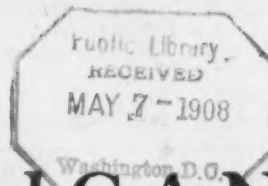


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Vol. XCIII.

MAY 6, 1908.

No. 1689.

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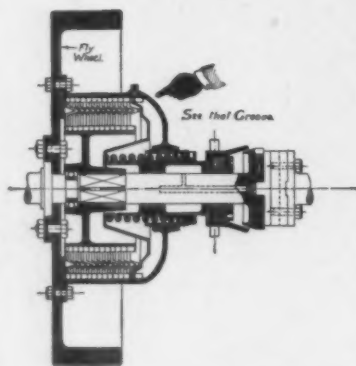
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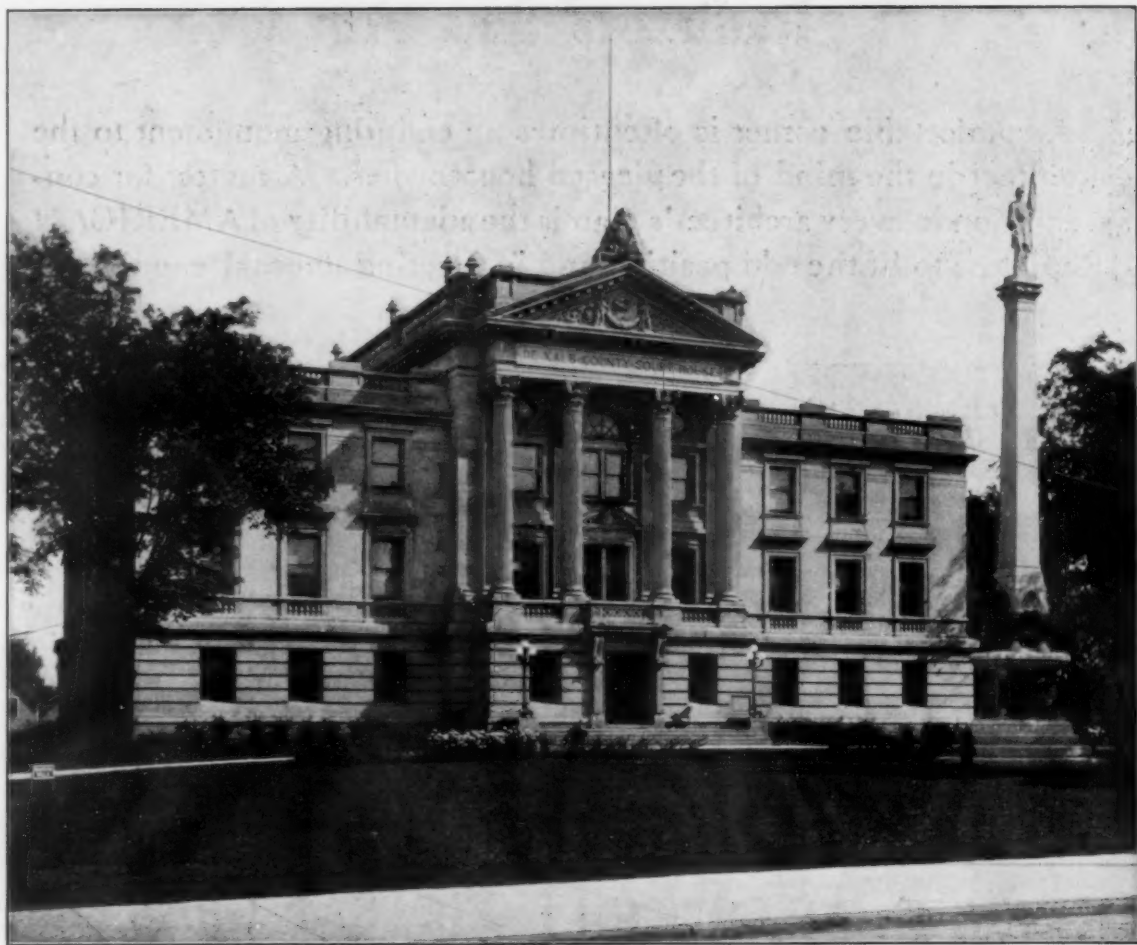


