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CONTENTS.

SUMMARY:—

Coming Competitions for Government Buildings.—Works of American Artists residing abroad entitled to Free Entry.—Sanitary Science at the Massachusetts Institute of Technology.—A Fraudulent Strike against the American Woollen Company.—The Judiciary and the Labor Unions.—The Coal Strike.—Unconstitutionality of a New York Labor Law.—Appointment of an Architect to the New York Department of Bridges.—Free Tuition in the National Academy of Design's Schools.—Irrigation and the Reclamation of Land.—Removal of the Hygeia Hotel at Fortress Monroe.—A French Architect murdered for condemning a Contractor's Work. 1

ITALIAN BELL-TOWERS. 3
LETTER FROM CHICAGO. 6

ILLUSTRATIONS:—

The Tower of St. Mark, Venice, Italy;—The Campanile: La Badia, Florence, Italy.—Sta. Maria in Cosmedin, Rome, Italy;—Campanile of the Cathedral, Pistoja, Italy.—Woodland-Avenue Front of the University of Pennsylvania Dormitories, Philadelphia, Pa.—The Promenade: University of Pennsylvania Dormitories.

House at Oxford, Eng.

Additional: University of Pennsylvania Dormitories: Main Entrance, Philadelphia, Pa.—The Promenade Terrace: University of Pennsylvania Dormitories, Philadelphia, Pa.—“The Torrazzo,” Cremona, Italy.—S. Apollinare in Classe, Ravenna, Italy: Two Views.—La Ghirlandina, Modena, Italy;—Campanile of S. Gottardo, Milan, Italy.—Cathedral, Monte S. Giuliano, Italy;—S. Satiro, Milan, Italy. 7

COMMUNICATION:—

Incombustible Lifting-sash Window-frames. 7

NOTES AND CLIPPINGS. 8

THE provision made by Congress for new public buildings covers four which will probably, under the Tarsney Act, be opened to limited competition among selected architects. These four are situated at Washington, Providence, San Francisco and Los Angeles. There is to be a new Post-office in the city of New York, but nothing has been done except to authorize the selection of a site, and proposals for this purpose have already been invited.

THE Treasury Department has made some important rulings explanatory of the clause in the Dingley tariff permitting the importation, free of duty, of works of art by American artists residing temporarily abroad. There has always been a question what constituted temporary residence, and the Treasury now decides that the duration of temporary residence shall not be limited by any fixed period, provided the artist has not renounced, or intended to renounce, his American citizenship, but declares, in the manner prescribed by the Treasury regulations, his intention, at some later period, to return to this country. The children born abroad of citizens of the United States, who have not renounced their American citizenship, are also citizens of the United States, and entitled to the privileges accorded by the Dingley Act. On the contrary, a wife takes the citizenship of her husband, and an American woman artist who marries a foreigner thereby expatriates herself, and cannot claim the privileges of the Dingley tariff. In order to establish the identity of works of art imported under this clause of the Dingley Act, they must be accompanied by the declaration of the artist, or of actual witnesses of their production, or by other evidence satisfactory to the Collector at the port of importation; but it is not necessary that they should have been purchased directly from the artist, transfer of ownership not affecting the privileges conferred by the Act.

THE Massachusetts Institute of Technology has received a gift of five thousand dollars, with the promise of five thousand a year more for two years, for the purpose of conducting investigations in sanitary science, including the questions of the purification of water, and the disposal and utilization of sewage, garbage and other wastes. The work will be carried on under the direction of Professor W. T. Sedgwick, the present head of the Department of Biology of the Institute.

IT is interesting to observe how rapidly the judiciary is taking in this country the place which it has occupied for so many centuries in England, as the guardian of liberty, in England against the encroachments of royal prerogative, and in this country against attempts at organized oppression. A few days

ago the Supreme Court of Wisconsin, which has already distinguished itself for its clear judgment in such matters, handed down a decision, declaring a State law prohibiting an employer from discharging a man because he belongs to a labor union to be unconstitutional and void. As the Court well says, if the employer's liberty to say whom he will hire, and under what conditions he will employ him, can be curtailed by legislation, the liberty of the laborer can also be curtailed, and he may be compelled to work against his will for persons, or under conditions, unsatisfactory to him. To put the matter in another way, if it is lawful for politicians or labor unions, through legislation, or in any other manner, to compel employers to submit to dictation in the employment of labor, then it would be equally lawful for the employers, if they should get a chance, to compel laborers, against their will, to submit to such terms as they might choose to impose; that is, to enslave them. Many of the States, through the political influence of the labor unions, have statutes by which the members of the latter, a small minority, it should always be remembered, of the actual working population, are given undue and tyrannical advantages over the rest of their fellow-citizens. Through these unjust laws the community in general suffers continual distress and loss, and such a decision as that of the Wisconsin Court, which, by its clear and convincing logic, is likely to influence judicial action all over the country, constitutes an important step in the development of American liberty.

ONE of the principal reasons why judicial decisions upon the right of labor unions to control other people's business are needed is the growing damage inflicted upon employers and employed alike by the personal squabbles of unscrupulous labor leaders, and the means which they use in pursuance of their private ends. Not long ago, there was a very serious and prolonged strike in the mills of the American Woollen Company. The Company operates many factories, in different States, and, while grievances may have existed in one or two mills, the operatives in the others were contented. This state of affairs, while it makes a settlement of differences, by arbitration or otherwise, very easy, does not suit the agitators, who know well that a quarrel without any tangible ground is generally the most difficult to settle, as well as the most vindictive; and they endeavor to enlist as many people as possible, by “sympathy” or otherwise, in a dispute in which they have no personal concern. In the case of the American Woollen Company, they were hindered in their efforts to bring about a general strike in all the mills of the Company by the circumstances that most of the operatives had no reason for striking, and no wish to do so. To meet this objection, it occurred to some of them to send to each mill, to be read before the members of the union in that mill, a letter from the Secretary of the Rhode Island Union, making statements and appeals calculated to arouse the sympathies of the members. This device was quite successful, and it was not until after more strikes had been declared, and misery brought into hundreds of households, that some one asked the Secretary of the Rhode Island Union about the letter, and discovered that he never wrote or signed any such document; that he entertained no such sentiments or ideas as those expressed in it, and that the whole affair was an impudent forgery from beginning to end.

OF course the American Woollen Company suffers to a considerable extent by strikes brought on by such means, but their loss is insignificant in comparison with that of the poor weavers thus heartlessly deceived into sacrificing their living. To those connected with building affairs, who have many occasions for seeing how essential to the comfort of myriads of humble, but happy, homes is continuous employment for the working members, and how quickly the interruption of employment shows itself in the pale faces, the patched clothes and worn-out shoes of innocent children, who do their best to bear bravely their undeserved misfortune, there is something exasperating in the knowledge that these miseries are often brought about for the sole purpose of gaining political influence, or attracting bribes, for the men whose authority ought to be used in befriending the poor, and that, worse than this, the men who so infamously betray those whose interests

they pretend to protect do, in point of fact, very often secure the offices or the bribes which they seek by such means. In default of means for bringing politicians to a sense of their duty in such matters, the courts form the best resource; and if there is no way in which men who are deceived into abandoning their employment through forged letters can obtain pecuniary indemnity, it is certainly possible for them to proceed under the criminal law, and they may be sure that judges and juries will help them to make such transactions hazardous.

AS an illustration of the burden which class-legislation in favor of the members of labor unions imposes on the whole community, the present strike in the anthracite coal region may well be studied. Wherever in this country a kitchen stove, or a furnace, or steam-boiler, depends for fuel on anthracite coal a heavy tax has for some weeks past been exacted, and will continue to be collected for some weeks more, to pay a part of the cost of an unnecessary contest, brought on by an attempt at the sort of coercion of the employers which the Wisconsin Court has declared to be unlawful, and maintained against the will of the great majority of the miners themselves, by the same sort of unlawful coercion of the men who wish to go back to work. Besides the sum which the community is obliged to contribute in the shape of an increase in the cost of coal, toward this unlawful demonstration, it pays, in addition, a heavy indirect tax, through the impoverishment of the miners, who are said to have lost in wages, since the strike began, not far from fifty million dollars, and are so much the less able to buy for themselves and their families the comforts and necessaries, the manufacture of which would have given employment to a vast number of their fellow-citizens.

CONSIDERING that only about fifteen per cent of skilled mechanics, according to the statistics, really belong to labor unions, the friends of liberty and equality will not be sorry to hear that Corporation Consul Rives, in New York, has given his opinion that city authorities cannot legally provide in contracts that only members of unions shall be employed on the work contemplated by the contract, for the reason that such a stipulation establishes an illegal and unconstitutional discrimination between different classes of citizens, at the same time that, by excluding from city contracts all but certain privileged persons, it prevents competition among contractors.

MR. HENRY F. HORNBOSTEL, of New York, well known in the profession as an accomplished and well-trained architect, has been appointed consulting architect to the New York Department of Bridges. The Commissioner of Bridges, Mr. Lindenthal, has long favored the development of the artistic side of bridge-designing, and Mr. Hornbostel is well qualified to aid in such matters.

THE National Academy of Design, in New York, has taken the radical step of abolishing all tuition-fees for instruction in its classes in drawing and painting. Considering the number of schools of the kind, of a very high grade, already existing in New York, which are dependent upon a small tuition-fee for support, as, for example, those of the Art Students' League, the action of the Academy looks a little like unfair competition; but the standard of admission to the Academy has always been high, and if, as the managers of the schools hope, the abolition of fees should enable them to raise it still higher, the effect upon artistic education ought to be favorable. At the School of Fine-Arts, in Paris, tuition, as every one knows, is free, yet the School stands, probably, higher than any other in the world; and if the National Academy can take graduates from the League schools, the Cooper Institute, the Pratt Institute, Columbia University, and the other excellent schools of fine art, and develop them, in a few years, into rivals of the great French artists, it will be a most important factor in the development of American art. To rival the Paris School, however, the Academy should have something like the resources of the French institution. It must not only have an additional endowment to pay the expenses hitherto met from tuition-fees, but should be able to offer the brilliant prizes which the French School holds out to faithful workers in all departments. It should have a Prize of Rome, or something equivalent to it, carrying, as the Prize of Rome does, Government favor and assured employment for life, and should be able to offer also special prizes in various departments, so that those whose talents lead them in

particular directions may have the hope of winning, in the work most congenial to them, a lifelong reputation, as well as considerable sums of money.

THE HONORABLE FRANCIS G. NEWLANDS, Member of Congress from Nevada, who is well known for his intelligent study of many matters of public interest, delivered a speech a few weeks ago before the House of Representatives on the Reclamation of the Public Lands, which is well worthy of study. Mr. Newlands is not at all given to bombastic declamation, and his clear and dispassionate statements carry conviction with them. In fact, so reasonable are his views that we think he would find the opposition of the Eastern farmers to the pending irrigation bill, which, at best, is, we imagine, less serious than he seems to suppose, materially lessened by the extensive dissemination of the report of his speech. As every one knows, the plan now under consideration in Congress contemplates the adoption, on the part of the Government, of comprehensive measures for storing, at the most advantageous places, the flood waters of the rivers rising in the Rocky Mountains and elsewhere, so that they can be released for use for irrigation when needed in the dry weather of summer. It is obvious that the Government of the United States, which alone has jurisdiction over the course of a river flowing, like most of the Western streams, through several States, and can condemn and take lands in any State, is the only agency by which great works of the kind in this country can be efficiently and economically carried out, at the same time that, as owner of six hundred million acres of arid, or semi-arid, land, it has the largest interest in the results of the undertaking. The plan in contemplation, as described by Mr. Newlands, is for the Government to build dams and construct main canals, in such manner as to collect all the water possible, leaving the settlers to build branch canals at their own expense, in such a way as may best suit their agricultural operations. The bill provides that the work, which must of necessity go on slowly, shall be paid for out of the proceeds of the sale of arid public lands, so that no money will be taken from the Treasury for it; and it is provided that the cost of the reservoirs and canals shall be apportioned over the territory served by them, and added to the price of the land; so that, as sales of the reclaimed land are made, the cost of reclamation will be repaid. Nothing could be more sensible and rational than such a scheme, and there seems to be no reason why it should not be carried out successfully. It is true that the speculative schemes for irrigation works which have been carried out in various parts of the Southwest have almost always ended in a loss to the stockholders, but, even if honestly and economically managed, they have been conducted at a disadvantage, through the limitation of their powers of taking land, and, as a matter of fact, it is notorious that they have, in many cases, been utilized for swindling in the grossest manner the Eastern capitalists who furnished the money for them.

THE great Hygeia Hotel, at Fortress Monroe, where many of our readers have probably found health and happiness, is to be removed, to clear the ground for military purposes. As every one knows, the hotel stands on the Government reservation, as do also many other establishments of the same kind, public and private. For many years they have occupied the ground on sufferance, but the War Department has decided that it is necessary for military purposes to have the whole area cleared, and has given orders for the removal of all buildings within a reasonable time.

M. AGERON, a French architect of distinction, died a few weeks ago under circumstances which have a melancholy interest for the profession. Although still a young man, he had acquired a high reputation for professional skill, and had been repeatedly called in as expert in important cases. A group of school-buildings, in process of erection in the city in which he lived, had shown signs of imperfect construction, and he was called upon by the municipal authorities to undertake the supervision of the work. He found certain materials defective, and, as in duty bound, reported his discovery to the municipal officials. For this reason, apparently, no other being given, the contractor waylaid him at the railway-station, where he knew that he would find him, and shot him dead. What has been done to the murderer we are not informed, but criminals of this kind do not often escape, in France, the punishment that they deserve.

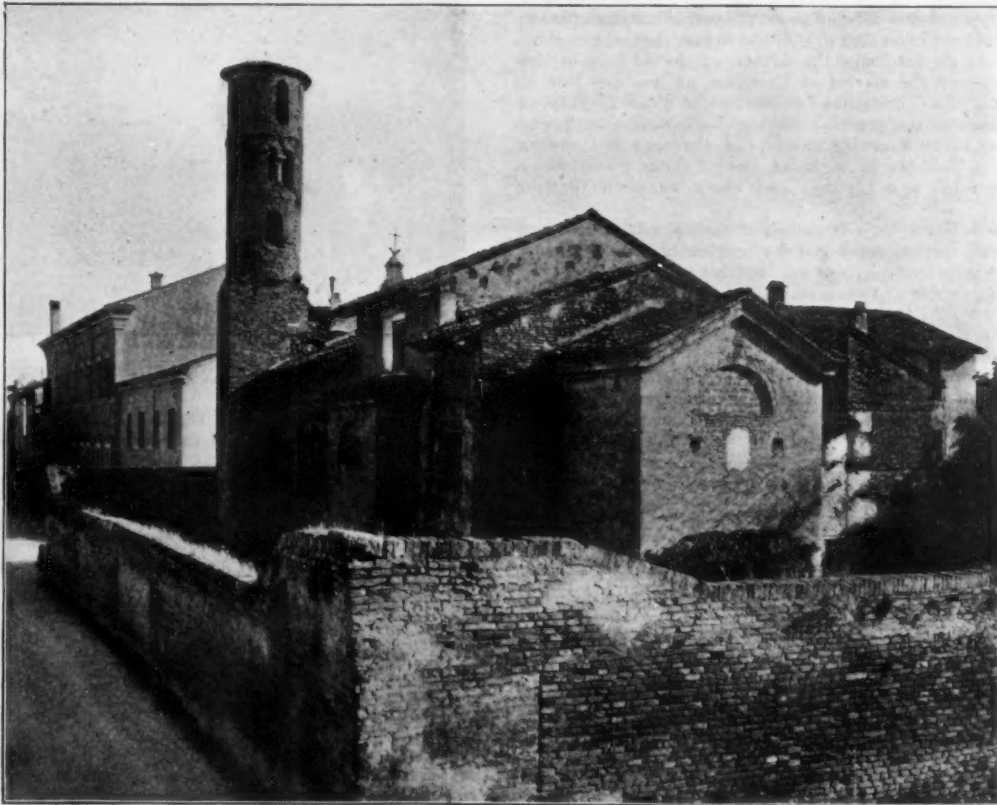
ITALIAN BELL-TOWERS.

"**CAMPANILE**," in Italian, has the same signification as "bell-tower," in English, "*clocher*," in French, and "*Glockenthurm*," in German, and the oldest bell-towers of Italy hardly date back beyond the fifth century. This is proved by the mosaic on the triumphal arch of Santa Maria Maggiore at Rome, a work of the time of Sixtus III (430-40), where towers rear themselves alongside a baptistery and basilica; and even on the celebrated wooden doors of S. Sabina at Rome there exists something which seems to be a tower (these doors are of the fifth century, of the time, as it appears, of Celestin I, or about 422-32). But we are not at all certain that these towers had bells in them, so one ought to call them simply towers, or *torri*. It is certain, all the same, that bells were in use in Italy in the eighth century, during the pontificate of Stephen VII (752), who in giving bells to the Vatican Basilica must have introduced their use into the Eternal City in the middle of the eighth century. This statement of Amalario's, Bishop of Treviri, a contemporary of Charlemagne, cannot be accepted without some reservation. However that may be, at present, the most ancient bell in Italy, that of the Museo Falconi at Viterbo, has been acknowledged to belong to the eighth or ninth century, and it is, in truth, an article of

to old Europe, church façades with two towers are numberless, and are found in France, Germany, England, among those in the Romanesque and Gothic styles.

In the same way, in Italy, there are very few churches with more than two towers, as we see in the case of the cathedral at Palermo and at Borgo S. Donino, and fewer still are those with a single tower in the middle of the façade, as in the case of the churches of S. Maria del Tiglio, at Gravedona (Lake of Como) and S. Matteo in Campo d'Orto, at Perugia. So, with us, almost all churches have single bell-towers, and some that are isolated, but erected quite near to the church building. In this last category may be mentioned the cathedrals at Pisa and Florence, the Church of S. Zeno at Verona and St. Mark's at Venice.

The oldest bell-towers on the Peninsula are surely the Byzantine ones at Ravenna, round like that of S. Apollinare in Classe, which is the most beautiful of the Byzantine towers of that city, which might be called an Italo-Byzantine Pompeii. The tower of S. Apollinare in Classe dates to the same epoch as that of S. Apollinare Nuovo at Ravenna, generally given as the eighth century, but in my opinion it is still older. A beautiful round tower of the same kind is that of SS. Giovanni and Paolo, also at Ravenna, lately brought out into sight by means of reasonable restorations. In short, the Byzantine



SS. Giovanni e Paolo, Ravenna, Italy.

venerable antiquity. It is very simple, this bell of the Museo Falconi, as it has no artistic pretence whatever unless in the general mass, which has a certain elegance of line and the peculiarity that there is a triangular hole and an engraved design which De Rossi, prince of Christian archaeologists, believes to be the roof of a three-apsed basilica. Add a cross to the curved extremities characteristic of the seventh and eighth centuries, and you will have an image of the general appearance of the Falconi bell as it was exhibited for the last time at the feast of the Eucharist, at Orvieto, in 1896.

