, Egypt.

the École des Beaux-Arts. The non-diploma-owning architects, especially in the Provinces, complain of the competition they are forced into with architects who have gained their diplomas; while the latter, on their side, express their regret that the obligation of winning a diploma does not defend them against the ignorant and the charlatans who encumber and dishonor the profession.

For a long time this matter of the diploma has been under discussion, and every year it makes its appearance in the programmes of our Congresses, but there will be a great deal of trouble in bringing it to an issue. A diploma, in the first place, can only be pertinent to the technical and scientific side of our profession. Art cannot be described by any certificate, and a client, amateur of modern art, might well mistrust the worth of a diploma issued by our National School. On the other hand, a technical education can be had as well at Marseilles, at Toulouse, at Lyons, in the North, as well as at Paris. One cannot demand that all the architects in France should learn their trade at Paris; there should, therefore, be created in the Provinces regional schools, and this is an aspiration which has been frequently expressed, and which will shortly result in something. But if a diploma should be definitely adopted would it give a satisfactory remedy for the evils of which we at present complain?

At the late Congress, last June, M. Fernoux declared that it would not: a diploma could never confer upon those who have won it the sole right of conceiving plans and carrying them into execution; could never possibly prevent a contractor from building a house, or a client from purchasing this house after it had been built. Since, then, he had the right to purchase it, he must also have had the right to cause it to be built by any one that he chose. The selection of an architect depended upon that which the client wished him to perform. There were cases where a practical man was of more use to a client than an artist would be, and choice in most cases is usually made only after making inquiries, and gathering information as to the capacities of the man who must defend the client's interests. Even though all architects should be diplomaed, in one fashion or another, this would not prevent the client from making inquiries before entrusting an architect with his business; just as he makes inquiries before selecting a physician, an advocate, or an engineer. And this is why the eternal question of the diploma, so much discussed in France, arrived at no definite conclusion this year any more than in former years, and explains why the propositions advocated were not adopted.

Architects, therefore, will probably have for a long time yet to enter a competition which expands ceaselessly. Like all professions, that of the architect is to-day very much crowded in France; and, nevertheless, it is not among the most easy and most tranquil. The architect in France has to observe police-regulations, and very stringent street-front laws which constrain his free action, in some times an excessive degree; and, besides, for the last ten years he has had to bear a responsibility which may be terrible in its consequences, and against which all his knowledge and his experience cannot always preserve him. You will find the proof of this in the extremely interesting discussion at the last Congress, apropos of the dry-rot fungus, the "merulius lacrymans," with which the Congress of 1901 also concerned itself. This fungus causes considerable damage in wood, and because of the severity of the *code civil* in this respect, an architect may find himself in a position of responsibility for the damage it produces.

So far as concerns the "merulius lacrymans," is not this responsibility excessive, and can the danger of using the lumber be recognized at the moment when it is introduced into the building? Can the ravages of this growth be stopped? These are the questions which have been discussed in the remarkable report at the last Congress by M. Olive, Architect and Secretary of the Société Centrale. M. Olive, in the first place, described the ravages caused by the "merulius lacrymans" on which, in 1893, M. Crie, of the Faculté des Sciences de Rennes, laid the failure of many scaffoldings in several cities of France, and the falling of innumerable roofs and floors. The same condition of things exists abroad—in Austria, Russia, Germany, where able botanists are carrying on special studies in this subject. In 1898 a commission was appointed by the Association Internationale for the Testing of Materials, with a view to studying this very question of the dry-rot fungus. Thanks to the studies of this commission, there have been obtained certain facts, which, to some degree, give us a definite knowledge of this redoubtable enemy. From these investigations it appears that the rotting of the wood can be very rapid, and that it is often caused by mushrooms which attack the tree while it is still growing. The vegetable fibres of these mushroom growths are invisible to the naked eye, and can only be seen through the microscope by observers familiar with vegetable anatomy. Botanists, at least, might be able to recognize the presence of this fungus growth at the time of felling. But there is another kind of decay which cannot be discovered at the time of felling, and which reveals itself only after it has reduced the pieces of wood to powder—the principal agent in this decay is the "merulius lacrymans." Wood affected by it presents a yellowish-brown color, and is covered by light specks of clear white, which have the appearance of filaments of gray cotton-batting interwoven with one another. These form irregular white sheets, in the midst of which appear yellowish plaques in the form of little flakes, which finally become covered with bright orange-colored dust, formed by the innumerable spores or seed-vessels of the fungus. This fine dust is easily scattered, and can thus infect sound wood. Fortunately, all

these seeds do not germinate and only a small portion meet with conditions favorable for their development. Among these favorable conditions humidity is of the chief importance. Certain remedies have been suggested for stopping the propagation of the evil: creosote, currents of dry air, dilute sulphuric-acid, sulphate of copper (one kilogramme to 10 litres of water).

"In any event, for us architects," M. Olive says, at the end of his essay, whence I have drawn the statements herein, "it is enough to state that botanists, men conversant with such matters that is, confess their inability to detect this plague early enough to take precautions against it, and that they have not yet found any efficacious means of stopping its growth, and causing it to disappear. This being so, why should the architect be held responsible for a destruction caused by the fungus? Yet, nevertheless, judgments have been given compelling both architect and contractor to indemnify the owner of the building for loss occasioned by the "merulius lacrymans." On the other hand, a recent decree of the Conseil d'Etat has settled the jurisprudence of the matter in a more reasonable sense. The floor of one of the halls in a certain school fell; the experts recognized that the catastrophe was brought about by the rotting of the wood caused by the fungus, whose existence had not been detected when the wood was being built in. The Conseil d'Etat dismissed as defenders both the architect and contractor alike; and this is the theory that M. Olive would like to have recognized everywhere, and there is no architect who will be found to oppose him. Supporting this conclusion, M. Lalanne, Vice-President of the Société Centrale, would like to see the same principle applied to the cases where wood is destroyed by the worms vulgarly called "vrillettes," whose inroads always begin in the builder's yard or in the house.

M. Moyaux recalls in this connection that having to tear down a small house, about thirty years old, he discovered that all the timber, flooring and beams were attacked by these "vrillettes," and that posts 18 to 20 centimetres square were reduced to the thickness of an umbrella. All this is not very reassuring; hence, the following expression of opinion has been unanimously adopted at the Congress of 1902:—

"In consideration of the fact that it is practically impossible to discover, in wood apparently sound at the time of being built-in to a structure, the presence of a deposit of eggs which will engender "vrillettes," or of spores which later must develop the filaments of the "merulius lacrymans"; and considering, further, that this deposit can be made at any moment, through an external agency, the Congress expresses the belief that the responsibility of the architect in such cases should not be involved."

And now let us hope that this aspiration may be taken into consideration by the tribunals, and that the courts may show themselves less harsh toward architects, whether or no they have won their diplomas,—the "vrillettes" and the "merulius lacrymans," unfortunately, not being influenced by diplomas.



AMERICAN INSTITUTE OF ARCHITECTS.

PROGRAMME of the Thirty-sixth Annual Convention, to be held in Washington, D. C., December 11, 12 and 13, 1902.

Order of Proceedings. — Wednesday, December 10.

Meeting of the Board of Directors at 10 A. M. in the Octagon, Eighteenth Street and New York Avenue, Washington, D. C.

Thursday, December 11.—Morning Session.

The members of the Institute will meet in the Assembly-rooms of the New Willard Hotel at 9.30 o'clock; will register their names; the President will appoint a Committee of Three on Credentials of Delegates, and at 10 o'clock there will be a short address of welcome by Col. John Biddle, U. S. A., Engineer Commissioner, District of Columbia, after which the President of the Institute, Mr. Charles F. McKim, will make brief remarks, when the Convention will be declared open for business.

Order of Business.

1. Report of the Board of Directors.
2. Report of the Treasurer and reference to the Auditing Committee.
3. Reports of Chapters, a synopsis of which will be read by the Secretary.
4. Reports of the Standing Committees:—
 - (a) House and Library Committee, Robert Stead, *Chairman*.
 - (b) Education and Publication Committee, H. L. Warren, *Chairman*.
 - (c) Foreign Correspondence Committee, Glenn Brown, *Chairman*.
 - (d) Contract and Lien Laws Committee, Alfred Stone, *Chairman*.
 - (e) Applied Arts and Science Committee, W. G. Preston, *Chairman*.

5. Reports of Special Committees:—

- (a) Legislative Committee on Government Architecture, George B. Post, *Chairman*.
- (b) Delegate to National Conference Electrical Code, and to meeting of National Fire Protection Association, Alfred Stone, *Delegate*.
- (c) Conference with Architectural League on Competition, Codes and Coöperation, R. Clipston Sturgis, *Chairman*.
- (d) Committee on Competitions, R. Clipston Sturgis, *Chairman*.
- (e) Improvement of Washington Committee, W. A. Boring, *Chairman*.
- (f) Fine-Arts Commission and Bureau of Architecture Committee, Robert S. Peabody, *Chairman*.
- (g) Municipal Improvement Committee, Frank Miles Day, *Chairman*.
- (h) World's Congress Committee, W. S. Eames, *Chairman*.
- (i) Metric System Committee, James Knox Taylor, *Chairman*.

Luncheon served in banquet-hall at 1 o'clock. Ladies in attendance with members are invited.

Afternoon Session, 2 o'clock.

1. Appointment by the President of two Committees on the Nomination of Officers and Place of Meeting for Thirty-seventh Convention.

2. Appointment of Special Committees to consider and report on recommendations contained in the Report of Board of Directors, of the Reports of Chapters, and of the Standing and Special Committees.

3. Papers on "The Improvement of Washington," illustrated by lantern-slides.

- (a) Daniel H. Burnham.
- (b) Frederic Law Olmsted, Jr.
- (c) Charles Moore.

4. Report of Credential Committee.

Evening Session.

The members will meet at the Library of Congress at 8.30 o'clock to view drawings and models submitted by the Park Commission, D. H. Burnham, C. F. McKim, Augustus St. Gaudens, and Frederic Law Olmsted, Jr. Explanation by member of the Commission.

Friday, December 12. — Morning Session.

1. Paper: "The Relations of the Architect and the Engineer" — Captain John Stephens Sewell, Engineer Corps, U. S. A.
2. Reports of Special Committees.
3. Unfinished business of the previous day.
4. Ballot open for the election of officers.

Luncheon served in the banqueting-room at 1 o'clock.

Afternoon Session, 2 o'clock. — Held in Assembly-hall of the New Willard.

The Development of Municipal Improvement will be the principal topic for consideration. Papers and discussions illustrated by lantern-slides.

- (a) W. B. de las Casas. "The Organization for Municipal Improvements."
- (b) Albert Kelsey. "The Modern City."
- (c) Owen Fleming. "Improvements in London, Eng."
- (d) E. L. Masqueray. "Water Effects in Landscape as applied in St. Louis Exposition."

Saturday, December 13. — Morning Session.

1. Reports of Committees appointed at the opening session and their consideration.
2. Unfinished business.
3. Miscellaneous business.
4. Ballot closed and announcement of officers elected and the place of meeting for the next Convention.

Afternoon Session, 2 o'clock.

1. Unfinished business.

Exhibitions, December 10 to 14.

1. Drawings and photographs illustrating the proposed improvements of Washington by the Park Commission; on view in the Congressional Library.

2. Exhibition of the competitive drawings for the new Municipal Building, Washington, D. C., in the Octagon, corner Eighteenth Street and New York Avenue, N. W.

Delegates will be distinguished by a red ribbon, and will occupy seats from the front row as far back as is necessary for their accommodation.

Members of the Institute who are not delegates are entitled to enter all discussions, to offer resolutions and motions, and to vote on a proposition that it is "the sense of the meeting."

Prompt and full attendance on the successive sessions at the hours indicated is requested, otherwise the business of the Convention cannot be fully accomplished.

Committee of Arrangements.—Glenn Brown, Robert Stead, Wm. A. Boring, Edgar V. Seeler.

Per order of the Committee,

GLENN BROWN, *Secretary, A. I. A.*



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

EMANUEL CHURCH, NEWPORT, R. I. MESSRS. CRAM, GOODHUE & FERGUSON, ARCHITECTS, BOSTON, MASS.

INTERIOR OF THE SAME.

DESIGN FOR A BANK BUILDING, DUBOIS, PA. MESSRS. DAVID C. MYERS AND MAHLON L. FISHER, ASSOCIATE ARCHITECTS, WILLIAMSPORT, PA.

WAREHOUSE FOR STUDEBAKER BROS. MANUFACTURING CO., KANSAS CITY, MO. MESSRS. ROOT & SIEMENS, ARCHITECTS, KANSAS CITY, MO.

[Additional Illustrations in the International Edition.]

VESTIBULE OF THE GERMAN SECTION: TURIN EXHIBITION OF 1902. HERR P. BEHRENS, ARCHITECT.

THE MAIN ENTRANCE: TURIN EXHIBITION OF 1902. SIG. R. D'ARONCO, ARCHITECT.

This and the foregoing plate are copied from *Art et Decoration*.

THE NEW STADT THEATRE, COLOGNE, GER. HERR KARL MORITZ, ARCHITECT.

This plate is copied from *Deutsche Bauzeitung*.

THE PALLADIAN BRIDGE: WILTON HOUSE, WILTSHIRE, ENG. SIR WM. CHAMBERS, ARCHITECT.

DERWENT HALL, DERBYSHIRE, ENG.

BRIDGES OVER THE RIVER CAM, CAMBRIDGE, ENG.: CLARE BRIDGE; — KING'S BRIDGE.

BRIDGES OVER THE RIVER CAM, CAMBRIDGE, ENG.: QUEEN'S COLLEGE AND BRIDGE; — TRINITY BRIDGE.



ECONOMIES OF THE SO-CALLED STEEL TRUST.—The December *Century* contains a paper on the "Steel Trust," by Henry Loomis Nelson, which embodies statements of an authoritative character concerning that organization, including the paragraphs which follow, setting forth the claims of the Corporation as to the economies which it has brought about. Mr. Nelson says: "Among the leading causes of low prices is low cost of production, and this is obtained by the economies which the combination has rendered possible. The fact that economies are possible is clear. In the first place, not one of the subsidiary companies possessing ore owned every kind of ore which it needed in its work. The Illinois Steel Company and the Carnegie Company, for example, were obliged to purchase ores for mixing with their own. The United States Steel Corporation buys no ore. In the second place, there is an enormous saving in the item of transportation. The great fleet of the Corporation sails about the lakes, stopping at the mines for loading, departing at once on receiving the cargo, notified then or on its passage at what wharf and for what furnace the ore is to be delivered. There is no loss of time, as there used to be when the boats, belonging to different and competing companies, were obliged to wait their turn at the loading-wharf, while there was further delay at the destination, either by reason of failure of land transportation, or because the furnace was not ready for the ore. Now the ore is carried directly to the furnace at which it is needed, and the former waste is saved. Another economy

is the consequence of the possession by the company of virtually a complete equipment for the iron and steel business. Orders that once were taken by one mill can be distributed among the several mills which formerly were competitors. This not only secures promptness in executing the orders, but where once the mill machinery was changed as it passed from the making of one size to the making of another of pipes or rods or other forms, there is now no such loss of time, for sizes, like forms, can be distributed to the proper number of mills. There is also economy in administration; there is no waste of effort and of men in competition for orders; and the product once sold through scores of agents is now disposed of by a few. But the chief advantage of this combination is expected to be gained through economy of production, not in the number of salaries saved, and not merely in the utilization of existing methods and means of manufacture. No one can question the fact that in competition there is great waste; the question is whether the consumer gains or loses by the struggle which results in this waste. It is true, however, that those who now are interested in the United States Steel Corporation have been saved enormous expenditures of material, and have also been saved losses which might have brought serious disaster to all directly or indirectly dependent on the iron and steel business. There is no reason now why the group of men who carry on from 70 to 75 per cent of this business should build a single mill more than the demands of the business warrant, and if we recall the war which was in progress at the time of the formation of this Corporation, the importance of this will be manifest. The manner in which the Corporation is administered, however, is of the first importance. The question here is whether the men who have combined are taking every advantage of the opportunities for effecting the purpose which they profess to have in mind."

NEW BUILDING-LAWS FOR PARIS.—John K. Gowdy, United States Consul-General at Paris, in a dispatch to the State Department, reports: "New regulations concerning the erection of buildings in Paris have just been issued by the municipal surveyors, as the decrees hitherto in force (though they dated no farther back than 1882 or 1884) did not satisfy modern requirements in the matters of hygiene, comfort and luxury. The height of buildings is thus fixed: If the road is less than 12 metres (39 feet) wide, the height of the building must not exceed the width of the street by more than 6 metres (19½ feet). On a roadway 12 metres wide, the house may therefore be 18 metres (59 feet) high, and for every additional meter in the breadth of the road, a quarter of a metre (about 10 inches) may be added to the height of the house until the limit of 20 metres (nearly 66 feet) to the eaves is reached; but no building may exceed that. In all dwellings, whether situated on a public or private road or in a courtyard, the height of the ceiling of the ground-floor apartment, and also that of the entresol, shall not be less than 9 feet 2 inches. Projections—bases of columns, balconies, cornices, bow-windows, etc.—are subject to certain general regulations, which may be modified in special cases. Thus, if a roadway is 52 feet or more wide, the regulation width of the balconies may be increased by one-fourth. A new and useful clause in the decree provides that any shutter, blind or sunshade placed not more than 10 feet above the pavement must either be within the body of the wall or must not open outward. There are also minute regulations concerning verandas, awnings, sun-blinds, outside lamps, cornices and signs."—*N. Y. Times*.

