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THE new Federal Building for Baltimore is the subject of a competition, the programme for which, as for all competitions for Government work under the present law, has been arranged by the Government officials. It is hardly necessary to say that amateurs are apt to utilize such opportunities to introduce novelties of their own invention, and one of the suggestions made in the Baltimore programme was that the successful competitor should pay out of his own pocket a "consolation prize" of five hundred dollars to each of his unsuccessful rivals. The Government officials say that this was not included in the programme as a condition, but only as a suggestion, and that they were led to propose it by the reflection that, as the law does not permit the award of secondary prizes in Government competitions, and as the successful competitor would save some of the cost of duplicating plans and specifications, which the Government would do for him, it would promote "the interest of abstract justice, and of good feeling among the competitors," to have him share his profits among his brethren. It is said, not greatly to the credit, as it seems to us, of the ten competitors, that all of them acceded to this suggestion, but the profession generally took a different view of this ingenious method of producing "harmony" among the invited competitors, and Messrs. Post, McKim, Carrère and Cook, who were invited to act upon the jury of award, declined to serve, on the ground that the competition was unprofessional and unsatisfactory. Four others, of more obliging disposition, were therefore selected, and it appears that the competition will be carried out according to the original scheme.

WE hope that the profession and the public will not fail to note this case as a warning of the abuses which will surely creep in under the well-intended, but loosely drawn, Tarsney Act. As we have often said, from the time that the Government first takes steps to secure land for a public building, until the last workman leaves it, the politicians never cease to hover around it, and to use all the means that they can think of, fair or foul, generally, however, the latter, to extract from the undertaking some political or pecuniary advantage for themselves or their adherents. The Tarsney Act was a long step in the right direction, for it tried to put the Government work into the hands of men not subject to political influences, and accustomed to the skilful, honest and economical management of building operations, in the interest solely of the owner. It seemed as if this would at last enable the public to get its building work done in the way that private individuals get theirs done, without being robbed of millions every year to "placate" influential contractors, or dealers in materials; but the event shows that the Tarsney Act is insufficient. As every architect who has had much to do with public buildings knows, the first move of the politicians who find that an honest professional man is likely to be put in charge of the work is generally to disgust all decent architects in advance by the terms of a competition programme, or, if there is no opportunity for this, and they find an honest man installed in spite of them, to goad him by various arts into resigning, and leaving the field clear for their protégé. The new "suggestion" in the Baltimore

programme is precisely the sort of preliminary manoeuvre which is needed to drag down the public-building service to the old level by keeping out of it the highly-trained and respectable architects whom it was the object of the Tarsney Act to attract. The fact that the competitors were at liberty to reject it, but did not do so, says very little in its favor, and those who agreed to it in this instance, in the surprise of the moment, and, perhaps, in the excitement of being selected to compete, would not be likely to do so again, especially after similar experiments, by repelling the best architects, had made selection for Government competitions a very doubtful honor; so that there is no reason why the whole profession, including the present competitors, should not stand together to resist henceforth this and all similar devices. In no other way can the public-building work be kept at the high plane to which it seemed to have been raised, and the whole community should help the architects to insist on what was virtually promised them by Congress; that is, simply, the same treatment in public work that they receive from private owners.

THE plan which was suggested some time ago, for connecting Copley Square, in Boston, with South Boston, by means of a wide street carried southeasterly to join what is known as the Broadway Extension, has been brought forward again by the Boston *Herald*, which urges, with more force than ever, that such a street would be already very useful, and will soon be very necessary, not only to afford direct communication between Copley Square and South Boston, including the northern part of Dorchester, but to relieve the congestion of electric-cars on Boylston Street. In, or very near, Copley Square are already situated the Public Library, the Mechanics' Charitable Building, the Museum of Fine-Arts, the Institute of Technology, the Harvard Medical School, the two great uptown railway-stations, eight or nine hotels, the Girls' Latin School, two or three clubs, a branch post-office, and a number of buildings containing private schools, which are attended by hundreds of pupils. At present, there is no direct thoroughfare by which this great centre can be reached, not only from South Boston, but from a large portion of the city itself, without circumnavigating a series of angles, through the narrow and crooked streets for which Boston is famous. Before many months, the new Music Hall, the new Horticultural Hall, the new Museum of Fine-Arts, and, in all probability, the new Normal School, two or three new hotels, and a great number of first-class shops, will draw thousands of visitors over the same route beyond Copley Square. Moreover, a large part of the thousands of persons who will crowd the Huntington Avenue stores, the Music Hall and the Mechanics' Charitable Building will come from the suburban districts on the line of the former Old Colony Railroad. At present, these people, to reach their trains at the Terminal Station, must walk a long distance from the Park-Street Subway Station, which is now so crowded with people who wish to go there that it is highly desirable to avoid crowding it still more with people who would prefer to go somewhere else. Even without the attractions in process of construction beyond, the travel between Copley Square and the Terminal Station is already so great that the street-railway company has petitioned for leave to lay tracks in the narrow and circuitous streets connecting the two, not only for the convenience of travellers, but to relieve the Subway stations of traffic which need not, and should not, go through them. To lay tracks in narrow streets, while it may answer the purpose of a railway company, practically deprives every one else of the use of the streets so appropriated, and the only rational way in which the acknowledged need of railway communication can be reconciled with public convenience is to provide a street wide enough both for the public and the railway.

ANOTHER project which, if it is carried into effect, will make the need of some such street as is proposed still more imperative, is the proposed purchase by the city of Boston of the abandoned Providence Railroad lands for the erection of an immense market, in connection, perhaps, with other public buildings. A market is, of all public or private mercantile establishments, that which should be most easily accessible to the greatest number of people; and the sight of strings of country wagons entangled in the convolutions

of Piedmont and Church and Isabella Streets, in the endeavor of their drivers to get their load to market before their customers had departed, would, in itself, form a strong argument in favor of the new street, which would lead straight to the market from the only important quarter of the city which has not already a tolerably direct approach to it. No doubt it is unfortunate that the new street should not have been determined upon before the construction of the Westminster Chambers building, which stands directly in its way; but delays are necessarily costly in matters of municipal improvement, and it would be far less expensive to build the street now, even including the destruction of Westminster Chambers, than it will be later, when the Providence Railroad land, now vacant, is covered with fine buildings.

THE British Fire-prevention Committee has been making, at its testing station in London, some extremely valuable experiments on floors, partitions, windows and doors, to determine the resistance of various materials to fire. To test floors and ceilings, a room, ten feet square, was built of brick, and covered with flooring of the kind to be tested, and fire applied underneath. The temperature to which each floor was exposed was approximately determined, and, toward the end of each test, water was thrown from beneath on a portion of the floor. Up to the time of the last report, no wooden flooring of the kind that American architects would call "slow-burning" had been tested, nor any form of terra-cotta flat arching. In regard to the latter, as fireproof flooring materials are generally manufactured by certain firms, sometimes under patents, it is fair to the manufacturers to allow them to build the floors to be tested, and, until now, no maker of terra-cotta flooring material has offered to submit his product to tests, while several patentees of concrete flooring have done so. Among these, the Columbian Fireproofing Company seems to have gained the most credit, its flooring of twelve-inch steel girders, surrounded by clinker concrete, with a filling of two-inch steel bars, supporting concrete four inches thick, with plaster ceiling underneath, and concrete filling, two inches thick, on top, between the sleepers for wood flooring, loaded with one hundred and sixty-eight pounds per square foot, having resisted a temperature of 2,300° Fahrenheit for two hours and a half, without injury, except for some cracks in the concrete girder-protection, and the sealing of portions of the plaster ceiling on the application of water. This excellent showing, of which American architects and engineers may justly be proud, was nearly equalled by a floor provided by the Expanded Metal Company, made with six-inch steel joists, with a three-inch concrete slab above, formed on expanded metal netting, and a similar ceiling underneath. This construction, under a load of one hundred and forty pounds per square foot, resisted for seventy-five minutes a temperature of 2,100° Fahrenheit, without injury except for cracks in the concrete, and the falling of some plaster from the ceiling on the application of water; but it deflected slightly, which, considering the dimensions of the steel beams, is not surprising.

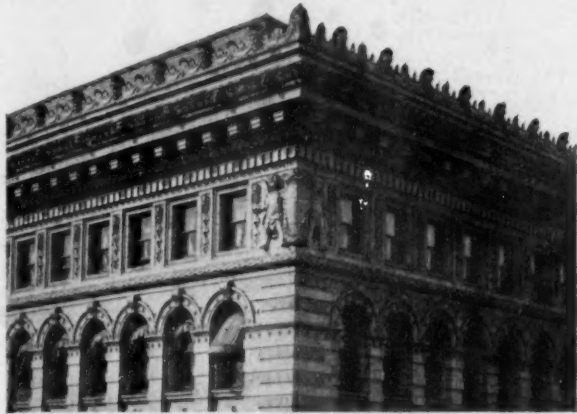
THREE floors, which were built in accordance with the specifications of the London Building Act, gave just the results which architects in this country would expect from them. One was constructed with wooden joists, three by nine inches, filled in with concrete, and with a plaster ceiling. This floor, which was not loaded, was subjected to a temperature of 2,350 degrees for ninety minutes, when it collapsed, the joists having been burned through, the ceiling destroyed, and the concrete partially disintegrated. The second floor was of five-inch steel-beams, thirty inches from centres, filled in with "breeze" concrete, without any plastered ceiling. This was loaded with one hundred and sixty-eight pounds per square foot, and exposed to a temperature of only 1,650 degrees. In ninety minutes, after "serious deflection," it collapsed. The third floor was made with seven-inch steel beams, with concrete arches between them, on corrugated-iron centring, and with a suspended plaster ceiling on wire lathing. This construction, which was common in this country twenty-five years ago, "deflected seriously" under a temperature of 2,100 degrees, and the suspended ceiling fell off, while the concrete arches, at the end of seventy-five minutes, were "slightly disintegrated." In regard to the resistance of glass, some valuable facts were learned. Besides ordinary sashes, glazed with thirty-two-ounce glass, sashes filled with lead-lights and with plate-glass were tested, and also

sheets of wire glass, and of electro-glazed Luxfer lights. The sheet-glass and the lead-lights resisted a temperature of 1,000° Fahrenheit, without water, for six and seven minutes respectively, and the plate-glass, one-quarter inch thick, resisted for twelve minutes. The Luxfer lights and the wire-glass, both of which were one-quarter inch thick, and set in wooden sashes, instead of the iron frames which would be used for them in this country, were exposed to a temperature of 1,600 degrees, and had water thrown on them once or twice during the test; but both held back the fire for half an hour or more, although in one instance the electro-glazing began to melt before the test was completed. Sixteen tests were made of these varieties of glazing, both in vertical sashes and in skylights, and, although the wire-glass showed a slight average superiority, the best single display of resistance was shown by a Luxfer sash, which kept back the fire for forty-five minutes, although water was twice thrown on it, and the temperature was 1,600 degrees. We need hardly point out the importance of these tests of glass, which confirm the opinion which architects in this country had already formed of the value of both the new glazing materials. A glazing which will resist the flames for half an hour or more is practically fireproof, and windows filled with it are as secure as ordinary windows with iron shutters.

THE Massachusetts State Board of Health is noted for the care with which its investigations are made, and its account of the investigation of a typhoid-fever epidemic at one of the State institutions deserves serious attention. It seems that a large number of cases of typhoid fever appeared last September in the State Hospital for the Insane, at Northampton. Among the patients, the disease was confined to the "pay patients," while the nurses and the house and farm servants also suffered. Comparing the diet of these with the pauper patients, who were not affected, it appeared that, while the latter were confined to a fixed regimen, the others were favored with little luxuries, such as fresh fruit and vegetables. Among the vegetables thus furnished in the pay wards at the time of the epidemic was celery, grown on the hospital farm, portions of which are utilized for the disposal by downward filtration of the hospital sewage. Investigation showed that the filter-beds were near the celery patch, and that the material from the beds was banked up around the stalks of the celery, to bleach them. Although filtration and exposure to the air soon destroy the germs of typhoid fever, it seemed not impossible that soil freshly charged with such germs, if thrown up around celery, and thus to a certain extent protected from the action of the air, might leave living germs on the surface of the celery. Orders were therefore given to discontinue the use of the celery, and the number of cases of typhoid began to diminish at once, and in two months the epidemic had disappeared.

AS this is, we believe, the first authenticated case in which any bacterial disease has been traced to the use of vegetables from a sewage-farm, and as millions, perhaps, of people depend upon such vegetables for their daily nourishment, the connection of the typhoid infection with the filter-beds should be clearly shown, with all its attendant circumstances, in order that suitable precautions may be taken wherever sewage-farming is carried on. The days have long gone by when a professor—evidently not a professor of botany—could gravely announce in a lecture that he had cut open a stalk of celery grown on the irrigated fields of Gennevilliers, and had seen sewage issue from the cut surface, and the world, long accustomed to the use of sewage-grown vegetables, will be anxious to know whether there is really any danger in the practice.

AN International Congress of Architects will be held in Paris from July 29 to August 4, 1900. The Governments of various countries will be asked to designate official representatives to the Congress, and, undoubtedly provision will be made for private architects of all nations. The sessions of the Congress will be held in the building specially erected for such purposes in the Exposition grounds. Many American architects will probably be in Europe next year, and they may with advantage remember the opportunity which the Congress will afford for meeting their professional brethren. By request of the English architects interested in the Congress, one of the topics to be considered will be that of cheap dwelling-houses for workingmen; and it is hardly necessary to say that the discussion will deeply interest architects of all countries.

SOME FEATURES OF THE "ELLICOTT SQUARE,"
BUFFALO.

Detail of Main Cornice: "Ellicott Square," Buffalo, N. Y.

WHEN the Ellicott Square Company acquired the site bounded by Main, Washington, Swan and South Division Streets, at a cost of more than one million dollars, it was apparent that there was a field in Buffalo for a building in which might centre the business life of the city; where the representatives of a multitude of related callings might be brought under one roof, securing to all the benefits of intimate association and the exchange of business courtesies. In the designing of the structure which was subsequently erected, these requirements were kept sharply in mind, and in the building were embodied those features which are most essential to the purpose for which it was intended, namely, that of a purely commercial building. There has been little attempt at ornamental display, and no indulging of architectural vagaries, the whole effect of the architectural treatment conveying rather the impression of simplicity and massiveness.

Occupying a whole square in the heart of the business portion of the city, bounded by four principal business thoroughfares and surrounded on all sides by the Municipal and Government buildings, the hotels and depots, the mercantile houses and lesser office-buildings, the Ellicott Square occupies a unique position. The tide of business life ebbs and flows through its broad corridors, while its spacious court, lighted by day by sunlight, and at night by huge electroliers, affords an opportunity for the exchange of greetings during business hours, and for the expression of personal views on the important questions of the time. Here one may feel the pulse of the business life of the city.

Nineteen feet below grade foundations of steel and concrete were established with due regard to the enormous weight they may be called upon to support, the whole structure being designed to admit of ten additional stories, should future conditions justify such a course, thus giving to the present ten-story structure an unusually large factor-of-safety.

The Main and Washington fronts measure each 240 feet, while the depth on Swan and South Division Streets is 200 feet. It was found that the grade at the Washington-Street side is 4 feet lower than the Main-Street grade, and it was decided to give the ground-floor pitch enough to bring the Washington-Street entrance to grade, in order to overcome the disadvantage of a raised entrance on the east side of the building. This has been done with good effect, the depth of the building rendering the depression almost imperceptible.

The style of architecture may be termed Italian Renaissance. To the top of the second floor the exterior walls display a combination of granite, iron and terra-cotta, while above is a veneer of pearl-gray brick with terra-cotta trimmings. The distinguishing features of the exterior are the elaborate main entrances placed in the centre of the Main and Washington Street fronts, and the heavy cornice projecting 5 feet beyond the walls. These features, while quite in keeping with the sober character of the design, lend an air of unobtrusive elegance, and help to give to the ensemble a character of dignified repose and massive grandeur.

The building is an example of modern steel-construction at its best. Five thousand, five hundred and fifty tons of steel enter into the construction of the frame. The entire framing of steel and iron is done with standard connections; all beams resting on masonry have strap and pin anchors bolted to the beams. The Gray column is used; columns are made in two-story lengths, alternate columns being joined at each story with vertical splice-plates. The requirements of strength and elasticity were observed in the material used; the steel being required to have an ultimate strength of 60,000 pounds per square inch with an elastic limit of not less than one-half the ultimate strength, an elongation of not less than twenty-five per cent in 8 inches and a reduction of area of not less than forty-five per cent at the point of fracture.

The pearl-gray of the exterior walls produces a pleasant effect. Heading courses of double-brick are used for every sixth course throughout the work, and the backs of all pressed-brick were mopped with a coat of hot Trinidad asphalt, before the backing was built up.

The outside of the rubble walls has the joints raked out and the entire surface plastered with two coats of asphalt. Through the rubble walls are laid two thicknesses of pure bitumen damp-course, at a point 5 inches below the top of the finished basement-floor, extending 12 inches under the cement floor of the basement and turned up 6 inches on the outside of the wall.

The building is of fireproof-construction throughout. The fireproofing of columns is accomplished by means of special tiles, secured in place and to each other by means of keys, and to the columns by heavy copper wire; the exterior is also copper-wired, beginning at the bottom and winding diagonally both ways to the ceiling. Fireproof partitions rest on the floor-arches and extend closely to the floor above. Four-inch tiles are used in partitions between offices and corridors and around shafts; in partitions between offices 3-inch tiles are used. The roof-surface is formed of fireproof book-tiles supported on T-irons, and upon the surface of the tiles is laid a six-ply composition roof made up of first quality roofing-felt, pine-tar cement and gravel, in the most approved manner.

The distinguishing feature of the structure is the great central court, 70' x 110', open to the air above the second story and roofed over with glass to provide the lower floors with an enclosed social and business exchange large enough for mass-meetings. This feature ensures to all the inner offices the same advantages of light and ventilation which the outer ones enjoy; the court walls have the same color and quality of face-brick and terra-cotta as the outer walls, and the outlook across the spacious court is at all times cheerful and inspiring, animated by glimpses of busy neighbors as they pass the opposite windows.

The interior decorations are in excellent taste. Italian marble is much in evidence in the lower stories, and polished mahogany and handsome designs in ornamental iron give a pleasing effect. The ground-floor is tenanted by merchants and by railroad, express and telegraph companies. Most of the business-places open into the court as well as the street, a manifest advantage to both the occupants and their patrons. The second floor, designated as the banking-floor, has the advantage of spacious rooms, high ceilings and handsome decorations, besides opening on the balcony which surrounds the grand court. The upper floors provide for 600 model offices, besides the spacious quarters of the Ellicott Club, which occupies nearly half of the tenth floor.

The whole height of the building is 144 feet; the first-floor ceiling averages 15 feet; the second story 14 feet; the upper stories 10 feet.

The main entrances are spacious, well lighted and measure 20 feet from floor to ceiling. The walls are entirely of marble; the ceiling is heavily panelled with the same material. On either side of the entrance broad marble stairways lead to the floor above, while to right and left, behind screens of ornamental iron, are the passenger-elevators. Both Main and Washington Street entrances are alike in every detail, exterior and interior; each has its equipment of eight high-speed elevators, and opens into the court midway of its length.