Well, though I ought only to speak here of bell-towers, allow me to say that De Rossi compares the Falconi bell to a certain representation in the codex at the Library of Bologna, whose assignment to the ninth century has not yet been seriously disputed.

Now let us come to the monuments.

In Italy there are very few churches with bell-towers on the flanks of the façade or rising near the apses. In Sicily there are the cathedrals at Cefalu and at Monreale. In Apulia—a monumental corner of the Peninsula very little known—are the cathedrals at Altamura, Molfetta and Bari; in Æmilia, the cathedral at Borgo S. Donino; in Lombardy, the churches of S. Ambrogio and S. Sepolcro at Milan, as well as S. Abbondio at Como; in Piedmont there is S. Andrea at Vercelli; in Liguria, the Cathedral of Genoa, one of whose towers is still unfinished. In other countries, on the contrary, limiting myself

towers of Ravenna by reason of their form or by their construction are remarkable specimens of the most ancient bell-towers in Italy. This emphasizes the fact that with us the most ancient bell-towers were often round. A tower of this same form that is very little known, even to Italians, is to be found at Caorle, in Venetia, and it is to be regretted that I could not obtain for you any photograph of it. But I can give a reproduction of the bell-tower of S. Satiro at Milan, justly considered the oldest of the square bell-towers, the square form having remained characteristic of almost all of the Italian bell-towers. This is a structure of the ninth century, of serious character and simple motive, one of those monuments which are always preserved with the greatest care. Milan and Lombardy possess several of the finest Italian bell-towers, among others the tower called "dei Monaci" of the basilica of S. Ambrogio, which, from the historical point-of-view, has many rights to be mentioned here. But for artistic towers we must leave the centuries earlier than the year 1000, and turn to the eleventh, twelfth and thirteenth centuries. It must be remarked, however, that some amongst these towers which date back beyond the year 1000 one would like to call older yet. This, also, might be said of several of the mediæval churches in Italy. For example, I will mention S. Maria in Cosmedin at Rome. This tower, of a perfect elegance and exquisite air, is indeed attributed to the eighth century, but, for me, it belongs to the twelfth. By the side of this

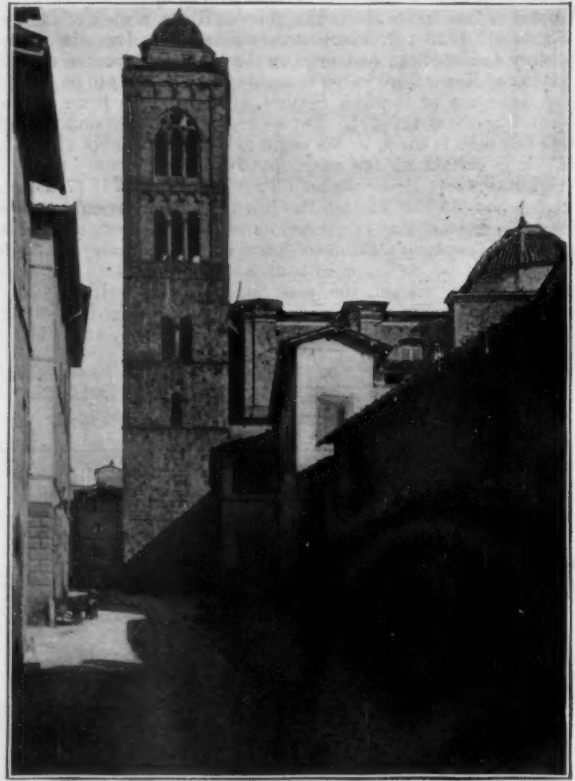
celebrated tower we will find in Rome that of S. Maria in Trastevere, which dates from the time of Innocent II (1130-43), and also that of S. Maria Maggiore, the origin of which does not go back farther than the twelfth century. It is evident that this tower has been restored, and history tells us that these restorations took place in the times of Gregory XI (1370-78) and Paul V (1605-21). Bell-towers are typical of the Eternal City, and one must bear this in mind. Rome possesses other remarkable towers—those of SS. Giovanni e Paolo, a work of the twelfth century, and S. Croce in Gerusalemme, built at the end of the same century, a century which inspired the architect of the tower of S. Spirito in Sassia who, like the modern eclectic architect, introduced forms belonging to the full Renaissance. This brings it about that this architect dressed up a mediæval organism in details belonging to the fifteenth century.

The centuries following the year 1000 have brought us to the more celebrated towers of Lombardy, Emilia and Tuscany. Here we are before the "Torrazzo" at Cremona, admirable in its elegance and in its fineness of ornament, a *chef d'œuvre* of great renown, which surpasses, and by much, that of the city in which the tower rears itself, where it is esteemed like a jewel in its casket. This is entirely a brick structure, a material greatly used in Lombardy and Emilia. The history which relates to the Torrazzo most often is based on ancient traditions which have nothing of serious value belonging to them. The real truth is this: the tower of Cremona cannot date back to the eighth century, and the old writers deceived themselves, since historic reasons, as well as those of art and construction, demonstrate that the Torrazzo was begun in the twelfth or thirteenth century and was finished about the end of the same period, as it appears, since we know that in 1267 the square part was finished. Unfortunately, we do not know the author, or the authors, of this Torrazzo, considered the marvel of Cremona, as are the leaning tower of Pisa and "La Ghirlandina" of Modena, of which I will speak after having criticized the graceful tower of the cathedral at Crema which resembles, in its crowning stories, the Torrazzo at Cremona and the tower of S. Gottardo at Milan, one of those jewels which the Middle Ages left as a heritage and which we preserve with pride.

The tower of S. Gottardo is composed of several stories, crowned by a conical roof carried on a circular colonnade, and the brick and the discreet polychromy give it a decorative aspect which is very striking. Its author was a Cremonese, "*Magister Franciscus de Pecoraris de Cremona fecit hoc opus*," and its date the first half of the fourteenth century, which speaks to us of an age extremely happy for Italian fabrication.

In accordance with Italian Chauvinism "La Ghirlandina," that is to say, the tower of the Cathedral of Modena, is the peer of the Torrazzo, but the tower at Modena is very far from possessing the

monuments are used as symbols of the city. The lower or square portion of the Ghirlandina was built, it appears, at the same time with the cathedral, and finished in 1159. Above this portion of the structure rise the octagonal and pyramidal portions which were built



Campanile of the Cathedral, Pescia.

between 1261 and 1319, according to the plans of Arrigo da Campione. Lately, the restorations carried out on the tower at Modena have cost the city a large sum.

Near Modena, at Bologna, in Emilia, the towers "degli Asinelli" and the "Garisendi" enjoy the highest reputation. The first belongs to 1109, the second to 1110. These are two leaning towers, but civil and not ecclesiastic, as are the others which are the subjects of this article. They can, nevertheless, be brought to mind here, before speaking of the celebrated leaning tower of Pisa, the tower of the most famous and superb cathedral in the Romanesque style in all Tuscany.

Everybody knows the "Campanile of Pisa," better known for its inclination, perhaps, than because of its open loggia treatment, too much repeated. It was finished in 1174 by the architect Bonanno, and, most often, like the towers of Bologna, it is admitted that its inclination is accidental. Upon this subject we can remark that when the inclination was discovered in the lower vaults the architect endeavored to apply a remedy, and history tells us that during a certain length of time the work was stopped and it was then that the architect was changed. Bonanno was replaced by Guglielmo of Innsbrück, who did not, however, continue the work to the end, as the tower was finished by Tommaso da Pisa, to whom reverts the honor of having placed upon the summit of the tower a bell-chamber.

Its departure from the vertical is very noticeable, being 2.40 metres, and the question whether the inclination was accidental or intentional has been frequently discussed. The last author who has resolutely willed to hold himself apart from the generally accepted opinion is your Professor Goodyear, who, in his remarkable studies on the refinements of Italian architecture of the Middle Ages—studies only just current in Italy—has not hesitated to profess his belief that the displacement of the tower of Pisa is one of those effects of art, one of those *bizarreries* in which the architecture of the Middle Ages abounds. Professor Goodyear points out that even on the façade of the Cathedral of Pisa there exists a certain displacement from the vertical and then a return to the vertical, and this North American writer, who has a love for such subtleties, as Pennethorne and Penrose had for those of Greek architecture, brings together such a quantity of facts drawn from our architecture of the Middle Ages that one must listen to him with the most respectful deference; this I shall do here, and I shall do so elsewhere, in the fourth edition of my "*Manuale d'Architettura Italiana*," which I hope will be brought out in the first months of the coming year.

Quite near Pisa are Lucca, Pescià and Pistoja, whose respective cathedrals have important towers. The tower at Pescià, unfinished and dating from the middle of the fourteenth century, is very little known. Its robust and simple construction, which does not deprive



The Campanile, Pisa.

beauty of the Torrazzo. The Modenese, however, do not esteem their tower any less than the Cremonese esteem the tower of their cathedral, for in certain Italian towns there exists a true communal pride in their own monuments, and very often the most remarkable

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A CONTINUOUS ELECTRIC BLUE-PRINTING APPARATUS.

THE application of the electric-light to blue-printing, says *Engineering News*, has well-nigh worked a revolution in the blue-print department of many draughting-rooms, especially those located in districts where cloudy weather is prevalent, or in cities where smoke obscures the sun much of the time.

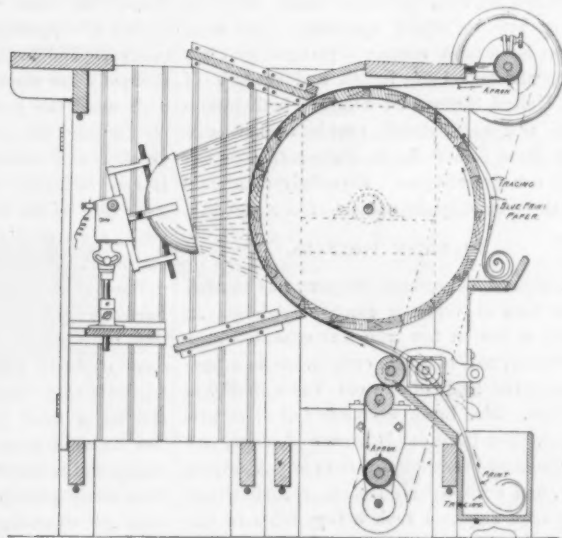
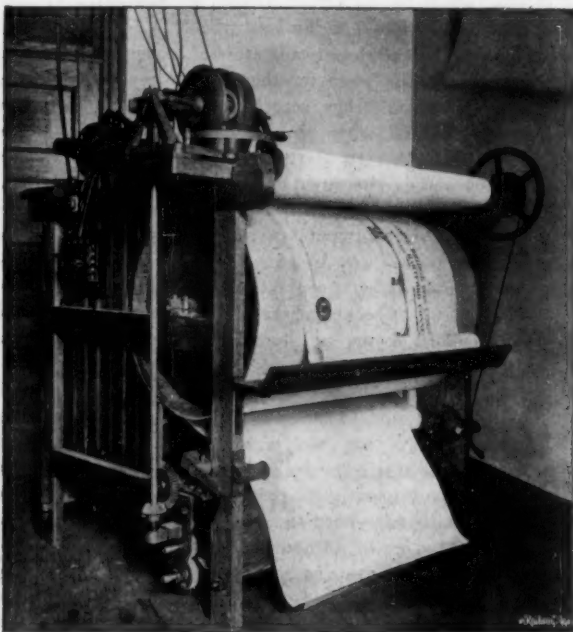
We illustrate herewith an apparatus which appears to us to mark a further large advance in the economical production of blue-prints, and which involves a radical departure from both the flat frame and the glass cylinder type of blue-printing apparatus. This machine dispenses entirely with the use of glass (a

which supports the drum or cylinder. The drum is made to revolve at any desired speed by simple mechanism. The time of exposure, which may be from 20 seconds upward, is adjusted by moving a lever on the speed-regulator. Mounted on top and in front of the machine is a roll carrying the transparent travelling-apron, which keeps the tracing in tight contact with the sensitive printing-paper and is then automatically wound on a roll at the bottom of the machine. After exposure, the tracing and sensitive paper drop out at the bottom. The light chamber at the rear is so arranged as to throw the light upon about one-third of the drum surface.

Any first-class photo-engraver's lamp can be

floor-space of 4' x 4' 2", and stands 4 feet 8 inches high.

This machine was originally developed to meet a demand for continuous prints from very long tracings. The limit of practicable size is reached with glass-printing frames at 10 or 12 feet. The manufacturers of the machine, the Spaulding Print Paper Co., of 44 Federal Street, Boston, state that demands have been made upon them for prints 40 feet to 60 feet long. With the old 6-foot printing-frames these 40-foot tracings would require seven distinct exposures, with all the necessary preparation and manipulation, and the product would come out in separate sections. With the new machine the resulting print is



Electric Blue-printing Apparatus.

point which appeals to those who have had to pay bills for broken plate-glass), and also with all clamping devices for holding the work in position. Instead, the blue-print paper and the tracing are firmly held against the convex surface of a revolving drum by a travelling transparent apron, which moves at the same rate of speed as the drum. This rate of speed is so slow that the printing takes place while the print is passing under the rays of an electric-light, arranged to concentrate its illumination on the rear face of the drum.

The operation of the machine will be readily understood from the perspective and sectional views herewith presented. As there seen, the machine has a hardwood frame,

used, and the makers recommend three lamps in a machine 42 inches wide. With narrow tracings, one or even two of the lamps may be shut off, or all three may be concentrated on the narrow path and the speed of the machine increased. With lamps of 25 to 30 amperes several yards of prints can be turned out per minute. The driving mechanism can be operated from existing power by means of a belt, or a small electric-motor can be installed on top of the machine, as shown in the cut. Two sizes of the machine are now built, 30 inches and 42 inches wide on the drum; but the larger drum is recommended, as it costs little more than the 30-inch, and the additional width is often convenient in handling large tracings. The 42-inch machine takes up a

continuous, and it can be made in one-sixth of the time.

While the machine has an evident advantage in handling very long prints, and, in fact all large prints which require printing-frames of unusual size, it is also found to be advantageous for the ordinary run of blue-printing work. With the ordinary blue-print frames the work of taking in the frame, reversing, unclamping, removing print and tracing, putting in new ones, clamping up again, reversing and running out for exposure takes as long or longer than the printing process itself, so that the printing-frames are idle half the time, no matter how the work may be rushing. With this machine the printing goes on continuously; the operator simply feeds in the

tracings and blue-print paper. Where a large number of very small prints are to be made, the tracings can be fed in on top of a continuous roll of blue-print paper. The Company which has developed the machine has been engaged in the production of blue-prints in a commercial way for many years, and the machine was devised as a result of their experience. They have had it in use for several months with most satisfactory results.

While the machine is shown equipped for electric-light printing, it can also be arranged to use sunlight, or can be mounted on a truck to be run outdoors in fine weather and run in to use electric-light when the sun is obscured. The fact will also be appreciated that it takes up less room in proportion to its capacity than any blue-print apparatus on the market.

AMERICAN HORTICULTURAL ARCHITECTURE.

THE art of horticulture is at least as old as the Garden of Eden. The modern greenhouse has arrived within the last half-century. Built on scientific principles, ribbed with iron and equipped with hot-water or steam, it has been brought to its present perfection in America largely through the work of one amateur, who drifted into his life-work forty-nine years ago. Royal nurseries and hot-houses have been attached to castles and palaces for many years, but the diffusion of American wealth, our love of flowers, our universal American habit of endowing the family life with every possible luxury, has supplied the impetus for which the hereditary fortunes of Europe did not suffice. Every year the great foreign nurseries send their salesmen to this country—these establishments are so highly specialized that each grows but a single species of plant—but their men, who travel the length and breadth of the United States, and who are both intelligent and experienced, openly acknowledge that there is nothing in Europe to compare with our greenhouses. Especially admirable are those built by the subject of this sketch.

AMERICAN PIONEERS.

The Lord & Burnham Company was founded by a man of versatile genius, Frederick A. Lord, a Boston boy who was educated as a mechanic, and who rose early in life to a position at the head of the old Eaton Mills, in Buffalo. Mr. Lord, who was full of artistic tastes, then lived in Delaware Avenue, one of the most beautiful streets in any American city, and occupied his leisure in horticulture, and soon acquired such a reputation in this avocation that he became a consulting authority for the entire region. He coveted and finally built ainery for his own establishment, and as a result found himself engaged in building greenhouses, at first as an amateur, but as early as 1856 as a business. Working alone for sixteen years, Mr. Lord erected greenhouses all about the country, recognized everywhere as an artist in the truest sense; but he had not been at work a year before he began to recreate his product. He was not satisfied to build glass houses which, when sheltered and warmed, would grow plants. He had a practical genius for invention, which transformed everything it touched. He furnished the Chickering with the first scroll music-holder for the piano. He got up the first machine for "rope moulding." Always thinking out towards the beauty that arises from supreme fitness, he soon evolved a

series of architectural improvements in greenhouse-building which are largely in use to-day. The elliptical roof was invented by Mr. Lord early in his career, but it still furnishes the principle upon which the best modern greenhouses are built.

The business of greenhouse construction, however, cannot be said to have reached its present development under Mr. Lord. It waited the advent of Mr. W. Addison Burnham, who, having married the daughter of Mr. Lord, entered the concern in 1872. To the administration of the building department Mr. Burnham brought a business-man's trained grasp of detail, and as an outcome, Lord & Burnham began to manufacture the constituent parts of their greenhouses in quantity. These being always in stock, it remained for the architectural department to design and plan with the detail of the stock in mind. This resulted in a great saving of time and expense to the purchaser, and a very great economy of labor to the builders. Customers who had heretofore been obliged to wait months for the manufacture of each component of their houses, could, under this system, be supplied expeditiously and with a much more perfect building. With the manufactory began a steady perfecting of the details of greenhouse work. The introduction of the iron frame by the Lord & Burnham Company followed in 1881. This announces the modern American greenhouse, and its appearance gave a tremendous impetus to the business. It was quickly adopted by other builders, but the latter made a mistake carefully avoided by the more experienced inventors. Discarding the use of wood altogether, the imitators undertook to build solely of iron, which resulted in a condition impossible to plant-life. Either the house was cold or, if heated, required a temperature uncontrollable and excessive. The method of the Lord & Burnham Company has always been to cover the iron with wood, the non-conductor, which, by protecting the iron, prevents contraction and expansion, and consequent breakage of glass. It may be added that cypress is the wood most used by the Company in its greenhouse-work, a material almost as indestructible as iron itself.

