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ACCORDING to the newspapers, the close of the Buffalo Exposition will show it to have been, financially, a disastrous failure. The accounts are, of course, not yet made up, but enough is known to show that the loss to the persons interested will be more than four million dollars. The stockholders, who subscribed and paid in two millions and a half, will get nothing back; the contractors who erected the buildings will lose about a million; the second mortgage bonds, which were issued to the amount of five hundred thousand dollars, will be defaulted, and of the first-mortgage bonds about twenty per cent will be defaulted, the trustees for the holders of the first mortgage bonds, into whose hands the money taken at the gates was paid, having received only enough to redeem eighty per cent of the face value of the bonds. It is said that the contractors will try to hold the stockholders and directors liable for the money owed them, on the ground that the act of incorporation of the Pan-American Exposition Company, which provided that directors and stockholders should not be liable for the debts of the corporation, was unconstitutional. It is very unlikely that the attempt will succeed, but the stockholders seem likely to have a season of persecution in the courts added to their other misfortunes.

THE people of Boston, or, at least, the Boston newspapers, are agitated over the question of illuminating-gas. It is difficult to avoid a suspicion, in reading the literature of the controversy, that the newspapers are stimulated, to a certain extent, in their treatment of the questions involved, by the interest of the financiers who are seeking control of the Boston gas-supply; but it seems to be evident that schemes which will not bear investigation are being carried out at the expense of the life and health of citizens. It would seem as if the business of making and supplying gas to a metropolitan district of a million inhabitants ought to be a profitable one, and people accustomed to the honest management of gas-companies, and to Massachusetts traditions in regard to the treatment of the property of stockholders by the directors of corporations, have been unpleasantly surprised to find that both the corporations supplying gas to the citizens of Boston are bankrupt, that the next payment of interest on their bonds will be defaulted, and that one of them, at least, is piling up an enormous floating-debt for the stockholders and bondholders to meet. Meanwhile, although the problem of what has become of their hard-earned savings interests a good many modest investors in United Gas bonds and other securities of the kind, the part of the matter which affects the citizens more generally is that the Boston, or, rather, the Bay State, Gas-light Company, after supplying its customers with reasonably good coal-gas, has now substituted an extremely dangerous water-gas, and the State Gas Commissioners seem to be unable to prevent the change. According to the newspapers, the substitution of water-gas for coal-gas is not made on the ground of economy, the cost of coal-gas in Boston being, if anything, less than that of water-gas, but is due to the influence of parties controlling the Company who are interested in the sale to it of naphtha

for enriching the water-gas, and would rather see three or four people a week poisoned by it than lose a good customer. How long the people of Boston will submit to be sacrificed for the sake of furnishing a profitable market for the vendors of poison remains to be seen; but the descendants of the Puritans are not remarkable for their meekness under what they consider oppression, and it is quite likely that the winter session of the Legislature will be asked to take the matter in hand.

THE Chicago *Tribune* calls attention, not without justifiable pride, to the advantage which Chicago enjoys over all other large American cities in having, to a certain extent, the heavy teaming through the town separated from the lighter traffic by the simple process of keeping street-cars and heavy drays out of certain avenues through the city, just as in New York or Boston they are kept out of the park driveways. It is hardly necessary to point out the dangers and annoyances of mingling heavy wagons, electric-cars, light carriages and pedestrians in the same narrow street, and, in Boston at least, it will, before long, be absolutely necessary to remove the electric-cars at least from Washington Street, as they have already been removed from Tremont Street. Another point in which Boston, particularly, might have shown more forethought is in the placing of the two great railway stations, both of which are set where, in order to reach them, it is necessary to cross one or more great thoroughfares for heavy teams, including not only the wagons and drays bringing freight to the railways, but also those carrying an immense amount of freight intended for the wharves and ferries, or for other portions of the city, and having nothing to do with the railway traffic, which they only obstruct. In Paris, where the comfort of the individual citizen and his family is better studied than anywhere else in the world, the freight-department of the great railways is always separated by half a mile at least, and often by more than a mile, from the passenger-department, and a mother or nurse with little children can conduct her charges to and from the trains without a thought of danger, and without being distracted by the roar of the elevated-trains, the electric-cars, and the streams of drays, express-wagons and carriages which intervene between a Boston station and the rest of the city. In fact, the division of traffic around the great Paris stations is so complete that, at some of them, a space is reserved for omnibuses from the principal department-stores, like the Bon Marché, the Printemps and the Louvre, which are in waiting at the arrival of every train, to take customers to their respective establishments and bring them back again. In a city like Paris, this simple arrangement is of the greatest value to timid rural shoppers, who, instead of being turned adrift into the midst of a roaring mob, to find their way about as best they can, need only get into the appropriate omnibus to be transported to the door of a place where, in most cases, they can make all their purchases, and where, at least, they will find polite assistance in reaching any other point of the city that they wish to go to. Naturally, there is advantage in the plan for the department-stores concerned as well as for the public, but this is not necessarily an objection to it.

THE designing of the forty-two new branch libraries, which negie, has been entrusted to Messrs. McKim, Mead & the city of New York owes to the generosity of Mr. Car-White; Babb, Cook & Willard, and Carrère & Hastings, who will act together in arranging a uniform general type, the details of the buildings being left to the firm to which each is allotted. The only exception is the Seventy-ninth Street Library, for which plans have already been made by Mr. James Brown Lord. The sites for most of the buildings have not yet been chosen, but it is hoped, by this arrangement, that the plans can be prepared with great rapidity as soon as a site is acquired, and that, through the comparative uniformity of design, important economies in cost of construction can be secured.

MR. JAMES BROOKS, who died in London, October 7, was one of the ablest of modern English architects. Although he was an old man, and his professional activity was rather of the last generation than of this, he still held an honored place in the profession. He was awarded the Royal Gold Medal of the Institute of British Architects in 1895, and

was for several years Vice-President of the Institute. We well remember our first visit to England, many years ago, when the top rounds, let us say, of the architectural ladder of fame were occupied by Waterhouse, Street, Scott, Norman Shaw and James Brooks. Naturally, our attention was particularly given to the works of these great artists, already familiar to us from the illustrations in the English professional periodicals. Street's buildings seemed to us just like the drawings, neither more nor less interesting; Norman Shaw's executed work was inferior in attractiveness to the drawings, which lent to it, in many cases, a poetry and picturesqueness which it did not possess in execution; while James Brooks's churches were far superior in charm to the drawings. In the grouping of great masses of wall, whether in brick or stone, even Street was hardly equal to him, and his buildings, so far as we saw them, seemed to us to combine originality and power with affection for ecclesiastical precedent to a degree in which he was rivalled only by Street. When it is remembered that the time of Brooks's activity was also the period of polychrome architecture, when rows of little enamelled tiles were thought to be the correct thing in connection with brick cornices, his boldness in using masonry in great masses seems all the more remarkable, and his work is, in consequence, of particular value to the student.

WE are requested by the authorities at Harrisburg to say that Professor W. R. Ware, of Columbia University, New York, has been invited to act as consulting architect, to advise with the Pennsylvania Capitol Commission in the consideration and adoption of plans for the completion of the new State Capitol building at Harrisburg. Whether Professor Ware has accepted the invitation we have not yet learned; but we need hardly say that the Commission could not have a more competent adviser, or competing architects a more experienced and earnest defender of professional rights in such matters.

NOTWITHSTANDING the almost unanimous opinion of the profession in England, that the design of the new Liverpool Cathedral should be entrusted to the winner of the highest award in the competition of fifteen years ago, it has been decided by the Committee which has the scheme in charge that a new competition shall be held. The competition is to be limited, and, in order to enable the Committee to decide who shall be invited to compete, architects are permitted, until the first of December, to send in portfolios of ecclesiastical buildings actually erected by them, and the Committee will, from examination of these portfolios, make a selection of competitors. This plan is not without a certain Philistine flavor, but it is due to the present Committee to say that it was invented long before their time, and was employed in the competition of fifteen years ago. It has also been decided, by vote of the Committee, that the style of the new building shall be Gothic, and it may be presumed that this early announcement of the decision is intended to shut out, without giving offence, anything in the nature of the design selected in the former competition, which, although Gothic in detail, included a dome. It is true that the Cathedral of Florence possesses a dome which is ranked by architects among Gothic works; but it is very doubtful whether a committee of English laymen would see anything Gothic in the cupola of Santa Maria del Fiore or in any modern device resembling it; and, in all probability, the intention is to build from purely English precedents.

THE terms of the preliminary competition for Liverpool Cathedral as published are not precisely like those adopted, not long ago, by informal vote of the Committee in charge. Instead of inviting architects to submit only drawings or photographs of ecclesiastical work actually executed by them, portfolios will also be received containing drawings and designs which have not been carried out; and intending competitors may, if they desire, include a sketch for a Cathedral in their portfolios. The English professional journals say, with reason, that all this tends to complicate the preliminary competition, and that it would have been better and fairer to invite architects to submit at once sketches for the proposed Cathedral, at a uniform scale, so that an intelligent and unprejudiced comparison could be made, and the participants in the final test selected. In this way the Committee would secure a much larger number of valuable suggestions for their building at the same time that they would exclude the irrelevant and misleading considerations which are sure to encumber a competition of the kind determined upon.

IN regard, however, to the decision of the Committee to restrict designers to "Gothic," that is, presumably, to English Gothic, we cannot quite agree with those who consider the restriction a needless and unwise hampering of the competitors. It may be said that architects will be able to show more originality if they are allowed greater freedom in style or treatment; but it can also be said, on the side of the Committee, that English Gothic, in its various forms of development, allows a considerable latitude of design, and that, as no one claims that the style has reached absolute perfection in any existing building, there is still room for an ecclesiastical building, in pure English Gothic, which shall surpass anything yet known. There is, indeed, a superstition, very prevalent among reviewers, and, to a certain extent, among architects, that it is impossible for a modern building to be as beautiful as an old one; but this theory is open to some doubt, and the fact that the Liverpool Committee is not convinced of its correctness is rather an encouraging circumstance. It does not follow from the fact that Truro Cathedral, for example, which keeps to pure English precedent, is cold and academic, that this is the fault of the style, or that a man of greater courage and originality than Mr. Pearson could not have avoided the coldness, without transgressing the limits of the style. Probably most architects who have studied English Gothic without superstitious prejudices have felt that no existing example of the style was all that it might be, artistically, and, more than this, that the artistic defects in most of the examples were such as an architect of the present day, possessing even a moderate amount of instruction, would avoid. In Salisbury Cathedral, for instance, which is regarded as the most complete example of the best period of English Gothic, the screen west front is architecturally objectionable, to say the least. It is true that such screen-fronts are still built in Italy; but, north of the Alps, the principle of truthful design is, fortunately for art, so generally accepted that supposing Salisbury to be unknown, a competitive design exactly reproducing it, while it would be highly commended by a professional jury for its ground-plan, its tower and other features, would hardly pass without modification of its screen-front. With such principles of design to start from, a modern architect, supposing him to possess as thorough a knowledge of vaulting and of the effects of mouldings and curves, and as cultivated a perception of beauty in carved detail, as his brother of the thirteenth century, ought to be able, with equal talent, to design in English Gothic with greater security and success than ever. When it is remembered, also, that, while the requirements of a parish church have changed almost completely within six hundred years, the necessary elements of a cathedral plan do not differ very much now from those of the thirteenth century, it may be argued, with a good deal of justice, that the Liverpool Committee has offered to the art of architecture an opportunity such as rarely occurs, and of which the noblest use might be made.

ONE of the most important recent engineering inventions is that by which the diamond drill is applied to the excavation of tunnels. As every one knows, mining-engineers have long employed a tube set with diamonds on the lower edge to cut out cylindrical specimens of the rock, or strata, which they wished to investigate, but M. Fromholt, a manufacturer of diamond saws, has been able to construct a comparatively inexpensive machine, by which two or more diamond drills, operated by electric motors, can be applied directly to a vertical face of rock in the same way as the hydrostatic or pneumatic drills long used in tunnelling. The advantages of the diamond drill are that the power is supplied to it by means of a slender wire in place of the cumbrous piping necessary to an air or water motor, while its operation is far more rapid, a machine of this kind, in actual use in piercing a railway-tunnel in southeastern France, drilling holes easily at the rate of a metre an hour in hard limestone, including the time required for changing drills. It is curious that, in making these drills, crystallized diamonds, unsuitable either in form or color for fine jewelry, are used where soft rock is to be worked; while, for drilling granite or porphyry, it is necessary to use the amorphous black diamonds, which, although no more beautiful than bits of coke, which they closely resemble, are more expensive than the clear crystals, and are constantly rising in price. As the costly teeth of a diamond saw or drill represent an investment of many thousand dollars, while they are constantly in demand, a student of chemistry or electro-metallurgy might do worse than apply himself to the discovery of a process for producing amorphous carbon in proper condition for use in this manner.

ITALIAN CITIES.¹—XIV.

RAVENNA.

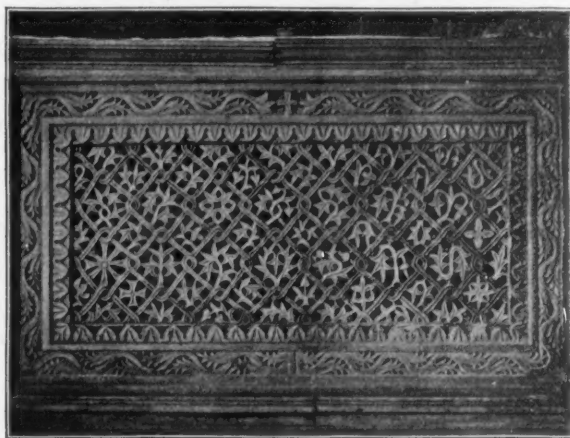
IN passing from Venice to Florence, between Padua and Bologna, we find on the shores of the Adriatic a city which just missed becoming one of the great capitals of the world and of which the triumph of Roman Catholicism brutally destroyed the budding grandeur. Ravenna used to be found upon one of the grand lines of communication between



Sarcophagus of Bishop Theodorus in S. Apollinare in Classe.

marshes which surrounded it seemed, on the contrary, to entirely isolate it from the rest of the world.