Completely surrounding the rectangular court, at the level of the second floor, is a broad balcony, approached at either end of the court by grand staircases of ornamental iron with marble treads. The roof-truss which supports the skylight has been made an ornamental feature: the heel of the truss rests at the level of the third floor and the apex is some fifty feet above the ground-floor. The skylight-sash is of light cast-iron glazed with half-inch-thick plate-glass of special design. A white-and-gold effect has been sought throughout the court and corridors of the two lower floors. The walls, ceilings under balcony, architraves, bases, columns, wainscots, stair-spandrels, door and window heads and other surfaces of the court, as well as the walls, ceilings and beams of the first and second story halls, are of Italian marble. Radiators are gilded and the elevator-grilles, staircases and other ornamental iron are flecked with gold; the roof-truss is painted white. To some extent the same color-scheme pervades the main-floor, which is of marble mosaic with very small tesserae—the blocks measuring half-an-inch square. The prevailing tint is a light orange, relieved by darker shades in the design which forms the border and characterizes the entrances. Suspended from the roof-truss are two gilded electroliers, each carrying five arc-lamps.

Throughout the building the corridor-floors are composed of marble tiles. No corridor is less than 8 feet in width, and all are wainscoted to a height of 5 feet with Italian marble. Barber-shops and toilet-rooms have marble floors and wainscot. A marble fascia extends around elevator-wells on all stories. The stairways leading to the upper stories are placed in bays which project into the open court from opposite sides.

Throughout the upper stories the interior woodwork is of quarter-sawn red-oak, in antique finish. Door jambs and heads throughout the building are of the wood of the room, having moulded stops screwed in place with round-headed screws; all jambs and heads finishing more than eight inches are panelled.

Except where marble or mosaic is specified, floors throughout the building are furred with 2" x 3" strips on top of 2" x 4" strips set in between beams and set to 12-inch centres. The intervening space is filled flush with rolling-mill cinders. The finished-floor is of first-quality kiln-dried maple. Underneath the marble floors, resting on a fireproof foundation-floor, is placed a concrete deadening composed of cement, sand and broken stone. Floor-tiles are of marble, 12" x 24", set in Portland cement.

Minor details of material and construction correspond in quality to the more important ones already described. Exterior hardware is

of solid bronze of special design and heavily plated with copper. All ornamental iron in connection with the two main-entrances, and candelabra is of duplex electro-bronze of a thickness equal to sixteen-ounce copper. Interior hardware throughout the building is of the finest-quality, bower-barred.

The distinguishing features of offices, whether single or *en suite*, are accessibility, tasteful and substantial finish, abundant light and excellent ventilation. Each is supplied with a marble washbowl, permanent wardrobe, messenger-call and electric-lights. The walls are hard-finished and the woodwork is put together cabinet-style, showing as few joints as possible. Transoms over the doors are flanked on both sides by auxiliary sashes reaching to the partition walls. Doors opening on the corridors have panels of crystalline-plate, and office-partitions below the level of the door-transoms are glazed with the same material.

The elevator-indicators form a part of the design of the ornamental-screens. Mail-chutes and other features of the modern office-building are provided. Floors are designed to carry in addition to their own weight, 100 pounds to the square foot—the Boston standard.

The basement, which includes besides all the space under the building the sidewalk-space on four sides of it as well, not only furnishes a vast space available for storage, but much that is valuable for other purposes as well. Directly underneath the grand court is the large restaurant, handsomely finished and lighted by enclosed arc-lights. The floor is of marble, and the excellent system of ventilation is all that could be desired. "Stattler's" is as familiar a name in Buffalo as "Sherry's" in New York, and it is a common occurrence for a thousand people to enjoy refreshments at the many tables during the noon hour. The bicycle-room, a necessary feature, also occupies a space on the Swan-Street side.

In a building such as the Ellicott Square, nothing requires more careful attention than the design of the mechanical-plant, for upon it depends very largely the comfort and convenience of every occupant of the building.

A glance at the basement-floor plan makes clear the general arrangement of the plant. The boiler capacity is 1,000-horsepower, comprising four Geary steel water-tube boilers. The supply of water for the boilers is obtained from the city mains, purification being effected by the Binks system, inside the boilers.

The advantages of forced-draught have been appreciated and utilized. An 8' x 8' horizontal-engine drives a 110-inch steel-plate fan which serves a double purpose. Naturally, the engine-room of a steam-plant becomes overheated and requires ventilation; economy requires that the heat-units be used under the boilers. The fan before-mentioned accomplishes this by exhausting the air at a temperature above one hundred degrees from near the ceiling of the engine and pump rooms, and delivering it in the form of mechanical-draught.

A novel feature of this plant is the automatic regulation of the forced-draught by what is known as the Beckman system, the invention of the present superintendent of the building. Without going into details, this consists of a system of valves, whose action depends directly on the boiler-pressure in such a way that when the boiler-pressure falls below the desired point, the valve on the inlet-pipe to the blower-engine opens and increases the speed of the fan. A pressure-reducing valve controls the draught-pressure to produce the most efficient combustion. By means of a by-pass consisting of a small pipe with a reducing-valve, just steam enough is supplied at a low pressure to keep the fan revolving when, after the steam-pressure has reached the desired point, the direct supply of steam to the blower-engine has been cut off. In operation, the system has proved very satisfactory, a low grade of fuel being consumed without any complaint of the "smoke nuisance." The fuel consists of hard and soft coal screenings in varying proportions, a larger portion of hard coal being introduced when the outside temperature is such as to prescribe slow fires. The limit of variation of the boiler-pressure is found to be only three or four pounds and the cost of fuel per horse-power is reduced to a nominal sum.

On the Washington-Street side a space 70' x 32', and extending under the sidewalk, has been set aside as an engine-room. Side by side, along the inner side of the room, are placed the four Ball & Wood engines which furnish power for the dynamos and auxiliary apparatus. Opposite the engines are the two ice-machines of the refrigerating-plant, while at opposite ends of the room are the switch-board and the gauge-board of the high and low pressure systems. The engines are of the horizontal tandem-compound type, and are evidently built for service; three are rated at 160-horsepower, and one at 100-horsepower; they are equipped with a very sensitive governor of the inertia type, and give a practically constant speed under extreme conditions of load.

The dynamos are of the familiar slow-speed multipolar type, direct-connected to the engines, and run at a speed of about two hundred and seventy-five revolutions. Extreme regulation is one of the requirements of the generators for the reason that they supply current to the motor-generators of the Western Union Telegraph Company, whose plant occupies nearly half of the tenth floor. The fixed pressure at the switch-board is about one hundred and thirteen volts. The system of electrical distribution will be understood if we conceive the building to be divided by vertical planes into four equal sections or quarters, each of which has its centre of distribution on the fifth floor. Four principal feeders carry the current from the

main switch-board to the corresponding centres of distribution, whence branches lead the current upward and downward; auxiliary feeders supply the corridor-lights and the motors which operate the ventilating-fans in the attic. Seven thousand incandescent-lights are dispersed throughout the building; in the grand court are ten arc-lights, while in the large dining-room in the basement are as many more.

The average daily load is 1,266 lamps for 24 hours, 365 days in the year. The operation of the plant has been continuous from the opening of the building. The consumption of coal per ampère-hour has been found to be as low as .75 cents.

Sixteen hydraulic passenger-elevators, one of which is specially designed for freight-service, such as the lifting of heavy safes, and four sidewalk-lifts make up the elevator-equipment of the building.

Without dwelling on the steam-pumps in general, it may be of interest to note briefly the fly-wheel pump for the reason that it represents a departure from the recognized practice of the past, and has fulfilled satisfactorily the duties required of it. The elevator-plant is in duplicate; three duplex-pumps on the one hand corresponding to a single fly-wheel pump on the other. The large pump, which was especially designed for this plant by the Snow Steam-pump Works, is a high-duty non-condensing pumping-engine of the cross-compound type and has a high-pressure cylinder 22 inches in diameter, low-pressure cylinder 39 inches in diameter, double-acting plungers 13 inches in diameter, with a common stroke of 24 inches. The steam-cylinders are of the Corliss type and have loose heads in both ends. The steam-pistons are of the Wheelock type, and the valve-gear of the usual Corliss pattern. The cut-off in the low-pressure cylinder is at one-third stroke; that of the high-pressure cylinder may be fixed, or, by means of a special mechanism dependent upon the water-pressure, it may be varied automatically. Repeated tests have shown the advantage of the fly-wheel engine over the duplex-plant in point of economy. One of the duplex-pumps is usually made use of to operate the two elevators, which run all night, while the fly-wheel pump does service during the busy hours of the day.

The successful and economic heating and ventilating of a building such as the Ellicott Square present some problems worthy of the best efforts of the designers; these have, however, been satisfactorily solved.

The ventilation of the building is accomplished by means of an exhaust system, operated by electric-motors. In the attic are seven electrically-driven disc-wheels, each 72 inches in diameter and each designed to exhaust from the corridors and toilet-rooms, 40,000 cubic feet of air per minute, running at 270 revolutions, at an expenditure not to exceed 5-horsepower net on the fan-shaft. There are eight ventilating-shafts, of which four are elevator pipe-shafts, while the space surrounding the stack constitutes one. Special provision is made for ventilating the large dining-room in the basement. This equipment consists of two fans; one, a 90-inch fan, is designed to deliver 10,000 cubic feet of air per minute, running at 300 revolutions and requiring not to exceed 4-horsepower; the other, which is 80 inches in diameter, is designed to exhaust 7,500 cubic feet per minute at 300 revolutions, and requires something like 2½-horsepower. The operation of the system is quite satisfactory; the apparatus was furnished by the American Blower Company, of Detroit.

In designing a heating-system it was desired that the system should not only have the necessary capacity and the highest attainable economy, but also that it should be easily regulated; that it should be elastic, adapting itself to atmospheric changes and the caprices of chilling winds from one quarter or another. Imaginary vertical planes through the centre of the building may again be conceived to divide the building into four sections, in which the heating-system corresponds to the electrical distribution already described.

The entire structure is heated by the exhaust-steam from the engines and pumps without any back-pressure. The exhaust-steam at atmospheric pressure is carried to the attic in 16 and 18 inch mains, whence it is distributed to the four quarters of the building. The arrangement of piping is such that any one of the sections may be cut out without affecting the rest of the system, and again, it is possible to cut out independently any one of the rising lines, of which there are eighty, twenty in each quarter of the building.

In the basement are four exhausters corresponding to the four sections of the building and so arranged that one can be used on each section, or only one or two on the whole system; when occasion requires all four exhausters can be worked on a single section. This flexibility of the system is one of its chief advantages, and under varying conditions results have been entirely satisfactory. The whole circulation is effected at or below atmospheric-pressure with the vacuum at the gauge at 10 or 12 inches. The total heating-surface is some 55,000 feet. The back-pressure valve is in the attic, the main heating and reducing valves in the basement.

The plumbing throughout the building fulfils modern requirements; a feature is the steel-shafts which carry the various pipes so offensive to the eye in many buildings. Hot and cold water are available on every floor. The house-pump in the basement supplies water to the house service-tanks, which are in the attic; these are of 4-inch iron and supplied with wrought-iron drip-pans.

The combination refrigerating-plant, designed for the building by the Case Refrigerating Machine Company, is located in the basement and effects all the cooling and freezing necessary for the various clubs and cafés. The freezing-agent is anhydrous ammonia.

The two ice-machines each equal the melting of 6 tons of ice per 24 hours. The steam-cylinders are $9\frac{1}{2}'' \times 12''$, the compressors $6\frac{1}{2}'' \times 12''$. Besides making some 800 pounds of ice per 24 hours for the Ellicott Club, these machines serve to cool the water for eighteen drinking-fountains, two on each floor above the first. The brine system is used, effecting a circulation from basement to tenth floor and attic, where it serves to cool the fish and game boxes, wine box and other cold-storage equipment of the Ellicott Club. The cooling of the necessary boxes of the first floor and basement cafés and buffet is accomplished by direct expansion.

The mechanical plant, as a whole, is notable on account of its high economy, as evidenced by carefully-preserved data, made up from daily reports, and because of the smoothness with which the apparatus designed for various purposes works together with the rest of the equipment. The designers are the Jonathan Clart & Sons Company.

It will readily be seen that much depends on the elevator-service in a building of this kind. The arrangement is convenient, eight elevators on each side of the court. Each car has a maximum lifting-capacity of 3,000 pounds with the car 300 pounds underbalanced, and with a load of 1,500 pounds has a speed of 400 feet per minute.

The building is looked upon somewhat in the light of a public enterprise; many of the substantial business-men of the city are interested. It is the property of the Ellicott Square Company, Mr. John N. Scatterd, President; Mr. Robert W. Day, Secretary. The total cost of the building and site was \$3,350,000. The building itself cost about \$1,800,000. The time occupied in construction was one year. The architects are D. H. Burnham & Company, of Chicago. F. L. WILSON.

FIRE PREVENTION IN 1899.

EARLIER in the year we already indicated that the fire-losses of Great Britain would probably be found to be very serious for the year 1899, and it could only have been by the good fortune of having a very small number of conflagrations during the later months of the year that our expectations could have been falsified. As a matter of fact, the fire-loss during the last few months has been even more serious than anticipated, and the series of fires which we have had in the Metropolis has been almost unprecedented. In the provinces the same story can be told, and to speak only of one dangerous "risk," that is, places of public entertainment, we have to record no less than four theatre-fires, at St. Helens, at Newcastle, at Cardiff, and at Sheffield, each of which, by itself, would have been an important addition to the list of theatre-fires for any one year.

With this continually increasing fire-loss, not only at home, but abroad, in which many of our insurance-offices, we should remember, are deeply interested, it becomes a matter of importance that the policy of future building-construction should be more definitely framed, and we would congratulate the Royal Institute of British Architects for having set aside an evening this week for the discussion of an emergency paper presented by Mr. Thomas Blashill, lately the architect of the London County Council, entitled, "The Architect in Relation to Fire Prevention." We know of no subject of greater importance for architects at the present moment, and if a subject of this kind is dealt with, as in the present case, by an architect who has not only had long years' experience as a district-surveyor of this Metropolis, but has also held a leading post as far as general building control is concerned, it is a matter of considerable public interest to hear what some of the opinions are that were put forward on such an occasion.

The fire-question is one, as we all know, that does not only concern architects, but also the surveyor, especially the municipal surveyor, and the municipal engineer, to say nothing of that large class of civil engineers, who are directly and indirectly associated with the numerous warehouse-buildings and dock-estates, which we have in every part of the British Isles. This question of fire prevention is one which should have the attention of the whole of the technical professions, and it would have been well if, on an occasion like this, the Royal Institute of British Architects had seen its way to invite the attendance of its sister technical bodies, on the same lines as the members of the junior society, i. e., the Architectural Association, work hand-in-hand with the Institution of Junior Engineers.

Mr. Blashill, in dealing with his subject, laid special stress on the fact that the policy of fire-protection should generally be that described in the old motto, "Prevention is Better than Cure," and, continuing, he laid particular emphasis on the work of the British Fire-Prevention Committee during its present year (the second, we believe, of its existence). This body has created quite a sensation, not only in the technical circles of Great Britain, but also in other countries, by the systematic way in which it has grappled with the subject, and has started at the very kernel by first of all examining the fire-resistance of materials and systems of construction which are at our disposal.

It must also have been flattering to this young society, with its membership of some five hundred architects and engineers, to have heard the laudatory comments of Mr. Cates, the late Crown Surveyor, as to its work. But it must be even more pleasing to know that, according to general opinion, it has, perhaps, done more thoroughly practical work in one short year than many of the older institutions, with their enormous membership and large funds, manage to get through in the same space of time.

We have from time to time referred to the tests of the British Fire-Prevention Committee and the reports they issue, which, if we may say so, have been the leading feature of their work for the current year. We described their testing-station fully soon after its opening, and remarked on the Committee's programme. It would now, perhaps, be quite appropriate to summarize what amount of work has been done at this testing-station to which Mr. Blashill referred, and if we look through the various reports already issued and the appointments for tests, we are, indeed, struck by the number of investigations that have already been in hand.

Between January 26, which was the Committee's first testing-day, and December 13, which was their last during the current year, no less than seven varieties of floors have been tested, most of which had concrete in their composition, and hence required a considerable time for construction. We also find that two different forms of ceiling were examined; and the list goes on to show that five partitions, thirteen different doors, nine casements, seven skylights, as well as quite a number of minor miscellaneous appliances, have been before the Committee during the eleven months we refer to. Quite half of the tests, we are glad to say, were with unpatented materials, or systems of construction, or, in other words, with work that is common property, subject to no monopoly or special interest. The other half of the tests were with patented materials or systems of construction, presented not only by English firms, but by firms of American, German and French origin. All the reports on these tests, it is true, have not yet been issued, but the majority have already left the printer's hands, and, speaking generally, they show what care must have been devoted to their compilation; for though we have examined many, we have not yet discovered any expression of opinion or any unpractical detail, whilst in illustration they show everything we can desire to have before us when judging the results of a test.

If anything is missing, however, it is an analysis of the year's results, but we understand that such an analysis will only be issued at a later date, perhaps during the coming year, when the total number of tests is yet greater, and certain series—such as those on doors or different forms of glazing—have been completed. Such an analysis, when the time comes, will practically give a key to the question of fire-prevention, and the material or system of construction that is not to be found in this key may then be taken to be outside the pale of practical use, as far as the architect and engineer are concerned, for, by that time, it will be a bold architect or engineer, indeed, who will venture to specify work that has not been under the Committee's observation. Even to-day, at this early stage, we know of many architects and engineers who are bluntly refusing to specify anything but work that has been under the Committee's tests, and this, after but a short year's working of the Committee, speaks volumes for the effect their labors are already having on the building-trade of the Metropolis and the provinces. At a time when the layman owner of property ridicules the fireproof building as a delusion and a snare, and, even yet more, ridicules the so-called fire-resisting construction sanctioned by the Building Act or favored by the fire-insurance companies, the architect and engineers must lean on something before they order work of a fire-resisting description. And they have apparently come to the conclusion that it is better to lean on facts presented by a committee without any opinion, than on the highly-flavored testimonials and self-laudation of the typical fireproof.

It is this turn in events, we think, that has suddenly brought about the increasing use of the various forms of concrete floors, as distinct from the terra-cotta floors, none of the terra-cotta makers having presented their work for tests up to the present moment. It is probably for the same reason that we suddenly find an enormous demand for protected window-openings and skylights, with improved forms of glazing; and also, the increasing demand for slag-wool or silicate-cotton as a protective material for ceilings and light partitions. Architects especially are beginning to see through the so-called "exhibition" tests with their luncheons, the advertisements where legal opinions on patent questions are quoted, or other similar inappropriate reference is given with a view of proving (?) "fireproof" qualities. Many architects have already been through the unpleasant experience of seeing their so-called "fireproof" buildings gutted, having, perhaps, relied entirely for their specifications on hearsay and advertisements; but experience teaches.