HUMORS OF THE CUSTOM-HOUSE OFFICERS.—There are many artistic jests, not intentional, but all the more amusing, in the decisions of the Treasury Department under the tariff-law, published every Thursday under the title of Treasury Decisions. When the United States General Appraisers at New York are called upon, by some protest against a decision of the Collector of Customs, to ascertain and declare, for instance, whether "a screen made of wood, silk and cotton, the panels of which are ornamented with landscapes and figures painted in oil" is to be considered as "a manufacture of cotton, wood and silk, cotton chief value," or as "a painting in oil or water-colors," it is evident that there is an opportunity for ponderous legal definitions which are not without their comical side. It is certainly amusing, though the importer may not see it, to have a "screen made of wood, silk and cotton, the panels of which are ornamented with landscapes and figures painted in oil," returned for duty as "a manufacture of cotton, wood and silk, cotton chief value." As the invoice value of the screen is \$1,200, it is quite surprising to note how valuable the cotton (which, incidentally, has a painting upon it), must be. The force of the point is enhanced by the fact that if the object is "a manufacture of cotton" it must pay a duty of 45 per cent *ad valorem*, whereas if it is only "a painting in oil or water-color" it need pay only 20 per cent *ad valorem*. The decision of Mr. Somerville, General Appraiser, is that the screen is a "painting in oil or water-colors." It is, therefore, dutiable at 20 per cent, and the decision of the Collector is reversed. We approve of the decision, but the legal argument by which it is arrived at excites wonder, awe and amusement. Screens, it seems, are not enumerated *eo nomine* in the present Tariff Act, except in Paragraph 382, which refers only to those which are *ejusdem generis* with "mats, rugs for floors, screens, covers, hassocks, bed-sides, art-squares," which are made wholly or in part of wool, and which are made subject to the same rate of duty as is imposed on carpets or carpeting of like character. The General Appraiser is therefore bound to follow certain rulings of the Circuit Court for the Southern District of New York in parallel cases, which he does, without much enthusiasm, though the equitable and sensible nature of these rulings is self-evident. For example, a certain lot of "fans composed of silk and bone," decorated with paintings in water-colors, were held to be dutiable, not as manufactures of silk, but as paintings. This ruling was made upon the theory that at least two-thirds of the value of the fans was imparted to them by reason of the painting, and not by reason of the material upon which the painting was made. So in the case of a lot of paintings in oil upon panels of papier-mâché,

designed to go in the frame of a false door, which were held to be dutiable as paintings, and not as manufactures of wood. So also in the case of certain Japanese wall-decorations made of paper, paper and cotton, or of narrow strips of bamboo joined together with cotton cord, having upon them representations of human figures, birds, etc., in water-colors, which were held to be dutiable as paintings, and not according to the component material. The last ruling of the Circuit Court upon an analogous subject is found in *White vs. United States* (113 Fed. Rep., 855). It was there decided that ceilings painted on wood, taken from a palace in Italy, should be classified as paintings, and not as manufactures of wood. "The value of the wood," remarked the sapient judge, "as compared with the paintings, is infinitesimal." It is thus to be observed that while the mental processes through which these conclusions are arrived at seem somewhat more complicated and ponderous than necessary, the decisions are obviously sound, reasonable and just.—*Boston Transcript*.

THAWING WATER-PIPES BY ELECTRICITY.—A regular occupation for the electrical force at Sault Ste. Marie is the thawing of frozen water-pipes. The work has been carried on by William Gorby for the last six years, and his work was begun on a hint given by a college professor. He tried it at the first opportunity, and found that the pipe was in service in a few minutes. Since that time he has thawed out all sorts and sizes of water-pipes, at a great saving of money to the owners. The largest thawed out was a 4-inch cast-iron pipe which was frozen more or less for 200 feet. It took half an hour to get the water running through it. A 250-kilowatt transformer is mounted on a sleigh, although nearly all the pipes could be thawed out by a 500-light transformer. The primary wires (2,200 volts) are bared, and the current led through a water rheostat to the transformer. The secondary is connected to the frozen pipe at two places, and the current switched on. In the ordinary house-service pipes, the water begins to flow very quickly, frequently within a minute. Although it may seem dangerous handling the primary current in this way, it is declared that no accidents have happened, and the apparatus has never failed in getting a frozen pipe working.—*N. Y. Evening Post*.

ARTIFICIAL ISLAND TO BE BUILT IN NEW YORK HARBOR.—A new island is to be built in New York Harbor, between Ellis Island and Bedlow's Island, for the erection of a hospital for the care of immigrants suffering from contagious disease. This is one of the improvements recommended by Supervising Architect Taylor, who has been at Ellis Island making an investigation of the needs for additional accommodations for the United States Immigrant Station. He has recommended that the main buildings be enlarged at a cost of approximately \$300,000; that the existing hospital be enlarged at a cost of about \$100,000, and that an island of several acres be built up and a hospital erected on it at a cost of about \$250,000. His recommendations have been approved by Assistant Secretary Taylor, and he has been directed to prepare plans and estimates for the work. When this has been done Congress will be asked to make the necessary appropriations. The improvements are made necessary by the rapid increase in the number of immigrants arriving at New York.—*N. Y. Tribune*.

THE MANUSCRIPT OF RUSKIN'S "SEVEN LAMPS OF ARCHITECTURE."—J. Pierpont Morgan, according to a dispatch from London, has made a most interesting addition to his collection of literary treasures by purchasing for \$25,000 the manuscript of John Ruskin's "*The Seven Lamps of Architecture*." "*The Seven Lamps of Architecture*" was written by Ruskin in the autumn of 1848, soon after his marriage to Miss Euphemia Chalmers Gray, who afterward became the wife of Sir John Millais, P. R. A. Ruskin's brief married life was marked by a period of great literary activity, and a few months after Miss Gray became his wife he felt free to pursue the completion of a task which he had some time before set himself—the writing of a book in which some of the principles he had sought in "*Modern Painters*" to enforce in the case of painting should be applied to architecture. The Seven Lamps were those of sacrifice, truth, power, beauty, life, memory and obedience. It was published on May 10, 1849, and has been the most widely circulated of all Ruskin's larger works. It was the first of them to be illustrated.—*N. Y. Times*.

BRICK FOUNDATIONS.—It was only a few years ago that any one who walked along the street where a good building was being put up saw nothing but stone foundations. This condition has changed. Builders used to think that a man who had a brick house with a stone foundation and slate roof had reached the acme of excellence. As it is now, stone foundations are rarely known. The old stonemason is now practically out of a job. And for what reason, may we ask? Merely because of the excellence of brick. A better foundation, one more solid, one cheaper, one more satisfactory, one straighter and altogether better can be built from brick than from stone. It is one of the changes that have been made within recent years because of the high character of brick. Stone may be used for facing for alleged artistic reasons, but it is backed up by brick, and below the facings we find brick. This was slow in coming, but at this time the best buildings of all classes are provided with foundations not of stone, but of brick, and for the reason that brick is the better material.—*The Clay Worker*.

THE ASHES OF COLUMBUS NOW IN SEVILLE CATHEDRAL.—The ceremony of depositing the ashes of Christopher Columbus in a special mausoleum was carried out in the Cathedral last month with befitting solemnity. The coffin was borne on the shoulders of a party of naval seamen and behind it walked in procession the Archbishop of Seville, the Cathedral Chapter, the Minister of Marine and a number of other dignitaries.—*Boston Herald*.

THE AMERICAN ARCHITECT AND BUILDING NEWS

ADVERTISERS' TRADE SUPPLEMENT

No. 247

SATURDAY, DECEMBER 6, 1902

VOLUME LXXVIII
No. 1406

TESTIMONIALS.

PROBABLY there is no aid to procuring further business more often called into play by successful men of affairs than the written testimonial, and its part as a "money-getter" would be very potent indeed if it were not for the fact that it is impossible to believe that it is always above suspicion.

Leaving out of the consideration the matter of frank fabrications and the only slightly less immoral "doctored" testimonial, we have still two classes left, one of which has great value, while the other unquestionably has some usefulness. Testimonials of these last two classes can be properly used in the honorable conduct of business. The first of these is the testimonial voluntarily provided by a grateful and appreciative customer, who says just what he really means at the moment when he really feels it. A testimonial of this class is more welcome to a business man than any other. The second class of legitimate testimonial includes those which come to the business man in answer to his suggestion that, if the customer has through use discovered that the goods were as represented to be, an expression of satisfaction on the part of the customer would be highly appreciated.

But even with honest testimonials there is always the doubt in the mind of an investigating purchaser whether the opinion of the writer of the testimonial was worth anything—that is, whether he had a broad enough knowledge to justify giving an expert opinion.

Now, in the building-world the one man who should be, and generally is, competent to give an expert opinion is the architect, and the catalogues and circulars of dealers in building-supplies fairly bristle with testimonials from architects—and it is funny that they should, for it is a fact, of common knowledge, that there are many such dealers who proclaim, from the housetops as it were, that any and all architects can be "bought"; that "it would surprise you to know the names of the architects to whom we pay commission" [Perhaps it would, in a sense they do not intend]. But even in the case of testimonials honestly and voluntarily given by honest architects there are differences of values. There is obviously a vast difference between the testimonial of an architect who declares he has put So-and-so's water-closet into the last building he erected for a client and the one in which he declares he is satisfied with the operation of the same apparatus in his own house.

We speak of these things because, in running over the list of people who have installed

the "New Walker Boiler" of the Walker & Pratt Mfg. Co., of Boston, we not only recognize that many of the buildings named were erected under the charge of architects who presumptively caused the introduction of this particular heating-apparatus, but we also discover that Robert S. Peabody, William Y. Peters, Henry S. Hunnewell and James S. Lee, each a well-known architect practising in Boston, have put the apparatus into the houses occupied by themselves.

This fact simply stated far outweighs in real value all the other testimonials the manufacturers offer in support of the character of their goods.

FINISHING OF REDWOOD.

IN answer to a great many inquiries received concerning the finishing of Redwood for both exterior and interior work, we state below the method adopted by the most experienced finishers of the wood, and if carefully followed it will undoubtedly give very satisfactory results.

Outside painting.—Shellac need not be used, but one more coat of paint is necessary than for other finishing woods; and when properly finished will last three times as long without being repainted, and retains its lustre and color for a longer period because there is no turpentine or acids to change it as there are in other finishing woods.

Outside finish, natural color.—For natural color exterior work, the best Spar Varnish will preserve and retain the natural color of the wood; apply in the usual manner.

Staining.—Redwood excels for staining purposes, for the reason that the fibre absorbs the stain, also because the wood can be stained any required color, which color will remain unchanged, if properly protected.

Interior finish, natural color.—Relative to finishing the wood for interior purposes natural color, will say that as the wood is porous the pores must be filled to give it a surface, and by using the best white shellac cut quite thin with grain alcohol (not wood alcohol), and applying two coats or more if required, the required surface will be obtained; then use best varnish. If a higher polish is desired, use for the first coat white shellac thinned down with grain alcohol, when nearly dry wipe with a cloth, and when thoroughly dry rub smooth with polishing paper; then put on a coat of best polishing varnish every three days, each time rubbing smooth with haircloth until the grain is well filled; say five coats if an extra finish is desired. When dry rub down hard with pumice-stone and water and

wipe clean; when dry rub with rotten-stone, wipe clean and dry, and then rub with olive-oil with clean hands; wash in alcohol and it is finished.

BARTLETT LUMBER CO.,
O. H. SMITH, Manager,
BOSTON, MASS.

PUTTY DECORATIONS.

It is not possible to believe that the publication of our elaborate work "*The Georgian Period*" should not have an effect in causing more and more houses to be designed in the Colonial style of architecture loved by our forefathers, but we shall be saddened indeed if it should result in the vulgarization of the style through the vagaries of incompetent designers.

Colonial architecture is satisfactory only when it is refined, and as an essential factor in the style is the applied decoration, both external and internal, it is unfortunately possible that an otherwise good piece of work may be wrecked by the misapplication or too-abundant application of applied ornament.

But granted that a designer knows enough to practise self-restraint in this particular, his design cannot be satisfactory unless he can find just the right sort of decoration to apply at just the proper spots. It may be helpful, therefore, to call attention to the fact that A. P. Lombard & Co., 101 Bristol St., Boston, have one of the fullest collections of moulds for casting in papier-maché or putty suitable ornamental decorations for exterior or interior positions, and any one who has need to use Classic capitals in any style and at any size, wreaths, brackets, consoles, festoons, ribbons, swags, eagles, sun-bursts, etc., can find them at the above address.

But whoever goes to this firm with an order we hope will not go with the intention of beating down the price and getting the most for their money, but rather with the intention of encouraging the firm to keep up the price of their wares, since by so doing they would help to prevent the too-common overloading of a design with applied ornaments which inevitably vulgarize the style, and causes owners to instruct their architects to design for them something that is *not* in the Colonial style. When this time comes, the manufacturers may find that by cheapening their product they have finally worked themselves out of a business in place of building up a larger one.

An architect deserving of the name will not hesitate to pay fair prices for good patterns cast in good sharp moulds.

TAYLOR OLD STYLE.

ONE of the recent and most gratifying successes of the "Taylor Old Style" brand of Roofing-tin was its selection for use on the improvements to the White House or Executive Mansion at Washington. These alterations, while important, have done little to change the appearance of the White House proper, but they have, nevertheless, been quite extensive. The supports of the East Room, or main receiving-room, where all the large receptions are held, have been greatly strengthened by the addition of brick-and-iron supports, which will safely allow the room to be crowded to its greatest capacity. New wings have been added, which do away with the old conservatory, and change the near view to some extent. In making these improvements the interior has been thoroughly torn out, the shell of the old building being practically all that remains.

It is a significant fact that the "Taylor Old Style" brand of Roofing-tin has been used on almost all the public and Government buildings in the United States, and its selection in the present instance may be said to endorse the choice of those in charge of this branch of the work years ago when this brand was first used on the old building. No other brand of Roofing-tin enjoys the reputation that the "Taylor Old Style" brand has, and when its reliability and long wear are considered, it is singular that inferior makes are ever used on buildings requiring a permanent covering.

TAKE HEED TO YOUR STEPS.

THE American Mason Safety Tread Co. began business in October, 1895, in a small way, the Safety Tread having been in use in England, France and Germany some years earlier. The claims made for the non-slippery and durable properties of the Tread were at first received with incredulity by architects and owners of buildings. Almost the first contract of any magnitude secured by the American Company was for the equipment of the stairs of the Brooklyn Bridge, and this was soon followed by an order for Safety Treads for the stairs of Boston Subway stations. This exhibition of confidence in the merits of the Tread by engineers of eminence quickly led to other orders, until now the business of the Company has increased to an enormous volume. Agencies are maintained in all the large cities to receive orders, and, when required, to install the material.

The Safety Tread has won the confidence of architects and engineers and justified every claim made for it. The addition of the Safety Sidewalk or Vault Lights, Coal-hole Covers, and Car and Wagon Steps was in consequence of an evident demand.

The Mason Safety Tread is composed of a base of steel or delta metal (hard brass), with lead strands firmly held in dovetail grooves. The hard metal resists wear, and holds the soft metal firmly in place to prevent slipping. V-grooves are cut in the hard metal between the lead strands. The walls of these grooves are not intersected, but continuous, thus holding the lead so that it cannot be pushed over or worn faster than the steel that confines it. Dirt deposited on the Tread is not held, but may be easily swept out.

The Safety Treads are applied to wood, iron or stone, and are equally desirable for new work or repairs. The steel Tread is electro-galvanized when required. It is made in certain standard widths, with and without

a nosing. We curve the Treads when required to any given radius or pattern. We punch and countersink all necessary screw-holes. We furnish blue prints, special drawings, and standard specifications to illustrate the method of use by the best architects.

Many attempts have been made to devise a substitute for the Mason Safety Tread, but without success, as it is made in the simplest form possible, after years of study and experiment, involving large expenditure. This Tread is to-day the only one in the market combining the elements of safety, durability and cleanliness.

The Mason Safety Sidewalk Light has strands of lead embedded in grooves between the rows of lenses, giving a level, smooth, non-slippery surface. It is strong and watertight, and has a large lighting-area.

Mason Safety Coal-hole Covers are made on the same principle, with and without lenses.

Mason Safety Car and Wagon Steps are the only durable non-slippery steps in the market. (See special catalogues.)

In many buildings the Safety Tread has been, by direction of the architect, applied to all stairs at the time of construction; in others it has been attached as repair material to worn stairs and thresholds, giving a level surface, preventing further wear, and furnishing a reliable safeguard against slipping.

The popularity of the Mason Safety Tread is growing throughout the United States; there now remain but half a dozen of the more remote and thinly populated States where the Safety Tread has not been introduced. In most of the large cities and in many smaller places the Safety Tread is well known and a recognized necessity for those who are making plans for new buildings or undertaking repairs. It has very largely superseded rubber treads, stamped brass plates and other makeshifts, as it is superior to any other device for the purpose of preventing slipping on stairs. Its durability has been proved by many years of use under the severest tests that could be given—the stairs of elevated-road stations in Boston, New York and Chicago.

Architects find a large field of usefulness for the Safety Tread in the stairs and landings of business and public buildings, factories, etc. Hundreds of school and college buildings, court-houses, libraries, post-offices and railroad-stations have been equipped, and the Company now has many orders in hand. A large job recently completed is the mammoth new Government Printing Office at Washington, erected under the direction of Capt. John Stephen Sewell, U. S. Engineer Corps. The Company is now placing Safety Treads on all stairs in the large mercantile building being erected in the same city from plans of Mr. Henry Ives Cobb, for Woodward & Lothrop.

The Safety Tread is all metal, and so constructed as to obtain the maximum of durability without sacrificing its efficiency. It is easy to the foot, noiseless, and does not harbor dirt. A peculiarity of this Tread is that its base is unbroken, giving it great firmness; another is that the ribs which hold the lead in place are continuous and cannot break down, while the intervening grooves are V-shaped and easily kept clean.

AMERICAN MASON SAFETY TREAD CO.
40 WATER ST., BOSTON, MASS.

A BOSTON CORRESPONDENCE-SCHOOL IN CHICAGO.

THE American School of Correspondence, Boston, believing that correspondence instruc-

tion in technical subjects can be made efficient and helpful beyond what has heretofore been accomplished, has made an arrangement with the management of the Armour Institute of Technology whereby the professors and instructors of engineering of the faculty of the Armour Institute will constitute a board of instruction, revision and examination for the American School of Correspondence. In accordance with this arrangement the American School of Correspondence has removed to Chicago to commodious quarters adjoining the main building of the Armour Institute of Technology. The work done by correspondence students according to this standard will be accepted and credited at the Armour Institute of Technology when students desire to complete their course by actual residence there. It is the hope of the management that this radical change in correspondence-school methods will bring to wage-earners of all ages the results of the most complete resident-school laboratory work. The change will in no way affect the individuality of the American School, but is made with the idea of harmonizing correspondence instruction with resident instruction and ensuring correspondence-school students a high standard of instruction. The advantages offered students unable to attend a resident school are evident; the plan showing in the most striking manner the wonderful advance in the educational possibilities of the people in recent years. It is the purpose to harmonize correspondence work more and more with resident-school work, so that young men who are unable to give up four years to obtain a technical education can, by first taking a correspondence course, reduce the time required for obtaining a complete course and a resident-school degree.

Men of the highest educational standing have been secured to prepare the various courses, and no effort or expense has been spared to make the instruction as thorough as is possible by correspondence. The course in Perspective has been prepared by Prof. W. H. Lawrence of the Massachusetts Institute of Technology; that in Sheet-metal Pattern Draughting by Wm. Neubecker, Instructor Sheet-metal Department, New York Trade School, and Advising and Contributing Pattern Draughtsman for the *Metal Worker*, New York. The course in Architecture, now in preparation, is under F. A. Bourne, a practicing-architect of Boston, and a member of the Boston Society of Architects and American Institute of Architects.