Honorius, defeated by Alaric, came hither to seek a shelter, and, reassured by the security which he found here, made it his ordinary place of sojourn. His successors, also hardly sure of the fate which awaited them, followed his example, and did not depart from it up to the time when Odoacer, king of the Heruli, seized it. In the year of our Lord 493, Theodoric, king of the Ostrogoths, made himself master of Ravenna, and there established his seat of government.



Byzantine Openwork in S. Vitale.

the Orient and the Occident, and seemed, at a given moment, as if it must become the hyphen between Byzantine civilization and the Roman world. The origin of this city is sufficiently obscure. According to Strabo, it must have been founded by the Thessalians. What we know certainly about it is that it had begun to bloom under the dominion of the Etruscans, and that when it fell into the power of the Gauls, after having undergone, during a certain length of time, the rule of the Sabines, it became one of the important cities of Cispadane Gaul. In the whole region which surrounds it the population has preserved the Gallic character and temperament, such as Julius Cæsar depicted. It is vivacious, loquacious and impetuous; the very patois preserves traces of its Gallic origin. The city is built on piles in a marsh which was found close by the sea, and it was furrowed by navigable canals, according to the description which Strabo has left of it. The tide, which in the Adriatic is very perceptible on its meeting the Mediterranean, which has almost no ebb and flow, used to rise to a great height. The maritime importance of the town was increased by its neighborhood to vast pine forests, from which could be drawn abundant shipbuilding material.

In the year 663 after the foundation of Rome, Ravenna figured amongst the federated cities of the great republic whose aspiration it was to conquer universal dominion. Later, Augustus increased the importance of the ancient port, which was at the mouth of a stream named Ronco, and dug there a new port, capable of containing three hundred vessels, which he linked to the Po by a great navigable canal which used to traverse the city for its whole length. But, during four centuries and up to the reign of Honorius, Ravenna was only a commercial city and one of the principal military ports of the empire. Nothing seemed to mark it out for the political rôle which it was going to play, and the sands and

Theodoric was an enlightened prince, a friend of the arts, and left in the city impressive tokens of his good taste. Belisarius, a general of Justinian's, in 540, put an end to the reign of the Goths, and Ravenna thus fell under the domination of the emperors of the East, who entrusted its government to an exarch. Byzantine domination endured for almost two centuries, during which the city was affected by the disputes which agitated Byzantium and the bloody quarrels which the iconoclasts provoked. Ravenna remained faithful to the worship of its images, and allowed itself to be easily overcome by the Lombard kings, the most celebrated of whom, Astolphus, destroyed the exarchate in 752. King Pepin took Ravenna from the Lombards and gave it to the popes; but a family of considerable importance in the city, that of the Polenta, wrested it from the pontiffs and reigned

more than a century, up to the time when the population, fatigued by the sovereignty of this despotic dynasty, put itself into the power of the Venetians, who kept control of the city until 1509. At this date it returned once more under the pontifical sceptre, and in 1512 became the theatre of the famous battle which the French won over the Spaniards, and which cost the life of Gaston de Foix, nephew of King Louis XII. After that time it was always a portion of the estates of the Church up to the day when it was incorporated into the kingdom of Italy.



The Tomb of Theodoric.

It is especially in Ravenna that one can find monuments of Byzantine art preserved in all their purity, many more than in Sicily, more even than in Constantinople. The seed of this art fell upon virgin ground and was not obliged, as at Venice or in Sicily, to wed itself with another art already ripe. Moreover, this art reached Ravenna when it had not yet undergone the debasements which it had already suffered at the time when it penetrated into the great Italian island and into the city of the Lagoons. One finds it, then, very much as it was at its beginning, and from this point-of-view Ravenna, in spite of its decay, which causes it to be classed among the cities of the

¹ Continued from No. 1298, page 46.

third order, is really one of the most interesting museums for the study of the history of art.

Amongst the monuments which date from the early times, one of the most interesting is, without doubt, the tomb of Theodoric, to-day known as Santa Maria della Rotonda, a kind of massive and dwarfed tower covered with a very flat dome, erected either by Theodoric or by his daughter Amalasuntha, who died a prisoner on an island in the Lake of Bolsena. This monument pretended to imitate the mausoleum of Augusta and Hadrian, and gives us an idea of the bizarre laws to which architecture was subjected in the sixth century. It is built of enormous cut stones, in which marine fossils are embedded, and the dome, which is a colossal monolith, measures not less than 11 metres in diameter and weighs not less than 446,550 kilogrammes. The interior of the structure is of circular form and is 14 metres in height. Vainly has it been sought to understand how, with the very limited mechanical means which were known at this epoch, it was possible to raise to such a height from the ground a block of stone weighing more than 440 tons, the management of which, moreover, because of its form, must have been extremely difficult. The circumference of the dome is ornamented on the outside by twelve consoles intended, apparently, to support statues.

The exterior is singularly disfigured by double staircases which were built by the Benedictine monks in 1578, who at that time intended to devote the upper story of the building to the worship of the Virgin. The walls on the inside are naked, but here and there we can discover indications which lead to the supposition that in

woman. "This daughter of Theodosius," says a writer who has deeply studied the history of Byzantium, "sister of Honorius, mother of Valentinian III, born at Constantinople, died at Rome, twice a slave, queen and empress; espoused first by a Gothic king, the brother-in-law of Alaric, smitten by the charms of his captive; next wife of a general of his brother's, whom she knew equally well how to charm; a woman able, but without generosity, without grandeur, who hastened the end of the empire, and whose ambition and vices obscured and sullied its misfortunes."

We see also in the same crypt two sarcophagi, one of which contains the ashes of Constantius III, the second husband of Placidia, and the other those of her brother, the Emperor Honorius. On the first of these two sarcophagi is sculptured a Christian emblem which is frequently found in the catacombs: namely, three lambs, one of which, the middle one, represents the divine Lamb standing on a turtle, from which issue four rivers which symbolize the four evangelists. The vault is ornamented with mosaics which have partly lost their primitive character through repeated restorations, but enough of them is left to give an idea of what they must have been before their deterioration. Here we see, over the sarcophagus of Placidia, two doves sporting and drinking from the lip of a cup. This subject, which was originally borrowed from pagan antiquity, has been adopted into Christian ornamentation and symbolism. There can also be seen a personage, holding in one hand the book of the Evangel and in the other a triumphal cross, before whom reddens a gridiron over a glowing brazier. It is easy to recognize in this way Saint



Two Antique Capitals in S. Apollinare in Classe.



Byzantine Capital in the lower Loggia: S. Vitale.

times past they must have been covered with mosaicwork. It is in the middle of this hall that was placed the porphyry sarcophagus containing the remains of Theodoric; but, this emperor having ardently professed Arianism, his tomb was desecrated later by the Catholic clergy.

Unfortunately, the lower hall is often flooded with water, and it is with great difficulty that entrance can be had because the surroundings of the monument are then also flooded.

Next in importance comes the tomb of Galla Placidia, the Eastern empress, which to-day bears the Catholic title of SS. Nazario e Celso. It was built by the empress in question in 440, and has the form of a Greek cross whose very short arms meet in a vast vaulted hall surmounted by a very low dome. Two tombs are embedded in the wall at each side of the entrance, these being the tombs of Valentinian and Honorius, preceptors of the empress, whose own sarcophagus, of gigantic dimensions, is found behind the altar. This is built of polished marble, without ornament, but they tell us that it was formerly covered with plates of silver. The body of the empress, clad in purple and wearing the attributes of a sovereign, was seated within the sarcophagus, and could be seen through the opening left in the marble. But, toward the end of the sixteenth century, the robes took fire, in consequence of the carelessness of certain visitors who introduced into the interior a lighted candle, and these precious remains were almost entirely consumed. After the accident the bones and other fragments which were left were immured, and it was possible at that time to secure testimony that they had belonged to a woman whose stature was much beyond that of the ordinary

Laurence. Finally, let us say that this funeral monument is the only one where the remains of imperial personages of the Orient and the Occident still rest in their primitive sepulchres, and this contributes to make it of inestimable value.

The Church of San Vitale, which was built in the first half of the sixth century, is the most complete and most authentic example of Byzantine architecture which now exists anywhere in the West. When the church at Aix la Chapelle was later built after its model, Charlemagne demanded of Pope Adrian I artists skilled in mosaicwork and precious marble, and these were sent him from Ravenna.

Viollet le Duc writes apropos of this: "We do not know any too well according to what principle painting used to cover the Carolingian monuments in the Occident, and to guide us in these researches we have only certain of the churches of Italy, as, for instance, San Vitale and some mosaics in the basilicas of Rome and Venice. In these relies the effect of coloration obtained is not always in good keeping with the architectural forms. Moreover, this method of color-decoration gives the walls and vaults a metallic aspect which is in harmony neither with the marble, nor the stones, nor the stucco upon the columns. The mosaicwork, styled Byzantine, has about it always something of a barbaric air. One is surprised and preoccupied; these stones of extraordinary intensity, which modify the forms, which destroy the lines, cannot be agreeable to people for whom architecture, before anything else, is an art of proportion and the combination of lines."

The harmony of the façade of this precious monument has been altered by the addition of a kind of modern vestibule. They have

changed the entrance, which was at first upon the left, *vis-à-vis* to the chapel wherein are the images of Justinian and Theodora; besides, they raised the pavement to such a degree that the feet of the columns are buried in the ground to the depth of almost a metre, and of the ancient pavement there only remains a fragment or two.

impressed that of the empress with an expression of voluptuousness which is almost indecent, and which recalls her long life of debauchery. Between these two scenes we see, exhibiting his profile, quite at the end of the apse, the image of the youthful Christ, having upon his left Saint Ecclesiastus and a lamb, and upon the right a lamb



Tomb of Dante Alighieri. Pietro Lombardi, Sculptor.



The Casa Polentani, Birthplace of Francesca da Rimini.

The building, which is octagonal in form, is covered with a dome resting upon eight enormous pilasters, between which are designed seven exedras very much like those at Santa Sophia in Constantinople. The eighth space was left free to give access to the sanctuary.

At the height of the first story runs a circular gallery like those which in all the churches of the Orient were reserved for women. The hemispherical dome is built of clay vases shaped like amphoras, and inserted one within another, so composing a method of construction which modern architects are beginning to use once more. The windows, which are of the purest Byzantine form, are separated by colonnettes.

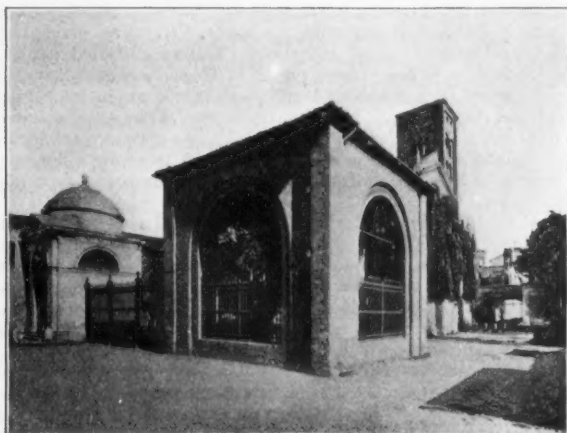
It is particularly in this basilica that we see how, in Oriental countries, corrupt and brutalized, Christianity was subjected, while it also underwent corruption, to political necessities and servitudes. The most remarkable thing which remains in the interior of this monument is the mosaicwork which ornaments the apse, and which was executed under Justinian. We see first, upon the right, Theodora, that shameless woman and circus-dancer whom the folly of

and Saint Vital. This shocking mixture of sacred and profane personages can only be displeasing in such a place; but, once this objection recognized, it is certain that this mosaicwork forms one of the most precious documents of the history of art, and that, thanks to its altogether wonderful preservation, it can give us a very exact idea of what Christian art was at that epoch. I am far from sharing the enthusiasm of M. Taine, who is not ordinarily a great admirer, but who, nevertheless, seems to consider it a work in which the artist wished to express, or did instinctively express, a feeling of great depth. In reality, the lines are gross, and the features are rendered in a very awkward manner, the expressions are rude and stolid, and the *ensemble* of the work is executed with as much awkwardness as bad taste. I cannot trace the least tendency to the expression of a sentiment, and I search in vain for that outpouring of strong thought which others, following Taine's example, have thought they saw there.

I must also mention a bas-relief in Parian marble, at the side of the high-altar, on the right, coming from the Temple of Neptune, where we see genii and cupids who bring to the feet of the god of



Soldiers' Monument, Ravenna.



Dante's Tomb (on the left).

Justinian raised to the honor of the throne, and who, accompanied by her damsels, here brings offerings to the temple. Then, upon the left, the Emperor Justinian, followed by a cortege of generals and courtiers. Justinian and Theodora wear the saints' nimbus, and what is still more astonishing is that the artist who drew these figures has

the sea a conch-shell and trident. We notice that these figures have been mutilated, and attribute this mutilation to the modesty of some monk. In the vestibule of the sacristy is preserved another bas relief, not without merit, representing the apotheosis of Augustus as Jupiter, and in the sacristy are brought together certain paintings by

Longhi and Procaccini, of quite mediocre importance. As we leave the building we see, in a nook opening on the court, the tomb of the exarch Isaac, who died in the first half of the seventh century (641).

I should not forget to mention the Palace of Theodoric, king of the Goths, which was destroyed by Charlemagne, who carried away into France its principal ornaments. There remains of the primitive building¹ only a section of wall with nine small marble columns, which to-day form the façade of a Franciscan convent. For a long time it was believed that a large porphyry basin which is seen at the base was the sarcophagus which must formerly have occupied the centre of the mausoleum beneath the dome, but a more careful study has established the fact that this pretended sarcophagus was in reality only an ancient bath-tub. How many objects in the domains of art and archaeology thus receive undeserved attributions and erroneous ascriptions! Would that all shams of this kind which have been wrongly named might be, little by little, recognized and the names changed!