Mr. Blashill was quite right when he emphatically indicated that "exhibition" tests and these various forms of testimonials were generally not worth the paper they were written on, and that the architect should be grateful that means were at last afforded him to find out the truth regarding fire-resistance for himself. The great difficulty, of course, in dealing with the various forms of patented methods of construction and material in the market, is that those engaged in the exploitation are too frequently not aware of the exact purpose of the invention they are pushing. Some method of construction which is designed for a specific purpose, and may fulfil that purpose exceedingly well, may be quite out of place when applied in a different manner.

If we glance through the tests of the British Fire-Prevention Committee, it will easily be seen how the armored wooden door by itself—by American experience better than the iron door—proves a failure if it is not hung well, built well, and fitted well. The idea is good, the door itself may be good, but the application may be entirely unsuitable, and the result is a failure. We have also

electro-glazed prisms by the Luxfer Prism Company used in casements standing vertically, and the result is excellent. When placed in a horizontal position for use in skylights, the result, however, is a fiasco, for this form of glazing has apparently never been designed for horizontal application.

Further, the slag-wool partition may be tried and shows itself in the best possible manner where it has been properly put together, but at one spot the construction has not been up to the average, and the fire immediately breaks through at that particular point. Again, a material may be excellent for the resistance of fire, but absolutely unsuited to withstand the application of water, and yet the maker comes forward for the combined test and ignominiously fails. Finally, we find a number of floors, each of which may be excellent in fulfilling its specific purpose, either as a light floor or a heavy floor, but the moment such a structure is used for a different purpose from that for which it is intended, the practical results are unsatisfactory.

It is difficult to find out how it comes that so many blunders are still being made in the fireproofing trade, and we can only explain it by the fact that inventors are frequently the most impractical of men, and the commercial men to whom they sell their patents for exploitation are not in touch with technical requirements; in other words, that technical advice is lacking, which is essential for practical exploitation. We may be mistaken, but we believe this accounts for much.

It is just on account of the above failures that we would advise the Committee to particularly emphasise in their reports the application to which the material or system of construction was put. For instance, we should have preferred to see the title of a special glazing as "Three Vertical Casements," instead of "Three Casements," and "Five Horizontal Skylights," instead of "Five Skylights," although it is, perhaps, generally understood that casements are approximately vertical and skylights approximately horizontal. The load to which a floor is subjected is generally put in the form of a "note," but the load is an important factor, and should have a more prominent position in the object of a test. The name and description of the doors tested are given, and if we examine the "notes" in the "object of test" we find how the doors in question were hung. Surely it is of the utmost importance to know immediately from the title of the test whether the door was hung to open inwards into the fire or outwards away from the fire. We do not wish to be too critical on small details of this kind, as far as the Committee are concerned, but we think that for the purpose of trade, or of straightforward trade, it would be better for the manufacturer to say: "My glazing stood so much in a vertical position, but only so much when in a horizontal position." He should also have a report that, at a glance, clearly shows the application of the material under investigation.

But leaving small matters of detail, we think it might be of use to fill up temporarily that gap in the work of the British Fire-Prevention Committee which must exist until a full analysis is available; in other words, we should like to give a small analysis ourselves of the report presented. We will leave the door question for the moment, as the reports issued to date do not cover the subject sufficiently to enable us to get a clear picture of it, but we think the various forms of concrete floors which have been under investigation would serve as a basis for a short analysis of this kind. We find, first, a floor of 9" x 3" wood-joists with concrete filling, with boarding above and a plaster ceiling below. Next we find a floor of steel-girders 5 inches high with 5 inches of coke-breeze concrete filling with neither flooring above nor a ceiling below. Next comes a similar 7-inch floor where the concrete is on corrugated-iron centring and where the ceiling is suspended below on small wood-joists, the lathing being wire-lathing. Then we see a girder and concrete floor by the Expanded-Metal Company, where the centring is of expanded metal and a suspended ceiling of expanded metal has been hung from metal fastenings, the expanded metal being plastered in the ordinary way. Another concrete floor under investigation was by the Columbian Fireproofing Company, comprising a system of girders, steel-bars and concrete, put together in a special way.

The results of these concrete-floor tests are highly instructive. First, the wood-joists and concrete floor collapsed after a test of one hour and a half, the highest temperature reached being 2300 deg. Fahr. Then the floor of steel-girders and concrete, without any protection below or boarding above, was found to have collapsed after 1 hour and 27 minutes, the temperature being 1700 deg. Fahr., the deflection of the ironwork during the test having been material. The ordinary girder and concrete floor, with the additional suspended ceiling and corrugated-iron centring, stood a test of 1½ hours, with a maximum temperature of 2100 deg., with the exception that the suspended ceiling fell, that the concrete slightly disintegrated, and that the floor had deflected materially. Here the load was 168 lb. per square foot, as was also in the case before; on the other hand, the first case dealt with, the wood-joists, no load had been applied.

Turning to the fourth test, where the expanded metal was used, we again have a test of 1½ hours, a maximum temperature of 2100 deg., and a load of 140 lb. per square foot, and we find, as a result, that the suspended ceiling stood until water was applied, and that, with this exception, the floor remained practically uninjured.

Lastly comes the result of the Columbian Fireproof Company's test, which had 2½ hours' duration, with a maximum temperature of 2300 deg., and a load of 168 lb. per sq. foot, and which, with the ex-

ception of a few slight cracks, came out practically uninjured. In each case the superficial area of the floor was 10 ft. by 10 ft., and the conditions were practically identical.

This short analysis of five concrete tests, briefly given without tables or details, already presents a very good picture of what the Fire-Prevention Committee does. The first two floors mentioned were floors which would have been passed by any district-surveyor as complying with the Building Act, and which were both better than the minimum requirements of that Act. They were, however, both failures, for light floors of this description should at least resist fire for 1½ hours, and they certainly did not do this. The third floor was a Building-Act floor with the extra luxury of a suspended ceiling, and we find that the suspended ceiling, though destroyed, protected the floor for a considerable time.

Next, the same kind of floor with the application of patented materials is seen to stand its test very well, the application of water alone affecting the ceiling, but the record so far is beaten by a floor of heavy girders and concrete by the Columbian Fireproofing Company, and we would only now wait to see some further demonstrations in this direction. What we should like to know, however, in the meantime is what the worst form of Building-Act floor that could possibly be passed by a district-surveyor, with wood-joists and 5 in. of coke-breeze concrete, could stand.

But a further practical result of these tests has no doubt been the employment of the Expanded Metal Company's floors and the Columbian Fireproofing Company's floors, as well as those of some of the allied systems, on a far larger scale than the friends of terra-cotta work may have desired. But, of course, if one of the terra-cotta floor companies chooses to try and beat the existing record of 2½ hours, the tables may again be turned, unless a counter-move is made by the concrete-floor makers. We have heard that certain terra-cotta floors have stood 4 hours in the United States, but we should prefer to see such a thing here in London and at the Committee's testing-station, as we have had too much on hearsay of American fireproofing methods, while practical experience at American fires with modern terra-cotta floors does not seem quite so encouraging.

Regarding glass, a similar analysis might be made. We will here only take, as shortly as possible, the vertical casement. None of the ordinary forms of glazing were found to last more than 12 minutes, in fact, 32-oz. glazing was destroyed in 7 minutes, and it was ¼-in. glass-plate alone that stood 12 minutes, the temperature being in each case about 1000° Fahr. On the other hand, electro-glazed Luxfer-prism casements were seen practically to stand ½ hour, with temperatures up to 1500°, with a plentiful application of water from both sides, and an electro-glazed ¼-in.-plate casement even stood longer, close on to ¾ hour, at temperatures up to 1600° Fahr., while Pilkington's wire-glass ran even, or a little to the good, at slightly higher temperatures. It was certainly a very close race between these two forms of casements, and the results are of the greatest interest. As far as the skylights were concerned, what we said above, however, holds good; the Pilkington wire-glass stood better in a horizontal position than in a vertical position, whilst the Luxfer-prism casements, which stood so excellently in a vertical position, failed in a horizontal position. In other words, the honors were entirely with wire-glass as far as skylights were concerned. It seems, perhaps, a little out of place that one should speak of one maker obtaining the lead before another; but, as a matter of fact, with tests of this kind, conducted on identical lines and frequently contemporaneously, it is difficult to avoid a slight sporting element.

But without discussing the matter at great length these particulars will already amply show the nature of the lessons taught and the reasons why so much attention is being paid to the work of the Fire-Prevention Committee, not only in architectural but also in engineering circles. And if we were to summarize the events of the year 1899, as far as fire and fire-protection are concerned, we think we can safely say that this has certainly been one of the worst years for fire-loss experienced for a considerable time; but that, on the other hand, it has been the most notable year in the annals of fire prevention. The world has at last obtained a testing-station, where scientific results can be obtained reliably, and where questions of fire-resistance can be dealt with as a science, and not in the haphazard way to which we have been accustomed. This new departure in fire-protection is, we are sure, a matter of congratulation to all concerned, and will doubtless lead to further developments in the same direction. — *Engineering.*

BOOKS AND PAPERS

THE number of sumptuous books upon artistic subjects now being published in London is astounding. A few years ago, we used to remark that there seemed to be no great number of cultivated persons who were rich enough to buy such books as appear frequently in Paris, where one hundred francs or more is not at all an uncommon price. Now all is changed, and Messrs. Bell alone turn out expensive art-books almost daily.

The life of Rossetti¹ is one of these. It is full of excellent re-

¹ "D. G. Rossetti," an illustrated memoir of his art and life, by H. C. Marillier. £5 5s.

productions from the artist's pictures, many being photographed for the first time; but, of course, Rossetti loses more by reproduction than most painters, as color, not form, was his forte. One sees, too, the intense conventionality of the painter's type of beauty, the heavy, curved, full lips and thick throat, even more pronounced in photography than in the original pictures. Nature, as Millais said, was certainly not Rossetti's ideal. It is, also, curious that Mr. Marillier, in this book, should repeat the popular error of Rossetti having been the founder and mainspring of the Pre-Raphaelite movement, just at the moment that we are all reading Millais's version of the P. R. B. and his comments thereon. As a matter-of-fact, Rossetti only assimilated the quaintness of the early Italians; the laborious painting of detail studied direct from Nature which was the very essence of the P. R. B.'s creed being totally unsympathetic to the tastes of the artist-poet; and possibly, too, that division of his sympathies between the pen and the brush may have been one cause of his dislike of minutely-painted detail. One has only to compare the flowers growing in the grass in many of his pictures with the nasturtiums in Millais's "Huguenot," to see the difference between a conventional and a realistic treatment of detail.

The author gives an amusing account of the menagerie which Rossetti kept in his garden at No. 16 Cheyne Walk — owls, puppies, marmots, kangaroos, armadillos, parakeets, as well as a deer, a white mouse, a parrot, a peacock and a host of other creatures; but the pet of pets, immortalized by Dante and Christina in verse, was the wombat. The sister wrote an Italian lyric to the creature — "Uommibatto, agil, giocondo," and the brother an ode of welcome.

"O how the family affections combat
Within this heart, and each hour flings a bomb at
My burning soul! Neither from owl nor from bat
Can peace be gained until I clasp my wombat."

In the life of Rembrandt,¹ Mr. Malcolm Bell takes us sympathetically through the few happy years of the painter when he quaffed his glass to Saskia, and the miserable ones, when the pictures which are now valued at thousands might have been, and were, bought for an old song. The book is full of illustrations, and the latter part gives an account of the etchings.

Lady Dilke² has produced a much needed book, for few people in England know anything about French art of the eighteenth century, with the exception of the works of Watteau, Lancret, Boucher and Greuze. Chardin's exquisite still-life studies, Rigaud's portraits, the charming and refined frivolities of Fragonard, are only known to the few, although last year Messrs. Agnew introduced us to some magnificent examples of the latter painter. Lady Dilke's appreciation of Watteau is naturally great, and that unworthy favorite of the sentimental public, Greuze, is judged fairly and according to his feeble lights.

Mr. Bate's "Pre-Raphaelite Painters"³ includes outside disciples of the P. R. B. as well as its apostles. A large number of illustrations put before us the various works of some forty painters; and the letter-press is full of pertinent remarks. Some of the forgotten painters of the movement are included in Mr. Bate's retrospect; those, the unhappy ones, who failed to attract the public, the critics, or the money-bags. The charm of Mr. Baldry's book⁴ is mainly due to the illustrations and the anecdotes, some of which are not new; but although it has appeared at an unfortunate moment (almost simultaneously with the "Life" by Mr. J. G. Millais), it will attract the public whose means will not allow them to buy the larger work.

"1812"⁵ is the story of the Russian Campaign told in Verestchagin's most brilliant colors. The illustrations reproduced from the large pictures are somewhat disappointing, it being quite impossible to convey the strength of coloring in the original works, by means of any black-and-white process; but the painter's theories upon art, his devotion to Nature, and to Nature only, are profitable and pleasant reading. On the other hand, few or none of Napoleon's admirers will be inclined to increase their admiration for him after reading this dismal history, and gazing at the artist's most graphic pictures; for Verestchagin, being a supreme realist, glosses over no horrors, either in print or on canvas. He could never be accused of painting war in rose madder — and rightly; for if it must be painted, by all means do it in all its ghastly horror. Verestchagin's object in delineating war from the side of the soldier rather than from that of the staff officer is to inspire people with a just horror of it; and so he opens his picture-shows to school-children free, in order to instruct them in the way they should not go. Thereupon an anecdote of a London Board School urchin: — The tribe went round the room, the artist instructing the children in the brutalities of war, and of all the special horrors of the Retreat from Moscow — the starvation, the cold and the miserable selfishness of men who were all but mad. Well, how did that boy take the story? "Oh! how jolly to be a soldier and fight!" was his comment on the artist's efforts. We all know Verestchagin as a painter not only of horrors, but of mosques and temples, and of that most wonderful Taj at Agra; as a writer he is much less celebrated. Nevertheless, the vigor of the man shows itself in these descriptions of the subjects of his pictures. Realism is his ideal, but he holds that "the art

of representing subjects in a realistic manner does not entitle a person to the name of realist." Artists must take pains to "reproduce the true light under which the events they treat have really taken place." Scenes of battle "under the torrid sun of Africa, should not be painted by the gray light of a European studio. . . . I assert that in cases where there exists but a bare representation of a fact as an event without idea, without generalization, there may possibly be found some qualities of realistic execution, but of realism there would be none; of that intelligent realism, I mean, which is built on observation and on facts — in opposition to idealism, which is founded on impressions and affirmations, established *à priori*." This is somewhat vague, but the painter means to impress upon us that his local color is as right as his costumes; and that, whether he depicts India during a peaceful pageant, or Russia during the frightful slaughter of battle, he does his work as he saw it, truly and un-garnished, though, maybe, with the power of generalizing, which only is possible to a great and experienced painter. There may be crudeness in his coloring, but there is intense sunlight; and no one can fail to be impressed by such pictures as the "Armed Peasant" standing in a snowed-up wood; "On the Way Home;" "Despair," that fine portrait of Napoleon resting his head on his hands in the agony of the realization of, possibly, a dreaded failure and catastrophe.

The "Dutch Painters"⁶ is edited by the illustrious Curator of the Plantin Museum at Antwerp, Herr Max Rooses, and in it we find many appreciative notes and studies. Jacob Maris's work is illustrated by eleven reproductions of his pictures. In Klinkenberg we have the painter of sleepy canals with their quaint and dainty houses; and in Mesdag, the well-known exponent of fishing-boats, life-boats and calm or angry seas, who, originally a clerk in an office, became a great painter through hard work and exceeding great devotion to art.



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

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

TELEPHONE BUILDING, RUE DESRENAUDES, PARIS, FRANCE. M. BOUSSARD, ARCHITECT.

This plate is copied from *La Construction Moderne*.

[Additional illustrations in the International Edition.]

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

[Gelatine Print.]

THE TERRACE, "WYNDHURST," LENOX, MASS.

[Gelatine Print.]

TOMB OF DOGE FRANCESCO VENIER, IN SAN SALVATORE, VENICE, ITALY.

This plate is copied from Cicognara's "Le Fabbriche e i Monumenti conspiciui di Venezia."

⁶⁶ "Dutch Painters of the Nineteenth Century." Vol. II: £2 2s. Samson, Low & Marston.

¹ "Rembrandt van Rijn and his Work." By Malcolm Bell. £1 5s.

² "French Painters of the Eighteenth Century." By Lady Dilke. £2 2s.

³ "The English Pre-Raphaelite Painters." By Percy H. Bate. £2 2s.

⁴ "Sir J. E. Millais." By A. L. Baldry. £7 6s.: Bell & Sons.

⁵ "1812," by Vassili Verestchagin. £7 6s.: Heineman.

TOMB OF CARDINAL FRANCISCO DE CISNEROS, ALCALA DE HENARES, SPAIN.

THIS plate is copied from "Monumentos Arquitectonicos di España."

SHOPS AND FLATS, HAMMERSMITH, W., LONDON, ENG. MR. W. HARDCASTLE, ARCHITECT.



DRAINING THE LOW LEVELS AT NEW ORLEANS.—An ingenious project has been devised in New Orleans, and partly carried into execution. As is well known, a large part of that city is so little above the water-level of the Mississippi and Lake Borgne that it is difficult to secure good drainage. Indeed, some portions of the city are really below those levels. Now, a good deal of difficulty has been experienced in the past in coaxing water to run up hill. But it can be done. It has been done. And New Orleans has solved the problem. It may be remarked that the new engineering work here referred to deals only with the surface-water which comes from a rainstorm, and not the contents of the sewers. Already other means of disposing of the latter exist. It was recognized as soon as the general idea of getting rid of the storm-water was taken up that one canal, or, rather, a canal at one grade, would not afford a sufficient fall to carry off the water. It was therefore decided to cut the canal up into sections, all of them having a slight fall, to be sure, but the beginning of the second section starting at a higher level than the end of the first. In order that the first should empty into the second a powerful pump was provided, which lifted the water from the one level to the other. This plan has been followed at eight stations altogether, some of the pumping-stations being at the junction of adjacent divisions of the main canal, and some of them lifting water from a branch into the trunk. To secure the right sort of grades it has been necessary to build up the bed of the canal here and there, like a toboggan slide, and in other places to excavate. Thus enough slant was obtained to induce the water to flow out to Lakes Borgne and Pontchartrain. Not the least interesting feature of the scheme is the use of electric power for driving the pumps. Such a system makes it possible to collect all the steam-engines and dynamos at a single point. The power is distributed by wires to the various points of consumption. This arrangement is more economical than the establishment of several steam-plants, one at each pumping-station. — *N. Y. Tribune.*

HOUSE OF FANTASTIC DESIGN.—In the days of good Queen Anne, says *London Golden Penny*, there resided in the little North Devon fishing hamlet of Combe Martin a well-to-do squire, by name George Ley, whose luck at all card games of skill and chance was proverbial. On one occasion, so the story goes, he netted a very handsome stake indeed, and to commemorate the event resolved to build a house which, from assuming the form of a pack split up and erected castle-ways, should be a standing testimony to the pleasure and gain he had found in the "Devil's Picture Book." The idea was carried out with amazing thoroughness, and the edifice equipped with fifty-two windows—a window for each card. Many of them, however, are still blocked up, a relic of the days when the window-tax placed a premium upon air and light. Again, it will be noticed that the unique style of architecture has necessitated a plethora of chimneys; still the *coup d'oeil* is the reverse of unpleasing, and the old gambler's fantastic production can certainly lay claim to the highest honors where absolute novelty is concerned. A memorial tablet in Combe Martin's beautiful old parish church informs us that Mr. Ley died in the odor of sanctity in the year 1716, and some few years afterward, when the family disappeared from the neighborhood, the property was acquired by an enterprising publican, who promptly christened his queerly fashioned hostelry "The Pack of Cards." The house is still an inn, at which the coaches running between Ilfracombe and Lynton make a regular stop for watering their teams, but a few years ago the then proprietor—very foolishly, we think—altered the old sign to the trite nomenclature of "The King's Arms." Combe Martin, it should be added, is now a prosperous little watering-place, which, during the summer season, can boast a visitors' list numbering three hundred or more. It is celebrated as being the scene of Miss Marie Corelli's popular novel, "The Mighty Atom."

