

THE AMERICAN ARCHITECT AND BUILDING NEWS

Vol. LXXII

SATURDAY, MAY 11, 1901

No. 1324



SUMMARY:—

An admirable Street-change proposed for Boston to secure a Site for a new City-hall.—The Cost of Iron and its Effect on Building Industries.—The Influence that Trade Combination has on the Matter.—The suggested Naval Arch for New York.—The Rotch Travelling Scholarship.—Reorganization of the Lowell School of Practical Design.	41
SOME PAN-AMERICAN IMPRESSIONS.	43
THE COLONIAL THEATRE AND BUILDING.—III.	44
J. C. CAZIN, PAINTER.	45
ECONOMY AND STRENGTH OF BRICK-AND-CONCRETE ARCHES FOR FLOOR-SYSTEMS OF HIGHWAY BRIDGES.	46
THE FALLEN PILLAR IN WESTMINSTER ABBEY.	47
ILLUSTRATIONS:—	
The Alvinza Hayward Building, San Francisco, Cal.—The Attending Angel.—Plan of Heating-fan, etc.: Colonial Building, Boston, Mass.—Longitudinal Section of the Colonial Theatre, Boston, Mass.	
Metalwork.—XXVII: 37th St. Entrance to No. 229 Madison Ave., New York, N. Y.	
Additional: The Model-room: Club-house of the New York Yacht Club, West 44th St., New York, N. Y.—The Gangway to the Billiard-room: Club-house of the New York Yacht Club.—Symphony Hall, Huntington and Massachusetts Aves., Boston, Mass.—"The Patterson," No. 58 West 47th St., New York, N. Y.	48
NOTES AND CLIPPINGS.	48

MR. JOHN H. DUANE, for several years Street Commissioner of Boston, has laid before the Government of that city an interesting scheme for securing a suitable site for a new city-hall, which has long been needed, and, at the same time, for disposing to advantage of the land occupied by the present City-hall, and the old Court-house near it, now utilized for city offices. The present City-hall lot fronts on School Street, and has a rear entrance on Court Square, which separates it from the old Court-house; while it is bordered on one side by City-hall Avenue, a miserable little footpath, much frequented, as it forms the most direct communication between School Street and Court Street. On the opposite side of School Street from the junction of City-hall Avenue is the entrance to Province Street, one of the most characteristic thoroughfares of the city, which, beginning at School Street, with a width of eleven feet, extends, varying in width from eleven to fifteen feet, as far as Bromfield Street. Between Bromfield Street and School Street it is joined by Bosworth Street, which plunges down into it by a breakneck flight of stone steps. As its capacity is reduced by a sidewalk, two feet wide, only space enough is left in the roadway for one team, and it is a common occurrence to see a wagon or dray, which, after penetrating part way through it, has met a similar equipage, backing out, tail first, accompanied by a shower of execrations from its driver. As this region is in the very heart of the "congested district" of Boston, Mr. Duane thinks, very sensibly, that, by widening City-hall Avenue and Province Street, so as to form a continuous thoroughfare, of reasonable width, from Court Street to Bromfield Street, the property on it, including the City-hall and Court-house lots, would be at once available, the Court-Street end for a large office-building, and the remainder for mercantile purposes. There can be no doubt that the site of the old Court-house, which is within a stone's throw of the new Court-house, as well as of all the most important office-buildings and financial institutions, would be quickly taken for an office-building at almost any price, while the improved Province Street, forming the shortest route from Scollay Square, with its subway station, to the retail section of Washington Street, would be greatly frequented. Under the Massachusetts law, which allows half the cost of a public improvement to be assessed on property benefited by the improvement, it is estimated that the city would recover much of its expenditure, while the increase in valuations and taxes would soon make up for the remainder.

THE other part of Mr. Duane's plan is to form a site for a new city-hall, in a place nearer the middle of the city, by extending Arlington Street to Columbus Avenue, and taking for a city-hall the triangular plot which would thus be formed by Arlington Street, so extended, Columbus Avenue

and Providence Street. As the ground is now only in part occupied by the old Providence railway-station, the cost of the lot would be comparatively small, while it would afford ample space for the purpose for many years; and, being situated near the entrance to the subway, it could be conveniently reached by the multitudes of persons who have business with city officials. So far, the plan is an excellent one, the only objection to it being, perhaps, the æsthetic one that the situation of the lot suggested is not quite imposing enough for the seat of the Boston City Government. Passengers coming from the subway, seeing the range of drygoods and millinery stores before them on Boylston Street, would hardly suspect that a magnificent city building was concealed behind them; while the effect of the city-hall lot itself would not be improved by being separated from the rear entrances of the Boylston-Street stores only by the narrow alley of Providence Street. A great improvement might, therefore, as it seems to us, be made in the scheme, at slight expense, by carrying Arlington Street across to Columbus Avenue in a curve, with its convexity toward Berkeley Street, making the junction with Columbus Avenue at the same point at which it would intersect it if prolonged in a straight line, opposite Ferdinand Street, which it would be desirable to widen, to its junction with Tremont Street. By this curvature of the prolongation of Arlington Street, the new city-hall building could be brought forward, away from the back doors of Providence Street, setting the portico or other ornamental projection of the front in the axis of Arlington Street, where it would be visible from Tremont Street on one side, and from Boylston Street, Beacon Street and even Cambridge, on the other, adding immensely to its beauty and importance, at a very insignificant cost for the additional land taken. With such a modification, the site might be made artistically very suitable for a city-hall, while it would be, perhaps, unsurpassed for convenience; and it is needless to say that the prospect of the construction of such a building would add millions to the value of the remainder of the old Providence-station property.

PROPHECY is a rather ungrateful task, but the future of the building industries is so dependent upon the cost of iron that it is desirable to study the situation in regard to the probable course of prices of manufactured iron and steel under the great combination, or, as it is incorrectly called, the monopoly, which has just come into control of a large part of the rolling-mills of the country. In the first place, it should be remembered that the new combination does not include all the rolling-mills in the country, some of the best being still outside of it, while some of those in it are by no means renowned for their efficiency. Moreover, the two great steel-plants in Canada, which have just begun operations, may be able, with the assistance of their Government subsidy, to compete severely with the mills on this side of the border, particularly if, as now seems probable, the protective duty on iron is removed, either by the next Congress or the succeeding one. If the new corporation is economically managed, and its products sold at reasonable prices, it may be presumed that it will be able to keep its customers, even against the competition of outside manufacturers; and that the building-industries dependent upon iron, finding prices stable and reasonable, may revive as they have never done before; but an attempt to force prices to an extravagant height, by the power of a temporary monopoly of the supply of iron, or violent fluctuations, managed for the purpose of distressing competitors, would throw building back into the condition in which it has been much of the time since the high tariff excluded foreign iron, and subjected consumers to the consequences of the alternate conspiracies and quarrels of the home manufacturers.

WHETHER the great combination will be able to keep its expenses down, so that it can compete successfully with outside manufacturers, remains to be seen. The newspapers say that the badly-situated and inefficient establishments included in the combination, of which there are several, are to be dismantled and abandoned, and their machinery removed to more favorable locations near Pittsburgh. This is, no doubt, a judicious proceeding, but it is also a very expensive one, amounting simply to the purchase of a certain quantity of second-hand machinery, of an old-fashioned type, at an enormous

price. Such transactions increase the cost of the corporation's plant, on which interest must be earned, beyond that of a similar plant, new from the beginning, and the combination must make a saving in operating cost, to make good the difference. It is claimed that combined operation favors such economies, and the claim may, perhaps, be well founded, but the experience of other trusts does not support this view. On the contrary, where a combination is so extended and complete as to monopolize its field, it can make large profits by raising its prices, but an increase in cost of production seems generally to accompany the process; and, in the case of iron, variations in the price of which affect nearly every person, and every business, it is not likely that a combination which, at best, does not include all the best-equipped mills, and which may, at any moment, see its business opened to the competition of the whole world, by the repeal of its tariff-protection, could long maintain extortionate prices for its goods, even if it should wish to do so. So far as the building industry is concerned, that which would suit it best will be to have the new corporation move quietly along, manufacturing economically, and selling at a fair profit, for many years to come, and it is just to say that there are many indications that this is the course which its managers also desire to follow.

THE designs of Mr. Ernest Flagg for the New York Naval Arch have been finally approved by the promoters of the undertaking, and a committee has been appointed to raise funds for carrying it into execution. Meanwhile, the design is to be submitted to the Municipal Art Commission, whose sanction is necessary before it can be erected. The cost of the monument is now estimated at eleven hundred and thirty thousand dollars. How easy it will be to raise this sum remains to be seen. The example of the subscription for the Grant Monument does not afford much encouragement to the friends of the Naval Arch, but the latter will have a special body of advocates in the members of the Naval Academy Alumni Association, who are scattered all over the country, and will be effective in calling the attention of their friends to the profession which the monument is intended to honor.

IT is difficult to realize that it is seventeen years since Arthur Rotch, his sisters and his brother established the first of the travelling studentships in architecture, and now such benefices, if not as thick as autumnal leaves in Vallombrosa, are numerous, generously endowed, and widely scattered. Most men would have felt that they had, in sharing in the endowment of so useful an institution, done all that their fellow professionals could have expected or hoped from them. But Arthur Rotch was sincerely interested in his profession, and was, moreover, a conscientious steward of his wealth, and, as some know, he later showed this interest and generous right-mindedness in large gifts to the architectural departments at the Massachusetts Institute of Technology and the Lawrence Scientific School of Harvard University, to the Boston Museum of Fine-Arts and to the Boston Architectural Club. One further contribution to architectural education he purposed; a purpose known only to the writer, a friend and classmate with him at Harvard, the Technology and the École des Beaux-Arts. It was the promise of his efficient "backing" that induced us to assume the risk of continuing the publication of the *American Architect*, which was brought almost to a standstill by the failure of Messrs. Ticknor & Co., and our readers can guess how greatly we have missed the aid he would gladly have given during all the hard years that followed the panic of 1893, but of which his untimely death absolutely deprived us. It is not our purpose to dilate on this "might have been," and the pleasant memory—unquestionably tinged with selfish regret—comes to mind as we learn of the awarding for the eighteenth annual time of the Rotch Travelling Scholarship in Architecture. The recipient this year, Mr. William L. Mowll, of Cambridge, has shown the stuff he is made of by carrying off the honor at his third trial, thus giving a needed example of pluck to those aspirants who are willing to throw away their chances simply because their first essay has met with rebuff. Mr. Mowll, who, of late, has been employed in the office of Messrs. Peabody & Stearns, is the first Rotch scholar who has begun his architectural training under the guidance of Prof. H. L. Warren, of the school at Harvard. As usual, the Boston Society of Architects bestows its *solatium* on the aspirant whose work was second in merit, and this year the Society's prize of seventy-five dollars goes to Mr. David J. Myers, of the office of Hartwell, Richardson & Driver. The problem in design this year

was an Art Museum, and the work of the competitors was judged by Mr. John Galen Howard, of New York, Mr. Edward B. Green, of Buffalo, and Mr. W. T. Partridge, of Columbia University.

SOME thirty years ago there was set in motion a wheel within a wheel, and for more than a quarter of a century it has been revolving steadily and without over-much friction, and yet through all its activity it has produced an output of much less real value than seemed probable at the starting of the machinery or possible to those who witnessed the persistence, energy and smoothness of the revolutions. About the time named there was installed in the upper part of the original building of the Massachusetts Institute of Technology, under an independent management and a separate endowment, the Lowell School of Practical Design, and for some years the school and its product attracted considerable attention, and people who saw the designs for weaving, print-cloths, wall-paper, floor-cloths and so on both got their first idea of what was industrial art and marvelled at the uncanny nature of the intellect that could devise the "cards" required in pattern-weaving. The school possessed interest, too, as being the first step at the Institute in the direction of co-education, since even at the start the pupils were, in the main, girls, who to-day outnumber the boys by about two to one. But for some years the existence of the school has been largely forgotten by the public, and its recent reorganization will, we hope, revive general interest in its undertakings. Until now the conduct of the instruction has been in the hands of Mr. Charles Kastner, a professional designer for a long time previously employed in the Lowell or Lawrence Mills, and if the results of his teaching have not equalled the expectation of the founder, it has not been for want of thorough skill and knowledge of his profession on the part of the teacher, or for lack of interest or self-sacrificing and untiring industry. So far as there has been any lack of success, it has been due probably to the fact that the methods employed had too pronouncedly a South Kensingtonian limitation of aim and manipulation and a lack of adaptiveness to changing conditions and ideas which have made South Kensington methods a byword in the matter of education in art. Aside from this, we believe it was long ago found that the graduates met great difficulty in finding positions where they could realize on the time and money they had spent on their education. In other words, a comparatively few of the best designers could supply all the designs required by the mills, and these competent persons did not die off fast enough to give the others a chance. What the records of the School really show we do not know, but we fancy that the proportion of graduates who have had to follow other callings than that for which they first fitted themselves must be abnormally large, and we fancy, too, that if the School had possessed no endowment it would have been discontinued long ago.

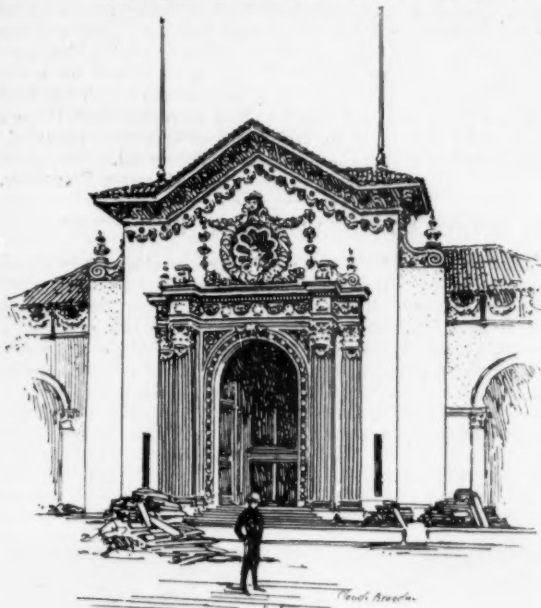
AT the time of first taking charge of the School, Mr. Kastner was far from a young man, and the thirty-odd years elapsed since then have brought him to the verge of superannuation, and with the close of the present term he retires to a deserved and well-earned rest. Naturally, this step has suggested a reorganization, and the trustees have been so fortunate as to be able to induce Mr. C. Howard Walker to take the responsibility of directing the future development of the School, and for this object his knack of exciting the interest and stimulating the imagination of the young people with whom he is brought in contact particularly fits him, quite apart from the influence that proceeds from his own mastery of color and his academic knowledge of the laws and purposes of design. As we understand it, the School will no longer exist as a specialized school, but will become a school of general industrial design where color and form, their combinations and beauties, can be cultivated in the abstract, as it were, with an eye to their eventual application to some phase of industrial art, of course, but with a certain wise disregard of the cramping necessity that so many threads must be allowed to this tendril or that leaf, and that the pattern must have just the length of the developed circumference of the press-cylinder. The practical requirements of the particular trade actually embraced can be learned later with perfect ease, as the pupils will graduate long before their minds have lost their plasticity. We believe that for such a school as Mr. Walker can create there is room, ample room, and for the pupils he will turn out opportunities as limitless as the whole range of industrial endeavor.

SOME PAN-AMERICAN IMPRESSIONS.

TO arrive at the Exposition grounds, Buffalo, by way of the West Amherst gate, at which the Elmwood-Avenue cars deposit the casual visitor, is much like entering a vast and beautiful auditorium by way of the stage-door. The eye is first assailed by an expanse of tawdrily painted scenery rising above a jumble of cheap

the Government Building at the other. In front of each is a fountain and a garden adorned with statuary in bewildering confusion. Extending completely across the north side of this broad esplanade (except where interrupted by the thoroughfare from the bridge) are long curved pergolas of graceful design, for the shelter of the crowds in bad weather.

The Bridge, after the Electric Tower, will form the most imposing single feature of the Exposition, being, as it were, its other pole,



Entrance: Agricultural Building.