You are not, of course, unaware of the fact that ornamentation held an important position in Byzantine architecture, and in the details of its accessories we often come upon morsels of which the originality and relative perfection deserve to attract notice, and in which imagination has been visibly and successfully exercised. In the basilica of San Vitale, for instance, we note a bit of openwork-carving executed with a degree of delicacy altogether exceptional, and in the basilica of San Apollinare, of which we shall speak later, one cannot gaze without lively curiosity upon the sarcophagus of the Archbishop Theodorus (677-688), the sides of which are ornamented with vine-branches and escutcheon, upon the two sides of which are two magnificent peacocks displaying their plumage. At each of the ends of the panel we see a magpie pecking at a bunch of grapes. In the same basilica we can also notice another sarcophagus which has not been identified, but which is covered with symbolic ornaments of the most bizarre character.

At San Vitale, they have also preserved a magnificent capital, massive and heavy, but it gives a lively impression of strength and richness, while at San Apollinare we can admire two capitals, one of which, covered with a stubby ornamentation composed of rams'-heads and leafage, supports the other, whereof the acanthus-leaves, rudely carved, vaguely recall the Corinthian style.

The Church of San Apollinare Nuovo was built at the commencement of the sixth century by Theodoric, who consecrated it to the Arian religion, though it was later devoted to the Catholic faith by Justinian. This church is divided into three naves by twenty-four columns, and offers the peculiarity that it has no transepts. This is the only church in Western Europe which has preserved altogether intact its magnificent mosaics, which unroll themselves along the frieze above the columns upon each side of the nave with, so far as the personages are concerned, so great richness of movement that one almost experiences the illusion of seeing a living procession animate this portion of the temple. The mosaic on the left side represents the city of Classis, a portion of ancient Ravenna, with its port, and a procession of twenty-two nimbus-wearing saints preceded by magi and proceeding towards the Virgin, who sits between two angels with the infant Jesus on her knees. That upon the right represents a view of the city of Ravenna and the procession of saints marching with solemn step towards the Christ, also seated like the Virgin. Other mosaics above and at the side complete these two subjects.

The exterior of this religious monument is simple and severe, and excites remark by the lofty round tower, pierced with windows which are separated by colonnettes of hard stone. One should not leave it without casting a glance at the altar of S. Feliculus, of the ninth century, which is conceived in a Byzantine style of some purity, but already rather free and refined.

The Church of Santa Agata is older by a century than the one last mentioned, but it has the merit, more rare in Italy than elsewhere, of having preserved its primitive simplicity. Its nave, divided by monolithic columns of marble and granite, is abundantly lighted, and we notice in one of the aisles a pulpit in Greek marble cut from a single fragment of a cannellated antique column, which must have had colossal dimensions. The Church of San Francesco, which is also, like Santa Agata, of the fifth century, has a square campanile of massive and sombre form, which lends it an imposing silhouette. The interior of this church contains modern sculptures and paintings of some value.

The Church of Santa Maria in Porto, which is at some distance from the city, was built in 1096 by a sailor, Pietro Oresti, surnamed "the impious," in execution of a vow made during a tempest. The two chapels next to the choir are ornamented with paintings by the pupils of Giotto. The square tower, which forms the base of the campanile, is probably a relic of the lighthouse marking the entrance to the harbor, which stood upon the site.

The basilica of San Apollinare in Classe, which rises in a kind of sandy desert, bordered on one side by the sea and on the other by a vast pine forest, is one of the most interesting of buildings. It is built of brick covered with marble, and was consecrated in 549 to the Archbishop Maximian. The interior is divided into three naves by twenty-four columns of cipollino marble (this number, twenty-four, must, in the architecture of the first centuries, have had some symbolic significance), and the capitals which crown these columns are of the Corinthian order. Mosaicwork abounds, and some are, in drawing, more delicate and more finished than those in San Vitale. In the

left-hand nave is found a Byzantine altar of the ninth century, the inscription recalling the penitence which the Emperor Otho III came to pay in this temple for the murder of Crescentius.

We will close this review of the religious structures by mentioning the Baptistry, a monument of octagonal form which on the exterior preserves its rustic aspect, and which within is enriched with mosaic-work of the fifth century representing subjects drawn from the evangels. There was formerly in the middle of the nave a vast octagonal vase for performing the ceremony of baptism by immersion. The edifice is separated within by two arcades superposed and formed by columns of different dimensions and styles of architecture, these being probably gathered from some pagan edifice.

The traveller who passes through Ravenna should not forget to go and cast a glance as he passes at the house of the Polentani, rich seigneurs of the city, where, according to tradition, was born Francesca da Rimini, the sorrowing and pathetic heroine of the Dantesque legend. This house is almost as celebrated as the one where, as is pretended, Juliet was born in Verona.

We know that Dante, the grand national poet, died at Ravenna, after a long and grievous exile. His ashes were borne to the Church of Santa Croce at Florence, since that is the Pantheon of glorious Italians, but we still see at Ravenna the tomb wherein they rested before their translation. Exteriorly, the monument, with the iron grillework which surrounds it, has a cold and austere aspect. Within, the crypt is ornamented with sculpture of a sober and imposing style, by Pietro Lombardi. The urn is surmounted with an arcade, in the midst of which we see the image of the poet, thoughtful and self-communing.

Modern art has done little to embellish this dead city. One can only point to the monument erected in the honor of those who fought for the independence of their country, which, without being in any way declamatory, still is impressively eloquent.

HONORÉ MEREU.

GOVERNMENT EXPOSITION BUILDINGS.²

I HAVE been requested to prepare a paper on Government Expositions, and it is with much doubt as to whether such a paper can be made of interest to you that I have acceded to the request.

The Government Building, like all others for an exposition, must, of necessity, owing to the large floor-area needed and the limited amount of money available, be nothing more than a great temporary shell. It has, however, been the ambition of the office of the Supervising Architect (and I here speak of the last three expositions in which the Government participated and of which I have personal knowledge, *i. e.*, Nashville, Omaha and Buffalo) to have the structures housing the Government exhibits of as dignified a type as possible, and, while harmonizing with the other buildings, to still be of such a character as, though distinctly an exposition building, to express in some slight degree the dignity which a Government building should have.

The character of the exhibits to be provided for is illustrated at the Exposition at which you are all visitors, and it seems that I am compelled to confine myself to a statement as to the different steps involved in the preparation of the drawing and its construction.

First of all, it is of course necessary that Congress should have passed a bill authorizing the construction of such a building, stating therein a limit of cost, and also appropriating at least a portion of the money required. Until this is done no action whatever can be taken by the Supervising Architect.

I will here call attention to the fact that Congress in authorizing a public building always places a limit of cost thereon, but frequently appropriates at the time of authorization only a small portion of the amount mentioned, but does usually in the act authorize the Secretary of the Treasury to make contracts up to the limit of cost, expecting that officer of the Government to notify it at the proper time of such amounts as he will need during the year to meet all contract liabilities that have been assumed on the various buildings, so that the necessary appropriations can be made.

Congress, however, makes no direct appropriation for the expenses of the office of the Supervising Architect, but does, in one of the annual appropriation-bills, authorize the Secretary of the Treasury to expend a sum not to exceed \$250,000 for the expenses of the office of the Supervising Architect, the amount expended to be paid from the appropriations for public buildings, and I quote here that portion of the Sundry Civil Bill, approved March 3, 1901, which applies to the work of the present year.

"The services of skilled draughtsmen, civil-engineers, computers, accountants, assistants to photographer, copyists and such other services as the Secretary of the Treasury may deem necessary and specially order, may be employed in the office of the Supervising Architect exclusively to carry into effect the various appropriations for public buildings, to be paid for and equitably charged against such appropriations.

"Provided, that the expenditures on this account for the fiscal year ending June 30, 1902, shall not exceed \$250,000."

It is evident from this that the Supervising Architect is without available funds and therefore without authority to prepare even preliminary sketches for any building until he has been duly instructed so to do by Congress by the authorization of the building

¹ See the *American Architect* for October 7, 1899.

² A paper by Edward A. Crane, A. A. I. A., read at the Thirty-fifth Annual Convention of the American Institute of Architects, at Buffalo, October, 1901.

and the making of a necessary appropriation, or a portion of the same, so that there will be funds from which the draughtsmen, etc., can be paid.

After an appropriation for a Government exposition building and the accompanying exhibits has been made by Congress, a Government board, as it is called, must be appointed to prepare and control the exhibits. This board consists of a representative from each of the various Departments at Washington, and to it the Supervising Architect turns for information regarding the character of the exhibits, the amount of space required, etc., and with this information he is in a position to consider what can best be done with the amount of money available.

Before any actual sketches are prepared, however, the Supervising Architect confers with the various architects who are to design the exposition buildings proper as to their location with reference to the Government Building, the style to be adopted, etc.

I would here suggest to the various architects who in the future may become members of a board of architects such as was established at this Exposition, and, I believe, has been established for the St. Louis Exposition, the advisability of having the Supervising Architect appointed as a member of the board. As architect of one of the most important buildings, and therefore deeply interested in the ensemble of the Exposition and its architectural success, it seems that every effort should be made to keep him in touch with all of the work, in order that the Government Building may be designed in a proper spirit and assume its correct place in the exposition group.

To go back to the preparation of the drawings: After the architect has obtained the information referred to, the preliminary sketches are prepared. These sketches must be carefully worked out and very careful estimates of quantities and cost, as well as a brief specification, or description, of the materials proposed to be used prepared, to show that the building can be erected within the limit of cost placed upon same by Congress, and then, along with the estimate of cost, submitted to the Secretary of the Treasury, the Postmaster-General and the Secretary of the Interior for formal approval, as the law regulating the erection of public buildings distinctly provides that—

"No money shall be expended upon any public building on which work has not yet actually begun, until after drawings and specifications, together with detailed estimates of cost thereof, shall have been made by the Supervising Architect of the Treasury Department, and said plans and estimates shall have been approved by the Secretary of the Treasury, Secretary of the Interior, and the Postmaster-General."

After their approval has been obtained the actual working-drawings are started and carried out in exactly the same manner as in any private architect's office.

After the completion of the drawings and specifications and their duplication, the work is advertised for a period of thirty days and then awarded to the lowest responsible bidder.

The building is then carried on to completion under the direction of a superintendent of construction, who is constantly on the work, and makes frequent reports to the office of the Supervising Architect, submitting photographs therewith to show its condition.

The Supervising Architect is, of course, from the vast amount of public business always before his office, unable to visit the work while it is under process of erection, except on rare occasions, and for that reason the original details are very carefully worked out, so that the building can be carried on without change under the direction of the superintendent.

There is one point to which I desire to call your attention before closing, which may be of interest, viz:—

Owing to the absolute limit of cost placed upon all buildings by the acts authorizing same, the Supervising Architect is compelled to see that there is set aside from the total appropriation a sum sufficient for the cost of the preparation of the drawings, the superintending of the construction, travelling expenses, and also any contingencies that may arise during construction.

The private architect can always go to the owner if an exigency arises and readily obtain more money if actually needed, while, in the case of the Government work, this is impossible, and due precaution must be taken accordingly.

Of course I do not mean to imply that the limit of cost is never increased by Congress. The Supervising Architect is frequently compelled to advise that body through the Secretary of the Treasury that the amount available for some particular building is inadequate, and to ask for an increased appropriation in order to erect a suitable building. This always involves a long delay, during which time no steps can be taken in the preparation of drawings. Such action would, however, in the case of an exposition building, be impossible, owing to the very limited time in which the structure must be erected, and the Supervising Architect is therefore compelled to proceed, taking the precaution above referred to.

In the case of the Buffalo building, out of an appropriation of \$200,000 for the building, there is now an available balance in the treasury of \$32.34.

INTERESTING STEEPLES.

"WILL it have a tower or a spire?" is one of the first things which are sure to be asked about a new church. The question is intelligible enough, but not quite satisfactory in point of form. Even a spire needs a tower to carry it, and what the

inquirer really wants to know is whether the tower will be flat-topped or tapered to a point. Quite possibly, however, it may be neither. So much we may discover even without looking beyond the City of London. St. Peter's, Cornhill, for instance, has a domed campanile, St. Magnus, London Bridge, has another, while St. Dunstan's, a little farther east, ends in a kind of openwork bower, whose branches are of stone, and whose leaves are of "bosses" and "crockets." Wren's churches, of which these are three, seem to hold their existence on much the same terms as the fairies. These little people, according to olden belief, were in many respects to be envied. But their happiness was clouded by terrible forebodings, because, every seventh year, one of their number had to be sacrificed to evil spirits. So it is with the great architect's towers. They are spoken of with much respect, they receive constant admiration, some real and more affected, and yet, at frequently recurring intervals, another and then another is offered up to "the least erected spirit that fell." Some, indeed, that have gone are not greatly to be regretted. They were not exactly architectural "pot-boilers," for Wren did not work on the terms which make "pot-boilers" possible. But there were structures to which, for some reason or another, he gave his worst and not his best, and the difference between Wren's worst and his best is almost infinite. St. Dunstan's-in-the-East, which is the work now threatened with destruction, belongs to neither one extreme nor the other. If it cannot be named beside the tower of St. Mary-le-Bow for originality and perpetual freshness, it is far from having the poverty and triteness which characterize that of St. James's, Westminster. It is of a type, too, which was never common. Its grace and lightness have always impressed the popular imagination, till a fancy has grown up that it must have been designed by Wren's daughter.

The ladies of the seventeenth century were not noted for mathematical knowledge. They had no visions of the time when one of their sex would surpass a senior wrangler. But the strong yet daring construction of St. Dunstan's "crown" implies a familiar acquaintance with difficult and complex calculations. It is a kind of masonic *tour-de-force*. Its tall and slender terminal rests on no ordinary foundation. It is poised in the air, with vacant space beneath it. Yet, when Wren was told that a hurricane had damaged all the steeples in London, he is said to have answered, "Not St. Dunstan's, I am sure."

There are at least three older specimens of the "tower-crown"—one at Edinburgh, one at Aberdeen and one at Newcastle. This last, which now forms part of the cathedral, is the finest of its kind, in which a tall terminal, or turret, is balanced by consummate skill on curved ribs or flying-buttresses. A singular thing about it is its wonderful fitness for a smoky town. When it was first erected, some 400 years ago, Newcastle was probably not more smoky than York or Lincoln. The Mediæval builders could not have foreseen what its atmosphere would be in our time. Yet, had they been forewarned, they could hardly have acted more wisely than they did. "They builded better than they knew," and neither soot nor smoke can ever spoil the "crown" of St. Nicholas. For it does not depend in the least on its color. By day and night, in storm and sunshine, it stands out clearly against the sky, a lovely interweaving of stone ribs and traceries—now light on a dark ground and now again dark on a light one. No wonder the citizens have always been proud of it, and we, who see it to-day, may be thankful for their care of it in ages past. For it is still remembered that when the Scots besieged the town and threatened to destroy the tower, the men of "canny Newcastle" filled it with Scottish prisoners and gave their countrymen early information of the fact.

