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CONTENTS.

MR. FRANKLIN W. SMITH, whose efforts, already familiar to our readers, for the adornment of the City of Washington by an immense group of museums, have been delayed by the necessity for some months' rest and treatment in Europe, has now returned, and asks the coöperation of all persons interested in the advancement of his pet scheme. Such coöperation we very willingly offer, not only because Mr. Smith's long labors, as unselfish as they have been enlightened, deserve the recognition of the profession, but because we heartily approve his scheme, as a whole. As artists and critics, we think that it will be possible to give a little more harmony to the group of buildings than is indicated by the published designs, without injuring the fidelity or the individuality of each element, but this is simply a matter of revision and study, such as every architectural design undergoes before execution. The suggestion in Senate Document No. 209, in which Mr. Smith's plans are described in very interesting detail, for a straight avenue from the Capitol to the old Observatory grounds, on the banks of the Potomac, we do not approve, and we believe that Mr. Smith himself would agree with us that the group of public buildings which he foresees lining it would look much better under a different arrangement. Nothing in municipal topography gives a more fatiguing effect than a long, straight avenue ascending a hill, while the buildings on such an avenue, looked down at from the higher portion, lose immensely in architectural effect. Even if such an avenue were a desirable feature in itself, it would be a great misfortune to Washington to have the beautiful view, from Capitol Hill, over the Botanical Garden and the Smithsonian grounds, cut in two by a wide avenue; and, in practice, the group of future buildings would be far more magnificently and appropriately situated on the riverbank, leaving the present parks intact. It is probable that the matter will come before Congress at the next session, and we shall be glad to see at least a beginning made at carrying out the great educational scheme which Mr. Smith has so long had at heart, and in which so many persons are now interested.

CORNELL UNIVERSITY is said to have in contemplation plans for a College of Fine Arts, to be housed in a building, or group of buildings, to cost about three million dollars. As the income of at least a million and a half would be necessary to provide for instruction, and the care of the buildings and collections, an endowment of something like five million dollars will be necessary to carry out the plan. One of the Faculty of the University is reported as saying that the distance of Ithaca from the collections of the great cities might be regarded as an obstacle to efficient instruction in art at Cornell, but that, in the opinion of the faculty, the art exhibitions of the cities are pernicious in their effect on students, and the young artist will do better to "study out his own artistic salvation" in the midst of "the wild, rugged, scenic combination of hills, lakes, gorges and forests, characteristic of Central New York." If it is better for students to work constantly from nature, a proposition with which we to a certain extent agree, one might enquire why the two hundred and fifty students for whom the school is intended need to be provided with a three-million-dollar building to do their work in. The building of the Paris School of Fine Arts, which gives the best instruction in the world to more than a thousand pupils, could probably be reproduced for one-tenth of that sum, and students who are to work mainly from nature hardly need anything more than a room to show their work in, which the University possesses already.

WE have, of course, no objection to the teaching of fine-art at Cornell University, or anywhere else, but we cannot say that we should be glad to see an endowment of five million dollars, in the present condition of American art, devoted to an attempt to make artists out of two hundred and fifty college students, representing, probably, an annual graduating class of not more than forty. The income of such an endowment ought to be at least two hundred thousand dollars a year, and we believe that the money could be used far more efficiently for the desired purpose in other ways. No one has a higher opinion than ourselves of the artistic capacity of the American people, or is more desirous of seeing it brought out and properly developed; but the way to encourage art is not, as we believe, to take every year fifty boys or girls, whose parents have money enough to send them to college, drive them out into the "wild, rugged, scenic combinations" of the landscape of Central New York, stuff them with lectures on decorative harmony, economy of means and the history of the Cinque-cento, flatter them into the idea that they are all great artists, and send them off with a diploma. Great Britain has tried this system, at an enormous expense, for thirty years, with results which are, to say the least, not encouraging; and, before so much money is sunk here in similar experiments, it seems to us that it would be better to use a small fraction of it in the way in which art has been encouraged in every country in which it has ever flourished; that is, by large rewards to the best artists. There is no need of sending people to college to find out whether they are capable of painting or carving. It is related of Benjamin West, that when he was a boy, and had to rock the cradle of his baby sister, he fell so in love with her pink cheeks and curly hair that, having no other means of providing himself with painting materials, he seized upon the family cat, and robbed it of some tufts of fur, which he tied up into rude brushes, and used, with such colors as he could get hold of, to transfer to paper something of the beauty which had filled his heart. Many other American children are quite as highly endowed by nature as West with artistic sympathies, but they do not find the encouragement that brought him, later, to be President of the Royal Academy, or that is given to French or Italian children. Instead of being told that the practice of art affords a noble and well-paid career, and, as they grow older, being sent to Paris to study at the expense of their village, as has happened to many a French boy, the American child, as soon as he is old enough to begin any serious study, is told that painting and sculpture are mere amusements, by which no one can earn a respectable living, and is, probably, shown some lanky, hairy persons, who wear large, flapping hats, velvet coats and dirty collars, and informed that these are artists. As the mental power which makes the great artist is also available in other professions, and as persons of artistic refinement of mind are the first to revolt against the prospect of lifelong dirt, shabbiness and Bohemianism, those children who might make our great painters and sculptors abandon, with a sigh of regret, their dreams of the beautiful, and devote themselves for life to the practical. Even then they do not lose all their artistic instincts, and a curious indication of the artistic power inherent in Americans, but applied to other purposes than art, is to be found in the graceful lines of our ships, railway cars and machinery, as well as in the force of imagination, or, as we call it, inventiveness, which has brought American engineering

works, and American manufactures, so prominently before the world.

THE problem of artistic development in this country is not, then, to lecture and drill genius into fifty freshmen per annum, but to find the young people in whom the genius is inborn, to encourage them, protect them from petty cares and anxieties, as well as from flattery and Bohemianism, provide them, at the proper stage, with good teaching, and assure them, if they do their best, of a comfortable and honorable career. Something has already been done in this direction, by the scholarships in art which have been established in some of our cities, but much more remains to be done. Instead of half a dozen travelling-studentships, we should have a hundred; instead of a few annual prizes for artists at the great exhibitions, we should have in every school prizes of substantial value for drawing. Those who have seen much of the drawings of school-children must have noticed the frequent evidences of remarkable talent, which disappear as the children grow older, and become engrossed in what they are told are more important studies; and a system which might serve to encourage and develop this infantile genius would be of the greatest value. A few thousand dollars a year, a hundredth part of the income which Cornell University seems to propose to devote to its art department, would provide a multitude of these school prizes, and a few thousands more would pay for better prizes for more important work. It may be said that large sums should be appropriated also for the purchase of meritorious pictures or statues, but this is much less necessary, for the reason that public patronage of artists, particularly in this country, soon follows authoritative recognition of their merit. Even children would find admiring purchasers for the works which had received the highest honors in the school exhibitions, and the average American picture-buyer, distrusting his own judgment, is ready to pay liberally for a guaranty on which he can rely, and which he can exhibit to others, of the merit of what he purchases. Such a guaranty is best afforded by medals and prizes, and the more common the award of such prizes becomes, the greater will be the public interest in them; and with the growth of public interest will also increase public appreciation and patronage of those who win them.

THE last Congress, before adjournment, authorized the War Department to employ an expert to prepare plans for a great public park in Washington, and Mr. Samuel Parsons, of New York, has been engaged accordingly. The *Evening Post*, in speaking of the appointment, congratulates the people of Washington upon their escape from the danger of having their park laid out by an architect or an engineer. We are not sure that some architects could not lay out a very good park, and some engineers are also accomplished landscape-artists, but, in contemplating the "parks," designed by the municipal engineer, which make an effort to adorn so many of our towns and small cities, it is impossible not to agree in general with the *Evening Post*. Washington has always been very much the victim of alleged "experts," of limited fame in their profession, but on good terms with political magnates, and it is a relief to think that the Government money is not to be spent in endowing it with a pleasure-ground, brought, at great expense, to a perfect level, planted with spindly elms and maples, and, perhaps, diversified with a nice open sewer, with banks at one and one-half to one, neatly sodded, running straight through the middle of it.

IN the competition for a monument to the soldiers and sailors who perished in the Spanish War, and on board the "*Maine*," three designs have been selected, which are to be worked out in further detail for a final choice. The authors of the three designs chosen are Messrs. Austin Hays, O. Piccirilli and George Julian Zoinay. The judges of the competition, in which there were forty-five contestants, were Messrs. J. Edward Simmons, W. R. Hearst, John W. Keller, Frederick Dielman, John La Farge, Walter Cook, W. R. O'Donovan, General James Grant Wilson and Dr. G. F. Shrady.

THE chief engineer of the New York Rapid Transit Commission has arranged to have the cement for the construction of the subway tested at the place of manufacture, instead of at the work. The reason given for this change from the ordinary procedure is the very sensible one that, by testing at the manufactory, and storing the cement which has been approved in bins which the cement company is now constructing for the purpose, all the cement shipped to the works will be ready for use without further testing, and the possibility that operations may be stopped at any time by the rejection of all the cement on the ground will be removed, while the reserve of tested cement in the bins of the company will facilitate the regular shipment of the cement required for the subway. It has long been the practice to test structural steel at the mill, and the idea of applying the same system to cement-testing is an excellent one.

A CASE of importance to architects and real-estate owners is before the Rhode Island Courts. Some years ago, a party-wall agreement was made between the owners of two adjoining estates in Providence, who erected five-story buildings in accordance with it. Now, one of the estates has been purchased by the City Realty Company, which is constructing a twelve-story building on it, and proposes to have windows in the party-wall, overlooking the adjoining estate. The owners of the latter disapprove of this, and have sued to restrain the Realty Company from carrying out its intentions. The Realty Company offers to execute an agreement to close the windows in the party-wall, whenever the owners of the adjoining estate wish to use it, but the latter are not satisfied with this. Of course the matter is simply one of the interpretation of the party-wall agreement. If a reasonable construction of this admits of the opening of windows in the party-wall, so long as they do not interfere with the use of the wall by the adjoining owner, or create an easement, the Realty Company is acting within its right. It is said that the Realty Company proposes to put iron shutters on the windows in the party-wall, which will overhang the adjoining property. Its right to do so might, perhaps, be more questionable than its right to open windows; but it would be easy to fit the windows with rolling shutters, which would not project beyond the face of the wall.

LE GÉNIE CIVIL gives an account of the present condition of the work on the Simplon tunnel, of which about three miles have already been cut. As every one knows, the tunnel is built by contract, the drilling of the rock being done by Brandt machines. Work is going on simultaneously at the Swiss and Italian ends, the drilling-machines advancing at each end at the average rate of thirteen feet a day. Dynamite is used exclusively for blasting, the extensive series of experiments with liquid air, carried on at the tunnel works to determine its value as a blasting material, having shown it to be too uncertain in its action for practical use. The temperature in the tunnel varies curiously. In the southern end, a mile and a half from the entrance, it is above eighty-three degrees Fahrenheit, while at the same distance from the northern entrance it is only sixty-nine degrees. Whether this difference on the southern side is due to the heating effect of the direct rays of the sun, which, as is known, penetrate to a great depth into the earth, it would be difficult to say, but future tourists by this route, judging from these indications, should prepare themselves for a warm half-hour in the twelve miles of underground transit. So far, the rock is hard, and it may be hoped that the contractors will avoid the disastrous experiences which brought ruin to the builders of the St. Gothard tunnel. Ever since the beginning of operations on the tunnel, remarkable care has been taken by the contractors of the health of their men, and now, the excavations having proceeded so far as to bring the workmen into a warm atmosphere, provisions for this purpose have been multiplied. The fresh air, which is supplied in ample quantities by means of fans, is cooled by a water-spray before it is delivered, that supplied at the headings having a temperature eighteen degrees below that of the surrounding rock. In addition to this, all the men, in going to their work, pass through a group of buildings, comprising bath-houses, wash-rooms and restaurants. Before entering the tunnel, they are required to change their clothes, leaving their ordinary clothing, and putting on dry and clean working-suits. When they come out of the tunnel, they are obliged to pass through the bath-rooms, where they leave their working-suits, bathe, and put on their ordinary clothes, which are waiting for them, dry, and ready for use. Meanwhile their working-suits are taken from the bath-rooms, washed and dried, to be used again the next day. The group of bath-rooms and restaurants, and all the passages connecting them with the tunnel are carefully enclosed, so that no cold draughts of air can reach the workmen until they have bathed and put on their dry clothes.

DIFFUSION OF LIGHT.[1]—II.

REPORT OF MR. CHARLES L. NORTON UPON THE DIFFUSION OF LIGHT THROUGH WINDOWS.

THE use of glass in windows for the purpose of admitting light has been common for many years, but it is only within a few years that it has been deemed possible to give to the window-glass a further use, that of so rearranging the light as to greatly increase its effectiveness. For twenty years or more rough plate-glass and ground-glass have been in use where it was desired to have a window which

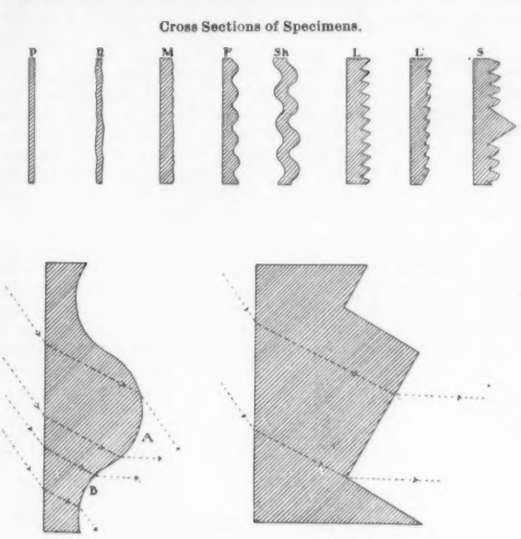


Fig. 2. Fig. 3.

Plate I. Showing passage of Light through Glass.

should be an obstruction to vision without materially diminishing the light. Deck-lights, used in ships for 30 years or more, have diffused or deflected the light to a certain extent.

In 1883 and 1884 examination of several types of commercial window-glass was made by Mr. Edward Atkinson, who was apparently the first to recognize the immense gain in effective light in rooms when lighted by windows which were roughened so that the incident sky light or sun light did not pass directly through them, but was diffused in directions in which it otherwise did not go. In the summer of 1894 Mr. Atkinson laid before me the problem, requesting an examination of some dozen or more different kinds of glass. The hopelessness of trying to get something for nothing, that is, to get a sheet of window-glass to throw into a room more light than fell upon it, appeared so plain to me that I made all my preparations to measure not a gain but a loss of light in using Mr. Atkinson's samples. The results of my tests at that time, published in Circular No. 67 of the Boston Manufacturers Mutual Fire Insurance Company, showed how real was the gain in the amount of *effective* light in small rooms when glazed with a roughened or corrugated glass. The finely corrugated or ribbed glass, described more fully later, was found to give the greatest increase, and has since been widely used under the name of "factory ribbed" glass. Just as I was completing my tests the now common prismatic glass began to be put upon the market and I tested it, finding it slightly less effective as a diffusing medium than the "factory ribbed" glass. An examination of the prisms then used and those now furnished by the company show a considerable gain in efficiency in the newer ones.