The secret of the success of the Lord & Burnham greenhouses lies in the practical taste for horticulture of their builders and the close study of plant-life which led them to originate their improvements. The secret of building a good greenhouse lies in knowing how to make plants comfortable. A barren vinery and a flowerless rose-house are failures from every consideration, no matter how ornate the structure. To conserve every ray of winter sunlight, to locate the winter garden where, sheltered from wind and warmed by hoarded light, each plant shall thrive, to discriminate between the varying requirements of tropical palmhouses and general-purpose conservatories, is the foundation of the entire art of greenhouse architecture. Light supplies plant-life; heat, plant-growth. In their scientific study of every horticultural problem from that of judicious location to the final completion of the plant-home in every detail, the Lord & Burnham Company are still the pioneers of their craft. They were the first to introduce long lines of ventilators, thus to a great extent doing away with the draughts so injurious to plants: the first to increase the light by using small sash-bars, with supporting frames; the first to use elliptical, or Gothic curves instead of circular in roof-construction. The arm, rod and worm-gear ven-

tilating-machinery now in universal use was invented by Mr. Lord in 1856. Lord & Burnham were the first to use ground-glass in conservatories, and the first to substitute cast-iron gutters and sills for wood in wooden-frame greenhouses, and they introduced iron-frame supports for beds and tables even before they originated the present method of iron framing.

The first iron-frame superstructure was, however, erected for the late Jay Gould, in 1881, at Irvington.

The Lord & Burnham Company received the award for heating-apparatus at the Columbus Exposition, and five other highest awards for conservatories, rose-houses, greenhouses, iron-framed plant tables and beds, and ventilating-machinery. The success of the florist-gardener or amateur depends largely upon the satisfactory working of the heating-apparatus, for without proper conditions of temperature, however skilful the plantsman may be, failure is certain. Moreover, human nature is fallible, and diurnal contests with the furnace-shaker never yet provoked man to love and good works.

To reduce greenhouse heatings to automatic perfection, to minimize all mechanical labor and to provide for all emergencies, requirements and environments, has been the constant study of the Lord & Burnham Company since its origin. The files of its correspondence are delightful reading to the lover of gardening. "It is a comfort to know that when the thermometer is below zero and a high wind blowing, you can stoke up at 9.00 P. M., go home and find everything O. K. at 7.00 A. M.," writes Mr. John P. Johnson, gardener to Ogden Goelet, at Newport. "I did not have the least trouble in keeping up the desired temperature of 55 degrees during nights when the thermometer registered 15 degrees below zero," writes Mr. M. W. Ekstram, from Mr. Joseph Pulitzer's greenhouses at Bar Harbor. A note from Peter Henderson declares: "After three years' trial I am entirely satisfied with the steam-heating apparatus put by you in my greenhouse in Jersey City Heights. On a large scale such as ours it is a great saving in fuel, probably 20 per cent, and the admirable arrangement for shaking and dumping the grates not only makes the labor of 'stoking' such as anybody can do, but also by the saving of time materially lessens the labor." Homely details, but pregnant with meaning!

Horticulture is not only one of the strongest artistic passions, but is also one of the most refined and elegant of pleasures. As visions of carnations and primroses, cinerarias and verbenas, geraniums and lilies, all budding unblighted in orderly rows, defended by the well-ordered glass houses of the Lord & Burnham Company, warmed, ventilated with automatic precision, rise before the fascinated vision, one realizes how the present immense development of the trade in winter flowers and fruits has been indebted to the taste and ability of two gentlemen whose sole apprenticeship to their calling was the love of gardening, and who, for that very reason, have not only found means to make their glass houses beautiful and graceful, but to add grace to their favorite pursuit by relieving it of both drudgery and disappointment. The dual nature of the Lord & Burnham Company, architects and manufacturers, has resulted in a highly specialized business organization. Mr. W. Addison Burnham is the President of the Company; Mr. Warren B. Craw, the treasurer; Mr. Henry F. Lord has charge

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of the manufacturing department, and Mr. Andrew Elder is the superintendent of erection.

Mr. Burnham is an acknowledged authority and writer of merit in his line, and his work in the "Cyclopedia of American Horticulture," which is modestly accredited to the Lord & Burnham Company, discusses, at greater length than space permits here, the progress made in greenhouse architecture, and sets forth lucidly and forcefully the improvements evolved by the science of to-day.

The long roll of the patrons of the house is remarkable for its list of scientific plant-growers on one side, and of patronage, where money counts for nothing in the pursuit of amateur horticulture, on the other. The University of California, the Executive Mansion, the United States Botanic Garden and the United States Department of Agriculture, the Iowa State Agricultural College, the home of J. Pultizer at Bar Harbor, the homes of Senator C. F. Sprague and Mr. James E. Rothwell at Brookline, and Harvard University, Cambridge, Bussey Institute of Harvard University, Smith College, the homes of Eldridge T. Gerry, H. H. Cook, J. M. Fiske, Cornelius Vanderbilt, John Jacob Astor, Perry Belmont, Robert Goelet, Ogden Goelet and Mrs. William Astor in Newport, the model greenhouses at Briarcliff Farms and greenhouse of the New York Botanic Gardens at Bronx Park, note but a few of the successful horticulturists who work with the houses of the Lord & Burnham Company, Horticultural Architects and Builders, Steam and Hot-water Heating Engineers, General Office and Works, Irvington, on the Hudson; New York Office, St. James Building, Broadway and Twenty-sixth Street.

The Company designs, manufactures and builds complete greenhouse structures of every description, and also furnishes materials and plans which may be utilized by local builders. When a finished structure is ordered the workmen leave the house ready for planting.—*N. Y. Tribune.*

THE fact that Mr. Chandler was formerly connected with the Tiffany Glass Co., of New York, at once explains why there are so many points in common between the output of the Chandler Specialty Mfg. Co., of Boston, and of the older New York establishment.

At present the Chandler Specialty Mfg. Co. is devoting itself mainly to the application of colored glass to decorative purposes when the action of natural or artificial light has an important part to play in the general color-scheme; and though they carry a large line of single shades for lamp or electrolier they show other interesting work in the way of

screen-fillings of various kinds and are anxious to exercise their ingenuity in carrying out special designs sent them for execution by architects and their clients.

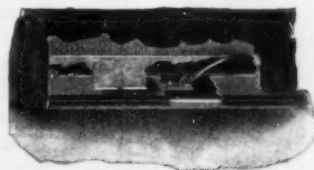
A PATENTED INVENTION.

THE Introstile is a patented invention manufactured by the Introstile & Novelty Co., of Marietta, Ohio, which takes the place of the threshold in buildings and at the same time leaves a smooth passage-way between the rooms.

It is placed in the bottom of the door and comprises a rigid galvanized-iron hood, a zinc or brass strip which fits comfortably into the hood and which is automatically raised or lowered as the door is closed or opened.

The strip has a felt buffer at the bottom which fits the floor so perfectly as to prevent any draughts, dust or odors from entering the room under the door. It has a neat metal face-plate which covers the groove at the front edge of the door, presenting a handsome appearance.

Doors frequently become misshapen from warping, also bind at the bottom. The Introstile does away with both of these difficulties. It has two means of adjustment, roller-



The Introstile.

bearings and spring-bearings, and can be adjusted to a tight fit on floors beneath old doors that have sagged or warped as readily as beneath new.

It serves the purposes of a weather-strip on outside doors and will withstand the ravages of the elements without injury. Being made in three sections, any part can be readily duplicated, as all parts are interchangeable.

Architects and contractors who have seen the Introstile have manifested a great interest in it and are specifying it in buildings, as it does away with the necessity of thresholds and can be used at only a slight additional expense. It is adapted to any kind of hinged-doors or hinged-windows in all buildings, public or private, and also for railroad car doors. There is absolutely nothing that can get out of order about the Introstile, and the manufacturers guarantee satisfaction in wearing qualities. They will be pleased to send illustrated booklet fully explaining the working of the device upon application.

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IN the rebuilding of the Royal Warehouses in Antwerp, Belgium, the Belgian Government has awarded to the Kinnear Mfg. Company, Columbus, O., the contract for 422 "Kinnear" Steel Rolling Doors. As this group of warehouses is considered one of the finest in Europe, the award to an American firm may be considered another instance of the progress of American standards.

The contract for the furnishing and installation of 179 steel rolling shutters on the Washington Arcade Building, Detroit, has also recently been awarded to the Kinnear Mfg. Company, Columbus, O. This Company has also just completed the installation of 730 steel rolling shutters on the building of the Connecticut Mutual Life Insurance Company at Hartford, Conn. These latter shutters with their copper hoods are said to make a most excellent appearance. The compact construction, durability, fireproof qualities, with ease and speed of operation, of the "Kinnear" constructions seem to make them especially desirable for such purposes.

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

A GREAT CATALOGUE.

SARGENT & Co., New Haven, Conn., New York, Philadelphia and Boston, are sending out their new catalogue, which is certainly one of the best and most complete ever issued, and shows much skill in its compilation and a thorough knowledge of the requirements of architects. It contains in compact form an immense line of goods, arranged for ready reference, and in such form that it is easy to get at any information desired. An examination of this catalogue, a copy of which we have received, shows that great care has been taken in its compilation, with results that will be appreciated by architects. Facing the title-page is a view of the many buildings comprising the extensive works of the Company at New Haven, Conn. Following is the alphabetical index, in which any item desired may be quickly found, so complete is the indexing and cross indexing. Then come pages with descriptions of finishes, information regarding special work and a condensed list of Master Keyed Locks. The "hand" of Locks is pictured in a novel manner; four Locks are illustrated—Right Hand, Right Hand Reverse Bevel, Left Hand, Left Hand Reverse Bevel. On each Lock appears in miniature the door for which that Lock is suitable, so that by reference to this page it is easy to decide the vexed question as to when it is necessary to use a regular or a Reverse Bevel Lock.

Page 1 of the catalogue is devoted to illustrations showing the application and advantages of Sargent's Easy Spring. On the following pages may be found the full line of Artistic Hardware made by the Company—Greeks, Colonials, Gothics and other schools in great variety. Half-tones in reduced size are used to illustrate the different articles; the type-matter is well arranged, and much information is given in small space. In these designs the prices for the Knobs, Escutcheons and other trimmings appear on one page, while on the facing page are the prices for Lock Sets for inside doors, front doors, sliding doors and communicating doors, also sets for Three-bolt Inside Door-locks. Next in order, and occupying the pages from 106 to 146, is the line of Lock Sets made up with plain bronze-metal trimmings; also the cheaper Sets made of iron and steel. These pages, which contain the Lock Sets that are likely to be carried in stock by dealers, will doubtless be frequently referred to.

Beginning with page 147, considerable space is given to Locks, Knobs, Escutcheons and other trimmings. The matter on these pages

A LITTLE GOOD KAURI GUM

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is essential for durable paint in white or tints, and a small percentage of good gum in the oil adds to its working qualities and enhances its beauty.

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is tabulated in compact form, and gives in detail full information regarding each item.

A uniform arrangement is followed which makes reference to any particular point an easy matter. Reduced-size cuts are used for the Locks and trimmings, as well as for much of the Builders' Hardware, which immediately follows. Here, as in all places where small cuts are used, full measurements are given for each article. It is also noticed that throughout the book prices are given for the various finishes in which the goods are made. A glance through the Builders' Hardware section of the catalogue shows many well-arranged and attractive pages. Particular attention is called to the Store Door Handles shown on pages 647 to 672. Here, as on the pages of design goods, excellent half-tone illustrations are used which show to good advantage the different patterns of Handles. Many other pages are worthy of commendation.

Typographically the book is noteworthy. The type has been carefully selected and used to the best advantage. The paper combines with a good printing surface the strength that is needed in a trade reference-book of this kind. The binding is attractive, the cover being of cloth stamped with an artistic design in gold. It is the desire of Sargent & Co. that this catalogue shall be in the hands of architects at an early date.

NOTE.

THAT the building-public are at last awakened to the necessity of securing their property against loss by fire is evidenced by the number of inquiries received from all parts of the country by the Yantacaw Manufacturing Co., manufacturers of the Yantacaw Chemical Fire Extinguisher. To facilitate the handling of their machines in different parts of the country they are willing to make arrangements with architects and builders, or those in the

building-trade who pride themselves upon installing the most effective fire-fighting apparatus in buildings under their charge. One quart of chemicalized water from this apparatus will extinguish 200 square feet of flame in one second. For further information address the Philadelphia Office, 800 Land Title Building.

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

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

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Masonry in Modern Work

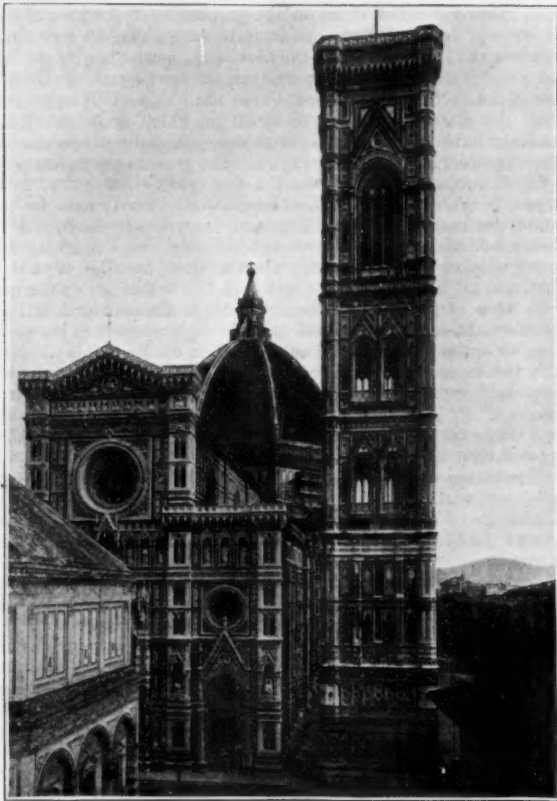
A "Prolegomenos" on the Function of Masonry in Modern Architectural Structures.

By R. GUASTAVINO, ARCHITECT.

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it of grace, urges me to exhibit it here, but I am far from according it the importance which the pretty tower at Pistoja deserves. This tower, which rises square in plan to the very top, recalls the open loggia treatment of the campanile at Pisa, although at Pistoja the use of these loggias, common to the Romanesque architecture of



The Campanile, Florence.

Tuscany, is more modest. The decoration of the tower, in white and dark-green marble, gives it an air of lightness while preserving to it its imprint of majesty. The author of the tower of Pistoja is not known as are the authors of the campanile at Pisa, but his style indicates the epoch, the end of the thirteenth century or the beginning of the one following.

The railroad leads from Pistoja to Florence in forty minutes. Florence possesses the most celebrated tower in all Italy, a glorious monument which at once calls up Giotto's name. But is this evocation a legitimate one? This is what we are going to find out after having noted at Florence the tower of S. Maria Novella and that of the Badia (1330), two towers which, while very models, are far from having the beauty and the richness of Giotto's tower.

The tradition of ages gives to Giotto the honor of being the architect of the campanile which rises at the side of the Cathedral of Florence and, although this tradition may be devoid of all authenticity, in Italy, at least, one cannot separate the campanile at Florence from the name of the reviver of Italian painting.

It is very sure that Giotto laid the foundations of the tower in 1334, but, dying in 1336, he was replaced by Andrea da Pisa, who ought to be called Da Pontedera; but this master, whose place in the history of art is that of a sculptor and in no way that of an architect, was dismissed, because he desired to introduce certain changes in the tower. It was then that the Florentines entrusted the direction of the work to Francesco Talenti, the real architect of the campanile of Florence; that is to say, the architect of the upper stories, the most beautiful and glorious portions of the construction.

Amongst the Italian artists of the Middle Ages in the architectural field, Talenti was in very truth one of the most distinguished and the most forgotten, and that one of the writers upon art who shall produce a study of this Florentine artist will exhibit to the public and students of art a new architect of real genius where there was believed to be one merely of the second rank. Talenti accepted the direction of the work on the Florentine tower at the time when that work was hardly begun, and having finished it his name should take the place of that occupied by Giotto. It is not probable that Talenti followed the drawing of the immortal painter, which might be identified with that which is found on a parchment in the Cathedral of Siena, a design which is strikingly grotesque in taste.

I regret that a general study such as this does not allow me to stop longer on these particular matters. I beg the reader, therefore, to believe that my affirmation is supported by facts.

I turn now to Southern Italy, and in Apulia we find the tower of Trani, a monument of particular importance because it is signed by an artist who has some points of resemblance with Talenti, as

being long forgotten. This is "*Nicolaus sacerdos et protomagister*," who built a great portion of the tower, finished in the second half of the fourteenth century. In Apulia, also, admirers of towers will find at Bitonto the campanile of S. Leo, a work of the thirteenth century, simple, logical, robust and elegant. I do not refer to the towers of the Cathedral at Bitonto, renewed in the fifteenth century, the origin of which dates back to the first quarter of the thirteenth century.

I turn now to Sicily, whose mediæval architecture has a peculiarly Arabo-Byzantine-Norman-Sicilian, eclectic air; in a word, pervaded by an eclecticism which passes all prevision, and produces in the history of architecture a page full of attractiveness and charm. Of this you will gain an idea from the illustration of the towers of Monte S. Giuliano and of Girgenti in the first place.

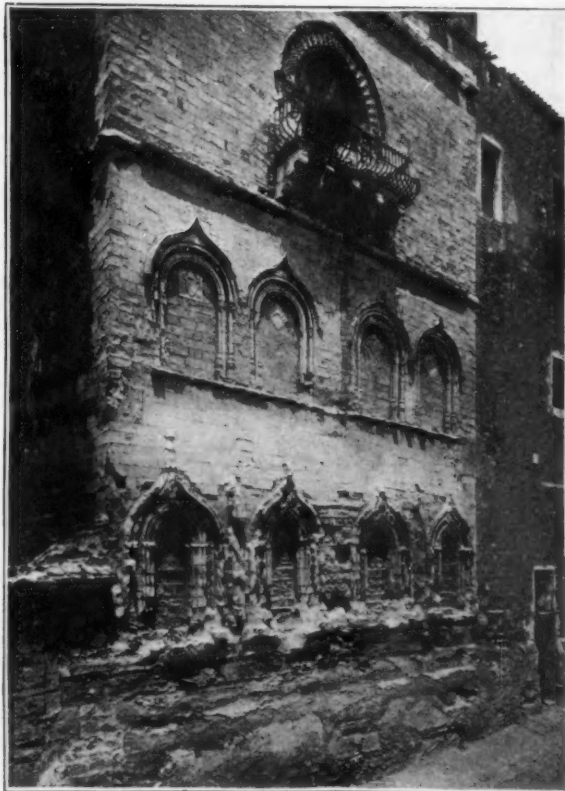
Everywhere here the pointed arch appears in full twelfth-century work, and we see in this pretty fragment of the tower of the Cathedral of Girgenti ogee arches, arches, that is, formed by two curves having different directions, and we can remark in this same fragment the zigzag decoration in the archivolt of the topmost window. Here it is necessary to remark that it is not a matter of an isolated motive, but of a motive which is very widely scattered in Sicilian architecture, the Norman origin of which cannot be put too much in evidence. This kind of ornament was preserved in Sicily up to the end of the fourteenth century, and I believe that the fragment we have before us belongs precisely to that epoch.