English and French spires generally have eight angles. On Caddy Island, Pembrokeshire, there is one with six. Some very old spires, like those of Tournai Cathedral, in Belgium, and Valladolid, in Spain, are four-sided; while at Verona, at Piacenza, and elsewhere in Italy there are circular or conical ones, shaped like an extinguisher. Towers vary in form as much as spires. The great majority, of course, are square. Octagonal ones are also numerous. Two of those at Ely Cathedral are ten-sided, and the Golden Tower at Seville has twelve sides. In Norfolk and Suffolk round towers are common. The reason for this is supposed to have been the scarcity of freestone. The walls were built of flints, which were plentiful enough; but at every corner quoins of dressed stone were necessary. There was, therefore, much to be saved by adopting a plan which had no corners and needed no quoin-stones. Round towers, however, have been built where this motive could not have existed; and one of the most noted, though not the most beautiful, of all such structures, the leaning tower at Pisa, is circular. On a smaller scale, for example in turrets, the circular shape is often very pleasing. This can hardly be said of the triangular one, and yet at Maldon, in Essex, there is a three-cornered belfry-tower of considerable dimensions. This last is one of the oddities of tower design. Of these there are many. The strangely twisted spire of Chesterfield Church, which, from some points of view, looks as if it were in the very act of falling, cannot, perhaps, be fairly classed among them. It is odd enough beyond all question, but its oddity was probably undesigned. It is built of wood, and not of stone, and the twisting seems to result from the prolonged action of sun and wind on badly-seasoned timber.

The spire of St. Michael's, Lewes, which is of similar materials, is similarly twisted, though in a less degree. The Church of Our Saviour at Copenhagen has a curious spiral staircase winding round and round on the outside of the spire. The Round Tower in the same city has no staircase at all. In place of one there is a paved

roadway inside it, turning round and round an inner circle, and thus rising at a gentle slope till it reaches the top. Horses and carriages even have at times made the ascent. Of fantastic ugliness in tower-forms, we are not without examples in London. The misshapen obelisk, for instance, which serves as the tower of St. Luke's, Hoxton, might have been decided on by a committee chosen from the neighboring madhouse. A church just on the north of the railway between London Bridge and Bermondsey is not much better. Where St. Luke's has an obelisk, it has one enormous column. We are happily free in this country from the bulbous excrescences which deform so many buildings in Holland and North Germany. There the tulip mania seems to have made its way even into church building, and roofs shaped like magnified tulip-roots often take the place of spires. Sometimes there are several, one above the other, as, for example, in the great church of Middleburg. But even this was outdone in Russia. In the Kremlin, at Moscow, stands what is probably the oddest of all architectural oddities. This is the church of Vasil Blagennoi. It is like no other church on earth, and almost indescribable. If it suggest anything, it is a gigantic cruet-stand. Nine polygonal towers stand round a loftier central spire, like the cruet round the handle. But this is not the whole of the resemblance. Each polygonal tower has a bulb-shaped top, forcibly recalling a familiar type of stopper. To complete the suggestion, every tower, and, still more, every top, is covered over with just such projecting patterns as the glass-cutter most affects. There are ribs, and lozenges, and pyramid ornaments; one bulb has a twisted surface, another a diapered one, and another is embossed in squares. Theophile Gautier compares the building to a stalactite grotto turned upside down. But the comparison is much too poetical. The affinities of the design are not with nature, but with art; and with precisely that sort of art which is turned out wholesale by a prosperous town in the Midland Counties. — *Illustrated Carpenter and Builder*.

ILLUSTRATIONS

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

PALM GARDEN: THE LENOX, EXETER AND BOYLSTON STS., BOSTON, MASS. MR. A. H. BOWDITCH, ARCHITECT, BOSTON, MASS.

VIEWS IN RAVENNA, ITALY: FOUR PLATES.

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

ENTRANCE-FRONT: "STEEPHILL," JERSEY, ENG. MR. ERNEST NEWTON, ARCHITECT.

This plate is copied from *The Builder*.

[Additional illustrations in the International Edition.]

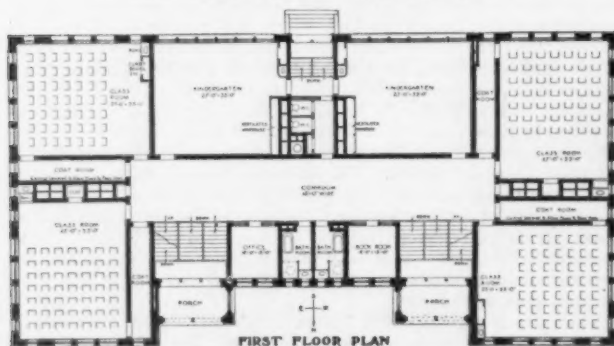
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Plan of William-Street School-house, Springfield, Mass.

INTERIOR OF THE CHURCH OF STA. AGATA, RAVENNA, ITALY.

RAVENNA ARCHITECTURE: THE BASILICA [VI CENTURY]. — ALTAR OF S. FELICOLA: S. APOLLINARE IN CLASSE.

NOTES & CLIPPINGS

BACTERIA TO DEVOUR SEWAGE. — LaGrange and Glencoe, two of the suburbs of Chicago, have adopted the septic-tank system of disposing of sewage. The basins, or reservoirs, for the LaGrange system are nearly complete, and it is expected that they will be connected with the city sewer-mains by November 1. A month later, City Engineer W. B. Ewing asserts, the drainage, which formerly polluted Salt Creek and since 1893 has involved LaGrange in troublesome litigation with the neighboring property-owners, will be as pure as that from a woodland spring. A month after the plant is connected with the city mains, it will get into active working-order to perform the duty of automatically decomposing the sewage. When the septic tanks once get into proper condition, they will purify the sewage without further care or watching. Microbes generated by the sewage itself are colonized in the tanks until they become a force capable of changing into water and gas in twenty-four hours as much solid matter as may flow into the receptacles in that time. The expurgated water constantly flows from one end, while the marsh-gas rising through the top furnishes the fuel which is to keep three large-sized gas-lamps constantly burning. — *N. Y. Evening Post*.

DRAINING THE ZUYDER ZEE. — An interesting report from Sir H. Howard, on a project for draining the Zuyder Zee, was issued recently by the Foreign Office. This undertaking has been a subject of discussion in Holland for more than half a century; but as a bill for doing it has now been introduced into the Second Chamber of the States General, after an elaborate investigation by a commission, it has, at last, come within the sphere of practical politics, though it may be retarded by the recent Ministerial crisis, which resulted in the resignation of the Cabinet. The Dutch have won much of Holland from the grasp of the ocean, but never before have they undertaken anything so daring as this. Perhaps we might more correctly call it an act of reconquest, for there can be little doubt that the Zuyder Zee, like the old Lake of Haarlem, was formed by invasion of the sea. That was successfully reclaimed about fifty years ago by the methods usual in Holland, though on a greater scale, and the annexation of the Zuyder Zee will be upon one much more vast. The work may be carried out on either of two plans — namely, piecemeal, as is usually done on the coasts, by enclosing with a dyke a large tract at present under water, and then pumping this into the sea, or else by shutting out the ocean, once for all, by the construction of one great barrier dyke, and then proceeding to reclaim the enclosed area by instalments. The latter is the bolder and, obviously, the more expensive plan — at any rate, at the outset. This dyke is to run from Wieringen, in North Holland, to Piaam, in Friesland. The line followed is shorter than the one proposed in a former scheme, and it ought to be, from its more sheltered position, less liable to injury from storms. The cost of the dyke will exceed 28,000,000 of florins; but that is by no means the whole outlay it entails. A canal must be constructed; the sea-walls for a considerable distance along the road must be raised; other important works taken in hand; and the fishermen of the Zuyder Zee compensated. The total expenditure, therefore, is likely to amount to about 57,000,000 of florins. When the North Sea has been effectually barred out, the next step will be to reclaim two great tracts on the western side of the enclosed area, the one containing about 72 square miles of fertile land and the other about half as much again. The construction of the dyke, it is estimated, will take nine years; the first enclosure will be ready for cultivation in five years more. Thus, fourteen years will elapse before the expenditure brings in any return, and the whole work will be completed in eighteen years, at a cost which altogether it estimated at nearly 8,000,000 of English money. This sum it is proposed to raise by loan, and to pay it off, principal and interest, in sixty years, or possibly less. A large area of the Zuyder Zee will obviously still remain unreclaimed, but this will now be a fresh-water lake instead of part of the sea. From this change many indirect advantages are expected to follow. At first, of course, the water thus enclosed will be salt, but in no long time it will be fresh enough for agricultural, if not for domestic, purposes, and ultimately for both. This alone will be a great advantage to the adjoining provinces — which, as generally dependent on the immediate rainfall, often suffer much from want of water in the summer-time — and will enable the supply in the canals, which were the principal highways of northern Holland till the railroad came, and are even now of the utmost importance, to be kept at its proper level. In fact, the mere change from an arm of the North Sea to a great fresh-water lake in itself would repay, though, perhaps, indirectly, no small portion of the expenditure. But it will be possible largely to increase the amount reclaimed without trespassing too much on this lake, for it will still be 560 square miles in area. Two other polders are contemplated on the Friesland side, which together are not much less than three times the area of the others. The whole work, including these, could be executed in thirty-three years, and the additional cost would be about 94,000,000 florins. No less than 750 square miles would be added to Holland, and the value of the land, in the Commissioners' opinion, would fully repay the outlay. The less ambitious plan would bring in a more immediate return, but would be more expensive, and in many ways less satisfactory in the long run. Obviously, very much is saved by having to contend in the actual work of reclamation, not with an inlet of the sea, but with a fresh-water lake. — *London Standard*.

THE AMERICAN ARCHITECT AND BUILDING NEWS

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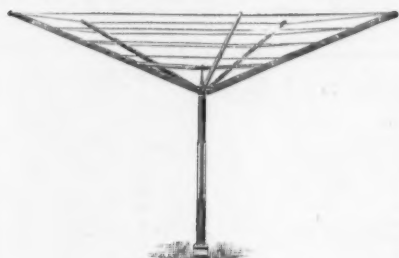
No. 234

SATURDAY, NOVEMBER 2, 1901

VOLUME LXXIV
No. 1369

FAMOUS CLOTHES-DRYERS.

THE rear porch or veranda seems the ideal place for drying clothes; this is particularly true in cities and towns where yard-space is limited. In populous centres where flat-buildings are run up to three, four or more stories, the problem of drying laundered clothes is a matter for serious consideration. The practical architect, however, has taken this into consideration, as we are told that more than 200,000 Hill Clothes-dryers have been specified and are in operation throughout the land. The Hill Clothes-dryer is the outcome of much study, and is built on scientific principles. It



The Hill Clothes Dryer.

is strong, rigid, compact and not likely to get out of order. It obviates the necessity of traversing the premises with a heavy basket of wet clothes when engaged in hanging them on the line. One of the most valuable features about the Hill Dryer is that it allows abundant circulation of air and at the same time concentrates or bunches the garments to prevent violent gales from tearing them into shreds, as is the case where single lines are used. The bearings, braces and general construction of the Hill Dryer are all that can be desired in its construction, and it can be had from hardware-dealers or from the factory direct. Send for Catalogue F to the Hill Dryer Company, Worcester, Mass.

MERIT RECOGNIZED.

WHEN the management of the Pan-American Exposition at Buffalo decided to adopt the Frink Reflectors for lighting the Railway Station and Transportation Building, they were, doubtless, thoroughly familiar with the sterling qualities of these famous Reflectors, which have radiated light to all parts of the world for nearly half a century, so that the award of a Silver Medal on their merits would seem to be a foregone conclusion, and a just recognition of their many valuable points of advantage and superiority in lighting capacity, durability and appearance. These Reflectors have been awarded a Medal in every exhibition in which they have been

entered, and as they are made in every conceivable shape, size and style for every possible purpose, a catalogue of their numerous products is well worth having. A card addressed to Mr. I. P. Frink, 551 Pearl Street, New York, will bring a ready response to any inquiry along the line of light.

WHAT IS THE BEST METHOD OF PROTECTING IRON AND STEEL FROM RUST?

THIS question has kept scientific men studying and experimenting for a good many years, but more especially in the last decade, because there has been so much more iron and steel to protect — modern steel bridges, steel vessels, steel "sky-scrapers," freight-cars, machinery, and iron and steel structures in number and variety constantly increasing.

Linseed-oil paints, even the best, cannot perfectly protect iron, because they are porous. For wood this is essential; as there is always moisture in wood, and it must escape through the pores, or it will cause the paint to blister and peel off. But with iron or steel it is quite different; there is no moisture to get out, and the very life of the metal depends on its not getting in.

When the metal has to be protected also against gases or acids, the problem is made still harder. Not only must the coating resist all such attacks, but it must be elastic, so as to expand and contract with the metal, yet adhere closely, without cracking.

It will be seen that the problem of finding a perfect protective coating is not an easy one.

About ten years ago we set about finding an effective means of protecting the many iron bridges, tanks and apparatus in our own extensive plant. From year to year experience right here at home has improved our knowledge, until now we are ready to prove our ability to furnish the material so sorely needed — a coating for steel and iron that will give them sure protection from rusting.

From the very beginning we found that a light-weight paint, though the proper material for wood, was not the foundation or ground for a successful coating for iron or steel. After years of tests with dozens of pigments, actual results proved red-lead to be far superior to any other material as a first coating, on account of these advantages: —

1. Its high specific gravity.
2. Its characteristic of combining most readily with linseed-oil.
3. Its great adhesiveness to iron and steel.
4. Its freedom from shrinkage, peeling or cracking.