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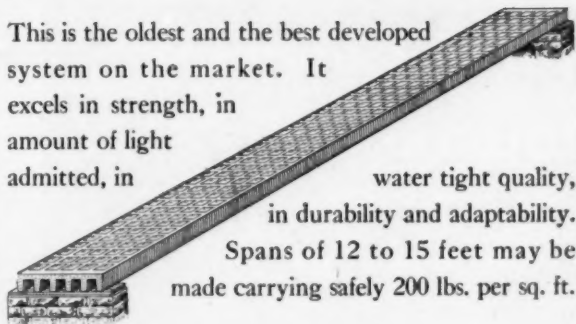
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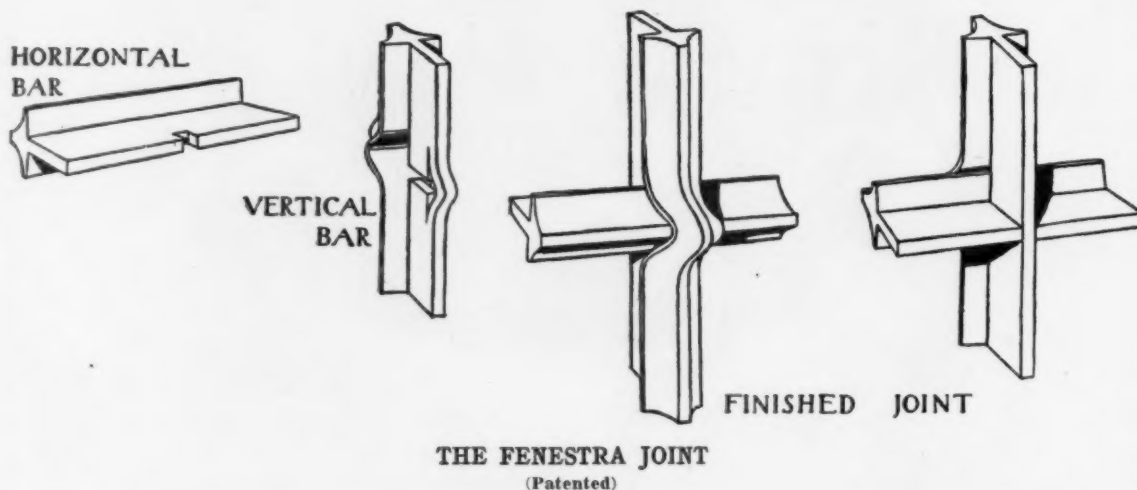
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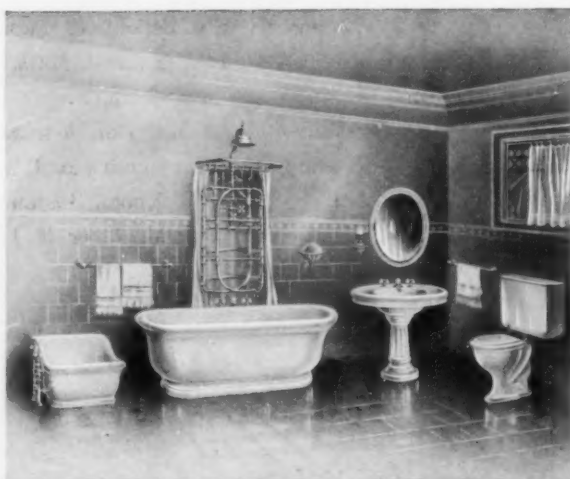
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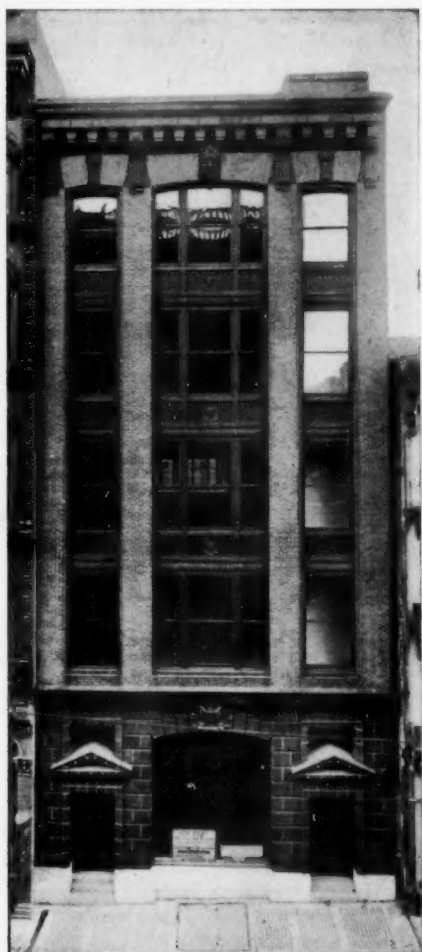
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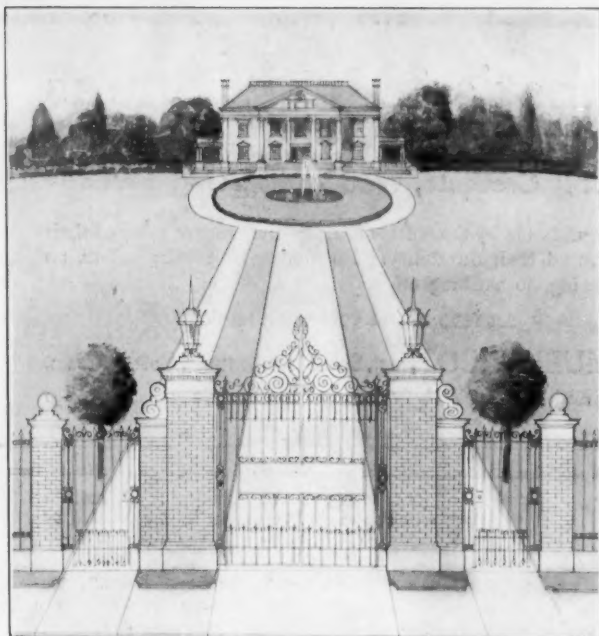