The Electric Tower.

and flimsy buildings; then, after running a gauntlet of shoddy Midway architecture, one arrives at a graceful little bridge spanning the canal that surrounds the Exposition proper, and there order and beauty emerge triumphant, like music above the vulgar clatter of a street. This canal, sodded to the water's edge and lined on either side with young Lombardy-poplars, their green shafts, like a double row of columns, mirrored in the quiet water, is in itself a charming episode—an effect of nature sufficiently formal to be in complete accord with the architectural scheme.

Beyond the bridge the highway debouches to right and left to make room for what appears to be a long sunken garden, reached by broad flights of easy steps, the mall being flanked throughout its length with white statues, in Italian fashion, and overshadowed by the imposing façades of the Machinery Building on the north, and the Electricity Building on the south.

Emerging from the Court of Fountains, the Electric Tower first claims the eye. This feature is the very centre and focus of the Exposition. Intercepting the main axis of the grounds, and standing at the end of a long and imposing approach, it is, as it were, the high C of the entire architectural symphony, being artfully led up to by the converging perspective lines of the adjacent buildings, the planting and terracing, and by the arrangement of basins, cascades and fountains. Already in its uncompleted condition it is splendidly imposing, and at night, gleaming with thousands of electric lights it will form a spectacle of unexampled splendor. A monumental fountain at the base of the tower will discharge its waters in a succession of cascades into a great pool flanked in semicircular fashion by high curved Corinthian colonnades terminating in graceful pavilions containing groups of statuary.

The Court of Fountains, though much less in extent than the famous Court of Honor of the Chicago Fair, promises to outrival it in architectural beauty, if one may judge from the carefully wrought model which was shown at the recent Architectural League Exhibition in New York.

In its present state very little of this beauty appears, for the whole place is a waste of mud and timber with which are mingled the more or less dismembered forms of sea-horses and aquatic deities. At the far end, Martiny's beautiful statue of "Abundance" (minus an arm) rises out of the centre of a board shed within which the fountain, of which it forms the crowning ornament, is building. At this point, the Court of Fountains broadens out laterally, like the letter T, the Horticultural Building being at one end, and

since it is placed at the beginning of the long vista which culminates in the distant tower. Four great pylons, sumptuously decorated with columns, pilasters, groups of statuary, arms and eagles, occupy the angles of the bridge, while between them it sweeps out into the lagoon in two semicircular curves. North of the bridge a sunken fore-court and a triumphal approach flanked with columns affords the necessary transition between the formal landscape-architecture of the Exposition grounds and the natural beauty of the park beyond.

Such a rapid and cursory survey of the grounds and buildings as is here described gives rise to several distinct general impressions, all of them pleasurable. The architecture first engages the attention. It is evident that all of the buildings, from the smallest to the greatest, notwithstanding their individual diversity, are of one style, a Spanish Renaissance, sometimes freely, but always consistently, treated. It has been given out that this style was chosen because, introduced into Mexico by the Spaniards with their conquest of that country, it became and has remained the distinctive architectural style of Southern and Central America; but its employment scarcely needs such justification. It lends itself to the varied uses of an Exposition of this sort with an extraordinary felicity: with its plain wall-surfaces and concentration of ornament it well expresses the fictile nature of the material employed, and gossamer forms of beauty, impermanent as a bride's-cake, which would be intolerable if done

in hard and enduring stone, become charming in ephemeral plaster, speaking to the soul of things gay, exuberant and festal, free from the pretence of permanence and that severe dignity which the French criticised in the buildings of the Chicago Fair.

The coloring of the buildings is sure to arouse much discussion and provoke criticism, for it is attempted not timidly and tentatively, but largely and boldly, with no fear of strong contrasts and primary colors. A great many years have passed since cultivated people

found themselves obliged to accept the fact that the Greeks colored the "stainless purity" of their white marble temples with no unsparing hand, yet modern architects, with this precedent, to say nothing of that of Egypt, and the brilliantly incrustated walls common in Italy, have made few attempts at colored architecture. Mr. Turner's experiments at the Pan-American are likely to inspire them to be more daring. So far as it is possible to judge, the color-scheme is highly successful. Certainly, no pains have been spared to make it so.



Electricity Building.

Small models of all of the buildings were first made and colored, and the effect carefully studied. Next, each architect's drawings received detailed treatment at the hands of the color-experts, and, finally, the experiments were extended to the buildings themselves.



The Pergola.

After all is complete, and before the crowd appears, Mr. Turner, with a corps of assistants, will add a few finishing touches, making such changes as are necessary to "pull it all together," just as an artist does in finishing a picture. The color-scheme, as conceived by Mr. Turner, though it attempts to please the eye only, is highly psychological and philosophic. Throughout the grounds there is a progression from warm colors to cold, from primary to secondary



Angle Pavilion; Machinery Building.

and tertiary which corresponds to the development of the color-sense in the human race. Near the entrance, reds and yellows abound in effects almost barbaric. Little by little, as one progresses, the colors cool and soften. The Electric Tower is white and golden-yellow, and here the note of blue-green, the color of Niagara, first prominently asserts itself, to be echoed and repeated and associated with violet in the Propylæa and Casinos grouped about the Plaza at the extreme southern end of the Exposition grounds. The three primaries are omnipresent in the blue sky, the red tile-roofs, and the



An Arch of the Propylæa.

broad, pale-yellow wall-surfaces relieved against the green of the trees, and they are repeated in each building, and in various parts of the same building, just as the rainbow is repeated in every drop of water. The use of bright, strong colors is mostly confined to the

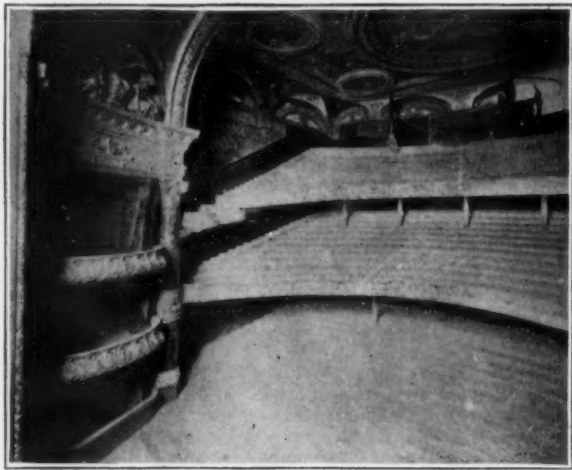
decorative ornament surrounding windows and entrances and adorning cornices, and in this way the architectural design is reinforced and emphasized.

The entire Exposition is an object-lesson in the magnificent result it is possible to obtain by the intelligent and friendly coöperation of architects, engineers, landscape-gardeners, sculptors and decorators working together in their several ways, like the members of one orchestra, towards a predetermined effect of beauty. The average visitor will never know how much of time, thought, money and strenuous effort went to the weaving of the spell which holds him, but the dullest and most callous can hardly fail to be stirred by a vague discontent with the environment of hideousness in which he, for the most part, dwells, and this may lead him to realize that there are men competent and ready to make that environment beautiful as soon as he and his fellows choose to demand their aid.

CLAUDE BRAGDON.

THE COLONIAL THEATRE AND BUILDING.¹—III.

THE design of the interior was, of course worked-out in the customary manner in the contract-drawings, which include both inch and one-quarter-inch scales. These drawings, however, served only as a basis. As soon as practicable after the contract was awarded, work was begun on an inch-scale model of the interior. A model of one-half of the auditorium was first made in a rough way, the entire construction being worked-out in galvanized-iron so as to show all the cantilevers, the columns and the girders. In this half-model were studied the sight-lines of the Theatre, the girders and cantilevers being tilted, raised or lowered until perfect view of the front of the stage on the curtain-line was assured for every seat in the house. When the construction was thus determined upon, the



Scale Plaster Model.

design of the interior was studied in wax applied over the metal-work, and was varied and developed until a satisfactory solution was reached. As a matter of fact, nearly the whole scheme and design embodied by the contract-drawings was completely changed in the model, nothing but the bare outline being preserved. When the design was fully determined upon in this preliminary model, and the character of the detail in mass had been worked-out satisfactorily, a second model was prepared showing the whole interior of the auditorium, this model being made quite carefully in plaster-of-Paris. Being at a scale of an inch to the foot, this meant an interior nearly 7 feet wide and correspondingly high, — large enough, in fact, for a person to sit inside of. This model was used for many purposes. On it were studied the decoration that will, hereafter, be described, also the system of electric-lighting, the draperies and the curtains. After having served a dozen different purposes and being transported in portions to New York and back again, it has finally been reassembled and preserved as an interesting souvenir.

The heating and ventilation of the Theatre and all its accessories, with a very few exceptions, is by indirect, forced radiation. Fresh air is drawn into the basement from the area on the left of the auditorium through a series of heating-pipes containing about 7,000 square feet of surface. The motive-power for the air is a 10' x 5' Sturtevant blast-wheel, which was planned to run at 140 revolutions per minute. The plan of the heating-apparatus shows the location of this fan. From the fan a large duct is carried through the wall into the space under the auditorium, the space constituting a large plenum-chamber and used for no other purpose. Distribution of air is accomplished by diverting the air through orifices pointing in different directions and properly baffled. From this plenum-chamber, the air escapes into the house through openings in the floor of the parquet corresponding to the legs of the opera-chairs, the openings being protected by cast gratings enclosing the chair-leg. Air is also carried up in special ducts in the wall between the parquet and the foyer, delivering into the space under the balcony-floor and emerging

¹ Continued from No. 1322, page 28.

through openings in the faces of the risers. The total amount of inlet-space for air is equivalent to about 48 square feet. It was assumed that the fan would be required to run at not less than 140 revolutions, and the supply of air was figured on the assumption of 25 cubic feet of air per person per minute. As a matter of fact, it has never been found desirable to put in as much air as this, and the fan has rarely been run at more than 50 revolutions per minute, this giving the ample change of air required.

Careful tests have been made to determine the supply of air: with a delivery into the plenum-chamber of 40,000 cubic feet per minute, or 25 cubic feet per person for an audience of 1,600, it was found that there were complaints of draughts. When the supply was cut down to the equivalent of about 16 or 18 cubic feet per person per minute the complaints ceased and, consequently, the fan is now run so as to give about that delivery. In planning the installation it was assumed that air could be pumped into the plenum-chamber at about 65 degrees and that the warmth given out by the audience itself would be such as to raise the temperature of the hall to at least 70 degrees. In practice this was found to be a mistaken supposition and the best results seem to be accomplished by maintaining both the auditorium and the plenum-chamber at exactly the same temperature. Seventy degrees does not seem to be quite enough, and there is found to be more satisfaction with the temperature ranging about 72 degrees.

For the exhaust-ventilation of the auditorium, registers are placed in the ceiling over the rear of the balcony, which connect to ducts carried across the balcony-foyer ceiling and up to the exhaust-chamber over the Theatre. There are also large registers in the main ceiling over the rear of the gallery, beside which there are numerous perforations through the ornamental portions of the ceiling around the central ring and in front of the sounding-board, the complete area of exhausts being equal to about 124 square feet. All these exhausts lead up into the space between the big girders over the auditorium. The fourth-floor plan shows that these spaces directly or indirectly connect with the space marked "store-room" adjoining the carpenter-shop, the openings through the wall being provided with tinued shutters which can be either partially or wholly closed to regulate the draught, so that, to a certain extent, more air can be drawn from one part of the ceiling than the other, if desired. In this location is the 180-inch, full housing, up-blast exhaust-fan, operated by a 16-horse electric-motor and delivering into a vertical shaft extending up through the office portion of the building to above the roof. This shaft is built of double Macite, so as to be not only absolutely fireproof, but soundproof as well. Above the roof it is capped by a copper house with large louvers, allowing the free escape of the air. The area of this exhaust-duct is about 50 square feet. It was assumed that this fan would have to draw out slightly more air than was supplied to the house, but in practice it is found that it is seldom necessary to run it more than one-third speed.

So far as any observations are possible, the ventilation of the hall is perfectly satisfactory, but it is believed that a safer procedure would be to close up entirely any openings for exhaust in the front part of the ceiling, so that all the outlets would be distributed along the rear of the house over the highest part of the gallery, thus forcing the currents of air from the front of the house towards the rear and up. Furthermore, it is the writer's judgment that the system could be controlled more surely if the area of the exhausts were kept slightly less than the area of the inlets instead of the reverse, which is now the case; in other words, it would be better to keep a slight plenum in the auditorium as well as in the plenum-chamber underneath. This would obviate a difficulty which is sometimes now found when the curtain is down, a draught from the stage tending to pull the curtain out into the house. Also, if the exhausts were less than the supplies there would be less liability of any draughts from the stage out into the house when the curtain is up, as well as less liability of draughts onto the audience at the rear, due to careless opening of doors.

The heating of the dressing-rooms is a part of the general indirect system. As first installed, a duct was led from the fan to a reheater shown on the general plan, beyond which the air was conveyed through a vertical duct with horizontal branches in each dressing-room corridor, through which air was blown into each individual room. In practice, the volume of air delivered to dressing-rooms is about 10,000 cubic feet of air per minute, or about 30 cubic feet per minute per person for the personnel of "Ben Hur." It has been found, however, that the reheater was useless, as the temperature of the dressing-rooms tended to rise so easily, especially with the large company which opened the house with "Ben Hur," that the steam was constantly cut off from the coils, and, accordingly, the reheater has been entirely removed, and the only source of heat for the air-supply to the dressing-rooms is such as might come from the main coil beyond the fan. There is no direct ventilation from the dressing-rooms except such as is accomplished by the escape of the air through an open panel at the bottom of each door to the corridor, except, however, that at the end of one of the long runs of rooms a special connection has been made leading up into the carpenter-shop and thence to the exhaust-fan, which has aided very considerably in ventilating these rooms. The lavatories in each tier of dressing-rooms are vented by a special galvanized-iron duct connected with each closet.

A similar system is adopted for the rooms in front of the Theatre. From the main fan a duct is taken to a reheater containing 180 square feet. Beyond this, the air is carried directly to the fireplace

of the ladies'-room, also into the coat-room adjoining the private office, to the ticket-office, and to the counting-up-room immediately over the ticket-office. There is also a supply taken directly to the smoking-room in basement. The exhaust from all these rooms is arranged as a separate system. The smoking-room air enters at one end of the room, near the ceiling, circulates about the room and is drawn out through a large register over the door leading to the lavatory. From the lavatory itself and from each fixture therein separate exhausts are carried out into the fan-room. In similar manner, the ladies'-room is ventilated through the ladies'-room lavatory and down into the fan-room. There are also exhaust-pipes drawing the air from the private office and from the ticket-office. All these exhausts unite in a single duct connected to an 80-inch up-blast exhauster, containing a wheel 4 feet in diameter and 2 feet wide, driven by a direct-connected Sturtevant electric-motor, designed for a speed of 350 revolutions, and delivering into the base of a small vent-shaft beside the easterly bank of elevators, which reaches to above the main roof. In addition to this, however, the exhausts from the manager's room and the ticket-office are by-passed to a pipe carried into the air-space about the main boiler-flue, thus providing for a certain amount of exhaust-ventilation for these rooms when the fan is not in operation. It has been found, however, that it is in practice extremely difficult to equalize the air so as to supply both the very small and the very large rooms, and a direct radiator has been placed in the manager's office.

For air-supply to the foyer a special connection has been made, not shown on the plan published herewith. A reheater is located in the fan-room, and over this the air is blown by the main fan directly into the foyer, the registers being taken out at the base-board each side of the doors leading from the foyer to the auditorium nearest the main entrance. There is no exhaust-ventilation of any sort from either of the foyers, and there has not yet been any necessity for any such ventilation.

In addition to the indirect radiation, a certain amount of direct radiation was thought necessary in the Theatre. For this purpose one large radiator was placed beside an outside window on the easterly wall; also one radiator was placed at the end of the musicians' pit in front of stage at each side. For the heating of the stage itself, continuous lines of circular pipe are carried around the three sides of the stage, giving altogether 1,040 lineal feet of 1½-inch steam-piping.