STACK PROTECTION.

THE most conspicuous part of a manufacturing plant or steamship being the smoke-stacks, it is important that they present a well-kept appearance.

To preserve and beautify stacks, a paint must be used which will not be destroyed by the action of a high degree of heat in combination with exposure to extreme and varying atmospheric conditions. The height and heat of smoke-stacks render the painting difficult and dangerous. The expense and annoyance of frequent repainting can be avoided by the use of a paint that will withstand the severe conditions for the longest time.

Dixon's Silica-Graphite Paint (Black) is specially prepared for stack-protection, and has been continuously used for nearly forty years by many of the largest steamship, smelting and manufacturing companies in different parts of the world. We can undoubtedly give local reference.

Atlas PORTLAND CEMENT

The
Standard
American Brand.

Used Exclusively in the Following New York Buildings:

HAVEMEYER STORES

SINGER BLDG.

ST. PAUL BLDG.

UNIVERSITY CLUB

AMERICAN SURETY BLDG.

N. Y. LIFE INS. BLDG.

BANK OF COMMERCE

STANDARD OIL BLDG.

JOHNSTON and PRESBYTERIAN BLDGS.

AND MANY OTHERS.

Atlas Portland Cement Company

143 LIBERTY STREET
NEW YORK

Dixon's Black is highly recommended for protection of boiler fronts and flues, ornamental ironwork and fences, and for steel bridges, viaducts, roof-trusses of round-houses and terminals. It is proof against the corrosive action of heat, cold, moisture and sulphurous fumes.

Natural, dark-red, and olive-green colors are also manufactured, giving pleasing variety with uniform durability for painting metal or wood.

Owing to the peculiarly smooth nature of the Ticonderoga Flake Graphite pigment used in this paint, it is easily brushed out, saving materially in cost of labor and brushes, and giving perfect coatings of 500 to 600 square feet to the gallon.

Dixon's Silica Graphite Paint should be purchased in original packages, ready mixed for use, as manufactured by

JOSEPH DIXON CRUCIBLE COMPANY,
JERSEY CITY, N. J.

EXPANDED METAL.

In a certain measure it is rather unfortunate that the name and fame of that useful article of building-material "Expanded Metal" should have been made first—and perhaps strongest—through successfully performing the comparatively commonplace function of providing a fireproof lathing for the normal wooden stud partition. This early established fact has in some sense deprived of their just birthright the later usages of the material and its development into the essential factor of a definite method of general fireproofing.

This cannot be helped, however, and the energetic men in charge of the enterprise are quite right in throwing the weight of their effort in the direction of educating the building-world out of its original idea as to the restricted usefulness of the material and into a more up-to-date knowledge of its developed usefulness in the general field of fire-protection.

To this end the Expanded Metal Companies have recently issued a large pamphlet containing merely illustrations of the many buildings in which their system of fireproofing has been employed.

It is enough to say that the one hundred and twenty subjects illustrated cover practically every class of building, hotels, stores, apartment-houses, factories, warehouses, office-buildings, theatres and so on, and every size from medium to colossal designed by architects in many communities and actually erected in more than a score of different States—from Maine to California, from Manitoba to Georgia.

"KINNEAR'S STEEL ROLLING SHUTTERS, DOORS AND PARTITIONS."

THE Kinnear Mfg. Co., of Columbus, O., is the largest manufacturer of steel rolling doors, shutters, partitions, merchandise-cases, and has constructions which are suitable for every possible purpose.

The Kinnear Doors and Shutters have attained a world-wide reputation and, it is claimed, excel any similar devices ever produced. These doors are most simple in construction; operate with ease and speed; as durable as any building; neat and ornamental; readily adapted to new or old buildings; reasonable in cost and so reliably fire-proof that their entire cost is quickly saved in reduced insurance-rates. The goods are especially adaptable for large office-buildings, storerooms, warehouses, freight-houses, round-houses, ocean-piers, elevator-openings, ventilated wardrobes and, in fact, any buildings where an economical, serviceable, compact and fireproof construction is required. Where used, they not only afford absolute protection against fire, but immeasurably decrease the fire insurance rate.

In this connection, it may be stated that the goods are now in use by the Pennsylvania, Illinois Central, New York, New Haven & Hartford Railway, New York Central, Chesapeake & Ohio, C. C. C. & St. Louis, Union Pacific, Denver & Rio Grande, Pittsburgh & Lake Erie, and many other prominent railroad-systems, as well as on hundreds of mercantile buildings. The Company states that the goods have not only found a ready sale in this country, but are extensively used in many of the foreign countries.

In this connection with the devices referred to above, they may be classified as follows:—

"Horizontal and Vertical Steel Rolling-doors," for freight-depots, warehouses, factories, stores, elevator-openings, fire-doors, ventilating-wardrobes, merchandise-cases, book and stationery cases, ocean, lake and river wharves, railroad engine-houses, cotton-compress buildings, asylums, etc.

"Horizontal and Vertical Steel Rolling-partitions," for churches, school-houses, assembly-rooms and other buildings where, at times, temporary division of large rooms into smaller ones is desirable.

"Steel Rolling Window-shutters" are particularly suitable for public buildings, stores, office-buildings and residences. These shutters are very easily operated from the inside of the building without raising the sash, and when open are practically invisible and enhance rather than destroy the architectural features of the building. They are the best known protection against fire.

"Automatic Steel Rolling-shutters and

Doors" are for fire-protection, and are always open, but close instantly in case of fire, either from within the building, or from adjoining buildings. These shutters and doors are instantly and automatically closed by 150° degrees of heat and the action is prompt and sure.

"Ventilated-wardrobes with Steel Rolling-fronts." This system of ventilated-wardrobes, while practically new, is coming into very general use in Eastern public-school buildings, and is the best known sanitary construction ever invented. The installation of this system is not only of great benefit to pupils from a sanitary point, as stated, but greatly decreases the cost of the building.

"Metal Cases with Steel Rolling-doors for Merchandise, Books and Stationery." While these cases are practically new, they will be thoroughly appreciated by the average merchant, as they insure by loss against fire and water delicate and valuable stock and merchandise, thus making a great saving on insurance and guaranteeing protection as well.

It will be seen from the above résumé, that the Company has a large and useful field to cover. The above-described devices are thoroughly covered by domestic and foreign patents, and the Company is the largest of its kind in existence.

Catalogues descriptive of the above goods will be cheerfully sent upon application to the Kinnear Mfg. Co., of Columbus, O.

NOTES.

THE contest between electricity and gas is a real one, but it is very far from being a one-sided one, and the gas-companies and the makers of appliances required by users of gas are very far from being ready to retire from business. Each advance in the electric field is paralleled by a similar advance in the field of gas-engineering, leading to a cheapening or improvement of the illuminant itself or similar changes affecting the apparatus.

Even when each interest has reached the limit of possible development there will still be fields of usefulness and profit which one can cultivate successfully, but not the other. When this limit has been reached—and it is still in the dim distance—it will be found that electricity cannot displace gas as an illuminating-agent in the case of isolated dwellings and small and medium-sized industrial plants, and here the makers of gas, of gas-engines and gas-machines will find a permanent and large field of operation.

The Tirrell Gas Machine Lighting Co., 2-6 Cliff St., New York, realize this fact as well as any one, and they not only are satisfied to "stay in the fight," but are eager to stay, and are bustling around in search of

ALSEN'S

AMERICAN PORTLAND CEMENT

An artificial Portland Cement of the highest character made under the supervision of Chemists and Engineers connected with the Alsen's Cement Works of Hamburg, Germany, superior to all other American Portland Cements, absolutely sound, uniform, and of great strength.

SINCLAIR & BABSON, Gen'l Agents, 45 Broadway, New York

Works at Alsen, N. Y., on Hudson River

new chances to add to the ten thousand gas-machines they have already sold and have in operation in all parts of the country. To this end they have issued a new catalogue which is well worth examination by architects who have country houses to erect in places remote from electric power-houses or large gas-making plants.

MAGNESIA BUILDING LUMBER. (MAGNESIALITH.)

As we are on the subject of fireproofing we cannot do better than draw the attention of our readers to certain novel applications of the useful product manufactured by the Keasbey & Mattison Company.

"Magnesialith," a new article of commerce, is a strictly first-class substantial structural material of rare merit, it being absolutely fireproof, while at the same time it has excellent non-heat conducting qualities, it containing a large percentage of minute air cells, so distributed throughout the lumber as to render the non-heat conductivity to more closely resemble wood than do most substances, while the physical character of the Magnesia Lumber is such as to enable it to be employed for a vast variety of uses, such as window-frames, doors, partitions, sheathing, shingles and weather-boarding to which we naturally turn in the construction of fireproof buildings.

Magnesia Building Lumber is composed of the natural fibres of Magnesium Silicate carefully felted together through the employment of intricate machinery designed for the purpose, and these felted fibres then thoroughly cemented through an artificially created Magnesium Silicate being crystallized within, upon and around the natural fireproof fibres employed in making the felt.

The resulting Magnesia Lumber, as it is called, is not only fireproof when finished, but it is waterproof as well. It absorbs water just as wood does, and, like this material, it remains unchanged when it again becomes dry. It is so fibrous and tough in character that nails can be driven through the lumber close to the edge of the sheets or boards without splitting the same, while it can be tongued and grooved, planed, milled, shaped, molded, or otherwise fashioned to accommodate itself to the necessities of ordinary treatment in the construction of buildings.

Magnesia Lumber thus created is a great discovery, a new article of commerce, and one suitable for the most extensive employment as a preferred "fire stop" in buildings designed to be semi or thoroughly fireproof; for the erection of partitions, roofs, low-cost buildings around railroads; for use in the bulkheads of vessels, and in a vast variety of situations where its high fireproof character will commend itself to all thoughtful architects, constructing-engineers and progressive builders generally.

MAGNESIA FLAWLESS FLOORS.

This material is an improved composition, the result of a large number of experiments and practical experience in the manufacture of an absolutely fireproof floor-covering, and yet one that has the necessary wearing qualities, lightness, and warmth of wood and other flooring-materials usually employed. When properly laid it does not crack, is warm and springy to the tread, is perfectly fireproof, and of most excellent non-heat conducting and insulating qualities, to which its sound-deadening properties are due.

Directions for Laying. Which must be exactly followed. — The flooring-material is supplied in two portions: a liquid in barrels, and a dry powder. To prepare the material for use, equal parts by weight of both liquid and powder are mixed thoroughly with a hoe, and the application proceeds in the same way as the laying of a cement floor. The flooring-boards should first be made wet, and it is recommended that a line of small nails be driven along the edges of the floor, say 6 inches apart, and with the heads projecting $\frac{1}{4}$ inch above the floor. It is best to mix only as much of the cement at a time as will be used within the next two hours.

SHINGLES.

The Magnesia Roofing Shingles are fireproof, waterproof and indestructible.

Size 15" x 15" 100 Shingles will lay 100 square feet finished, laying 12 inches to the weather, with a 3-inch lap.

Size 14" x 16" 160 Shingles will lay 100 square feet finished, laying 6 $\frac{1}{2}$ inches to the weather, with a 3 inch lap.

"ASBESTO-METALLIC."

This roofing, manufactured under the Siebel patent, is as nearly perfection in roofing-material as can be made. It consists of a centre sheet of soft metal, with two sheets of saturated Asbestos papers, one upon either side of it, and is an indestructible roofing, which, notwithstanding its naturally enhanced price, is the cheapest material to use for permanent buildings, as the metal sheet never deteriorates, nor are the saturated Asbestos sheathing-sheets covering the same, subject to decay, as ready-made roofing-felts, other than Asbestos, are.

DIXON AND CHRISTMAS.

WITH Christmas come thoughts of good cheer, happy reviews, a lawful sense of work well done, and the enjoyment of the reward.

The Dixon Company does not close the year 1902 puffed up with undue pride, and is in no mood of self-exaltation, but it is fair to say that we have earned the right to take a Christmas breath and fill our lungs with the air of a reasonable congratulation.

Every man of us has done a year's good work. True, it has been bounded by mental limits, so that all have not done equally well; like the stars, one has exceeded another in glory. But nevertheless, admitting this, the maximum has been well done.

We are a congenial band of workers, and so much so that we will be exceedingly particular now whom we will add to our numbers, for not every one is worthy of a place on the Dixon roster. Tests of mental grip, of tact, of knowledge of the work to be done, traits of character, will be examined closer than ever before. We Dixon folk are proud of our industry and fancy we are in the best business in the world. Every article we make contributes to somebody's well-being, to social and civil uplifting. It is an industry a patriot, a philanthropist might applaud. We touch learning, mechanics and progress on every side. We are proud of our graphite citizenship.

But while all this is obvious and while the past shows with satisfactory review, we have but touched the hem of the garment of the possible. The great future holds for us, if our knowledge is profound enough, if our grip is strong enough, successes of which the past are only the hints. Brooks Adams says, "the manufacturer who is least bound by tradition is the one who, other things being equal, will lead."

In pencil-making we hope the end is not yet, and that the future will seriously improve the past. Crucibles must come that never fail, that take and keep the record. The function of graphite to reduce friction is hardly yet in its infancy, it is just born. The world hardly knows as yet what graphite can do for a paint-pigment — its unrivalled qualities make it dominate. Graphite has a rôle to cut in the electrical world and success yet to score in the annals of American progress; we say American, because the birthplace of the use of graphite is America; in America is the only flake-graphite found, Americans first adapted it, Americans first used it, and, these Christmas times, Americans — emphatically and exclusively the Dixon Company — can say, "We discovered graphite, we adapted it, we made its virtues known, we are up to date its sponsors, its fathers!"

To brace up for further successes is no idle task, for this knowledge must increase, experiments must multiply, our studies must be profound, and our disposition must be energy itself.

To do this is the work of the people inside the walls of the factory and the office, and to our representatives in the field falls the work of making our wares known.

The time has arrived to prepare for a greater task, to achieve a more radical progress; mistakes must cease, improvements must come, difficulties must be welcomed.

The world was born in the East, the finger of the East has always pointed to the West, and the East has said: "There in the West shall the great success be!" We are this West. We live in its midst, on us is its mantle, and no one of us should experience self-satisfaction or feel that he can please God who does not do some one thing preëminently well that helps human welfare.

THE AMERICAN ARCHITECT AND BUILDING NEWS

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART

VOL. LXXVIII.—No. 1406.] SATURDAY, DECEMBER 6, 1902. PRICE, { INTERNATIONAL ISSUE, 50 CTS
{ REGULAR " 15 "

WHITTIER MACHINE CO.,

PASSENGER AND FREIGHT
ELEVATORS.

53 STATE STREET - - - BOSTON.

ELEVATOR SIGNALS

OF ALL KINDS

HERZOG TELESEME CO.

51 WEST 24TH ST., NEW YORK



ARCHITECTURAL INSTRUCTION.

BOSTON, MASS.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

DEPARTMENT OF ARCHITECTURE.

Options in *Architectural Engineering* and *Landscape Architecture*.

College graduates and draughtsmen admitted as special students.

SUMMER COURSES in Elementary Design and Shades and Shadows. Proficiency in these subjects will enable draughtsmen and students from other colleges to enter third year work.

For catalogues and information apply to
H. W. TYLER, Secretary,
Mass. Institute of Technology, Boston, Mass.

CAMBRIDGE, MASS.

HARVARD UNIVERSITY.

THE LAWRENCE SCIENTIFIC SCHOOL offers professional courses leading to the degree of S.B. in Engineering; Mining; Architecture; Landscape Architecture; Chemistry; Geology; Biology, etc. Graduates of colleges may be admitted to advanced standing without examination. For information, address J. L. LOVE, Secretary, 16 University Hall, Cambridge, Mass.

N. S. SHALER, Dean

LOOMIS FILTERS.

ESTABLISHED 1880.

Improved System. Simple and Effective.

LOOMIS-MANNING FILTER CO.,

Main Office: 402 CHESTNUT ST., PHILADELPHIA.
Boston. New York. Baltimore. Washington.

ITHACA, N. Y.

CORNELL UNIVERSITY

COLLEGE OF ARCHITECTURE

Offers a four-year course in Architecture leading to the degree of B. Arch.; also a two-year special course with certificate.

NEW YORK, N. Y.

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.

THE PERKINS ATELIER OF ARCHITECTURE,

Submitting designs to the Society of Beaux Arts Architects, offers special courses in mathematics, drawing and modelling, preparatory for the Ecole des Beaux Arts.

FRANK EDSON PERKINS,
111 Fifth Ave., New York.

ST. LOUIS, MO.

WASHINGTON UNIVERSITY SCHOOL OF ENGINEERING AND ARCHITECTURE

Offers a four-year course in Architecture, leading to a degree of B. S. in Architecture.
College Graduates admitted to advanced standing or as special students.

FREDERICK M. MANN, Professor.

COLUMBUS, OHIO.

OHIO STATE UNIVERSITY COLLEGE OF ENGINEERING

Offers four-year courses in Architecture, Civil, Electrical, Mechanical and Mining Engineering, and in Ceramics. Tuition free. For information address,
President W. O. THOMPSON, Columbus, Ohio.

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.

The WINSLOW BROS. COMPANY,

CHICAGO,

Ornamental Iron and Bronze.

PHILADELPHIA, PA.

UNIVERSITY OF PENNSYLVANIA.
SCHOOL OF ARCHITECTURE.

PROF. WARREN P. LAIRD.

"THE AMERICAN VIGNOLA"

PART I

THE FIVE ORDERS OF ARCHITECTURE

BY

WILLIAM R. WARE

Professor of Architecture, Columbia University
Text and Plates, 86 pp., 9"x12" Price, \$3.00

AMERICAN ARCHITECT AND BUILDING NEWS CO.
PUBLISHERS

BOOKS:

"Ile de France, Picardie."

PART I. I.

A portion of the series of "Archives de la Commission des Monuments Historiques."

25 Plates, folio. Price \$6.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Architectural Masterpieces of Belgium and Holland."

96 Plates, quarto. Price \$10.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Croquis d'Architecture."

(Intime Club.)

XXII Year, complete. Price \$0.70.

A hiatus of ten years occurs between the date of the 21st and 22nd volumes.

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.

If the Steel Skeleton Rusts



The skyscraper will fail. Don't depend on worthless paints mixed with rosin oil and benzine, but case your structural metal work in moisture proof envelope of

DURABLE METAL COATING

For Booklet and information address

EDWARD SMITH & CO.