The results of the tests on a score or more of different glasses may be stated briefly as follows: —

We may increase the light in a room 30 feet or more deep to from 3 to 15 times its present effect by using "factory-ribbed" glass instead of plane-glass in the upper sash. By using prisms we may, under certain conditions, increase the effective light to 50 times its present strength. The gain in effective light on substituting ribbed glass or prisms for plane-glass is much greater when the sky-angle is small, as in the case of windows opening upon light-shafts or narrow alleys. The increase in the strength of the light directly opposite a window in which ribbed glass or prisms have been substituted for plane-glass is at times such as to light a desk or table 50 feet from the window better than one 20 feet from the window had previously been lighted.

The samples of glass tested were of two distinct types: First, glasses which were roughened or ribbed, primarily to blur distinct vision, and which happened to be of service as diffusing media as well; second, the special prismatic forms, designed especially to divert light of windows from the original downward direction to one more nearly horizontal. The first group consists of comparatively inexpensive glass made in large sheets, and it has often a pronounced greenish tint, which varies with different makes, the white glass being the most desirable. The following samples were tested, their cross-section being shown in Plate I: —

1. Ground glass of different degrees of fineness.
2. Rough plate or hammered glass: Figure R.
3. Ribbed or corrugated glass, with 5, and 11 and 21 ribs to the inch, the corrugations being sinusoidal in outline and the back of the plate smooth: Figure F.
4. Glass known as "Maze," "Florentine" or "figured," in which a raised pattern is worked upon one side, practically roughening the whole surface: Figure M.
5. "Washboard" glass, corrugated, with 21 ribs to the inch on one side and 5 ribs to the inch on the other side, the ribs being parallel.
6. "Skylight" glass, which has 5 ribs to the inch on each side, groove on one side being opposite the rib on the other, giving a sinuous section: Figure Sk.
7. "Baird's hand-made silver glass," with rippled surfaces on both sides; of very beautiful appearance and a clear white color.
8. Glass ribbed on one side and figured on the other.
9. Ribbed glass with a wire net pressed into it, to increase its resistance to fire.

Of these several specimens, one or two may be dismissed with brief mention. Ground-glass is of little value, except as a softening medium for bright sunlight. Its rapidly increasing opaqueness with moisture and dust makes it undesirable as a window-glass. The common rough plate has very little action as a diffusing medium, giving no perceptible change in the effective light. "Baird's hand-made silver glass" has great value as a diffusing medium in small rooms with nearly open horizon. Of the ribbed glasses, the fine "factory ribbed," with 21 ribs to the inch, is distinctly the best, not in all probability because of the fineness, but because of the greater sharpness of the corrugation. The "ribbed wire" glass is about 20 per cent less effective than the ordinary "factory ribbed" glass. The addition of a second corrugation upon the back of the plate giving the "skylight" and "washboard" glass is of no apparent value. The raised pattern imprinted upon one surface of the glass, as in the case of the "Maze," gives the widest diffusion, especially in bright sunlight. A raised figure, when worked upon the back of the "ribbed" glass, renders it less offensive to the eye in bright sunlight, but less effective in deep rooms. The only glasses of this group which it is worth while, then, to discuss further are the "factory ribbed" and the "Maze" glass.

The second group comprises the following glasses: —

1. The Luxfer prisms.
2. The Solar prisms.
3. The Daylight prisms.
4. The glass of prismatic section made by the Mississippi Glass Company.

The Luxfer prism shown in Plate I, Figure L consists of a plate smooth upon one side and deeply notched upon the other, the teeth or prisms being of very flat, smooth faces and of brilliant appearance. The glass is clear white, and the prisms used in canopies and in the major part of the vertical glazing are made in tiles or plates about 4 inches square. Tiles are built up in large sheets in frames of copper or brass, so made as to give to the sheets of tiles a strength and durability far in excess of a single sheet of the same size. The Luxfer prisms are now being made for factory use in large sheets, as well as in the small tiles. The Solar prisms are made in small tiles, which are held together in a metal frame to make large sheets. The main difference between the Solar and Luxfer prisms is that the under face of the former prism is curved instead of plane, as is shown in Plate I, Figure S. The Daylight prisms tested were made in large sheets and of approximately the same cross-section and general appearance as the Luxfer prisms for factory use. No tiles of Day-light prisms were tested, as none came to hand in time for the test. The Mississippi prism glass is much like the other prisms in cross-section, but the ridges or prisms do not run across the plate in a straight line, but in a wavy or sinuous line. I cannot detect any advantage arising from this over the straight-edge prism.

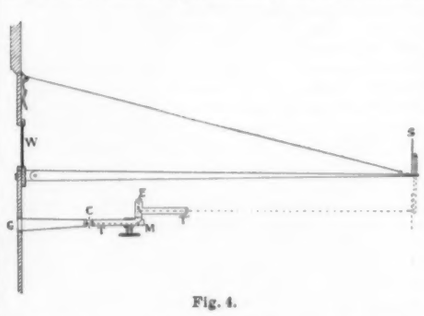


Fig. 4.

The room in which the tests were made is the Physics Lecture-room in the Walker Building of the Massachusetts Institute of Technology. The room is 53 feet deep and 41 feet wide and has a sloping floor, as may be seen in the accompanying Illustrations, which were taken from near the window. In the middle of the west side, at a height of 8 feet above the floor, two openings 12 inches square were left in a large window. All other openings by which light might enter were closed. Over these two windows a shutter might be rapidly slid, allowing light to come through one or the other opening, as desired, and the effect of the difference in glass in the two windows noted. A small screen of white paper was arranged

[1] Continued from No. 1298, page 48.

upon a system of trolley-wires, so that it might be moved about and examined at points in a plane 6 feet below the centre of that window. A radial arm 15 feet long was also arranged to carry a white paper screen in a vertical or horizontal plane for examination of the intensity of the light at different angles. In a window some 15 feet from the one in which the test specimens were tried was placed the photometer, the great rapidity of change in the brightnesss of the daylight, at times, making it necessary to have for a standard light something which would vary directly with the light at the test window. I therefore made use of a modified Cornu "cat's-eye" photometer, the standard of light being a piece of white porcelain so set at the window as to be under the same conditions of light and shade as were test specimens. This enabled us to determine the intensity of light in percentages of light at the window. Examination of the data gathered on 16 days, between August 15 and September 15, shows that the probable error arising from uncertainty in the setting of the photometer is less than 5 per cent. In order that no error might arise from varying outside conditions which might favor one glass momentarily, the screen upon which the intensity measurement was made was kept in one position while all the glasses tested were placed in the window in rapid succession, the screen being then moved to a new position and the series repeated. When the intensity of light falling on the screen was very small, it was necessary to insert calibrated neutral-tint glasses between the porcelain plate and the telescope. In the diagram of the photometer, Figure 4, the window is shown at W, the screen at S, the porcelain plate at G, the "cat's-eye" at C, the eye-piece at E and the telescopes at T and T'. For the benefit of those who are not particularly familiar with photometers, it may be well to state that the apparatus here used is merely a system of lenses and mirrors, by means of which the standard source of light, the white porcelain in the window, may be seen as if side by side with the screen whose brilliancy it is desired to determine. The standard is then obscured gradually, by closing the "cat's eye," until the two images appear of the same brightness. From the area of the opening of the "cat's eye" we may then compute the relative brightness of the standard light and the object examined — in this case, the white paper screen. No measurements were taken when the direct sunlight was upon the window, the slightest variation in the position of the sun causing such a change in the distribution of the light as to make all attempts at measurement hopeless. Moreover, the exceeding brightness of all the specimens except the "Maze" and ground-glass, when in the bright sunlight, is such as to forbid their use where they are constantly in sight, unless they be provided with shades of thin white cloth. This practice of using a thin white shade is to be commended, as it gives a maximum of light when it is needed, in dull weather, when the shade need not be drawn, and yet keeps the eyes protected from a painful glare in bright sunlight. The white cloth shade cuts off about 60 per cent of the light.

As the result of the test made in a room fifty feet by forty feet, we are able to draw the following conclusions: —

First. — The conditions in a room less than fifteen feet deep are such that, except with a sky-angle of less than forty-five degrees, it is not advisable to alter the general course of the light by using a prismatic or ribbed glass. A nearly hemispherical diffusion, such as is given by the "Maze" or "silver ripple," is ordinarily preferable.

Second. — When a room is from twenty feet to sixty feet deep, or even more, and has a sky-angle of sixty degrees or less, the ribbed and prismatic glass gives a very great gain in effective light. The gain in brilliancy is such as to make a basement with prism canopies as light as a second story without them, and the first story with ribbed glass should be distinctly brighter than the second story with plane-glass. If the building which obscures the light from the sky at a window be increased two stories in height, it will be found possible to restore the light by the use of ribbed glass, and to even improve its earlier condition by a prism canopy. The assumption is here made that the obstructing building is at least thirty feet distant. Figure 5 is an attempt to show this graphically by exhibiting sectional diagrams of two mills with a street thirty feet wide between them. On floor B we should receive as effective light with ribbed glass as floor A received with plane-glass. Or, again, the obstructing building shown at the right may be raised two stories in height and we could still have as good a light as we have at present with the plane-glass. The plotted curves show the great increase in efficiency of ribbed glass and prisms as the sky-angle diminishes. The intensity of the light is plotted vertically and the angular height of the obstruction horizontally. Rooms with windows opening upon light-shafts and narrow alleys with very limited sky, where the available light is now small, may have the light twenty feet back from the window increased ten or twenty times by using prisms; and, by using canopies of prisms, it is sometimes possible to strengthen the light from fifty to one hundred times. The data on the varying sky-angle was obtained by placing outside the window, at a distance of about five feet, a vertical curtain, which might be raised to cut off the sky-light at any desired angle, side curtains being provided to cut off the light at the ends of the main curtain.

The accompanying photographs show the Physics Lecture-room with its one window twelve inches square glazed in different ways. These were taken when bright sun was shining upon the window, a condition especially favorable to the glass of the "Maze" type. All were exposed and developed and printed under exactly the same conditions. Figure 7 shows the relative sizes of windows glazed with plane, ribbed or prismatic glass, which would give the same effective light in a room of about fifty feet deep, with a sky-angle of sixty and thirty degrees.

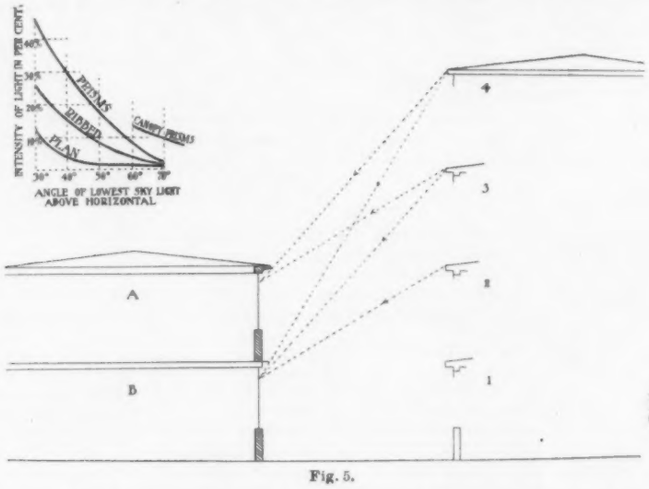


Fig. 5.

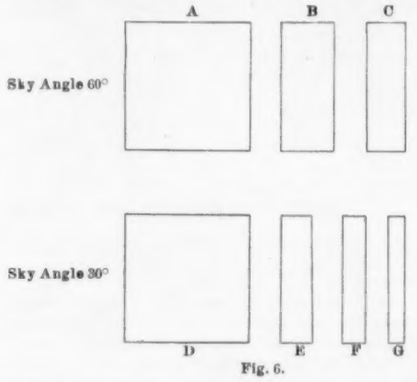


Fig. 6.

A : — Plane.	Area 100	D : — Plane.	Area 100
B : — Ribbed.	Area 40	E : — Ribbed.	Area 25
C : — Luxfer.	Area 30	F : — Luxfer.	Area 17
		G : — Luxfer (Canopy).	Area 13

Fig. 7.

The Luxfer factory-prism and the Daylight prisms for large sky-angle came to hand too late to be examined as carefully as were the other specimens. With sky-angles of thirty degrees or less, and in deep rooms, the relative efficiency of the prism-tile increases greatly.

Figure 6 shows the average distribution of light in a room glazed with plane, "factory ribbed," "Maze" or prismatic glass. It shows more clearly than would a lengthy description the rearrangement of the light resulting from the use of the diffusing or reflecting glasses. The interior of the room is shown in perspective, as if one side were removed.

The refraction of the incident ray in a case of the ribbed glass and prism is shown in Figures 2 and 3, Plate 1.

"Ribbed" and "Maze" glass are of very great value in softening the light, especially in the case of such windows as are exposed to the direct sun, aside from their effectiveness in strengthening the light at distant points. With the "Maze" glass, the artist may have, in all weather and in all directions, what is in effect the much desired "north light." The photographer may have in this way as well diffused a light as he now has with cloth screens or shades, with a much greater intensity. To be efficient in rooms of twenty feet deep or more, ribbed glass should be set with its ribs horizontal, and where the sunlight falls upon it, it should be provided with thin, white shades. All inferences drawn from the test are made upon the assumption that the windows are to be reglazed with diffusing glasses only in the upper half, which is the common practice. If the lower sash is to be reglazed as well, a further increase of about twenty-five per cent may be expected.

The question of the effect of whitening the ceiling cannot here be discussed, but it is certainly much more effective when the window is set with prisms or ribbed glass than when plane-glass is used.

The matter of the selection of one or another of the various types of glass for any particular window can be made in this report only

in a general way. Great difficulty in rolling sheets of sharp prisms has made the use of a small moulded tile imperative until very recently, and what small difference there is between a rolled sheet prism and the tile is due to the deforming of the prism in rolling, thereby causing some light to be thrown in directions not desired. Considering both expense and efficiency, the following general suggestions are given: —

Use "Maze" or "Baird's hand-made silver" glass in small rooms or offices not more than fifteen or twenty feet deep.

Use "factory-ribbed" glass in rooms thirty to fifty feet deep, with sky-angles of sixty degrees or more.