5. Its ability to withstand extremes of heat and cold.

6. Its cementing properties.

But we are not the only ones who have been making tests. An interesting series of experiments was made in England by Mr. Harry Smith, F. I. C., to show the comparative value of different coatings for iron in preventing rust. The following table, published in the *Journal of the Society of Chemical Industry*, December, 1899, shows the amount of rust from 1,500 square yards of surface painted with different pigments: —

	Composition.	Rust from 1,500 square yards.
Red-lead.....	88.88	None.
Raw-oil.....	11.12	
White-lead.....	92.56	75 lbs.
Refined-oil.....	7.44	
Ferric-oxide.....	86.89	123 lbs.
Raw-oil.....	13.11	
Ferric-oxide.....	76.30	160 lbs.
Boiled-oil.....	23.70	
Graph'ite.....	69.56	215 lbs.
Raw-oil.....	30.44	
Charcoal-black....	60.00	250 lbs.
Boiled-oil.....	40.00	
Barytes and Whiting..	68.99	
Carbon-black.....	8.42	
Manganese-dioxide....	2.46	352 lbs.
Boiled-oil.....	20.13	
Barytes and Whiting..	79.30	
Carbon-black.....	4.35	
Manganese-dioxide....	1.35	392 lbs.
Raw Linseed-oil.....	15.00	
Boiled Linseed-oil. ...		500 lbs.

Experience has thus clearly proved that a priming-coat or coats of red-lead, properly prepared, with a surface-coat of Antoxide, make together a protective coating for iron and steel which up to date stands without an equal. Antoxide supplies just the qualities needed to supplement the red-lead, giving a non-porous, elastic surface, proof against the action of water and gases of all kinds, and giving perfect protection to the metal underneath.

Antoxide is a special rust-proof preparation for covering and protecting iron and steel. It is in the form of an easy-working, quick-drying, ready-mixed paint. It is not an ordinary linseed-oil paint, but different in composition from all other paints designed for such use, being chemically inactive in both pigment and vehicle.

It is absolutely rustproof.

It is perfectly non-porous, therefore waterproof, steamproof, gasproof, acidproof and moistureproof.

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It goes much farther than other paints designed for such use. A gallon covers 800 to 1,000 square feet.

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When used over a priming-coat of good red-lead, it closes the pores of the red-lead coating, excluding sulphurous or other gases, and effectually preventing oxidation of the metal surface.

It covers smoothly, flows into joints and corners, and dries quickly without running into streaks.

To obtain the most satisfactory results with red-lead it must be finely ground; otherwise it will separate from the thinners, and the running and sagging of the paint will prevent proper application.

To avoid all inconvenience, we produce a strictly pure dry red-lead, ground so fine that it will mix to a perfect paint of great body and spreading power by the simple addition of linseed-oil.

This enables the consumer to prepare only such quantities as are required for immediate use.

The production of this red-lead is expensive, but to users of Antoxide the price is the same as that of ordinary red-lead.

For all kinds of structural work, such as buildings, bridges, trusses, iron and tin roofs, etc., one coat of red-lead, as stated, and one coat of Antoxide will be both protective and ornamental.

Boiler-fronts, smoke-stacks and steam-pipes may be effectually protected with Antoxide.

Refrigerating-plants, especially pipes which

carry brine and ammonia, are very susceptible to rust. Antoxide is an effectual preventive of rust in these places.

Roofs and roof-trusses, especially gas-works and chemical-works, are liable to injury due to the presence of various gases, sulphur, etc. Antoxide is the proper preventive.

Structural-iron of all kinds, whether enclosed or not, must be thoroughly painted to protect it from rust. Antoxide is far ahead of anything else in value for this purpose.

Antoxide has been found of great value in protecting the iron and steel work, machinery, etc., in paper-mills.

Heater-pipes, as well as steam or water pipes, in the interior of buildings, are effectually protected from rust by one coat of Antoxide.

Iron fences and railings, gratings and grates in cellar-windows, etc., will be protected from rust by the use of Antoxide, with a little bronze here and there for ornamentation.

Rust once formed increases; prevention is the cure.

Quality determines cheapness.

Antoxide F. will adhere firmly to galvanized-iron: the only paint that will do so.

Drinking and cooking water may come in contact with Antoxide without injury; no harm, no poison.

A perfect paint for metal must adhere tenaciously, and yet be elastic. Antoxide meets

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Sudden changes of temperature do not affect Antoxide.

Antoxide represents our experience as paint users, as well as paint makers.

Antoxide will cover, over a priming-coat, about 1,000 square feet of iron or steel surface per gallon; on clean but unprimed surface about 800 square feet. Its great covering power makes it cheap.

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GEORGE W. WALKER.

THE death of George Willis Walker, President of the Walker & Pratt Mfg. Company of Boston, Mass., removes one of the most prominent and highly respected members of the New England stove-trade. Mr. Walker died on Friday, October 4, at his residence in Malden, Mass. He was born August 27, 1827, in Exeter, about 20 miles west of Bangor, Me., and was educated in the public schools of that place. He worked upon his father's farm until he was eighteen years of age, when he left home to seek his fortune. In 1845 he went to Boston with only \$6 in his pocket, but with an unlimited amount of strength and perseverance. After three years of hard struggle for a living he became clerk in a stove-store. Subsequently, he was employed by three different stove-dealers in Boston, each one of whom was employed by him at a later period. In 1853 he accepted a

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position of responsibility with Johnson, Cox & Fuller, of Troy, N. Y., predecessors of the Fuller & Warren Company. After five years in Troy he returned to Boston to engage independently in the stove and furnace business. Mr. Walker opened a store at 15 Union Street and soon established a substantial business. He passed through a number of crises in the financial world without failure of any kind. Subsequently he removed to 31-35 Union Street, where for more than a quarter of a century the Walker & Pratt Mfg. Company have done an extensive business. Mr. Walker was the president and chief executive of the Company, since their formation in 1874. He possessed a marked inventive ability, and few men in the trade brought out so many new and valuable devices and improved construction in connection with stoves, furnaces and heaters. Mr. Walker in many ways was a pioneer in the stove-manufacturing industry and was a recognized leader in the constructive as well as in the selling department of the business.

In 1869 he established his residence in Malden, and held many public offices in his town, serving as Chairman of the Board of Selectmen, as Sinking-fund Commissioner, Water Commissioner and trustee of the Mal-

den Public Library. He represented the city of Malden in the State Legislature in 1885 and 1886, and served as a Presidential Elector in 1892.