Varnish Makers and Color Grinders

59 Market St., Chicago, Ill. 45 Broadway, New York City

Ball Bearing Hinges

In Wrought Bronze
and Steel



ALL FINISHES

Our new Catalog can be had for the asking.

The Stanley Works, Dept. C
NEW BRITAIN, CONN.
79 Chambers Street, NEW YORK.

CLINTON WIRE-CLOTH CO.

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.

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.

New Departure in Chemical Fire Extinguishers

THE YANTACAW

Much more powerful and efficient than carbonic acid gas machines.

No periodical examination and recharging.

No poisonous gas generated.

No acid used.

No danger from chemical to person or fabric.

Damage by water reduced to a minimum.

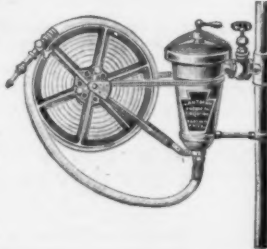
Made in various sizes capable of charging 25, 50, 100 gals. of water or can be arranged to give continuous charged stream.

Sizes, 25 gals., 14 inches in height
100 " 36 " "

Send for descriptive booklet.

YANTACAW MANUFACTURING CO.

802 Land Title Bldg., Philadelphia



LUDLOW SAYLOR WIRE CO. ST. LOUIS, MO.

N. E. Cor. Fourth & Elm Sts.



Elevator Enclosures and Cabs,
Metal Work in Brass,
Wire and Wrought-Iron,
Office and Bank Railings,
Wire and Iron Fences, etc.

WHEN THE NAME

MERCHANT

Is stamped on a sheet of roofing tin it means
the very best of everything is there—

IN THE PLATE

—not in the advertisement.

MERCHANT & CO., Inc.
PHILADELPHIA

New York

Brooklyn

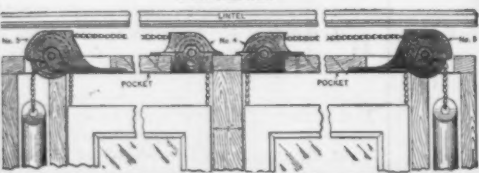
Baltimore

Chicago

Grant Overhead Window Pulley

McQueen's Patents

Specified by the leading Architects of United States and Canada



Grant Roller Bearing Pulley

GRANT PULLEY & HARDWARE CO.

23½ Warren St. NEW YORK

Send for
Catalogue

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Jamesville, Mass.—The National Emery Wheel Co., Waltham, is negotiating for a large plot of land at this place. Plans have been prepared for the erection of a large plant to be used for manufacturing a special grade of emery wheel. Work on the new building, it is said, will be commenced before the first of next month, and the plant will be in operation by spring.

Lebanon, Pa.—Plans for a \$50,000 five-story brick store and apartment-house, to be erected at 817 Cumberland St. for Emanuel Mann, are being prepared by A. A. Riteher, 779 Cumberland St.

Lewiston, Me.—The managers of the Bates Mfg. Co. are to erect a huge cotton storehouse. It will be 165' x 285', while the height is to be four stories. Work on the foundations will be carried on during the winter, and the superstructure will be raised in the early spring. Two million brick will be used in the structure. The architects of the new building are Lockwood, Greene & Co., of Boston.

Lincoln, Neb.—A press report states that the State Board of Agriculture will ask the legislature for an appropriation for a permanent location for the State Fair and for the erection of new buildings. Cost, about \$10,000.

Lynn, Mass.—Mr. John W. Hutchinson is to deed his part of High Rock to the National American Suffrage Association, in memory of his sister, Mrs. Abbie Hutchinson Patten, the well-known singer and poet. In addition to presenting a part of the historic old rock to the Association Mr. Hutchinson proposes to construct a hotel on his property for the accommodation of visiting suffragists and tourists. The building will be located on High St. on the land formerly occupied by the High School lunch room, which Mr. Hutchinson has caused to be moved up near the summit of the rock. The hotel will be a substantial structure, and work on the same will commence early in the spring. In January Mr. Hutchinson will go to Jacksonville, Fla., where he intends to erect a similar hotel for the accommodation of suffragists during the winter months.

Malden, Mass.—During the past year a large number of Hebrew families have removed to this city from Boston and Chelsea, and there are now more than 150 families in the city. They have purchased land on Bryant St., and will build a synagogue early next spring.

Mansfield, Mass.—Report states that this town is to receive another industry in the shape of the Bay State Tap & Die Co., which is to build a factory here. The Taunton Twist Drill Co. within a week declared its intention to move its plant here, and Dollive S. Spaulding says that a Boston screw-making concern is also planning to come here.

McCollin, S. C.—It is reported that South Carolina is to have another large mill, the Marlborough Cotton Mills and the plant will be located here. The capital stock is to be \$1,000,000.

Milwaukee, Wis.—A new school-building is projected for the first ward to cost \$75,000. There is talk of a high school for the north side to cost \$150,000.

H. S. Eldred will erect a four-story business block at 313-15 Broadway; cost, \$40,000.

P. H. Madler has taken out permits for 10 houses. Plans by Messmer & Sons, architects. Cost between \$40,000 and \$50,000.

Ferry & Clas have completed plans for an addition to the public library building.

Minneapolis, Minn.—Leak & Prince are getting out the old buildings and excavating for the Tyson Building on 2d Ave. S. and 4th St. It is understood they will have the building completed by May 1. Cost, \$45,000.

Montpelier, Vt.—The Harrison Granite Co., of Barre, Vt., has the contract to erect a \$25,000 mausoleum for the late Geo. Stephens.

Newark, N. J.—The Central Railroad of New Jersey is to erect here a new passenger station on the site of the present Broad St. terminus of the road. The building will be completed by next Fall.

New Bedford, Mass.—The plans for the handsome new church of St. Anthony's parish of this city have been completed, and the new edifice will be probably the finest church building in this part of the State. It will be imposing in its lines, costing about \$115,000. The exterior will be of alternate white and red granite, roofs of slate, cornices and cross of copper and the entire interior of cement relief work. No wood save the seats will be used in construction, everything being fireproof. The new church will be located at the corner of Acushnet Ave. and Nye St.

Swampscott, Mass.—The Tedesco Club, of Phillips Bench, has bought the Childs farm of 38 acres on the line between Swampscott and Marblehead. An adjacent farm of 25 acres has been leased by the directors for a term of ten years, and other adjacent land, 25 acres is owned by members of the Tedesco Club. It is the purpose of the club to develop this property so that it may provide all the facilities of a modern country club.

TAYLOR OLD STYLE ROOFING TIN

Has just been used on the remodeled White House



THE WHITE HOUSE OR EXECUTIVE MANSION, WASHINGTON, D. C.

YEARS ago this brand of tin was selected over all competitors for use on the same building. TAYLOR OLD STYLE ROOFING TIN has been used on almost all the public and government buildings in the United States.

It is the most durable and satisfactory roof-covering made.

N. & G. TAYLOR CO.
PHILADELPHIA
Sole Makers

CODE OF PRACTICE FOR SUB-ESTIMATING AND SUB- CONTRACTING

Adopted by the Master Builders' Association of the City of
Boston, Aug. 2, 1894.

ARTICLE I.

Obligation of Principal Contractor to Sub- Contractor.

A principal contractor is under obligation to treat upon an equal basis all estimates which he "receives" prior to putting in his own bid. Estimates must be considered as "received" when they come into a principal contractor's possession, either by his direct solicitation or by being accepted by him. The opening of a bid, knowing it to be such, constitutes receipt of the same.

A principal contractor is under no obligation to use a bid which he has not solicited, accepted, or received, but if he does not wish to use the estimate of a sub-bidder he should decline it, if proffered personally, or should return it unopened if sent to him by mail or otherwise. The retention of a bid should be construed as a receipt of the same.

A principal contractor, when making up his estimate, is not entitled to receive bids from sub-contractors if he is at the same time making himself their competitor by figuring their portion of the contemplated work. It is legitimate for a principal contractor to figure all portions of work, depending upon no one for what are usually known as sub-estimates, but it is not legitimate for him to receive bids from others for sub-work if he is himself figuring those portions independently.

ARTICLE II.

Award of Sub-Contracts.

The principal contractor having been awarded a general contract should immediately award the sub-contracts to the lowest bidder in each branch.

ARTICLE III.

Penalty for not Awarding Contract to Lowest Sub-Bidder.

A principal contractor failing to award a sub-contract to the lowest sub-bidder to whom he is under obligation as previously provided should be liable to pay damages to the said lowest bidder, in amount not less than ten per cent of the amount of the estimate.

Payment of such damages will not relieve the principal contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

ARTICLE V.

Payments to Sub-Contractors.

Unless the contracts made with sub-contractors otherwise provide, payments during the progress of the work should be made by the principal contractor to the sub-contractors upon the same basis of payment, in relation to amount of work performed, as is prescribed in the contract made by the principal contractor with the owner.

Final payment to a sub-contractor should be considered as due at the expiration of thirty days after the completion of his work and its approval by the architect or owner, unless otherwise provided by the sub-contract or agreement.

ARTICLE VII.

Obligation of Sub-Contractor to Principal Contractor.

Should a sub-contractor refuse to contract at the amount of the estimate he has given to a principal contractor who has used the said estimate in good faith, he then should be liable to the said principal contractor for damages in amount not less than the difference between the amount of the estimate which was submitted by him and the amount at which the principal contractor may be obliged to contract the work.

Payment of such damages will not relieve the sub-contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

ARTICLE X.

Bids to Architects or Owners.

When bids for separate departments of work on a building are solicited by the architect or the owner, they should be submitted with the understanding that they are direct estimates, for which direct contracts are to be made by the owner with the lowest bidder, and no other disposition of such bids should be permitted without consent of the bidder submitting the same.

Sub-bids should be given only to the principal contractors who are estimating the work in question, and should not be left with architects or owners for the inspection and information of principal contractors. Sub-contractors must understand that bids thus left with architects or owners are in great danger of losing their confidential character, and that if they so leave them they cannot claim protection or redress under the first article of this Code.

SUGGESTIONS.

Members of this Association having sub-contracts to let, or material to buy, should, as far as may be consistent with business principles, deal only with members of the Association, or at all events give their fellow-members an opportunity to compete, and then give them the preference, other things being equal.

All bidders should take cognizance of the danger they may be subjected to through the practice, so prevalent in some architects' offices, of making change in plans or specifications, or in both, during the progress of estimating. Correction of this pernicious practice can only be obtained through refusal by contractors to estimate under such conditions.

A true copy.

Attest: WM. H. SAYWARD,
Secretary, M. B. A.



The Kinnear Stamped Steel Ceiling, Sidewall

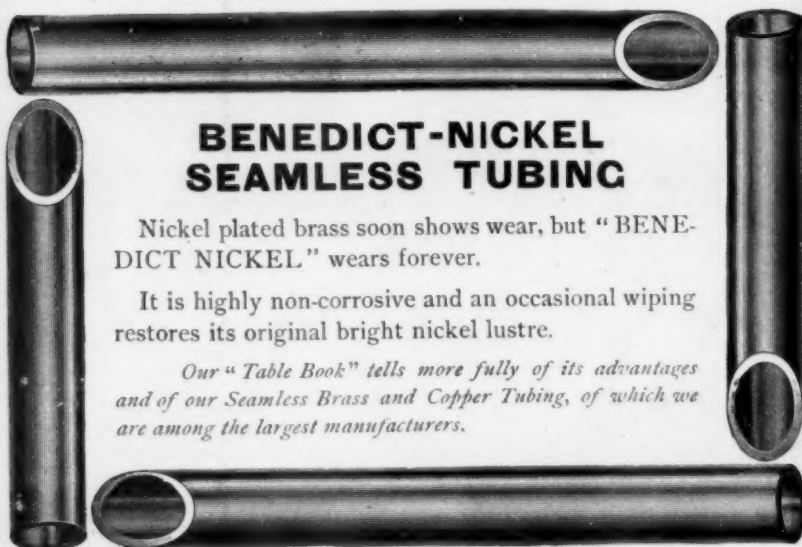
etc., has held its place in the front for years. It has no equal in construction or design.

Catalogue and prices furnished upon request.

The Kinnear & Gager Co.
Manufacturers
(New Plant) 236 Mt. Vernon Ave.
Columbus, Ohio
Eastern Warehouse and Office
No. 125 Broad St., Boston

"WHITE METAL CLEAR THROUGH"

This phrase explains the superiority of



BENEDICT-NICKEL SEAMLESS TUBING

Nickel plated brass soon shows wear, but "BENEDICT NICKEL" wears forever.

It is highly non-corrosive and an occasional wiping restores its original bright nickel lustre.

Our "Table Book" tells more fully of its advantages and of our Seamless Brass and Copper Tubing, of which we are among the largest manufacturers.

BENEDICT & BURNHAM MFG. COMPANY

Factory and Main Offices, WATERBURY, CONN.

NEW YORK, 253 Broadway

BOSTON, 172 High Street

CORRESPONDENCE INSTRUCTION IN PERSPECTIVE DRAWING

Textbook written by Prof. WM. H. LAWRENCE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Every Architectural Draftsman ought to have a theoretical knowledge of Perspective Drawing. No better opportunity for gaining a thorough training in the theory and practical application of this subject by correspondence has ever been given than is now offered by

THE AMERICAN SCHOOL OF CORRESPONDENCE

Courses offered in **Heating, Ventilation and Plumbing** as well as **Electrical and Steam Engineering**; courses especially adapted to Architects' needs. A knowledge of these subjects is necessary to every Architect and Builder engaged in any structural work which includes the installation of Electrical, Power or Heating systems.



Main Building, Armour
Institute of Technology

The ENGINEERING Curriculum Includes Mechanical, Locomotive and Marine Engineering, Navigation, Architecture, Mechanical Drawing, Sheet Metal Work and Textile Manufacturing under the foremost authorities. Also 40 short Special Engineering courses.

INSTRUCTION IN ENGINEERING

UNDER MEMBERS OF FACULTY OF
Armour Institute of Technology

As a help in their studies, students in full Engineering courses are furnished a Technical Reference Library (in ten volumes), in addition to regular instruction papers.

Catalogue sent upon request.

AMERICAN SCHOOL OF CORRESPONDENCE
At Armour Institute of Technology, - CHICAGO, ILL.
Mention American Architect and Building News.

SPECIFY "HASTINGS" RED CEDAR SHINGLES.

DIMENSION		AND	RANDOM WIDTHS.		MADE IN ALL SIZES.
6x18	Are Branded "No. 1 HEART."	18 in. Thick	Butts are Branded.....	"PERFECTION."	
6x20		18 "	Thin "	" " " " " " " " " " " "	"EUREKA."
6x24		16 "	Thick "	" " " " " " " " " " " "	"CLEARS."
7x24		16 "	Thin "	" " " " " " " " " " " "	"WARRANTED CLEAR."

All the above brands are free from knots and sap. If your contractor says he can't get "HASTINGS," write me. Long Timber Furnished, Round or Sawn Square, Limit, 120 Feet.

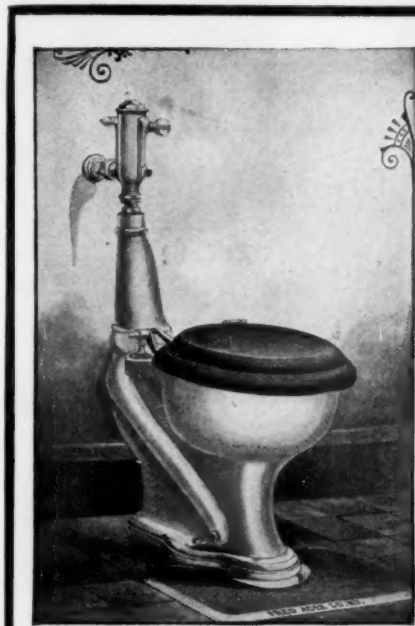
F. R. STEVENS, Sales Agent, 18 Broadway, N.Y., Telephone, 2577 Broad.

BOOKS:

"Norman Monuments of Palermo and Environs."

81 Plates, folio and text. Price \$12.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.



Fred Adee & Co.'s

THE CYGNET
—WITH—
ZENITH VALVE

(Patent Applied for)

THE operation of this Water Closet is such as to **instantaneously remove the contents of the bowl** in advance of the wash from the flush rim, avoiding the agitation or churning process. It draws inward the air contained in the bowl and in the upper limb and forces it into the soil pipe. As shown, it is intended for use where water is supplied from tank in upper part of building, but without the valve may be used with same result from ordinary cistern overhead. It is a new idea and a great improvement which those interested are invited to see. We cannot take it to you, but will be pleased to have you call and examine, and, if you please, criticise it.

FRED ADEE & CO.
90 BEEKMAN STREET NEW YORK

The Heliotype Printing Co.

LITHOGRAPHERS, ETC.

211 Tremont Street
Boston

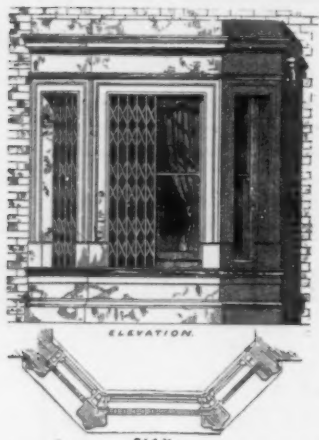
FAC-SIMILE REPRODUCTIONS IN COLOR
OR MONOCHROME A SPECIALTY



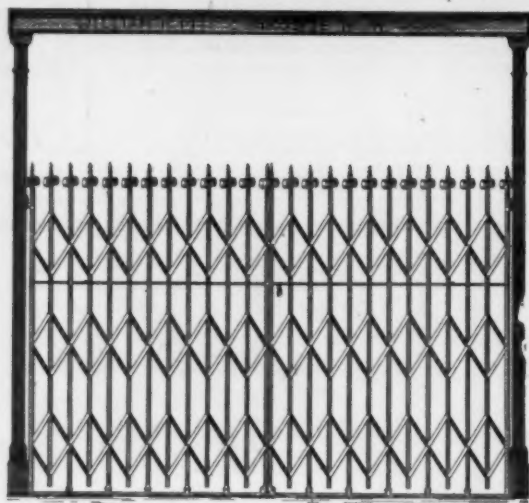
Lithography
Heliotype
Color Printing
Photogravure
Maps, Plans, etc.

**BEST WORK ONLY
PROMPT DELIVERY
REASONABLE PRICES**

WRITE FOR ESTIMATES



No. 1287. PITT-BOSTWICK FOLDING GUARD FOR WINDOWS.