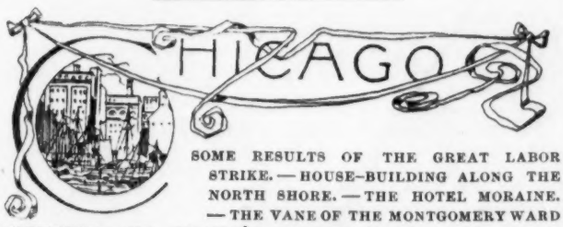
Use "Luxfer," "Daylight" or "Solar" prisms, or "factory-ribbed" glass, in sheets, in all vertical windows in rooms more than fifty to sixty feet deep, with sky-angle of less than forty-five degrees. With a sky-angle of less than thirty degrees, use "Luxfer," "Solar" or "Daylight" prisms in canopies.

It must be borne in mind that one factor, which can be merely hinted at in this report, may be the one which decides the matter of the selection of any one glass, that is, the cost. At present prices we may assume that the "factory-ribbed" glass costs but little more than ordinary double-thick plane-glass. The cost of rolled prismatic glass is not yet established. The cost of the cast prismatic glass is of necessity much greater than of either of the others.

It is to be hoped that some systematic attempt will now be made by glass manufacturers to furnish a "prismatic ribbed glass," if the term may be used, consisting of a sort of prism with a rounded edge made at a cost commensurate with that of the ordinary ribbed glass. This glass should be made in large sheets, and have the ribs or prisms of several different angles for use with different sky-angles. Such glass would often have many advantages over the sharp-edge prism and the rounded corrugation.

Respectfully submitted, CHARLES L. NORTON.

ROGERS LABORATORY OF PHYSICS,
MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
October 8, 1900.



SOME RESULTS OF THE GREAT LABOR STRIKE. — HOUSE-BUILDING ALONG THE NORTH SHORE. — THE HOTEL MORAINE. — THE VANE OF THE MONTGOMERY WARD BUILDING. — MR. FLEURY'S SMOKE EFFECTS. — UNSATISFACTORY WORK IN DRAWING DONE IN THE PUBLIC SCHOOLS. — PROGRESS ON THE POST-OFFICE.

AFFAIRS in building circles have taken a decided turn for the better, and what was more a matter of prophecy at the date of our last letter has become a settled fact. Not for years has the labor question in Chicago been so capable of settlement as at present, nor have the relations between the majority of contractors and individual laborers been more harmonious. The men, after eight months of self-enforced idleness, have learned the hard lesson, that the contractors must run their own business without help from the Building Trades Council. This organization has just inaugurated a new president, William G. Schardt, and although he states his policy will be for peace, many think he will not be able to save the association. And not only has the central organization suffered, but the individual unions as well. The following figures tell a plainer story than any amount of moralizing:

Members of Council when trouble began	30,000
Left Chicago to seek work	9,000
Deserted Council to secure work from Chicago contractors	10,000
Working at odd jobs outside of their trade	6,000
Now idle (at the beginning of October)	5,000

The unions to withdraw from the Council amount to a considerable number, many of them strong organizations. They are those of the brick-layers and stone-masons, the plasterers and hoisting-engineers, the electricians and the bridge and structural iron-workers. Rumors of the withdrawal of the carpenters and plumbers are afloat, and should they withdraw, the fate of the organization would be sealed. Those unions which have not withdrawn are having seasons of discord amongst themselves, and their strength is materially lessened because of these internal dissensions. The contractors insist upon their rights to employ non-union men who have stood by them through the summer. They will not force the matter, however, by placing union and non-union men, in most trades, together on the same building. When it comes to a matter of arbitration and final settlement both parties might say there was much still unsettled; still the strain and stress has been so great on the men that, settlement or no settlement, they have gone back to work, the contractors still maintaining the points taken by them last winter, and it looks a little as if the honors of war remained with them.

We are not, as some people might imagine, on the eve of a tremendous building-boom. We are getting to be too old a city for that, and those interested in building projects who care for that must look elsewhere. The prospects are good, however, for a rational, conservative amount of building in the near future.

In that district north of Chicago known as the North Shore, a great deal of building of perhaps more than average quality is predicted and expected. This will include chiefly houses of the better class. This section, beginning at the north end of Lincoln Park and continuing as far north as Lake Forest, will be in the near future the place where Chicago will find its pleasantest homes. Sheridan Road, which leads through the ravines and along the bluffs of the northern woods, is destined to become for Chicago a combination of Cliff Walk and Jerusalem Road. Since the stringency in the money-market has abated, much building is being planned for all along this beautiful stretch of bluff, either immediately on it or within the few adjoining squares: Winnetka, Highland Park, Evanston, etc., all have their share. While the eastern shore of the Lake is being covered with a sporadic growth of summer-cottages, generally of the cheapest variety, and summer-hotels of a similar nature, the western shore is being utilized for the sites of buildings of the better class, and being surrounded by less picturesque features naturally, art and money are, in a measure, supplying them. Consequently, as said above, this district is destined to be the centre of a good deal of architectural activity of an interesting description. Besides the actual residences, other buildings of a high grade, schoolhouses, etc., are being erected in this section. Evanston has just finished its large township high-school, a building of excellent appointments. The next township, that of New Trier, is now erecting a large and commodious high-school for the use of the five villages within its limits. This building is only now being roofed over, and is not ready yet for criticism and inspection.

Near Sheridan Road at Highland Park, directly on the Lake, the large Hotel Moraine has just been opened this season, of quite a different character from any heretofore seen in this part of the country. While designed only for summer use, it is quite substantial in character and the good taste displayed in its interior decoration makes it a pleasure to be within its walls. Its exterior is a good Colonial, the material brick; but it is on the inside that the great success of the building lies. The whole is very simply treated as befits its style and use, but both in wall-covering, draperies and furniture the greatest success has been reached. Several of the private dining-rooms are especially attractive, where the high wainscoting is treated with a combination of paper and wood panels, the paper being let-in to the wood, which is most harmoniously stained. Casement-windows with leaded panes in these small rooms add one more picturesque feature. The decoration is entirely devoid of any fussiness, but it is so planned as to avoid any effect of bareness in the absence of pictures and ornaments. In going through the house one is led to wonder how so many excellent designs in paper could have been found, and the same thing could also be said of the rugs and furniture, all comparatively simple and inexpensive, but charming in conception. It is said these tokens of good taste and judgment are due largely to the manager of the hotel, Mr. Miller, in whose hands the decoration rested. The Colonial features are very well carried out in the finish of the rooms, and with the exception of some one or two very minor details, like a corner capital thrusting itself into notice in several of the rooms, are all good.

The really important architectural event here this month has been the completion of the Illinois Theatre. Julia Marlowe has opened it amid applause from the hands of the Four Hundred, and the architects, Wilson & Marshall, have been personally honored, one of the firm being called before the curtain on the opening night. In a later letter we shall take up the building more in detail. It is unique of its kind here in Chicago, inasmuch as it is a theatre pure and simple, devoted to the dramatic art, and not a building of which a portion is used for a theatre, while the rest is devoted to shops and offices. All the practical questions which arise in such a building have been given ample consideration. Forty-five exits from the auditorium are said to exist, and all the appointments of green-rooms, toilet-rooms, ladies'-parlor, check-room and foyer are very complete.

One architectural feat which has proved of great interest to Chicago, if we can judge by the crowds who stop to admire and gaze, has been the placing of the great weather-vane on top of the tower of the Montgomery Ward Building. The building has been mentioned before in these letters as the one which complied with the low-building ordinance, but in which owners and architects gave vent to their "feelinks" in a large, square *tower*, which shot up to the height of the tallest sky-scraper. After the structure has mounted in solid steel-and-iron construction in a shape calculated to give commodious office-rooms within its four walls, it takes on a more frivolous form, and, covered with gilded tiles, it continues its upward course to be crowned by the great bronze weather-vane, which is in the form of a nude female figure, bearing in one hand a torch whose flames, blowing backward, act as a vane. The figure rests on one foot on a large ball, while from her outstretched arm extends the caduceus, which is the pointer for the vane. Above the ball to the top of the torch the statue is fourteen feet high, and even at its height of nearly four hundred feet above the sidewalk looks large. The subject is supposed to be "Progress Lighting the Way for Commerce." One rather interesting detail is the way the lightning-rod is arranged. On the tip of the torch-flame is a platinum lightning-rod, a continuous contact for which is obtained by the use of a copper brush at the base of the vane, which is ball-bearing. The

figure is made of heavy sheet-bronze on a framework of solid five-inch steel shafting and structural steel. The revolving part is immensely heavy, weighing over five thousand pounds. It was designed by J. Massey Rhind, of New York, and was cast in Salem, Ohio, by W. H. Mullins. Shining as it is with gold-leaf, it is naturally a striking object, but it is questionable whether the effect of the figure combined with the outline of the tower is all that could be desired.

Whoever says there is nothing picturesque about our smoky, bustling city should have seen the collection of paintings by Mr. Fleury at the Art Institute this last month. He has gloried in the smoke, using it as a vehicle for holding snow or rain on the street, or as a mantle in which to veil the ugliness of the Masonic temple or elevated-railway stations. Sometimes he takes it pure and simple, as belched forth from snorting tugs on the river, now enveloping swinging bridges and great Lake steamers in gray mist, or, lighted by the setting sun, changed to glorified clouds to transform dock and elevator into things of poetic beauty. The pictures, as painted by Mr. Fleury, are charming, and are certainly an education to help us see the beautiful around us. And since we are able to stop a minute on our river and no longer feel we are being poisoned by noxious vapors, we find there is many a picturesque turn to be seen or bit of beautiful coloring. Shall we ever glory in our river, as Venice in her Lagoon and Grand Canal? Mr. Hopkinson Smith would say, perish the thought, "Gondola Days" beside Days in a Tug!

By the side of Mr. Fleury's exhibition are several large rooms full of the drawings of Chicago Public School children. Of course one must remember that the time for such work is of necessity very limited, and that correlation with other work is a drawback from an artistic standpoint; but, every excuse being made, one cannot but wonder how many steps are being taken towards an artistic education, or how far the child is being led on the right path of artistic expression, or even honest expression, as accomplished with the hand. The exhibition seems remarkably poor. The younger grades are not so discouraging, perhaps because so much is not expected of them; but certainly in their work there is more artistic feeling than in the bad drawing and crude productions of the sixth, seventh and eighth grades, which come after five, six and seven years of a certain amount of study. The favorite vehicle at present seems to be colored chalks, which are used, with almost a total absence of drawing, in great crude patches of color. With some half-dozen notable exceptions this is true of the work done in nearly all the higher grades, and it would seem, if one could judge from the result, no vehicle for the use of the young could be worse than these colored chalks. It certainly gives them false ideas of color, it is almost impossible for them, with their unskilled hands, to draw at all accurately with them, and it must cultivate in them such slovenly and untidy habits as would take years to counteract should they ever wish to become draughtsmen. No doubt, for the child who has talent, perhaps we should say genius, these colored chalks serve their purpose, but how few such children there are compared with the great crowd who wallow in these crude tones, spoiling good paper, their clothes and their eyes, and in return are not learning a thing. Give a child a soft pencil to teach him accuracy, and if you are afraid of the hard outline let him try monochrome with a brush and see if he can in any way approach the result obtained by the little Japanese children, as shown in their World's Fair exhibit. While the schools are having such hard work making the taxes go around as far as they should, it seems a pity to put money into a department which obtains no better result than this.

The thirteenth annual exhibit of American Oil-paintings and Sculpture is now being held at the Art Institute.

We had almost forgotten to mention the *really* great architectural event of the month, which has been chronicled from time to time in the daily press, no doubt correctly. We refer to the placing of seven rivets and four pieces of stone in the skeleton of the Federal Building. By careful estimate the same authorities have calculated that thirty years will be consumed in the completion of the structure, but promises are held out that work is about to be *pushed*, and we may have as many even as twenty-one rivets put in place in a day.

COB BUILDING.

THE method of utilizing earth in building is not unknown in England, an approximation to it being found in what are termed the "cob" walls of some Devonshire cottages. Chapple, in his "*Survey of Devon*," 1785, derives the word "cob" from the British word chwap (*ictus*), or from the Greek *koptos* (*contusus*), because the earth and straw ought to be well beaten or pounded together. The more loamy the earth the more suitable it is considered. These walls "formed of clay and chopped straw are generally 2 feet in thickness, based upon either brick or stone foundations, 3 feet or 4 feet in height above the level of the soil. Houses so built are warm and healthy, and usually covered with thatch. Like pisé-work, they require to be carried up at several times, for if hurried the wall will not settle equally, but will bulge and incline from the perpendicular, The earth selected is loam mixed with a certain proportion of straw, the whole being well beaten and pounded before it is used. The first height of 4 feet being carried up all round, and the divisions or walls brought to the same level, they are left some weeks to dry and settle, each succeeding rise being diminished in height as it is carried up. The workman stands on the wall to receive the cob, which is pitched to him or brought from below, he treading and pressing it down as it is thrown in. After a rise has been made in the wall, the sides are carefully pared down before the next addition is made to it; this is performed by an iron cob-parer, which in shape bears some resemblance to a baker's peel. At the openings which are to be afterwards cut out, as the doors and windows, lintels are introduced, due allowance being made for settlement. These rest their ends on templates or cross-pieces, to which they are secured. When the earth has sufficiently settled and dried, the apertures are cut out, and the sides, or reveals, carefully dressed; the whole is then coated with a fine plastering.

"Experience has shown that in an ordinary climate walls of 1 foot 6 inches or 1 foot 8 inches in thickness finished about the commencement of May are sufficiently dry in September or October for plastering. Those finished in July or August may generally be completed before the frost and rain have any effect upon the work. Although pisé is formed of earth scarcely wetted, while the unburnt bricks of the ancients were kneaded with straw and water, it is nevertheless prudent to regard Vitruvius's observation 'not to apply plaster unless the middle is dry.'" Plaster is not so much needed for its protecting power as for appearance's sake. In the Department of the Isère there are ancient houses of pisé that have never been plastered on the exterior, and which still resist all the inclemencies of the weather.

Stucco, or plaster, if kept dry at top and at its foundation, and no water allowed to drop upon it, will last for centuries. Where this construction is adopted for garden walls it is necessary to thatch the top, or cover it with tiles to prevent the destructive effects of every shower of rain. The durability of cob is said, locally, to depend upon its having "a good hat and a good pair of shoes."

The chimney of the pisé house may be constructed of alternate layers of earth and wooden slabs bound at the angles by long wooden pins penetrating through the entire height of the chimney-shaft above the roof. The lower ends of the four binding-pins might be secured to the roof at the rafters; or, if carried lower, might be fastened to the collars of the roof, which would enable them to resist the storms.

The capping-board should be amply sufficient to protect the outside from the falling rain. For which purpose, also, it should have a groove around it on the underside, to prevent the coursing of the raindrops along its under surface and down the outside of the chimney-shaft.

The next matter to be seen to is the roof.