It has been the intention to make this system of heating and ventilating as nearly automatic as possible, and with this object in view the Johnson Electric-system of control has been installed, including electric-thermostats controlling the valves of the dampers through which cold air is admitted and also the steam-supply itself. The ladies'-room and the dressing-rooms are controlled in a similar manner. Observations thus far have shown that while the system is not yet perfect it has been able to maintain a very even temperature, and upon several days on which records were taken, the temperature in no part of the house varied by more than 2 degrees during the performance and no portions of the house were more than 3 degrees different in temperature. A practical difficulty has been found in the operation of the exhaust-fan. The speed of this fan has to be regulated pretty carefully when the curtain is down to avoid making a strong draught from the stage out, which causes the curtain to belly out so much that it has an unpleasant appearance, to say nothing of the danger of breaking the battens. The insurance-rules do not permit of the electrical control of this fan being placed in the basement, and while the current can be cut off from above, it is necessary for a man to make the long journey from the fan-room in the basement to the carpenter's shop. This introduces an uncomfortable element which has not yet been obviated. Careful observations, however, have failed to detect any lack of the most thorough ventilation in the house.

C. H. BLACKALL.

[To be continued.]

J. C. CAZIN, PAINTER.

THE passing away from us of Jean Charles Cazin a few weeks ago leaves a void which will be much felt in French art circles. He has been called an impressionist; and in so far as that term means the faculty of impressing upon another mind a fleeting effect of nature which has struck him, and been conveyed to his canvas apparently with easy facility, he was, no doubt, one of that school. But he was much more than this. Most impressionists are content to take nature at her plainest; Cazin worked for beauty. Others, such as the early members of the school, were prosaic; Cazin was a poet. He saw the simplest things from the most poetic standpoint. If he painted a cottage or a winding-lane, he saw the pathos of the broken window-pane, or the cow grazing by the almost barren roadside. Like the Englishman Mason, he was devoted to the full moon at sunset—that pink ball set in a pale-green sky which one sees over and over again—when the clouds are modest enough to keep away from her.

Cazin had thoroughly studied nature and his own memory; perhaps his only fault was a want of gracefulness in his compositions. "Judith" is not happy in the lines of the composition; "Tobie" is better; but both are charming in sober, tender coloring. Possibly, his best work of this class is "Ismaël," now in the Luxembourg Gallery. But Cazin's great charm is color—refined, poetic coloring which in its way is equal to Corot's. Scenes on the river, villages and cottages are the subjects that he loved to paint. It mattered not where they were; a mystic poetic glow was passed over the

most commonplace subject, and by the painter's magic brush it became a poem in color.

Cazin received his First-Class medal in 1880 and the Legion of Honor in 1882.

ECONOMY AND STRENGTH OF BRICK-AND-CONCRETE ARCHES FOR FLOOR-SYSTEMS OF HIGHWAY BRIDGES.¹

THE Weybosset Bridge, in the City of Providence, spans the Providence River at Market Square. There are three piers dividing into four spans the river-channel, which is 132½ feet wide. The channel at the bridge being on a curve, the steel-plate girders, which are 42½ inches deep, are placed on radial lines (Fig. 1).

on these floor-beams are 10-inch I-beams, spaced about 2 feet 5 inches apart in radial lines, between the main girders.

The spaces between the I-beams and the main girders are covered by brick arches, levelled-up with Portland-cement concrete to within 2 inches of grade.

The area of the bridge is 31,610 square feet.

Located as this bridge is, in the centre of the city and furnishing the main passageway between the east and west sides, it is subjected to very heavy and concentrated travel, including both highway and trolley-car travel. Under these circumstances the question of designing a substantial floor at a reasonable cost became one of great importance.

The ordinary forms of flooring of steel shapes, at the price of 2.34

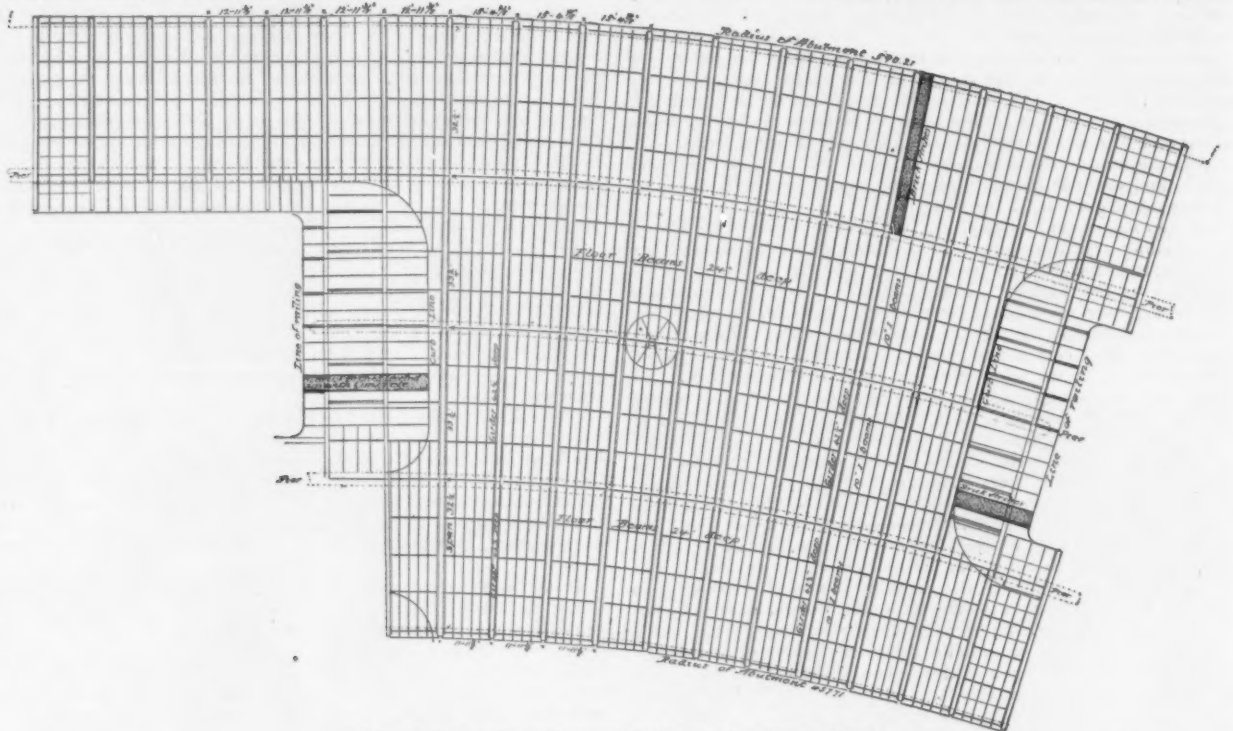


Fig. 1. Floor System of Weybosset Bridge over Providence River.

Extending from girder to girder, and riveted to them, are transverse floor-beams 2 feet deep and spaced 8½ feet apart. Supported

¹ A paper by William D. Bullock, Member Boston Society of Civil Engineers, presented at the meeting of the Society, held October 17, 1900, and published in the *Journal of the Association of Engineering Societies*.

cents per pound paid for this bridge, would cost about 72 cents per square foot, and the concrete for levelling-up ready to receive the asphalt paving would cost 15 cents per square foot, making a total cost of 87 cents per square foot for this form of construction at the former low price of steel. At the prevailing prices of steel during

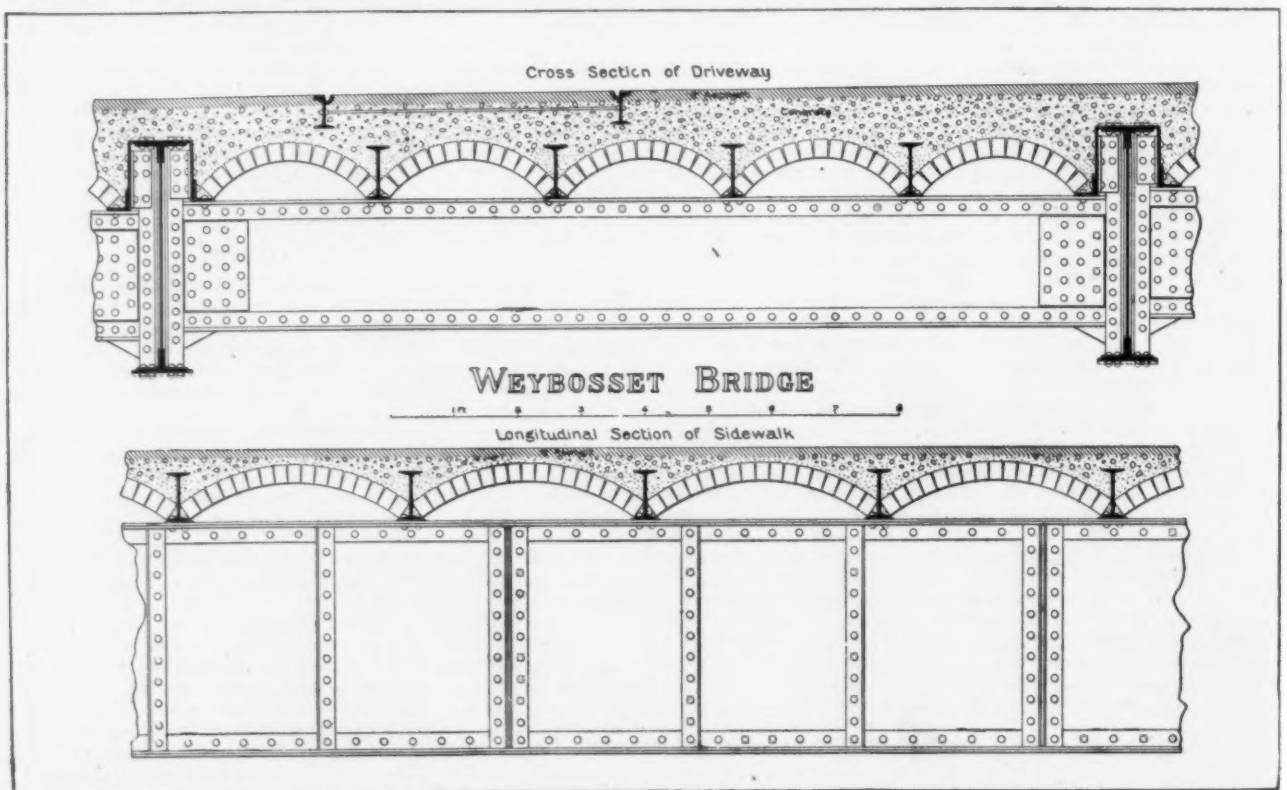


Fig. 2.

Commenting upon the fall of the column and this attitude of the Abbey officials, the *Daily News* says further: "Is the Abbey crumbling? Certainly the attitude of the responsible officials, who decline to discuss the subject, and resent the advances of anxious inquirers does not tend to allay public alarm. There is evidence of this in the increased number of people who are visiting St. Andrew's Chapel, and the anxiety of these visitors may, without doubt, be accepted as representative of that of a far greater number, who were necessarily unable to make the pilgrimage. Indignation is scarcely a sufficiently strong expression to employ in description of the feeling of the public at the attitude of secrecy with regard to the crash adopted by the Abbey officials, and especially towards that assumed by the Clerk-of-the-Works. The ultra-parochial view of the institution, which is truly far more than even national in character, that is taken up by the venerable Clerk-of-Works, engenders the bitterest resentment, and it is sincerely to be hoped that the views to which he gave voice do not represent those of more highly placed officials. While not pretending to any particular knowledge of the signs of decay in masonry

or of dilapidations thereto, we cannot cloak a feeling of deep concern with regard to the stability of other and much more massive columns now standing in St. Andrew's Chapel close by where that which recently fell stood. Disintegration would seem to be proceeding apace. That the masonry of the Abbey is in an unsatisfactory state in several parts must be patent to any one who cares to take the trouble to see for himself. That the attitude of the officials in attempting to minimize the importance of the fall of the column in St. Andrew's Chapel is utterly fatuous, fallacious, and unworthy, cannot be denied. The Abbey certainly does not belong to Westminster, nor yet to London, scarcely even to Great Britain, but perhaps to the world itself, and in that light it should not only be to the advantage of the Dean and Chapter to take the public into their confidence with regard to its condition, but their duty, as custodians, as well. Their attitude of secrecy and resentment towards those genuinely concerned for its stability and proper preservation will only tend to stimulate the alarm that has been created by the collapse of the column in the northeast chapel." All of which is largely bosh.

ILLUSTRATIONS

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

THE ALVINZA HAYWARD BUILDING, SAN FRANCISCO, CAL.
MESSRS. G. W. PERCY AND WILLIS POLK, ARCHITECTS, SAN FRANCISCO, CAL.

THIS building, 87' x 93' and 145' high and of fireproof construction, has an outer casing of Colusa County sandstone upon a granite base. Owing to the death of Mr. Percy, the completion of the building — practically his last design — has been placed in the hands of Mr. H. H. Meyers.

THE ATTENDING ANGEL. MR. WILLIAM COUPER, SCULPTOR,
NEW YORK, N. Y.

PLAN OF HEATING-FAN, ETC.: COLONIAL BUILDING, BOSTON,
MASS. MR. C. H. BLACKALL, ARCHITECT, BOSTON, MASS.

For description see article elsewhere in this issue.

LONGITUDINAL SECTION OF THE COLONIAL THEATRE, BOSTON,
MASS. MR. C. H. BLACKALL, ARCHITECT, BOSTON, MASS.

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

METALWORK, — XXVII: 37TH ST. ENTRANCE TO NO. 229 MADISON
AVE., NEW YORK, N. Y.

[Additional illustrations in the International Edition.]

THE MODEL-ROOM: CLUB-HOUSE OF THE NEW YORK YACHT
CLUB, WEST 44TH ST., NEW YORK, N. Y. MESSRS. WARREN &
WETMORE, ARCHITECTS, NEW YORK, N. Y.

THE GANGWAY TO THE BILLIARD-ROOM: CLUB-HOUSE OF THE
NEW YORK YACHT CLUB.

SYMPHONY HALL, HUNTINGTON AND MASSACHUSETTS AVENUES,
BOSTON, MASS. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS,
NEW YORK, N. Y.

"THE PATTERSON," NO. 58 WEST 47TH ST., NEW YORK, N. Y.
MESSRS. BUCHMAN & FOX, ARCHITECTS, NEW YORK, N. Y.

NOTES & CLIPPINGS

THE CALIFORNIA SEQUOIAS. — Statements in the California papers that the sequoias have no commercial value are apt to create surprise at all the effort that has been needed to begin the work of making these giant trees public instead of private property in order to preserve them. If they have a sentimental value only, no great price should be asked for them. Indeed, that is the argument addressed to the Eastern owner of the Calaveras Grove, with whom the National Government is dickering. Hitherto he has been threatening, unless his

price was paid, to convert the trees into lumber, when "every lumberman knows that the trees are of no value for milling," says the San Francisco Chronicle. In the first place, the San Francisco paper explains, the cost of felling any one of the ninety-two big trees on the 500-acre tract would be excessive. It would take five men twenty-two days to bore enough holes through any tree 30 feet in diameter. After being felled the trunk would have to be cut into 40-foot lengths to be serviceable. A block of wood, say, 33 feet in diameter by 40 feet in length would weigh about 600 tons, and no machinery has yet been built capable of handling it. No saw could work on such a section, if it were possible to get it to a mill, and to split it with dynamite, as Mr. Whiteside once suggested, would shatter the log and spoil the lumber. In other words, the big trees are vastly too massive for commercial use. — N. Y. Evening Post.

ELECTRICAL PROGRESS IN GREAT BRITAIN IMPEDED BY THE LAWS. — British electricians resent the general tendency, both at home and abroad, to hold them responsible for the fact that England is far behind several countries, notably the United States, in the production of electrical apparatus and the utilization of electrical power for transportation and other purposes. The British engineers insist that they are as ingenious, progressive, and well informed as their foreign colleagues, and explain that they have to contend with repressive laws that exist nowhere else. The character of these obstacles was forcibly described in an address, recently read by Mr. W. L. Madgen before the British Institution of Electrical Engineers, which we find summarized in *The Electrical World and Engineer*. The development of electrical traction in Great Britain is still largely controlled by and subject to legislation enacted in 1870, and much of that relating to electric-lighting goes back to 1882. Attempts to change these laws have been made, but with small success as yet, since they meet strong and determined opposition on the part of municipalities interested in public-ownership schemes. "Here," says *The Electrical World and Engineer*, "we find the crux of the difficulty — the dog-in-the-manger policy of many British municipalities. Fearful of according franchises from which private enterprises might reap large profits, they often either oppose development directly, or do it indirectly by obtaining authority to establish municipal plants which are never built. Recently, it seems, a number of special bills have been passed through Parliament authorizing large electrical-supply undertakings, and while these are a step in the right direction, they are far from meeting the general issue. The British brethren have our own heartiest good wishes for success in their struggle with the powers of darkness as personified in sundry Government satraps and municipal obstructionists." Those who advocate the public ownership of public utilities may not be convinced that they are wrong by this statement of fact, but it certainly shows that under existing conditions the plan is full of danger. — N. Y. Times.