THE CONGESTION OF LONDON.—Sir J. Wolfe Barry made a most interesting speech on the congestion of London. He believes that the "retardation" of business traffic between east and west, more especially coal traffic, costs the trade-interests of London £900,000 a year, the owners of vehicles £1,189,000, and pedestrians £65,000, or a total of £2,150,000 a year. This he would correct by cutting a single mighty street, 125 feet wide and 5 1-2 miles long, from west to east, and this, with its subsidiary connections, would cost £6,120,000. This had been ridiculed when originally proposed, but when the loss was fully understood it would be found that the saving fairly repaid the cost. The arterial street is, we fear, a brilliant dream for the present, but if London advances for twenty years as it has done for the past twenty, something very like it will have to be constructed. We wonder if it would be quite impossible on the great lines to construct underground lines, confining their use to the conveyance of goods. That would enable us to pass a law which would relieve London more than any new openings—namely, a law insisting that all vehicles in motion shall travel at an equal speed. We always speak of the "stream" of London traffic, but it is the absence of streaminess which produces the fretting delays that take a year from the life of every active man. — *London Spectator.*

DEATH OF BERNARD QUARITCH.—The death of Mr. Bernard Quaritch, the famous art-dealer and vender of rare books, occurred December 17. He was 82 years of age and had a world-wide reputation among bibliophiles. — *Exchange.*

A PERIPATETIC LONDON CHURCH.—St. Bartholomew's Church, Moor Lane, is once more on the move. Among ecclesiastical establishments it is a regular vagrant, but, unlike most rolling stones, it has gathered a good deal of moss in the way of endowment. Originally this ambulant building stood on the site of the Sun Insurance Office, but, having no parishioners, was bodily removed to its present position about fifty years ago. Now it is to be demolished once more and re-erected, stone by stone, in some populous suburb. St. Bartholomew the Wanderer may fairly plead that this recrudescence of nomadic habits is not due to flightiness, but to the centrifugal tendency of modern Londoners, who no longer live, like their mediæval forefathers, over their places of business and playfully empty from upper windows their dustbins on the heads of innocent wayfarers. — *London Telegraph.*

SIR HENRY TATE, BART.—Sir Henry Tate, the munificent founder of the Tate Gallery (National Gallery of British Art) at Millbank, died at his house, Park-hill, Streatham Common, on Tuesday, 6th ult. He was born at Liverpool, March 11, 1819, and he carried on business in that city for many years, until, about twenty-five years ago, he transferred his great business of the manufacture of cube sugar to London. He gave £42,000 to the newly-founded University College, Liverpool, and a still larger sum to various Liverpool hospitals. He built the Brixton Free Library, but his great achievement was the foundation of the gallery at Millbank. He offered to build a gallery, at a cost of £80,000, as well as to present his collection of paintings of the British School to the nation. It is said that he spent double that amount on the gallery. The building was completed on the very day that he took to his bed in his last illness. He was created a baronet in 1898, and he became a member of the Society of Arts in 1897. — *Journal of the Society of Arts.*

MOVEMENT IN LONDON TO SAVE THE TUDOR HOUSE.—The London County Council has had its attention called to the deplorable condition of the historic Tudor House, at Bromley-by-Bow, and a popular movement is on foot to have the Council preserve the mansion and convert it either into a university settlement or a museum. In either case it will be necessary to restore the interior, which it is said can be accomplished at a cost of less than \$1,500. The press of London has been induced to take hold of the matter, and it is believed that the Council will be in favor of having the building at once placed in proper hands. The Tudor House has been untenanted for several years, and no attempt has been made to keep it in a state fit for habitation. All the windows on every face of the building have been riddled by the gamins of the district. The interior is in a similar state of ruin. The once beautiful and elaborately decorated woodwork has rotted, and the plaster has fallen from the walls and ceilings. The house stands near the centre of about two acres of ground, which for several years has been utilized by the people of the district as a recreation park. This autumn some improvements were made on it for the benefit of the public; the old boundary wall was demolished, and is being superseded by ornamental iron railings, through which there will be three gateways—one in St. Leonard Street and two in Grey's Road. A bandstand was recently erected in the centre of the grounds, and an open-air gymnasium is now being fitted up for boys and girls. — *N. Y. Times.*

NEW SEWERAGE WORKS FOR LONDON.—London, with its rapid increase in population, began to outgrow its sewage facilities some time ago, and, of late, the situation has been becoming more serious month by month. A special committee of the Common Council have just presented a report recommending the construction, by degrees, of new drainage works, at a cost of \$15,000,000. Their engineer, Sir A. Bonnie, points out that when the present system was established the population of London amounted to about 2,586,000 persons, and that Sir Joseph Bazalgette designed it for a total population of 3,450,000 persons, being an average of 46.9 persons per acre within the metropolitan boundary. Provision was made for a water-supply of 31 1-4 gallon per head per day, or a total of 108,000,000 gallons daily, but as it was considered necessary to provide for the fluctuating flow of the sewage at different hours of the day, the sewers were made to carry off half the total quantity of sewage in six hours of the day, together with a rainfall passing into the sewers at the rate of 1.4 inch in twenty-four hours. The maximum quantity of sewage and rainfall to be dealt with per day of twenty-four hours was estimated at 250,000,000 gallons on the north side of the Thames and 144,000,000 gallons on the south side, or a total of 394,000,000 gallons. No provision was made for taking in the drainage from districts outside the metropolitan boundary, the sewage of which is now, or about to be, partly or wholly admitted. The population of the area now draining into the Council's sewers on the north side of the Thames was, according to the census of 1896, 2,941,114, and on the south side of the river 1,689,984, or roughly a total of nearly 4,700,000 people from both sides. A proportionate increase has probably taken place during the past three and a half years, and as the present system was only intended to serve a population of 3,450,000, it results that the original estimates have been exceeded by about 36 per cent. As to the quantity of water, it is found that the average supply is about 35.4 gallons per head per day, which represents a total of about 176,380,000 gallons for the whole population, as compared with 108,000,000 gallons provided for. In summer months the water-supply is still larger, and the average dry-weather flow of several years has amounted to 194.58 million gallons daily, or 80 per cent more sewage than the amount the drainage-system was constructed to carry. — *N. Y. Evening Post.*

THE AMERICAN ARCHITECT AND BUILDING NEWS

ADVERTISERS' TRADE SUPPLEMENT.

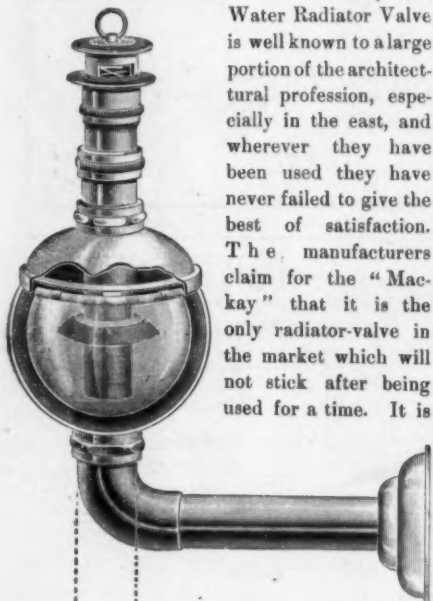
No. 212.

SATURDAY, JANUARY 6, 1900.

VOLUME LXVII.
No. 1254

RADCLIFFE IMPROVED ANTI-SYPHON TRAP.

THE Ohio Brass and Iron Manufacturing Company, of Cleveland, Ohio, are manufacturers of a line of sanitary and other specialties which are not excelled by any similar articles in the market. Their Mackay Hot



Anti-syphon Trap.

Water Radiator Valve is well known to a large portion of the architectural profession, especially in the east, and wherever they have been used they have never failed to give the best of satisfaction. The manufacturers claim for the "Mackay" that it is the only radiator-valve in the market which will not stick after being used for a time. It is

so constructed that the valve is opened or closed by a cam motion, which is positive, and so easy in its operation that it may be turned by the thumb and forefinger of one hand, even after many months of use. A quarter turn of the handle opens or closes the valve. It is made so as to give the full area of the water-way, without obstruction. We here show a cut of the Radcliffe Improved Anti-Syphon Trap, which the makers guarantee to be absolutely non-syphonable. The outside globe is of heavy drawn brass, while the inner one is of heavy annealed glass, this construction furnishing a trap which is easily cleaned and is not affected by acids or mineral waters. These traps are beautifully finished and are an ornament to any basin fixture. They have been taken up extensively by municipalities which prohibit the use of any but the Radcliffe trap. Action of this nature has been taken only after submitting the traps to the most severe and exhaustive tests, thus furnishing ample endorsement of their superior merit. The manufacturers are just about issuing a new catalogue descriptive of their specialties, which they

will be pleased to mail any reader, upon application.

OHIO BRASS & IRON MANUFACTURING CO.,
CLEVELAND, OHIO.

REDWOOD.

BOSTON, MASS., January 1, 1900.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Many architects and builders get the Redwood which is now being sold in this market confused with the soft Redwood which grows on the Sierra Nevada range at an altitude of from 5,000 to 8,000 feet. Though these trees are the only living species of the Sequoia, yet they are as different from one another as any two brothers could possibly be. The family name of this Redwood tree is "Sequoia," and that growing in Humboldt and Mendocino Counties is known as Sequoia Sempervirens, while that growing on the western slope of the Sierra Nevada is known as the Sequoia Gigantica or Big Sequoia, as the trees grow much larger than those known as Sequoia Sempervirens that grow in the north end of the State. It is the Redwood that grows in the north end of California that is now being sold by us and not that which grows at the south end, which, as is herein shown, is much softer and liable to be brittle.

People who are using the Redwood now being shipped are much pleased to find that it is so much harder than that which was formerly sold in this market, and are using it in place of many other woods (such as white-pine, cherry, oak, cypress, whitewood, etc.), for finishing-lumber with great satisfaction.

The non-swelling and non-warping qualities of this wood are much appreciated by those that have used it, particularly for interior finish for buildings that remain closed a portion of the year, such as dwellings and summer-houses. It is found that the houses provided with Redwood doors are not affected by the dampness that is always so much trouble in houses which have doors made of other woods, such as pine, cherry, oak, walnut and whitewood.

It has been found during the past season that Redwood doors in houses just built containing more or less dampness, and closed in April, not to be opened until early winter, swung as easily when the house was opened as when newly hung by the carpenter. We are glad to know this. People who contemplate building such buildings appreciate this and are now using Redwood extensively for building purposes.

We herein give you a copy of a letter re-

ceived by us relating to the good qualities of California Redwood.

BOSTON, MASS., January 1, 1900.

BARTLETT LUMBER CO., 53 STATE ST.,
BOSTON, MASS.:—

Gentlemen,—We handle California Redwood doors and door-frames extensively, and find it a very desirable wood and a good seller. Redwood doors do not shrink, swell or warp; they take paint or stain, and finish natural to look like mahogany or cherry. The strong point of the Redwood door is that it stays in place.

One customer states that he used them in several houses built last spring which have been vacant ever since, and every door swings just as left by carpenters when jointed in. His experience with other woods under similar conditions is that it is almost impossible to open them, and requires considerable effort to shut them. His case is only one of many others, and it is really a pleasure to sell doors that are not affected by damp weather. We are selling Redwood doors at the same price as pine, and look for a large business during the year of 1900.

Yours respectfully,

E. A. CARLISLE, POPE & Co.

Again thanking our patrons for the interest they have taken in the introduction and use of California Redwood, we are

Very truly,

BARTLETT LUMBER CO.,
BOSTON, MASS.

NO CREOSOTE.

THE report that the fire at the Harvard boat-house was caused by the explosion of creosote used in the shingle stain in which the shingles were dipped was erroneous. The stain which caused the trouble was of an entirely different make.

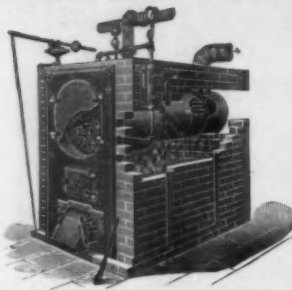
Mr. Samuel Cabot, inventor and manufacturer of the creosote shingle stains, informs the *Journal* that there was no creosote stain on the premises and that it is well known that creosoting diminishes the inflammability of wood.

Mr. Peabody, of Peabody & Stearns, architects of the building, when asked by a *Journal* reporter, confirmed the statement that there was no creosote in use in or about the work.

—*Boston Journal*.

A GREETING.

LOOKING back over the events of the closing year, we feel like extending cordial greetings to all who have helped us make 1899 the most successful year in our history. Individually and collectively we have aimed to treat all our customers to their satisfaction, and we trust we have succeeded in proving our good intention by our acts.

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We feel it unnecessary to enter into an elaborate disquisition upon the desirability of our goods and their superiority over those of many others, trusting that years of diligent and painstaking efforts have not been without the result of securing for our goods a reputation which is a stronger substantiation of our claim than anything we might say.

We merely wish to state that with our present facilities we are in better position to care for increasing business.

THE BERGER MANUFACTURING CO.
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NOTES.

THE new Empire Building, Pittsburgh, Pa., will contain two Scaife Water-filters, having a combined capacity of 3,500 gallons per hour. The arrangement contains a unique feature, being designed so that either Filter can be shut off from the main supply-pipe while being cleansed, the other Filter meanwhile furnishing the filtered water for the entire building. Wm. B. Scaife & Sons, of the same city, are the manufacturers of these Filters, which contain no chemicals or coagulant of any description.

WE wish that all advertisers who at this season of the year distribute calendars would show the good taste, common-sense and nerve of our good friends the Okonite Co. Ltd., of New York. They send us a calendar each year that a man of some delicacy of feeling is willing to keep and use, and yet these unostentatious affairs probably cost more than the gaudy placards that architects are invited to hang on their office-walls. The simple unobtrusive trade-mark "Okonite" imprinted on the dark mat of the velox-paper photograph of St. Paul's is all the advertising there is about it; but, little as it is, it is enough and effective.

THE Samson Cordage Works, of Boston, distribute a useful standing desk-pad and use a section of their well-known "spot-cord" enclosed in a celluloid tube to hinge the two parts of the pad together. In this way the spot-cord is always kept in sight and shown to be "on top."

(Continued on page 4.)

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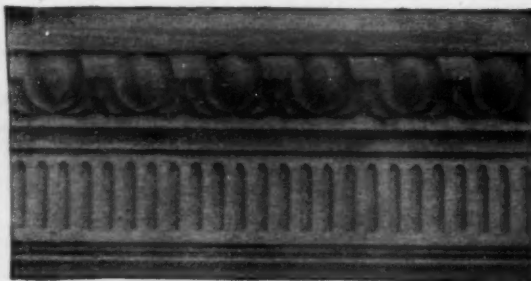
has been a study with us. We have complete lines of Door and Window Trim in every School. We also produce in metal Architect's own designs, and will furnish Special or Proprietary Hardware in any School or for any purpose.

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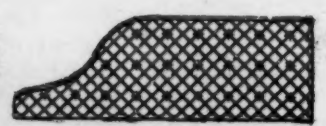
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Remember

I. That last week's was *the last issue* of

"THE IMPERIAL EDITION."

II. That through and because of this discontinuance the subscription price of "The **INTERNATIONAL** Edition" is reduced from \$25.00 to \$16.00 for the year 1900.

III. That subscribers to the "International Edition" remitting to us the *full* amount of their subscription (\$16.00) will receive, without charge, the Fifth Part of

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AGENTS AT BOSTON: WALDO BROS., 102 Milk Street.

THE Bostwick Steel-lath Co., of Niles, Ohio, keep their laths in mind and in the pockets of possible customers by distributing a pocket-diary, slender in form, which besides describing the steel-lath also gives various information covering postage, rules of business procedure and maps of this country in whole and in part.

SPEAKING of maps, our newest friends—the Art Metal Construction, of Jamestown, N. Y.—send out, in lieu of the seasonal calendar, an equally seasonable and very excellent letter wall-map of the seat of the Boer War in South Africa.

THE Berlin Iron Bridge Co., of East Berlin, Conn., are to furnish a steel boiler-house for the Ansonia Brass & Copper Co., of Ansonia, Conn. The building will be covered with the Berlin Iron Bridge Company Patent Anti-condensation Roof Covering.

BUILDING INTELLIGENCE.

Reported for the American Architect & Building News.

ADVANCE RUMORS.

Sheldon, Ill.—Paul O. Moratz, of Bloomington, has prepared plans for a \$16,000 two-story brick school-building to be erected here. L. T. Hutchins, Secretary School Board.

Spokane, Wash.—The Spokane Amateur Athletic Club contemplates erecting a modern club-house in the spring, to cost with site complete, about \$50,000.

Springfield, Mass.—The local lodge of Odd Fellows is considering the advisability of building a commodious two-story addition in the rear of their present building.

Edward M. Coats has purchased several plots of land on Main St. having a total frontage of 157 feet. It is stated that Mr. Coats intends to erect a large modern apartment block.

Springfield, Mo.—It is announced that Reed & Heckenitely, 123 South Side Sq., are preparing plans for the superstructure of the church to be erected by the Benton Avenue M. E. Society, to cost about \$10,000.

St. Paul, Minn.—The Hamline M. E. Church is about to build a \$15,000 edifice on Capitol Ave., after plans by Architect C. H. Johnston.

Templeton, Mass.—A brick and stone car-barn and power-house, to cost \$8,000, is to be erected by the N. E. Electric R. R. Construction Co.

Terre Haute, Ind.—The managers of the Union Hospital will erect a new building to cost about \$10,000.

Texarkana, Tex.—An opera-house to cost about \$10,000 will be erected in this city by a company recently organized. F. W. Offenbuser, president.

Williamstown, Mass.—The local lodge of Masons is considering the advisability of erecting a three-story building, to cost about \$15,000.

ALTERATIONS AND ADDITIONS.