The walls and gables being now up to their top level, square pieces of wood, nearly as long as the wall is thick, may be laid across at every 2 feet apart all around the walls and gables, and be bedded in the clay. On these may be laid and secured the wall-plate, which is a connected length of 2-inch boards on which the roof is to rest. That is, the rafters are to be notched on their underside at about 2 feet from their ends, and at this notch they are to be pinned or secured to the wall-plate. A stick — say, 2″ x 4″ — may now be laid across the tops or points of the gables, and, stretching over the whole length of the house, project 2 feet or more at each end. If one stick cannot be had of the required length let two, or even three, sticks be halved together to make up the required length. Against this pole-plate, or ridge, the rafters are to abut and be nailed. It will, of course, be divided where the chimney-shaft comes through the roof. At this point each piece will be nailed to the rafters next to the chimney. But perhaps the simplest construction would be to omit this pole-plate altogether, and nail the rafters across each other at their tops. Sawed rafters are, of course, the most desirable; but when they cannot be had, and only boughs of trees are available, they must be as straight as possible. Take a piece of board, and cut into the required form of the rafter, making the notch where it is to come, and cutting the lower end square off. This is the pattern by which all the rafters will be uniformly cut. In order to make this pattern correctly, it will be necessary to lay out, or mark, the plan of the roof, full size, on the ground in this manner: Measure half the width of the house to the outside of the wall and add the projection of the rafters beyond the wall, say 1 foot 6 inches, to that. Let us suppose the whole width from out to out of the walls to be 18 feet; adding twice 1 foot 6 inches (the projection) it makes 21 feet; the half of which is 10 feet 6 inches, the height or pitch of the roof. Lay off this pitch on the ground, and with a rod or straight strip, join the two points (the top of the pitch and the extremity of the breadth and the length of the rafter is found) that is, 14 feet 9 inches nearly. Now mark where the notch will come, and square it off. Apply the piece of board you intend for your pattern to this and mark it accurately; then cut it out, and from this pattern mark alike and cut all the rafters, taking care that there are none of them less in length than the required standard. They may overrun, for it is easy to cut them off afterwards when nailed together in their places. Where the chimney-shaft comes up, nail on bridging-pieces, from rafter to rafter, at each side of it, and as close as to help brace it. Board over with rough boards the whole roof, and shingle it. Stop up all the putlog holes by ramming clay into them on both sides.

The roof may be covered with shingles, these being pieces of board of any convenient size, sawed out to shape, which may be either that of a simple long square, or have one end cut to an angle or rounded off. The first course of shingles are those nearest the eaves, and from thence the covering is continued upwards towards the ridge, each succeeding row "breaking joint" with its predecessor and lapping a little over it.

Another way of covering the roof is to nail battens to the rafters as if for shingles, and nail boards to the former, the boards running from ridge to eaves. The joints of these boards are afterwards to be covered with narrow strips of wood, the whole roof receiving, subsequently, a couple of coats of good paint..

Now plaster and rough-cast the outside, and plaster the inside of the house; of course, giving sufficient time to the fresh filling-up of the holes to dry.

When the walls of a compressed-clay house are erected in the summer, they should not be plastered until the autumn, so that the action of air in that time may take the moisture completely out of them. And if built in the autumn, they should not be plastered until the following spring, or until the frost is quite gone.

To prepare the walls for plastering, a small scaffold can be easily constructed with a few poles and some boards, taking care not to bear upon the wall. The walls should be first indented or picked with the sharp point of a hammer, all the dents being made as close as possible to each other, and each being deeper above than below, so that the plaster may have a good hold on each dent. Previous to putting on the plaster, let a stiff brush be applied to the dents to remove any loose earth or dust.

The rough-cast, or pebble dashing, which is to go on the walls, is composed of lime and sand in equal parts, sifted through a coarse sieve and mixed with water in a tub to the consistency of cream. The wall has first to be sprinkled with water, either by a brush or a bundle of twigs, to prevent the surface from receiving too much wet.

The rough-casting must be carefully done by first sifting the sand away from the stones, holding the sieve in water, then running the grit through a coarser sieve, likewise in water. To this grit as much lime as will make it hang well together is added, mixed with clean water, well stirred in a tub, and in putting it on a coat of hair-mortar is spread over the wall, and the rough-cast taken up, a little at a time, in a small shovel, and thrown against it.

If hair cannot be readily had, some hay, or straw, or split reeds, cut in short lengths, may be used.

Stucco is generally made from lime and sand in the proportion of one bushel of unslaked lime to six bushels of clean, sharp sand. The pisé walls are prepared for the plastering by roughing them with numerous small indentations made with the point of a small hammer or pick, which holes afford a kind of key to the plaster. The putlog holes may be left unstopped until this work is completed, if desired, and will serve to afford means of fixing a scaffold for the plasterer. For the stucco finishing the walls, indented over as described above, are swept clean of dust with a brush and sprinkled with water. The plasterer now places some mortar or stucco on his "hawk," which is a flat piece of board 1 foot square, provided with a handle underneath, and lays the mortar on with a plastering trowel, pressing it well into the holes with the trowel, and working the surface smooth and level, occasionally sprinkling it with some thin mortar by means of a brush.

The stucco wall may be limewashed over, the wash being made by dissolving some unslaked lime in clear water, and going over the stucco with it before the former is quite dry. — *Illustrated Carpenter and Builder.*

ILLUSTRATIONS

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

THE SOLDIERS' AND SAILORS' MEMORIAL MONUMENT, NEW YORK, N. Y. MESSRS. C. W. & A. A. STOUGHTON AND P. E. DUBOY, ARCHITECTS, NEW YORK, N. Y.

THIS monument which is at last to occupy the high ground in Riverside Park between 89th and 90th Streets, the ground having already been broken for it, is the result of much labor and most careful planning on the part of the Commissioners having it in charge. The history of this work is briefly this: —

Under Chapter 522 of the laws of 1893, the Board of Commissioners of the Soldiers' and Sailors' Memorial Arch or Monument was formed, consisting of the Mayor, the Comptroller, the Recorder, the President of the Department of Parks, the Commissioner of Public Works, and the Chairman of the Grand Army of the Republic in New York; but although meetings of this Commission were held from time to time, no definite action was taken until the summer of 1897, when a competition was instituted for a design for the monument; the site having been chosen at the first inception of the enterprise, the Plaza at 59th Street and Fifth Avenue.

Seven architects were invited to submit models, and the expert advisers of the Commission, Professors Ware and Hamlin, of Columbia University, and Mr. Russell Sturgis, unanimously awarded the first place to the design illustrated by a gelatine print from the plaster model, the Commission confirming this decision and entrusting the successful architects with the work.

Under the former Charter of the City a Municipal Art Commission existed, consisting of four members, the concurrence of all being necessary for the acceptance of any public work of art. It happened in this case that one of these members had taken part as a competitor in the competition. The design and site coming before this Commission, the site was objected to by one of the members who withheld his consent to it, so that the Monument Commissioners were obliged to seek a new site. This was found at the extreme northern end of Riverside Park on the axis of the new viaduct overlooking Manhattanville and the Hudson River. Approval of this site was once more denied and the work thereby indefinitely delayed.

When it was again taken up, the Municipal Art Commission under the new charter concurred with the Monument Commission in the selection of "Mount Tom" in Riverside Park at West 83d Street, and the architects prepared an entirely new design to suit this place. On mature reflection, however, this site also was considered unsuitable, especially as during the interval between its selection and the preparation of the design several high apartment-houses had been erected adjacent to it. At last with the unanimous concurrence of the Monument Commissioners, the Park Department and the Art Commission, the present site in Riverside Park, near 89th Street, was chosen, and the scheme for the monument and its approaches here shown was accepted.

As shown by the illustration, the monument consists of a circular temple structure standing upon a platform approached on the north and south by wide steps. The platform is circular in plan with projecting corners; it is surrounded by a marble balustrade with pedestals at the corners; its pavement is of brick with stone bands and borders. The steps and base courses are of granite with a granite step around the monument. This step with a granite seat upon the monument itself serves to accentuate the base of the monument, and to bring it firmly down to the ground. Above these first courses the remainder of the monument is entirely of white marble, including the roof. There is a high rusticated basement carrying a colonnade of twelve columns about 36 feet high with an entablature and cresting, a low attic and pyramidal roof.

A single door on the south affords entrance, and a single window lights the interior. Entering, one stands in a circular chamber 16 feet in diameter and 48 feet high, roofed by a vault with an eye through which the light from the window will fall. Five semi-circular niches increase the apparent size of this chamber. These will be used for the display of stands of arms, flags, and other trophies.

The entire interior is of white marble forming a very simple and severe architectural setting for it.

The monument is 96 feet high above the platform, which is about 5 feet above the ground. Its diameter outside of the columns is 35 feet. The scale of the whole is large, the divisions of its masses few and simple; its composition dignified.

The surroundings of the monument will be worthy of the structure itself, and it is expected that with the collaboration of the Park Department a very interesting approach and disposition of formal gardening may be attained, which will set off to the best advantage its architectural character.

Below 88th Street, the drive extends for four blocks without a turn, but between 88th and 89th Street it turns eastward. The sidewalk, however, will be continued in the same straight line directly into the park, and the monument placed upon its axis as a centre, so that a person will have the monument directly in view ahead of him when approaching from the south for more than a thousand feet. The walk where it enters the park will be widened, paved, and furnished with coping, seats, pedestals, and other decorations, and will lead up to a small piazza by steps 40 feet wide, which in turn will give access to the platform itself. This piazza will be placed on the axis of 89th Street, and will thus serve as the direct entrance from that street, with steps descending the slope to the west. On the north a path will encircle the monument following the general slope of the ground, but with a supported grade; this path will also have landings and steps with a pergola to serve as an outlook upon the river. It is intended, if all plans are carried out, to extend this path to the retaining-wall above the railroad tracks, crossing them by a bridge to a landing-stage upon the river, making it thus possible for landing parties to ascend by an easy grade to the monument. It is expected that the entire work will occupy about one year and a half.

PLAN AND APPROACHES OF THE SAME.

DIAGRAMS ILLUSTRATING THE DIFFUSION OF LIGHT.

SEE article elsewhere in this issue.

NEW ASSEMBLY-HALL: REFORM SCHOOL FOR BOYS, WASHINGTON, D. C. MESSRS. MARSH & PETER, ARCHITECTS, WASHINGTON, D. C.

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

DESIGN FOR A COUNTY COURT-HOUSE. MR. THEO. C. LINK, ARCHITECT, ST. LOUIS, MO.

FIRST PRIZE DESIGN FOR THE CHURCH OF ST. JOHANNES, MALMO, SWEDEN.

THIS plate is copied from *Teknisk Tidskrift.*

[Additional Illustrations in the International Edition.]

DETAIL OF THE FIFTH AVE. FRONT: METROPOLITAN MUSEUM OF ART, NEW YORK, N. Y. RICHARD M. HUNT, ARCHITECT.

ORIGINAL DESIGN FOR THE SOLDIERS' AND SAILORS' MONUMENT, NEW YORK, N. Y. MESSRS. C. W. & A. A. STOUGHTON AND P. E. DUBOY, ARCHITECTS, NEW YORK, N. Y.

SWANSEA ROAD BOARD SCHOOL, READING, ENG. MR. GEORGE W. WEBB, ARCHITECT.

PROPOSED SHOOTING-BOX, NEAR ANDOVER, ENG. MR. SYDNEY PERKS, ARCHITECT.

COMMUNICATIONS

[*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.*]

REDRESS FOR UNAUTHORIZED COPYING.

New York, N. Y., November 3, 1900.

To the Editors of the American Architect: —

Dear Sirs, — Will you kindly tell me what redress an architect has when a competitor copies his plans, line for line, and builds a house for a client duplicating one already erected.

Has the injured party cause for action against both architect and owner?

Does the Institute act in any way in behalf of a Fellow?

While I do not want to ask too much of you, perhaps you can tell me where to get definite and positive advice in regard to this matter.

Does any case written of in your paper that I could look up occur to you? Yours respectfully, A. B. C.

[The architect in such a case is entitled to recover whatever damage a jury may think he has suffered by the conduct of his competitor and his client. If the client did not know that another building was being copied for his benefit, the architect only would be liable for the damage; if both knew what was being done, both would be liable. In the present case, we fear that it might be difficult to prove actual loss to the satisfaction of a jury. The law provides a way for artists to secure exclusive ownership of their designs, by the formality of copyright, and an infringement of a recorded copyright exposes the infringer to punishment, whether any damage is shown or not; but the mere copying of a design, which its author has not taken the trouble to copyright, is, in itself, a legally innocent act, which exposes the one who does it to a claim for damages only in case actual damage is shown to have resulted from it, just as a person is liable for the damage which may be caused by his cows getting into his neighbor's cornfield, or by any other circumstance for which he, although innocent, is responsible. The American Institute of Architects has never, so far as we know, come to the assistance of its members in their legal controversies, and it is doubtful whether its laws would permit it to do so, unless by a formal vote of sympathy, or, in case the offender were a member, by investigation and discipline. — Eds. American Architect.]

THE LIFE OF IRON LATHING.

New York, N. Y., November 2, 1900.

To the Editors of the American Architect: —

Dear Sirs, — Can you or any of your readers give information as to the life of iron-lath when used on exterior of frame-construction for cement rough-cast? Does it rust out in time, or does the cement covering of $\frac{1}{4}''$ to $\frac{3}{4}''$ protect it? My own experience is inconclusive. In one case after five years with very poor covering of Rosendale-cement the lath completely rusted out. In another case with high-grade Portland-cement there was no deterioration after seven years.

Yours truly, A.

[Our own experience is that iron-lath for outside work will remain uncorroded for many years if properly covered with mortar or cement. No doubt some of our readers can give more detailed information. — Eds. American Architect.]