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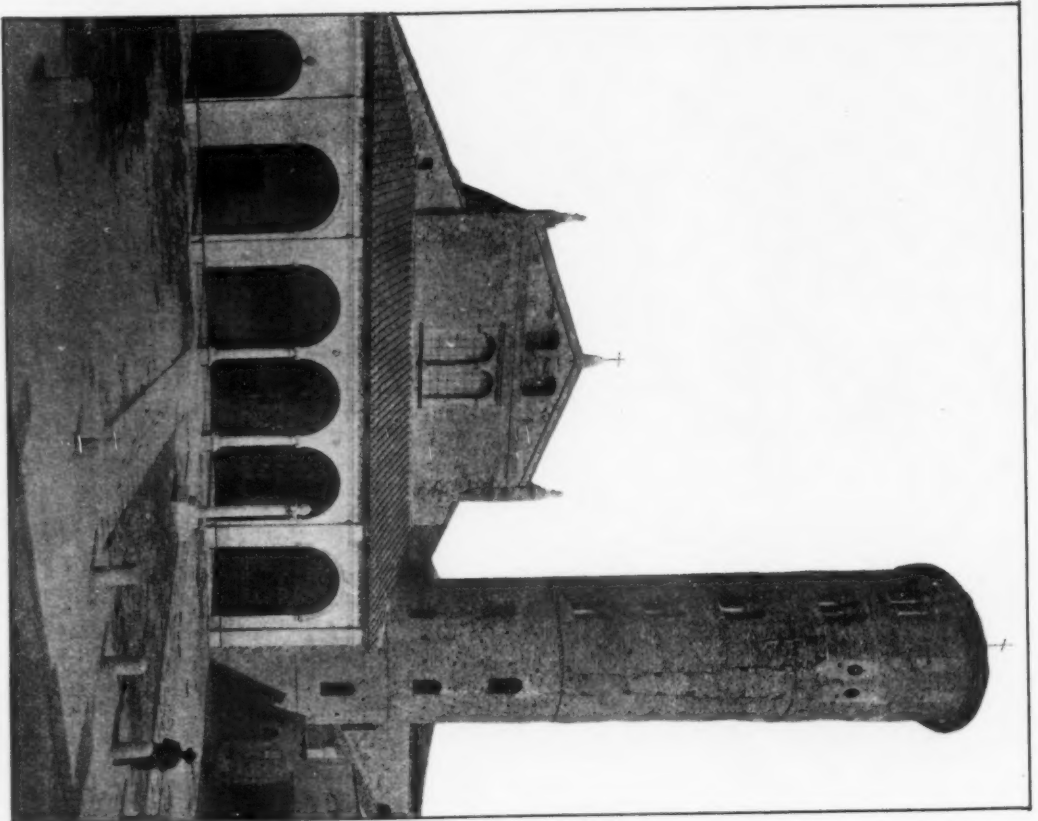
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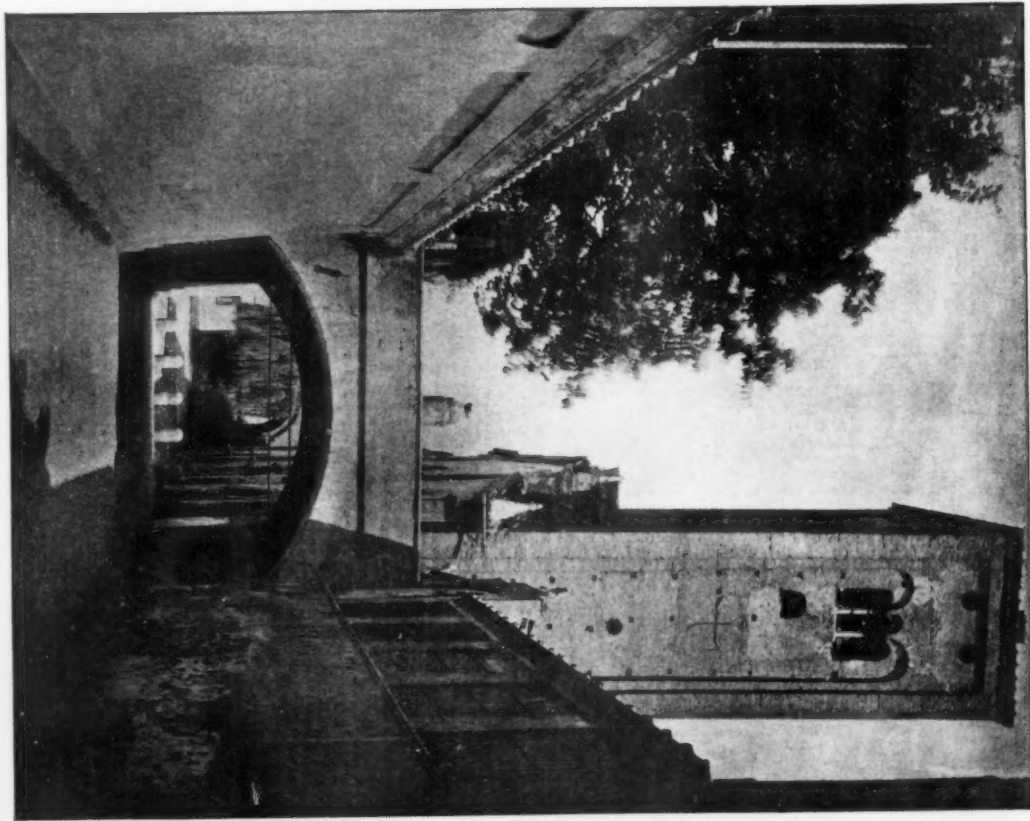
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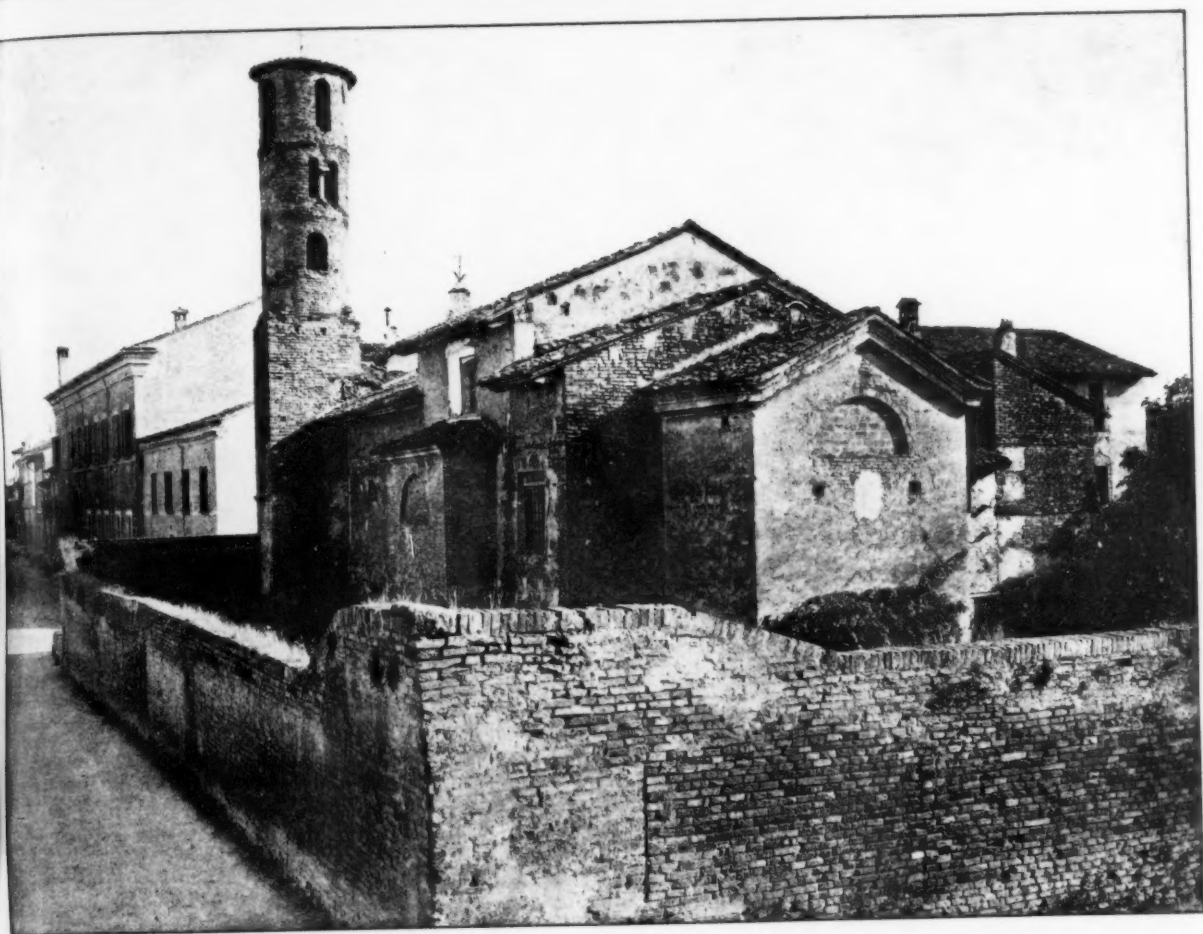
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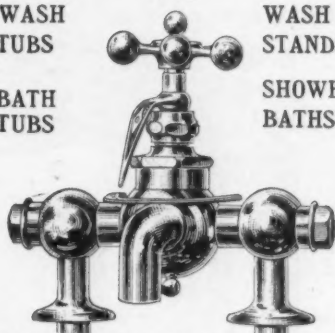
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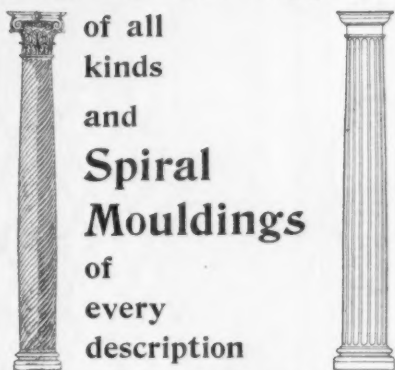
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New Britain. The Stanley Works.....[Wrought-Steel Butts.	Boston. Union Brass Works.....[Faucets. Walker & Pratt Mfg. Co....[Boiler (Steam and Hot-Water). Whittier Machine Co.....[Elevators.	N. Y. City. American Sheet Steel Co....[Galvanized Iron. Atelier Masqueray.....[School. Atlas Cement Co.....[Cement. Bickelshaus G.....[Sculpture. Columbia University.....[School. Deane, E. Eldon.....[Colorist. Elevator Supply and Repair Co....[Electric Fisher & Co., Robert C.....[Marble. Frank, I. P.....[Reflector. Gorton & Lidgerwood Co.....[Boilers. Hayes, George.....[Metallic Lathing. Hitchings & Co.....[Greenhouse. Jackson & Co., Wm. H.....[Grates. Jenkins Bros.....[Valves. Jones, T. W.....[Furnaces. Kenney Co., The.....[Plaster. Kent-Costikyan.....[Rugs (Carpet). Mott Iron Works, The.....[Iron Work. Neuchatel Asphalt Co.....[Asphalt. New Jersey Zinc Co.....[Zinc White. New York Belting and Packing Co., Ltd. N. Y. Metal Ceiling Co.....[Metal Ceilings. Okonite Co. (Ltd.).....[Associated Wire. Pitt, W. R.....[Folding-Gates. Rider-Ericson Engine Co. (Hot-Air Engines. Sargent & Co.....[Builders' Hardware. Smith & Co., H. B.....[Steam Heat. Thiele, E.....[Portland Cement. U. S. Mineral Wool Co.....[Mineral Wool. Warren Chemical & Mfg. Co....[Asphalt Roofing. Williams, John.....[Wrought Metal. Yale & Towne.....[Hardware (Art).	Canton. Berger Mfg. Co., The.....[Metal Ceilings. Canton Steel Roofing Co., The..[Metal Ceilings. Cincinnati. American Steel Roofing Co., The..[Conduitors. Ohio Marble and Wood Co., The..[Marbles Col- ored. Cleveland. Glidden Varnish Co., The.....[Varnish. Tyler Co., The W. S.....[Ornamental Iron and Bronze. Columbus. Kinneer Mfg. Co.....[Steel Rolling-Doors. Nelson Co., The C. T.....[Capitals (Carved). Ohio State University.....[School. Salem. Mullins, W. H.....[Architectural Metalwork.
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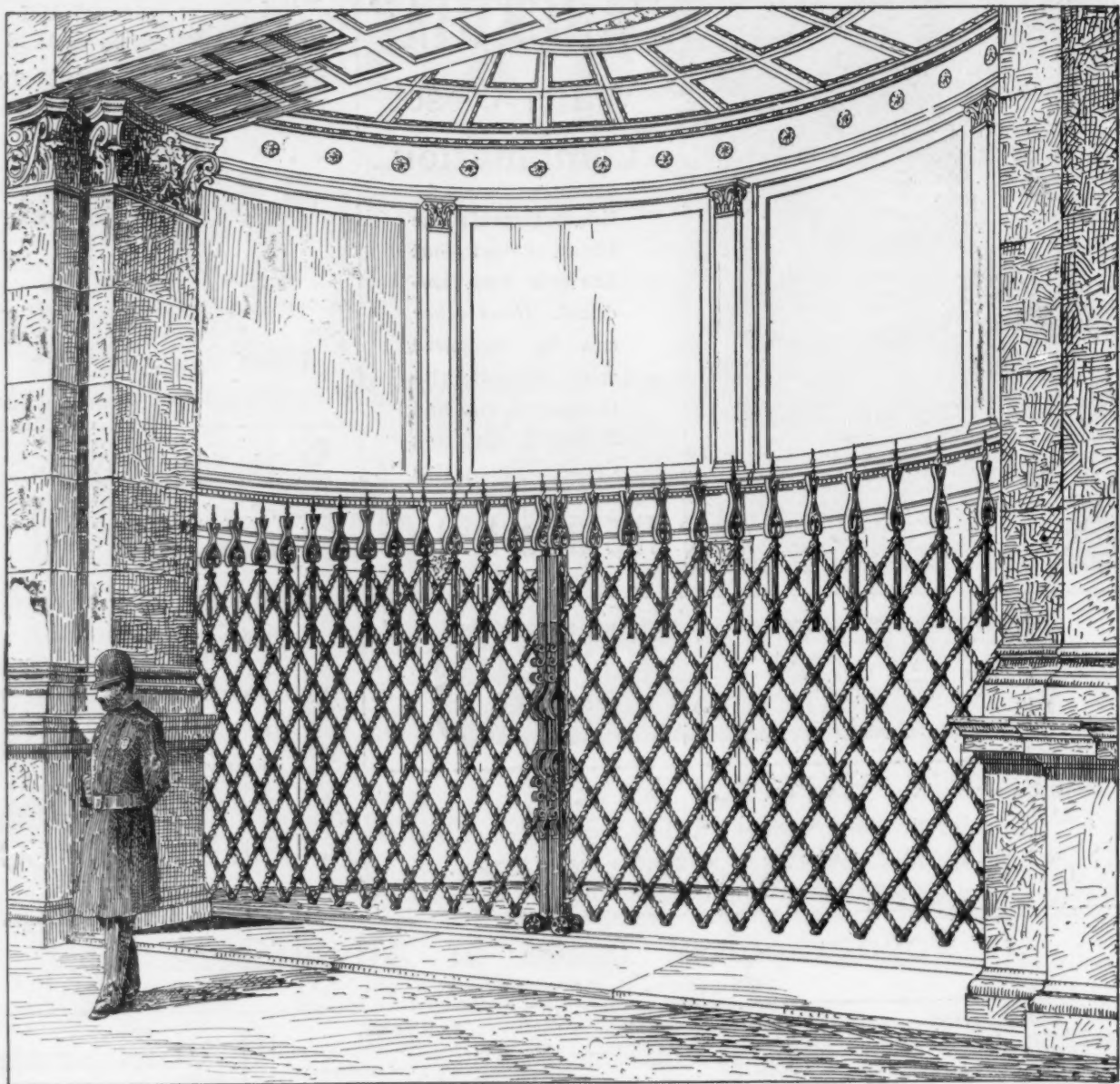
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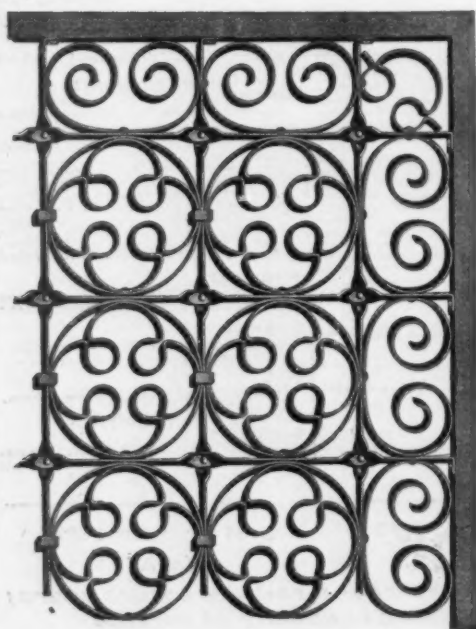
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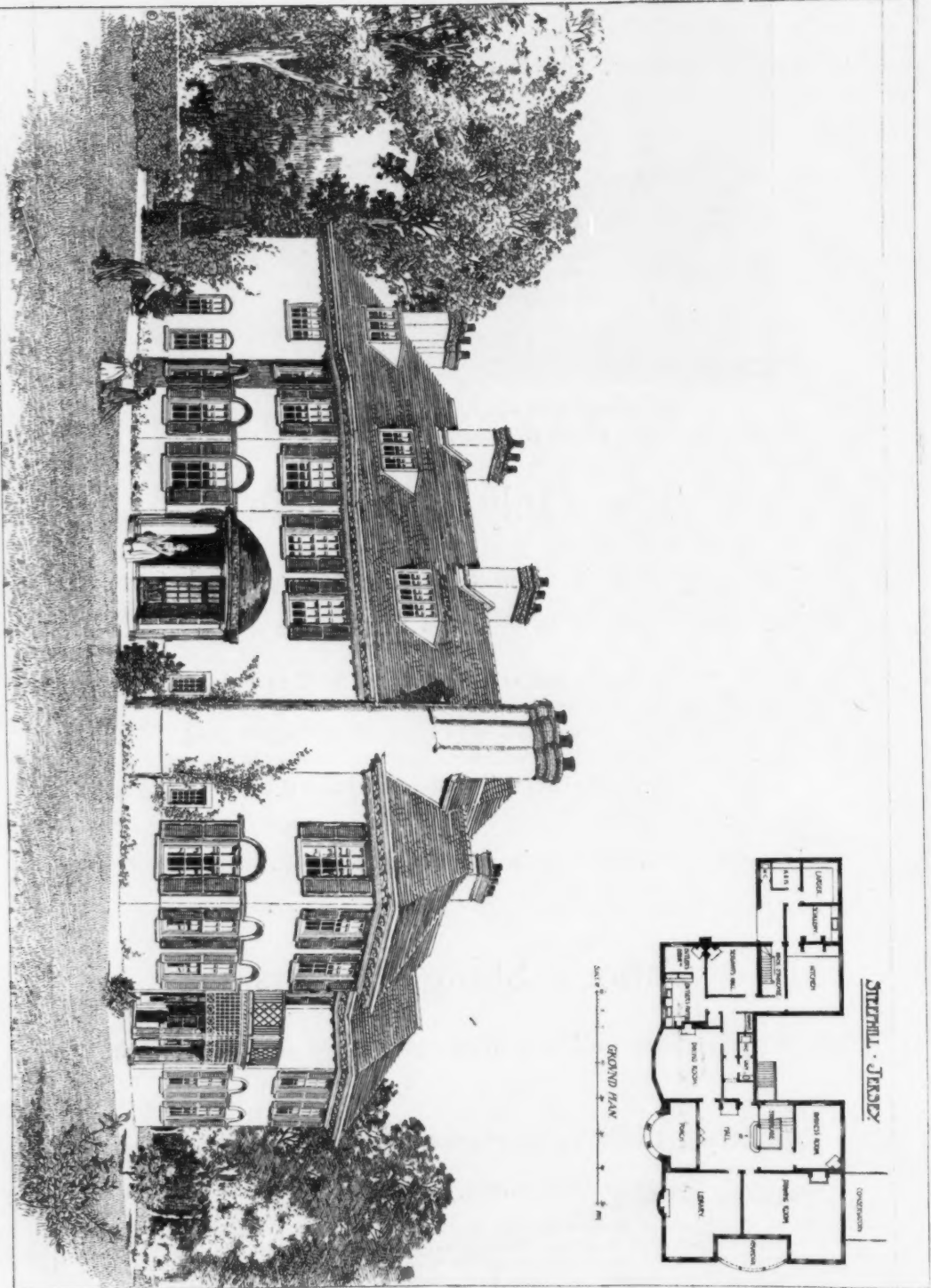
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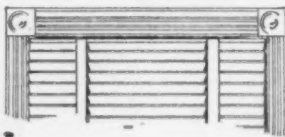
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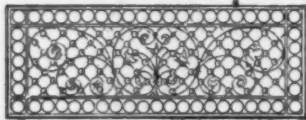
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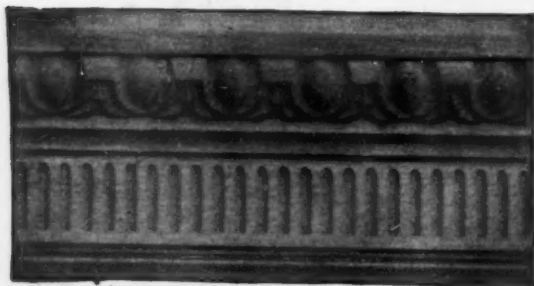
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Important Litigation Relating to Magnesia Covering Patents

THE KEASBEY & MATTISON CO., the owners of the patents for magnesia covering, have commenced a suit in the United States Circuit Court for the Southern District of New York against the Philip Carey Mfg. Co., George D. Crabbs, J. E. Breese, Schoellkopf, Hartford & Hanna Co., J. F. Schoellkopf, Jr., James Hartford, W. W. Hanna, C. P. Hugo Schoellkopf and Jesse W. Starr, to restrain the defendants from making and selling magnesia covering for boilers and steam pipes containing more than 50 per cent of magnesia, and especially coverings containing 85 per cent magnesia.