THE TUNNEL AT SHERMAN, WYO. — The wonderful achievement of tunnelling a big mountain at Sherman, Wyo., by the Union Pacific Railroad, in order to reduce the grade and shorten the track, has been accomplished, and regular service commenced on the new line from Bufford to Tie Siding, which becomes part of the main line. The contract for this work was awarded about a year ago, and its completion is reckoned as one of the most astonishing feats of railroad-engineering yet accomplished. The tunnel is nearly half a mile long. In the mountain it pierces is found the archaean formation, one of the hardest of granite rocks. Standing conspicuously out in this great engineering work are the two fills, Lone Tree fill and Dale Creek fill. The embankment at the last-named fill is 145 feet in the highest place, 900 feet long, 40 feet wide at the top, 115 feet at the bottom. The Lone Tree fill is southwest of the town of Sherman and the embankment is 130 feet high at the highest point. These two fills involved the handling of 500,000 cubic yards of earth and stone. Two other embankments adjacent required the movement of 250,000 yards, so that this particular part of the work, all within a distance of a mile, necessitated the moving of more than 750,000 cubic yards of earth and rock. The Dale Creek Bridge will now be a thing of the past, and the Ames Monument will no longer be seen by tourists. The new tunnel is so constructed that one may clearly see from one end to the other. The new route decreases the grade over fifty per cent. — Boston Transcript.

FORESTRY IN NEW JERSEY. — To most minds propositions for forest conservation generally suggest the newer States, or States like New York that have tree-covered mountain-ranges, or those like Maine with wealth of pine-timber. It is something of a surprise, then, to read of an advanced movement in forestry in New Jersey. Yet that State has a forest-acreage of 2,069,819, the annual product of which, even with the wasteful methods employed, is valued at over \$4,000,000. This could be increased, forestry experts think, with scientific methods, while at the same time the source of revenue, now in danger of extinction, as in most other States, could be conserved. How best to do this is the problem being studied by the State Geological Survey, a competent commission of successful business men, with Governor Voorhees at its head. These gentlemen favor the plan of State forest-reservations, and it is said that the Governor will recommend this to the next Legislature. The idea is advocated not for sentimental, but for purely business reasons, and one enthusiastic member of the Commission, Edward C. Stokes, believes that the State would ultimately derive from the plan an annual revenue of \$500,000. — N. Y. Evening Post.

SUPPLEMENTAL BILL AGAINST THE CHICAGO DRAINAGE-CANAL. — A supplemental bill of complaint against the Chicago drainage-canal is now in preparation and will soon be filed in the Supreme Court. It is maintained that the former bill was filed on apprehension, while this one is based on observations as to the canal's actual effect in river-pollution. — Exchange.

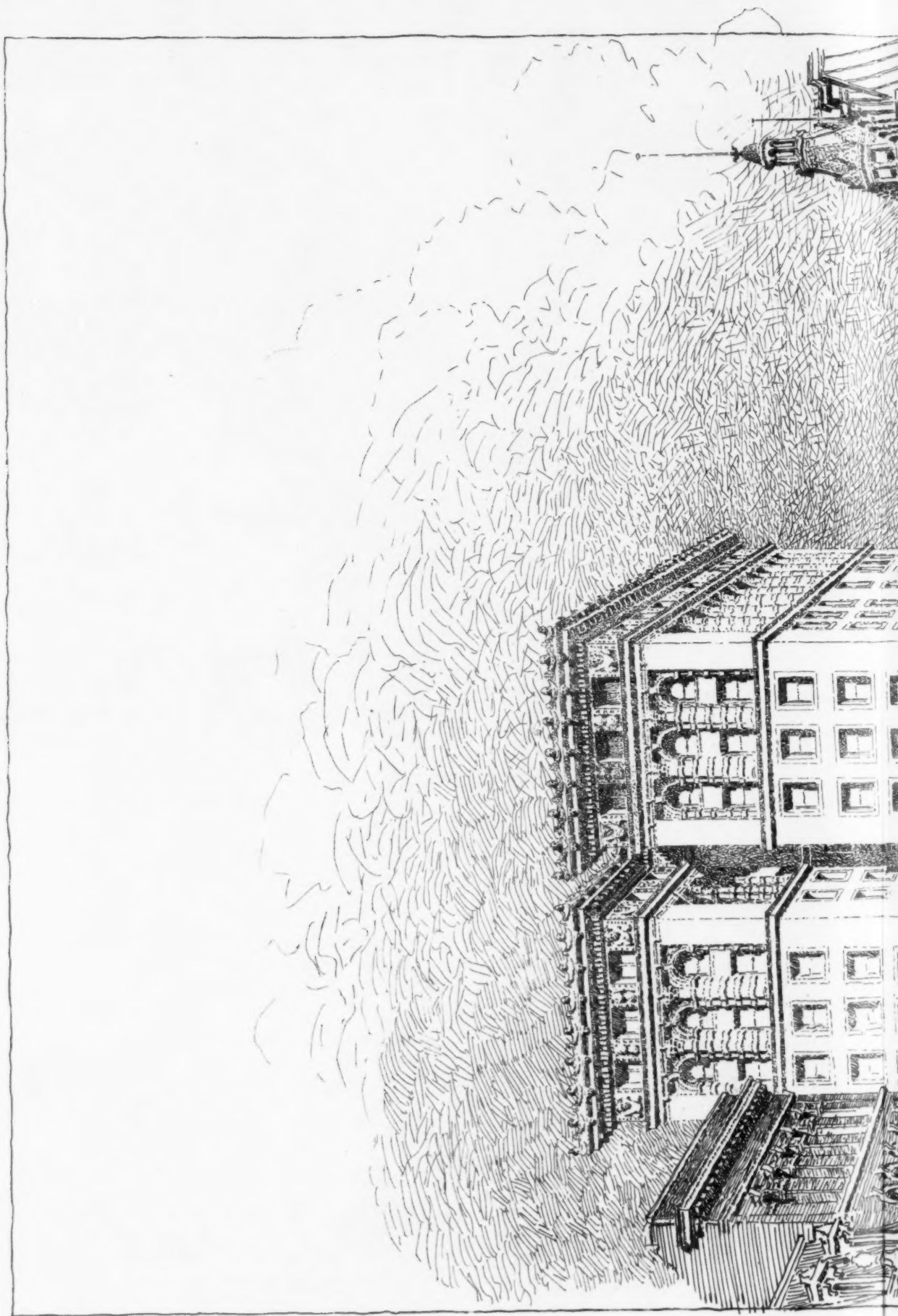
er-
can
ex-
the
two
ter
be
in
een
, if
Mr.
er.
ase.

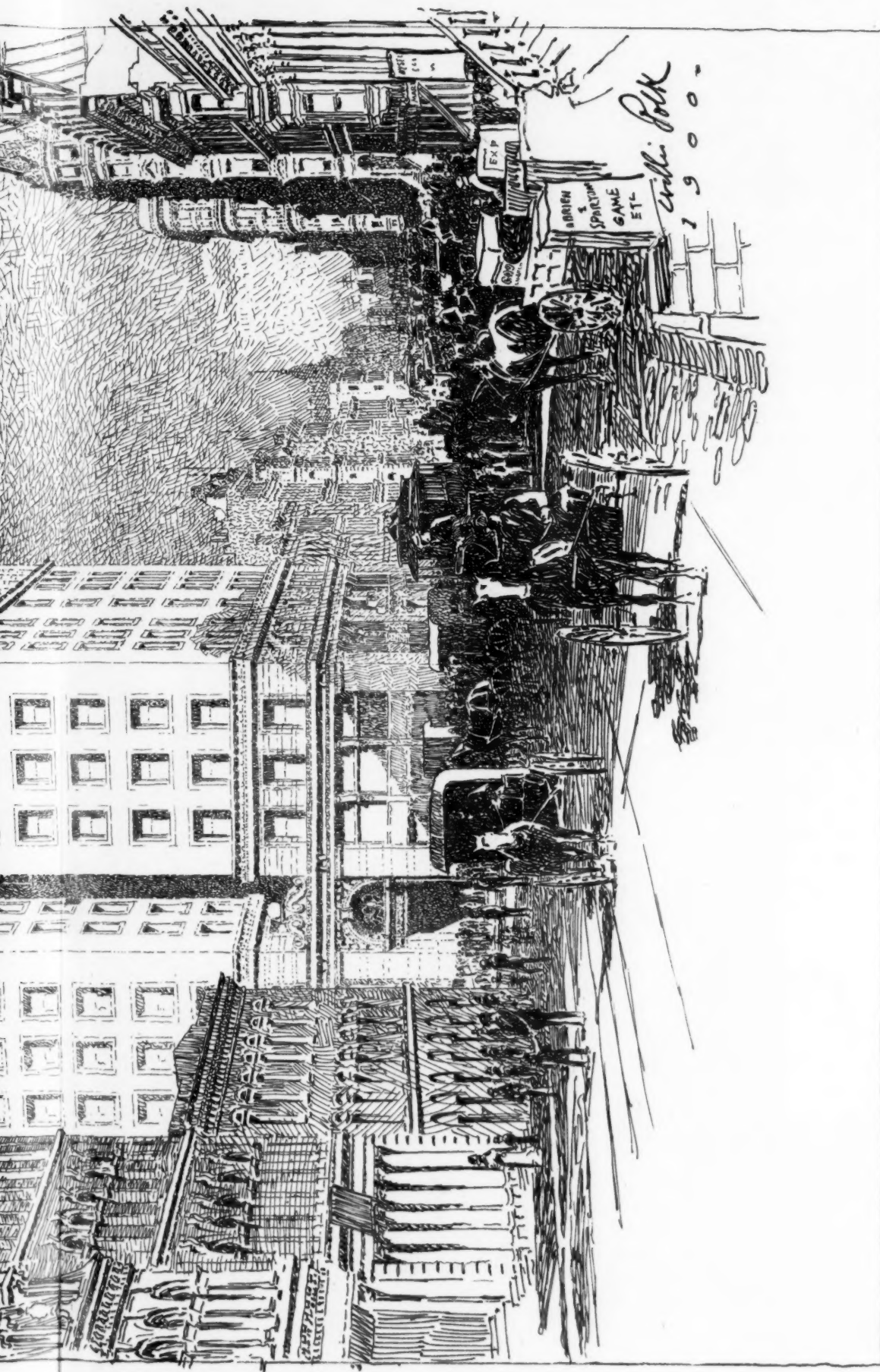
ws.
nd
be-
of
or-
are
es,
ist
ed
ish
he
on
on
oes
out
oo-
up
nd
ny
ch
ase
to
is,
or-
ep
ae.
in
ry
o-
ed
ly
Y.

of
il-
c-
rd
or
ed
m-
it
te
re
nt
40
is
gh
00
e-
of
ng
ek
no
ne
es

st
w
th
of
as
th
is
s,
e-
is
m-
es
a-
xt
ly
n,
m

A
is
is
is
er-



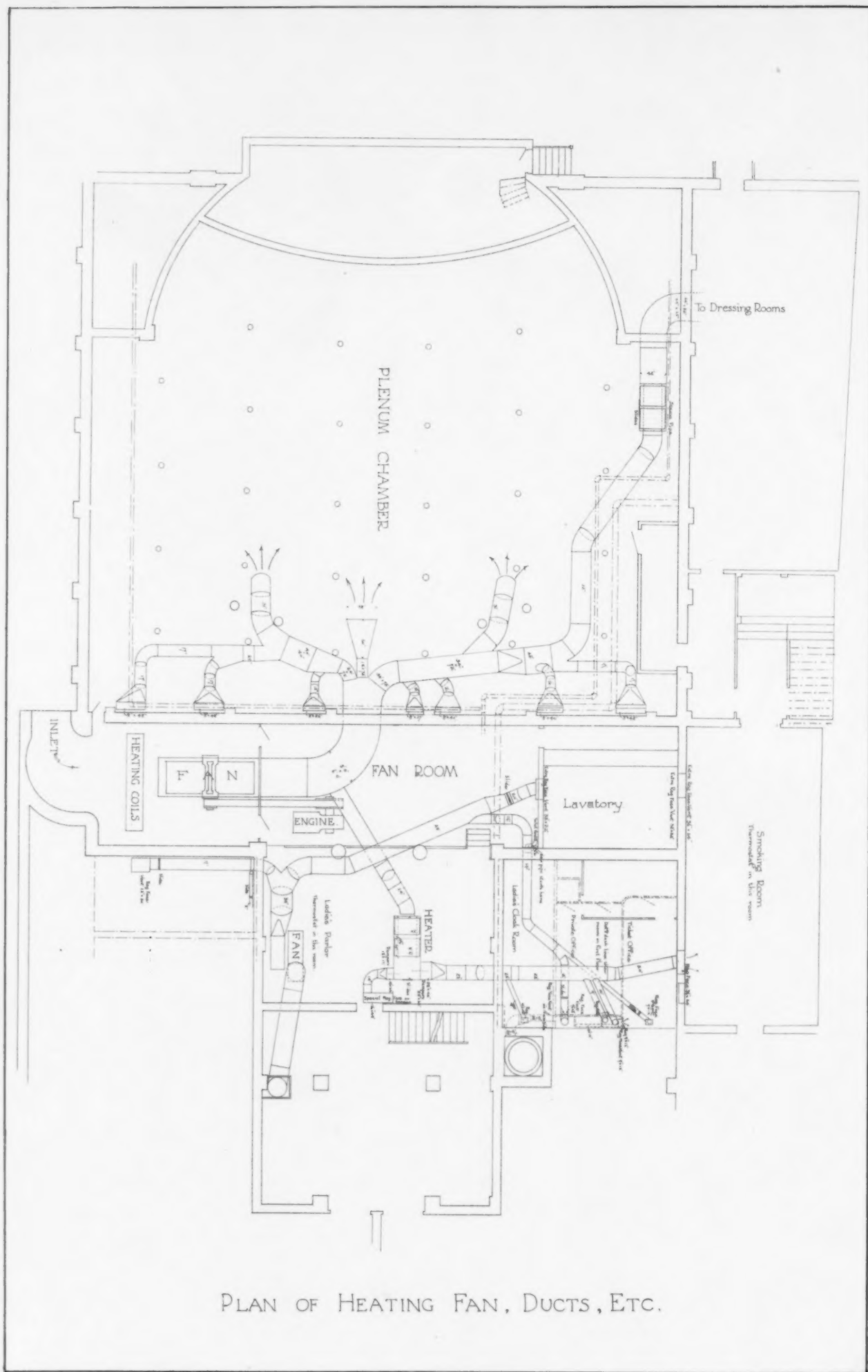


CONTEMPORARY DRAWING BY THE ARCHITECTS ARCHITECT AND INTERIOR DESIGN CO.

REPRODUCED FROM THE ORIGINAL

THE ALVINZ HAYWARD BUILDING, SAN FRANCISCO, CAL.
G. W. PERCY & WILLIS POLK, ARCHITECTS.

The American Architect
May 11, 1901.
No. 1324.



Copyright 1901 by THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

WILLIAMS PRINTING CO. BOSTON

American Architect
May 11, 1901.
No. 1324.

COLONIAL BUILDING, BOSTON, MASS.
C. H. BLACKALL, ARCHITECT.



COPYRIGHT 1904 BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

REPRODUCED BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

THE ATTENDING ANGEL.
WILLIAM COUPER, SCULPTOR.

The American Architect
May 11, 1901.
No. 1324.



COPYRIGHT, 1914 BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

LONGITUDINAL SECTION: COLONIAL THEATRE
C. H. BLACKALL, A.



LYCEUM THEATRE, BOYLSTON ST., BOSTON, MASS.
 BLACKALL ARCHITECT.

MELIOTYPE PRINTING CO., BOSTON

The American Architect
 May 11, 1901.
 No. 1324.