The most important Sicilian bell-tower, however, is that of the church called the Martorana, at Palermo. The construction of the tower is intimately connected with that of the church, and the church, which, as well as the Palermitan bridge over the Oreto, was built in 1143 by Giorgio d'Antiochia, a celebrated dignitary of the Norman court, was richly endowed in 1146, and before taking on the name of Martorana was called S. Maria dell' Ammiraglio, a name which has been preserved to this day. In time, to the old church was annexed a monastery, founded by Aloise Martorana, which brought about the change of name, and in the sixteenth and seventeenth centuries changed greatly its physiognomy.

Amongst the portions preserved is the tower, which presents a picturesque ensemble of a kind quite new for the Italians of the Continent. It is the upper stories which most generally are appreciated, and travellers ought to examine the details and, above all, the pretty capitals.

At Palermo, when visiting the Cathedral, one is impressed by the towers which surround it;—at the beginning of this paper, I pointed out that the Cathedral of Palermo was one of those rare Italian monuments decorated with several towers.

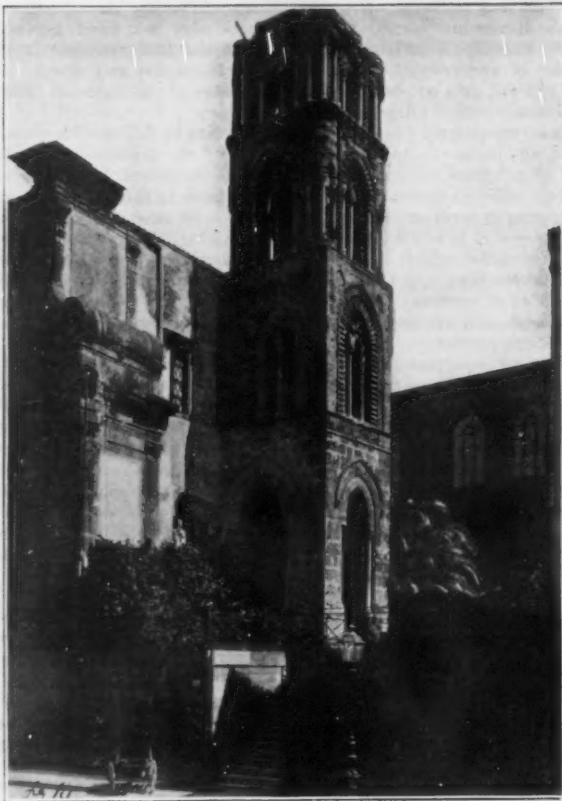
At length, taking our way northward, after the Gothic tower of



Lower Part of Tower of the Cathedral, Girgenti.

the Cathedral of Albenga, near Genoa, one of the most beautiful in Liguria, after the tower of S. Agnese in Genoa, dating from 1260, and, on the north side of the Peninsula, after the tower of the Abbey of Pomposa, a monument which even in Italy has remained too much unknown, I take my leave of the subject by drawing attention to the

Tower of S. Mark at Venice. A leaning tower, this one, too, but not sensibly, as in the case of the towers of Bologna and Pisa, but which possesses the strange peculiarity of having no stairs. Instead of staircases, there are inclined planes, on which you can ascend to the top of the Venetian tower afoot, on horseback or on bicycle, if you will. It is enough to cast one's eyes over the monument to perceive that it belongs to two epochs profoundly different, and that the

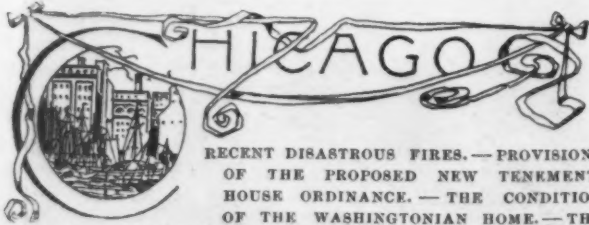


The Campanile: Church of the Martorana, Palermo.

tower of S. Mark's, begun before 948, was begun anew in that year, according to some, or in 1068, according to others, or in 1147, according to still others, and in the course of the centuries underwent several periods of construction before its completion. The records speak of works dating back to 1310, to 1489, to 1511; in fact, in 1489, a thunderbolt struck the tower, and Giorgio Spavento designed the restorations, and in 1511 a thunderstorm again damaged the structure. It was then that the Tower of S. Mark received the upper stories, according to the plans of Bartolomeo Bon. of Bergamo.

To point out one more interesting detail: it was pretended that the foundations of the tower were as deep as the tower is high, and likewise that these foundations were star-shaped in plan. Although these assertions are found in books and are widely disseminated, I draw attention to the fact that during the excavations carried on in 1865 it was learned that the foundations of the Tower of S. Mark are not over 5 metres deep, and there is nothing remarkable in such a depth as this.

ALFREDO MELANI.



RECENT DISASTROUS FIRES.—PROVISIONS OF THE PROPOSED NEW TENEMENT-HOUSE ORDINANCE.—THE CONDITION OF THE WASHINGTONIAN HOME.—THE INCREASED COST OF BUILDING.—THE MARSHALL FIELD AND THE "TRIBUNE" BUILDINGS.

WITHIN the last six months, the number of disastrous fires in Chicago, with attendant loss of life, has been most appalling. Tenement and flat buildings have gone down like houses of card, giving their occupants scanty chance of escape; many of them, with their would-be rescuers the firemen, have been either injured or killed. It grew to seem the usual, rather than the unexpected, to be greeted with such horrors when the morning paper made its appearance.

About a week ago a very disastrous fire occurred on the South Side, in what had been once an old hotel, but which was known as St. Luke's Sanatorium, a resort for those addicted to the excessive use of drugs and liquors. Here the violent patients, who were locked

in their rooms, were simply roasted alive, the building going so quickly that no help could be given the poor unfortunates. All these serious accidents have led, first, to the reconsideration of the building-ordinance, and, secondly, to an investigation of existing hospitals and similar institutions, with a view to formulating building-laws for the better protection of their inmates.

The new tenement-building ordinance, which is now being considered, takes a decided stand on the proportion of the area of a lot to be covered by a building. In it, it is stated that no new apartment-house shall occupy, above the first story, more than 80 per cent of the area of a corner lot or more than 65 per cent of the area of an inside lot. No new tenement-house shall exceed by more than one-half the platted width of the street on which it abuts. Every house must have at least one flight of stairs extending from the roof to the entrance-floor. All stairways must be provided with banisters, and the hallways must be at least 3 feet wide. Naturally, ample provision is made in the bill for fire-escapes. Yards must be provided in the rear of each building, and every inside court must be unobstructed, save by the fire-escape. Every room must have at least one window opening directly upon a street, an alley, a yard, or a court, and no room shall offer less than 400 feet of air to the individual. One curious item in the ordinance is the standard of light which is established. Every hall must be light enough to permit of reading an ordinary newspaper at noon on an unclouded day.

"All inside courts must have 10 feet of space between windows and opposite walls, while all outside courts must have 5 feet of space.

"All stairways must be enclosed within brick walls for the sake of fire-protection.

"All partition-walls between apartments must be of brick or some fireproof material.

"Buildings of four or five stories must be of slow-burning construction; buildings more than five stories must be of fireproof construction.

"A notice must be posted in the public hall of each apartment-building by the Building Department, stating that the building has been constructed in accordance with the laws of the city."

These are some of the chief points in the ordinance known as the Mavor Ordinance, from the name of Alderman Mavor, who has fathered it, and, in consultation with Fire-Chief Musham, has worked it into shape. Such philanthropists and sociologists as Jane Addams and Prof. Graham Taylor are deeply interested in the matter, and are anxious to see the ordinance passed by the Council. They feel that the area limitation is one of the most important features. The opposition to this comes from the speculative builder, who builds neither for the present good of the tenants nor the future good of the city. Should the ordinance be passed by the Council, it is further hoped that the laws will be held in force. Several items in the ordinance, like the provision for brick walls between apartments, are not new, but they have been practically a dead letter for some time.

Since the disastrous St. Luke's Sanatorium fire an investigation is being set on foot by the Board of Health and Building Department, which will include inspection of all hospital buildings throughout the city. So far only the Washingtonian Home, a hospital for inebriates on the West Side, has been investigated, with a result that was not entirely satisfactory. It was found that patients that were violent were confined on the third floor in windowless rooms, the walls of which are lined with wood. In this part of the building, where the doors are of heavy wire and securely locked, there are no fire-escapes. In the main part of the building there are no elevators, and the fire-escapes were found to be unsatisfactory. Certainly the practice of locking helpless patients in high stories, when there is no adequate system of fire escape, is to be condemned, and should be controlled by law.

Building-interests are moderately active here, though nothing like a building-boom is in sight, nor will there be one so long as the price of building is kept up to where it is. On any house built anywhere at a cost of from \$4,000 to \$25,000, the advance of the cost of building at present over that of 1899 is over 37 per cent.

The increase is due not only to the stand taken by the trades in their different unions, but also to the tremendous increase in the price of material, the result of trusts and combinations in manufactures and supplies. True, much more luxury and elegance is demanded in the average home of to-day than in the one built, say, five years ago even, but this is only a side issue in the subject of the increased cost of building. Certain it is that all classes interested in building transactions are overreaching themselves, for there is nothing more sure to put a stop to activity along these lines than the extortionately high price of materials, as it stands at present. Labor is higher than formerly and naturally helps materially to increase the cost of building, but, as said before, the largest increase comes with the higher price of materials. The same paper quoted above further gives a list of the actual increase of profits now expected and demanded, against that demanded in '99.

"Foundation and excavating contractors' annual profit sought now, 33 per cent; in 1899, 15 per cent.

"Plumbing-combine profit sought now, 150 per cent; in 1899, 50 per cent.

"Electrical manufacturing and supply combine, annual profit sought now, 135 per cent; in 1899, 45 per cent.

"Brick combine, annual profit sought now, 75 per cent; in 1899, 30 per cent.

"Glass combine, annual profit sought now, 100 per cent; in 1899, 50 per cent.

"Lathing, plastering, interior finish, annual profit sought now, 40 per cent; in 1899, 20 per cent.

"Heating-apparatus combine allied with plumbers, figures about the same.

"Hardware, annual profits sought now, 60 per cent; annual profits in 1899, 35 per cent.

"Mosaic and tiling work, annual profit sought now, 30 per cent; in 1899, 12 per cent.

"Labor's return is estimated to have increased from 3 to 10 per cent since 1899, making labor still the cheapest part of the expenses of house-building."

Two prominent buildings mentioned in these letters before as being in the process of construction are now practically completed and thrown open to the public. These are the Marshall Field retail building and the Chicago *Tribune* Building. If one were to hunt the world over for a building which was nearly devoid of all architectural pretensions, one which ignores every chance of a line of grace or refinement of touch or design, no better example could be found than this same Marshall Field Building. The material is granite, the lines hard and uncompromising for the first seven or eight stories, then some carving crops out in the last story or two, of a nature too weak to "carry" from the height at which it has to be viewed. The very grouping of the windows is staring and uncompromising. Two narrow divided windows stand either side of a broad plate-glass sheet, unbroken even by the usual middle sash-line. This combination, regularly set, continues through six or seven or eight stories, beginning just above the first two, one of which contains the usual show-windows of the retail dry-goods store. The entrance of the structure is a portico of Classic pretensions. Huge monolithic granite drums rest on flat, characterless bases, raised on solid granite blocks. The Doric caps would lead one to expect a fitting Doric base, and the lack of proper moulding comes as rather a shock: when so little is attempted one would naturally expect to have that little of a refined and satisfactory nature. The interior of the building is quite in keeping with the exterior; absolutely no attempt at decoration in any form or kind is visible. The building is light and airy, and at present as white as whitewash and plaster and plate-glass can make it from end to end. That is all, and in spite of the gay trappings of a great dry-goods emporium, the place is cheerless and bare.

The *Tribune* Building is quite the opposite in character to the Marshall Field one. Its material is buff Bedford-stone and brick. Bronze is the material used for the lower window-sashes and linings of vestibule, giving a warmer tone to the general color of the lower stories. One curious and successful feature is the changing of the usual large first-story windows in the office-department into small ones of ordinary size, raised 4 or 5 feet above the sidewalk. The effect is very good and doubtless has also a utilitarian purpose, as the higher windows must be more suitable for a place where large crowds at times assemble, as they do around a newspaper office. The grouping of the other windows is unaffected and dignified, and much more pleasing than in the building just mentioned. The ornamentation of the first story chiefly centres around the entrance, but is strong in design and good in execution. It, as well as that reserved for the upper stories is of Classic feeling, that placed in the higher parts being sufficiently strong to carry well, and means something from the sidewalk-level. The building at present is twelve stories high, but it is said that eventually four more stories will be added to it, which will in no ways add to the attractiveness of the façade, it is to be feared.

The entrance is an interesting feature of the building. Columns with monolithic shafts flank either side, while the chief interest in the ornamentation centres around the eagle and wreath, of classic proportions, above the door. Bronze electroliers, of very charming design, flank either side. The vestibule is lined with bronze plates, bearing bas-reliefs of the past homes of the *Tribune*, beginning as far back as 1847, with an old two-story wooden structure, where the newspaper's quarters were in the second story, above the drug-store, which was on the first floor.

The entrance-hall is not large, but is very attractive. Entirely lined with white marble of good quality, the inlaying of green and pearl mosaics in the ceiling makes a charming color-scheme. Marble stairs, with marble balustrades, lead up on either side to the second story, while the walls above the first-story level are relieved by columns, mouldings and arcades. This is naturally a great improvement on the usual square slabs of marble, with which entrance-halls are often lined, and gives a much more architectural effect. The slabs of marble used in the arcaded portions are especially beautiful, being large and unusually free of flaws. The bronzework, of which there is a great deal around the building in window-sashes, door-frames, office fixtures, electroliers and elevator-cages, cars and fittings, is charming, both as to design and execution. The Winslow Brothers' castings are as certain to be a delightful feature in a building as Tiffany glass or mosaics.

The entire building, both in general character and detail, is one of the most successful of the large office-buildings erected in Chicago for some time.

A rather unusual structure, and also a very striking one, is the Bush Temple of Music, on the North Side. Its material is a light buffish brick combined with white terra-cotta. It is in the early French Renaissance style. Its general lines are excellent, the whole effect being striking and picturesque, with its high pointed roof

broken into two side gables, the central portion surmounted by a clock-tower. The details are disappointing, and the pleasing impression made by the general appearance of the building is not confirmed by them.

Our friend the local reporter on architecture, to whom reference has been made before, especially distinguished himself in his description of this building. He says the building "is designed after the Hôtel de Ville, Paris, and built of brick, tile and steel. Only three buildings in the city are of this particular style of Gothic architecture: the Newberry Library, the Chicago Historical Society, and the *Record-Herald* Building." How could he have picked out any three buildings more lacking in resemblance to it than these? The libraries are both Romanesque, the Newberry of an especially dignified and simple type, while the *Record-Herald* Building is in no special well-recognized style, but is a happy adaptation of past forms to nineteenth-century needs, which the late John Root knew so well how to handle.



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

THE TOWER OF ST. MARK, VENICE, ITALY;—THE CAMPANILE: LA BADIA, FLORENCE, ITALY.

STA. MARIA IN COSMEDIN, ROME, ITALY;—CAMPANILE OF THE CATHEDRAL, PISTOJA, ITALY.

FOR description of this and the preceding plate, see article "Italian Bell-towers" elsewhere in this issue.

WOODLAND-AVENUE FRONT OF THE UNIVERSITY OF PENNSYLVANIA DORMITORIES, PHILADELPHIA, PA. MESSRS. COPE & STEWARDSON, ARCHITECTS, PHILADELPHIA, PA.

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"THE TORRAZZO," CREMONA, ITALY.

FOR description of this and following plates see article on "Italian Bell-towers" elsewhere in this issue.

S. APOLLINARE IN CLASSE, RAVENNA, ITALY: TWO VIEWS.

LA GHIRLANDINA, MODENA, ITALY;—THE CAMPANILE OF S. GOTTARDO, MILAN, ITALY.

THE CATHEDRAL, MONTE S. GIULIANO, ITALY;—S. SATIRO, MILAN, ITALY.



[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

INCOMBUSTIBLE LIFTING-SASH WINDOW-FRAMES.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—After reading the admirable and sagacious papers lately published by Mr. A. J. Bloor, on those fairy-tale phrases, "fireproofing" and "fireproof buildings," I wrote the following:—

"Any one who has seen a fire begin in a building knows with what incredible rapidity the flames mount the vertical trim, or architraves of doors and windows. In 1875, in a banking building in Wall Street, New York, I substituted cast-iron trim. But this is clumsy and expensive. In 1895, for the Colt Memorial Building at Hartford, Conn., I found that by crimping folds in sheet-copper, I could imitate the pockets for the weights and sash of the lifting-sash window. Instead of wooden sash, the ordinary leaden sash of glass-stainers can be substituted, and metal chains for the combustible cords. I felt that whoever would widely introduce such incombustible windows would be entitled to the gold medal of the Royal Humane Society. The advantages of lifting-sash windows, for purposes of prompt ventilation, are well known. Any worker in sheet-copper who has a crimping-machine can readily construct such a window for exhibition purposes, and, on exhibiting it, would probably receive a profitable supply of orders for such windows.

"So much for windows; now for doors. The secret of absence of fires in Florence is mainly that the locks are on the outside of the doors, instead of being mortised into their thickness, as in America. Hence, the jambs of the doorways do not need any rebates for the doors to shut against, and no wood is needed. The rebates are on the doors themselves, and shut against edges of thin marble slabs, sawn out and stood up against the brickwork of the jambs of the doorways. The American habit of always demanding what one is used to prevents the appreciation and the use of these and other far-seeing contrivances, which make fires in Florence of rare occurrence, and, when they do occur, they do not spread, or cause much damage."