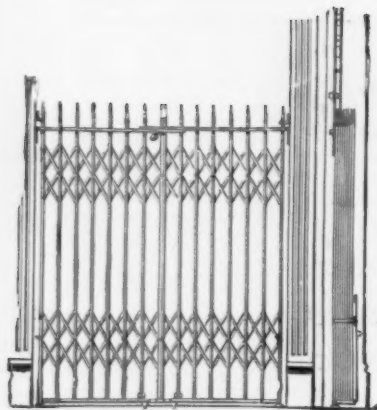


No. 1256. NOVELTY FOLDING GATE FOR STORE ENTRANCE.



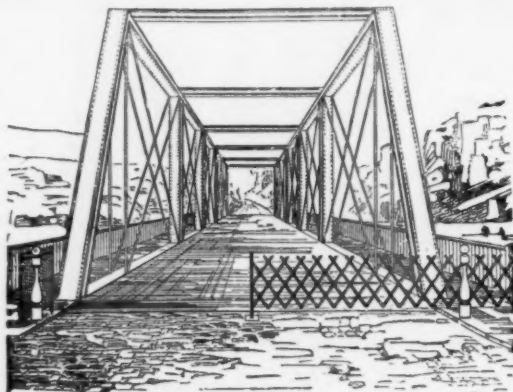
No. 1284. PITT-BOSTWICK FOLDING GUARD FOR VESTIBULES.

THE WM. R. PITT COMPOSITE IRON WORKS,
111 FIFTH AVE., N. Y.

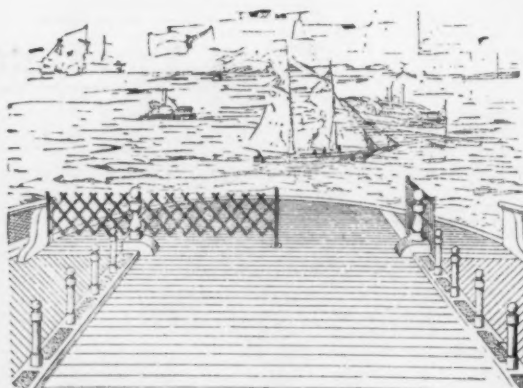


No. 1262. PITT-BOSTWICK FOLDING GATE FOR STORE ENTRANCE.

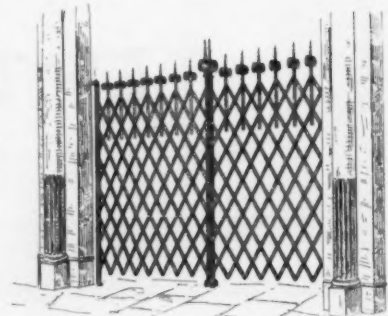
MANUFACTURERS OF THE "PITT," "BOSTWICK," NOVELTY AND COMPOSITE PATENT FOLDING GATES AND GUARDS, IN BRASS, BRONZE, STEEL OR IRON, FOR STORE FRONTS, VESTIBULES, ELEVATOR ENCLOSURES AND CARS, BANK VAULTS, WINDOWS, BRIDGES, FERRYBOATS, CARS, ETC. ALSO ARCHITECTURAL AND ORNAMENTAL IRON, BRASS AND BRONZE WORK FOR BUILDINGS, RAILINGS, DRIVEWAY AND ENTRANCE GATES, WINDOW GRILLES, MARQUEES, BANK AND OFFICE GRILLE WORK, STAIRS, LANTERNS, SPECIAL HARDWARE, AND ALL ARTISTIC WROUGHT WORK. ESTIMATES FURNISHED.



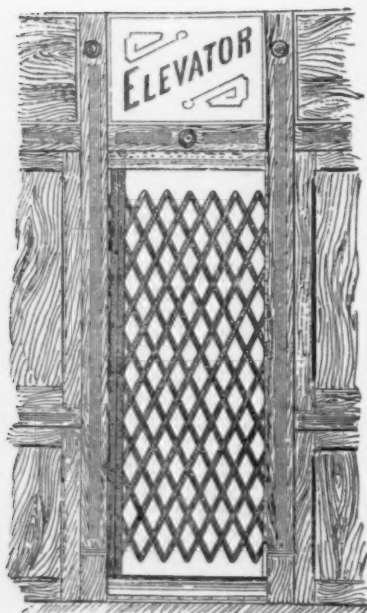
No. 1305. PITT FOLDING GATE FOR BRIDGES.



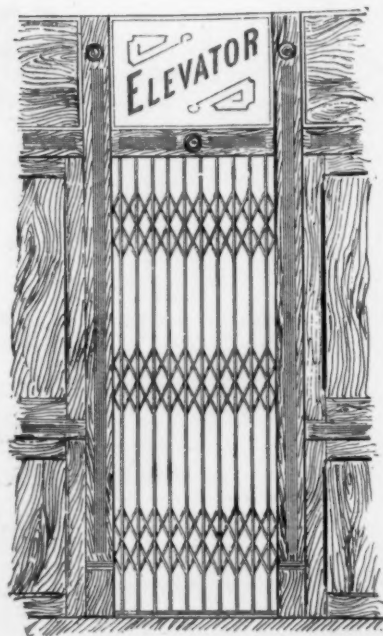
No. 1307. PITT FOLDING GATE FOR FERRYBOATS.



No. 1254. PITT FOLDING GATE FOR STORE ENTRANCE.



No. 1361. PITT FOLDING GATE FOR ELEVATORS.



No. 1300. PITT-BOSTWICK FOLDING GATE FOR ELEVATORS.

STANDARD FOR RUBBER INSULATION.



TRADE MARK.

WILLARD L. CANDEE, Mgrs. GEO. T. MANSON, Gen'l Supt.
H. DURANT CREEVER, W. H. HODGINS, Sec'y.**OKONITE INSULATED ELECTRIC LIGHT WIRES**Are pronounced by leading Architects to be **SAFE, DURABLE** and **EASILY ADJUSTED** for the inside wiring of **PUBLIC and PRIVATE BUILDINGS.****CANDEE WEATHERPROOF WIRES, OKONITE WATERPROOF TAPE, MANSON PROTECTING TAPE.**— **SOLE MANUFACTURERS** —**THE OKONITE CO., LTD., 253 BROADWAY, NEW YORK.**

ESTABLISHED 1868

SKYLIGHTS HAYES METAL LATHING & CO.

71 8TH AVE. NEW YORK.

FIREPROOF WIRE-GLASS WINDOWS.

NEW ENGLAND FELT ROOFING WORKS,

18 Post Office Sq., BOSTON.

Originators of Felt Roofing in New England.

Inventors and only Manufacturers of the Celebrated

"BEEHIVE BRAND."

INCORPORATED 1852.

Capital \$60,000.

LEVI L. WILLOUGHBY, Pres't.

CHAS. C. DAVIS, Treas'r.



80-Page 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.**D**IXON'S DRAWING PENCILS are perfectly uniform and uniformly perfect; eleven degrees of hardness and softness. Ask for booklet 14.**JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N. J.****"MINOR FOUNTAINS,"**

Being No. 3 of a Series of "Architectural Odds and Ends,"

40 GELATINE PRINTS - - \$5.00 PER COPY.

American Architect and Building News Co.

The New WALKER BOILER
for Steam: for WaterTHE first condition of a perfect heating apparatus is a fire-box large enough to burn **SLOWLY** the requisite amount of coal to heat the building, and deep enough to keep fire ten hours, or more, without attention. This boiler has a larger and deeper fire-box than any other.

It is simple in construction; the sections united by malleable-iron copper coated push nipples; and rated so low that you may specify them for their full tabulated capacities with perfect confidence.

The prices are fair; somewhat lower than generally asked for boilers of equal size of fire-box.

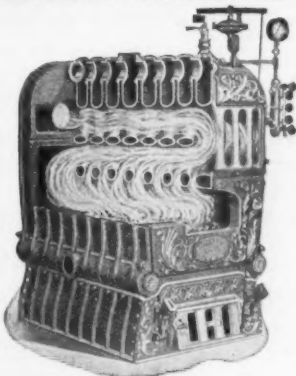
Catalogues on request.

MANUFACTURED BY

WALKER & PRATT MFG. CO.

31-35 Union Street, Boston, Mass.

Finest Factory of its kind in the world.

**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.

TRADE MARK

Everlastins

READY MIXED RED PAINT

Guaranteed the cheapest, most durable and absolutely the best for Buildings, Structures and all work that needs paint.

MEANS & THACHER, 6-8 CUSTOM HOUSE ST., BOSTON

Sole Manufacturers. Sample and prices on request.

[CIRE-PERDUE PROCESS]

BRONZE TABLETS

WOODLAND BRONZE WORKS

GEORGE P. TILTON

NEWBURYPORT MASSACHUSETTS

ARCHITECTURAL
ECCLESIASTICAL
AND STATUARY

DESIGNING, MODEL-
ING, CASTING;
EITHER OR ALL

The Craig

Cleanout and Dead-End Stopper

AN IMPROVEMENT IN DRAINAGE CLEANOUTS

Manufactured by

DAVID CRAIG, 70 BROAD STREET, BOSTON, MASS.

For Sale by all Jobbers. Send for Descriptive Circular "A."

REMEMBER

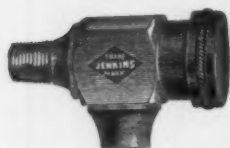
that each part of "The Georgian Period" has been made better than its predecessors.

METAL CEILINGS FOR CHURCHES

Gothic, Romanesque and other styles to harmonize with church architecture.

Write for details.

The Berger Mfg. Co.
CANTON, OHIO

JENKINS IMPROVED AUTOMATIC AIR VALVES

Suitable for high or low pressure. Take no more room than an ordinary air cock. Endorsed by the leading steam experts as the best made and the quickest working. All genuine stamped with our Trade Mark.

JENKINS BROTHERS, New York, Boston, Chicago, Philadelphia

SAMSON SPOT CORD

Send for
Samples



Is free from waste stock and is inspected.
That's why we guarantee it free from flaws.

Samson Cordage Works, Boston, Mass.

WARREN'S TRINIDAD ASPHALT

ROOFING

"ANCHOR BRAND"

PAVING

THE BEST MATERIAL FOR

WARREN CHEMICAL & MFG. CO., 170 Broadway, N. Y.

CRANE VALVES

ESTABLISHED 1855

ELECTRIC HOUSE SERVICE PUMPS

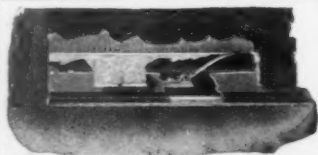
WILLIAM E. QUIMBY

[Incorporated]

141 Broadway, New York

CHICAGO
EDWARD YEOMANS
1141 MONADNOCK BLDG.

NEW ORLEANS
SAFETY ELECTRIC MFG. CO.
303 MAGAZINE ST.

**The Introstile**

Made Entirely of Metal
with a Felt Buffer.

Keeps out draughts, dust, and odors,—deadens noise between rooms and does away with thresholds.

It fits into bottom of door and automatically slides out of sight when door is open.

Write for illustrated booklet.

The Introstile & Novelty Co.
Marietta, Ohio.

"The time has now come when every city should take such action as may be necessary to enact and enforce such building laws as will preclude the erection of any but safe buildings, especially in our large congested business districts.

The only way to avoid fire risks is to studiously avoid the use of combustible materials, for construction as well as for finishing of our buildings; even our office furniture should be of metal."

E. J. Overmire,

In "Insurance Engineering."

INDIVIDUAL offices, at least, may be so equipped as to render them entirely fireproof. Particulars on application.

Art Metal Construction Co.

Jamestown, N. Y.

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 NEUCHÂTEL ASPHALT CO., Limited,
205 BROADWAY - 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.



Boston Office: 48 Congress St., Room 24.

Buckeye Paint & Varnish Co.

PAINT, COLOR

AND

VARNISH MAKERS

Crystal-Rock Finishes

Liquid and Paste Fillers

Varnishes and Japans

TOLEDO, OHIO

BOOKS:

"Cathedral of St. John the Divine."

Designs submitted in the First Competition.

57 Plates, folio. Price \$5.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.



Elevator Enclosure, New York State Capitol
Albany, N. Y.

The W. S. Tyler Company

Cleveland, Ohio

Ornamental Iron
and Bronze

Special Designs Furnished



INTERLOCKING RUBBER TILING

as laid by us in the social hall of the Fall River Line steamer "Priscilla." It takes the place of the mosaic tile formerly used on this boat, and is preferred because, in addition to its other merits, it does not crack or come up. Cleans perfectly, shows no stains, is always bright and fresh, non-slippery, and sanitary in the highest degree. Laid directly on the decks. The only tile for marine use. Call or write.

New York Belting & Packing Co., Ltd.

New York 25 Park Place
Philadelphia 724 Chestnut St.
Chicago 150 Lake St.
St. Louis 411 No. 3d St.
San Francisco 509-511 Market St.
London, Eng. The B. & S. Fohling Gate Co., 19 to 21 Tower St., Upper
Baltimore St. Martin's Lane, W. C. Baltimore Rubber Co. 101 Hopkins Place.

Smith's Shutterless Automatic Closing Fire-Proof Metal ... WINDOWS ...



Our sliding sashes can be made to pivot to permit cleaning from inside of building if desired.

Are the BEST FIRE-PROOF WINDOWS of ANY KIND in the world to-day. They are absolutely FIRE and WEATHER PROOF. They SAVE INSURANCE, REQUIRE NO SHUTTERS, INCREASE and better DIFFUSE LIGHT, cannot be distinguished from the best woodwork, are the ONLY sliding sashes that

CLOSE AND LOCK AUTOMATICALLY

when subjected to a mild degree of heat, and are made in FOURTEEN DIFFERENT STYLES for OFFICE, HOTEL and APARTMENT buildings, FACTORIES, WAREHOUSES, Etc.

WE OPERATE NINE LARGE FACTORIES

Write for Catalogue and information to

SMITH-WARREN CO.
93 Federal St., BOSTON, MASS.

Quick Escape from

..FIRE..

is secured by means of our Patent Self-Locking SCUTTLE OPENER

ALSO

**Patent Sky Light Lift and
Ventilating Sash Locks**

Send for Descriptive Pamphlets

Geo. Bickelhaupt Skylight Works
243 and 245 West 47th St.

Tel. 675-38th. NEW YORK

PERSPECTIVES RENDERED

IN PEN-AND-INK AND WATER-COLOR,

WALTER M. CAMPBELL,
8 Beacon St., Boston, Mass.

HAVE YOU A COPY

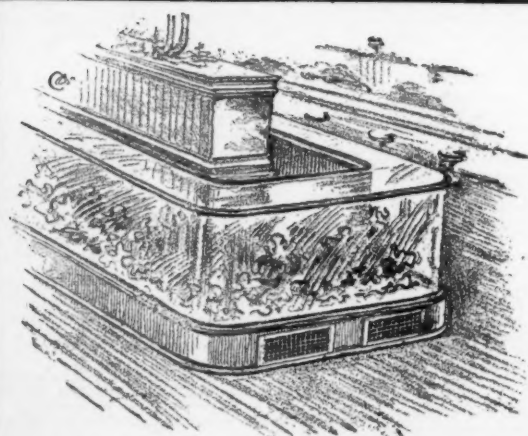
of our New Illustrated Catalogue?
AMERICAN MASON SAFETY TREAD CO., BOSTON

J. W. TAYLOR'S PHOTOGRAPH SERIES
OF AMERICAN ARCHITECTURE

324 Dearborn Street, CHICAGO, ILL.
Send two 5 cent stamps for Catalogue.

E. ELDON DEANE,

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



STORE HEATING AND VENTILATION

is only beginning to receive the attention it deserves. The really progressive merchant already sees the advertising value of a comfortable store and recognizes the mission of pure air as a means of increasing the efficiency of his employees. We employ the fan system, forcing the air under pressure to the desired points and insuring positive ventilation. The heating surface is localized, extended piping systems are avoided and the temperature automatically controlled.

B. F. STURTEVANT CO.
BOSTON, MASS.
NEW YORK • PHILADELPHIA • CHICAGO • LONDON

CALIFORNIA REDWOOD LUMBER

Combines the beauty and finish of the most expensive hardwoods, is cheaper than the same grades of White Pine and will last for generations. 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.

We keep in stock one inch and thicker for immediate delivery. Write us for descriptive booklet.

BARTLETT LUMBER COMPANY

Telephone, Main 1911

Room 409, Exchange Bldg., State St., BOSTON, MASS.

ROCKLAND-ROCKPORT LIME COMPANY

Plants Located at Rockland, Rockport and Thomaston, Maine

Manufacturers of the best grade of "State of Maine Lime."

Rail shipments made direct from works to any point desired

Prompt shipments also made in cargo lots to any port on the Atlantic coast

This Company owns and has in commission six steel barges and an ocean going steel tug, by means of which the New York Market is promptly supplied with fresh lime at all times

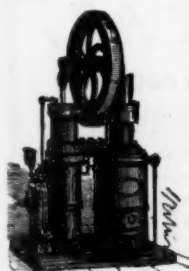
MAIN OFFICE

ROCKLAND, MAINE

New York Office

Greenpoint Avenue and Newtowne Creek, Brooklyn, N. Y.

Orders for both rail and water shipment will receive prompt and careful attention



HALF ENOUGH WATER

is quite enough for some people, but most people want water every day. If

Rider or Ericsson Hot-Air Pumps

are used you can have water every day in the year, and your cook or stable-boy is the only engineer needed. 25,000 in daily use.

Catalogue "B" on application to nearest store.

RIDER-ERICSSON ENGINE CO.



35 Warren St., New York.
239 Franklin St., Boston.
692 Craig St., Montreal, P. Q.

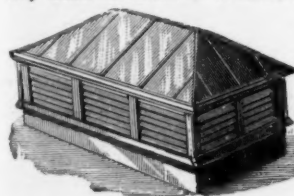
40 Dearborn St., Chicago.
40 N. 7th St., Philadelphia.
Teniente Rey 71, Havana.

22a Pitt St., Sydney, N. S. W.

The Lovell Window AND Shutter Device

FOR FACTORIES, MILLS, FOUNDRIES, ETC.

THE BEST APPARATUS ON THE MARKET FOR OPENING AND CLOSING MONITOR SASHES. A LINE OF SASH 500 FEET LONG CAN BE OPERATED FROM ONE STATION IF DESIRED. Adapted to any kind of SASH or WINDOW.