Jersey City, N. J.—Central Ave., No. 300, alteration and addition to 2½-st'y frame store & dwell., 25' x 45'; \$7,500; o., Herman Kneisel; a., G. Lautenschlager.

New York, N. Y.—Third Ave., No. 3915, one-st'y extension, 22' x 42'; \$5,000; o., Reinhold Jahn, 3915 Third Ave.

Blackwells Island, four-st'y extension, 18' x 22'; \$47,000; o., City of New York; a., Horgan & Slatery, 1 Madison Ave.

E. Forty-eighth St., Nos. 314-316, raise building; \$12,000; o., H. Clausen Brewing Co., 309 E. 47th St.

Fifth Ave., s. w. cor. 38th St., six-st'y extension, 17' x 85' \$29,000; o., Charlotte Weatherly, 420 Fifth Ave.

BUILDING INTELLIGENCE.

(Alterations and Additions Continued.)

Avenue C, n. e. cor. 3d St., five-st'y extension, 31' x 48'; \$10,000; o., S. Krauss, 11 E. 94th St.; a., Bruno W. Berger, 121 Bible House.

Sixth Ave., n. e. cor. 26th St., raise building; \$20,000; o., Harriett G. Coogan, 599 Fifth Ave.; a., G. A. Schellenger, 130 Fulton St.

E. Sixty-third St., Nos. 322-328, new water-closets, etc.; \$15,000; o., Louis Sroka, 258 Delancey St.

E. Twenty-eighth St., No. 486, alter interior; \$3,000; o., Henry Elder, 24 W. 56th St.; a., Banister & Schell, 156 Fifth Ave.

Philadelphia, Pa.—Twenty-fifth St., cor. Walnut St., remodelling stable into art gallery; \$7,000; o., Edward T. Stotesbury; a., Frank Miles Day & Bro.

APARTMENT-HOUSES.

New York, N. Y.—S. Crotona Park, nr. Clinton Ave., 5 three-st'y fr. flats, 20' x 65'; \$30,000; o., H. White, 1046 E. 169th St.; a., Hunter & Murgatroyd, 1046 E. 169th St.

One Hundred and Seventy-fifth St., nr. Crotona Ave., three-st'y fr. flat, 21' 6" x 60'; \$6,500; o., Chas. V. Halley, 1014 E. 175th St.

Courtlandt Ave., nr. 160th St., 2 five-st'y bk. flats & stores, 25' x 75'; \$43,000; o., Chas. Brogan, 1165 Washington Ave.

Clinton Ave., e. a. 27' x 170th St., 4 three-st'y fr. flats & stores, 20' x 70'; \$22,000; o., Geo. Beckman, 904 E. 170th St.; a., Edw. Wenz, 1491 Third Ave.

One Hundred and Sixty-seventh St., nr. Hall Pl., three-st'y fr. flat & store, 25' x 60'; \$5,500; o., Jos. E. Butterworth, 180th St. & Bathgate Ave.; a., Chas. S. Clark, 719 E. 177th St.

Union Ave., nr. 165th St., 3 three-st'y fr. flats, 17' x 68'; \$16,500; o., Howard Menn, 876 E. 165th St.

Caldwell Ave., nr. 165th St., three-st'y fr. flat & store, 20' x 48' 2"; \$6,000; o., G. P. Arbogast, 840 E. 165th St.

Willis Ave., nr. 143d St., five-st'y bk. flat & store, 25' x 88'; \$20,000; o., Isaac Levy, 308 Alexander Ave.; a., T. W. Ringrose, 142d St. & 3d Ave.

St. Nicholas Ave., n. w. cor. 113th St., seven-st'y bk. flat, 95' 6" x 120'; \$125,000; o., F. A. Sei z, 143 W. 125th St.

W. Eightieth St., No. 310, seven-st'y bk. & st. flat, 50' x 92' 2"; \$125,000; o., Mich'l Tully, 210 W. 105th St.; a., J. E. Ware & Son, 3 W. 29th St.

E. One Hundred and Seventh St., Nos. 316-318, 2 six-st'y bk. flats & stores, 25' x 88' 8"; \$50,000; o., Jacob Antopolaky, 681 Wales Ave.; a., Horenburger & Straub, 122 Bowery.

Seventy-third St., n. s. 3 six-st'y & base. bk. stores & flat, 25' x 88' 8"; \$66,000; o., A. A. Schorsch, 240 E. 79th St.; a., Geo. F. Pelham, 503 Fifth Ave.

Crotona Ave., s. e. cor. 175th St., three-st'y fr. flats & store, 22' x 88'; \$7,000; o., Chas. V. Halley, 1014 E. 175th St.; a., W. C. Dickerson, 149th St. & 3d Ave.

E. Twenty-fifth St., No. 314, six-st'y & base. flat & store, 25' x 85' 10"; \$25,000; o., Jacob Kassowitz, 45 Avenue A; a., G. F. Pelham, 503 Fifth Ave.

Dawson St., e. cor. Leggett St., five-st'y bk. flat, 25' 10" x 85' 11"; \$22,000; o., Fred'k McCarthy, 1044 E. 156th St.; a., W. C. Dickerson, 149th St. & 3d Ave.

Southern Boulevard, n. w. cor. 187th St., three-st'y fr. flat & store, 25' x 65'; \$6,000; o., John McLeavy, 18th St. & Avenue A; a., W. C. Dickerson, 149th St. & 3d Ave.

Ninety-ninth St., nr. 3d Ave., six-st'y bk. & st. flat, 25' x 89' 7"; \$30,000; o., Dora Schreer, 307 W. 111th St.

One Hundredth St., nr. 3d Ave., 2 six-st'y & base. bk. & st. flats & stores, 25' x 89' 7"; \$64,000; o., Dora Schreer, 307 W. 111th St.

One Hundredth St., nr. 3d Ave., six-st'y bk. & st. flat, 25' x 89' 7"; \$30,000; o., Dora Schreer, 307 W. 111th St.

One Hundred and Thirty-sixth St., nr. Brook Ave., five-st'y bk. & st. flat, 25' x 75'; \$23,000; o., Weil & Mayer, 35 Nassau St.

Union Ave., cor. Jennings St., five-st'y bk., st. & terra-cotta stores & flats, 25' 5" x 95' 3"; \$25,000; o., b., Kirk & Graham, 1162 Hos Ave.

Bathgate Ave., cor. Wendover Ave., five-st'y flat, 25' x 96'; \$25,000; o., Charles Whalig.

Ninety-seventh St., nr. Riverside Drive, 2 seven-st'y bk. & st. aparts, 62' x 100'; \$170,000; o., Olympia Construction Co., 203 Broadway; a., S. D. Cohen, 203 Broadway.

One Hundred and Fifty-sixth St., nr. Trinity Ave., 3 three-st'y fr. flats, 17' x 63'; \$14,000; o., Adam Hoffman, Trinity Ave. & 156th St.

CHURCHES.

Worcester, Mass.—Lincoln St., cor. Gilman St., fr. church, 64' x 69'; \$12,000; o., Adams Sq. Baptist Church; b., Rankin & Woodside; a., Earl & Fisher.

EDUCATIONAL.

Des Moines, Ia.—University Pl., two-st'y bk. mod-

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(Educational Continued.)

torium, 62' x 103', slate roof, steam; o., Drake University; a., C. E. Eastman Co.

Philadelphia, Pa.—Fifty-first St. and Greenway Ave., three-st'y bk. school, 53' x 133'; \$54,941; b., William J. Smith.

FACTORIES.

Brooklyn, N. Y.—Atlantic Ave., nr. Grand Ave., two-st'y & cellar bk. factory, 60' 9" x 90', gravel roof; \$12,000; o., William Zepp, 219 Warwick St.

Pearl St., n. w. cor. Prospect St., five-st'y bk. factory, 44' x 90', gravel roof, steam; \$35,000; o., J. Schimpf, 128 Pearl St.; a., H. L. Davies, 26 Court St.; b., J. Kennedy & Son, 175 Front St.

Detroit, Mich.—Pine St., bk. & st. factory, 120' x 124', comp. roof, steam; \$10,000; a., J. E. Mills, 820 Chamber of Commerce Building.

HOTELS.

Excelsior Springs, Mo.—Three-st'y hotel, 45' x 130', pitch roof, steam; \$15,000; o., Mrs. E. D. Munro; a., Stroth, Brown & German, Kansas City.

HOUSES.

Boston, Mass.—Aldworth St., nr. Centre St., 2½-st'y fr. dwell., 38' x 42', pitch roof, furnace; \$6,000; o., Mary E. Flynn; a., b., J. J. Flynn.

Wallingford Road, 2½-st'y fr. dwell., 29' x 41' x 42', pitch roof, hot water; \$9,000; o., M. P. White; b., Hawkins & Watts; a., T. Griffin.

Brooklyn, N. Y.—Nautilus Ave., n. e. cor. Highland Ave., two-st'y & attic fr. dwell., 33' x 43'; \$5,000; o., Mrs. Plain, 72d St. & W. Central Park, New York; a., Parfitt Bros., 26 Court St.

Fort Hamilton Ave., n. w. cor. 86th St., two-st'y & attic fr. dwell., 40' 8" x 53', shingle roof, steam heat; \$8,000; o., Michael O'Donnell, Fort Hamilton Ave. & 85th St.; a., J. J. Pettit, 186 Remsen St.

Decatur St., nr. Patchen Ave., two-st'y & base. bk. dwell., 18' 9" x 45' 3", gravel roof; \$5,000; o., J. B. Wickens and W. B. Kelley, 16 Court St.

Garfield Pl., s. s. 245' 7" w. W. Prospect Park, 3 four-st'y & base. bk. dwells., 21' 4" x 48' 11"; steam; \$39,000; o., P. F. Delaney, 115 Underhill Ave.

E. Eighteenth St., nr. Beverly Road, two-st'y & attic fr. dwell., 27' 8" x 43' 4", shingle roof, hot water; \$5,500; o., H. C. Goode, 122 W. 90th St., New York; a., Dean Alvord, 189 Montague St.; a., J. J. Pettit, 186 Remsen St.

E. Eighteenth St., nr. Avenue D, two-st'y & attic fr. dwell., 33' x 38' 8", shingle roof, steam heat; \$6,500; o., Emma Henson, Avenue D, cor. E. 19th St.; a., B. Driesler, 1435 Flatbush Ave.

E. Eighteenth St., nr. Avenue D, two-st'y fr. dwell., 31' x 44'; \$6,500; o., Emma Henson.

E. Fifteenth St., nr. Albemarle Road, two-st'y & attic fr. dwell., 21' x 41' 2", shingle roof, steam heat; \$7,000; o., Dean Alvord, 189 Montague St.; a., J. J. Pettit, 186 Remsen St.

Jersey City, N. J.—Lambek Ave., three 2½-st'y fr. dwells., 23' x 41'; \$15,000; o., Hudson Real Estate Co.; a., W. C. Wolf.

Malden, Mass.—Mt. Vernon St., 2½-st'y fr. dwell., 26' x 42', pitch roof, furnace; \$5,500; o., Mildred H. Allen; b., P. V. Allen, 429 Columbus Ave., Boston; a., B. Thompson.

Newton, Mass.—Hammond St., two-st'y dwell., 28' x 31', pitch roof, furnace; \$15,000; o., James A. Lovell; b., J. Crowe; a., Winslow, Witherell & Bigelow, Boston.

New York, N. Y.—Penfold Ave., nr. Southern Boulevard, 2 two-st'y fr. dwells., 21' 6" x 53' 6"; \$9,000; o., J. S. and W. H. Bolton, Boston Ave. & Minford Pl.

Clinton Ave., nr. 176th St., 4 two-st'y fr. dwells., 21' 6" x 53' 6"; \$18,000; o., H. & C. S. Clark, 719 E. 177th St.

STORES.

Boston, Mass.—Bowdoin St., cor. Hamilton St., three-st'y fr. stores & club-rooms, 20' x 26' x 48', stores; \$5,000; o., James A. Jordan; b., F. J. Rockwell; a., A. M. West.

TENEMENT-HOUSES.

Boston, Mass.—Linden St., nr. Hancock St., three-st'y fr. block, 42' x 43', hot water; \$8,000; o., R. T. Green; b., Green & Harrington; a., G. H. Wood.

THEATRES AND HALLS.

Brooklyn, N. Y.—Fulton St., nr. Rockwell Pl., running to Flatbush Ave., bk. theatre & offices, 52' x 166', gravel roof, steam heat; \$150,000; o., The Orpheum Co., Franklin Building, Montague St.; a., F. Furman, 132 Nassau St., New York.

MISCELLANEOUS.

Boston, Mass.—Warren St. and Commonweal Ave., for refuse plant, 38' x 105', pitch roof, steam; \$10,000; o., City Waste Disposal Co.; a., b., Benj. Boulger.

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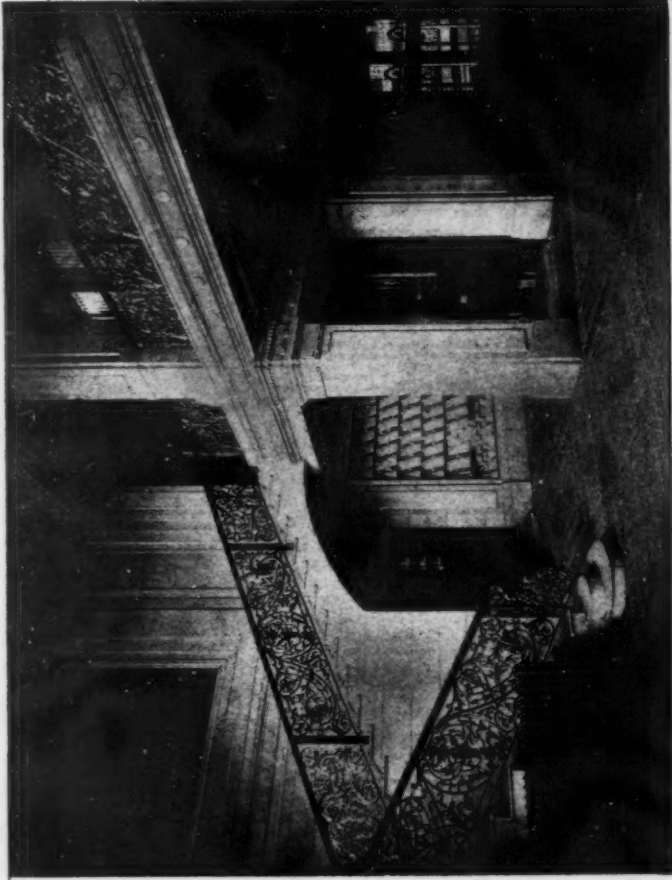
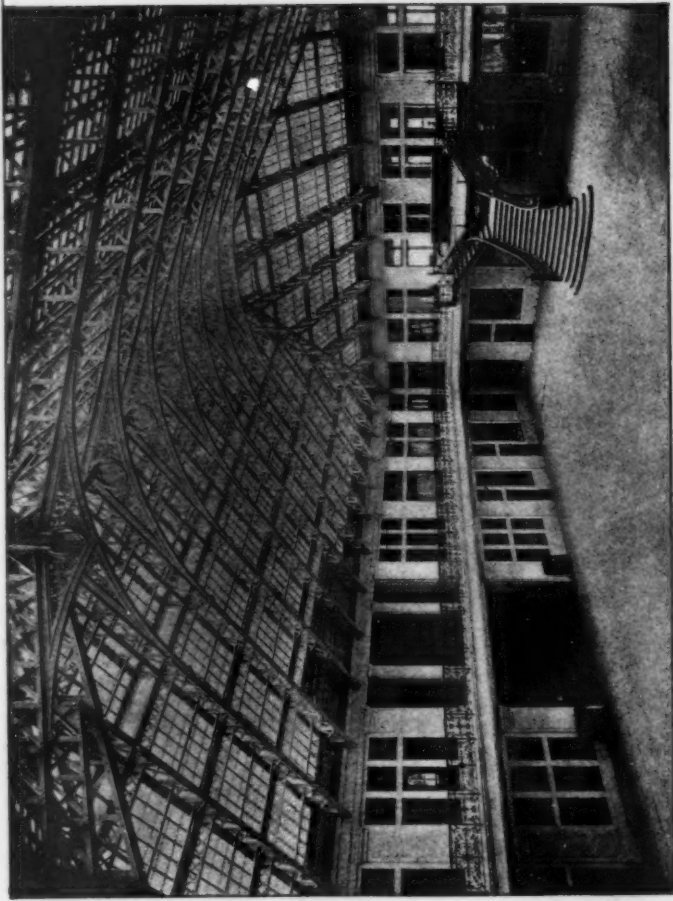
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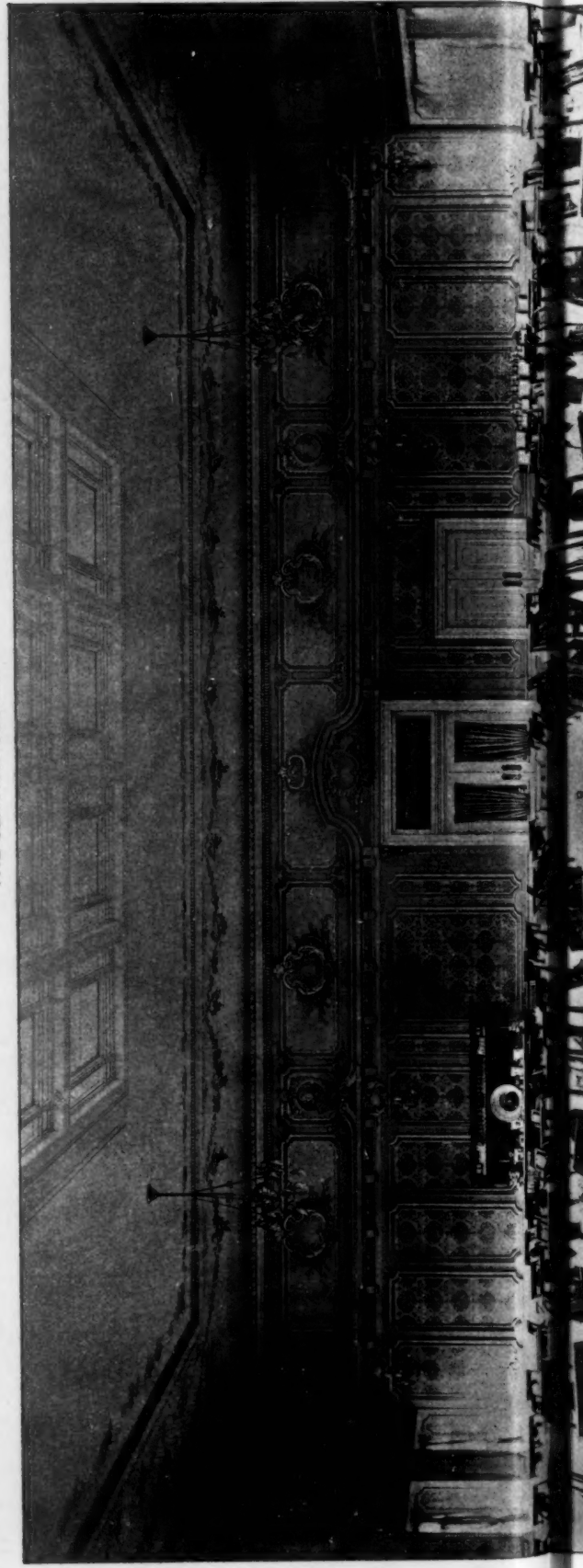
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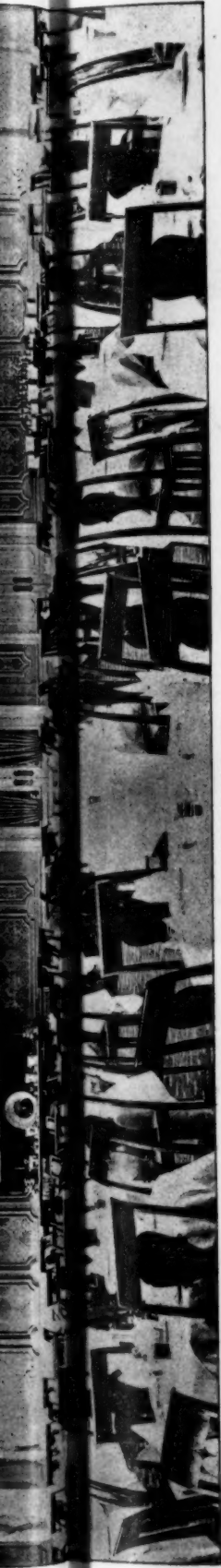
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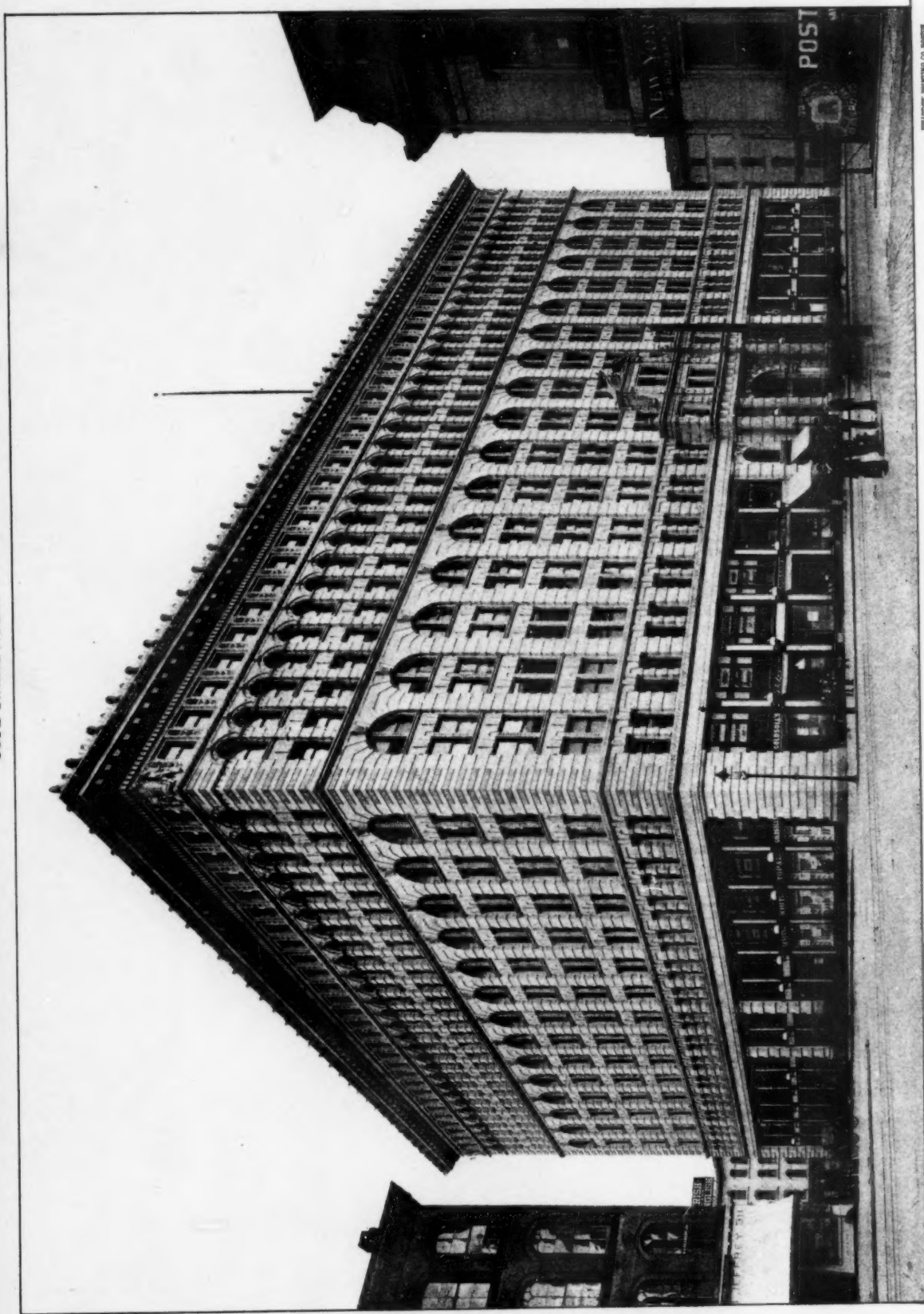