The Bill prays for a preliminary writ of injunction, to be continued during the pendency of the suit, and upon the final determination thereof to be made perpetual, and also demands an accounting and damages.

☞ All persons are respectfully requested to refrain from purchasing covering infringing these patents, as such purchasing must of necessity lead to suit. ☞

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Plans have been prepared by Architect A. K. Adler for a large factory building to be built in the rear of the building at the corner of Milwaukee Ave. and Carpenter St. for Paul O. Stensland; cost, about \$40,000.

It is said that Moeller, Strange & Co., dry goods merchants, at 915 Lincoln Ave., have bought a piece of ground at 923-27 Lincoln Ave. and will soon begin the erection of a two-story and basement building for their own use. It will cost about \$50,000.

Andrew Sandgren has completed plans for a large three-story apartment-house to be erected on Hazel Ave., 100' x 110', of pressed brick with brown-stone trimmings; cost, \$56,000.

Mrs. T. B. Blackstone, widow of the late President of the Chicago and Alton Railroad, has presented the city of Chicago with a library building, to be put up at the intersection of 49th St. and Washington and Lake Aves., as a memorial to Mr. Blackstone. It will be a branch of the main public library and will be known as the "T. B. Blackstone Memorial Branch Library," and will cost about \$100,000.

Clarion, Pa. — U. J. L. Peoples, Times Building, Pittsburgh, will prepare plans for the new gymnasium, to be erected at the Normal School.

Cleveland, O. — Plans have been drawn by Warren, Wetmore & Morgan, 3 E. 33d St., New York, N. Y., for a six-story department-store, to be erected by John Hartness Brown; cost, \$750,000.

C. F. Schweinfurth, 1204 New England Building, has prepared plans for a three-story stone chemical laboratory to be erected by the Western Reserve University; cost, \$50,000.

Colorado Springs, Col. — T. P. Barber, 75 Bank Building, has completed plans for the auditorium for the National Chautauqua Association; cost, \$30,000.

Columbia, S. C. — The congregation of St. Peter's Catholic Church contemplates erecting a \$40,000 edifice.

Columbus, Ga. — The trustees of St. Paul's Church have decided to erect a new edifice, to cost \$30,000.

Covington, Ky. — The plans of Boil & Taylor, 5th and Walnut Sts., Cincinnati, O., have been accepted

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

for the new \$75,000 Carnegie Library to be erected here.

Decatur, Ill. — Architects Patton & Miller, Chicago, have drawn plans for a group of six buildings for the Milliken University. The plans provide for a mechanical building, horticultural building, gymnasium and chapel. They will be of brick and stone, and cost in the neighborhood of \$200,000.

Des Plaines, Ill. — Fred Ahlechlager, Chicago, has made plans for a two-story department-store building, 60' x 102', to be erected here for C. W. N. Brown; cost, \$20,000.

Easton, Pa. — It is stated that several Philadelphia architects have prepared competitive plans for a new structure for the First National Bank. It is to be a six-story building, of fireproof construction, and will cost between \$75,000 and \$100,000.

Farmington, Mo. — The contract for the new building at insane asylum No. 4 has been let to George E. Mathews, of West Plains, and work was commenced this week on the kitchen, laundry and dining-room. H. H. Hohenschild, the architect, has been instructed to draw plans at once for a building for the violent insane to cost \$29,000.

Galveston, Tex. — It is stated that architects have been invited by the board of directors of the Rosenberg Library Association to submit competitive drawings for the new library. The building will be of fireproof construction and will cost \$100,000.

Houghton, Mich. — H. L. Ottenheimer, Chicago, has drawn plans for an addition to the Douglas House, 100' x 100', to cost \$75,000.

Martinsburg, W. Va. — The Presbyterian Society has accepted plans for a \$20,000 church.

Milwaukee, Wis. — Plans have been drawn by Elmer Gray for a church to be erected on Van Buren St., for the Christian Scientist congregation. It will be brick and stone and cost \$30,000.

Minneapolis, Minn. — Plans have been drawn by E. J. Donohue, St. Paul, for a new parish house to be erected by the Church of Ascension at a cost of \$40,000.

Nashville, Tenn. — Messrs. Brown & Brown were the successful competitors for the city Fire Head-

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

quarters here, costing \$21,000. Plans now ready for figures.

Newark, N. J. — Plans for a pressed brick and stone apartment-house to be erected at a cost of \$75,000 have been prepared by Henry Baechlin, 810 Broad St.

New Hartford, N. Y. — It is stated that the Olympian Knit Goods Co. will move its plant from Utica to this place, property upon which a new mill will be erected having been donated by the New Hartford Improvement Co. The lot is 60' x 200'. The new building will be commenced at once, and will be 40' x 115', three stories, brick.

Newport, R. I. — A fine three-story brick and stone structure, 40' x 80', will be erected at a cost of \$50,000 for the Newport Trust Co., from plans furnished by Whitney Warren, architect, New York City. General contract not let and arrangements not made for any portion of work or materials.

Extensive alterations will be made in present summer residence of P. Belmont, Esq., at a cost of about \$50,000 from plans furnished by Andrews & Withers, architects. Work includes removing present house to new site and veneering same with brick on outside. Same owner will also build a stable, 100' x 100', adjoining residence.

New York, N. Y. — It is stated that the trustees of Barnard College have secured the promise of \$200,000 from Mr. Rockefeller if an equal amount is raised by the friends of the institution before January 1. The first \$200,000 would be for the endowment of professorships; the second \$200,000 would be used to buy land and build a students' hall containing rooms for rest and recreation, and possibly for a gymnasium.

It is stated that T. W. Stemmler has sold his five-story business building at 256 Broadway. The lot is 25' x 100', and the purchaser will erect a ten-story office-building on the site.

Ernest Flagg, 35 Broad St., has made preliminary plans for the \$300,000 fireproof addition to be built to St. Luke's Hospital on Morningside Ave. and 113th St.

North Attleboro, Mass. — Riley, French & Hiffron are having plans made for a four-story jewelry factory, 40' x 200'.

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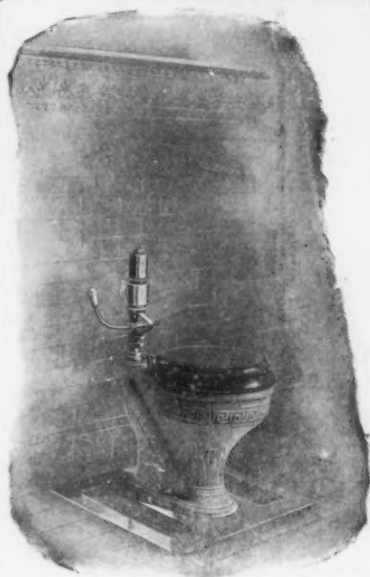
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Olean, N. Y.—John M. Morrow, Philadelphia, Pa., will erect a block of 20 three-story brick and frame cottages, at a cost of \$90,000.

Omaha, Neb.—Plans have been completed by John Latenser, Karback Block, for the one-story auditorium to be built on Howard and 14th Sts. for the Auditorium Co. It will be 132' x 264', have slate or tile roof and steam heat; cost, \$150,000.

John McDonald, N. Y. Life Building, is preparing plans for a \$100,000 residence, to be erected on 34th and Davenport Sts., for Geo. A. Joslyn.

Philadelphia, Pa.—It is reported that Philip H. Johnson is revising the plans for the three new buildings for the Philadelphia Hospital, and as soon as this has been completed bids will be asked. The appropriation is \$80,000.

The Grand Fraternity have purchased 1414 Arch St. for \$45,000 and intend expending \$10,000 upon improvements and alterations to it. All work must be completed by January 1, 1902.

Report states that bids will shortly be asked for the four-story ice-cream factory to be built on Filbert St., after plans by Hales & Baling, 1200 Chestnut St.; cost, \$50,000.

The erection of 30 dwellings will soon be begun by Daniel O'Connell, 5819 Main St., at a cost of \$70,000.

Pittsburgh, Pa.—The polytechnic school to be founded here by Andrew Carnegie, says the Philadelphia Press, is expected to represent an investment of \$17,000,000. Of this amount the city will have to pay \$4,000,000 for land if it secures a site of the required size and in the desired locality. The building and equipment are expected to cost \$8,000,000, and an endowment fund of \$5,000,000 is considered necessary for the maintenance of the institution. The last two items, \$13,000,000 in all, Mr. Carnegie, it is believed, will donate.

Pittsford, Vt.—A immense marble mill will be erected at this place for the Rutland-Florence Marble Co. Structure calls for an expenditure of about \$200,000.

Portsmouth, N. H.—Plans have been drawn for a large pulp-mill on the Piscataqua River. The estimated cost of the plant is \$5,000,000, and it is said that 1,000 hands will be employed.

Richmond, Ind.—Plans have been made by John

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

A. Hasecopter for a brick and stone addition, costing \$25,000, to be built to shop and office-building of Robinson & Co.

Saco, Me.—Report states that Mrs. Charles C. G. Thornton and her daughter, Miss Mary C. Thornton, of Magnolia, Mass., have given \$20,000 for a library building to the Thornton Academy, as a memorial to the late Col. C. C. G. Thornton, who, in his will, provided that upon the death of his wife and daughter the academy should receive \$50,000 to found a manual training department.

San Antonio, Tex.—It is stated that the city will sell its present city hospital, also the block of ground, and build a new city hospital on the cottage plan.

Sandusky, O.—Report states that the plant of the American Crayon Co., which was destroyed by fire recently, causing a loss of \$140,000, will be rebuilt.

San Marcus, Tex.—E. Northcraft will prepare plans for the Southwest Texas Normal School to be erected here, for which the Legislature has appropriated \$45,000.

Sault Ste. Marie, Mich.—Plans have been drawn by Wright & Tomlinson, of Chicago, Ill., for a two-story stone residence to be erected here for V. E. Metzger; cost, \$20,000.

Seituate, Mass.—W. S. Thompson, proprietor of Hotel Minot, N. Seituate Beach, is to erect a four-story hotel on the site of the present building; cost, \$150,000. Cooper & Bailey, architects, Boston.

Sharon, Pa.—Frank H. Buhl, ex-president of the Sharon Steel Co., has promised to give \$200,000 for a public building. The town must provide for its maintenance, and it must be kept open seven days a week.

Springfield, Ill.—The designs submitted by Frank H. Hamilton, city architect, have been accepted for the \$150,000 State armory, arsenal and museum. The structure will be constructed of stone and pressed brick, and will cost \$150,000.

St. Louis, Mo.—The corner-stone of the Altemheim Home for the Aged was laid recently, with impressive ceremonies, at the site of the institution on S. Broadway, opposite Eiler St. The site is the property on which stands the old Chouteau mansion. It was secured at a cost of \$30,000, and the sum of \$45,000 is to be expended in additions and

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

alterations. Forty living-rooms will be added to the 20 contained in the old mansion. The new building is to be three stories and basement, while the Chouteau mansion is three stories high in front and four in the rear. The addition is to be built around the old structure, so that the latter will be lost sight of.

The Christian Scientists will build a church on Lindell Boulevard, near Newstead Ave. The new building will be of brick, stone and terra-cotta, 152' x 213', and will cost \$100,000. Mauran, Russell & Garden, Chemical Building, architects.

It is reported that a stock company has been formed by Moffett & Francis and others for the purpose of erecting a hotel at Olive and Beaumont Sts. The plans contemplate a six-story building, of brick and stone, to cost \$250,000.

St. Paul, Minn.—It is stated that a six-story brick and stone fireproof storage building, to cost \$300,000, will be built at Minnehaha St. and Greenbrier Ave. by the Theodore Hamm Brewing Co.

Sycamore, Ill.—It is stated that \$100,000 has been appropriated by the Supervisors of De Kalb County for a new court-house and jail.

Toledo, O.—It is reported that the National Malleable Castings Co. will expend \$50,000 in enlarging its plant.

Trenton, N. J.—The Pennsylvania R. R. Co. has had plans drawn for a \$110,000 freight depot to be erected on Perry St.

Troy, N. Y.—The John Stanton Brewing Co. has awarded contracts for a cold storage and wash house plant to adjoin its new power house. The addition involves an expenditure of not far from \$60,000.

Vincennes, Ind.—The members of the Christian Church will erect a new stone church, to cost \$30,000.

Watertown, Mass.—A fine stone church edifice with iron frame, will be erected at a cost of \$175,000 for St. Patrick's Catholic Church Society from plans furnished by F. G. Bullard, architect, 657 Washington St., Boston. Heating, steam. Roofing, slate.

Wilmerding, Pa.—It is stated that the Pennsylvania R. R. Co. will erect a station here to cost \$20,000. W. H. Brown, Ch. Engr., Philadelphia.



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(Advance Rumors Continued.)

York, Pa.—The Lafane Mfg. Co., whose paper-mill
was totally destroyed by fire recently, will rebuild
the factory at once. It will be of brick and one-
story, instead of three stories as before. A frame
warehouse will also be constructed.

ALTERATIONS AND ADDITIONS.

Brooklyn, N. Y.—Hamilton Ave., nr. Hicks St.,
three-st'y & cellar bk. extension to telephone sta-
tion, 20' x 48'; \$10,000; o., N. Y. & N. J. Telephone
Co.; a., R. L. Daus, 26 Court St.

APARTMENT-HOUSES.

Chicago, Ill.—Hyde Park, three-st'y bk. apart., 71'
x 93'; \$50,000; o., W. H. C. Sykes and Wilmore
Alloway.

Lake Ave. and Fortieth St., three-st'y bk. & st.
apart., 61' x 140'; \$35,000; o., Clark & Trainer; a.,
Bishop & Co.

FACTORIES.