NOTES AND CLIPPINGS

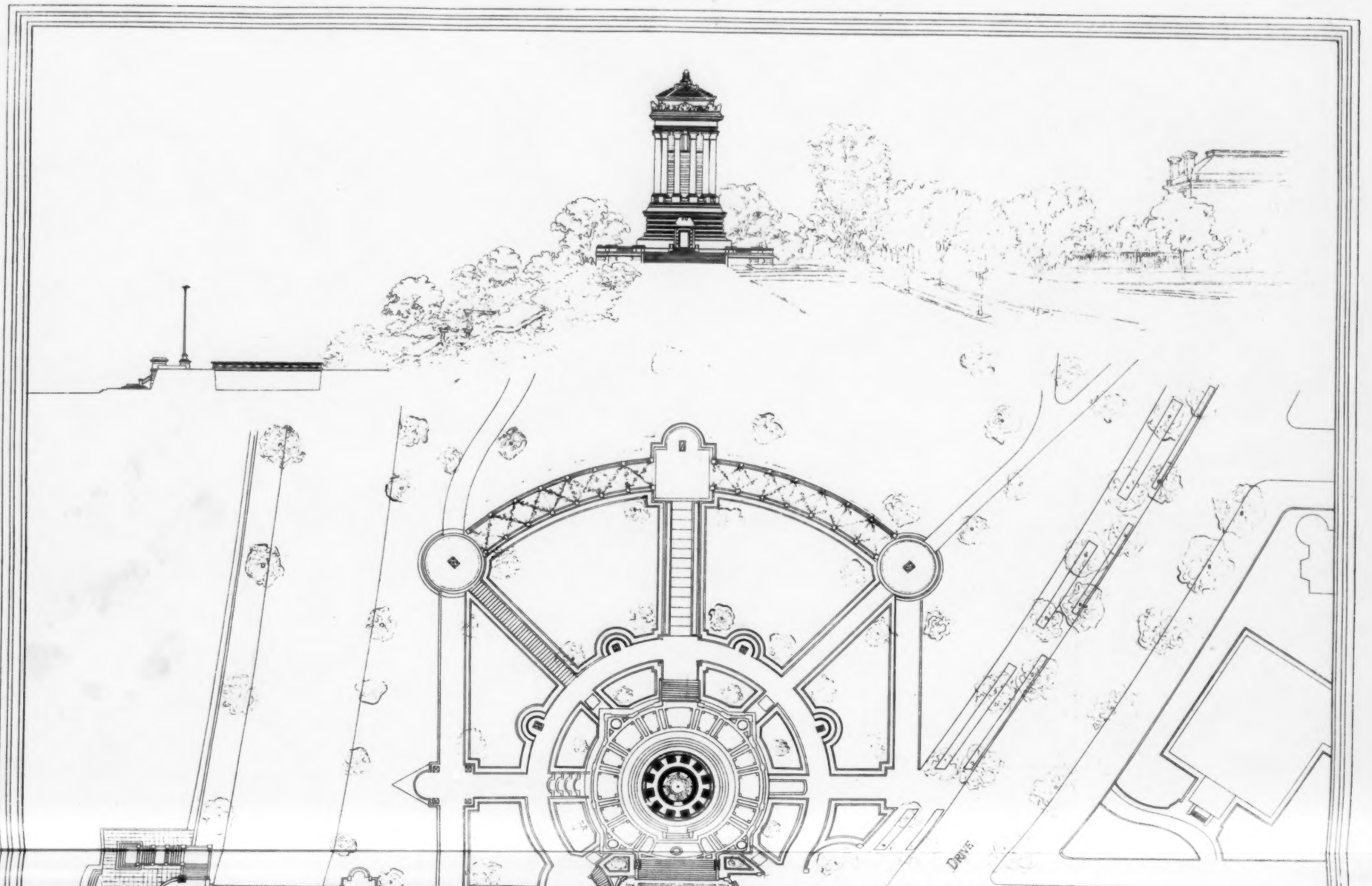
Mexico's Prehistoric Relics. — Professor William Niven, of New York, the archæologist and mining expert who has been making explorations in remote sections of the State of Guerra, has just discovered ruins of some prehistoric cities covering hundreds of miles. He said: "Across the Cocula River and within five minutes' walk of the Rio Balsas, there are ruins of buildings covering about one acre, the plastered walls standing over four metres high. All along the ridges on the south bank of the river, leading past Tomistlahuacan, remains of houses are to be seen, most of them, however, were foundations. Were it not for the fragments of terra-cotta that are plentifully scattered about they would hardly be noticed. At Acatlan there are numerous *momeselles*, or mounds, some of which had been opened by the natives, and in nearly every Indian hut, beads, axes and small idols of diorite and jade can be found. It was about halfway between here and Tlacoptea, at a place called Calcahuatia, that the two diorite pedestals covered with hieroglyphics were found a couple of weeks ago. Farther west, at Chautepec, hundreds of ruins are to be found on all the filos or ridges, and the ridges east and west of the Teotepic River are covered with these remains of prehistoric dwellings. In many of the ruins, especially in the neighborhood of Guerrero, immense fragments of thick pottery covered with slag are scattered about. Some of this slag has been assayed and found to contain three to four per cent of copper with a little gold. This furnishes evidence that mining was one of the vocations of this race, and it is not at all unreasonable to suppose that here may have been at least one of the sources from which Motecupsoma's mineral wealth was obtained, as this is one of the most promising gold belts in the country. There were no signs of work having been done on any of the mineral veins which have been found in this section, but prehistoric mining might not have been done on an extensive scale. Going north along the Teotopec River, on the higher banks of the river, prehistoric remains of buildings are visible every league or so, particularly at Ciruelas, Nantzintla and Acambaro. There are subterranean dwellings at Limon Hacienda, Teja, Huautla and Tetelea del Rio. At Tetelea there are ruins of what appears to have been a temple, with some twenty steps about four metres long leading up to it, and about a league west there is an immense flat mass of diorite about seven metres in length by three metres, covered with hieroglyphics carved in the stone. All along the Balsas, on both sides of the river, the banks and ridges have been thickly populated, particularly at Oapan, Mescala, Ascala, Las Juntas, Zacapostepec, Cascalote, Pezoapan, El Cubo, Santo Tomas, San Miguel, Totalapan, San Lorenzo, Changata and Covuca de Catalan." — *Boston Transcript, October* 19.

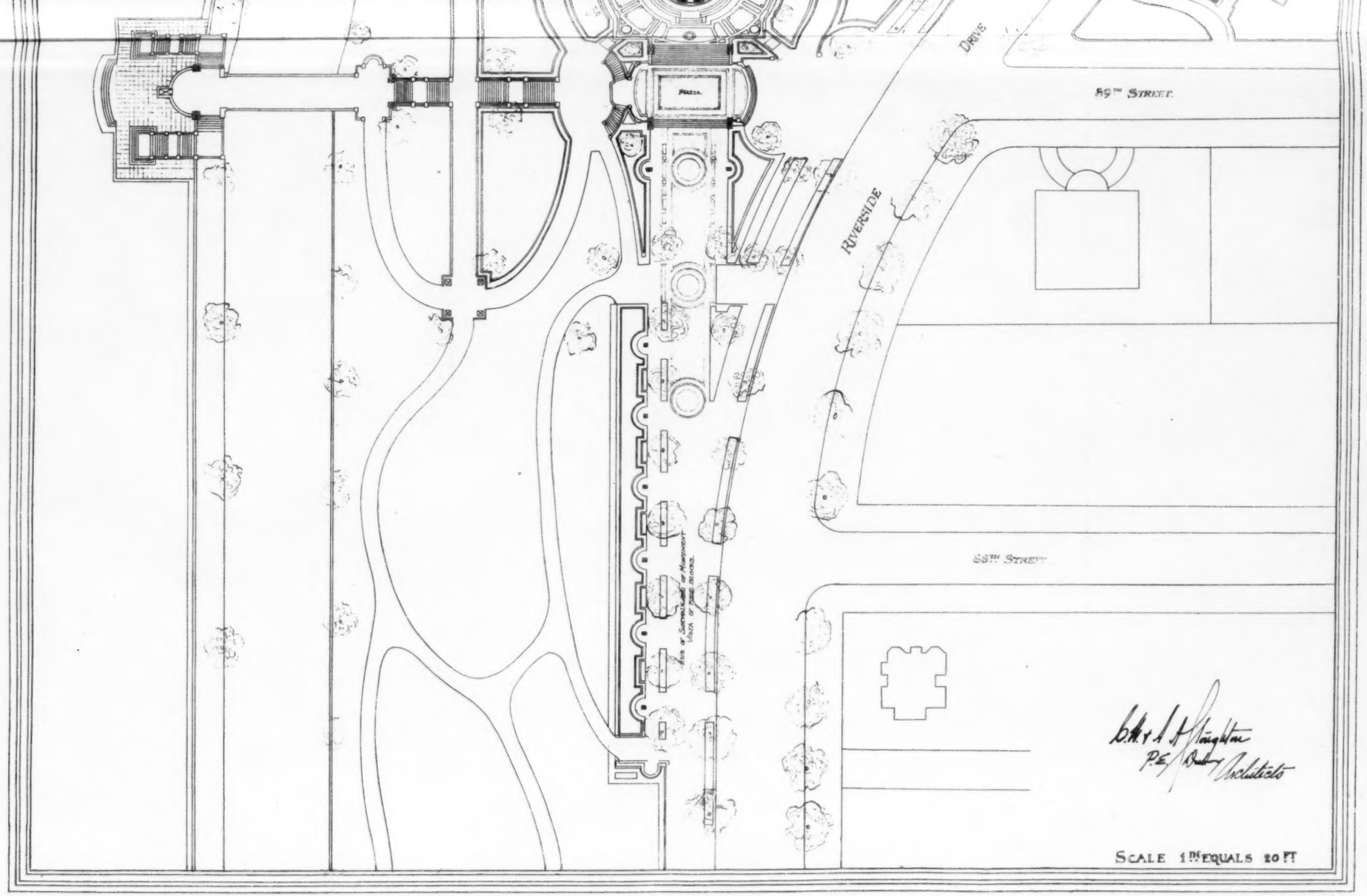
An Early Tide-wheel. — The big tide-wheel at the Kendall Brothers' mill at Bowdoinham is once more in running order. Recently the pintle gave out, and ten or twelve men have been at work on it since, repairing the damage. This is a famous wheel. When it was built, forty years ago, it was the only one of similar structure in the world. It was built by J. M. Kendall, the father of the present owners, and by his father, William Kendall. It is known as a current-wheel, and was built after a design originated by these two men, both of whom were natural mechanics whose equal it would be hard to find. The big wheel weighs forty tons, there being about five tons of iron alone on it. It is 28 feet in diameter, and so about 90 feet in circumference. Up to a few years ago it was the largest wheel of any sort in the State. The wheel sets across the current of the tide in the Cathance River, and the paddles are built in after the fashion of the sticks of a fan when the fan is open. The water flowing against the paddles moves the wheel, and enough power is gained to operate a grist mill and a fertilizer mill. — *Kennebec (Me.) Journal.*

The Belt-Lawes "Cause Celebre." — Charles Lawes, who succeeds to the baronetcy conferred upon his father is not only known to the public as a very successful sculptor, but has likewise obtained considerable notoriety in connection with the Belt *cause célèbre*, which finally resulted in Belt being condemned to a term of penal servitude for forgery. There were in reality three Belt trials, two civil and one criminal. The first one was brought about by a rather sensational paragraph which appeared in the London society paper, *Vanity Fair*, intimating that Richard Belt, who had recently quitted the studio of Mr. Lawes, and had set up as sculptor on his own account, was not in reality the author of the statue of Dean Stanley, of the Byron monument and of the memorial busts of Charles Kingsley and Canon Conway — that they had been made for him, that he was wholly incapable of doing anything in the shape of artistic work, and that he was neither a sculptor nor an artist, but merely a statue-jobber and an impostor. This article remained uncontradicted for several months, until when Belt sent in designs to the competition for a memorial advertised for by the corporation of London, Mr. Lawes wrote to the Lord Mayor, calling his attention to the statements in *Vanity Fair*, avowing himself the author thereof and laying stress on the fact that they had never been contradicted. It was only then that Mr. Belt was forced by his friends to bring a civil suit against Mr. Lawes for damages. The trial lasted forty-five days, the legal expenses of Belt being defrayed by a number of his followers and friends, mainly people of the so-called esthetic cult, of which Oscar Wilde was a bright particular star. The jury in the case was composed of London tradesmen, without the slightest knowledge of art, and when Belt modelled in their presence a bust which was declared by Lord Leighton, the president of the Royal Academy, himself an eminent sculptor, Sir John Millais, and the sculptor Thornycroft, both of them Members of the Royal Academy, to be utterly devoid of artistic merit and manifestly fashioned by different hands to those which had produced the statue of Dean Stanley and the Lord Byron memorial, they decided that Belt had been slandered and returned a verdict in his favor for $25,000 damages. This verdict was upheld on appeal, in spite of the certainty in all artistic circles that Belt was in reality an impostor. Thereupon, Mr. Lawes, on the advice of his lawyer, Sir George Lewis, resorted to the Bankruptcy Court, and, having no fortune of his own save the income which he derived from his work as a sculptor, he readily obtained a discharge of all his debts, including the $25,000 damages to Belt, and the latter's legal costs, for which he had become liable. A few months later Belt was arrested and tried at the Central Criminal Court on charges of having obtained by fraud and by forgery sums to the amount of $40,000 from a baronet of the name of Sir William Abdy. The frauds practised upon Sir William Abdy by Belt were of the most gross and shameful description, and it was universally felt that Belt had got his merits when he was sentenced to a long term of penal servitude. — *Marquise de Fontenoy in the Philadelphia Press.*

Art Director of the Buffalo Exposition. — Frank A. Coffin, of New York, has been appointed director of art for the Pan-American Exposition. — *Exchange.*

S. J. Parkhill & Co., Printers, Boston, U. S. A.

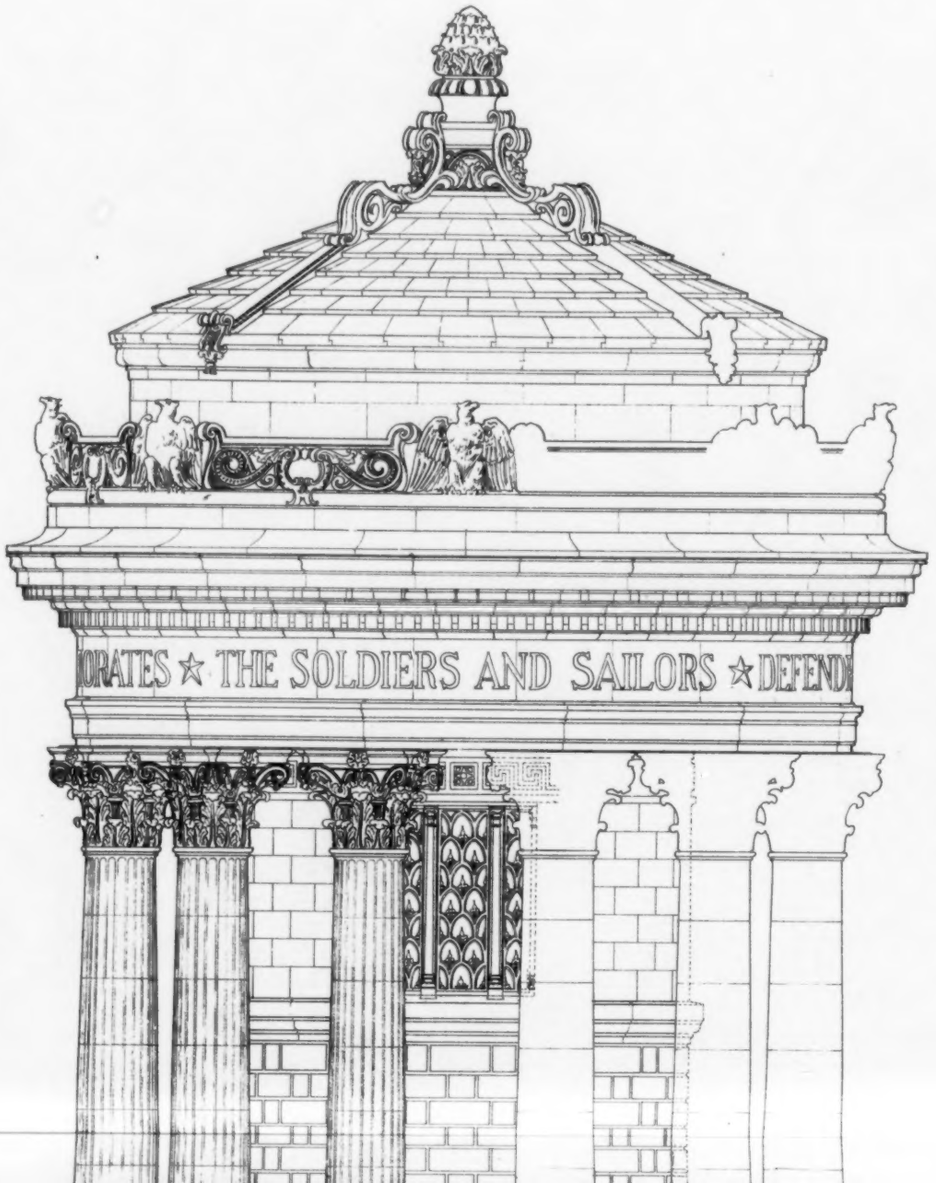




GENERAL PLAN.