THE AMERICAN ARCHITECT AND BUILDING NEWS

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART

VOL. LXXII. — No. 1324.]

SATURDAY, MAY 11, 1901.

PRICE, { INTERNATIONAL ISSUE, 50 CTS
REGULAR " 15 "

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.

LAWRENCE SCIENTIFIC SCHOOL.

PROF. H. LANGFORD WARREN.

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.

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.

PHILADELPHIA, PA.

UNIVERSITY OF PENNSYLVANIA. SCHOOL OF ARCHITECTURE.

PROF. WARREN P. LAIRD.

SYRACUSE, N. Y.

SYRACUSE UNIVERSITY, Syracuse, N. Y. DEPARTMENT OF ARCHITECTURE.

PROF. EDWIN H. GAGGIN.

WHITTIER MACHINE CO., WASHINGTON, D. C.

PASSENGER AND FREIGHT
ELEVATORS.

53 STATE STREET - - - BOSTON.

LOOMIS FILTERS.

ESTABLISHED 1880.

Improved System. Simple and Effective.

LOOMIS-MANNING FILTER CO.,

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

BOOKS:

"Empire Ornaments, Furniture, etc."

A reprint of the well-known work of
M. Charles Normand.

36 Plates. Price \$6.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

BOOKS:

"Les Concours publics d'Architecture."

(A Monthly Publication.)

Edited by MM. Wulliam and Farge.

Vol. IV. 120 Plates. Price \$9.40.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

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.

BOOKS:

"The Library of Congress."

20 Plates, folio. Price \$5.00.

AMERICAN ARCHITECT AND BUILDING NEWS CO.

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.

SCAIFE FILTERS.

10 to 10,000 Gallons per Hour.

No CHEMICALS REQUIRED.

RESULTS GUARANTEED.

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

The WINSLOW BROS. COMPANY,

CHICAGO,

Ornamental Iron and Bronze.

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:

"Croquis d'Architecture."

(Intime Club.)

XXII Year, complete. Price \$6.70.

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

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.

ROBERT C. FISHER & CO.

Successors to Fisher & Bird,

MARBLE AND GRANITE WORKS,

97, 99, 101 and 103 EAST HOUSTON STREET,
Established 1830. NEW YORK

Utter Ruin



TRADE MARK.

might be caused to a building by the rusting of its iron skeleton. Preserve it perfectly from destruction by specifying

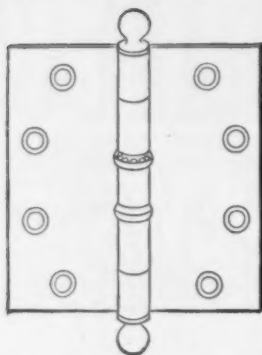
DURABLE METAL COATING

For Booklets, write

EDWARD SMITH & CO.

Varnish Flakers and Color Grinders
45 Broadway, New York

STANLEY'S BALL-BEARING STEEL ... BUTTS



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

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

Samples and literature free to architects.

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

FOR INFORMATION ABOUT
U. S. MAIL CHUTES
WHICH ARE
A necessity in Office Buildings and Hotels,
write to the sole makers.
THE CUTLER MFG. CO., ROCHESTER, N. Y.
PATENTED. AUTHORIZED.

CLINTON WIRE-CLOTH 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 Beckman St.

CHICAGO,
137 Lake St.

FACTORY,
CLINTON, MASS.

FITCH



SASH LOCKS

THE WINDOW.
RATTLE, COLD AND DUST
SIMPLE, DURABLE, SAFE.

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

"La Construction Moderne,"

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

The fifteenth annual volume is now in course of publication.

Subscription, including postage, 35 francs.

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

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

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

NOW READY

PART VIII of the GEORGIAN PERIOD

The illustrations in this Part, which finishes the Second Volume of this work, include forty-eight full-page plates and some sixty or so text-cuts of various sizes.

In addition to plates and text, this Part includes the General Index of Text and Illustrations contained in the First and Second Volumes.

Price, \$6.00, less the usual discount to subscribers to the *American Architect*.

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



The Ideal "ARCADIA" Water-Closet Combination

Unquestionably the
Finest Closet that
has ever been pro-
duced. None other
can be compared
with this High-
Grade, Original and
Strictly Sanitary
Closet Combination

THE IDEAL MFG. CO.
DETROIT, U. S. A.

CRANE VALVES

ARE NOTED FOR THEIR UNIFORM EXCEL-
LENCE IN DESIGN AND CONSTRUCTION.
WE MAKE THEM IN BRASS AND IRON
FOR ALL PRESSURES AND PURPOSES.
YOU WILL MAKE NO MISTAKE BY SPECI-
FYING THEM.

WRITE FOR OUR
POCKET CATALOGUE.

IT CONTAINS CLASSIFICATION, LIST,
DIMENSIONS, ETC., WHICH WILL BE
FOUND VERY USEFUL TO ARCHITECTS.
IT IS SENT ON REQUEST.

CRANE CO.
CHICAGO

ESTABLISHED 1855

NEW YORK ST. PAUL KANSAS CITY
PHILADELPHIA LOS ANGELES
CINCINNATI OMAHA SAN FRANCISCO
ST. LOUIS SIOUX CITY PORTLAND, ORE.

Vapor System of Steam Heating.

Adapted to buildings of every kind and size. Superior to hot-water heating.
No pressure on radiators. No air valves. No noise. No machinery. Heat under perfect
control. Easily installed by all steam fitters.
Architects are requested to send blue-prints with data. Drawings and specifications will be
furnished free. Open to all contractors for bids.

VAPOR STEAM HEATING CO. - - - YORK, PA.

"COHESIVE CONSTRUCTION."

An Essay on the Theory and History of Cohesive
Construction.

By RAFAEL GUASTAVINO, Architect.

Price, \$1.25.

Big Four

The
'Buffalo
Route'

to



Topographical Index of Advertisers.

[For pagination, see Alphabetical Index on Cover 2.]

CONNECTICUT.
New Britain.
The Stanley Works.....[Wrought-Steel Bushes].
New Haven.
Fitch Co., The W. & E. T.....[Sash Locks].
Stamford.
Yale & Towne Mfg. Co.....[Locks].
Waterbury.
Benedict & Burnham Mfg. Co.....[Seamless Nickel-Silver Tubing].
ILLINOIS.
Chicago.
Crane Co.....[Valves].
Northwestern Terra-Cotta Co.....[Terra-Cotta].
Peck Brothers Company.....[Flush-Valves].
Stinson & Blome.....[Cement Paving].
Taylor, J. W.....[Photographs].
Winslow Bros. Co., The.....[Ornamental Iron and Bronze].
MASSACHUSETTS.
Boston.
Amer. Mason Safety Tread Co.....[Stair Tread].
Bartlett Lumber Co.....[Redwood Lumber].
Butcher Polish Co.....[Floor Polish].
Cabot, S.....[Shingle-Staves].
Campbell, Walter M.....[Perspectives].
Carlsile, Pope & Co.....[Cast-Steel].
Carter Ink Co.....[Ink].
Dickey & Co., A.....[Spiral Mouldings].
Folsom Snow Guard Co.....[Snow Guards].
Gurney Heater Mfg. Co.....[Hot water, etc.].
Haberstroh & Son, L.....[Decorative].
Helotype Printing Co.....[Art Printing].
Lombard & Co.....[Architectural Ornamenta-tion].
Massachusetts Institute of Technology.....[School].
New England felt Roofing Works.....[Roofing].
Samson Cordage Works.....[Rope-Cord].
Resplendent Print Paper Co.....[Paper Prints].
Union Brass Works.....[Faucets].
Whitaker Machine Co.....[Machinery].
CAMBRIDGE.
Lawrence Scientific School.....[School].
CLINTON.
Clinton Wire Cloth Co.....[Metallic Lathing].
PALMER.
First Building & Construction Co.....[Building Contractors].

MARYLAND.
Baltimore.
Vail & Young.....[Sightlights].
MICHIGAN.
Detroit.
Berry Brothers, Limited.....[Shingle-List].
Dwight Lumber Co.....[Hardwood Flooring].
Ideal Mfg. Co.....[Sanitary Specialties].
Ingles Wire and Iron Works, Wm. [Wire, Iron, Brass Work].
Grand Rapids.
Grand Rapids Carved Moulding Co.....[Mouldings].
MISSOURI.
St. Louis.
Ludlow Saylor Wire Co.....[Art Metal-Work].
NEW JERSEY.
Jersey City.
Dixon Crucible Co., Jos.....[Graphite].
PATERSON.
Passaic Rolling Mill Co.....[Structural Iron].
Perth Amboy.
Perth Amboy Terra-Cotta Co.....[Terra-Cotta].
NEW YORK.
Brooklyn.
Moore, Benjamin.....[Masonry].
Irvington-on-Hudson.
Lord & Barnham Co.....[Conservatories].
Jamestown.
Art Metal Construction Co.....[Art Metal Work].
N. Y. City.
Alvan's Cement Works.....[Cements].
American Iron Bridge Co.....[Steel Structures].

NEW YORK.
N. Y. City.
American Sheet Steel Co.....[Galvanized Iron].
Atlas Cement Co.....[Cement].
Berkshire, G.....[Sightlights].
Columbia University.....[School].
Deane, E. Eldon.....[Colorists].
Fisher & Co., Robert C.....[Marble].
Frank, L. F.....[Reflexors].
Gerhard, C. E., Wm. Paul.....[Consulting-Engineer].
Gorton & Lidgerwood Co.....[Boilers].
Hayes, George.....[Metallic Lathing].
Hitchings & Co.....[Greenhouses].
Holophane Glass Co.....[Holophane Glass].
Hurd & Co.....[Wall-Ties].
Jackson & Co., Wm. H.....[Green].
Jenkins Bros.....[Valves].
Jones, T. W.....[Rugs (Carpet)].
Kent-Costikyan.....[Drawing Tables].
Laughlin-Hough Co.....[Drawing Tables].
Mott Iron Works, The.....[Iron Work].
Neuchatel Asphalt Co.....[Asphalt].
New Jersey Zinc Co.....[Zinc White].
New York Belting and Packing Co., Ltd.....[Belting].
Lawrence Cement Co., The.....[Cement].
New York Mastic Works.....[Asphalt].
N. Y. Metal Ceiling Co.....[Metal Ceilings].
Ogden & Wallace.....[Floor Plates].
Okonite Co. (Ltd.).....[Insulated Wire].
Pitt, W. R.....[Folding-Gates].
Rider-Ericsson Engine Co [Hot-Air Engines].
Sargent & Co.....[Builder's Hardware].
Smith Co., H. B.....[Steam Heat].
Smith & Co., Edward.....[Furnaces].
Thiele, E.....[Portland Cement].
U. S. Mineral Wool Co.....[Mineral Wool].
Warren Chemical & Mfg. Co.....[Liquified Roofing].
Williams, John.....[Wrought Metal].
Yale & Towne.....[Hardware (Art)].
ROCHESTER.
Custer Mfg. Co.....[Mail Chutes].
SYRACUSE.
Dunning, W. D.....[Mason].
Syracuse University.....[School].
TROY.
Globe Ventilator Co.....[Ventilators].
Troy Laundry Machinery Co.....[Washing Ma-chines].

OHIO.
Canton.
Berger Mfg. Co., The.....[Metal Ceilings].
Canton Steel Roofing Co., The [Metal Ceilings].
CINCINNATI.
American Steel Roofing Co., The [Conductors].
Ohio Marble and Wood Co., The [Marbles Col-ored].
CLEVELAND.
Gibbsen Varnish Co., The.....[Varnish].
Osborn, J. M. & L. A.....[Roofing Tin].
Tyler Co., The W. S., [Ornamental Iron and Bronze].
COLUMBUS.
Columbus Brick & Terra-Cotta Co., The.....[Brick].
Kinneer Mfg. Co.....[Steel Rolling-Doors].
Nelson Co., The C. T.....[Carpenter (Carver)].
Ohio State University.....[School].
PENNSYLVANIA.
Ambler.
Reasby & Mattison Co.....[Magnesia Covering].
PHILADELPHIA.
Electric Storage Battery Co.....[Chloride-Accumulator].
French & Co., Samuel H.....[Mortar Colors].
Harrison Brothers & Co.....[Protective Paints].
International Sprinkler Co.....[Automatic Sprinklers].
Loomis Filters Improved System.....[Filters].
Merchant & Co.....[Tin Roofing].
Morse, Williams & Co.....[Revolvers].
Taylor Co., N. & G.....[Tin].
Thorn, J. S. Co.....[Sheet Metal].
University of Pennsylvania.....[School].
PITTSBURGH.
Scalfe, Wm. B. & Sons.....[Filters].
Wisconsin Graphite Paint.....[Graphite Paint].
SCRANTON.
International Correspondence Schools, The.....[Architecture].
YORK.
Vapor Steam Heating Co., [Heating Apparatus].
VERMONT.
Burlington.
Burlington Yernetian Blind Co.....[Furniture and Stating Blinds].

"The Georgian Period"

THIS publication, which now consists of eight Parts, contains more than a hundred pages of text, illustrated by over three hundred text-cuts, and two hundred and ninety-seven full-page plates, of which one-third are gelatine or half-tone prints. It is in truth a work of superior excellence and great usefulness.

The matter already illustrated may in small part be classified thus:

PUBLIC BUILDINGS

City Hall, New York, N. Y.	Date 1803-12
Old State House, Boston, Mass.	" 1748
Pennsylvania Hospital, Philadelphia, Pa.	" 1755
Carpenters' Hall, Philadelphia, Pa.	" 1770
Independence Hall, Philadelphia, Pa.	" 1729
Faneuil Hall, Boston, Mass.	" 1741
and others.	

CHURCHES

King's Chapel, Boston, Mass.	Date 1749
Seventh-day Baptist Church, Newport, R. I.	" 1729
Christ Church, Alexandria, Va.	" 1767
Christ Church, Philadelphia, Pa.	" 1727
St. Paul's Chapel, New York, N. Y.	" 1764
Old South Church, Boston, Mass.	" 1729
First Church, Hingham, Mass.	" 1681
St. John's Chapel, New York, N. Y.	" 1803
First Congregational Church, Canandaigua, N. Y.	" 1812
St. Peter's P. E. Church, Philadelphia, Pa.	" 1758
Gloria Dei Church, Philadelphia, Pa.	" 1700
and others.	

IMPORTANT HOUSES

Fairbanks House, Dedham, Mass.	Date 1636
Royall Mansion, Dedham, Mass.	" 1737
Philipse Manor House, Yonkers, N. Y.	" 1745
Tudor Place, Georgetown, D. C.	" 179-
Mappa House, Trenton, N. Y.	" 1809
Woodlawn, Va.	" 1799
Mount Vernon, Va.	" 1743
and others.	

Incidentally there are shown special measured drawings or large views of the following features and details:

Porches and Doorways	67 Subjects
Staircases	21 "
Mantelpieces	81 "
Pulpits	6 "
Fanlights	60 "

In addition to the subjects enumerated above there is a large quantity of measured and detailed drawings of Cornices, Ironwork, Gateposts, Windows, Interior Finish, Ceiling Decoration, Capitals, etc., together with elevational and sectional views of entire buildings.



Architects are warned against imitations of

Cabot's Sheathing and Deafening Quilt

which is suffering the penalty of success. The imitations are made with cow-hair and other putrescible materials which harbor moths and vermin, in place of the absolutely sanitary and uninflam-mable eel-grass which our patents protect to our sole use.

We like the flattery of imitation, but do not want our patrons to suffer by it.

The genuine article bears our trade-mark

"QUILT."

Samples and full information sent on request.

SAMUEL CABOT, Sole Manufacturer, BOSTON, MASS.

28 Dearborn Avenue, Chicago, Illinois.

AGENTS: V. H. Schneider, 8 Wooster St., New York; Samuel H. French & Co., Philadelphia, Pa.; Waterhouse & Price, San Francisco, Cal.; P. H. Mathews, Los Angeles, Cal.; Whitelaw Brothers, St. Louis, Mo.; George H. Lawes & Co., St. Paul and Minneapolis, Minn.; John H. Corning, Washington, D.C.; Brady & Co., Detroit, Mich.; The National Building Supply Co., Baltimore, Md.; Timms, Edwards & Co., Portland, Ore.; Cleveland Builders' Supply Co., Cleveland, O.; Seymour & Co., Montreal; S. W. R. Dally, Seattle, Wash., and at all other central points.