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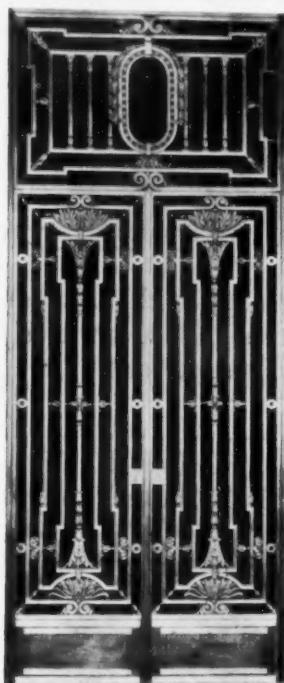
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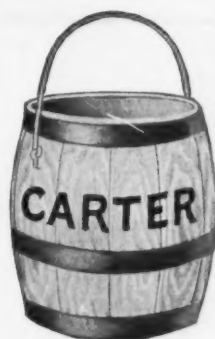
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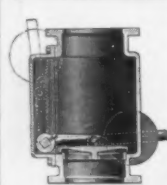
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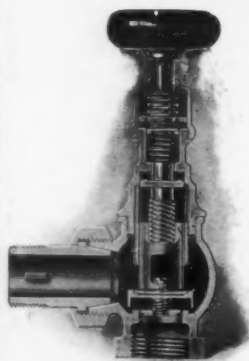
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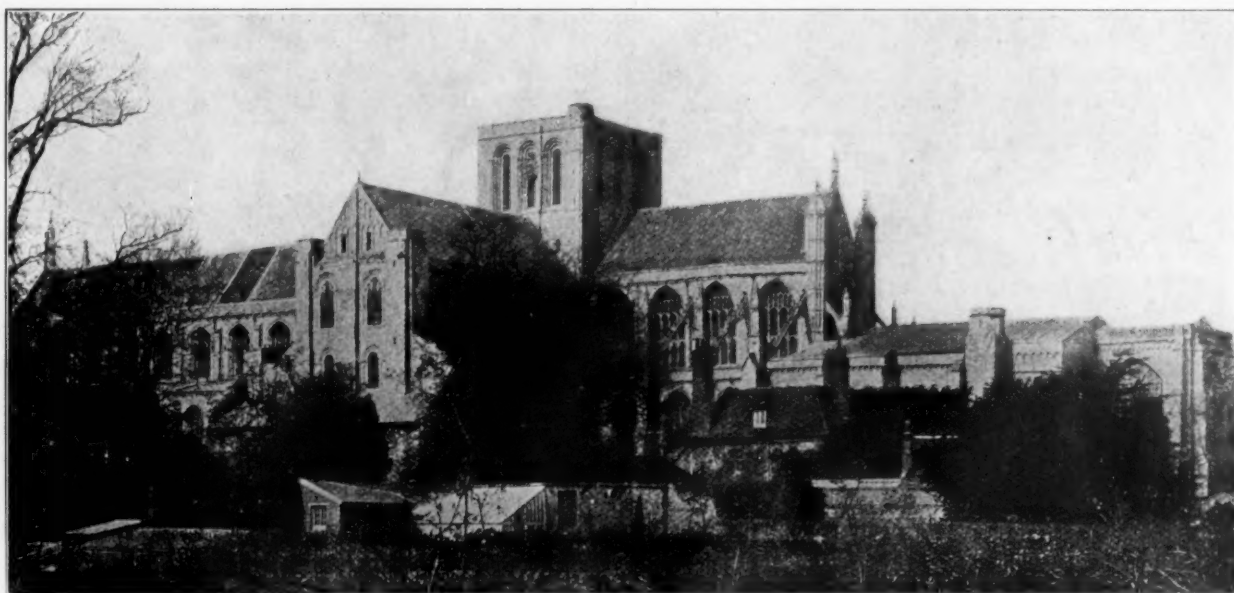
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WINCHESTER CATHEDRAL—SOUTHEAST VIEW.