THE SOLDIERS' AND SAILORS' MEMORIAL MONUMENT, RIVERSIDE PARK, NEW YORK CITY.

C. W. & A. A. STOUGHTON AND P. E. DUBOY, ARCHITECTS.



THE SOLDIERS' AND SAILORS' MEMORIAL MONUMENT, RIVERSIDE PARK, NEW YORK CITY.

C. W. & A. A. Stoughton and P. E. Duboy, Architects.

SECTION OF ROOM, ONE SIDE REMOVED.

Plate 6.

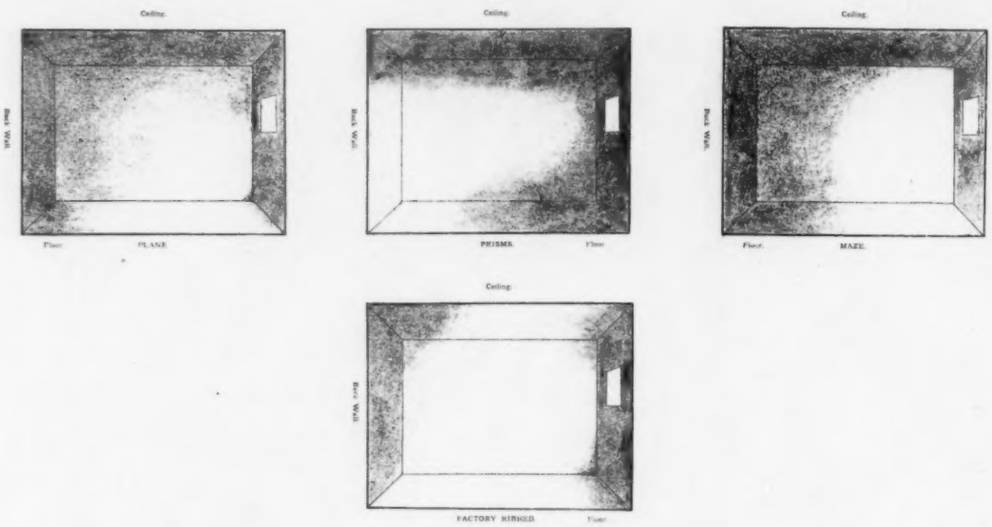
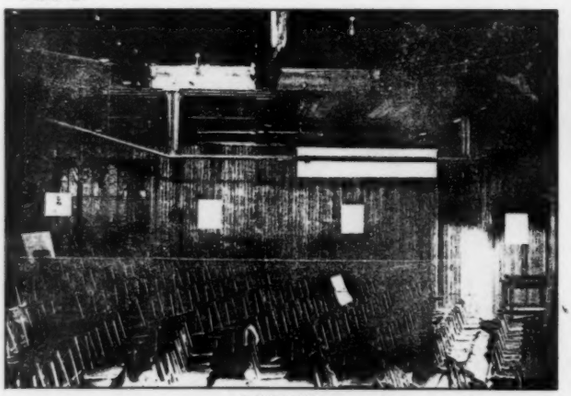
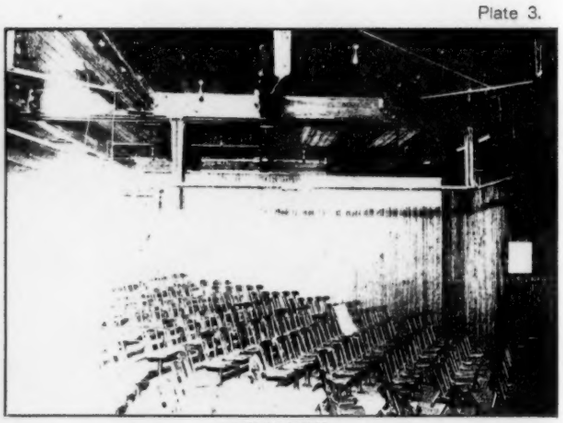


Plate 2.



PLANE GLASS.

Plate 3.



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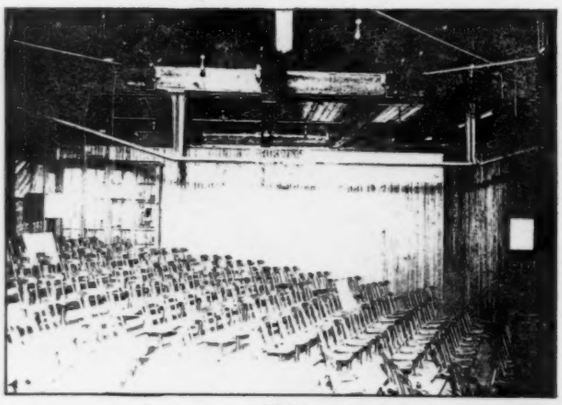
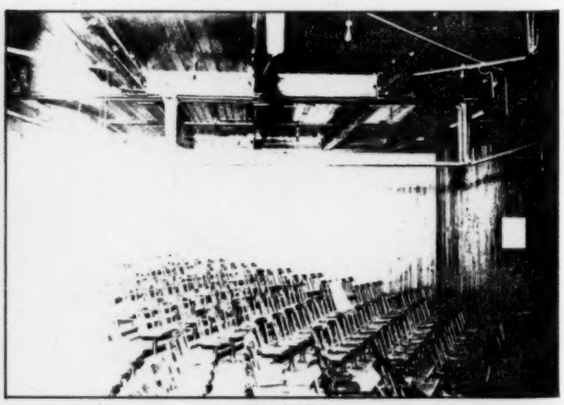


MAZE.



SOLAR PRISM.

HELIOTYPE PRINTING CO., BOSTON

RESULTS FROM LIGHTS DIFFUSED THROUGH VARIETIES OF GLASS.

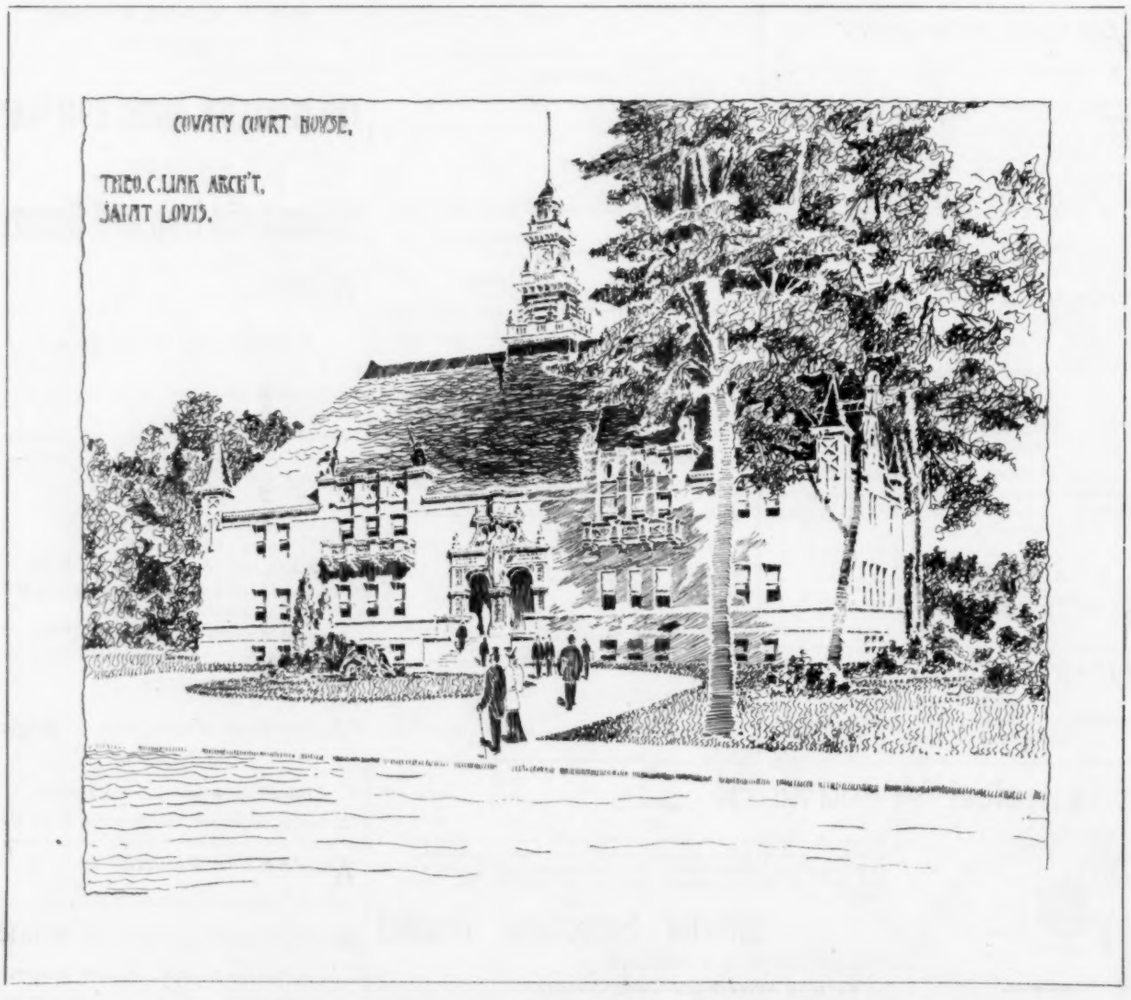
NEW ASSEMBLY HALL
REFORM SCHOOL FOR BOYS
WASHINGTON D C

MARSH AND PETERS
ARCHITECTS

The American Architect and Building News

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

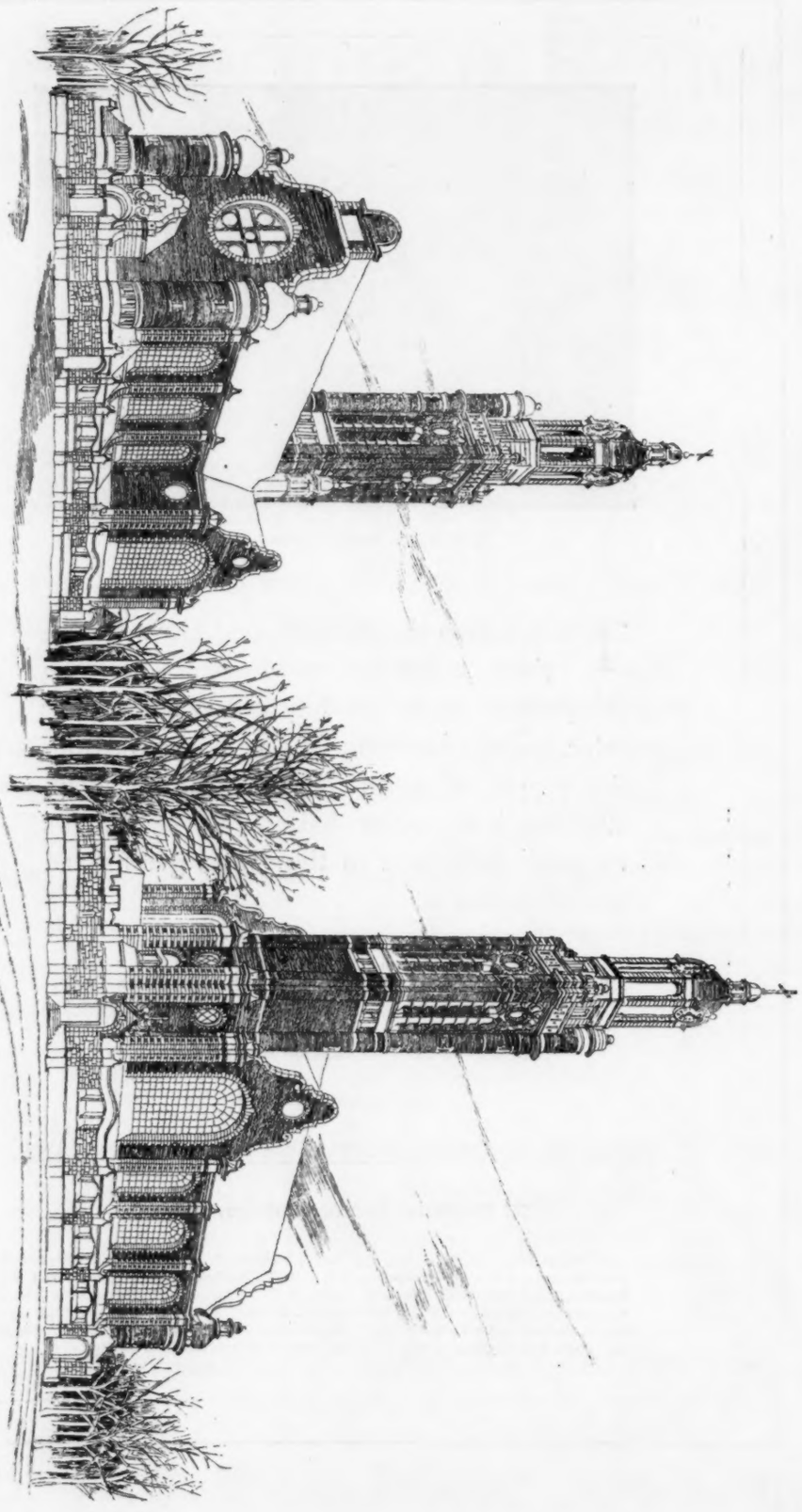
VOL. LXX.—No. 1299.] SATURDAY, NOVEMBER 17, 1900. PRICE, { INTERNATIONAL ISSUE, 50 CTS / REGULAR " 15 "



Topographical Index of Advertisers.