X. Y. Z.

NOTES AND CLIPPINGS

THE RUINS AT COPAN.—Among the ruined Central American cities of ancient culture, Palenque, Quirigua, the Usumatsintla towns, Tikal and Copan, the last-named attracts the greatest interest at present on account of the resumption of archaeological explorations there. Its ruins are situated on the banks of Copan River, Southern Honduras. The site where the main temple stood is now a square platform with steep declivities on all sides. The temple is gone, leaving no trace behind except the western approach. When the Peabody Museum of Archaeology, at Cambridge, sent its first expedition to the spot in 1891, the whole structure was overgrown with heavy timber. The elevation where the temple was is now known as Mound 26; at present it looks like a high pointed pyramid, the apex and sides of which have been considerably reduced by the disintegration constantly going on. The western side of this pyramid presents the greatest architectural feature that has yet come to light in Copan, namely, the "Hieroglyphic Stairway." The steps of this stairway were formed by large stone blocks carved on the front side with the well-known calculiform figures, some of which are intended for numerals, and others for names, generic terms, and the like. The first who directed attention to the stairway and the excellent design and workmanship of its component parts was Maudslayi, and his genius also pointed out the former importance of the spot, of whose earlier shape heavy landslides had made recognition well-nigh impossible. From the latest measurements it appears that the whole width of the stairway, including the balustrades of $3\frac{1}{2}$ feet, was 26 feet; that of the altar at the bottom, 12 feet. As regards height of slope, the portions of the stairway still *in situ* measure 25 feet, which is just one-fifth of the whole slope once covered by the stairway. The probability is that there were 80 carved steps from the base to the top of the stairway where the temple stood. The several human figures which decorated the centre of the stairway show the sculptural art to have been crude, though full of promise, and the whole structure must once have left on the spectator a weird and awful impression. Of the inscription which formerly decorated the stairway, but a few broken fragments remain. The story is told by George Byron Gordon, with admirable photographic illustrations, in No. 6 of Volume I, of the *Memoirs of the Peabody Museum*.—*N. Y. Evening Post*.

CLERKENWELL'S HISTORIC GATEWAY.—St. John's Gate, Clerkenwell, London, was erected after the insurrection of Wat Tyler, at the end of the fourteenth century, for that gentleman's levies took the trouble of burning down the old gate, which had stood for two centuries before their time. It had been built when St. John's Priory was erected there by the Knights Hospitallers, after the crusade of the first Richard. The gate is built of brick and freestone; its walls are quite 3 feet thick, and its towers were formerly much higher than they now are. These towers are in four stories, and over the gateway itself will be noticed a room which is the most famous of all rooms over bars in this country. For in this upper room Cave set up his press in 1731, and from it issued the first number of the *Gentleman's Magazine*. Here came Richard Savage in search of work at the hand of Cave, and there he subsequently spent much time in writing; here labored for the magazine a greater than either Cave or Savage—one Samuel Johnson, whose fame was later to become immortal. Here the great David Garrick made his *début* in London. Into this room came a jovial Irishman named Oliver Goldsmith in search of Johnson, and here the two friends often passed many hours in converse. Here flourished later the Urban Club, a literary coterie of reputation in its day. But many years before these men of letters had given a special interest to the place there had been royal business transacted in this very chamber; it was here that Richard III came to tell the Council how cruelly and bitterly his foes lied about his treatment of Lady Anne Neville, his wife. Close by the gate lodged

the Princess Mary, when her brother, Edward VI, was on the throne, and here he often visited her. Elizabeth had her court revels rehearsed in the gateway chamber before they were performed at her palaces, and the brave old gate bore no small part in the Sacheverell riots of other days. The room at the base of the west tower was in 1813 a house for the watch; it was then made into a dispensary for the hospital; then it became a coal-shed; and later it blossomed out into a bookshop. To-day it is the headquarters of that noble institution, the St. Ann's Ambulance Association.—*Windsor Magazine*.

LUMBER AND TIMBER PRODUCTS.—In the Census report on the "Utilization of Wastes and By-products," Mr. H. T. Kittredge says: "Nearly all of the formerly waste products of lumber and timber are now turned to some utility, and some of the new products thus formed are of considerable value. Of this latter class may be mentioned sawdust, which was formerly considered an absolute waste material, and was allowed to float down the stream or was thrown into a heap where it could be most conveniently disposed of. French cabinetmakers have found a way of preparing this material which gives it a value far above that of solid timber by a process that has been in vogue for at least twenty-five or thirty years, combining the use of the hydraulic press and the application of intense heat. By this process the particles of sawdust are formed into a solid mass capable of being moulded into any shape and of receiving a brilliant polish, and possessing a durability and a beauty of appearance not found in ebony, rosewood, or mahogany. This product is known as 'bois durci.' Artificial woodwork, therefore, seems to have a promising future. Alum, glue and sawdust, kneaded with boiling water into a dough, and pressed into moulds when dried, is hard and capable of taking on a fine polish. Ornaments of great beauty can be made from it very closely resembling carved woodwork. The production of acetic-acid, wood-naphtha, and tar from sawdust is one of the latest enterprises in Norway. A factory has been started at Fredrikstad capable of distilling 10,000 tons of sawdust in a year. It also manufactures charcoal briquettes, which are exported to the Netherlands. The acids are chiefly placed on the German market, while the tar is mostly consumed at home. The factory is said to be the first of its kind erected in that country. According to an English patent of 1897, sawdust may be so prepared as to be non-inflammable, and then applied to jacketing of boilers and other purposes."

INVESTIGATING THE LIGHTNING-CONDUCTOR.—Time uses its broom effectively when it is given sufficient latitude. It has long been accepted as a truth that lightning-conductors are an efficient protection for high buildings, tall chimney-stacks, etc. This belief now appears to have been called in question. There are few people to whom the truth of this matter will be of greater importance than the textile manufacturers of the country. Their buildings, except weaving-sheds, are nearly all lofty, while to every separate establishment there is a tall chimney-stack. Nearly all are fitted with lightning-conductors, yet they are not infrequently damaged by the electric fluid. These facts, being in apparent conflict with accepted views, have led to a number of scientific men forming themselves into a lightning-research committee, which has for the past eight or ten months been giving its attention to the subject. Until the Committee began its work it was generally assumed that a conductor protected a considerable area around it, or attracted the bolt if near, and conducted it harmlessly to the earth. The information which the Committee has so far collected, does not bear this out, as the lightning has sometimes been found to strike and commit damage within a few feet of the conductor. The conclusion the Committee has drawn from present information is that a single conductor affords practically no protection, and may even be a source of danger. If the thorough protection of a building is possible, it is alleged, it can only be effected by a network of protectors spread over or around the building, and with many earth connections. The network would distribute the electricity, which would find its way to the earth through the various rods. Above all, the researches of the Committee have completely exploded the theory of the value of a single rod on a church-tower or lofty chimney. It is highly desirable that the truth should be ascertained and incontestably established.—*Manchester (Eng.) Textile Mercury*.

WHISTLER AS A WEST POINTER.—"West Point in 1854" is the subject of an interesting article by Loomis L. Langdon, in the *Army and Navy Journal*. Speaking of James McNeil Whistler, the writer says: "There was a curious story told of the way he didn't pass his examination after remaining at the Academy three years. The subject given him in chemistry to discuss before the Academic Board was 'Silica,' which constitutes 8 per cent of the solid matter of our earth. Whistler, it is said, in perfect innocence of the subject, but with his characteristically charming manner, described silica as an 'elastic gas' or 'a saponifiable fat.' The young ladies in the audience smiled approval, but the stern Academic Board dispensed with Whistler's further valuable services at the Military Academy. He found employment for a time in the United States Coast Survey at Washington, but, finding that his compensation 'hardly paid for his gloves,' he went to London, and years afterward made a reputation as a painter."

PROPOSED COLOSSAL STATUE OF AUSTRALIA.—There is talk of erecting at the entrance to Sydney Harbor, as a monumental tribute to the triumph of federation, a colossal statue of "Australia Facing the Dawn," a sort of rival to "Liberty Enlightening the World," from the island in New York Bay. Funds, however, have not been forthcoming, and now it is reported that one of the principal advocates of the project has written to Lord Rosebery suggesting that a contribution from the £3,000,000 left by Cecil Rhodes to "promote the consolidation of the English-speaking people" might be legitimately allocated to this purpose.—*Boston Transcript*.

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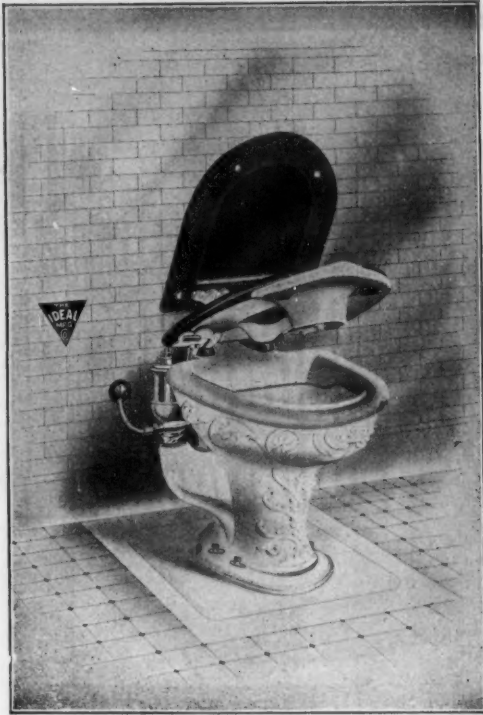
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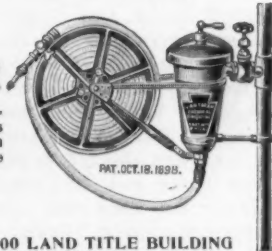
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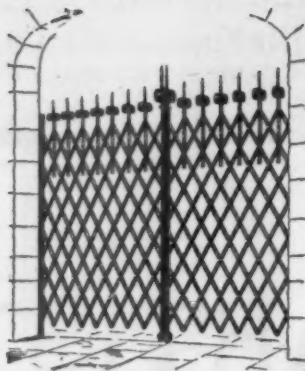


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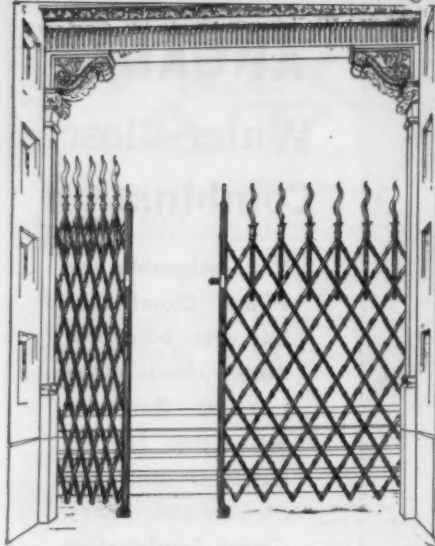
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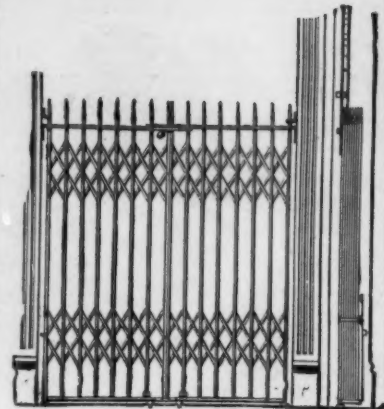
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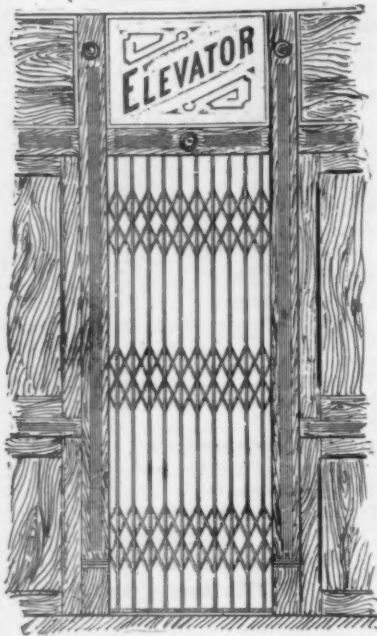
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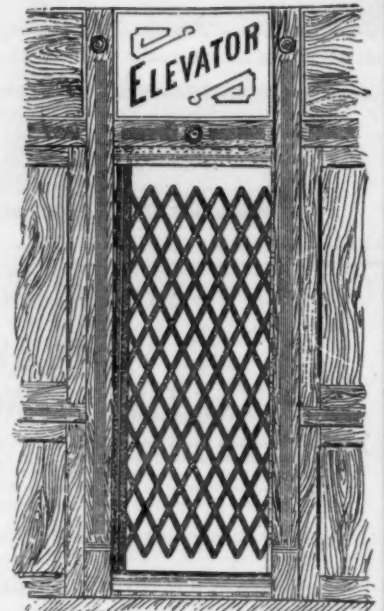
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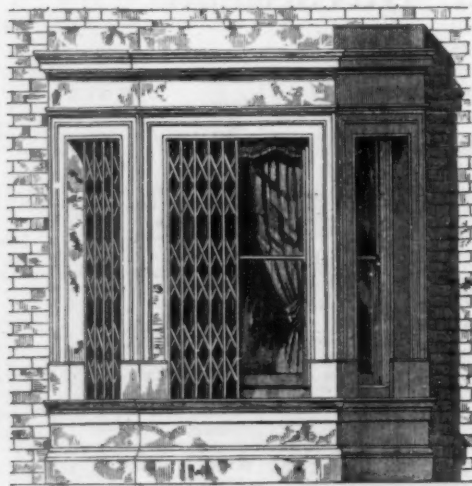
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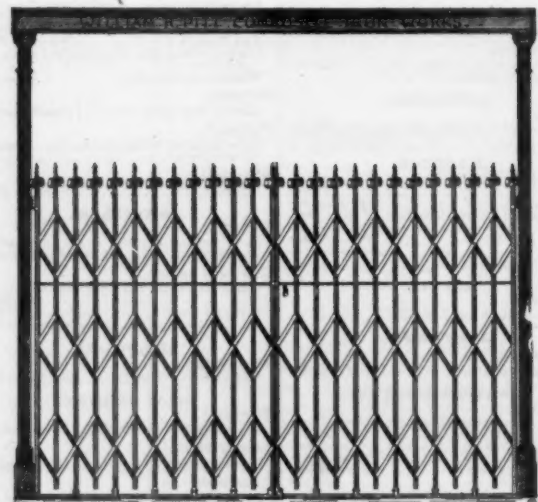
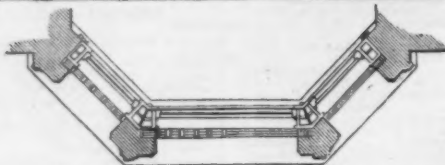
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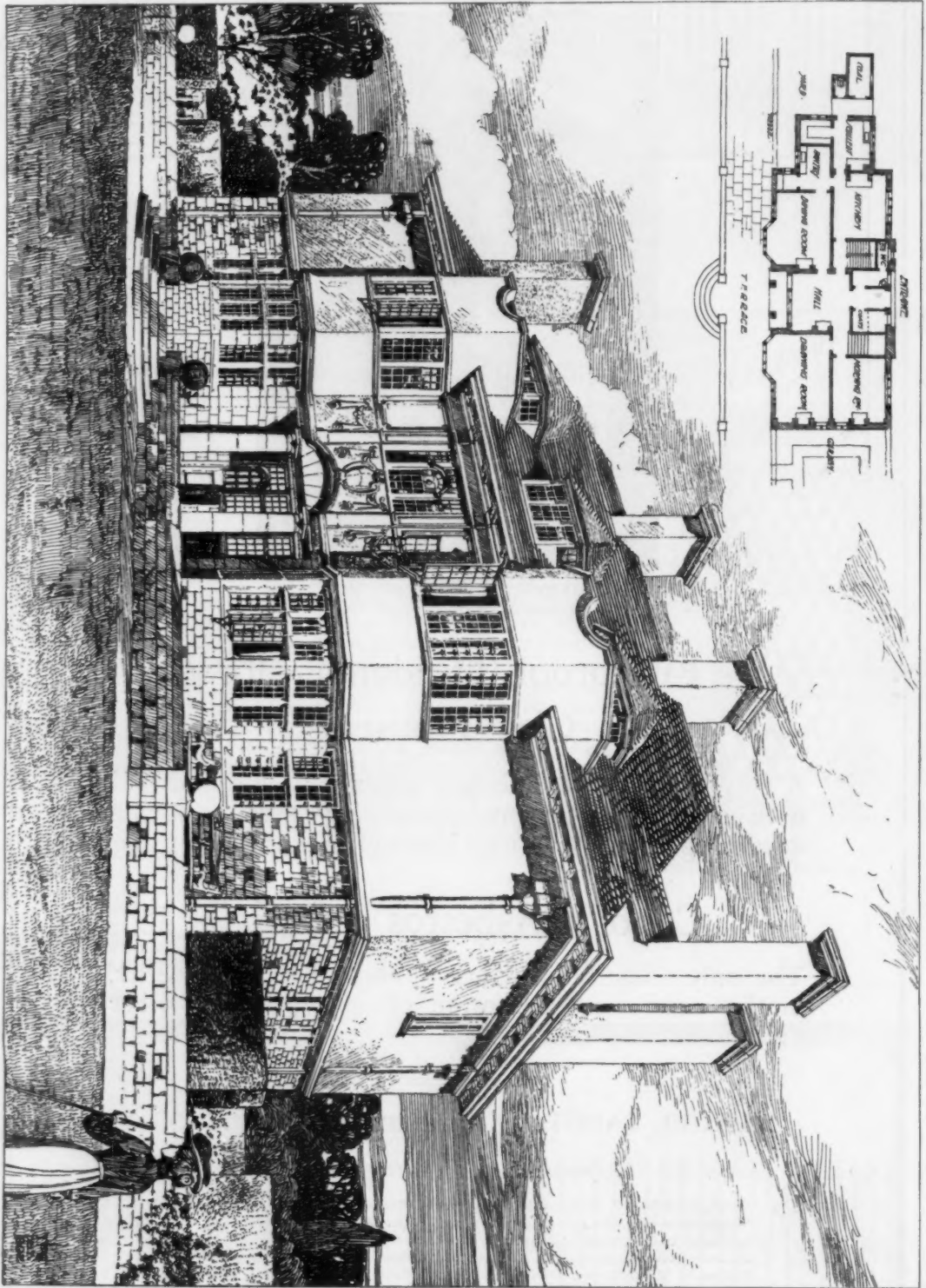
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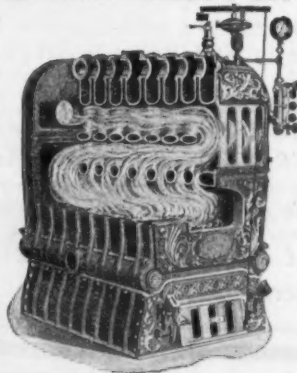
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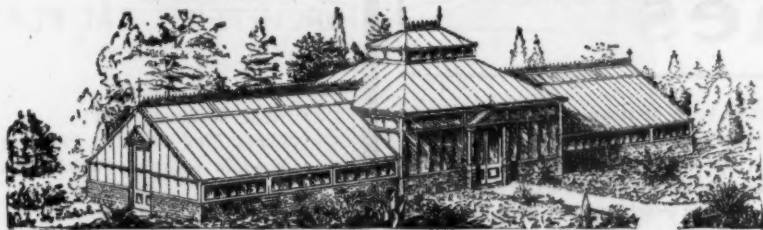
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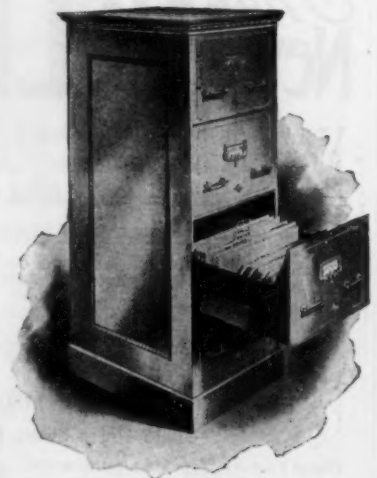
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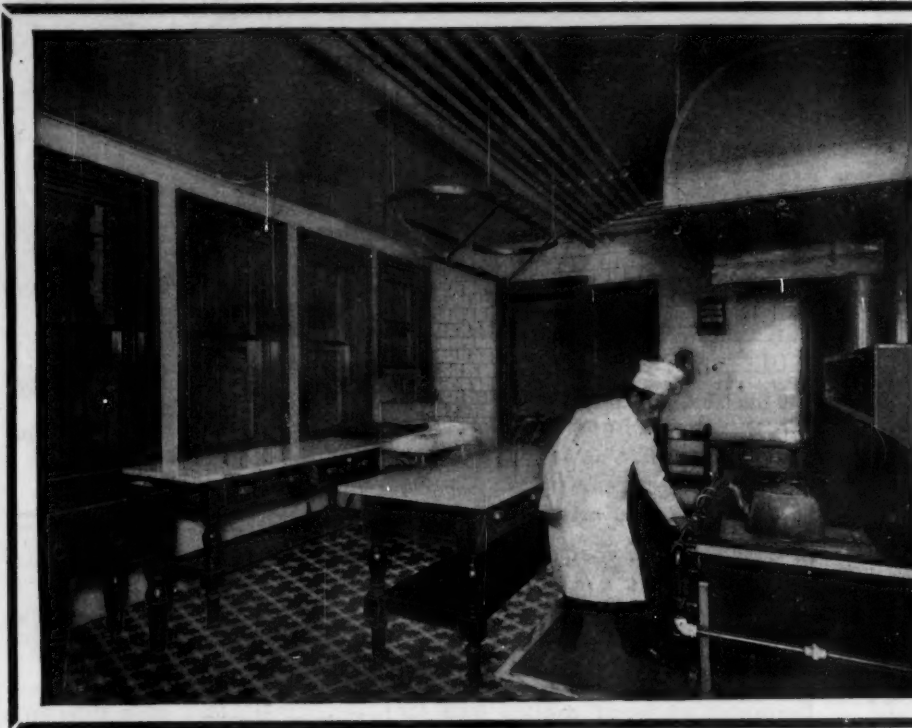
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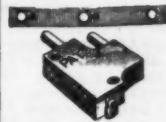
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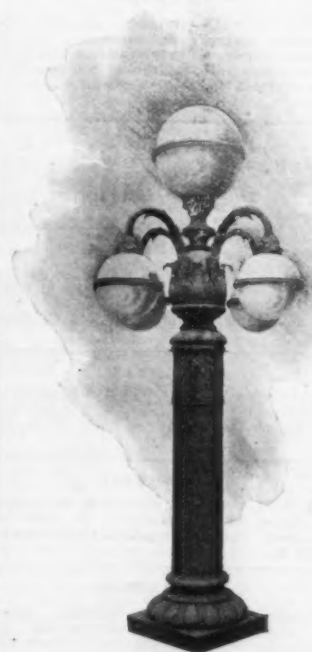
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Jamaica Plain, Mass.—A two-story brick structure will be erected here for the New England Tel. & Tel. Co., 125 Milk St., Boston, from plans in preparation by C. A. Perkins, company's engineer, 101 Milk St. Definite location not decided upon. Negotiations for same pending. Building will be occupied as a telephone exchange. Architect has charge.