Send for descriptive

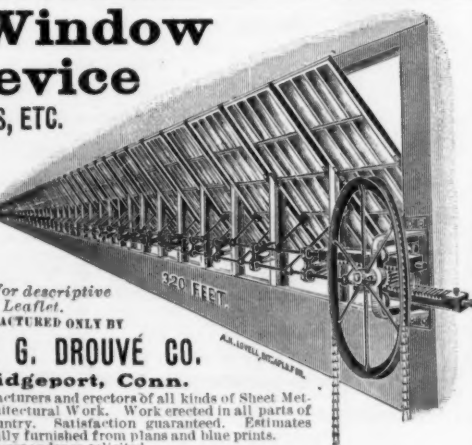
Leaflet.

MANUFACTURED ONLY BY

THE G. DROUVE CO.

Bridgeport, Conn.

Manufacturers and erectors of all kinds of Sheet Metal Architectural Work. Work erected in all parts of the country. Satisfaction guaranteed. Estimates cheerfully furnished from plans and blue prints. Correspondence solicited.



Wheeler's Patent Wood Filler

Brings out the full life and beauty of the wood. Permanently sustains the finish. Everywhere recognized as the standard. Specified by all the leading architects, and used by the most prominent furniture manufacturers.

THE BRIDGEPORT WOOD FINISHING CO.

NEW MILFORD, CONN.

55 FULTON ST., NEW YORK; 70 W. LAKE ST., CHICAGO; 231 DOCK ST., PHILADELPHIA

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

40' x 151', and will be semireproof in construction. Cost, \$40,000.

Plans have been prepared by Shepley, Rutan & Coolidge, Old Colony Building, for the new building to be erected in connection with the University of Chicago to be occupied by the School of Law. It will be four stories high, constructed of stone with tile roof.

Cincinnati, O. — A new \$150,000 brewery building will be built by the Independent Brewing Co., now being organized. Address John D. Dewitt, attorney.

Davenport, Ia. — The American Can Co. will erect a large addition to its plant, to cost \$75,000.

Dayton, O. — The Masonic building committee has accepted the plans prepared by F. M. Andrews, 919 Reibold Building, for a \$200,000 ten-story temple, to be erected in Ludlow St.

Des Moines, Ia. — Fleming Bros. have purchased a tract of land on W. Grand Ave., upon which they will erect three modern residences next year, the houses to cost about \$12,000 each.

Elizabeth, N. J. — The wife of Bishop Potter is building here a guild-house for Grace Episcopal Church at a cost of \$65,000.

Fort Dodge, Ia. — The Chicago Great Western Ry. contemplates the erection of a modern hotel to cost \$100,000.

The Barber Asphalt Co. will erect an asphalt plant here to cost \$50,000.

Franklin, Mass. — Frederick A. Newell, of Attleboro, has given to the Grand Army Post a handsome soldiers' monument in honor of the men of the town who served Massachusetts and the country during the War of 1861-1865. Mr. Newell has always taken a deep interest in his native town, and the presentation of this noble tribute in memory of the soldiers of this town is but one of his many acts of benevolence. The base of the monument will be seven feet square, and it will be 20 feet high, surmounted by a granite figure of a soldier at parade rest. The monument will have an ideal location on a slight rise of ground in the centre of the common, and will be dedicated with fitting ceremonies next Memorial Day.

Hot Springs, S. D. — Thomas R. Kimball, of Omaha, has made plans for the new national sanitarium for soldiers to be erected here. The buildings will be of Spanish design. There will be from twenty to twenty-five buildings costing from \$25,000 to \$100,000 each.

Indianapolis, Ind. — Plans are being prepared by Dupont & Johnson, 1112 Stevenson Building, for a block of factory buildings, 89' x 150', of mill construction and having gravel roof.

(Continued on page 11.)

COMPETITIONS.

MEMORIAL BUILDING. [At Washington, D. C.] The National Society of the Daughters of the American Revolution are proposing to erect a Memorial Building in the city of Washington, on land belonging to them. For this they desire to obtain a design by means, in the first place, of an unpaid competition, open to all architects who are recommended by members of the Society. In this competition only sketches will be required. These will be drawn in line only, and will be to the scale of sixteen feet to

¹This is a reduction of scale from that stated in former advertisement.

EASTLAKE METAL SHINGLES
For ROOFING use Our METAL SHINGLES and TILES, the best covering in the world for House or Barn. Catalogue, Prices and Testimonials free for the asking.
MONTESS METAL SHINGLE CO.,
CAMDEN, N. J.
VICTOR TILES



Architectural Sheet Metal
Ornamental Work
Cornices, Skylights
Tile Roofing
Statuary
Send for illustrated catalogue.
Architects' special designs accurately produced in sheet metal.
Write for our prices.
W. H. MULLINS
107 Depot St.
SALEM, - OHIO

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.

Metal Skylights

If you are "face to face" with the Skylight question, you would find our fully illustrated Catalogue a great enlightener. We bring to the building of Metal Skylights many years of experience, and our constructive methods entirely overcome all of those undesirable features so constantly connected with ordinary Skylights. Shall we mail it?

VAN NOORDEN COMPANY
944 Massachusetts Avenue
BOSTON, MASS.

COMPETITIONS.

the inch. This will be followed by a second competition among the authors of the three best designs so submitted, each of whom will be paid \$500. The Committee have invited Prof. William R. Ware, of New York, and Gen. John M. Wilson and Mr. Bernard R. Green, of Washington, to aid them in judging the designs submitted. Further particulars may be obtained by addressing MRS. WILLIAM LINDSAY, Chairman of the Committee on Architecture, D. A. R., 205 West 57th St., New York, N. Y., but they will be sent only to architects introduced by members of the Society. Designs from other persons will not be considered. 1406

Y. M. C. A. HALL.

[At Akron, O.]
The Bd. of Directors of the Y. M. C. A. will receive until December 20 competitive bids for the contract to prepare plans for the Y. M. C. A. Hall, to cost not more than \$75,000. 1407

100 Broadway,
New York, Nov. 22, 1902

Notice

We are now in a position to make prompt deliveries on
Light Structural Work for Buildings, Roof Trusses, Etc.

Correspondence invited.

American Bridge Co.
OF NEW YORK

LILLIBRIDGE, N. Y., 21-1042

EXPANDED METAL
For Fireproofing and Concrete Construction
ASSOCIATED EXPANDED METAL COMPANIES Room 1209, 256 Broadway
NEW YORK

S. WILKS MFG. CO.
MANUFACTURERS OF
Wilks Hot Water Heaters
Steam Generators, Steel Tanks, Etc.
For Supplying with Hot Water Hotels, Dwellings, Greenhouses, Laundries, Churches and Baptisteries, Bath Houses, Carriage Houses, Etc.
ECONOMICAL & SAFE & DURABLE
For all purposes for which Hot Water and Steam are required.
53-5 S. Clinton Street, CHICAGO, ILL.

Don't Forget

EXPANDED METAL
Lockers & Wardrobe
of Metal in your specifications.
MERRITT & CO.
1011 Ridge Ave., Philadelphia.

PROPOSALS.

LIBRARY. [At Fond du Lac, Wis.]
Bids are wanted December 16 for constructing a public library, also for heating, plumbing, electric wiring and sewerage work in connection therewith. Address J. W. WATSON, sec'y. 1406

HEATING PLANT. [At Fort Columbus, N. Y.]
Bids are wanted December 16 for installing steam heating plant and making repairs in Castle William. Address S. R. JONES, Q. M. 1406

SEWER. [At Quincy, Mass.]
Sealed proposals will be received at the office of the Metropolitan Water and Sewerage Board, 1 Ashburton Pl., Boston, Mass., until December 15, 1902, for building Section 48 of the high-level sewer in Quincy, in accordance with the form of contract and specifications to be furnished by the Board. Some particulars are estimated to be as follows: Length, 5,880 feet; average cut in embankment, 12 feet; inside diameter of sewer, 135" x 150". The section will also involve the furnishing and driving of 100,000 linear feet of spruce piles. Plans can be seen and specifications and form of contract can be obtained at the above office or at the office of the Engineer of Sewerage Works, Pemberton Building, Boston, Mass. HENRY H. SPRAGUE, HENRY P. WALCOTT and JAMES A. BAILEY, JR., Metropolitan Water and Sewerage Board. WILLIAM M. BROWN, Engineer. PORT, Secretary. 1406

PROPOSALS.
Bids are wanted December 16 at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., for furnishing at the Mare Island Navy Yard a quantity of pipe and pipe specials, valves, hydrants, etc.; also refrigerating plant for training station. A. S. KENNY, Paymaster Gen., U. S. N. 1406

PIPE SPECIALS, ETC. [At San Francisco, Cal.]
Bids are wanted December 16 at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., for furnishing at the Mare Island Navy Yard a quantity of pipe and pipe specials, valves, hydrants, etc.; also refrigerating plant for training station. A. S. KENNY, Paymaster Gen., U. S. N. 1406

ENGINES, BOILERS, ETC. [At Philadelphia, Pa.]
Bids are wanted December 20 for furnishing engines, generators, boilers, etc., for a complete electrical power plant for the Frankford Arsenal. M. J. FRANK HEATH. 1406

BUILDING. [At Fort Getty, S. C.]
Sealed proposals will be received here until December 23, 1902, for constructing garbage crematory and shed therefor at this post. Information furnished on application. DAVID PRICE, Q. M. 1407

PUBLIC BUILDINGS. [At New Bedford, Mass.]
Office Constructing Quartermaster, 209 Thames St., Newport, R. I., November 22, 1902. Sealed proposals will be received until December 23, 1902, for constructing, plumbing, heating and wiring guard-house; constructing, plumbing and wiring double set N. C. O. (Continued on page xlii.)



Notable Persian Rugs

Our collection of Persian Rugs and Carpets — which of all Oriental Rugs are the best, is composed of pieces selected for their individual merit by our representative in Persia.

The high quality of material, superior weaves and variety of color schemes, designs and sizes, make our stock unique in this market. We can comply with the most exacting demands.

Our dealings being only with the trade and profession, Architects and Decorators will find special facilities. Their clients will receive every courtesy, when introduced by letter or in person.

The furnishing throughout of Hotels, Business Offices and Apartment Houses is a feature to which we ask special attention.

KENT-COSTIKYAN

MAKERS AND IMPORTERS

Fine Persian Rugs and Carpets

WHOLESALE

890 Broadway, Cor. 19th St., New York

Telephone 2069 18th Street

REVOLVING DOORS

Keep Out all Snow, Wind, Rain and Dust. Cannot be Left Open, Blown Open or Slammed. Are Always Closed, yet Allowing Passage of Persons.

USED IN OFFICE AND PUBLIC BUILDINGS, BANKS, HOTELS, CHURCHES, THEATRES, CAFES, CLUBS, LIBRARIES, MILLS, FACTORIES, ETC.

SEND FOR CATALOGUE

Dept.
J.

VAN KANNEL REVOLVING DOOR CO.

Home Office and Factory: 524 East 134th Street, NEW YORK

Chamber of Commerce Bldg., CHICAGO.

North American Bldg., PHILADELPHIA.

40 Sheriff St., CLEVELAND.

Paddock Bldg., BOSTON.

Telephone Call, 1481 John

HENRY S. NORTHROP, Manufacturer of

Special attention to deep panels,
curved work, etc., to archi-
tect's designs.

.. Stamped Steel Ceilings

40 Cherry St., New York

Also Room 74, EQUITABLE BUILDING, BOSTON.



Main Stair, Administration Building, Yale University,
New Haven, Conn.

**RICHEY,
BROWNE
& DONALD**

**Architectural Iron
Brass and Bronze**

Borden and Review Aves.
LONG ISLAND CITY
Greater New York, N. Y.

PROPOSALS.

quarters and bakehouse, and constructing wagon-shed and fire-apparatus building, all frame, Fort Rodman, New Bedford, Mass. Information furnished on application. CAPT. THOMAS H. SLAVENS, Q. M. 1407

BUILDING.

[At Baton Rouge, La.] Bids are wanted December 20 for erecting the physical laboratory on the grounds of the Louisiana State University. Farrot & Livandais, architects, Abraham Building, New Orleans. COL. THOS. D. BOYD, pres. 1407

GARBAGE CREMATORY.

[At Fort Brady, Mich.] Bids will be received at the office of the chief quartermaster, Chicago, Ill., until December 26, for the construction of a garbage crematory and shed for same. COLONEL E. B. ATWOOD, chief quartermaster. 1407

SEWER.

[At Fort McKinley, Me.] Office of Constructing Quartermaster, 185 Middle St., Portland, Me. Sealed proposals for constructing a sewer system, with all manholes, outlets, flushing tanks, etc., at Fort McKinley, Great Diamond Island, Me., will be received at this office until December 27, 1902. Information, specifications, plans and blanks on application. CAPT. A. W. YATES, quartermaster, U. S. A. 1407

LIBRARY.

[At Milwaukee, Wis.] The Pub. Library Bd. will receive bids December 20 for the construction of the Carnegie Library. 1407

SCHOOL.

[At Albany, N. Y.] Bids will be received December 24 by the Bd. of Contract and Supply for furnishing material and erecting School No. 9, including heating, plumbing, drainage work, etc. Wm. J. Obenans, city architect, 86 State St. ISIDORE WACHSMAN, Clk. of Bd. 1407

Treasury Department, Office of the Supervising Architect, Washington, D. C., November 29, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 15th day of January, 1903, and then

The only Fixture that Perfectly Meets Every Requirement of Window Lighting



Patented April 20, 1897; Feb. 21, 1899.

HIGHEST AWARDS EVERYWHERE

Frink's Special Patent Window Reflector

Any progressive merchant knows that GOOD STOCK NEEDS GOOD LIGHTING. The better the window display, the greater the necessity for perfectly lighting it. Frink's Patent Special Window Reflector is THE perfect fixture. It has been installed in leading stores throughout the United States. Let us send you a careful estimate on your next job of store lighting, not only on window reflectors, but on our unequalled cluster reflectors for lighting the interior, and we will send you a partial list of large mercantile houses to which your customer can refer if he is in doubt about our goods.

REFLECTORS FOR ALL PURPOSES

I. P. FRINK, 551 Pearl Street, NEW YORK

PROPOSALS.

opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Post office at Norfolk, Nebraska, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Norfolk, Nebraska, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1407

POWER PLANT.

[At Philadelphia, Pa.] Franklin Arsenal, Philadelphia, Pa. Sealed proposals will be received until December 20, 1902, for furnishing engines, generators, boilers, etc., for a complete electrical power plant for this arsenal. Information on application to MAJOR FRANK HEATH, commanding. 1407

OFFICERS' QUARTERS.

[At Sheridan, Wyo.] Bids are wanted December 20 for constructing, plumbing, heating, gas-piping and electric wiring one field officer's quarters, one double set captain's quarters, 2 double sets lieutenant's quarters, one double barrack and one bakery, all brick. CAPT. THOS. SWOBE, Constructing Q. M. 1407

LIBRARY.

[At Port Huron, Mich.] Bids will be received December 27 by the Sec'y of the Port Huron Library Comm., for erecting a stone library. G. L. HARVEY, architect, Port Huron. 1408

BRIDGE.

[At Georgetown, Col.] Bids are wanted December 30 for a steel bridge across Clear Creek. H. O. WALKER, co. clk. 1408

ROAD WORK.

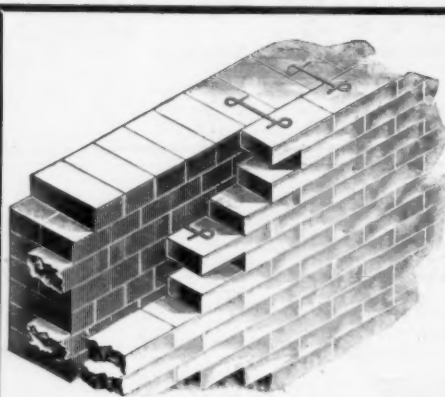
[At Winthrop, Mass.] Fort Banks, Winthrop, Mass. Sealed proposals for constructing granolithic walks and macadam roads at this post, will be received here until December 29, 1902. Information furnished on application. LIEUT. H. B. GRANT, Q. M. 1408

CONCRETE WORK.

[At Milwaukee, Wis.] U. S. Engineer Office, Milwaukee, Wis., November 17, 1902. Sealed proposals for construction of concrete superstructure on breakwater and on North Harbor Pier, at Milwaukee, Wis., will be received at this office until 12 noon, December 18, 1902. Specifications, blank forms, and all available information will be furnished on application to this office. J. G. WARREN, maj., engrs. 1406

STEEL WORK.

[At Portsmouth, N. H.] Sealed proposals, endorsed "Proposals for Steel-



A Pressed Brick Facing Bonded with Morse Ties.

Bonding with STEEL

The Morse Patent Ties and Bonds are approved by 1,000 leading architects and have been used in every city in the U. S.

Adapted to all situations of brick and stone construction and much cheaper than other methods.

Send now for large catalog.

J. B. PRESCOTT & SON
Webster, Mass.

PROPOSALS.

work and Skylights," will be received at the Bureau of Yards and Docks, Navy Department, Washington, until 1 o'clock, December 27, 1902, for furnishing and erecting certain steelwork and skylights in building No. 45, navy yard, Portsmouth, N. H. Estimated cost, \$9,600. Plan and specifications can be seen at the bureau or will be furnished by the commandant of the navy yard named. MORDECAI T. ENDICOTT, chief of bureau. 1406

CONSTRUCTION.

[At Fort Hancock, N. J.] Quartermaster's Office, Fort Hancock, N. J., November 17, 1902. Sealed proposals, in triplicate, will be received here until 2 P. M., December 16, 1902, for the construction, heating, plumbing and electric wiring of an annex to hospital, and construction, plumbing and electric wiring of a dead house at Fort Hancock, N. J. Plans, specifications, bidding blanks, etc., will be forwarded on application. JOHN M. DUNN, 1st lieut., art. corps, U. S. Army, quartermaster. 1406

WHARF EXTENSION.

[At Egmont Key Light Station.] Sealed proposals will be received until 12 o'clock M., December 17, 1902, for furnishing labor and materials for repairing and extending depot wharf at Egmont Key Light Station, Fla., in accordance with

PROPOSALS.

specifications, copies of which, with blank proposals and other information, may be had upon application to LIEUT. COL. A. N. DAMRELL, U. S. Army, light house engineer, Mobile, Ala. 1406

ALMSHOUSE.

[At Scranton, Pa.] Sealed proposals will be received at the office of the secretary of the Scranton poor district, until December 19, 1902, for the erection and completion of a group of buildings for the almshouse, to be erected at Hillside Home, near Clark's Summit, Pa., in accordance with plans and specifications in the hands of Edward H. Davis, architect, Connell Building, Scranton, Pa. By order of the board of directors of the Scranton poor district. R. G. BROOKS, president. Attest: C. J. Gillespie, secretary. 1406

SEARCH LIGHT TOWER.