METALWORK XXVII—37TH ST. ENTRANCE TO No. 229 MADISON AVE., NEW YORK, N. Y.

STANDARD FOR RUBBER INSULATION.



TRADE MARK.

WILLARD L. CANDEE, Mgrs. GEO. T. MANSON, Gen'l Supt.
H. DURANT CHERVEY, Sec'y. 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.**DIXON'S SILICA GRAPHITE PAINT****FOR TIN OR SHINGLE ROOFS AND IRON WORK.** Tin roofs well painted have not required repainting for 10 to 15 years.
IT IS ABSOLUTELY WITHOUT AN EQUAL.

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

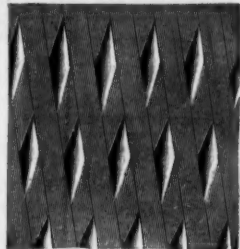
JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

ESTABLISHED 1868

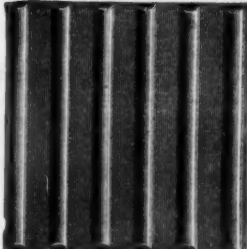
SKYLIGHTS HAYES LATHING & CO.
71-8TH AVE. (METALLIC) NEW YORK.
FIRE-PROOF CONSTRUCTION**"NEVERSLIP" WROUGHT STEEL FLOOR PLATES** $\frac{1}{8}$ to 1 inch thick**Descriptive Catalogue on Application****OGDEN & WALLACE**

577-583 Greenwich St.

NEW YORK



Diamond Pattern Floor Plate



Ribbed Pattern Floor Plate

**THE TEST OF TIME**

OSBORN'S GUARANTEED OLD STYLE ROOFING TIN has been tested under the most trying conditions and has proven pliable, tough and durable.

It is heavily and evenly coated. Each sheet resquared and carefully inspected.

No wasters sold under this brand.

Can also furnish this plate with genuine Charcoal Iron Base (not steel). This brand (Osborn's Charcoal Iron Old Style) is guaranteed for fifteen years.

J. M. & L. A. OSBORN CLEVELAND COLUMBUS**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.

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.**INTERNATIONAL SPRINKLER CO.**
(Controlled and run by HERCHANT & CO., Inc.)

"International" Head

Main Office and Works:

PHILADELPHIA

Southern Office:
CHARLOTTE, N. C.

The Best

We are issuing a circular called a "Fire Watchman," which will tell you how to safeguard your Store, Hotel or House from fire.

Send for it. We do every class of Sprinkler work.

Approved by Insurance Companies, Bodies and Boards.

**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."**THE LIBRARY of CONGRESS,**

WASHINGTON, D. C.

Architects: Smithmyer & Pelz:

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

Twenty Gelatine Plates, in Portfolio,

14" x 16 1-2".

PRICE - - \$5.00.**AMERICAN ARCHITECT AND BUILDING NEWS CO.****Fashions Change**

and we believe they have changed sufficiently for architects to find now a greater "practical" value in the

"Norman Monuments of Palermo"

than this interesting publication seemed to have at the date of publication, when it was in this country held to be a crime to design a building in any other than the Romanesque style—at that time the architectural "fashion" of the hour.

Originally published at \$20.00, unbound, in four parts, it can now be had, bound, for \$12.00.

American Architect & Bldg. News Co., 211 Tremont St., Boston.

Masonry in Modern Work

A "Prolegomenos" on the Function of Masonry in Modern Architectural Structures.

By R. GUASTAVINO, ARCHITECT.

Price, Paper Cover, 30 Cents.

For Sale by the **AMERICAN ARCHITECT.**

Send
for
Samples.

If you SPECIFY



SAMSON SPOT CORD

You can tell at a glance that no other cord is substituted. It is warranted to be of pure Cotton, smooth finish and perfect braid.

Samson Cordage Works, Boston, Mass.



Jenkins Bros.' Valves

are manufactured of the best steam metal, and are fully guaranteed. Why experiment with cheap valves? If you want the **BEST** ask your dealer for valves manufactured by Jenkins Brothers. Remember all genuine are stamped with Trade Mark like cut.

JENKINS BROTHERS, New York, Philadelphia, Chicago, Boston

KINNEAR

STEEL ROLLING DOORS SHUTTERS

SEND FOR CATALOGUE "K"

THE KINNEAR MFG. CO.

COLUMBUS, OHIO. U.S.A.

BOSTON NEW YORK CHICAGO PHILADELPHIA

85 WATER ST. 45 VESEY ST. 112 CLARK ST. 1011 CHESTNUT ST.

ASPHALT ROOFING & PAVING MATERIALS.

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

L. Haberstroh & Son,

9 PARK ST., COR. BEACON, BOSTON,

Interior Decorators and Painters.

Decorations in Color and Relief.
Wall Hangings of all Descriptions.
Sketches and Estimates Furnished.

MARBLES COLORED

Domestic Marbles colored in exact imitation of imported marbles, without their cracks, flaws, imperfections and patched-up appearance, and at great saving in cost.

We match broken pieces, reproduce varieties from extinct quarries, tint acid, ink-stained or smoked marbles to new effects.
Also, Color Wood Veneering, Etc. Manufacturers of Wooden Wall Paper, equal in finish to that of a piano.
Agents wanted to sell our handsome Pedestals, Jardinieres, and Marble Top Kitchen and Dining Room Tables.

THE OHIO MARBLE AND WOOD CO.

130-132 West Front Street

CINCINNATI, OHIO

The Taylor "OLD STYLE" Roofing Tin

N. & G. TAYLOR CO.

PHILADELPHIA

SOLE MANUFACTURERS

STOCKS CARRIED AT

CHICAGO
ST. LOUIS
DENVER

NEW YORK
OMAHA
NEW ORLEANS

BOSTON
KANSAS CITY
GALVESTON

It is THE OLDEST BRAND of ROOFING TIN made

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.

METAL CEILINGS

Suitable for Residences, Offices, Stores, Schools, Hospitals, Churches, etc.

Can be applied over old plaster.

Give Measurements for estimate.

N.Y. METAL CEILING CO.

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

Boston Office: 48 Congress St., Room 23.

"Cheapest and Best,
All in one piece"

Send for samples and quotations.
Special lengths and forms on short notice.

HURD & CO.
576 W. Broadway, New York
(Engineers and Manufacturers.)

80-Paged Illustrated Catalogue
of over 250 Designs of
Superior

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

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

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

Holophane Glass Co.

No. 15 East 32nd Street, N. Y.

COMPOUND

Prism Globes and Shades.

"Maximum Light—Complete Diffusion—Minimum Glare" for all kinds of light.

Send for catalogue and price lists.

Cathedral of St. John the Divine.

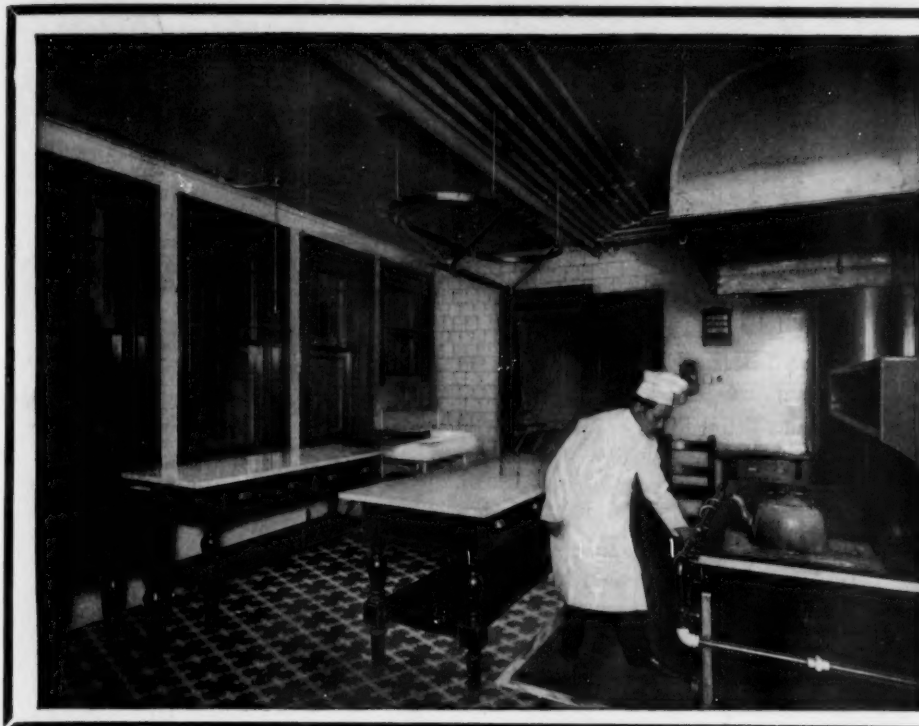
NEW YORK, N. Y.

Illustrations of the competitive designs for the great Protestant Episcopal Cathedral, now building on Bloomingdale Heights, New York

In all, fifty-seven plates [loose], 14 x 20 inches, printed on plate-paper.

PRICE, \$2.50 PER SET.

American Architect and Building News Co.,
BOSTON, MASS.



INTERLOCKING RUBBER TILING

As laid by us in the kitchen of a Fifth Avenue residence. Noiseless, non-slippery and thoroughly sanitary, soft and comfortable to the feet; laid directly over the old floor, whether wood or hard tile, etc. The finest floor for kitchens, laundries, bath rooms, billiard rooms, piazzas and all parts of business and public buildings.

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. Folding
Gate Co., 19 to 21 Tower St., Upper
St. Martin's Lane, W. C.
Baltimore Baltimore Rubber Co.
101 Hopkins Place

PERSPECTIVES RENDERED

IN PEN-AND-INK AND WATER-COLOR,

WALTER M. CAMPBELL,

8 Beacon St., Boston, Mass.

E. ELTON DEANE,

Architectural Colorist and Draughtsman.

63 Seymour Building, Fifth Ave., cor. 42d St.

NEW YORK CITY.

MASON SAFETY TREAD BEWARE OF INFRINGEMENTS

AMERICAN MASON SAFETY TREAD CO., BOSTON

J. W. TAYLOR'S PHOTOGRAPH SERIES

151 MONROE ST., CHICAGO OF AMERICAN ARCHITECTURE

Removed to Owings Building.

Send two 5 cent stamps for Catalogue.

R. P. SOUTHARD

General Supt. Building Construction

Takes entire charge of Building Operations

LARGE WORKS A SPECIALTY

Address — 1053 Exchange Building, Boston, Mass.

BOOKS:

"Norman Monuments of Palermo and
Environs."

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

AMERICAN ARCHITECT AND BUILDING NEWS CO.



Send for Pamphlet of

Automatic Self-Locking
SCUTTLE OPENER

Secure from BURGLARS

Quick escape in case of FIRE

Metallic Skylights

Fire-Proof Windows

For Factories, Warehouses, etc.

G. Bickelhaupt Skylight Works

243 & 245 West 47th St.

Tel., 675-88th. NEW YORK

"HOFFMAN" CEMENT

HAS AN UNPARALLELED RECORD

PORTLAND "DRAGON" CEMENT

Stands Every High Requirement of
ARCHITECTS & ENGINEERS

For 12 Years

16,000,000 BARRELS

USED ON IMPORTANT WORKS IN THE UNITED STATES

THE LAWRENCE CEMENT COMPANY

E. R. ACKERMAN, Pres.

Assoc. Am. Soc. C. E.

Sales Office

No. 1 BROADWAY, NEW YORK

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Denver, Col.—T. D. Boal, 908 Equitable Building, has prepared plans for a \$25,000 brick and stone residence to be erected on Pearl St. and 8th Ave. for J. B. Grand.

Durham, N. C.—Plans have been prepared by Hayden, Wheeler & Co., Charlotte, for a brick library building for Trinity College.

East Boston, Mass.—Plans have been prepared for a \$30,000 warehouse for the Boston & Albany R. R. Co. and the N. Y. Central & Harlem River R. R. Co.

Findlay, O.—The Trustees of the First Methodist Church have decided to erect a new \$75,000 edifice.

Fort Wayne, Ind.—C. R. Weatherhogg has drawn plans for a \$75,000 library.

Galveston, Tex.—The Grand Opera-house Co. will build a \$40,000 brick opera-house on Post-office St., near 20th.

Greenfield, Mass.—A school-building is to be erected on Pleasant St., to cost \$40,000.

Hampton, Va.—Dwyer & Neff, architects, have prepared plans for a large pavilion, to be built by Hoeseloth Bros. The pavilion will be 170' x 350', and will cost \$20,000.

Huntsville, Ala.—A new college building is to be erected here to cost about \$50,000.
A \$50,000 opera-house is to be erected here.

Iowa City, Ia.—The State University will erect a \$200,000 four-story brick fireproof building.

Jackson, Mich.—The Hibbard House is to be replaced by a \$100,000 five-story brick, stone and marble structure, after plans by Claire Allen.

Janesville, Wis.—The Milwaukee Railway Co. will erect a \$30,000 depot here.

Kansas City, Mo.—It is said that a \$40,000 addition will be made to the Savoy Hotel, at the corner of 9th and Central Sts.

Lawrence, Mass.—Jas. E. Allen has prepared plans for a block to contain 4 stores and 28 tenements to be erected on Common St. for T. S. Norton; cost, \$25,000.

Lincoln, Neb.—Plym & Leach have plans for a \$35,000 building to be erected on N. 8th St. for D. E. Thompson.

Little Rock, Ark.—It is stated that the Governor has approved the bill appropriating \$1,000,000 for completing the new State Capitol.
A \$50,000 Protestant hospital is to be erected here after plans by Mann & Gibb. It will be three stories, 125' x 188', of pressed brick with slate roof.

Manchester, N. H.—A portion of the set of buildings partially occupied by the Old Ladies' Home on Hanover St., is being torn down to make room for a new infants' asylum. It will accommodate a hundred inmates, and will be ready for occupancy in October.

Minneapolis, Minn.—Plans have been drawn by William M. Kenyon for 9 frame houses to be built on Lyndale Ave., between 22d and 23d Aves. for Captain Reno; cost, \$20,000.
Thomas Lowry will erect a \$225,000 tenement-house.

Muskegon, Mich.—J. H. Davenport & Son, Grand Rapids, have made preliminary plans for the \$28,000 two-story brick and stone court-house for Muskegon County.

Nashua, N. H.—Boston parties are to erect a \$50,000 theatre building on E. Pearl St.

Nashville, Tenn.—Brown & Brown have made plans for a \$12,000 residence for R. E. Justice, Esq. Messrs. Brown & Brown, architects, have prepared plans for alterations and additions to Price's College for Vanderbilt University, to be occupied as a dental school; cost, \$30,000. They have also made plans for municipal light and power plant, costing \$20,000.
J. E. R. Carpenter has drawn plans for a large building to be erected here for the Methodist Publishing House, to cost about \$150,000.

New Haven, Conn.—It is reported that the late Lampson bequest to Yale University will be used in part for the erection of a lecture hall, to be known as the "Lampson Lyceum." Cost of new building, \$150,000.
Yale is to have a new musical department building. It will front on College St., and resemble in design the Law School building. College Street Hall will be preserved and remodelled.

Newport, R. I.—A million-dollar hotel will be erected here in the near future. E. Rollins Morse, of Boston, and Edward J. Berwind, of New York, are interested. It is said that the site of the old Ocean House, which was burned in '98, has been chosen for the new structure.

New York, N. Y.—It is stated that Al Hayman, of theatrical fame, has purchased the block front on 5th Ave. extending from 94th to 95th Sts., opposite Central Park, and will build thereon a modern dwelling for his own occupancy. It is estimated that the price paid was about \$700,000.
The Chamber of Commerce Building, shortly to be erected on the site of the old Real Estate Exchange, at Liberty St. and Liberty Pl., is to be of white Vermont marble with white granite base, classical in design. The architect is James B. Baker.
James & Leo, 2585 Broadway, have prepared plans for 2 five-story brick dwellings to be erected on 88th St. and 5th Ave. for H. M. Weed, of 2585 Broadway; total cost, \$350,000.
Plans have been prepared by G. H. Streeter for a brick and stone church to be erected at 141st St. and 7th Ave.; cost, \$75,000.
All Angels' Episcopal Church, West End Ave. and 51st St., will soon have 2 new buildings—one a chapel costing about \$80,000, in memory of the two sons of Dr. Humphrey who were recently drowned in the River Nile. The other is a parish house to cost \$100,000.