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

From *Teknisk Tidskrift*.



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BUILDING PATENTS.

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

660,259. Knob Attachment. — Henry Lomax and John Tomlinson, Darwen, Eng.
660,269. Overflow-Alarm Device. — Albert Fasig, Jersey City, N. J.
660,272. Hoisting Apparatus. — Frederick E. Herzog and Frank L. Martin, New York, N. Y.
660,308. Dowel-Pin for Tiles or Bricks. — Orla C. Pixley, Chicago, Ill.
660,348. Floor Cesspool or Drain. — John Tucker, New York, N. Y.
660,371. Heater. — Kate J. Foley, Berryessa, Cal.
660,403. Latch. — Maxwell Sutton, Welch Glade, W. Va.
660,406. Triangle. — Edwin H. Waterbury, Stamford, Conn.
660,419. Building-Block. — Andrew J. Delke, Chicago, Ill.
660,438. Window-Sash. — George W. Holly, Palo Alto, Cal.
660,453. Plastering Composition. — Henry C. McMillin, Marietta, O.
660,510. Ventilator for Windows. — Sidney Heptinstall, Marion, Va.
660,518. Cement-and-Steel Construction. — Frederick Melber, Pittsburgh, Pa.
660,554. Sanitary Flushing Device. — August F. Blesch and Edward Palmer, Columbus, O.
660,556. Means for Renewing House-Walls. — Samuel E. Gage, New York, N. Y.
660,578. Method of Manufacturing Corrugated Roofing or the Like from Felt, Canvas, etc. — Paul Knoch, Berlin, Ger.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

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

ADVANCE RUMORS.

Aberdeen, Wash. — K. Zalasko will erect a three-story frame hotel building, to cost about $10,000.

Beaver Falls, Pa. — Architect Loder, of New York City, is preparing plans for the erection of a large plant near here for the Pittsburgh Hardware Manufacturing Co. It is to be built of brick, steel and stone, at a cost of $175,000.

Birmingham, Ala. — Architects Chas. Wheelock & Sons are preparing plans for the proposed $200,000 city-hall.

Boston, Mass. — The Roxbury Improvement Association is agitating the erection of a new courthouse for the Roxbury District. The present plan urges the erection of a structure to cost from $100,000 to $150,000 on the site of the present building.

Braddock, Pa. — Mrs. S. Jones has had plans prepared by Architect S. C. Richards, Dean Building, for a three-story brick apartment-building, 48′ x 90′, to be erected on Corey Ave.; cost, about $16,000.

Brainerd, Minn. — The Northern Pacific Railroad Co. will build new shops here, the steel work of which will be furnished by the American Bridge Co.

Brooklyn, N. Y. — Architect Rudolph L. Daus has been selected to prepare the plans and specifications for the proposed improvements to the King's County Hall of Records. The changes include the erection of an extension, which will carry the structure through to the Livingston-St. building line. It is intended to cover an unoccupied lot in the rear of the present building with the new Hall of Records, which will be a four-story brick building, 320 feet long, in Court Sq. The new part will be in keeping with the architectural treatment of the existing building.

Camden, N. J. — The Board of Health has decided to arrange for the erection of a municipal hospital here.

Cameron, Tex. — Architects O. H. P. Rudesill & Son, Houston, have prepared plans for a $10,000 brick church for the M. E. Congregation South.

Cape May, N. J. — Architect Seymour Davis, 907 Walnut St., Philadelphia, Pa., is preparing plans for a $50,000 two-story and basement brick and stone public school building to be erected here.

Chicago, Ill. — Charles E. Bartley will erect a four-story apartment-building, 50′ x 127′, on Drexel Boulevard, near 47th St., to cost $54,000. Plans by Architect Arthur Foster.

Architect A. W. Cole has drawn plans for a three-story flat-building, 75′ x 75′, to cost $20,000.

Architect H. L. Newhouse is preparing plans for a flat-building to be erected at Grand Ave. and 50th St., for F. P. Burkett. It will be a brick and stone structure, 50′ x 110′, three stories in height; cost, $25,000.

Architect George O. Garnsey has drawn plans for a brick residence, 40′ x 65′, for George M. Barton, Louisville, Ky.; cost, $20,000.

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

M. J. Crogin will erect a three-story and basement brick and stone flat-building, 50′ x 100′, at Langley Ave. and 69th St., after plans by Architect Warren H. Milner; cost, $18,000.

Henry J. Schlacks, Schiller Building, is drawing plans for the $250,000 Polish Hospital to be built in this city for St. Mary's of Nazareth. It will be six stories high, 87′ x 196′, of fireproof construction.

Dr. Nicholas Senn has given $50,000 to Rush Medical College to pay part cost of a proposed $80,000 administration building. The structure will be called Senn Hall.

Chicago Heights, Ill. — Architects Huehl & Schmid, Metropolitan Block, Chicago, are preparing plans for a three-story and basement pressed brick high-school building for Bloom Township; cost, about $50,000.

Cincinnati, O. — Architect Samuel Hannaford & Sons has completed plans for a five-story factory building, 52′ x 180′, to be built for Reurer & Morgenthaler; cost, $35,000.

Clare, Mich. — Architect F. W. Hollister, Saginaw, is preparing plans for a school-building to replace the one recently burned; cost, $20,000.

Columbia, S. C. — Frank P. Milburn has prepared plans for a $65,000, two-story pressed brick union passenger-station, to be erected in this city.

Denver, Col. — Architects Marean & Norton, 206 Equitable Building, furnished plans for the new $45,000 Central Christian Church, 65′ x 100′, to be erected at Lincoln and 16th Aves.

Des Moines, Ia. — The trustees of Drake Medical College contemplate erecting an office-building down town for the exclusive use of doctors and dentists; cost, $100,000.

Duluth, Minn. — W. J. Holmes contemplates erecting a row of apartment-buildings at 7th Ave. and 1st St.; cost, $35,000.

The Duluth Candy Co. will erect a three-story and basement, 25′ x 140′, brick and stone building on 1st St., near Lake Ave., after plans by I. V. Hill; cost, $15,000.

Fort Dodge, Ia. — A. Slimmer, of Waverly, offers the city $50,000 for a city hospital, with the provision that the city raise another $50,000 for a permanent fund.

Miss A. E. Haskell has offered the city $10,000 to be used for the erection of a public library building.

Local capital is interested in a project to build a modern hotel here to cost about $100,000.

Gloucester, Mass. — W. P. and R. E. Burbank have had plans drawn by Architect Vance for an addition to the Burbank Building, to cost $20,000.

Great Falls, Mont. — Bell & Kent, architects, Helena, have prepared plans for a $25,000 church building for St. Ann's Catholic Society. It will be of red brick, with stone trimmings, on stone foundation.

Architects Bell & Kent, Helena, are preparing plans for the proposed new church for the Catholic Society. It will be a brick and stone structure, 50′ x 120′; cost, $30,000.

The Boston & Montana Co. will erect a frame office-building, 40′ x 60′, to cost $10,000.

Indianola, Ia. — Proudfoot & Bird, Des Moines, have prepared plans for a chapel and recitation building for Simpson College. It will be built of brick and stone; cost, $40,000.

Kalispell, Mont. — The O'Brien Lumber Co. has been organized with a capital stock of $650,000, and will build a lumber mill at Flathead Lake.

Libertyville, Ill. — Bishop & Co., 189 La Salle St., have prepared plans for a $10,000 two-story brick factory building, 60′ x 115′, to be erected in this city for W. T. Eaton.

Madison, Wis. — Architects Rawson & Paunack have prepared plans for a two-story frame apartment-house, 28′ x 82′, to be built for Charles N. Brown; cost, $8,000.

Milwaukee, Wis. — Ferry & Clas, architects, furnished successful plans for the Wisconsin Building at the Pan-American Exposition, Buffalo, N. Y.; cost, $6,000.

The Wisconsin Telephone Co. have plans for a grand exchange building, though work will not be begun for some time. The plans call for a brick structure, 75′ x 100′; five stories high; cost, $100,000.

Minneapolis, Minn. — J. and E. C. Haley, architects, have prepared plans for an addition to be built to the factory of the Northwestern Knitting Co., at Lyndale and 3d Aves. It will be built on lines of mill-construction, of brick, 50′ x 156′, and will be two stories high; cost, $20,000.

Montgomery, Ala. — A bill is to be introduced into the legislature providing for the appropriation of $100,000 for an executive mansion.

Muskegon, Mich. — Architect A. W. Buckley, 345 Wabash Ave., has prepared plans for a $10,000 two-story stone and frame residence, 50′ x 55′, for Mrs. A. M. Moon.

Nantucket, Mass. — Prescott Gage will erect a summer hotel at Sankaty Light, Siasconset, to cost $50,000.

North Scituate, Mass. — Architects Cooper & Bailey have prepared plans for a four-story, 200-room hotel to be erected by a syndicate at North Scituate Beach. It will be of Colonial design with modern frontage of 250 feet.

Perry, Ia. — St. Patrick's Catholic Society, Rev. Fr. James Cleary, pastor, contemplates the erection of a church to cost about $15,000.

Philadelphia, Pa. — Architect Charles E. Oelschlager, press reports state, is preparing plans for a new structure to replace the fire-damaged market-house at the southeast corner of 17th and Federal Sts., for the Federal Market Co. The proposed building will be three stories high, 120′ x 130′. It will be occupied as a market-house, hall and lodge-rooms.

Architect William C. Prickett, Jr., has completed plans for the proposed publishing building to be erected at the corner of 6th and Locust Sts., by J. B. Lippincott Co. It will be a six-story structure, 76′ x 180′, built on lines of mill-construction.

Pittsburgh, Pa. — Kaskel Solomon, of Solomon & Ruben, has purchased a site on 5th Ave and Grant St. on which to erect a fourteen-story office-building, to cost about $350,000.

Architect F. C. Fisher, Murtland Building, has prepared plans for 2 brick dwellings, to be erected on Wallingford St., for Dr. A. M. and Ellen C. Speer, Center Ave. and Bidwell St.; cost, $20,000.

Port Huron, Mich. — Architect George L. Harvey, First National Bank Building, is preparing plans for remodelling the high school. The improvements will cost $35,000.

Portland, Me. — Architect F. A. Thompson has prepared plans for the proposed Maternity Hospital. It will be a two-story structure with basement and attic, 70 feet long and 40 feet wide. The building will be either strictly fireproof or else of slow-burning construction, and will cost from $10,000 to $15,000, according to the kind of construction adopted.

Princeton, N. J. — Princeton Alumni are agitating a plan, the success of which will provide a new gymnasium to meet the present need of the University. James Laughlin, '68, is chairman of an executive committee that will have direct supervision over all plans and funds.

Richmond, Va. — M. J. Dimmock will prepare plans for a church building to replace the property of the Grove Avenue Baptist Society recently destroyed by fire. The proposed structure will cost about $65,000.

Salem, Mass. — French residents in the neighborhood of Castle Hill are making preliminary arrangements to erect a Catholic chapel; cost, $20,000.

Sheldon, Ia. — The Catholic Society plans the erection of a church to cost about $20,000.

Spokane, Wash. — The Shaw-Wells Co. has had plans prepared for a $10,000 structure, 72′ x 100′, to replace its building which was recently destroyed by fire.

Spring Lake, N. J. — Architect Horace Trumbauer has completed plans for a memorial chapel to be built here for Martin Maloney to commemorate his daughter. The edifice is to be an enduring structure of brick and Indiana limestone, 54′ x 87′, and one story in height.

Tacoma, Wash. — The Board of Education contemplates the erection of an 8-room addition to the Lowell School-building, to cost $20,000.

Washington, D. C. — James Knox Taylor, supervising architect, has plans for an additional story to the Treasury Building; cost, about $150,000.

Washington, Pa. — Architect J. E. Allison, Lewis Block, Pittsburgh, is preparing plans for a $20,000 three-story brick apartment-building, 60′ x 100′, to be erected on Chestnut St. for E. K. Ellwood.

Worcester, Mass. — Architect J. P. Kingston has completed plans for a six-family house, 47′ x 53′, to be built on Harrison St., for David Kritcher and Charles Weinstein. It will be frame, three stories in height, with gravel roof. All modern improvements; estimated cost $7,000.

Plans have been completed for 2 three-tenement houses to be built on Paine St., for Elizabeth J. Banaghan. They will be frame, two and one-half stories in height, 31′ x 60′, with all modern improvements; cost, about $10,000.

Barker & Nourse have completed plans for a large wooden block, 55′ x 80′, on Highland St., for Daniel E. Denny. It will be three stories and will contain 3 stores and 6 tenements. All modern improvements.

APARTMENT-HOUSES.

Brooklyn, N. Y. — *Clinton St.*, cor. Gates Ave., seven-st'y bk. & st. apart., 50′ x 120′; $150,000; o., Wm. B. Greenman, 350 Fulton St.; a., Chappell & Bosworth, 258 Broadway.

Chicago, Ill. — *Calumet Ave., Nos.* 5205-07, three-st'y bk. apart., 50′ x 103′; $35,000; o., F. P. Burkett; a., H. L. Newhouse; b., Charles Schleyer.

Emerald Ave., Nos. 7150-51, three-st'y bk. apart., 50′ x 55′; $16,000; o., C. E. Fish; a., A. G. Lund; b., Adolph Anderson, 204, 145 La Salle St.

Forty-seventh St., Nos. 177-179, three-st'y bk. apart., 36′ x 100′; $20,000; o., William Morris; a., H. L. Newhouse; b., T. A. Collins, 159 La Salle St.

Stewart Ave., No. 6436, three-st'y bk. flats, 33′ x 76′; $20,000; o., Phillips & Powell; a., Wilmore Alloway; b., George Rowe, 6613 Union Ave.

Woodlawn Ave., Nos. 6015-11, and *Sixtieth St., Nos.* 45-54, three-st'y bk. aparts., 37′ x 73′, 43′ x 61′, 19′ x 66′, 42′ x 70′, 38′ x 82′; $78,000; o., Collins & Morris; a., H. L. Newhouse; b., T. A. Collins, 159 La Salle St.

Newark, N. J. — *Wimans and Bergen Sts.*, three-st'y bk. stores & aparts., 28′ x 42′; $5,000; o., Frank Schweickert; a., John Schweickert.

New York, N. Y. — *Boston Ave.*, nr. 168th St., five-story bk. flat, 54′ x 90′; $40,000; o., Eliz. Steed, 862 E. 168th St.; a., John De Hart, 1039 Fox St.