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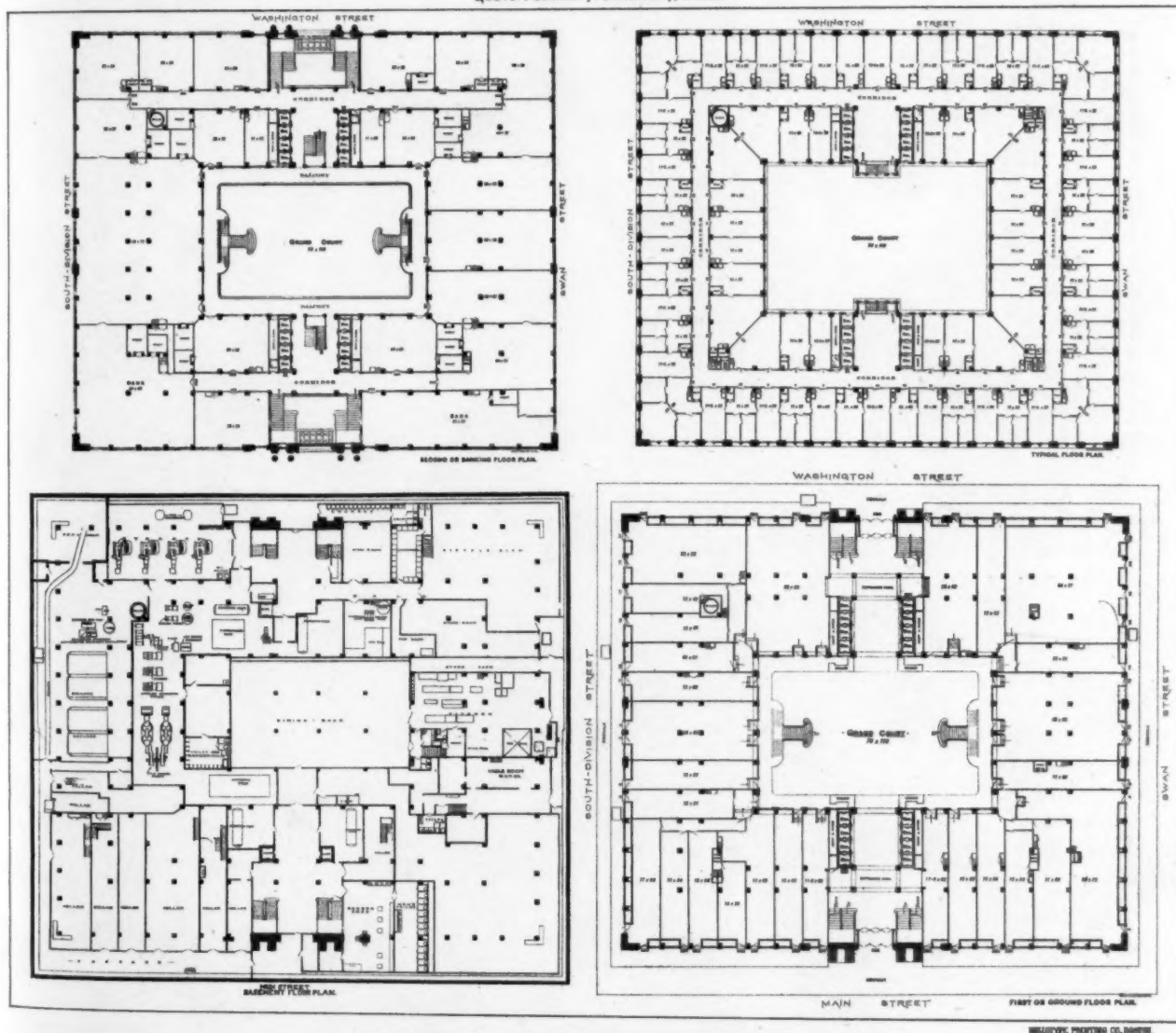


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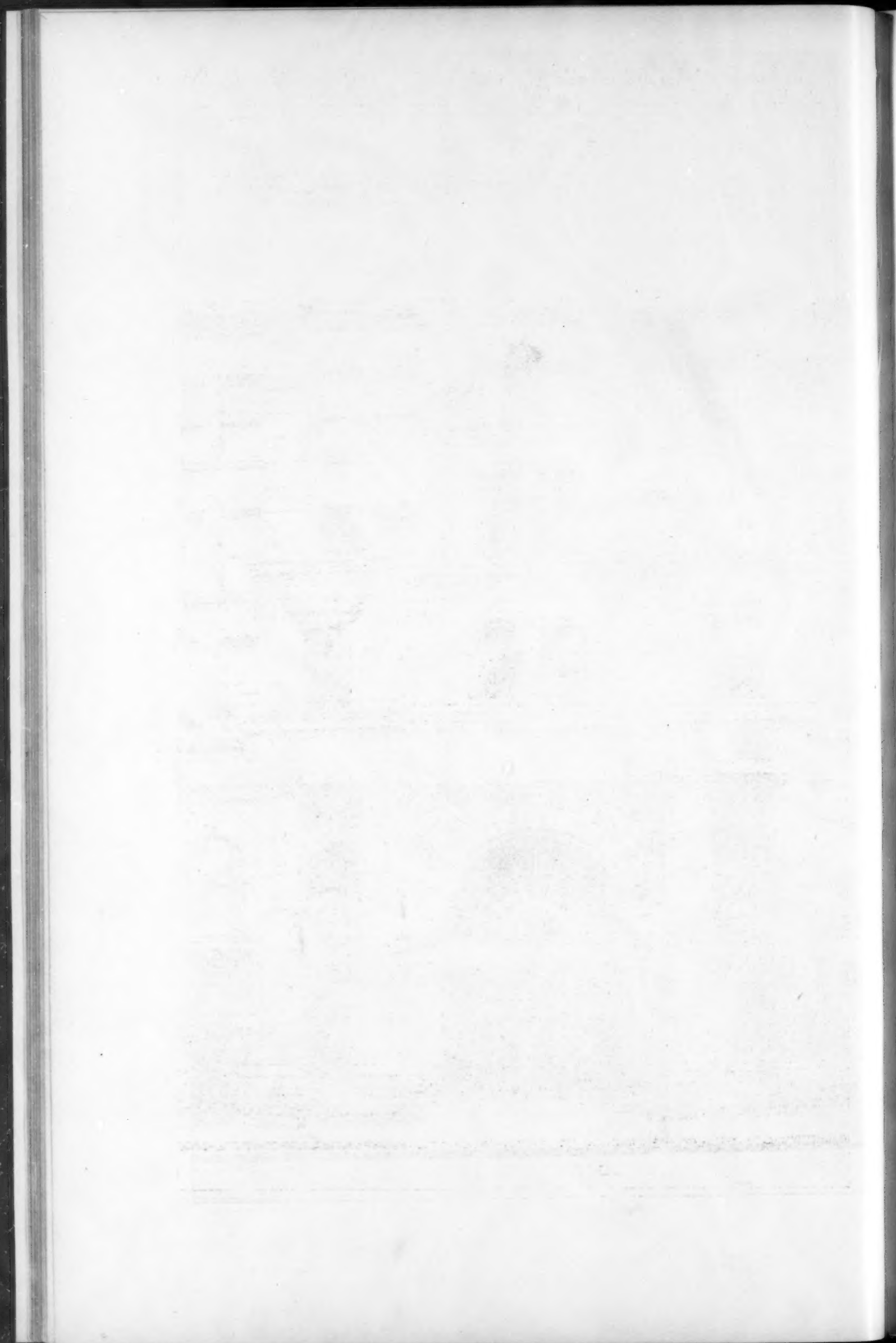
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 The names are given in alphabetical order, and the date of admission is
 given in parentheses.

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Mr. W. B. Jones	1892
Mr. C. D. Brown	1893
Mr. E. F. Green	1894
Mr. G. H. White	1895
Mr. I. J. Black	1896
Mr. K. L. Grey	1897
Mr. M. N. Blue	1898
Mr. O. P. Yellow	1899
Mr. Q. R. Purple	1900
Mr. S. T. Pink	1901
Mr. U. V. Red	1902
Mr. W. X. Orange	1903
Mr. Y. Z. Green	1904
Mr. A. B. Blue	1905
Mr. C. D. Yellow	1906
Mr. E. F. Purple	1907
Mr. G. H. Pink	1908
Mr. I. J. Red	1909
Mr. K. L. Orange	1910
Mr. M. N. Green	1911
Mr. O. P. Blue	1912
Mr. Q. R. Yellow	1913
Mr. S. T. Purple	1914
Mr. U. V. Pink	1915
Mr. W. X. Red	1916
Mr. Y. Z. Orange	1917
Mr. A. B. Green	1918
Mr. C. D. Blue	1919
Mr. E. F. Yellow	1920
Mr. G. H. Purple	1921
Mr. I. J. Pink	1922
Mr. K. L. Red	1923
Mr. M. N. Orange	1924
Mr. O. P. Green	1925
Mr. Q. R. Blue	1926
Mr. S. T. Yellow	1927
Mr. U. V. Purple	1928
Mr. W. X. Pink	1929
Mr. Y. Z. Red	1930
Mr. A. B. Orange	1931
Mr. C. D. Green	1932
Mr. E. F. Blue	1933
Mr. G. H. Yellow	1934
Mr. I. J. Purple	1935
Mr. K. L. Pink	1936
Mr. M. N. Red	1937
Mr. O. P. Orange	1938
Mr. Q. R. Green	1939
Mr. S. T. Blue	1940
Mr. U. V. Yellow	1941
Mr. W. X. Purple	1942
Mr. Y. Z. Pink	1943
Mr. A. B. Red	1944
Mr. C. D. Orange	1945
Mr. E. F. Green	1946
Mr. G. H. Blue	1947
Mr. I. J. Yellow	1948
Mr. K. L. Purple	1949
Mr. M. N. Pink	1950
Mr. O. P. Red	1951
Mr. Q. R. Orange	1952
Mr. S. T. Green	1953
Mr. U. V. Blue	1954
Mr. W. X. Yellow	1955
Mr. Y. Z. Purple	1956
Mr. A. B. Pink	1957
Mr. C. D. Red	1958
Mr. E. F. Orange	1959
Mr. G. H. Green	1960
Mr. I. J. Blue	1961
Mr. K. L. Yellow	1962
Mr. M. N. Purple	1963
Mr. O. P. Pink	1964
Mr. Q. R. Red	1965
Mr. S. T. Orange	1966
Mr. U. V. Green	1967
Mr. W. X. Blue	1968
Mr. Y. Z. Yellow	1969
Mr. A. B. Purple	1970
Mr. C. D. Pink	1971
Mr. E. F. Red	1972
Mr. G. H. Orange	1973
Mr. I. J. Green	1974
Mr. K. L. Blue	1975
Mr. M. N. Yellow	1976
Mr. O. P. Purple	1977
Mr. Q. R. Pink	1978
Mr. S. T. Red	1979
Mr. U. V. Orange	1980
Mr. W. X. Green	1981
Mr. Y. Z. Blue	1982
Mr. A. B. Yellow	1983
Mr. C. D. Purple	1984
Mr. E. F. Pink	1985
Mr. G. H. Red	1986
Mr. I. J. Orange	1987
Mr. K. L. Green	1988
Mr. M. N. Blue	1989
Mr. O. P. Yellow	1990
Mr. Q. R. Purple	1991
Mr. S. T. Pink	1992
Mr. U. V. Red	1993
Mr. W. X. Orange	1994
Mr. Y. Z. Green	1995
Mr. A. B. Blue	1996
Mr. C. D. Yellow	1997
Mr. E. F. Purple	1998
Mr. G. H. Pink	1999
Mr. I. J. Red	2000

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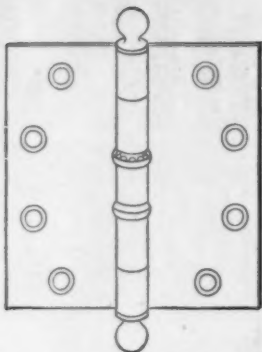
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Sandstone:	1 25 @ 1 50		
Longmeadow.....	80 @ 90		
Kibbe.....	90 @ 1 10		
Brown (Connecticut).....	1 00 @ 1 30		
Amherst Ohio.....	90 @ 1 00		
Berea.....	85 @ 90		
Berlin.....	80 @ 90		
Belleville.....	25 @ 1 35		
New Brunswick (Dorchester).....	75 @ 90		
Potomac Red.....	1 40		
Olsen.....	2 00		
Carlisle, English.....	1 05		
Corse Hill (Scotch).....	1 05		
Granite: (Maine)	80		
Limestone:			
Bedford.....	45 @ 1 25		
Joliet.....	1 00		
Lemont.....			
Serpentine.....			
Bluestone: (P cu. ft.)			
Sidewalk.....	30 @ 5 00		
Planned.....	50 @ 6 00		
Marble: (P cu. ft.)			
Lee, Mass.....	1 75 @ 2 50		
Rutland, white and blue.....	3 00		
Sutherland Falls.....	2 00		
Glens Falls, black.....			
Italian, blue-veined.....			
"Sienna.....			
Tennessee, red.....			
"Knoxville.....			
Pennsylvania, blue.....			
Vermont, white.....			
Slate: Roofing (P square).....			
Green.....	5 00 @ 6 00		
"unfading.....	5 00 @ 6 00		
Purple.....	5 00 @ 6 00		
Red.....	5 00 @ 6 00		
Black, Lehigh.....	4 25 @ 4 75		
"Chapmans.....	4 35 @ 5 50		
Genuine Bangor.....	6 00 @ 8 50		
Unfading black.....	5 50 @ 8 00		
Tiles, Am..... P M.....			
N. Peach Bottom, war, unfading			
Fire Clay Roof Tile on cars at fac.			
LUMBER.—P M.			
Boards: (Ordinary dimensions.)			
Pine, 1st quality, clear.....	65 00 @ 75 00		
"2d quality.....	55 00 @ 60 00		
"3d quality.....	18 00 @ 22 00		
Spruce.....	25 00		
Hemlock.....	14 @ 14		
Yellow pine.....	20 @ 40		
Cypress.....			
Clapboards:			
Pine.....			
Spruce.....			
Framing Timber:			
Pine.....	14 00 @ 16 00		
Spruce.....	12 00 @ 16 00		
Hemlock.....	18 00 @ 31 00		
Yellow pine.....			
Laths:			
Pine..... Round Wood			
Spruce..... Slab.....	3 50 @ 3 75		
Shingles:			
Pine, shaved..... P M.....	5 00 @ 6 00		
Pine, sawed.....	4 00 @ 5 00		
Spruce, sawed.....	1 50 @ 2 00		
Redwood..... P 125	1 40 @ 1 60		
Cedar split..... P M.....			
Cedar sawed.....			
Cypress, split..... 7 x 24	18 00 @ 20 00		