Norfolk, Va.—Architect J. E. R. Carpenter has prepared plans for a block of stores, for W. B. Withers to cost \$30,000.

Parsonsfield, Me.—Mr. Bartlett Doe, a millionaire of San Francisco, has given a large sum of money to Parsonsfield Academy for the erection of a new school-building and dormitory. He has also arranged to endow the school with \$100,000.

Wm. Paul Gerhard, C. E.

Consulting Engineer for
Hydraulic and Sanitary Works
has removed to

No. 33 Union Square, West
(Decker Building, 11th floor)

SPECIALTIES

Sanitation of Buildings, Towns, Building Sites
Public and Domestic Water-supply
Sewerage, Sewage Disposal, Land Drainage
House Drainage, Plumbing, Ventilation
Fire Protection
Sanitary Inspections

Expert Reports, Specifications,
Superintendence

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Pawtucket, R. I.—A new edifice will be erected for the Woodlawn Baptist Society, costing \$12,000. In the very near future there will be erected by Mr. Lyman B. Goff a new building of commodious proportions and architectural beauty, which will be entirely devoted to the uses of the boys of Pawtucket, for the advancement of their moral, physical and mental development. The structure will be erected on East St., costing in the neighborhood of \$50,000.

Philadelphia, Pa.—It is stated that E. P. Durang is preparing plans for the \$150,000 superstructure of the St. Thomas Aquinas Roman Catholic Church at 18th and Morris Sts.

Pine Bluff, Ark.—A \$25,000 theatre building is to be erected. M. E. and Simon Bloom and J. W. Withers are interested.

Pittsfield, N. H.—Mr. Josiah H. Carpenter, of Manchester, is to present to this his native town a library building. It will be classic in style, of brick with sandstone trimmings.

Pride's Crossing, Mass.—Mr. Bryce J. Allan has made a purchase which will result in a considerable improvement near Beverly Cove, securing some 6 or 8 acres held by several different owners and known in a general way as "Oak Ridge." A part includes the low land of the Sears and Cushing estates. Mr. Allan intends to erect a summer residence, and Guy Lowell, the architect, has been commissioned to execute plans for a house and stable.

Racine, Wis.—A school-building costing \$50,000 will be erected at Lake Ave. and 7th St.

Raleigh, N. C.—South Carolina has no Confederate soldiers' home or other institution provided for the special care of the disabled and indigent veterans of that State. The establishment of such an institution is contemplated, and a prominent South Carolina member of the United Confederate Veterans' Association has visited this city to look into the conditions and management of the North Carolina Soldiers' Home.

Reading, Pa.—John Flynn, Harrison Building, Philadelphia, has drawn plans for a \$60,000 church to be erected here.

Richmond, Va.—The Richmond Lodge of Elks will expend \$25,000 in enlarging and improving the Elks' Home at 11th and Marshall Sts.
The American Oil & Gas Co. will build a factory on Cary St., to cost \$100,000.
Andrew Carnegie has given \$100,000 to build a library in this city.

South Pasadena, Cal.—R. T. Crane, of Chicago, is to build a four-story fireproof hotel on the site of the Raymond Hotel, after plans by Hunt & Eager, Los Angeles; cost, \$350,000.

St. Charles, Ill.—Raeder & Coffin, 103 Randolph St., Chicago, have completed plans for a new factory, which the Cable Piano Co. will build at this place. It will be four or five stories high and will cost \$30,000.

St. Joseph, Mo.—The new six-story Letts-Spencer building will cost \$100,000.

St. Louis, Mo.—The Christian Scientists have purchased a site at Lindell Boulevard and Boyle Ave. upon which they will erect a \$100,000 church.
A \$49,000 school-building is to be erected at the corner of Oak Hill and Juanita Sts.

Tilton, N. H.—Tilton Seminary will soon have a new library building, costing \$20,000. A new gymnasium is also expected to be built.

Westerly, R. I.—At the annual meeting of School District No. 1 it was voted to secure permission from the General Assembly to issue \$60,000 bonds to pay for the new high-school building, to be erected at once.

Westfield, Mass.—The committee on education reports an appropriation of \$60,000 for the erection of a new Normal School dormitory.

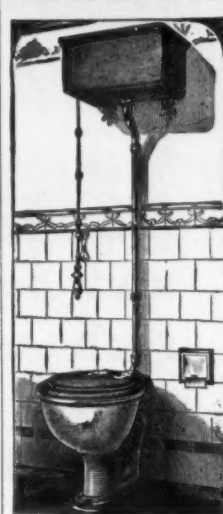
Winchester, Va.—C. E. Hooverhans has been awarded the contract for the erection of a \$40,000 bank building for the Shenandoah Valley National Bank Co.

Worcester, Mass.—Architects Barker & Nourse are preparing plans for a summer residence to be erected at Falmouth Heights for R. N. Start, of this city. No contracts let.
Architect J. P. Kingston has plans prepared for a four-story brick block to be erected on Water St. for Nathan Kurnin. No contracts let.
Architects Cutting, Carleton & Cutting are preparing plans for a cold-storage building to be erected here for Walker Armington. No contracts let.
The Fuller, Delano Co., architects, are preparing plans for an addition to the factory of Wm. Burns Mfg. Co., this city.

APARTMENT-HOUSES.

Cambridge, Mass.—Lee St., Nos. 35-37, four-sty' bk. apart., 77' x 112', steam; \$50,000; o., H. B. Howlett, 631 Massachusetts Ave.; a., C. H. McClure.

THE J. L. MOTT IRON WORKS,



88 Beekman Street,
NEW YORK, N. Y.

The Primo
Improved
Vitro-
Adamant.

PLATE 495 R.

No. 33 Design L
Cistern with Nickel-
plated Brass Brack-
ets, Nickel-plated
Brass Flush Pipe,
Nickel-plated Chain,
Hardwood Pull and
Brass Floor Flange.

Copyrighted, 1897.

Copy of circular
furnished on appli-
cation.

BUILDING INTELLIGENCE.

(Apartment-Houses Continued.)

Chicago, Ill.—Forty-fifth St., nr. Grand Boulevard, three-sty' bk. & st. apart., gravel roof, steam; \$40,000; o., R. Hunter; a., Thos. McCall, 167 Dearborn St.

Minneapolis, Minn.—Fourteenth St. and Nicollet Ave., four-sty' & base. bk. apart., 60' x 144', steam; \$65,000; o., I. R. Beery, Bank of Commerce Bldg.

EDUCATIONAL.

Brookline, Mass.—Two bk. & st. schools, 75' x 75', slate roofs, steam; \$62,500; a., Peabody & Stearns, 53 State St.

FACTORIES.

New York, N. Y.—First Ave., nr. 36th St., four-sty' bk. factory, 48' x 77' 6"; \$20,000; o., Anderson Estate, Broad Exchange Building; a., Frank H. Quimby, 99 Nassau St.

HOTELS.

New York, N. Y.—Seventy-fourth St., nr. Amsterdam Ave., seven-sty' bk. hotel, 50' x 92' 9"; \$150,000; o., Louis P. Sefton, 201 W. 43d St.; a., Buchman & Fox, 11 E. 59th St.

HOUSES.

Boston, Mass.—Smith St. Pl., nr. Smith St., Ward 19, three-sty' bk. dwell., 32' x 40', stoves; \$6,000; o. & b., David Johnson, 3 Smith St. Pl.; a., S. Kuntin & Son, 1117 Columbus Ave.
Bigelow St., No. 44, Ward 25, two-sty' fr. dwell., 25' x 34', pitch roof, furnace; \$5,000; o. & b., A. S. McLachlan, 40 Bigelow St.
Lawn St., No. 39, Ward 19, three-sty' fr. dwell., 25' x 47', flat roof, stoves; \$5,500; o. & b., John P. Curley, 34 Fisher Ave.; a., J. Lulipold, 39 Mozart St., Jamaica Plain.
Columbia Road, nr. Hewins St., Ward 20, two-sty' fr. dwell., 30' x 52', pitch roof, hot water; \$6,500; o., Maria H. Belden; a., C. A. Russell, 64 Warren St., Roxbury District.
Tonawanda St., nr. Geneva Ave., Ward 20, two-sty' fr. dwell., 32' x 45', pitch roof, furnace; \$5,000; o. & b., G. D. Davidson, 53 Greenwood St.
Wenham St., No. 23, Ward 23, two-sty' fr. dwell., 25' x 43', pitch roof, furnace; \$5,000; o., E. Kiggen; a., J. G. Hutchinson, 3760 Washington St.

Brooklyn, N. Y.—Bedford Ave., nr. Avenue F, two-sty' & attic fr. dwell., 33' x 34', shingle roof, steam; \$7,500; o., J. R. Corbin, Avenue G & Flatbush Ave.; a., B. Driesler, 1432 Flatbush Ave.
Ocean Ave., nr. Ditmars Ave., two-sty' & attic fr. dwell., 34' 3" x 51' 4", shingle roof, steam; \$12,000; o., Emily L. Driggs, 13 Broadway; a., J. J. Petit, 186 Remsen St.
Bedford Ave., nr. Avenue F, two-sty' & attic fr. dwell., 34' x 35', shingle roof, steam; \$7,500; o., J. R. Corbin, Avenue G & Flatbush Ave.; a., B. Driesler, 1432 Flatbush Ave.
Dean St., nr. Kingston Ave., 3 three-sty' bk. dwells., 20' x 47', gravel roofs; \$15,000; o., W. F. Clayton, 140 Bainbridge St.; a., H. E. Wheeler, 140 Bainbridge St.
E. Fifteenth St., nr. Avenue C, 10 three-sty' bk. dwells., 20' x 42'; \$45,000; o., Fannie R. Jersey, 12 St. John's Pl.; a., J. S. Kennedy, Temple Bar Building.
Degraw St., nr. Nostrand Ave., 4 three-sty' bk. dwells., 20' x 48'; \$20,000; o., H. Hanson, 16 Second Pl.; a., C. Robert, 891 Sterling Pl.
Nautilus Ave., nr. Highland Ave., two-sty' & attic bk. dwell., 37' x 44'; \$8,000; o., W. Tumbbridge, St. George Hotel; a., W. H. Smith, 45 Exchange Pl., N. Y.

Milwaukee, Wis.—Two-sty' bk. dwell., steam; \$15,000; o., Chas. Fitzgerald; a., Ferry & Clas.

New York, N. Y.—Fifth Ave., cor. 88th St., 2 five-sty' bk. dwells., 23' x 27' x 102' & 94'; \$350,000; o., H. M. Weed, 2585 Broadway; a., James & Leo, 2585 Broadway.
E. Seventy-third St., Nos. 7-15, five-sty' bk. dwell., 51' 4" x 77' 6"; \$200,000; o., Joseph Pulitzer, 9 E. 72d St.; a., McKim, Mead & White, 160 Fifth Ave.

Portland, Me.—Three-sty' bk. & st. dwell. for nurses, comp. roof, steam; \$25,000; o., Maine Gen. Hospital; a., A. W. Longfellow, Tremont Building, Boston, Mass.

Somerville, Mass.—Broadway, cor. Boston Ave., three-sty' fr. dwell. & stores, 30' x 58', shingle roof, furnace; \$5,000; o., Fred D. Cummings; b., G. F. Cook, 21 Hancock St.

Waltham, Mass.—Chester Ave., 2½-sty' fr. dwell., 27' x 43', shingle roof, steam; \$6,200; o., W. F. Godber, 38 Chester Ave.; a., John P. Kingston, 518 Main St., Worcester.

Worcester, Mass.—Cambridge St., three-sty' fr. dwell., 28' x 63'; \$4,500; o., Thomas Callum; c., R. M. Bucklin.

The facilities at our disposal
and our operative system are
such as to insure most favor-
able quotations and deliveries
for any part of the world.

**American
A Bridge
B Company**

GENERAL OFFICES
100 BROADWAY
NEW YORK

21-169.

ART METAL WORK

BANK AND OFFICE RAILINGS
ELEVATOR CABS AND ENCLOSURES
ORNAMENTAL WIRE-IRON-BRASS AND BRONZE WORK
WM. INGLIS WIRE & IRON WORKS-DETROIT, MICH.

PASSAIC ROLLING MILL CO.,
PATERSON, N. J.

Steel Beams

4 inches
to
20 inches
deep.

ALL STRUCTURAL SHAPES.

NEW YORK OFFICE . . . 45 BROADWAY.
Boston Office, No. 31 State Street.

BUILDING INTELLIGENCE.

TENEMENT-HOUSES.

New York, N. Y. — King St., Nos. 60-62, six-st'y bk. tenement, 41' 8" x 62' 0"; \$45,000; o., Lowenfeld & Prager, 115 Broadway; a., G. F. Pelham.

E. Broadway, cor. Market St., six-st'y bk. tenement, 25' x 85'; \$30,000; o., Thos. Shiels, 416 W. 149th St.; a., M. Bernstein.

Market St., No. 35, six-st'y bk. tenement, 25' x 77'; \$24,000; o., Jos. Solomon, 691 Broadway; a., Nathan Langer, 220 Bowery.

Grand St., cor. Norfolk St., seven-st'y bk. tenement & store, 50' x 70'; \$70,000; o., J. C. Smith; a., G. F. Pelham, 503 Fifth Ave.

PROPOSALS.

JAIL.

Bids are wanted by the County Commissioners until June 18 for a jail. J. C. PONDER, clk. bd. 1324

[At Forsyth, Ga.]

COURT-HOUSE.

Bids are wanted by the Secretary of the Police Jury May 27 for a three-story fireproof court-house. The RIELEY GORDON CO., Dallas, Tex., are the architects. 1325

[At Alexandria, La.]

Treasury Department, Office Supervising Architect, Washington, D. C., May 3, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 10th day of June, 1901, and then opened, for the installation of a conduit and wiring system for the U. S. Post-office and Court-house at Beaumont, Texas, in accordance with the drawings and specifications, copies of which may be obtained at this office, or at the office of the Superintendent of Construction at Beaumont, Texas, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1325

Treasury Department, Office Supervising Architect, Washington, D. C., April 29, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 10th day of June, 1901, and then opened, for the installation of a conduit and wiring system for the U. S. Post-office and Court-house at Beaumont, Texas, in accordance with the drawings and specifications, copies of which may be obtained at this office, or at the office of the Superintendent of Construction at Beaumont, Texas, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1325

PROPOSALS.

IRONWORK.

[At Washington, D. C.] U. S. Engineer Office, 735 N. Capitol St., Washington, D. C. Sealed proposals will be received here until May 24, 1901, for furnishing wrought and cast iron stair work, manhole-covers and hatchway frames and safety treads, steel ladders, steel-plate covers, cast-iron drinking fountain frames, manhole covers and frames, ventilating registers, and two steel tanks, for new building for government printing-office. Information furnished on application. JOHN STEPHEN SEWELL, captain, engineers. 1325

Treasury Department, Office of Supervising Architect, Washington, D. C., April 27, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 27th day of May, 1901, and then opened, for the construction of a glazed porch at the U. S. Immigrant Station, Ellis Island, New York Harbor, in accordance with the drawings and specification, copies of which may be had at this office or at the office of Messrs. Boring & Tilton, architects, 32 Broadway, New York, N. Y. JAMES KNOX TAYLOR, Supervising Architect. 1324

Treasury Department, Office Supervising Architect, Washington, D. C., April 25, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 18th day of May, 1901, and then opened, for painting, etc., for the U. S. Post-office and Sub-treasury at Boston, Mass., in accordance with specification, copies of which may be had at this office or at the office of the Custodian of the building at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1324

BUILDING.

[At Columbus, O.]

Bids are wanted May 16 for erecting a building, to cost about \$75,000, for the College of Law, Ohio State University. Alexis Cope, sec'y. Architect, Stillman Dutton, New England Bldg., Cleveland. 1324

PAVING.

[At Alexandria, Ind.]