Kansas City, Mo.—The John Taylor Dry Goods Co. is about to build a four-story warehouse at 17th and Walnut Sts.; cost, \$35,000.

It is reported that the Mo. Pacific Ry. Co. will erect shops, etc., in East Bottoms; cost, \$500,000.

The Club-house Com. of the Manufacturers' Assn. is stated to have decided to erect a club-house to cost about \$50,000.

A. Van Brunt, 716 Delaware St., has drawn plans for a five-story store, to be built at 9th St. and Broadway; cost, \$30,000.

The Sherwin-Williams Paint Co., of Chicago, Ill., is stated to have decided to erect a three-story building on St. Louis Ave. and Hickory St., to cost \$25,000.

It has been decided by members of the Manufacturers' Association to erect a club-house at a cost of \$50,000. F. D. Crabbe, R. M. Hilliker and R. B. Teaschner are interested.

Keystone, Fla.—James Loughlin, Jr., has had plans drawn by H. C. Gilchrist, 524 Fourth Ave., New York City, for a modern two-story dwelling to be erected at a cost of \$50,000.

Knoxville, Tenn.—Craig, Hodgens & Burns, 530 Bissell Block, Pittsburgh, Pa., have completed plans for a new church for the Presbyterian congregation; cost, \$25,000.

Lancaster, Pa.—The Lancaster Casting Co., recently organized, will build a two-story brick and steel foundry building to cost \$100,000.

Lemont, Ill.—W. J. Brinkmann, Metropolitan Block, Chicago, has drawn plans for a Roman Catholic Church, to be erected here at a cost of \$45,000. It will be constructed of Lemont limestone.

Lexington, Mass.—Five acres of land on Bedford St. have been sold for Mrs. O. J. Smith to George F. Teague, who will erect a number of dwellings thereon in the near future.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Lisbon, N. H.—A three-story and basement brick business block, 60' x 100', will be erected for Messrs. Cogswell & Boynton, of that place, from plans by C. K. Whiteher, architect. Cost, \$35,000. Arrangements not yet made for any portion of work or materials. Architect has charge.

A three-story and basement brick banking building, 50' x 60', will be erected for the Lisbon Savings Bank & Trust Co., at a cost of \$20,000, from plans prepared by O. B. Whiteher. A store will occupy first floor, with offices, lodge-room, etc., above.

Los Angeles, Cal.—The California Club has about decided to erect a five-story club-house on Hill and 5th Sts., to cost \$175,000.

Manchester, Va.—The Beth Ababa congregation will erect a synagogue to cost \$75,000, within the next year.

Mays Landing, N. J.—The Atlantic Co. Freeholders have decided to erect a \$150,000 county building. Location of new building not yet decided upon.

Memphis, Tenn.—It is stated that the sum of \$500,000 will be expended by the Illinois Central Railroad Co. in erecting shops here. W. J. Harahan, chief engineer, Chicago.

Dr. W. B. Rogers will erect a two-story stone veneer residence on Poplar St., to cost \$20,000.

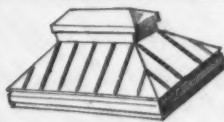
Milford, Mass.—Eben S. Draper has presented to the Milford Hospital Association property on Prospect and Main Sts., and will also erect on same a hospital to cost \$50,000.

Milwaukee, Wis.—The West Allis Malleable Iron and Chain Belt Co., recently organized with a capital of \$100,000, has purchased 10 acres of land on 64th Ave., West Allis, and will commence at once the erection of four buildings after plans by Charles D. Crane, 91 Wisconsin St. The buildings will cost \$65,000.

Minneapolis, Minn.—A permit has been issued to C. M. Harrington for the erection of a \$40,000 brick residence at 2544 Park Ave. Architects, Kees & Coburn.

Montpelier, Vt.—A fine granite entrance with chapel and vault buildings, 28' x 40', on each side of entrance, will be erected at the cemetery here, from plans by Smith & Walker, 43 State St. General contract not let and arrangements not yet made for any portion of the work.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Nashville, Tenn.—The plans of Albert Randolph Ross, 156 Fifth Ave., New York, have been accepted for a \$100,000 Carnegie Library.

Capt. W. A. Kramer is planning to erect a \$50,000 armory on Cherry St.

Newark, N. J.—This city will soon have its \$275,000 Y. M. C. A. Building.

New Britain, Conn.—An 8-room brick normal school building will be erected here at a cost of \$25,000 for the State of Connecticut, from plans just completed by Davis & Brooks, architects, Hartford. Marcus White, principal, represents owners. Will be figured by invitation and work will start in immediate future.

New Haven, Conn.—The new Y. M. C. A. Building to be erected here will cost nearly \$300,000.

Edwin Bancroft Foote has given \$25,000 for an association building for working boys.

Extensive addition, including one five-story, one six-story building and one-story boiler-house with large additions to present structures, will be erected for Sargent & Co., hardware mfrs., on Water and Wallace Sts., at a cost approximating \$400,000. Private plans now in preparation.

New London, Conn.—The D. E. Whiton Machine Co., of this place, has purchased a large tract of land adjacent to its present quarters and are contemplating the erection of a new foundry building.

New York, N. Y.—Plans have been filed for a two- and four-story brick hospital, to be built at 327 to 345 E. 60th St. The building will be known as the Manhattan Maternity Hospital, and is estimated to cost \$125,000. Moses Taylor, of Mount Kisco, is the owner. Warren & Wetmore, of 3 E. 33d St., are the architects.

Plans have been filed for a six and seven-story brick hospital, to be erected at 468 W. 34th St. The building will be of brick, Indiana limestone and terra-cotta, and cost \$180,000. The French Benevolent Society, 320 W. 43d St., is the owner. Welch, Smith & Provot, 11 E. 42d St., are the architects.

Mrs. Cornelius Vanderbilt has donated \$200,000 to St. Bartholomew's Protestant Episcopal Church. The entire front of the building will be remodelled and four bronze doors will be added.

Horgan & Slattery, 1 Madison Ave., have drawn plans for a sixteen-story granite, brick and terra-cotta office-building, to be erected at Spring and McDougal Sts. by the Butterick Publishing Co., at a cost of \$1,000,000.

The Madison Building Co. will erect a six-story building at Madison Ave. and 63d St., to be used as a private school; cost, \$250,000.

A new church, to be known as the Broadway Tabernacle, will be erected at Broadway and 56th St. It is to be combined with a ten-story office-building, to be erected directly in the rear; cost, \$650,000.

North Yakima, Wash.—The Cascade Lumber Co., recently organized by G. S. Rankin, Fred Pennington, O. W. Sinclair, and others, will build a factory here to cost \$75,000, for the manufacture of fruit boxes, shingles, etc.

Oneida, N. Y.—The M. L. Ryder Building Co., of Albany, has secured the contract for erecting a depot here for the N. Y. C. & H. R. R. Co. for \$30,000.

Oshkosh, Wis.—The National Automobile Co. propose erecting a manufacturing plant in this city.

Park Ridge, Ill.—It is reported that the St. Vincent's Orphan Asylum, 191 La Salle Ave., Chicago, will remove from that location. The institution has purchased a large tract of land at this place and will improve the holding by erecting a number of buildings, which, when complete, will cost upwards of \$250,000. Schock & Swanson have made preliminary sketches for the proposed buildings.

Philadelphia, Pa.—Contracts will soon be awarded for a new four-story manufacturing plant for the Crompton & Knowles Loom Works at 16th St. and Glenwood Ave. The cost will exceed \$100,000.

Geo. B. Wilson has purchased Nos. 1339-41 Arch St. Mr. Wilson is also the owner of the Columbia

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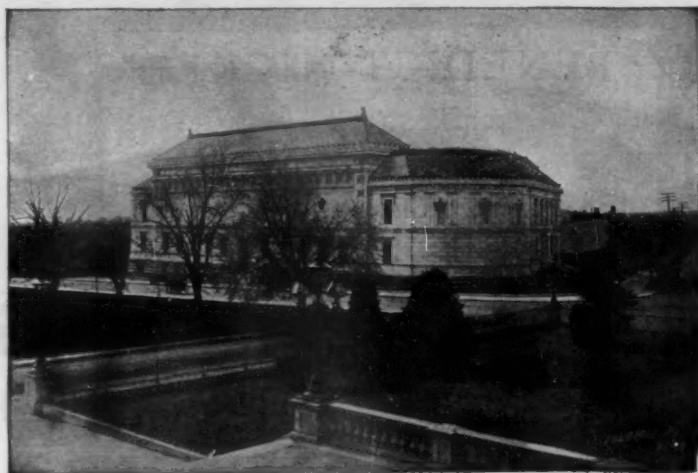
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Hotel on Broad St., above Arch, which runs at right angles with the Arch St. properties, and it is his intention to use the latter for an extension to the hotel property. It will be an eight-story structure, with exterior walls of mottled brick.
 W. R. Dougherty has plans from T. R. Croll and A. A. Richards for a fine new building for the Fifth Moravian Church on Germantown Ave., above Dauphin St. It will be a two-story brick and stone structure, 47' x 73' 64", in the Moorish style of architecture.
 H. B. Shoemaker & Co. have been awarded the contract for the new home for the Philadelphia Quartet Club, at Germantown and Lehigh Aves. It will be a four-story brick building, 60' x 164', and was designed by J. F. Stuckert & Son.
 The Board of Directors of the Jewish Hospital have had plans made by Furness, Evans & Co., Provident Building, for a nurses' home on the grounds of the hospital, to cost \$20,000.
Pine Bluff, Ark.—Plans have been drawn by Gibbs & Mann, of Little Rock, for the erection of a colored Masonic Temple, to cost \$40,000.
Pittsburgh, Pa.—Max Breunung, Whitfield Building, East End, has drawn plans for a \$40,000 four-story addition to factory building on Wood St., for the Breunung Cork Co.
Red Wing, Minn.—Plans have been made by Omeyer & Thori, Chamber of Commerce, St. Paul, for a two-story brick and stone building, 62' x 139', for the Hauges Norwegian Lutheran Seminary, to cost \$45,000.
Rockland, Me.—An extensive addition will be made to present frame hotel known as the Main Central Hotel for M. F. Donohue, from plans by W. E. Schwartz, architect. Work includes open plumbing, hard wood floors and stairs and all modern fittings.
San Diego, Cal.—Hebbard & Sill and Wm. Quayle have submitted to the Bd. of Suprv. plans for the proposed County Hospital.
Scranton, Pa.—A Y. M. C. A. Building is to be erected here costing \$260,000.
Skowhegan, Me.—A syndicate has been formed to build a worsted mill with dye-house, boiler-house, etc., adjoining, at an aggregate cost of \$40,000. Plans not yet started.
St. Louis, Mo.—It is stated that W. F. Williamson, Pres. Williamson-Gunning Advertising Co., is perfecting plans for the erection of a five-story apartment-house on Maple and Hamilton Aves., to cost about \$100,000.
 A building permit has been issued to George F. Tower to erect a five-story building at 613-621 Olive St., as an addition to the Barr Dry Goods Store, to cost \$150,000.
 An addition, 125' x 149', to cost \$25,000, will be built to the stove-factory of the American Stove Co. on S. 9th St.
 Erection of a modern residence to cost \$40,000 is contemplated by Mrs. Sarah E. Chambers at Berlin Ave. and King's Highway.
 The Bethel Evangelical congregation contemplates erecting a \$25,000 church at Greer and Garrison Aves.
St. Paul, Minn.—The Mount Zion Hebrew Congregation has decided to erect a \$50,000 temple at Holly Ave. and Avon St.



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Toledo, O.—Plans have been prepared by Bacon & Huber, 808 Spitzer Building, for a school for St. Mary's R. C. Church, to cost \$100,000.
Turner, O.—A malting plant, to cost \$300,000, will be built here by C. W. Coleman and W. H. Burrows, of Dayton, A. Hemrich, of Seattle, and others.
Waco, Tex.—The Cotton Belt R. R. Co. and the International & Great Northern R. R. Co. are stated to have purchased a site on 4th and Mary Sts., and will erect a \$50,000 depot upon it.
Warwick, R. I.—A two-story 8-room school-building will be erected in the Apponaug District, from plans in preparation by A. H. Humes, architect, Pawtucket; cost, \$30,000. Plans ready to figure about July 10.
Washington, Pa.—It is stated that a \$40,000 school will be erected here.
Wilmington, Del.—Theo. A. Leisen has prepared plans for 6 dwellings, to be built at Gilpin and Bayard Aves., for Chas. C. Kurtz, 911 Market St.; cost, \$20,000.
Wilson, N. C.—The corner-stone of the students building at the State Normal School has been laid. The building will cost \$30,000.
Winchester, Mass.—The citizens have voted to erect a high school, to cost about \$110,000.

HOUSES.

Brooklyn, N. Y.—Fifth Ave., nr. 47th St., three-sty' bk. store & dwell., 25' x 52'; \$6,000; o., J. D. Brizzi, 275 Atlantic Ave.; a., P. K. Periera, 1960 President St.
New York, N. Y.—Fifty-second St., nr. Madison Ave., four-sty' bk. dwell., 25' x 67'; \$40,000; o., M. D. Varnum, 37 E. 39th St.; a., W. Stronn, 39 Cortlandt St.
 One Hundred and Sixty-fifth St., nr. Intervale Ave., 3 three-sty' bk. dwells., 16' 8" x 40'; \$15,000; o., R. L. Kempe, 326 W. 33d St.; a., Geo. Hutchings, 41 Park Row.
 One Hundred and Sixty-second St., nr. St. Nicholas Ave., 3 two-sty' & base. bk. & st. dwells., 13' 8" x 52'; \$45,000; o., Norton & Dalton, 217 W. 125th St.; a., Neville & Bagge, 217 W. 125th St.
 Woody Crest Ave., nr. 168th St., 3 two-sty' fr. dwells., 21' x 56'; \$15,000; o. & a., Geo. W. Collier, 316 W. 58th St.; c., Butler Bros., 107 Bay 13th St., Bath Beach.
 One Hundred and Seventy-seventh St., nr. Belmont Ave., three-sty' frame dwell. & store, 25' x 58' 9"; \$6,000; o., Fred'k Schultz, 1960 Bathgate Ave.; a., John E. Kerby, 722 Tremont Ave.
Richmond, Ind.—Two-sty' fr. dwell., 37' x 42'; \$7,000; o., Mrs. M. H. Parry; a., E. P. Overmire, 816 The Phoenix, Minneapolis, Minn.

OFFICE BUILDINGS.

New York, N. Y.—Broad St., Nos. 24-28, cor. Exchange Pl., sixteen-sty' bk. & st. office-building, 76' 6" x 85' x irreg., bk. & copper roof; \$650,000; o., Sussex Realty Co., 80 Broad St.; a., Carrere & Hastings, 28 E. 41st St.; b., Andrew J. Robinson Co., 123 E. 23d St.
 John St., No. 15, nine-sty' bk. & st. office & store building, 26' x 114', tar roof; \$95,000; o., Dennison

BUILDING INTELLIGENCE.