Foundations: The Use of Divers and the Grouting Machine

By FRANCIS FOX, M.Inst.C.E. (Alyn Bank, Wimbledon).

Read before the Royal Institute of British Architects, Monday, 17th February, 1908, and reprinted by permission of the author.

THE British Islands are so rich in cathedrals, abbeys, churches, castles, and other buildings dating, in many cases, from a remote past, and so many of these are suffering from the ravages of time, that my apology, if apology be needed, in thus occupying your time and attention, is the desire in the minds of all, that as these structures have been handed down to us by our ancestors, we should endeavor to preserve them for the use and delight of many generations to come.

When we look at these noble buildings, and consider the enormous expenditure of money and of thought, of skill and of taste, bestowed upon them, and remember that they are heirlooms, forming priceless history of art and architecture, the capital cost of which we have not to pay, the least we can do is to keep them in repair. In effecting this, we should aim at adopting some system that will not attract attention. The characteristics and features, the old stones with their cracks and deformations, with their weather-worn arrises and surfaces, with the very moss, should, if possible, be preserved. In those cases in which the actual stone has perished, it must, of course, be replaced by new; but walls that are simply cracked, or are within certain limits out of upright, should be secured without the constituent parts being removed or renovated.

I have in many cases pleaded for our ivy-covered buildings, that this lovely ornamentation of foliage should not be removed, but I have very reluctantly been driven to the conclusion that ivy is an enemy, and that it is guilty of having injured most seriously many buildings on which it has been allowed to grow.

My object is to call attention to a method of repairing old walls, at a minimum of cost, and with a maximum of strength; although many engineers are familiar with the process it has very seldom been applied, and is not known to circles outside their profession. When a wall cracks the ordinary remedy is to send for a builder or a mason and employ him to point up the injury, which he does with mortar and trowel, and he succeeds in producing a result satisfactory to his own pocket and, for a time, pleasing to his employer's eye. But it should be borne in mind that this pointing goes in for only an inch in depth, and that the injury to the wall is in no degree remedied: the crack remains a crack, and its tendency to widen is by no means lessened.