Proposals will be received at the office of W. I. Hall, City Clerk of the City of Alexandria, Ind., up to May 30th, 1901, for the paving of certain alleys in the central portion of the city with vitrified paving brick. The amount to be put under contract amounts to about 6,000 square yards. J. S. HUMPHREY, city engineer. 1324

PROPOSALS.

Treasury Department, Office of Supervising Architect, Washington, D. C., April 22, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 23d day of May, 1901, and then opened, for renovation of the plumbing and drainage system, etc., in the U. S. Post-office and Court-house at Philadelphia, Pa., in accordance with drawings and specification, which will be furnished at the discretion of the Supervising Architect at this office or at the office of the Custodian of the building, at Philadelphia, Pa. JAMES KNOX TAYLOR, Supervising Architect. 1324

BUILDINGS.

[At Hapeville, Ga.]

Bids are asked until May 20 for constructing buildings for the Fulton County Industrial Farm. GEORGE WILSON STEWART, Atlanta Ga. 1324

BANK BUILDING.

[At Bird Island, Minn.]

The undersigned hereby gives notice that sealed proposals for the erection of bank building and drug store including all labor and material, will be received by Bank of Bird Island until the 15th day of May, 1901. F. L. PUFFER, pres. 1324

BUILDING.

[At Fort Revere, Boston Harbor, Mass.]

Depot Quartermaster's Office, 170 Summer St., Boston, Mass. Sealed proposals will be received at this office until May 27, 1901, for constructing at Fort Revere, Nantasket Head, Boston Harbor, Mass., one barrack, two single and one double officers' quarters, one hospital, three non-commissioned officers' quarters, one guard-house, one bake-house, one stable, one storehouse, one shop, one fuel shed and one oil-house. W. H. MILLER, depot quartermaster. 1325

SIGNAL STATION.

[At Rockland Harbor, Me.]

Sealed proposals will be received at the office of the Lighthouse Engineer, Room 1017, 25 Pemberton Sq., Boston, Mass., until May 23, 1901, for building a light and fog signal station on the Breakwater at Rockland Harbor, Me., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to Lieut. Colonel W. S. Stanton, Corps of Engineers, U. S. A. 1325

CALIFORNIA REDWOOD LUMBER

COSTS NO MORE THAN PINE

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

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

For sale at retail by all the principal dealers in the New England and Middle States. If your dealer cannot supply you, write us and we will inform you of the nearest dealer handling Redwood Lumber.

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

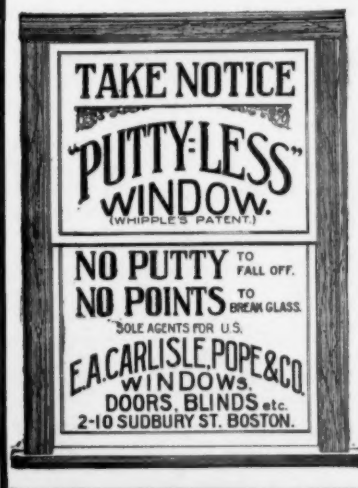
BARTLETT LUMBER CO.,

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

Telephone, Main 1911.

CALIFORNIA REDWOOD DOORS

Stand better than Pine, under all conditions, Painted, Stained or Natural. All regular sizes in stock.
WHOLESALE and RETAIL.



Trouble and Expense caused by Putty falling off may be avoided by using "Putty-less" Windows. Send for Booklet. E. A. Carlisle, Pope & Co., 2-10 Sudbury Street, Boston, Mass. New York Office, 101 1/2 W. 74th St.

Re "Topical Architecture."

APPLAUSE FROM THE ARCHITECTURAL SCHOOLS

["MASS. INSTITUTE OF TECHNOLOGY,"
Boston, Mass.]

Represents one of the very best means for comparative study.

F. W. CHANDLER,
*Professor of Architecture,
Mass. Institute of Technology.*

["UNIVERSITY OF ILLINOIS," *Urbana, Ill.*]

You have struck the keynote of what, developed, must prove of immense value.

SETH J. TEMPLE,
Assistant Professor of Architecture.

["SCHOOL OF ARCHITECTURE, COLUMBIA
UNIVERSITY," *New York.*]

The "Topical Architecture" is precisely what students and practitioners have alike been needing and sighing for for no one knows how many years.

A. D. F. HAMLIN,
Adjunct Professor of Architecture.

["HARVARD UNIVERSITY," *Cambridge, Mass.*]

This scheme seems to me to be an admirable one.

H. LANGFORD WARREN,
*Professor of Architecture, Lawrence
Scientific School, Harvard University.*

["UNIVERSITY OF PENNSYLVANIA," *Phila., Pa.*]

The scheme embodied in your "Topical Architecture" is most welcome, because it presents this great abundance of illustrations properly classified for immediate reference.

WARREN P. LAIRD,
Professor of Architecture.

["SYRACUSE UNIVERSITY," *Syracuse, N. Y.*]

Should find its way into the reference-room of every public library, as well as into the draughting-rooms of the architects, and the studies of cultured men.

EDWIN H. GAGGIN,
*Professor of Architecture,
College of Fine Arts, Syracuse University.*

["COLLEGE OF ARCHITECTURE, CORNELL
UNIVERSITY," *Ithaca, N. Y.*]

I have looked over the plates of "Topical Architecture" and think the idea excellent.

ALEX. B. TROWBRIDGE,
Professor in Charge.

Artist and Artisan

is the title of an Artistic Brochure issued by the

Yale and Towne

Mfg. Company,
9-11-13 Murray St., New York City.

It deals with the origin of Ornamental Metal Work and its present development and uses. It will be sent to Architects on request.

9360-19

The Search for Work

The man who can do something better than anyone else doesn't search for work. Employers search for him. We teach the theory of engineering and the trades to men already at work. Thousands of our students have secured a

Salary-Raising Education

in Mechanical, Electrical, Steam, Civil or Mining Engineering, Chemistry, Architecture, Plumbing, English Branches. When writing state subject in which interested.

International Correspondence Schools,
Box 986, Scranton, Pa.



THIRD EDITION NOW READY

"Renaissance Fireplaces"

Forty Gelatine Prints on
bond-paper in envelope
Price, \$5.00

American Architect and Building News Co.
211 Tremont St., Boston

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

MINERAL WOOL

FIRE, SOUND and VERMIN PROOF INSULATOR.

Samples and Circulars Free.

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

LARGE STOCK OF
FOREIGN & DOMESTIC
Photographs



Sidman
Architectural
FOR Photographer

THE AMERICAN ARCHITECT

FINE INTERIORS
DETAIL EFFECTS
COPYING

8 East 42 Street
Permanent Prints
in
PLATINUM OR CARBON
NEW YORK

"LIBRARY OF CONGRESS."

TWENTY GELATINE PLATES,

14" x 16½" in Portfolio.

PRICE, \$5.00.

This excellent series of Architectural Illustrations forms No. VI of
the Series of Monographs of American Architecture.
Published by

THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

THE ARTIST

An Illustrated Monthly Record
of Arts, Crafts, and Industries

35 Cents. Yearly, \$3.50

A beautifully illustrated Magazine, which
covers in its survey the field of Art in European
countries and is devoted to the Arts and Crafts'
movement in America.

THE DIAL

"The ARTIST is one of the best of the art
journals."

THE CRITIC

"The ARTIST is a handsome cosmopolitan
magazine, very profusely illustrated."

THE ARGUS

"One of the handsomest magazines pub-
lished is THE ARTIST."

LITERARY WORLD

"... Handsome and engaging candidate
for the favor of those whose tastes or occupa-
tions center in the world of applied art. . . .
We recommend it warmly to all art students and
to all artisans who desire to rise in their profes-
sions."

BOOK AND NEWSDEALER

"We see in THE ARTIST a publication of con-
stantly increasing merit. The classically artistic
exterior is the equal of anything we have seen."

PUBLISHED BY

TRUSLOVE, HANSON & COMBA, Ltd.

67 Fifth Avenue, New York

NEW ENGLAND

MATERIAL-MEN & CONTRACTORS.

BLUE PRINTING.

CHAS. E. MOSS,
Rapid Printing Papers.
14 Broad St., Boston.
Telephone: Boston, 2751-2.

CONTRACTOR & BUILDERS.

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

ROOFING DUCK.

C. H. BATCHELDER & CO.,
135 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.

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 criticize in the public prints the professional
conduct or work of another architect except
over his own name or under the authority of
a professional journal.

SECTION 10. It is unprofessional to furnish 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.

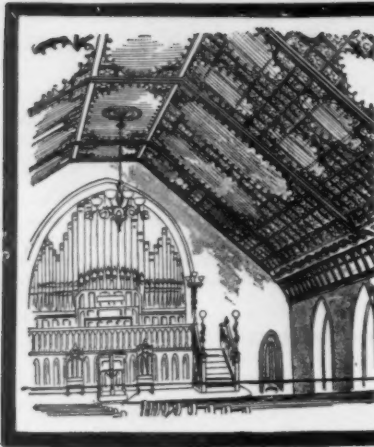
SECTION 12. The American Institute of Archi-
tects' "schedule of charges" represents mini-
mum rates for full, faithful and competent
service. It is the duty of every architect to
charge higher rates whenever the demand for
his services will justify the increase, rather
than to accept work to which he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

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

SECTION 14. It is unprofessional to enter into
competition with or to consult with an 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.



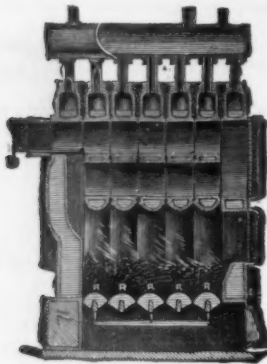
For Richness of Design,
Beauty of Finish and
Harmonious Effects,

**..Berger's..
Classic Metal Ceilings**

ARE UNSURPASSED.

Send for our booklet "A NEW IDEA IN
METAL CEILINGS,"—'tis free.

**THE BERGER MANUFACTURING COMPANY,
CANTON, OHIO.**



THE H. B. SMITH CO.

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

MANUFACTURERS.

Steam and Water

Heating Apparatus,

Factory: Westfield, Mass.

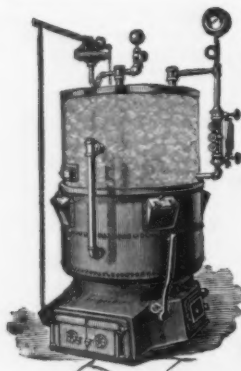
ESTABLISHED 1852.

Send for Catalogue.

NEW YORK, PROVIDENCE
PHILADELPHIA.

**JOHN WILLIAMS, 544 to 556 West 27th Street, New York.
WROUGHT IRON AND BRASS WORK TO SPECIAL DESIGNS ONLY.**

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



**THE
"Gorton Side-Feed" Boilers**

For Steam and Hot Water Heating.

YOU WANT THE BEST. WE HAVE IT.

Send for Catalogue and investigate for
yourself.

GORTON & LIDGERWOOD COMPANY,

Old Colony Building,
CHICAGO.

77 Oliver Street,
BOSTON.

96 Liberty Street,
NEW YORK.

[See Alphabetical Index on Cover 2 for Pagination.]

CLASSIFIED ADVERTISEMENTS.

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

ARCHITECT'L ORNAMENTATION.

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

ART METAL WORK.

Ludlow Saylor Wire Co., St. Louis,
Mo.....(mon)

ASPHALT.

Neuchatel Asphalte Co., New York..

New York Mastic Works, New York.

ASPHALT ROOFING.

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

AUTOMATIC SPRINKLER.

Internat'l Sprinkler Co., Phila., Pa..

BLINDS (Venetian).

Burlington Venetian Blind Co., Bur-
lington, Vt.....

BLUE PRINTS

Moss, Chas. E., Boston.....

Spaulding Print Paper Co., Boston
.....(eow)

BOILERS (Side-Feed).

Gorton & Lidgerwood Co., New York.

BRASS WORK (Ornamental).

Inglis Wire and Iron Works, Wm.,
Detroit, Mich.....

BRICKS (Red Oxide).

Wisconsin Graphite Co., Pittsb'g, Pa.

CALIFORNIA REDWOOD.

Carlisle, Pope & Co., E. A., New York.

CAPITALS.

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

CAPITALS (Carved).

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

CARVING.

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

CEMENT.

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

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

Lawrence Cement Co., The, New York

Thiele, E. New York.....

CEMENT PAVING.

Stamsen & Blome, Chicago, Ill.....

CHLORIDE ACCUMULATOR.

Electric Storage Battery Co., Phila-
delphia, Pa.....

COMPOSITION ORNAMENT.

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

CONDUCTORS.

American Steel Roofing Co., The,
Cincinnati, Ohio.....

CONSERVATORIES.

Lord & Burnham Co., Irvington-on-
Hudson, N. Y.....

CONSULTING-ENGINEER.

Wm. Paul Gerhard, C. E., New York.

CONTRACTING.

Flynt Building & Construction Co.,
Palmer, Mass.....

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

CONTRACTING.

Southard, R. P.....

CONTRACTOR AND BUILDER.

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

CORDAGE.

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

CREOSOTE STAINS.

S. Cabot, Boston.....

CUTLER PAT. MAILING SYSTEM.

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

DEAFENING QUILT.

Samuel Cabot, Boston, Mass.....

DECORATORS.

L. Haberstroh & Son, Boston.....

DOORS.

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

DOORS (Interior Finish).

Carlisle, Pope & Co., E. A., New York.

DRAUGHTSMAN.

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

ELEVATORS, ETC.

Morse, Williams & Co., Philadelphia.

Whittier Machine Co., Boston.....

ENGINES (Hot-Air).

Rider-Ericsson Engine Co., New York.

FAUCETS.

Union Brass Works, Boston, Mass...

FILING DEVICES.

Art Metal Construction Co., James-
town, N. Y.....

FILTER.

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

Seafie & Sons, Wm. B., Pittsb'g, Pa.

FIREPROOF DOORS.

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

FIREPROOF LATHING.

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

FIREPROOF SHUTTERS.

Kinnear Mfg. Co., The, Columbus, O

FLOOR-PLATES.

Ogden & Wallace, New York.....

FLOOR POLISH.

Butcher Polish Co., Boston.....

FLUSH-VALVE.

Peck Brothers Co., Chicago, Ill.....

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.

SEYSSSEL ROCK ASPHALT

and Bitumen Damp Course,

NEW YORK MASTIC WORKS,

11 Broadway, New York.

THE

Northwestern Terra-Cotta Co.
Manufacturers of

Architectural Terra-Cotta.

WORKS & MAIN OFFICE:

Cor. Olybourn & Wright-
wood Avenues.

CITY OFFICES:

Room 1118 Rookery Bldg.,
Cor. La Salle & Adams St.

CHICAGO.

Estimates given on application. Send for
Catalogue and Samples.

PERTH AMBOY

TERRA-COTTA COMPANY,

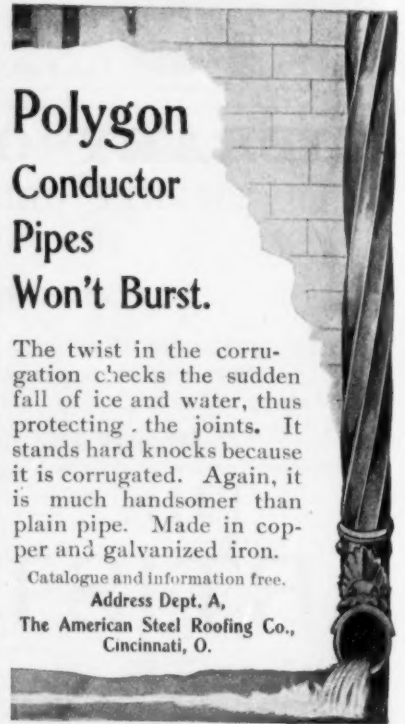
—OF—

PERTH AMBOY, NEW JERSEY.

OFFICE, 160 Fifth Ave., NEW YORK.

BOSTON AGENTS:

WALDO BROS., 102 MILK STREET.



**Polygon
Conductor
Pipes
Won't Burst.**

The twist in the corru-
gation checks the sudden
fall of ice and water, thus
protecting the joints. It
stands hard knocks because
it is corrugated. Again, it
is much handsomer than
plain pipe. Made in cop-
per and galvanized iron.

Catalogue and information free.

Address Dept. A,

The American Steel Roofing Co.,
Cincinnati, O.