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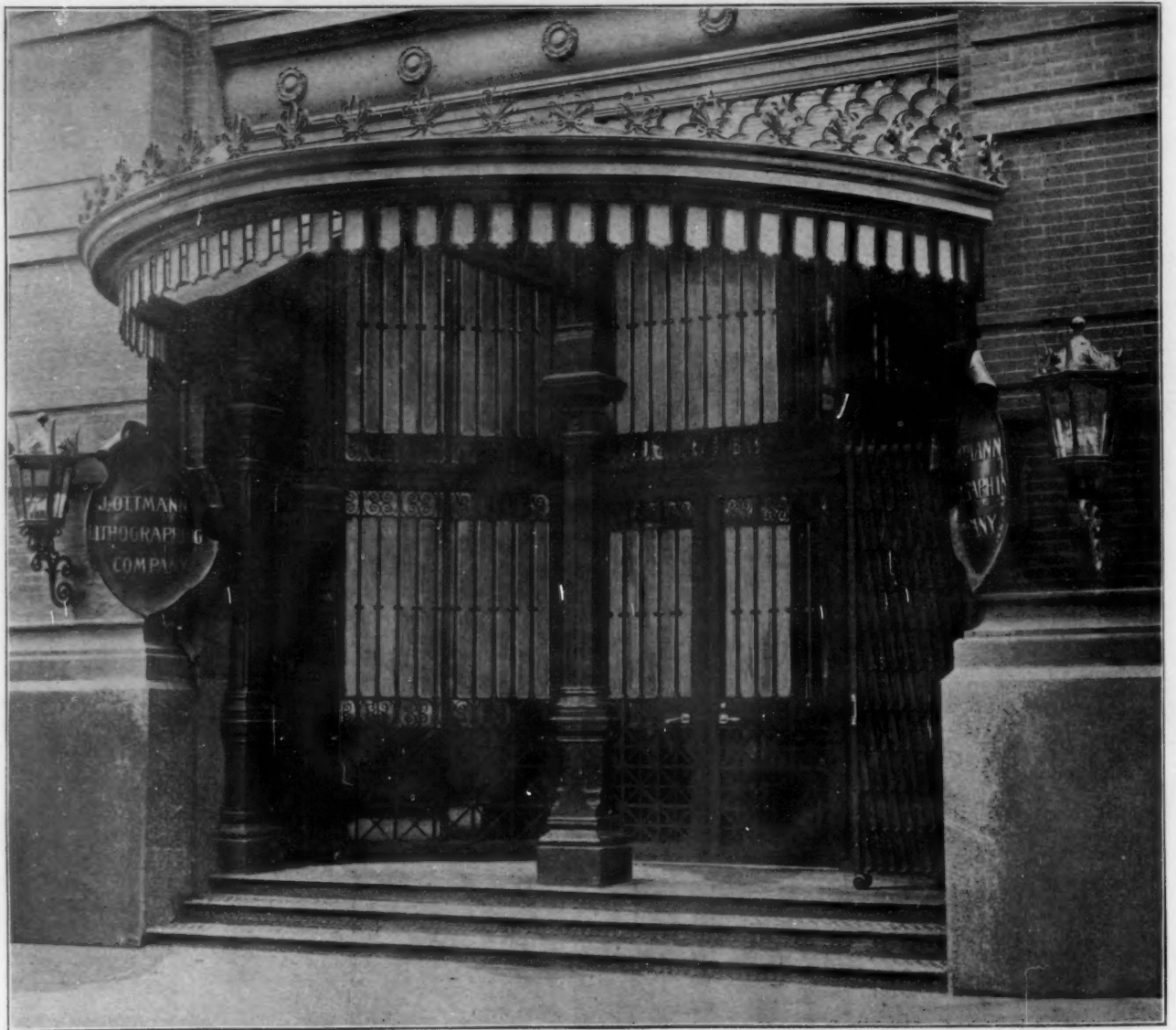
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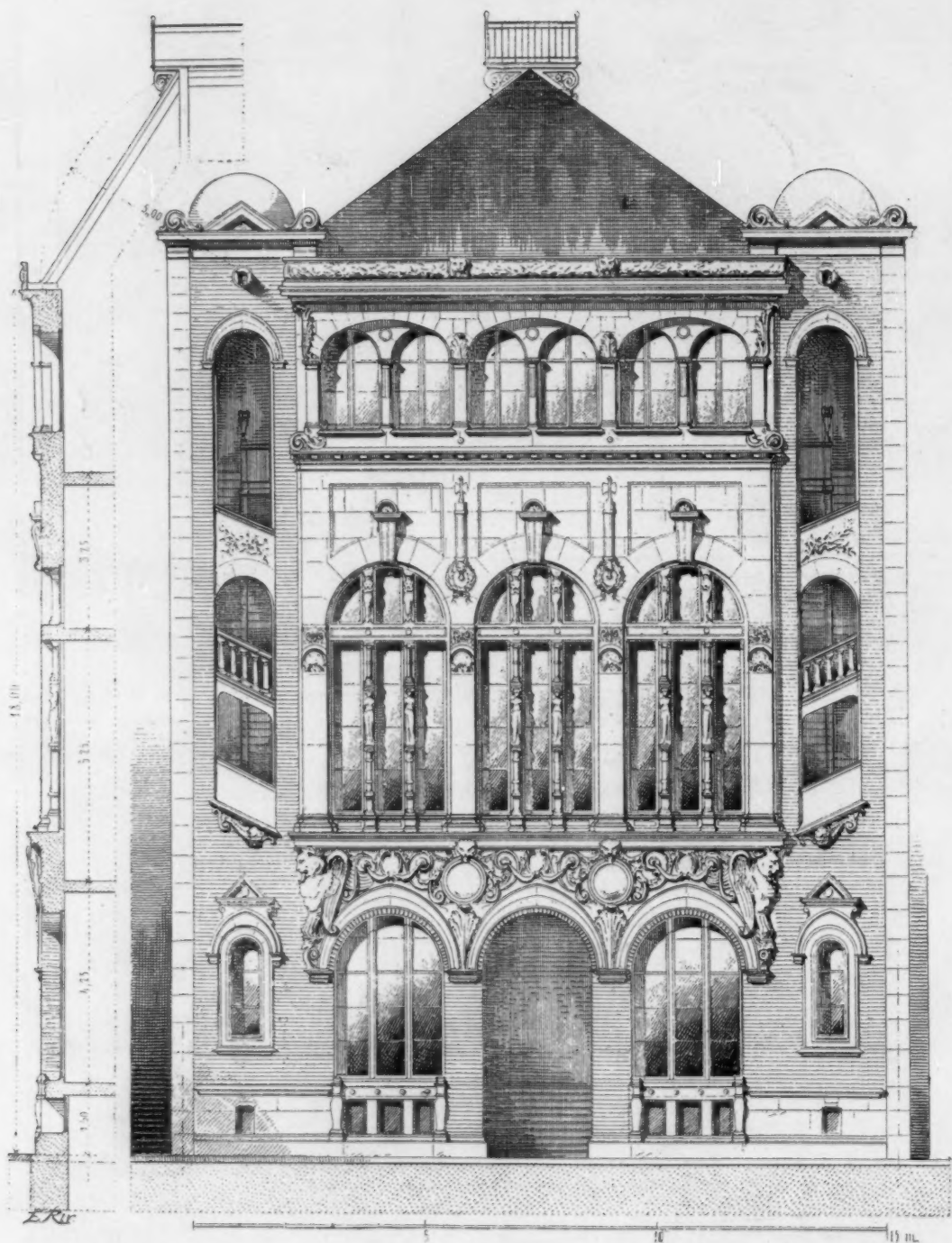
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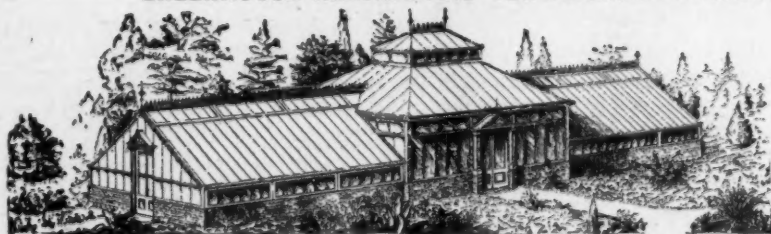
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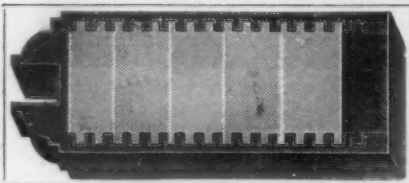
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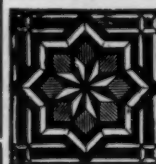
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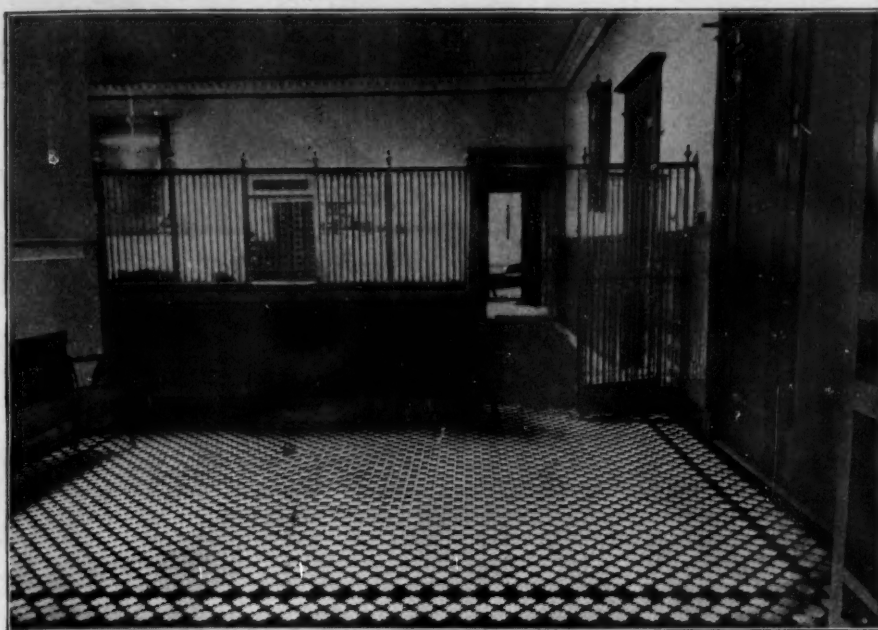
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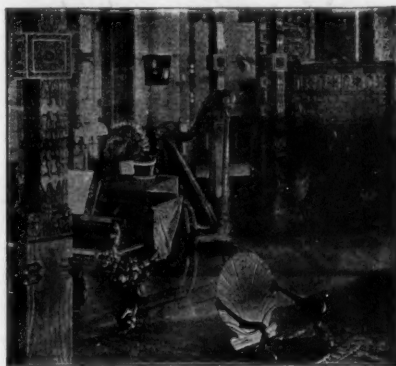
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"This valuable publication [*The Georgian Period*] grows in interest with every succeeding number, and the accumulated value of the whole is, of course, so much greater than that of its parts taken separately that it is hard to foresee the value to history and to art of the whole set when it shall have filled twenty such portfolios as that which safeguards No. 4. The previous parts have been reviewed in these columns, and it has been pointed out that while its title promises 'Measured Drawings of Colonial Work,' and nothing but these, the photo-prints issued are at least equal in value to the measured drawings, and that the combined value of photographs and measured drawings of one and the same building or detail is vastly greater than the separate value of an equal amount of material not so mutually illustrative. The present number contains still another and an unexpected attraction. It begins with thirty-six folio pages of text interspersed with an incredible number of small drawings—all spirited and evidently trustworthy—and with a certain number of small half-tone prints. * * * *

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New Advertisements.

BENEDICT & BURNHAM MFG. CO. (Waterbury, Conn.) Seamless Nickel Silver Tubing. Cover 4.
ART METAL CONSTRUCTION CO. (Jamestown, N. Y.), Art Metal Work. Page xii.

See last or next issue for the following advertisements:—

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MR. CHARLES BRIGHAM, architect, desires to announce the removal of his offices to No. 12 Bosworth St., opposite the Old Granary Burying Ground. Telephone 2778, Boston.
Boston, January 1, 1900. 1255

BUILDING PATENTS.

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

639,707. GAGE-COCK.—John J. Cain, Bayonne, N. J.
639,725. ELECTRIC HEATER.—Edward E. Gold, New York, N. Y.
639,814. RULER.—Lillian B. Jones, Denver, Col.
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639,831. WEATHER-STRIP.—George L. Seville, West Superior, Wis.
639,842. BIT-STOCK.—Melvin Barber and Louis F. Kramer, Oklahoma, Okla.
639,843. SASH-FASTENER.—William C. Belcher, Holland, Mich.
639,866. WINDOW-FRAME.—William Romuender, Milwaukee, Wis.
639,914. ARTIFICIAL MARBLE OR STONE.—James E. Summers, Lynchburg, Va.
639,942. SHUTTER-FASTENER.—John Sabold, Boyertown, Pa.
639,961. JOINT FOR STRUCTURAL BUILDING MEMBERS.—Alphonse De Man, Detroit, Mich.
639,964. ASTRAGAL FOR USE IN GLAZING.—Alexander S. Douglas, Jr., Glasgow, Scotland.
639,971. SPRAY-NOZZLE FOR URINALS.—William U. Griffiths, Philadelphia, Pa.
639,987. DOOR-HANGER.—Albert J. Ives, Aurora, Ill.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

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

ADVANCE RUMORS.

Arkansas City, Ark.—Rome Harding, of Little Rock, has prepared plans for a \$16,000 court-house for Desha County.
Berkeley, Cal.—It is stated that the Pacific Theological Seminary will erect a \$50,000 building on Telegraph Ave.

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BUILDING PATENTS.

(Advance Rumors Continued.)

Boston, Mass.—The late Daniel S. Ford makes provision in his will to have the Boston Baptist Social Union erect a large building in the business centre of the city for its own purposes and objects, and for that purpose gave it \$350,000.

Bryn Mawr, Pa.—President Thomas announces that among the most imperative needs of Bryn Mawr College to accommodate its growth is a new dormitory. Immediate steps, it is said, will be taken by the friends of the college to supply this need.

Buffalo, N. Y.—The Inland Steel Co., of Chicago, Ill., has purchased a site of 18 acres at Tonawanda, on which they will construct a steel plant. The company will employ about 400, and will be in operation in about six months.

Architect W. L. Schmolze has drawn plans for an apartment-building costing \$100,000, to be erected on Chapin Parkway, Potomac Ave. and Soldiers' Pl. It will be four stories high, and of Elizabethan style of architecture.

Edwin B. Higby, Elliecott Sq., is drawing plans for an eight-story apartment-house and residence. Reports state that capitalists have purchased Squaw Island, just below the city, on which they will construct large blast furnaces and steel work, and also extensive warehouses to serve as a distributing station for Minneapolis flour. The project will necessitate an expenditure of about \$10,000,000.

Butte, Mont.—The Elks will form a Building Association to erect a building at a cost of \$75,000. It will be three-story, with stores on the first floor and lodge quarters on the second and third.

Buzzards Bay, Mass.—Paul Haughton will build a \$7,000 summer residence after plans by Okie, Duhring & Ziegler, of Philadelphia, Pa.

Canton, Mass.—Draper Bros. are planning a brick and wood, three-story addition, 60' x 60', to be used as a rubber goods factory.

Cheyenne, Wyo.—Andrew Carnegie has written

BUILDING PATENTS.

(Advance Rumors Continued.)

that he would give Cheyenne \$50,000 for a free public library building, provided the city would select a site and maintain the library at a cost of not less than \$5,000 per year. A site will be purchased immediately and the building erected.

Chicago, Ill.—A large brewery is to be erected for William Pfeiffer on N. Leavitt St., between W. Superior St. and Chicago Ave. Henry Sierks has prepared the plans, which provide for a four-story brick and stone building to cost \$30,000.

Henry K. Holzman is designing an \$80,000 four-story apartment building, 168' x 170', to be built at Garfield Boulevard and Michigan Ave.

Columbia, S. C.—It is announced that the Southern and Atlantic Coast Line Railway will erect a new union station here to cost \$100,000.

Columbus, O.—The King Avenue M. E. Society contemplates the erection of a new church on the corner of Neil and King Aves., to cost about \$30,000. Rev. Geyer, pastor.

The congregation of King Avenue M. E. Church is stated to have under consideration plans for a \$30,000 edifice, to be erected on Neil and King Aves. L. L. Rankin, Chmn. Bldg. Com.

Dayton, O.—Architect William H. Stacy has prepared plans for a four-story brick tobacco factory for Wolf & Sukiswicz, cost, \$7,000.

Deadwood, S. D.—The Golden Reward Mining Co. will erect a gold and copper refinery, at a cost of \$60,000.

Denver, Col.—Architect F. E. Edbrooke, People's Bank Building, has prepared plans for a \$30,000 brick warehouse, to be erected by the Coors Brewing Co., at the corner of Delany and 16th Sts.

Des Moines, Ia.—The Equitable Heat, Light & Power Co. has filed articles of incorporation with \$200,000 capital stock. The company plans the erection of a plant in this city, to manufacture gas under the Hall process.

Detroit, Mich.—The Joseph Moross estate are

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SOLE AGENT.

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W. B. POPE & CO.,	"	S. B. BALKAM & CO.,	Hyde Park, "
C. E. HOWE,	Lowell, "	TAYLOR & GOODWIN,	Haverhill, "
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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.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

having plans prepared for a terrace of eight brick residences on N. Milwaukee Ave., near Woodward Ave.

N. Wardrop has prepared plans for the enlargement and improvements to the residence of A. L. Stephens at Grosse Point.

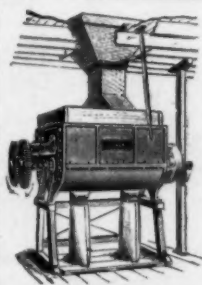
Louis Kemper has prepared plans for a five-story brick warehouse for the Detroit Stove Works to be built on Jefferson Ave., near Concord Ave.; estimated cost, \$30,000.