(Office-buildings Continued.)

Mfg. Co., 189 Broadway; a., Wilson Eyre, Jr., 929 Chestnut St., Philadelphia, Pa.; b., Hugh Getty, 276 Ninth Ave.
STORES.
New York, N. Y.—Broadway, cor. Spring St., running through to Crosby St., eleven-sty' bk. & st. lofts & stores, 51' 1" on Broadway and 71' on Crosby St. & 200' on Spring St., terra-cotta roof; \$450,000; o., Bayard Realty Co. and Geo. A. Fuller Co., 137 Broadway; a., Arthur H. Bowditch.
TENEMENT-HOUSES.
New York, N. Y.—Stanton St., cor. Suffolk St., six-sty' bk. tenement, 40' x 67' 6"; \$43,000; o., Abraham Silverson, 236 E. 61st St.; a., Geo. F. Pelham, 603 Fifth Ave.
 Broome St., Nos. 390-386, 2 six-sty' bk. tenements & stores, 39' x 39' 1" x 83' 9" & 76' 7"; \$80,000; o., John Palmieri, 157 Second Ave.; a., Sars & Smallheiser, 23 Park Row.
 Rivington St., cor. Ludlow St., six-sty' bk. tenement, 44' 3" x 72'; \$55,000; o., Samuel Barkin, 123 Bowery; a., Alfred E. Badt, 1 Union Sq., W.

THEATRES AND HALLS.

Brooklyn, N. Y.—Manhattan Ave., nr. Calyer St., three-sty' bk. theatre, 75' x 125', composition roof, steam; \$125,000; o., The Orpheum Co.; a., J. B. McElpatrick, 1402 Broadway, N. Y.

MISCELLANEOUS.

New York, N. Y.—Sedgwick Ave., cor. 178th St., two-sty' bk. & st. engine-house, 51' 3" x 67'; \$35,000; o., City N. Y.; a., Horgan & Slattery, 1 Madison Ave.
 Beekman St., nr. William St., three-sty' & attic bk. & st. wagon-house for Fire Department, 24' 4" x 71', tile roof; \$35,000; o., City N. Y.; a., Horgan & Slattery, 1 Madison Ave.

COMPETITIONS.

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PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 26, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 16th day of July, 1902, and then opened, for furnishing and delivering Post-office Lock Boxes, etc., as they may be ordered for Post-offices in Public Buildings under control of the Treasury Department, during the fiscal year ending June 30th, 1903, in accordance with drawing and specification, copies of which may be had at the discretion of the Supervising Architect, by applying to this office. JAMES KNOX TAYLOR, Supervising Architect. 1384

Treasury Department, Office Supervising Architect, Washington, D. C., June 27th, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 29th day of July, 1902, and then opened for furnishing the low-pressure steam heating apparatus, etc., complete in place for the U. S. Post-office at Joliet, Illinois, in accordance with the drawings and specification, copies of which may be had at this office or at the discretion of the Superintendent at Joliet, Illinois, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1385

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 27, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 13th day of August, 1902, and then opened, for furnishing the steam heating apparatus, complete in place, for the U. S. Post-office at Freeport, Illi-

PROPOSALS.

nois, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Freeport, Illinois, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1385

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 30, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 31st day of July, 1902, and then opened, for the installation of an electric conduit and wiring system for the U. S. Post-office at Joliet, Illinois, 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 Joliet, Illinois, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1385

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 24, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 12th day of August, 1902, and then opened, for the completion (except certain steel vaults, plumbing, elevators, heating apparatus, electric wiring and conduits) of the U. S. Mint at Denver, Colorado, in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Superintendent at Denver, Colorado, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1384

PROPOSALS.

REMODELLING BOILER PLANT. [At Athens, O.] Bids are wanted by the Bd. of Trus. of the Athens State Hospital until July 17 for remodelling and increasing the boiler plant and steam piping. E. H. RORICK, Sec'y. 1384

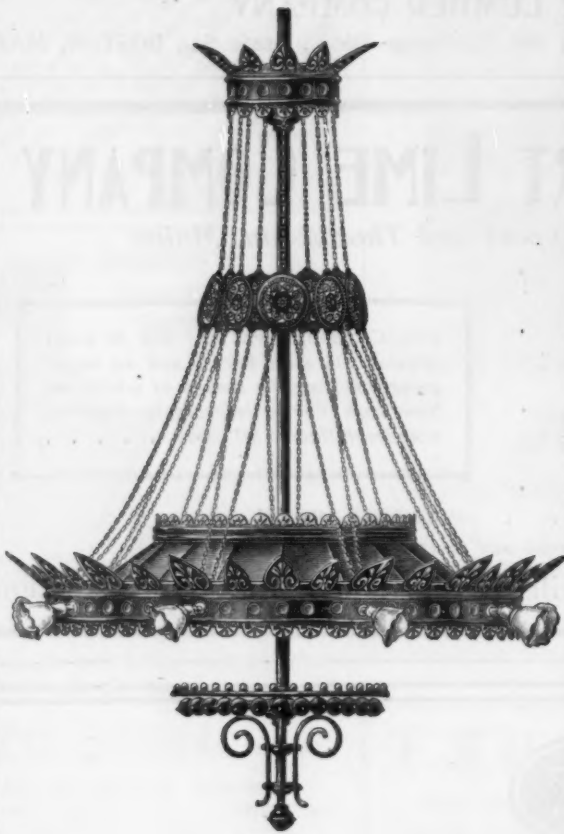
COTTAGES. [At Athens, O.] Bids will be received by E. H. Rorick, M. D., Sec'y Bd. Trus. of the Athens State Hospital, care Frank L. Packard, Hayden Building, Columbus, until July 11 for furnishing material and erecting 3 cottage buildings. 1384

HEATING. [At Chaska, Minn.] Bids are wanted July 14 for furnishing material and erecting a brick chimney and a steam heating apparatus in the Co. Court-house. FRED U. SPLETT-STOESSER, Co. Aud. 1384

SCHOOL. [At Emery, S. D.] Bids will be received until July 14 for a school-house in District No. 1, Hanson County. 1384

BRIDGES. [At Vidalia, La.] The police jury of Concordia parish will receive

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PROPOSALS.

bids until July 14 for constructing 3 steel bridges. JAMES P. FAGIN, president. 1384

ANNEX TO HOSPITAL. [At Fort Washington, Md.] Office of Constructing Quartermaster, Fort Washington, Md. Sealed proposals will be received at this office until July 18, 1902, for constructing brick annex to post hospital, Fort Washington, Md. Plans and specifications furnished on application. GEORGE H. McMANUS, constructing quartermaster, U. S. Army. 1384

SEWER SYSTEM. [At Chamberlain, S. D.] Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received at the Indian office until July 15, 1902, for furnishing the necessary materials and labor required to construct and complete an extension to the sewer system, in strict accordance with plans, specifications and instructions to bidders which may be found at this office. For further information apply to John Flinn, superintendent, Indian School, Chamberlain, S. D. W. A. JONES, commissioner. 1384

SCHOOL. [At Bloomfield, Ia.] Bids will be received until July 14 for the erection of the school-house. 1384

ENGINE-HOUSE. [At Buffalo, N. Y.] Bids will be received until July 25 for the erection of a brick engine-house to be known as engine-house No. 30. FRANCIS G. WARD, commissioner of public works. 1385

PLUMBING. [At Fort Hunt, Va.] Office of Constructing Quartermaster, Fort Washington, Md. Sealed proposals will be received at this office until July 18, 1902, for installing plumbing in guard-house at Fort Hunt, Va. Plans and specifications furnished on application. GEO. H. McMANUS, constructing quartermaster, U. S. Army. 1385

ROADWAY. [At Anderson, Ind.] Bids will be received by the Directors of Maplewood Cemetery until July 27 for constructing about 1½ miles of macadamized drives and 50,000 square feet of cement work. JOHN P. SEARE, Sec'y. 1386

HEATING AND VENTILATING. [At Norristown, Pa.] Bids are wanted July 16 for installing a low-pressure gravity return steam heating and ventilating system for the Montgomery Co. Court-house. D. H. HITNER, Clk. Co. Comrs. 1384

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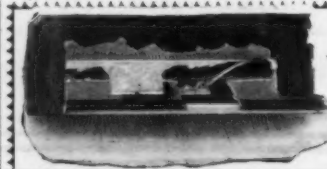
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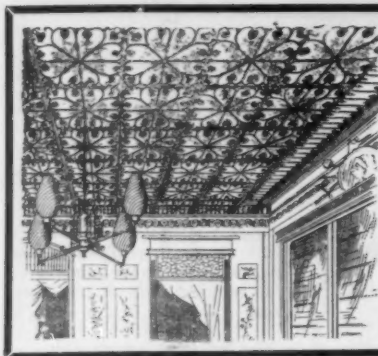
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- SECTION 9. It is unprofessional for a Member to criticise in the public prints the professional conduct or work of another architect except over his own name or under the authority of a professional journal.
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-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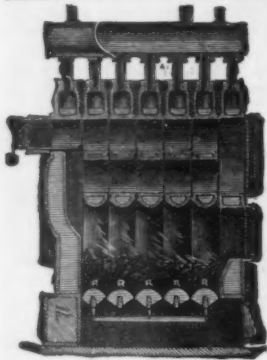
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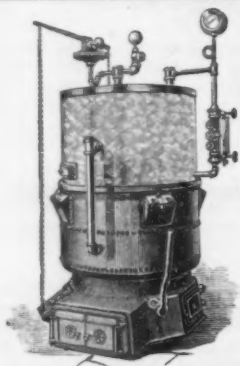


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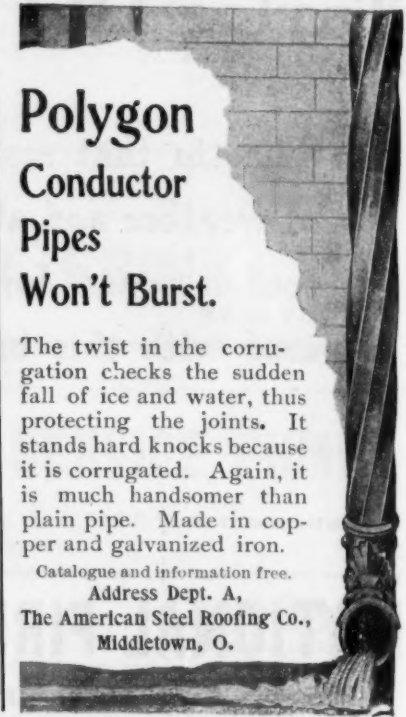
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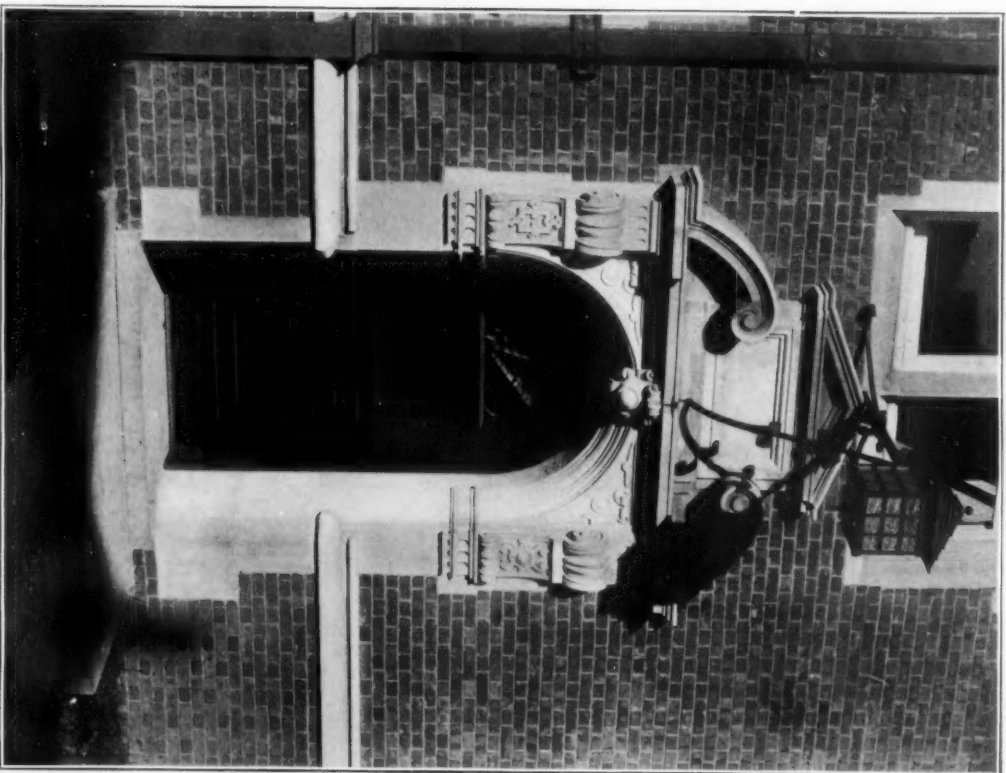
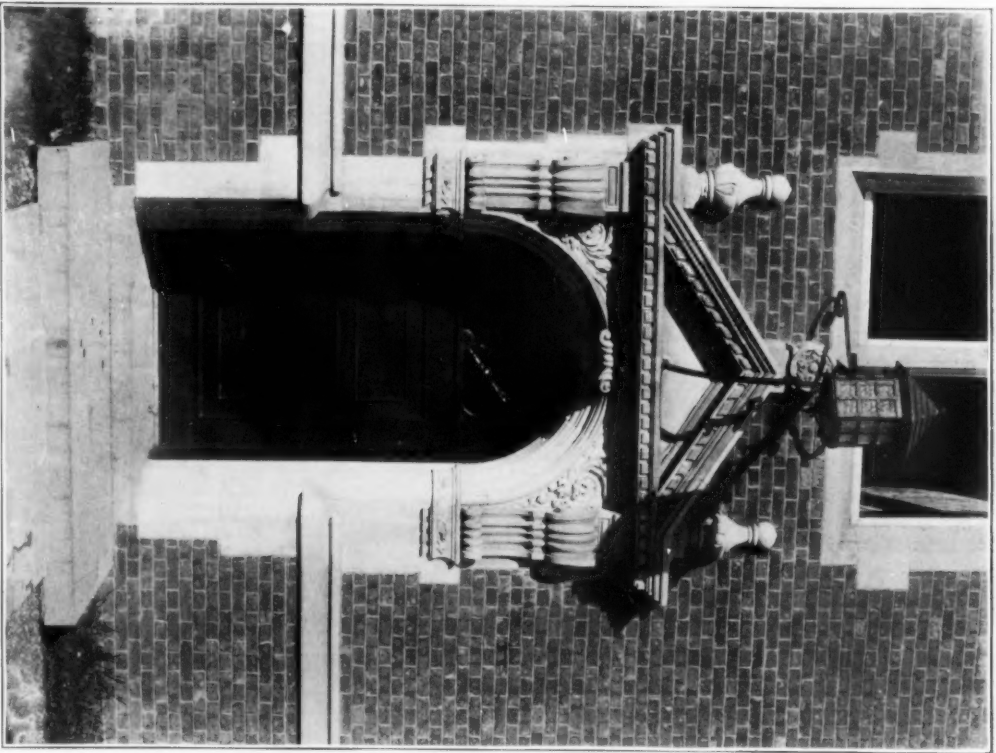
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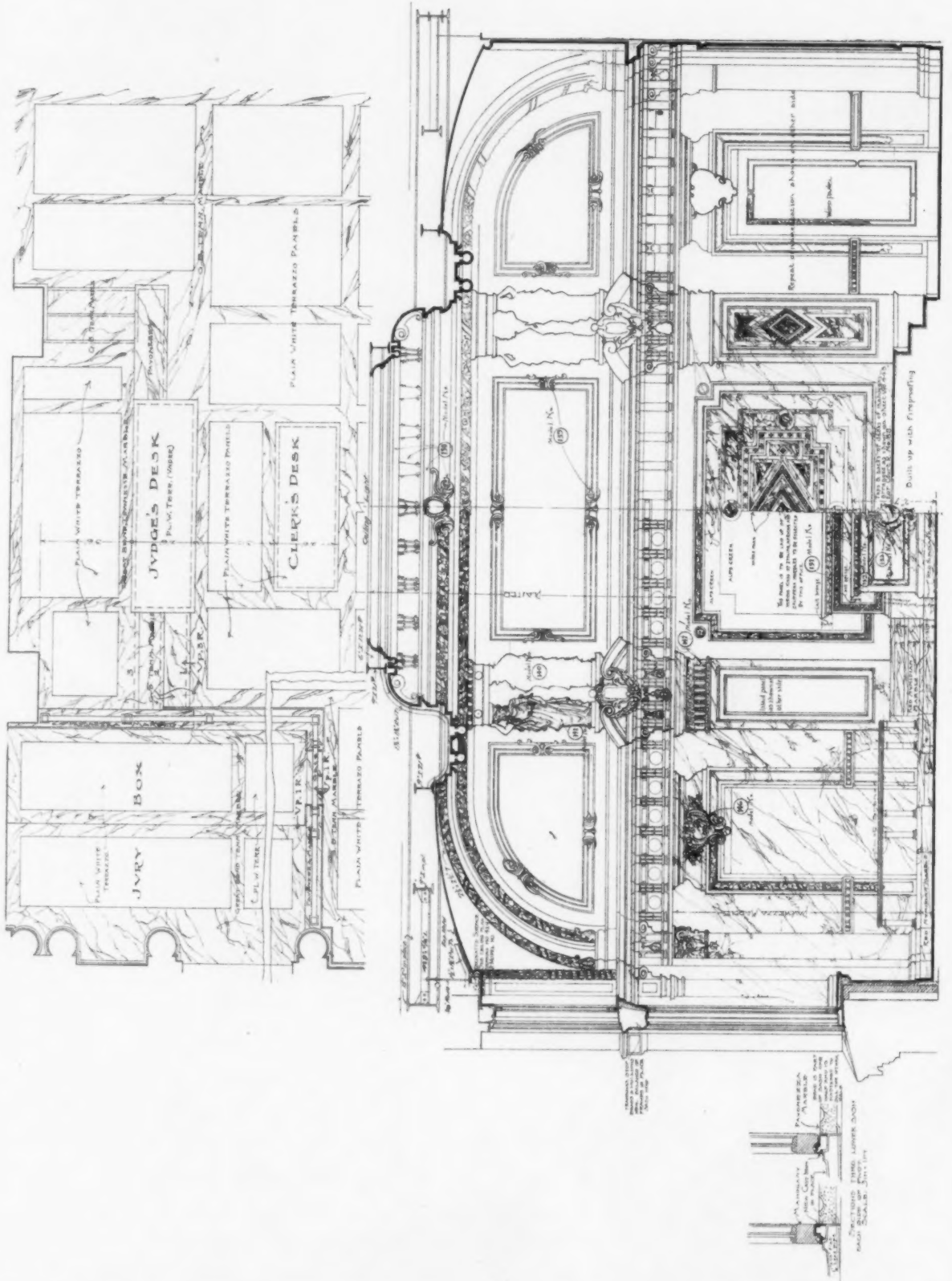
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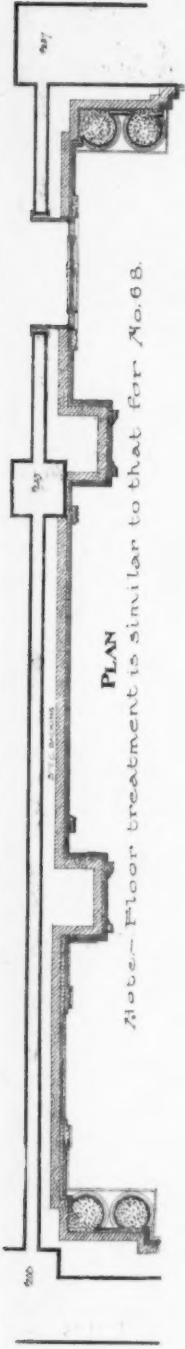