New York, N. Y.—Third Ave., No. 325, six-st'y bk.
factory, 24' x 91'; \$20,000; o., L. Teitbaum, on
premises; a., M. Bernstein, 111 Broadway.

HOTELS.

New York, N. Y.—Forty-ninth St., nr. 7th Ave.,
twelve-st'y bk. hotel, 64' 4" x 98'; \$350,000; o.,
Hallahan & Ahearn, 218 W. 112th St.; a., Neville &
Bage, 217 W. 125th St.

Broadway, cor. 42d St., fourteen-st'y bk. hotel,
102' x 186'; \$2,500,000; o., International Realty &
Construction Co., 51 Wall St.; a., Warren & Davis
and Bruce Price, 1133 Broadway.

BUILDING INTELLIGENCE.

HOUSES.

Boston, Mass.—Auckland St., No. 85, Ward 20,
three-st'y fr. dwell., 21' x 50', flat roof, furnace;
\$6,000; o. & b., Crosby & Scarr; a., P. A. Tracy, 923
Dorchester Ave.

Cambridge St., cor. Eleanor St., Ward 25, two-st'y
fr. dwell., 45' x 46', pitch roof, furnace; \$7,500; o.,
Elmer F. Hudson; a. & b., C. S. Allen.

Wenham St., cor. Crafts St., Ward 23, two-st'y fr.
dwell., 28' x 47', pitch roof, hot water; \$6,000; o.,
Cath. E. Galligan; b., Geo. F. Stewart.

Chauncy Pl., nr. Washington St., Ward 22, 4
three-st'y bk. dwells., 46' x 55', flat roofs, stoves;
\$45,000; o., Josiah Grossman; a., G. A. Fuller.

Sidlaw Road, No. 32, Ward 25, two-st'y fr. dwell.,
38' x 46', pitch roof, furnace; \$9,000; o., a. & b.,
E. L. Rogers, 58 Englewood Ave.

Brooklyn, N. Y.—E. Fifteenth St., nr. Avenue C,
two-st'y & attic fr. dwell., 31' 6" x 35'; \$6,000; o.,
T. B. Ackerson Construction Co.; a., A. W. Pierce,
1127 Flatbush Ave.

Park Pl., nr. Kingston Ave., three-st'y bk. dwell.,
33' x 42', steam; \$10,000; o., C. M. Phipps, 275 Clinton
Ave.; a., H. B. Moore, 861 St. Mark's Ave.

Twenty-third St., nr. Benson Ave., two-st'y &
attic fr. dwell., 24' 3" x 35' 9", shingle roof; \$5,000;
o., E. G. Vail, Jr., 23d & Bath Aves.; a., C. Schu-
bert, 1832 Bath Ave.

Beverly Road, cor. Ocean Parkway, two-st'y &
attic fr. dwell., 29' x 54', shingle roof, steam; \$10-
000; o., Gilbert Stratton, Ocean Parkway; a., J. S.
Kennedy, Temple Bar.

Chauncy St., cor. Saratoga Ave., three-st'y bk.
& st. dwell., 29' x 55'; \$17,000; o., Shaeth & Sanger,
1480 De Kalb Ave.; a., William Debus, 808 Broad-
way.

BUILDING INTELLIGENCE.

(Houses Continued.)

Cambridge, Mass.—Huron Ave., No. 249, three-st'y
fr. dwell., 50' x 60', comp. roof, hot water; \$11,000;
o., D. J. O'Brien; a., W. W. Dinsmoor, 28 School
St., Boston.

Islesboro, Me.—2½-st'y fr. dwell., 34' x 60', shingle
roof, furnace; \$10,000; o., Dr. J. C. White; a., John
Lavelle, 85 Devonshire St., Boston.

New York, N. Y.—Woodycrest Ave., nr. 164th St.,
three-st'y fr. dwell., 21' x 47'; \$5,500; o., Fannie L.
Jones, 114 Woodycrest Ave.; a., John J. McMillan,
111 E. 205th St.

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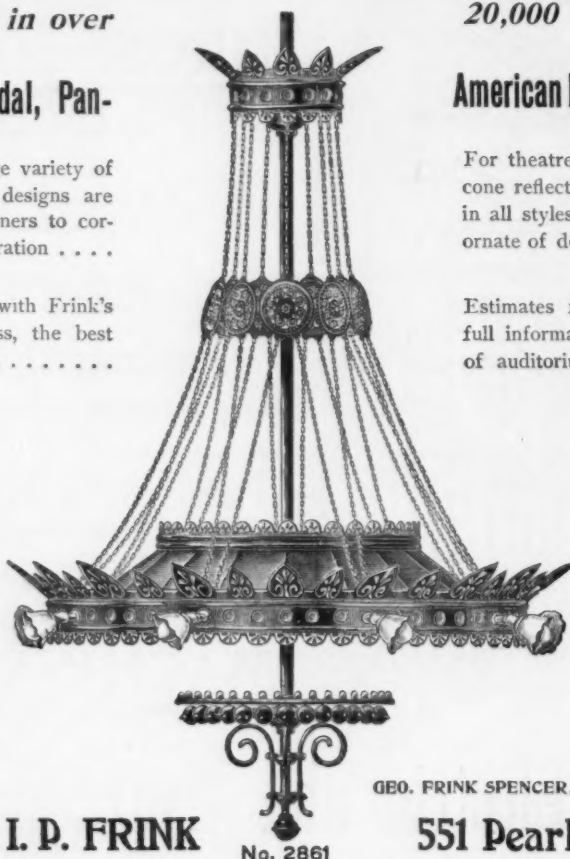
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(Houses Continued.)

Mohegan Ave., nr. 181st St., two-st'y fr. dwell., 22' x 62'; \$7,000; o., Theresa Wirsing, 720 E. 164th St.; a., Edw. Wenz, 1491 Third Ave.

Roxbury, Mass.—Ten 2-st'y fr. dwells., 30' x 40', shingle roof, furnace; \$50,000; a., McFarland, Libby & Smith and W. E. Harding.

West Roxbury, Mass.—Allen St., 2-st'y fr. dwell., 40' x 56', shingle roof, furnace; \$5,000; o., Mrs. Celia H. Godfrey; a., Thayer & Bowser, 683 Atlantic Ave.

LIBRARIES.

Nashua, N. H.—One-st'y & base. bk. library building, 64' x 120', copper roof; \$40,000; a., Cram, Goodhue & Ferguson, 53 State St., Boston; b., Nashua Building Co.

MERCANTILE BUILDINGS.

Boston, Mass.—Atlantic Ave., six-st'y st. mercantile building, 90' x 90', comp. roof, steam; \$125,000; a., F. A. Park, 110 Tremont St.; b., Commonwealth Construction Co., 7 Water St.

India, State, Broad and Central Sts., Ward 6, ten-st'y bk. mercantile building, 90' x 150' x 165', steam; \$250,000; o., Moses Williams and Amory Eliot, trustees; a., Winslow & Bigelow.

STABLES.

Brooklyn, N. Y.—Ocean Ave., cor. St. Paul's Ct., 14-st'y fr. stable, 25' x 30', shingle roof; \$2,000; o., G. Brackman, 666 Ocean Ave.; a., J. J. Petit, 186 Remsen St.

Newport, R. I.—Two-st'y bk. & st. stable, 47' x 160', slate roof, hot water; \$22,000; o., Hon. Sidney Webster; a., J. D. Johnston.

New York, N. Y.—Park Ave., No. 1891, two-st'y bk. stable, 50' x 70'; \$10,000; o., Charles C. Schildwachter, 1889 Park Ave.; a., A. De Saldern, 130 Broadway.

E. Eighty-ninth St., Nos. 73-75, five-st'y bk. stable, 50' x 96'; \$20,000; o., Edmund J. Curry, 69 E. 89th St.; a., Chas. Stegmayer, 306 E. 82d St.

Somerville, Mass.—Two-st'y fr. stable, 34' x 114', comp. roof; \$6,000; o., H. N. Kimball, Haverhill; b., W. J. Thompson & Son, Haverhill.

STOKES.

Brooklyn, N. Y.—Avenue C, nr. Coney Island Ave., one-st'y bk. store, 22' x 45'; \$2,000; o., J. Kleingenberg, on premises; a., Geo. Hitchings, 848 Flatbush Ave.

New York, N. Y.—Chambers St., No. 148, seven-st'y bk. store-building, 25' x 77'; \$50,000; o., James A. Campbell, 38 Park Row, N. Y., or 106 Arbuckle Building, Brooklyn; a., Buchman & Fox, 11 E. 59th St.

Broadway, Nos. 373-375, six-st'y bk. stores & lofts, 40' x 150'; \$150,000; o., Hy. Corn, 142 Fifth Ave.; a., Robt Maynick, 725 Broadway.

Clinton Pl., nr. University Pl., seven-st'y bk. & st. lofts & stores, 25' x 88' 6"; \$30,000; o., Lorence

BUILDING INTELLIGENCE.

(Stores Continued.)

Cavinato, 445 E. 122d St.; a., C. Cavinato, 445 E. 122d St.

TENEMENT-HOUSES.

New York, N. Y.—One Hundred and Seventh St., Nos. 226-232, six-st'y bk. tenement, 88' x 112'; \$185,000; o., Ivy Court Realty Co., 55 E. 93d St.; a., Wm. C. Huyler, 1135 Broadway.

One Hundred and Sixth St., nr. Park Ave., five-st'y bk. & st. tenement & stores, 37' x 88', plastic slate roof; \$28,000; o., Robertson & Grant, 245 W. 107th St.; a., Jos. C. Cocker, 243 E. 123d St.

One Hundred and Thirtieth St., nr. Lenox Ave., six-st'y bk. tenement, 50' x 86'; \$70,000; o., Leon A. Liebeskind, 36 E. 115th St.; a., G. F. Pelham, 503 Fifth Ave.

WAREHOUSES.

Boston, Mass.—Summer St., Dorchester Ave. and Gilbert Pl., eight-st'y bk. warehouse, 140' x 234', flat roof, steam; \$200,000; o., C. E. Cotting and F. C. Welch; a., Winslow & Bigelow.

Brooklyn, N. Y.—Bridge St., cor. John St., four-st'y & cellar storage, 33' x 100', gravel roof, steam; \$20,000; o., S. V. & F. P. Scudder, on premises; a., A. Ulrich, 371 Fulton St.

New York, N. Y.—Fourth St., Nos. 28-30, eight-st'y bk. loft building, 51' x 77'; \$100,000; o. & a., Frank Borasky, 222 E. 82d St.

W. Eighty-fourth St., Nos. 218-220, six-st'y bk. loft building, 50' x 90'; \$24,000; o., E. P. S. Wright, 1123 Broadway; a., Alfred H. Taylor, 53 W. 33d St.

MISCELLANEOUS.

Worcester, Mass.—Main St., 2 buildings, 48' x 76' 256' x 364'; \$70,000; o., Worcester Consolidated St. Railway Co.; a., F. F. Low, Boston; c., Gerry & Northrup, Boston.

COMPETITIONS.

COURT-HOUSE.

Plans and specifications will be received by the Police Jury of Acadia parish until November 11 for a court-house; cost not to exceed \$75,000. G. HOWARD BROOKS, sec'y, Crowley. 1349

PROPOSALS.

SEWERS.

Sealed proposals will be received until November 8 for the construction of a sewerage disposal plant at the House of Refuge for Women, Hudson. HERBERT L. MILLS, president board of managers. 1349

SCHOOL-HOUSE.

Sealed proposals will be received at the office of

PROPOSALS.

the commissioners, D. C., until November 9 for constructing a four-room school-building on the grounds of the Industrial Home School, Tennallytown Road, Washington, D. C. Blank forms of proposals and specifications, together with all necessary information, may be obtained upon application therefor at the office of the Inspector of buildings of the District of Columbia. HENRY B. F. MACFARLAND et al., commissioners, D. C. 1349

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 25th, 1901. Sealed proposals will be received at this office until 2 o'clock P. M. on the 20th day of November, 1901, and then opened, for the installation of a conduit and wiring system for the U. S. Post-office building at Kansas City, Kansas, in accordance with the drawings and specification, copies of which may be obtained at this office or at the office of the Superintendent of Construction at Kansas City, Kansas, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1350

COURT-HOUSE.

[At Reidsville, Ga.] Bids are wanted November 11 for erecting a court-house. Address B. F. ALEXANDER. 1349

ALTERATIONS.

[At Tallahassee, Fla.] Bids are wanted until November 14 for alterations and additions to the State Capitol building. W. S. JENNINGS, governor and chairman. 1349

COURT-HOUSE.

[At Jackson, Miss.] Bids will be received by the Board of Supervisors until November 18 for erecting a court-house, to cost about \$55,000. Architects, F. B. & W. S. Hull, Jackson. 1350

HOSPITAL BUILDINGS FOR THE MOUNTAIN BRANCH, N. H. D. V. S.

[Near Johnson City, Tenn.] Office of the National Home for Disabled Volunteer Soldiers, Rooms 932-4 New York Life Building, 346 Broadway, New York City, October 10th, 1901. Sealed proposals will be received at this office until 12 M. Monday, the 11th day of November, 1901, for furnishing materials, labor, etc., for the construction of hospital buildings at the Mountain Branch of the National Home for D. V. S., near Johnson City, Tenn. Plans and specifications can be seen, necessary information obtained and blank forms for proposals procured on application to this office or to the architect, J. H. Freedlander, 244 Fifth Ave., New York City, or at the office of the Superintendent of Construction near the site of the work. The Home reserves the right to reject any or all bids and to waive defects. Moses Harris, General Treasurer, N. H. D. V. S. Approved: M. T. McMAHON, President Board of Managers, N. H. D. V. S. 1350

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Professional Ethics.

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

SECTION 10. It is unprofessional to furnish 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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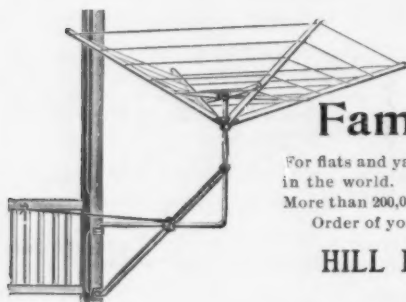
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