Malcomson & Higginbotham are preparing plans for a new eastern high school, to cost about \$150,000, subject to the city auditors allowing the estimate.

Dubuque, Ia. — Guido Beck, 8th and Main Sts., has prepared plans for a \$21,000 school-building, to be erected by St. Patrick's parish. Rt. Rev. Mgr. R. Ryan, pastor.

Easton, Pa. — The Easton Power Co. has acquired a long strip of land along the Lehigh River from the Lehigh Coal & Navigation Co. The price paid was \$80,000. It is rumored that a large gas-plant is to be erected on the site.

Fort Worth, Tex. — The Texas & Pacific Ry. Co.,



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Description and Prices on application....

W. D. DUNNING,

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

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

It is stated, will erect a freight depot at a cost of about \$50,000. B. S. Wathen, Ch. Engr., Dallas.

Galesburg, Ill. — C. H. Hair has prepared plans for a new church for Grace Episcopal parish. It will cost about \$15,000. Rev. Edgar F. Geo, rector.

Galva, Ia. — Burkhead & Reese, architects, of Sioux City, have prepared plans for a frame church for the M. E. Society; cost, \$6,000. Rev. Jory, pastor.

Greensboro, N. C. — The National Finishing & Warehouse Co. has been incorporated with a capital stock of \$120,000 and will build a plant for dyeing, bleaching, printing, etc. J. W. Lindon, R. R. King and A. B. Kimball are interested.

Greenville, S. C. — The Mills Manufacturing Co. has definitely decided to enlarge and improve its plant. About \$250,000 will be expended. Among other buildings will be a four-story structure, 105' x 112'. Nearly 300 more operatives, it is said, will be needed, and 60 cottages will be built to furnish them homes.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Great Works, Me. — The Penobscot Chemical Fibre Co. will build to its works an addition 29' high and 42' wide by 60' long.

Havre, Mont. — Bell & Kent, architects, of Helena, have prepared plans for a hotel building to be erected for Samuel Crosson. It will be three-story, brick, 80' x 133', of common brick and stone; cost, \$20,000.

Hickory, N. C. — A stock company with \$135,000 has been organized with E. L. Shuford at its head, for the purpose of erecting a cotton-factory. The plans, which are now being prepared, call for a two-story brick building, 75' x 250'.

Hillman, Ala. — The Grazeill Chemical Co., Cleveland, O., have purchased a site in this town on which they will erect a chemical plant, to cost about \$100,000.

Huntsville, Ala. — The Dallas Manufacturing Co. is increasing its capital stock from \$614,000 to \$1,228,000 in order to erect a duplicate plant of 25,-

Ready, Part IV "Georgian Period."

Iron-Work.

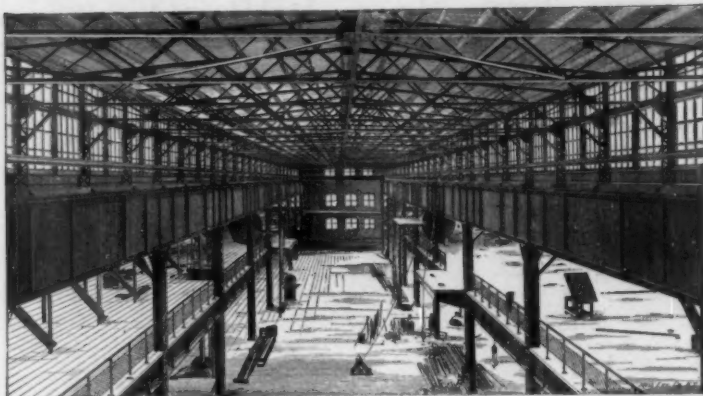
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Sidewalk Lights. Artistic work in Wrought and Cast Iron, Brass and Bronze.
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ticularly that portion which is designated
as the STACK ROOM, we are prepared
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library construction is having recog-
nition. The equipment of our factory is
especially designed for work of this kind.
ART METAL CONSTRUCTION CO.
Jamestown N.Y.



BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

000 spindles. T. B. Dallas, Nashville, Tenn., man-
ager-treasurer; S. M. Milliken, New York, N. Y.,
president.

Indianapolis, Ind. — It is said that the Second
Presbyterian Society will expend about \$100,000 in
remodelling their church.

Indian Orchard, Mass. — The stockholders of the
United Electric Co., of Springfield, at a recent
meeting voted to increase its capital stock suffi-
ciently to raise \$250,000. This money, among other
purposes, will be used to establish a large storage-
battery plant here to cost \$150,000.

Jacksonville, Fla. — It is announced that Golucke
& Stewart, of Atlanta, have prepared plans for a
\$15,000 edifice for the Newman St. Presbyterian
Church. S. T. Shaylor, Sec'y.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Kalamazoo, Mich. — Reports state that the Kala-
mazoo Gas Light Co. will spend about \$50,000 next
year in enlarging its plant.

Lake Mills, Wis. — A. Thompson has had plans
prepared by John Hunsicker, architect, for a stone,
brick and frame hotel, three-story, 41' x 67'; cost,
\$7,000.

Lawrence, Kan. — It is reported that a \$25,000-
school-building will be built. F. W. Blackmar,
Clerk, Board of Education.

Leominster, Mass. — The town has empowered the
School Committee to borrow \$9,000 to purchase
land and make plans for an eight-room school-
building.

Littleton, N. H. — The local business men are

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

agitating a project to build a new \$300,000 summer
hotel here.

Louisville, Ky. — John Doerhoefer will spend \$50,-
000 on improvements on the Tyler Building, at 6th
and Main Sts.

It is reported that Dr. W. O. Roberts is interested
in a project to erect a \$500,000 hospital in this city.

Plans are being prepared by Architects D. X.
Murphy & Bro., 250 Fifth Ave., for a new factory
for the American Tobacco Co., to cost about \$250,-
000.

Marietta, O. — Architect Ernest C. S. Holmboe has
prepared plans for a brick and rubblestone factory for
the Ohio Valley Wagon Co.

Sam'l Hannaford & Co., Hulbert Block, Cincin-
nati, are said to be preparing plans for a court-
house to cost about \$160,000.

Menominee, Mich. — There is talk in Masonic
circles of erecting a \$15,000 Masonic temple.

Milwaukee, Wis. — E. Von Baumbach has had
plans prepared by E. R. Liebert, architect, for a
five-story wood and steel store building to be erected
at Buffalo and Broadway; cost, \$60,000.

The Christensen Engineering Co. has had plans
prepared for a brick machine shop by O. C. Uhl-
ing, architect. It will be three-story, 185' x 200';
cost, \$75,000.

Minneapolis, Minn. — J. & E. C. Haley, architects,
have plans for a frame residence to be erected on
Summit and Irving Ave. for Charles N. Brundage.
It will be 32' x 48', two stories and attic; cost,
\$5,000.

Newberry, Pa. — It is stated that Architect M. B.
Ritter, 327 Pine St., Williamsport, has prepared
plans for a one-story brick match factory to be
erected for Dr. Fritz W. Richter, of Philadelphia;
cost, \$45,000.

New Haven, Conn. — The Yale Corporation recently
accepted plans for an auditorium, a memorial vesti-
bule and a dining-hall all to be completed in time
for the bi-centennial celebration. They will stand
on the new campus. Their construction will be
commenced at once, and will be pushed through to
completion as rapidly as the state of the funds for
the bi-centennial will permit.

Newport News, Va. — Reports state that the Old
Point College Co. have purchased a site, upon
which they propose to erect a \$75,000 college build-
ing. Brother Alexis of St. Joseph's Academy,
Baltimore, Md.

Newport, R. I. — The Travers place on Narragan-
sett Ave., recently purchased by Mrs. Robert
Garrett, will be renovated at a cost of \$50,000.

New Ulm, Minn. — Martin Heer, architect, of Du-
buque, Ia., has prepared plans for a parochial
residence for the local Catholic society, Rev. Fr.
H. B. Sandmeyer, pastor. It will be of brick and
stone, three-story, 52' x 72'; cost, \$8,000.

New York, N. Y. — Reports state that a syndicate
of Boston and Philadelphia capitalists is negotiat-
ing for the purchase of the old Brunswick Hotel
property, on 5th Ave., and considerable adjoining
property. Should it succeed, it is said it will build
on the site a hotel equal to the Waldorf-Astoria.

Peter Merrick has had plans filed for a twenty-
story office-building to be erected at 42-58 Exchange
Pl. and 25-33 Broad St., at an estimated cost of
\$4,000,000.

Plans for the Horace Mann School to be built on
Broadway, near 120th St., have been filed with the
Building Dept. by the trustees of the Teachers
College. The structure will be of brownstone and
Holland brick, and cost about \$350,000. The plans
were prepared by Josselyn, Howells & Stokes, who
intend to make the building one of the most com-
plete school-buildings in the country.

Ordway, Col. — Reports state that the Oxnard
Sugar Co., Oxnard, Neb., have secured a site along-
side the Missouri Pacific Railway tracks, for a
\$500,000 beet-sugar factory.

Philadelphia, Pa. — Architects Furness, Evans &
Co. have drawings at their office for a new stone
and terra-cotta edifice for St. Paul's Protestant
Episcopal Church at the southwest corner of 47th
St. and Kingsessing Ave. The structure will be
similar in style to the present parish-house and
chapel.

Phoenixville, Pa. — The Phoenixville Ice Manu-
facturing & Cold Storage Co. have plans for a
three-story brick and iron ice plant, 150 feet long;
cost, \$35,000.

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No. 584,328, Jan. 15, 1897
No. 593,275, May 25, 1897
No. 589,276, May 25, 1897
No. 591,588, Oct. 12, 1897

No. 620,388, Mar. 14, 1899
No. 611,428, Mar. 29, 1898
No. 608,540, Aug. 2, 1898
No. 608,972, Aug. 9, 1898

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

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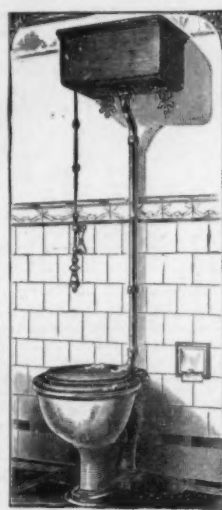
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PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., January 2, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 10th day of February, 1900, and then opened, for all the labor and materials and fixing in place complete, the conduits, electric wiring system, telephone conduits, electric pump, etc., for the U. S. Court-house and Post-office Building at Norfolk, Va., in accordance with drawings and specification, copies of which may be had at this office or at the office of Messrs. Wyatt & Nitting, architects, 4 F. Lexington St., Baltimore, Md. **JAMES KNOX TAYLOR**, Supervising Architect. 1255

COURT-HOUSE.

[At Dixon, Ill.]

Sealed bids will be received until January 20, 1900, for the erection of a court-house for Lee County. **E. W. SMITH**, Chairman Building Committee. 1256

CHURCH.

[At Spring Green, Wis.]

Bids will be received until February 1, for the erection and construction of a church for St. Mary's parish. **REV. J. L. A. W.**, pastor. 1256

CHURCH.

[At Summitville, Ind.]

Sealed proposals will be received until January 10th, for building a church for the Walnut M. E. Church. **J. C. WHITE**, Chairman Building Committee. 1254

COURT-HOUSE.

[At Selma, Ala.]

Bids will be received until January 10, for the erection of a court-house. **F. G. WOOD**, probate judge. 1254

GRANITE PAVING BLOCKS.

[At Brookline, Mass.]

Sealed proposals will be received until January 2, 1900, at the office of the Selectmen, Brookline, about \$180,000 feet granite paving-block, and 2,000 feet of granite flagging, etc. **A. H. FRENCH**, Town Engineer. 1253

CHURCH.

[At Fort Wayne, Ind.]

Bids will be received until February 15, 1900, for the erection of a school and church to cost \$15,000. **LUTHERAN SOCIETY**. 1255

CITY-HALL.

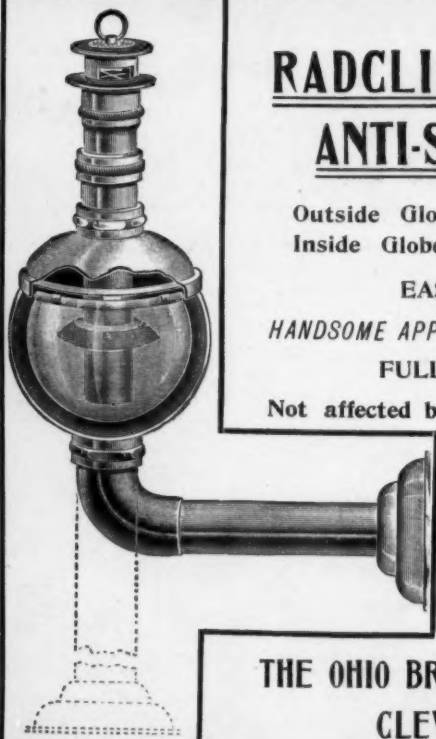
[At Columbia, S. C.]

Sealed proposals will be received until January 5, 1900, for the erection of a city-hall. **THOS. H. GIBBS, et al.**, committee. 1254

JAIL.

[At Nevada City, Nev.]

Sealed proposals will be received until January 9th, for the erection of a jail to cost \$175,000. **SUPERVISORS**. 1254



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Inside Globe Heavy Annealed Glass.

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NON-SYPHONABLE.**

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CLEVELAND, OHIO.**

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Pittsburgh, Pa.—Both branches of the City Council have passed the ordinance which will result in the erection of a new union depot for the Pennsylvania Railroad Co., at 11th and Liberty Sts. The work is to begin within three months.

Plans have been prepared by Architects Topp & Craig, Bissell Block, for a \$15,000 brick residence, to be erected on Irwin Ave., for Frederick Maul, president of the German Savings and Deposit Bank.

Racine, Wis.—The First English Lutheran Church has purchased a site at Washington Ave. and 10th St. for the erection of a \$10,000 church in the spring.

Richmond, Va.—Hardesty Bros., 15th and Franklin Sts., will erect a brick candy factory, to cost \$10,000.

Ripon, Wis.—Ripon College is to have a new building for its School of Science. It will be named in honor of O. H. Ingham, of La Crosse.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Salt Lake City, Utah.—Architect C. D. Dart, Atlas Block, is preparing plans for a two-story brick and stone business building, 46' x 100', to be erected on Main St., at a cost of \$10,000.

San Antonio, Tex.—S. MacAdoo, 213 W. Commerce St., has prepared plans for stores to be erected by H. D. Kampmann on Commerce St., at a cost of \$25,000.

San Diego, Cal.—The trustees of the Normal School have decided to erect a new school building to cost about \$45,000.

San Francisco, Cal.—Local press reports say that it is the intention of the Crocker Estate Co. to erect a modern fireproof hotel, to cost about \$1,000,000, at Van Ness Ave. and Sutter St.

Sumpter, Ore.—It is reported that David Wilson will erect a three-story brick hotel, 100' x 100', costing about \$100,000.

(Continued in Supplement.)

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Professional Ethics.

The following . . .

. . . CODE OF ETHICS . . .

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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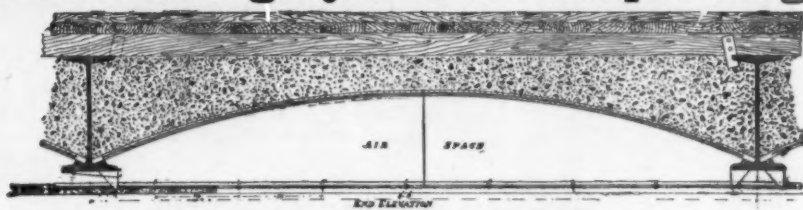
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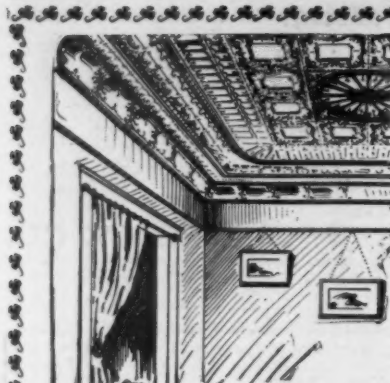
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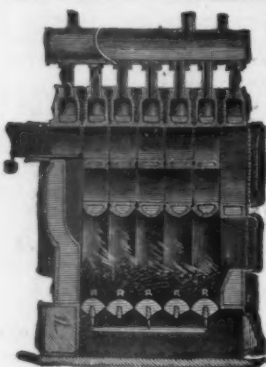
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Moulded:		
Red Pressed.	29 00	29 00
Buff.	27 00	27 00
Moulded Red & Buff.	45 00	70 00
Enamelled: Imp.	85 00	100 00
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Louisville.		
American Portland.	2 00	2 25
Portland, Eng. (Gibbs).	2 25	2 50
" (R. B. & S.).	2 50	3 00
" (Black Cross).	2 25	2 50
" (Burnham).	2 50	2 50
" (White's).	2 65	3 00
" French (Lafarge).	3 60	3 75
" Ger. (Alsen).	2 90	3 25
" (Fewer).	2 25	2 40
" (Vorwöhler).	2 50	2 90
" (Lagerlöf).	2 75	3 00
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" (Hanover).	2 25	2 45
" Stettin, (Anchor).	2 75	3 00
Roman.	4 25	4 75
Keene's coarse.	4 25	4 75
superfine.	6 50	
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Lime of Tell.	4 00	
Hydraulic Lime.	1 45	
Chicago Lime in bulk.		
Wisconsin Lime.	75	80
Rockland and Rockport, (Com.).	85	90
Kelley Island Lime, finish.		
State, Com. cargo rates.	65	
State, finishing.	75	
Plaster-of-Paris (calcined).	1 30	1 40
" (casting).	1 40	
Hair (cattle) & bush.	14	16
" (Goats).	17	19
Sand, & load.	1 00	1 25

Domestic Com.	8 50	9 50
Domestic Face	18 00	25 00
Philadelphia	35 00	40 00
10 00	11 00	
Phila. mould	50 00	80 00
Enamelled B'k.		
Imported	105 00	120 00
Enam. (edge)	120 00	135 00
" (edge & end.	120 00	135 00
Domestic.	90 00	100 00
Enam. (edge)	90 00	100 00
" (edge & end.)	110 00	115 00

In Yard.		
Sq. Hard 800	9 00	
"	7 00	
Salmon	5 50	
Sq.	5 50	
Light Stretchers	9 00	11 00
Medium	12 00	
Red	12 00	
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Pressed	17 00	
Paving	11 00	13 00
Second	12 00	
Third	10 00	

Dom.	65	
S. H. F. 120	1 50	
"	1 50	
"	2 85	3 15
"	2 30	2 60
"	2 85	3 15
"	2 75	2 85
Belg'n 2 10	2 40	
Hemmoor	2 50	2 75
"	2 75	2 85
Josson	2 00	2 75
"	3 00	3 25
"	2 75	2 85
B. Egl. 2 50	2 75	
"	3 00	3 50
"	6 50	7 00
"	8 00	9 00

White Lime & bush	25	30
White Mash	1 25	1 50
"	1 00	1 00

Not sold.	1 50	2 25
Not sold.	1 75	2 50
Not sold.	30	
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