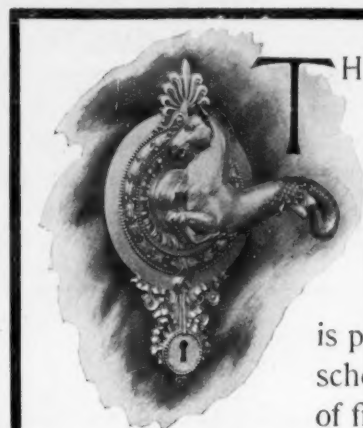
[At New York, N. Y.] Sealed proposals, endorsed "Proposals for Search Light Tower," will be received at the Bureau of Yards and Docks, Navy Department, Washington, until 1 o'clock, December 20, 1902, for constructing a steel search light tower on building No. 23, navy yard, New York. Plan and specifications can be seen at the bureau, or will be furnished by the commandant of the navy yard named. MORDECAI T. ENDICOTT, chief of bureau. 1406

MINERAL WOOL

FIRE, SOUND and VERMIN PROOF INSULATOR.

Samples and Circulars Free.

**U. S. Mineral Wool Co., 143 Liberty Street,
NEW YORK.**



THE
**Hardware of
Ornament**
(comprising decorative
metal work for doors,
windows and cabinets)
is produced in practically all
schools, and a great variety
of finishes, by the

Yale & Towne Mfg. Co.

General Offices: 9-11-13 Murray St., New York.

The collection of designs and patterns of this
class is by far the largest in the world and is of
the highest technical excellence.

"Artist and Artisan" is the title of an attractive Brochure
dealing with the origin of the Hardware of Ornament and its
present development and uses. It will be sent on request.

An Exhibit Room for the convenience of
Architects and their Clients is provided at the
above address.

NATIONAL FIRE-PROOFING CO.

PITTSBURGH

PHILADELPHIA

NEW YORK

BOSTON

CHICAGO

NEW ENGLAND MATERIAL-MEN AND CONTRACTORS.

BLUE PRINTING.

B. L. MAKEPEACE,
345 Washington St., Boston, Mass.
CHAS. E. MOSS,
Rapid Printing Papers,
38 Broad St., Boston.

CONTRACTOR & BUILDERS.

WILLIAM L. RUTAN,
1016 Tremont Bldg., Boston.

DOORS, WINDOWS, ETC.

E. A. CARLISLE, POPE & CO.,
2 Sudbury St., Boston, Mass.

FIRE-ESCAPES.

STANDARD FIRE-ESCAPE & MFG.
CO.,
120 Milk St., Boston, Mass.

PLASTERERS.

GALLAGHER & MUNRO,
166 Devonshire St., Boston, Mass.

PORTABLE OVENS.

H. A. JOHNSON & CO.,
224 State St., Boston, Mass.

ROOFING DUCK.

C. H. BATCHELDER & CO.,
234 State St.,
Cor. India St., Boston, Mass.

SASH CORD.

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

SEAM-FACE GRANITE.

GILBRETH SEAM-FACE GRANITE
CO.,
Park Row Building, New York
85 Water St., Boston.

STABLE FIXTURES.

BROAD GAUGE IRON STALL &
VANE WORKS,
33 Elm St., Boston, Mass.

STONE CARVING AND MOD- ELLING.

HUGH CAIRNS,
48A Sudbury Street, Boston.

WATERPROOF CELLARS.

FRANK B. GILBRETH,
Park Row Bldg., New York.
176 Federal St., Boston.

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 draw-
ings 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 altera-
tions of a building designed by another archi-
tect, 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, with-
out 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 criticise 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 de-
signs 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 draw-
ings 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 Archi-
tects' "schedule of charges" represents mini-
mum 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 for
amount of commission, or offer to work for
less than another, in order to secure the work.

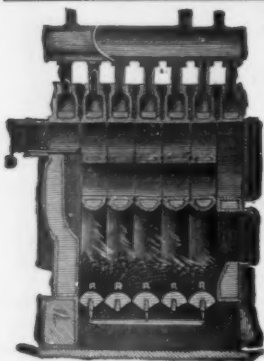
SECTION 14. It is unprofessional to enter into
competition with or to consult with an archi-
tect who has been dishonorably expelled from
the "Institute" or "Society."

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 profes-
sional education and render all possible help
to juniors, draughtsmen and students.

BRONZE

JNO. WILLIAMS
BRONZE FOUNDRY AND WORKS
WROUGHT IRON WORKS
544 to 556 WEST 27th STREET, NEW YORK

WROUGHT IRON**THE H. B. SMITH CO.**

133-135 ...
Centre Street,
New York.

MANUFACTURERS.

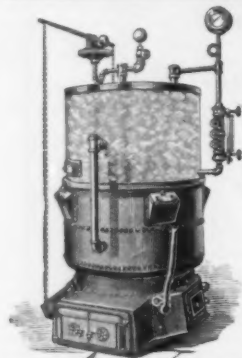
Steam and Water

Heating Apparatus,

Factory: Westfield, Mass.

ESTABLISHED 1859.

Send for Catalogue.

NEW YORK, PROVIDENCE,
PHILADELPHIA.**THE Gorton Side-Feed Boilers**

Insure a warm building day and night
in coldest weather.

Our Book, MODERN HOUSE HEATING, gives the information.
Mailed free.

Send for a copy, and investigate for yourself.

GORTON & LIDGERWOOD COMPANY

96 Liberty Street NEW YORK 77 Oliver Street BOSTON Old Colony Building CHICAGO

**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.

Our No. 3 REVIVER is a superior finish for KITCHEN and
PIAZZA FLOORS.

THE FRENCH GOVERNMENT

Has just issued stringent regulations to prevent poisoning by the use of
white lead.

ZINC WHITE

Is the best preventive of lead poisoning; much zinc, little poison; all
zinc, no poison.

FREE: Our Practical Pamphlets

- "The Paint Question."
- "Paints in Architecture."
- "Specifications for Architects."
- "House Paints: A Common Sense
Talk About Them."
- "French Government Decrees."

The New Jersey Zinc Co.

11 Broadway

New York

[See Alphabetical Index on Cover 2 for Pagination.]

CLASSIFIED ADVERTISEMENTS.

[Advertisers can be indexed only under a single head free of charge.]

ARCHITECTURAL METALWORK.

Mullins, W. H., Salem, O.....

ART METALWORK.

Art Metal Construction Co., James-
town, N. Y.....
Ludlow Saylor Wire Co., St. Louis,
Mo.....(mon)

ARCHITECT'L ORNAMENTATION.

Lombard & Co., A. P., Boston

ASPHALT.

Neuchatel Asphalt Co., New York...

ASPHALT ROOFING.

Warren Chemical & Mfg. Co., N. Y.

BLUE PRINTS.

Makepeace, B. L., Boston.....
Moss, Chas. E., Boston.....
Spaulding Print Paper Co., Boston
.....(eow)

BOILER (Steam and Hot-Water).

Walker & Pratt Mfg. Co., Boston...

BOILERS (Side-Feed).

Gorton & Lidgerwood Co., New York.

BRICKS (Red Oxide).

Wisconsin Graphite Co., Pittsb'g, Pa.

BRONZE TABLETS.

Tilton George P., Newburyport, Mass.

BUSINESS FOR SALE.

Ostrander, W. M., Philadelphia, Pa..

CAPITALS.

Lombard & Co., A. P., Boston.....

CAPITALS (Carved).

O. T. Nelson Co., The, Columbus, Ohio

CARVING.

Lombard & Co., A. P., Boston.....

Waddell Mfg. Co., Grand Rapids, Mich.

CEMENT.

Alsen's Cement Works, N. Y....(eow)

Atlas Cement Co., New York.....

CLEAN-OUT.

Craig, David, Boston.....

COMPOSITION ORNAMENT.

Lombard & Co., A. P., Boston.....

CONSERVATORIES.

Lord & Burnham Co., Irvington-on-

Hudson, N. Y.....

CONTRACTING.

Flynt Building & Construction Co.,

Palmer, Mass.....

Rutan, William L., Boston.....

CONTRACTOR AND BUILDER.

Rutan, William L., Boston.....

CORDAGE.

Samson Cordage Works, Boston....(eow)

CUTLER PAT. MAILING SYSTEM.

Cutler Mfg. Co., Rochester, N. Y....

DOORS (Steel Rolling).

Kinnear Mfg. Co., The, Columbus, O.

DOORS, WINDOWS, ETC.

Carlisle, Pope & Co., E. A., Boston...

DRAUGHTSMAN.

E. Eldon Deane, New York.....

ELECTRIC SIGNALS.

Elevator Supply & Repair Co., New

York.....

ELEVATORS, ETC.

Morse, Williams & Co., Philadelphia.

Whittier Machine Co., Boston.....

ELEVATOR SIGNALS.

Herzog Telesome Co., New York....

ENGINES (Hot-Air).

Rider-Erierson Engine Co., New York.

EXPANDED METAL LOCKERS.

Merritt & Co., Philadelphia, Pa.....

FAN SYSTEM.

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

FILING DEVICES.

Art Metal Construction Co., James-

town, N. Y.....

FILTER.

Loomis-Manning Filter Co., Phila., Pa.

FIRE EXTINGUISHER.

Yantacaw Mfg. Co., Philadelphia, Pa.

FIREPROOFING.

Associated Expanded Metal Co., New

York.....

National Fireproofing Co., Pittsburg,

Pa.....

FIRE-ESCAPES.

Standard Fire escape & Mfg. Co., Bos-

ton.....

FIREPROOF LATHING.

Hayes, Geo., New York.....

FIREPROOF SHUTTERS.

Kinnear Mfg. Co., The, Columbus, O.

FLOOR POLISH.

Butcher Polish Co., Boston.....

GALVANIZED IRON.

American Sheet Steel Co., New York.

GATES.

Wm. R. Pitt, New York.....(mon)

GRATES, ETC.

Wm. H. Jackson & Co., New York...

GREASE (Graphite).

Wisconsin Graphite Co., Pittsb'g, Pa.

THE Northwestern Terra-Cotta Co.

Manufacturers of

Architectural Terra-Cotta.

WORKS & MAIN OFFICE:

Cor. Olybourn & Wright-

wood Avenues.

CITY OFFICES:

Room 1118 Bookery Bldg.

cor. La Salle & Adams St

CHICAGO.

Estimates given on application. Send for
Catalogue and Samples.

PERTH AMBOY**TERRA-COTTA COMPANY,**

—OF—

PERTH AMBOY, NEW JERSEY.

OFFICE, 160 Fifth Ave., NEW YORK.

BOSTON AGENTS.

WALDO BROS., 102 MILK STREET.

Published Saturday, November 15

"The American Vignola"

PART I

The Five Orders of Architecture

BY

WILLIAM R. WARE

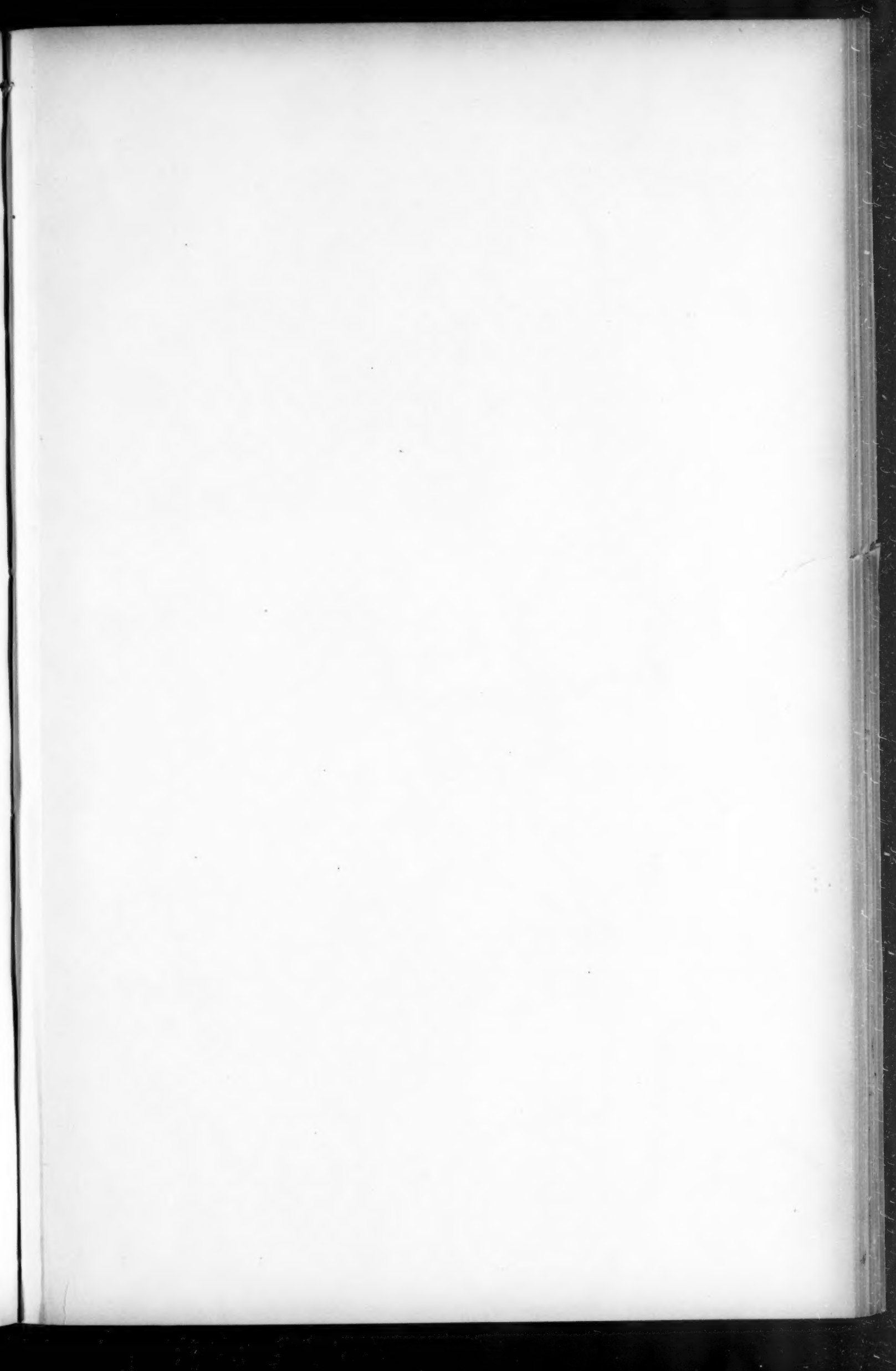
Professor of Architecture, Columbia University

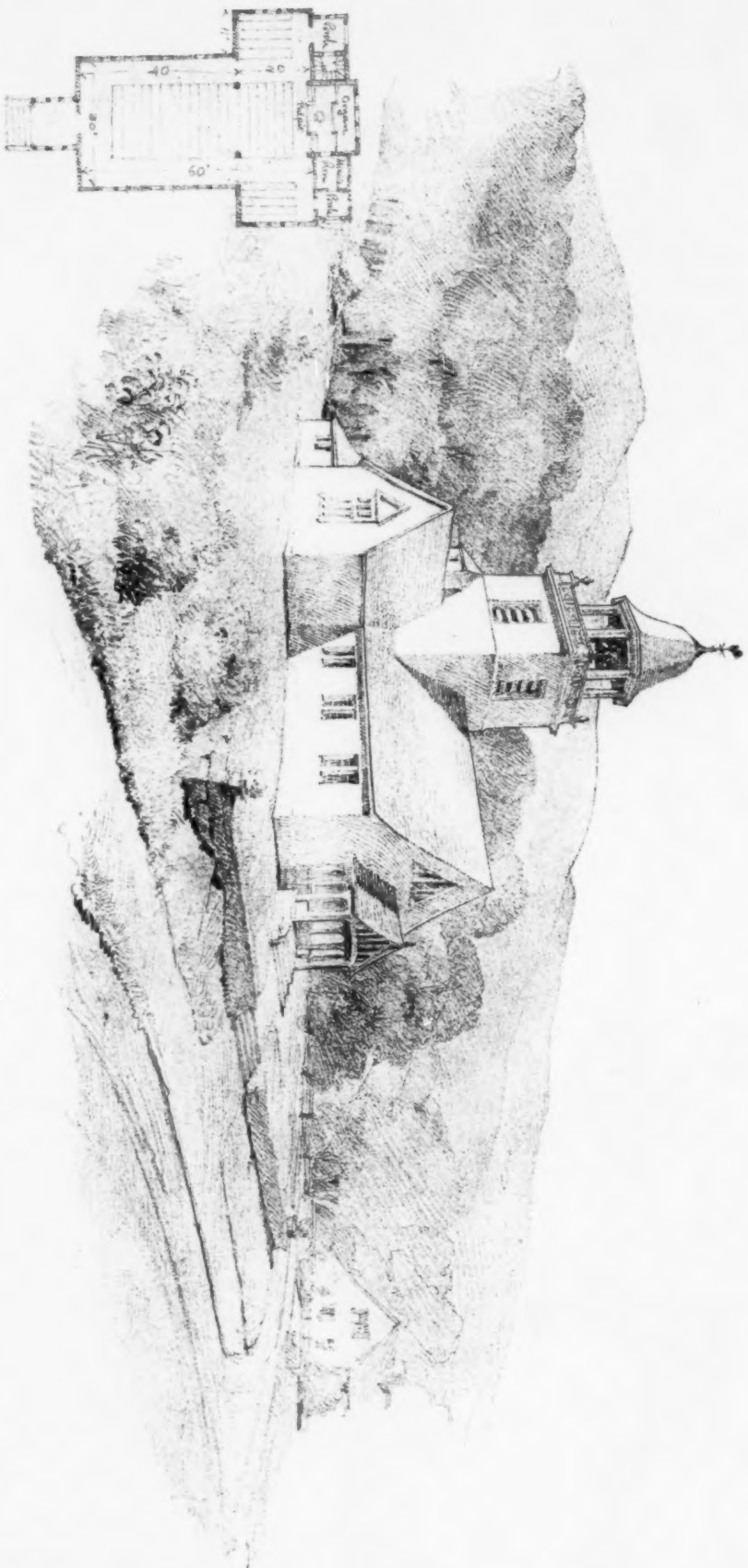
Text and Plates 86 pp., 9"x12"

PRICE, \$3.00

American Architect and Building News Co.

PUBLISHERS

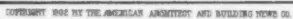




DESIGNED BY THE ARCHITECTS' ASSOCIATION AND BUILDING COMPANY, INC.