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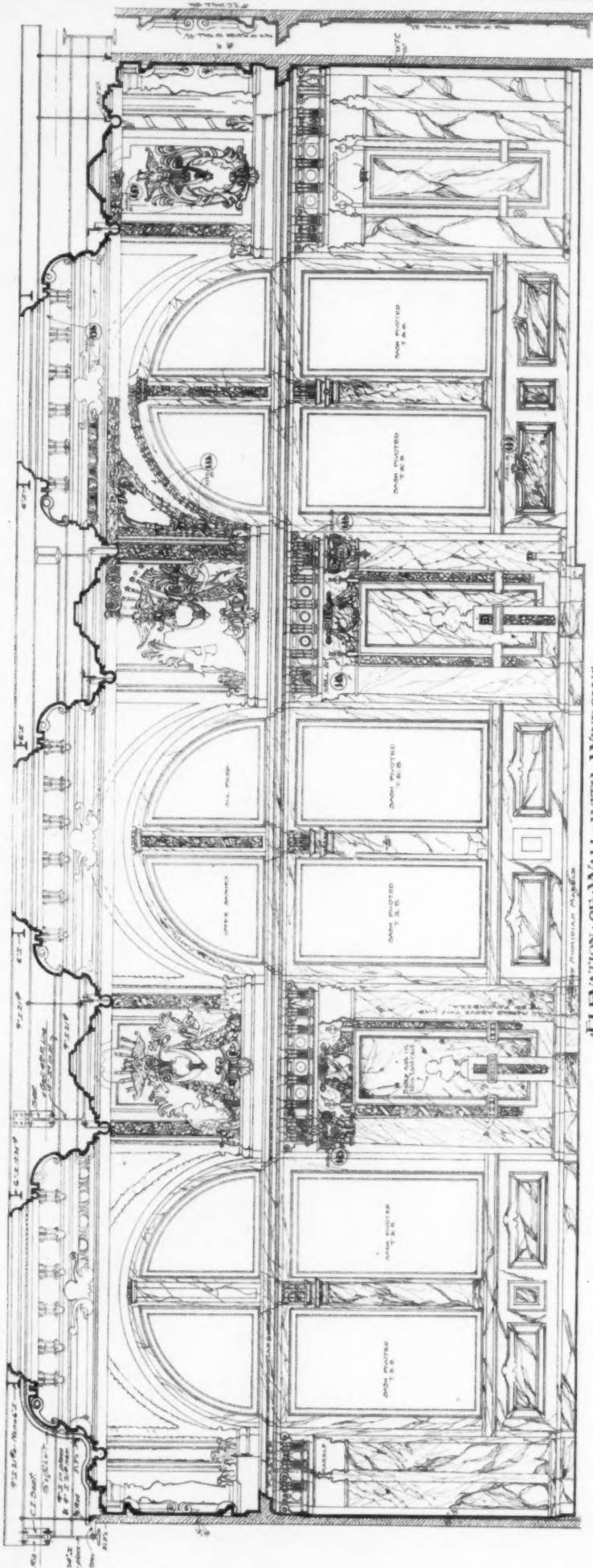


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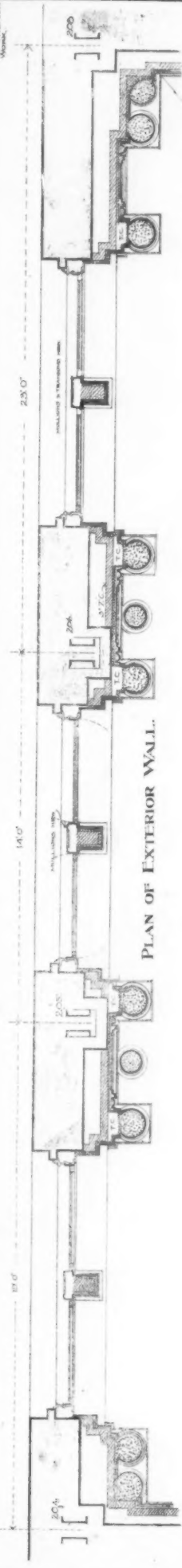


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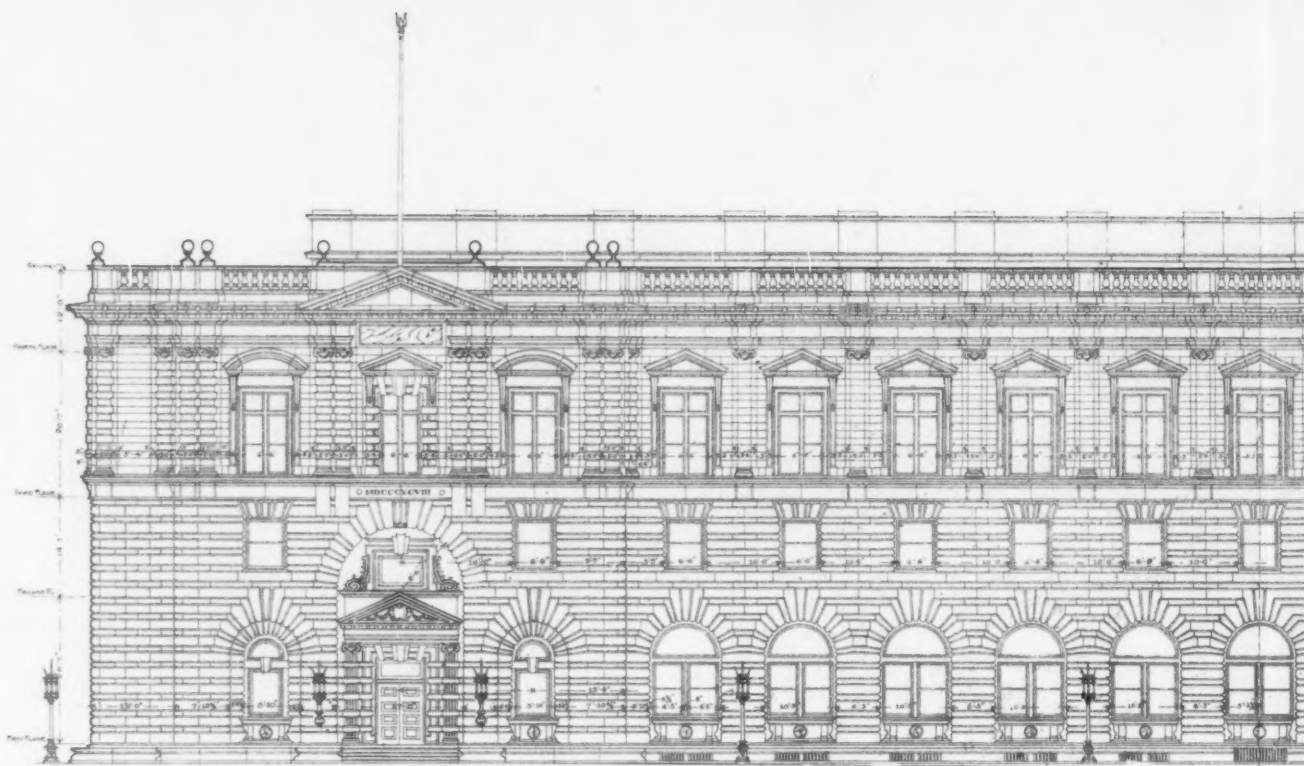


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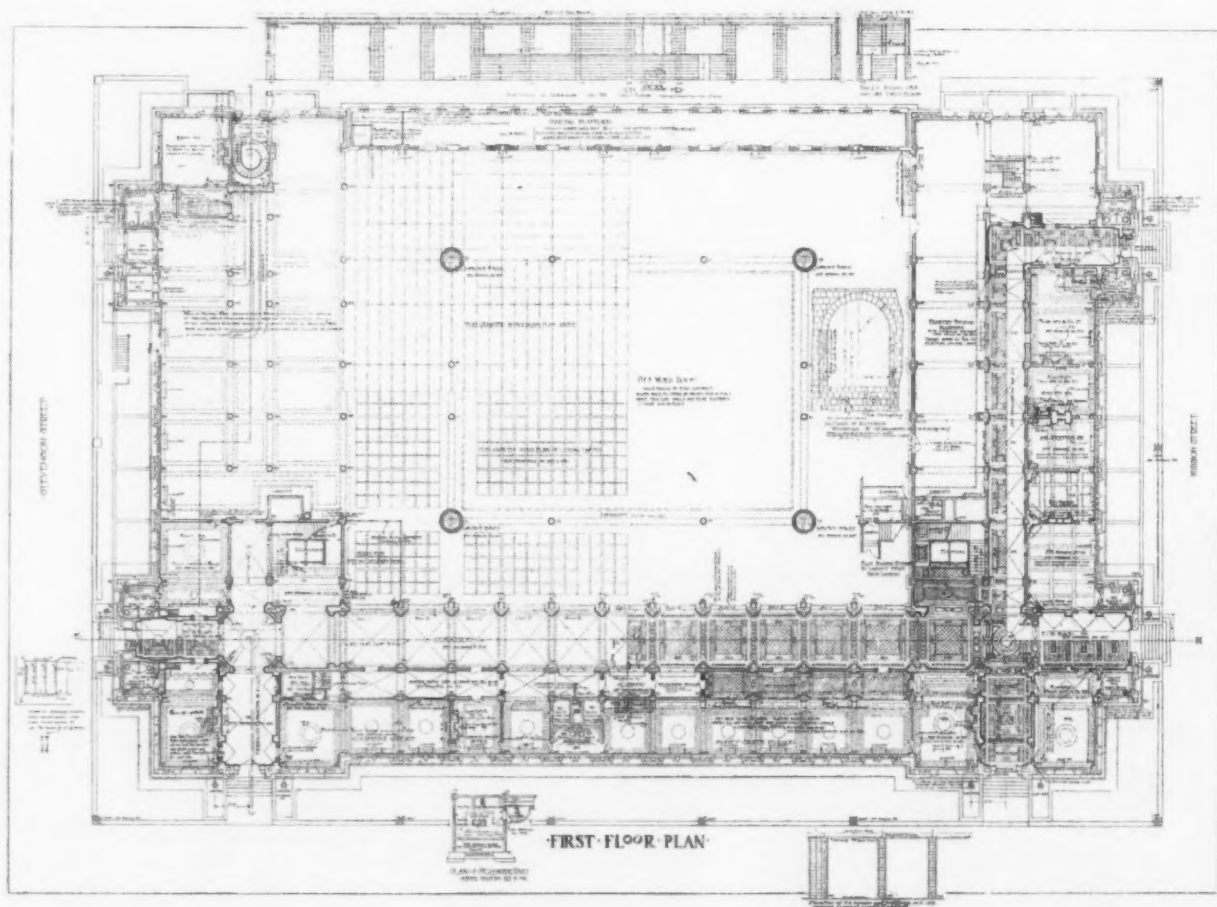
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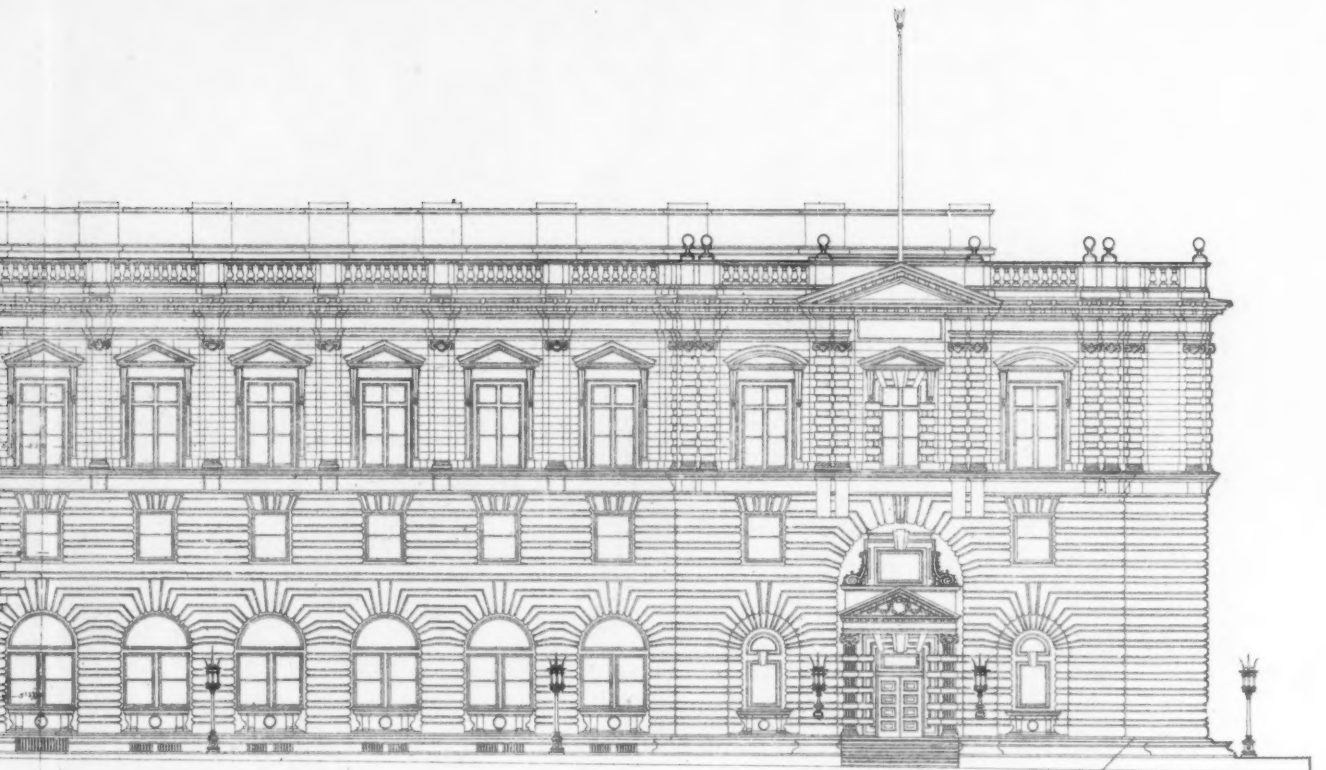
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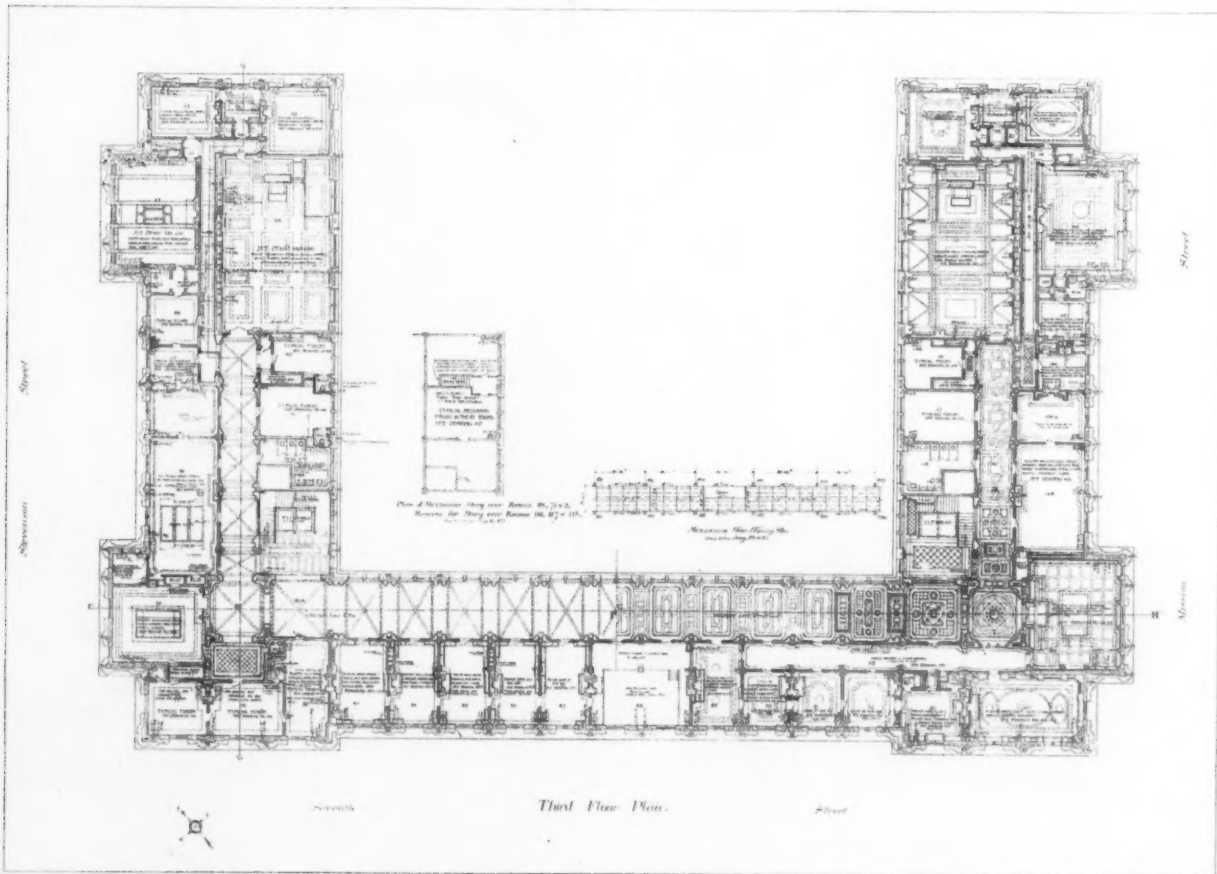
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