Edgecombe Ave., nr. 141st St., 2 five-st'y bk. & st. flats, 24′ 11″ x 96′ & 99′; $36,000; o., J. H. Peters, 439 W. Central Park; a., Jno. Brandt, 1270 Amsterdam Ave.

One Hundred and Forty-second St., nr. 7th Ave., 5 five-st'y bk. flats, 27′ x 85′ 7″; $125,000; o., A. C. Hall, 9 E. 42d St.; a., Neville & Bagge, 217 W. 125th St.

CHURCHES.

Chicago, Ill. — *Humboldt Boulevard, Nos.* 166-168, one-st'y bk. church, 48′ x 70′; $9,150; o., Bethany Presbyterian Church; a., H. H. Richards; b., J. Watts.

New York, N. Y. — *Broadway*, nr. 76th St., two-st'y bk. & terra-cotta church, 79′ 1″ x 114′ 6″ & 134′ 2″; $70,000; o., Manhattan Congregational Church, 145 Fifth Ave.; a., C. W. & A. A. Stoughton, 96 Fifth Ave.

BUILDING INTELLIGENCE.

EDUCATIONAL.

Philadelphia, Pa.—*Taber and Water Sts.*, two-st'y st. school, 75′ x 90′; $34,297; o., City; b., William J. Smith.

FACTORIES.

Brooklyn, N. Y.—*Wythe Ave.*, cor. S. 1st St., 2 six-st'y & base. bk. factories, 88′ x 100′ & 89′ x 100′, gravel roofs, steam heat; $100,000; o., W. C. Horn, 541 Pearl St., N. Y.; a., W. H. Brickmire, 396 Broadway, N. Y.

Graad St., nr. Newton Creek, two-st'y bk. factory, 81′ 4″ x 200′ 8″, gravel roof, steam heat; $15,000; o., L. Bossert & Son, 1000 Bushwick Ave.; a. Th., Engelhardt, 905 Broadway.

Pacific St, nr. Carlton Ave., one & three-st'y ice factory, 75′ x 100′, slate roof; $20,000; o., Colonies Hygienic Ice Co., 20 Harrison St.; a., P. J. Exner, 238 W. 116th St., N. Y.

Philadelphia, Pa.—*Hamilton St.*, nr. 16th St., one-st'y bk. flange shop, 100′ x 206½′; $45,000; o., Burnham Williams & Co.; b., Roydhouse, Arey & Co.

HOUSES.

Arverne, L. I., N. Y.—*Jessica Ave.*, three-st'y fr. dwell., 50′ x 85′; $20,000; o., Mr. Eisenberg; a., Oscar Lowinson, 39 Cortlandt St.

Boston, Mass.—*Harlem St.*, nr. Greenwood St., 2½-st'y fr. dwell., 30′ x 40′, pitch roof, furnace; $6,000; o., a. & b., J. S. McLearn.

Mattapan St., No. 45, 2½-st'y fr. dwell., 22′ x 32′ x 46′, pitch roof, furnace; $5,000; o. & b., Caleb C. Fulton; a., R. H. LeCain.

Colberg Ave., opp. Rexbame St., 2½-st'y fr. dwell., 26′ x 46′, pitch roof, furnace; $4,500; o., a. & b., Alexander R. Clark.

BUILDING INTELLIGENCE.

(Houses Continued.)

Barry St., No. 36, 2½-st'y fr. dwell., 30′ x 49′, pitch roof, furnace; $4,500; o. & b., John H. McKenna; a., E. O. McFarland.

Darling St., nr. Hillside St., fr. dwell., 24′ x 44′, flat roof, stoves; $4,500; o., Thos. O'Leary; b., John Lane; a., T. Desmond.

Geneva Ave., nr. Park St., fr. dwell., 26′ x 40′, pitch roof, furnace; $5,000; o., a. & b., Freda J. Rockwell.

Wasmbeck St., nr. Harold St., two 2½-st'y fr. dwells., 31′ x 52′, pitch roofs, furnaces; $10,000; o., Mary J. Boden; b., Henry J. Boden; a., Gay & Proctor.

Bernard St., cor. Kingsdale St., 2½-st'y fr. dwell., 28′ x 40′, pitch roof, furnace; $6 000; o., Mary H. Hannah; a., Robert J. Yea.

Bay State Road, bk. dwell., 26′ x 70′, flat roof, hot water; $35,000; o., Charles H. Taylor; b., Connery & Wentworth; a., Fox & Co.

Margaret St., No. 11, bk. dwell., 13′ x 15′ x 46′, flat roof, stoves; $5,000; o., Rosa Seegal; a., F. A. Norcross.

Summit Ave., nr. Prospect St., 2½-st'y fr. dwell., 28′ x 53′, pitch roof, furnace; $6,000; o., Henry Adams; a., F. D. Wright.

Romsey St., nr. Dorchester Ave., fr. dwell., 26′ x 48′, flat roof, stoves; $5,000; o., a. & b., Boyd & Berry.

Mt. Ida Road, nr. Patosi St., 2½-st'y fr. dwell., 24′ x 50′, pitch roof, furnace; $5,000; o., Annie Boyle; a., P. A. Tracy.

Willowwood St., nr. Harwood St., two 2½-st'y fr. dwells., 24′ x 36′, pitch roofs, furnaces; $9,000; o. & b., A. H. Green; a., F. T. Eskrigge.

BUILDING INTELLIGENCE.

(Houses Continued.)

Brooklyn, N. Y.—*Second Ave.*, cor. 56th St., three-st'y bk. store & dwell., 20′ x 70′; $10,000; o., F. Cooper, 1st Ave. & 55th St.; a., T. Bennett, 198 Fifty-third St.

Eighty-third St., nr. 19th Ave., two-st'y & attic fr. dwell., 23′ x 34′, shingle roof; $5,000; o., W. Johnston, 224 St. John's Pl.; a., C. Schubert, 1832 Bath Ave.

Fifteenth Ave., nr. 56th St., two-st'y & attic fr. dwell., 23′ x 31′ 4″, shingle roof; $6,000; o., E. Johnson, 46th St. & 14th Ave.; a., B. Driesler, 1432 Flatbush Ave.

Fifteenth Ave., nr. 56th St., two-st'y fr. dwell.; $6,000; o., E. Johnston; a., B. Driesler.

Buckingham Road, nr. Albemarle Road, two-st'y & attic fr. dwell., 20′ x 53′ 4″, shingle roof, steam heat; $9,500; o., W. McEntree, 1858 Beverly Road; a., J. J. Petit.

Chicago, Ill.—*N. Hoyne Ave., Nos.* 447-449, two-st'y bk. dwell., 31′ x 74′; $15,000; o., Edward Banks; a., Hy. Worthmann; b., B. Taken, 774 N. Irving Ave.

Newark, N. J.—*S. Eleventh St.*, 2½-st'y fr. dwell., 25′ x 29′; $5,000; o., Mrs. I. Housel; a., I. C. Eagles.

New York, N. Y.—*Davidson Ave.*, cor. 184th St., 5 three-st'y bk. dwells., 18′ x 42′ & 60′; $39,000; o., H. U. Singhi, Jerome Ave. & 184th St.; a., Henry Andersen, 1181 Broadway.

Beck St., nr. Longwood Ave., 4 two-st'y bk. dwells., 20′ x 55′; $24,000; o., G. F. Johnson & Sons, 156th & Dawson Sts.; a., W. C. Dickerson, 149th St. & 3d Ave.

One Hundred and Fifth St., nr. West End Ave., 7 five-st'y st. front dwells., 21′, 22′ & 23′ x 63′; $154,000; o., J. C. Umberfield, 266 Columbus Ave.; a., Wm. E. Mowbray, 1300 Broadway.

Philadelphia, Pa.—*S. Rittenhouse Sq., No.* 1814, four-st'y st. & limest. dwell., 20′ x 83′; $20,000; o., William Henszey; b., John Meyers & Son.

BUILDING INTELLIGENCE.

(*Houses Continued.*)

Worcester, Mass. — *Maywood St.*, three-st'y fr. dwell., 55′ x 115′; $4,600; o., Eli H. Girard; b., Jos. Tetrault.

Paine St., 2½-st'y fr. dwell., 31′ x 60′; $5,000; o., Elizabeth J. Banaghan; a., Earle & Fisher.

Lund St., three-st'y fr. dwell., 25′ x 52′; $4,000; o., Anthony Loftus; a., Edward Fitzgerald; b., T. F. Melican.

Woodside St., three-st'y fr. dwell., 24′ x 53′; $6,000; o. & b., H. A. Tupper.

TENEMENT-HOUSES.

Brooklyn, N. Y. — *St. John's Pl.*, nr. Rogers Ave., 4 three-st'y bk. tenements, 25′ x 65′; $40,000; o., Strauss & Charig, 473 Tompkins Ave.; a., W. Debus, 808 Broadway.

Rogers Ave., cor. St. John's Pl., three-st'y bk. stores & tenement, 25′ x 70′; $12,000; o., Strauss & Charig, 473 Thompson Ave.; a., W. Debus, 808 Broadway.

Ralph St., nr. Irving Ave., 4 three-st'y bk. tenements, 25′ x 63′; $22,000; o., G. Schmidt and J. Feis, 320 Ralph St.; a., E. A. Schottel, 664 Grand St.

Logan St., cor. Ridgewood Ave., two-st'y fr. tenement, 24′ x 70′, gravel roof; $5,000; o., a. & b., H. Meyers, 78 Norwood Ave.

Central Ave., nr. Moffat St., 3 three-st'y bk. tenements, 25′ x 65′; $19,500; o., A. Rother, a., W. Debus, 808 Broadway.

Fifth Ave., cor. 53d St., four-st'y bk. store & tenement, 25′ x 95′; $18,000; o., Frank Gelston, 73d St. & 2d Ave.; a., G. F. Roosen, 44 Ashland Pl.

Rogers Ave., cor. St. John's Pl., three-st'y bk. store & tenement, 25′ x 77′; $14,000; o., J. Strauss and S. Charig, 473 Tompkins Ave.; a., W. Debus, 808 Broadway.

New York, N. Y. — *Ogden Ave.*, cor. 165th St., 2 three-st'y fr. tenements & stores, 25′ x 68′ & 88′; $18,500; o., Annie E. Raynor, Ogden Ave.; a., J. W. Limer, 2557 Third Ave.

Sixty-second St., n s, 225′ w Amsterdam Ave., six-st'y & base. bk. model tenements, 50′ x 90′; $45,000; o., City & Suburban Homes Co., 281 Fourth Ave.; a., Howell & Stokes, 47 Cedar St.

WAREHOUSES.

Boston, Mass. — *C St.*, cor. Fargo St., bk. storage building, 100′ x 200′, flat roof; $12,000; o., Brown & Wales; a., T. R. Hughes.

Chicago, Ill. — *Indiana St., Nos.* 71-73, three-st'y bk. warehouse, 50′ x 100′; $100,000; o., George B. Carpenter; a., Fritz Foltz; b., A. Lanquist, 115 Dearborn St.

N. Carpenter St., Nos. 222-24, six-st'y bk. storage 50′ x 116′; $25,000; o., M. Schultz; a., Charles Thisslew, 451 Milwaukee Ave.; b., S. N. Nelson, 132 W. Erie St.

New York, N. Y. — *W. Thirteenth St., Nos.* 411-417, and *W. Fourteenth St., Nos.* 410-412, three-st'y bk. storage, 50′ & 96′ 10″ x 100′ & 109′ 8″; $85,000; o., William Astor est., 23 W. 26th St.; a., Thompson-Starrett Co., 24 State St.

Avenue C, s e cor. 14th St., five-st'y bk. warehouse, 87′ x 103′ 6″; $55,000; o., Wm. R. Barr, 13 W. 56th St.; a., Franklin Baylies, 33 Bible House.

COMPETITIONS.

HOSPITAL-BUILDING.
[At San Francisco, Cal.]

Competitive plans will be received by the German Benevolent Association for new hospital buildings on the site of the present institution. ISIDORE GUTTE, chmn. 1300

DORMITORY.
[At Lexington, Ky.]

Plans are invited **until December 1st** for a dormitory for the A. & M. College of Kentucky. D. F. FRAZEE, chmn. bldg. com. 1300

GYMNASIUM.
[At Lexington, Ky.]

Plans are invited **until December 1st** for a gymnasium and drill-hall to be built for the A. & M. College of Kentucky. D. F. FRAZEE, chmn. bldg. com. 1300

PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., November 12, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 3d day of December, 1900, and then opened, for the new vault, Register's Office, Treasury Department Building, Washington, D. C., in accordance with drawing and specification, copies of which may be had at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1300

FACTORY.
[At Gonzales, Tex.]

Sealed bids will be received **until December 4th** for the construction of a brick factory for the Gonzales cotton mills. J. P. RANDLE, pres. 1301

COURT-HOUSE ADDITION.
[At Atlanta, Ga.]

Sealed proposals will be received **until December 5th** for completing addition and alterations to the Fulton County Court-house. Forest Adair. G. M. WOOD, clk. com. of roads and revenues. 1301

PUMPING-STATION.
[At Boston, Mass.]

Sealed bids will be received **until January 12th, 1901**, for a pumping plant for the Metropolitan Sewerage Commission. JAMES A. BAILEY, chmn. 1301

COURT-HOUSE.
[At Linton, N. D.]

Sealed proposals will be received **until January 10** for the erection of a court-house in Emmons County. EDWARD BRADDOCK, county auditor. 1300

COURT-HOUSE.
[At Waco, Tex.]

Sealed proposals will be received at the office of county clerk **until December 3** for the erection of

PROPOSALS.

a court-house for McLennan County. CHAS. E. MOORE, county clerk. 1299

COURT-HOUSE.
[At Pipestone, Minn.]

Sealed proposals will be received **until November 27th** for the erection of a court house for Pipestone county. WILLIAM DAUS, chmn. co. com. 1299

Office of the Engineer, Third Light-house District, Tompkinsville, N. Y. Sealed proposals will be received at this office until 12 o'clock, noon, Friday, November 30, 1900, and then opened, for furnishing the material and labor necessary for building an extension to the office-building at the Light-house Depot, Tompkinsville, N. Y. Specifications, forms of proposals, and other information may be had on application to D. P. HEAP, Lieut.-Colonel, Corps of Engineers, U. S. A., Engineer Third Light-house District. 1299

Treasury Department, Office Supervising Architect, Washington, D. C., October 31, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 6th day of December, 1900, and then opened, for the construction (except heating, electric wiring and conduits) of the U. S. Post-office Building at Kansas City, Kan., in accordance with the drawings and specification, copies of which may be had at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1299

Professional Ethics.

The following . . .
. . . CODE OF ETHICS . . .
Prepared in Conformity with the Best Standards of Practice, and Recommended to its Members by the Boston Society of Architects, was . . . . . .

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[See Alphabetical Index on Cover 2 for Pagination.]

CLASSIFIED ADVERTISEMENTS.

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