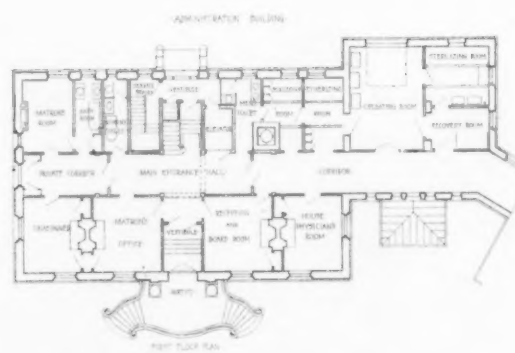
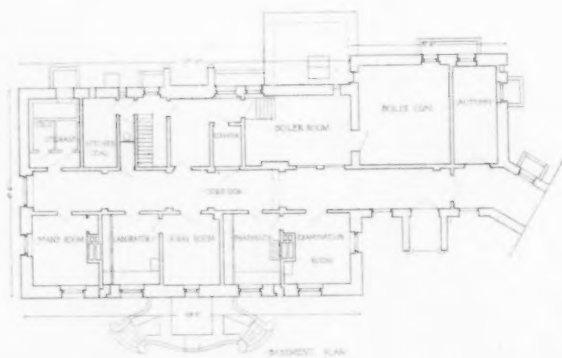
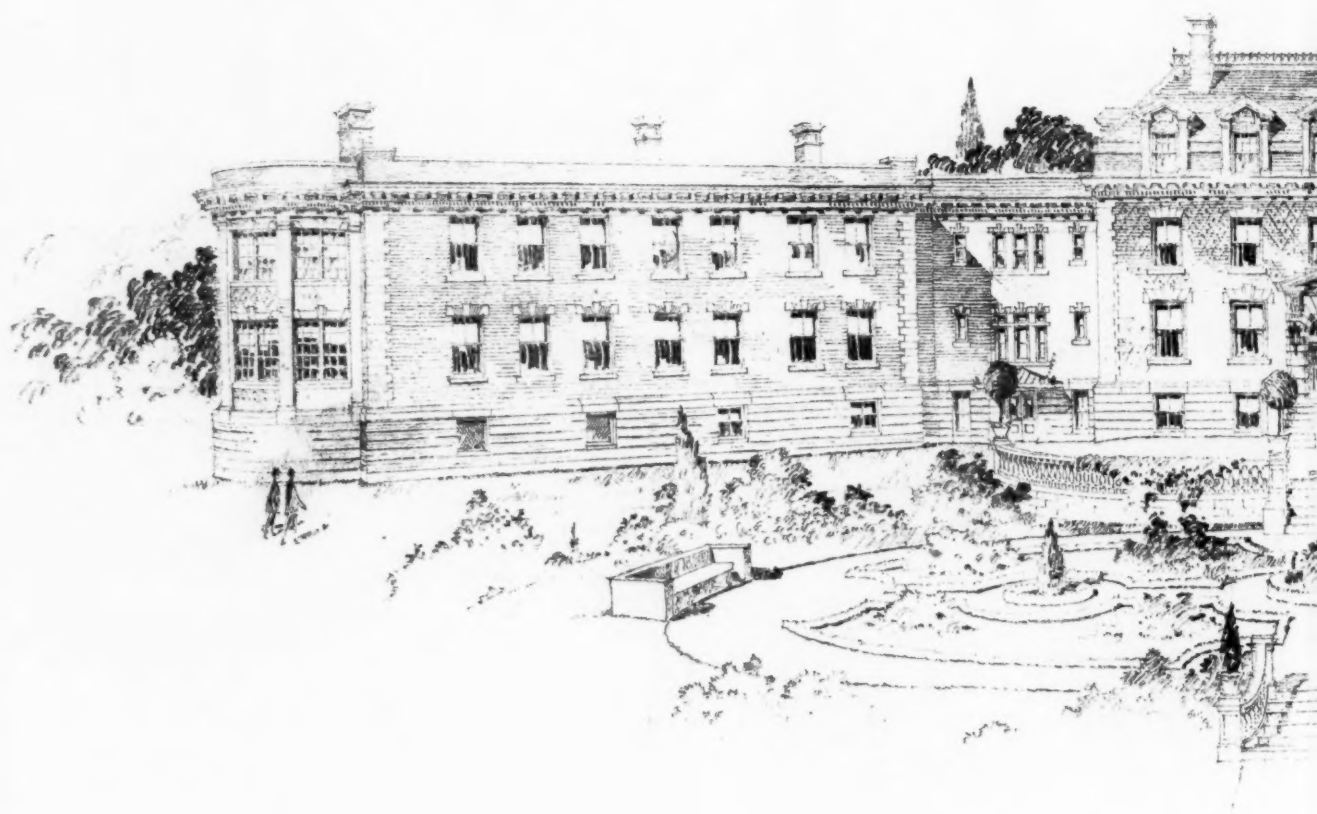
PRESBYTERIAN CHURCH, CRAIGSVILLE, VA.
WARREN, SMITH & BISCOE, ARCHITECTS.

THE AMERICAN ARCHITECT
Dec. 18, 1902.
No. 1407.

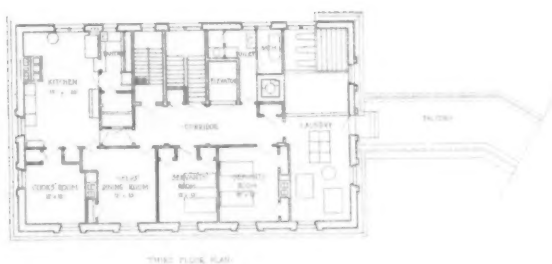
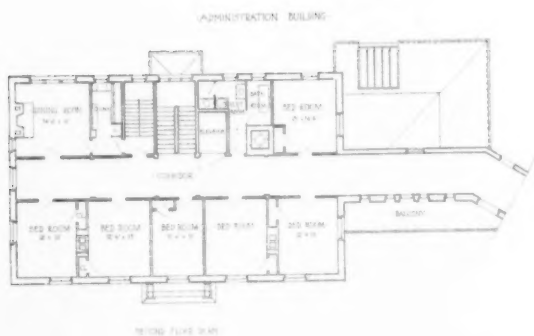
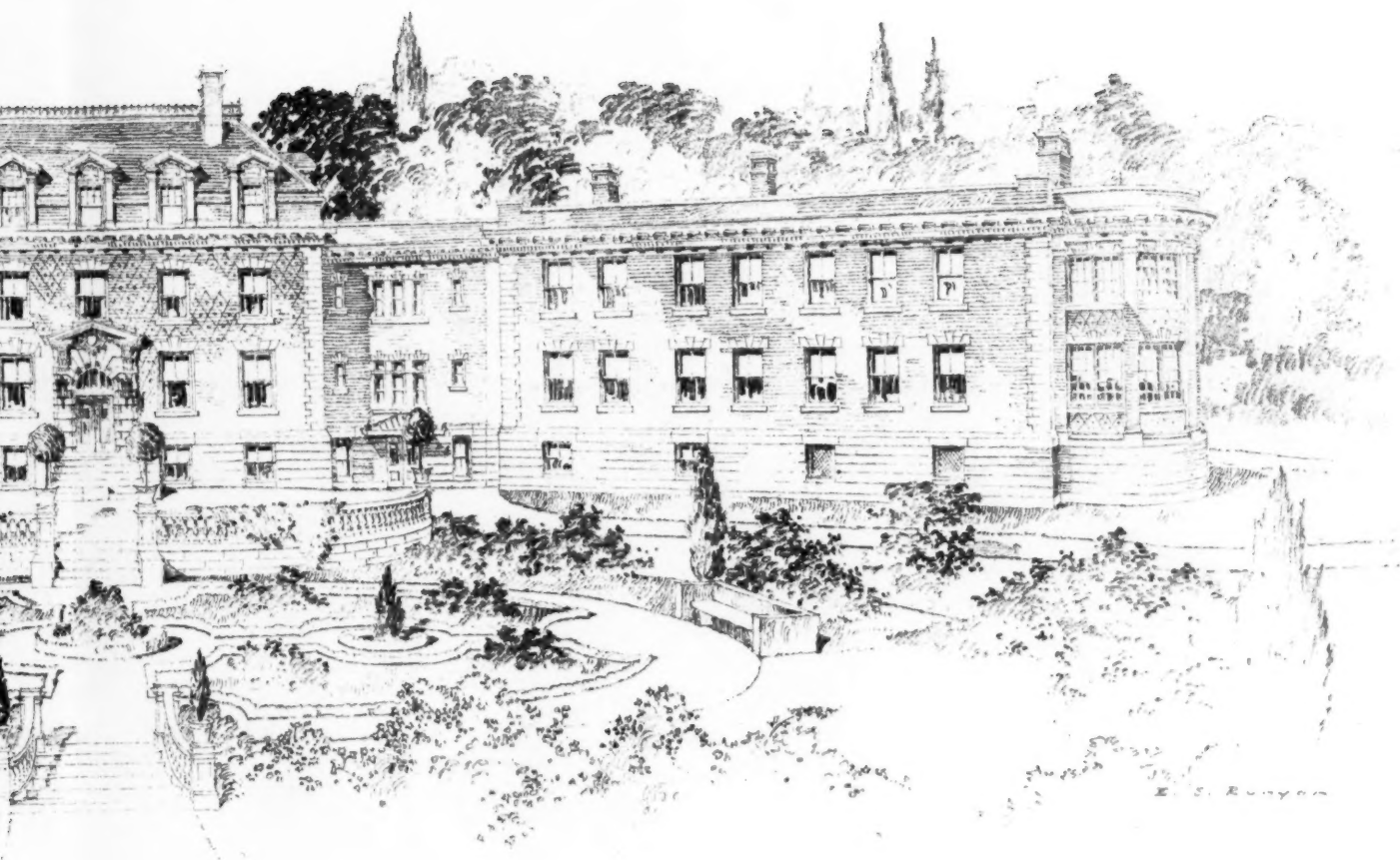
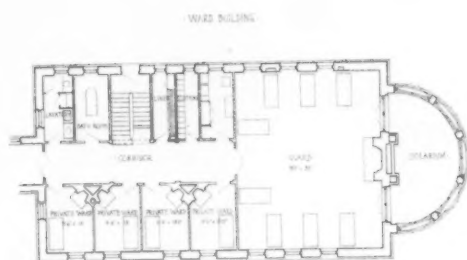


HALL/STYRE PRINTING CO., BOSTON

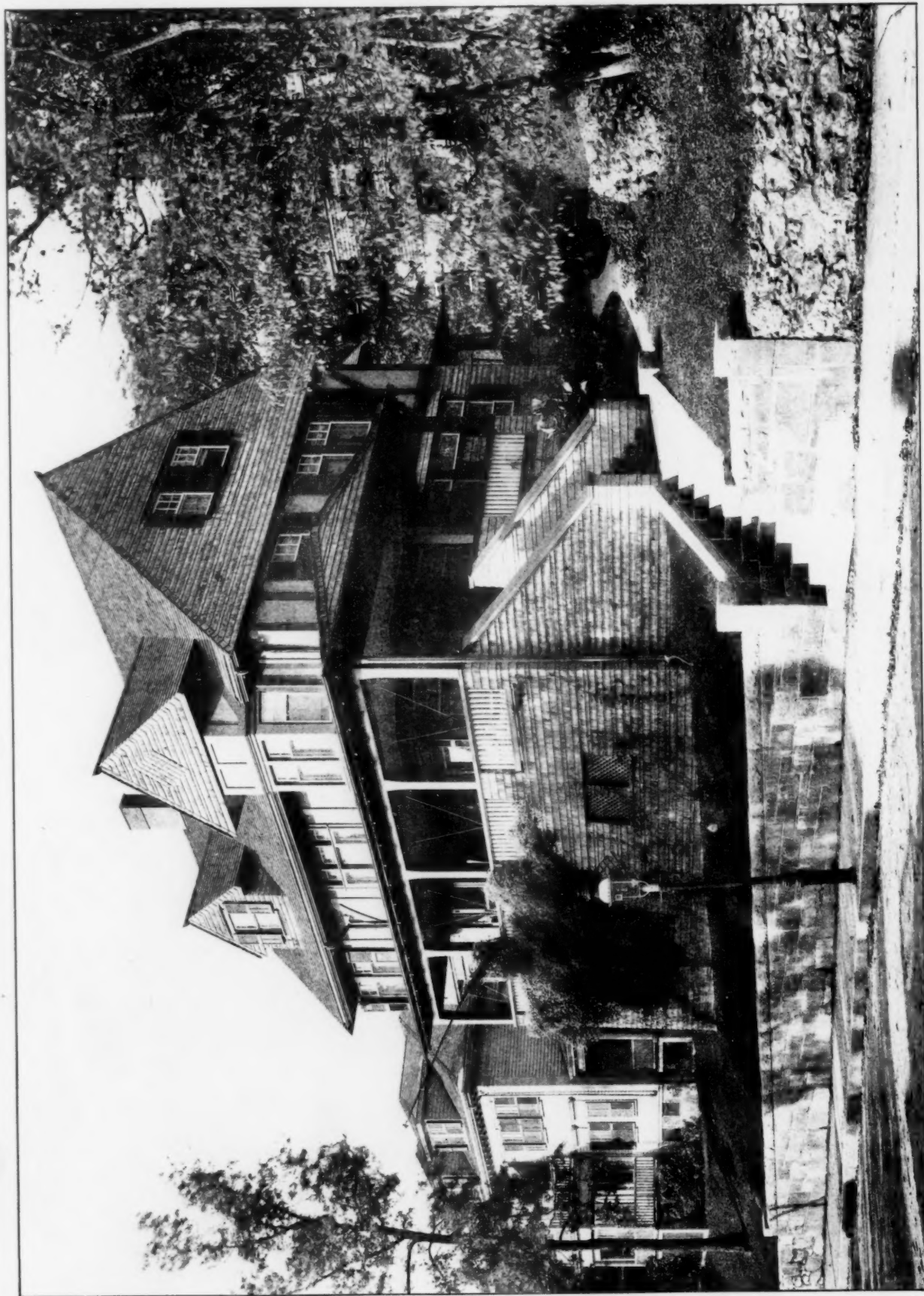
The American Architect
Dec. 13, 1902.
No. 1407.



HOSPITAL - WEST ROXBURY, MASS.
 L. TAYLOR & E. STEVENS
 BOSTON

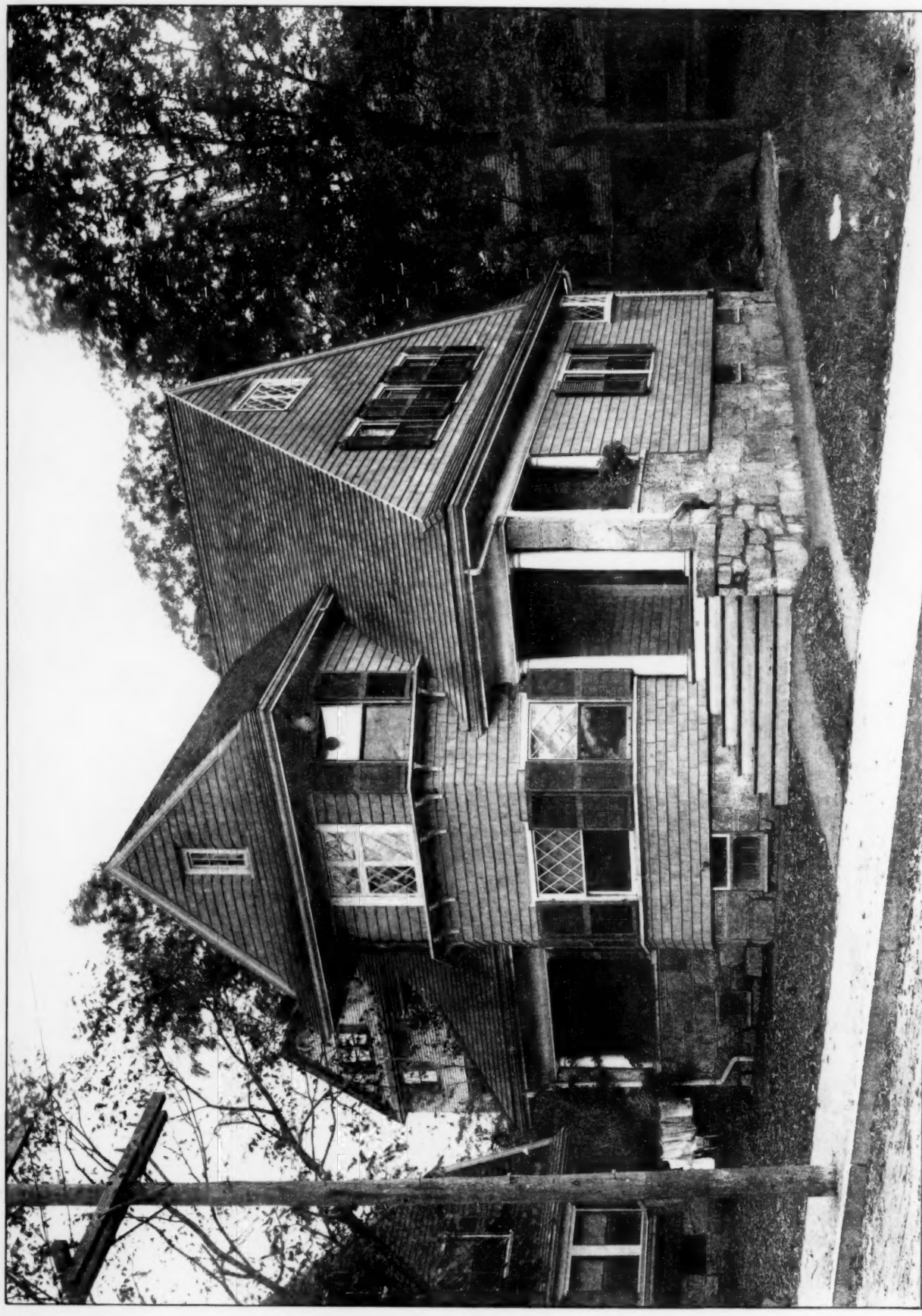


HOUGHTON PRINTING CO., BOSTON



HOUSE OF MR. JOHN M. SULLIVAN, PETER PARLEY ROAD, JAMAICA PLAIN, MASS.
J. C. FOWLER, ARCHITECT.

HOUSE OF MR. JOHN M. SULLIVAN, PETER PARLEY ROAD, JAMAICA PLAIN, MASS.
J. C. FOWLER, ARCHITECT.



HOUSE OF MRS. CATHERINE SMITH, PETER PARLEY ROAD, JAMAICA PLAIN, MASS.
JUNIUS H. MORSE, ARCHITECT.

DESIGNED BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

REPRODUCED BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.