I do not at present desire to deal with the question of faulty foundations, although these are responsible for many failures. In all cases these should be examined, but, in many instances, the upper portions of the work are so weakened and disintegrated that to attempt at the

outset to rectify the defects below, would bring the whole structure into ruin. To underpin a badly cracked cathedral or church, before securing the fabric itself, is often to court disaster. The Romans were probably aware of the value of "grouting up" their work, but they had not the necessary appliance for doing it

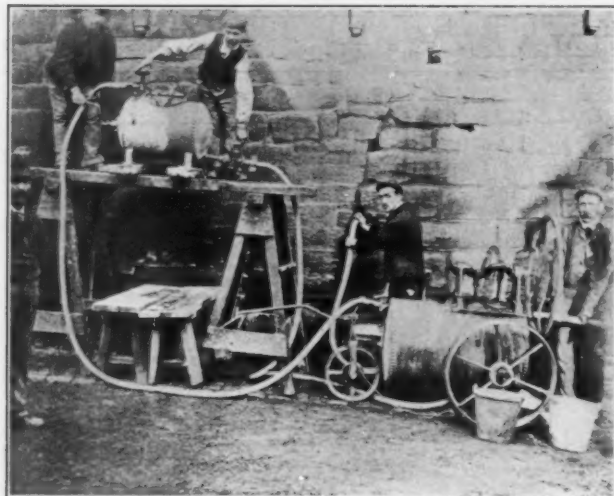


FIG. 1.—THE GROUTING MACHINE AT WORK.

effectually; nor had we until within the last twenty years, when the late Mr. James Greathead invented the grouting machine for use in the construction of deep tunnels or electric tube railways of London. And here it will be desirable to explain what is meant by the term. If a mixture of cement, sand, and water be made in proper proportion, it is called "grout," and when this is poured like cream into the cavities of a wall, the wall is "grouted up." This is apparently a very simple process, but it is nevertheless one which requires judgment and care.

Some forty years ago a large railway bridge over the London and South Western Railway had a pier cracked from top to bottom, not in consequence of bad foundations, but due to carelessness on the part of the masons fixing the bed stones for the column. This was so badly injured that it had to be rebuilt, and fear was entertained that all the other piers might prove to be suffering from the same defect. To avoid having to reconstruct the entire number, "grouting" was adopted, and, by applying a funnel and pipe of considerable height, cement grout was forced by the hydrostatic pressure into any cavities which existed. Thus an accident was averted at a cost of £5 or £10, and a probable expense of several hundreds was avoided.

Another instance was that of an ordinary arched bridge to carry an express line of railway over a roadway which was under construction. The centering was, in error, taken down too soon, with the result that the abutments were pushed right and left on the masonry joints, making an unintentional plinth on both sides, and cracking the arch in several places through its entire width. The grouting system was applied as an experiment to avoid an expense of £500, which would have been necessitated by the reconstruction of the bridge. After an outlay in labor and cement of £27, the structure was completely repaired (except that these unequal plinths remain), and it has for twenty-five years carried some

of the heaviest express locomotives travelling at high speeds. But it will be observed that, unless height can be obtained for funnel and pipe, this system cannot be applied, and thus in cellar and tunnel work it could not be used. Hence it was that Mr. Greathead proposed to abolish the funnel and vertical pipe, and in its place to apply compressed air.

The grouting machine (fig. 1) consists of an iron receiver or reservoir into which, by means of pumps, air can be forced under any pressure up to 100 lbs. to the inch. This receiver is connected by a flexible tube to another portion of the apparatus called the "grouting pan," which is in fact a churn furnished with a handle and spindle to which are attached arms or beaters. The proper proportions of cement and water, and in certain cases sand, are then placed inside, the lid screwed down, and the contents churned up into the consistency of cream. This is now ready to be blown into the crack, the mouth of which on either side of the wall has meanwhile been clayed up to prevent the grout from escaping. The compressed air is then admitted to the grouting pan, and so soon as the necessary valve is opened the contents are discharged into the wall.

Having thus at our command an apparatus by which cement can be blown right into the heart of any structure, whereby all the loose particles of stone and the opposite sides of the crack can be agglutinated or, more properly, cemented together, we have the power of repairing injured buildings without being compelled to pull them down. The expense of grouting is very small, and does not generally amount to the one fifteenth or even one-twentieth part of the cost of pulling down and rebuilding.

One of the first applications of this system was carried out by the late Mr. Greathead in the case of some extensive wine cellars. In consequence of some adjacent excavations, these cellars had been cracked; and although the injury to the building was not important, still the expense which would have been incurred was very

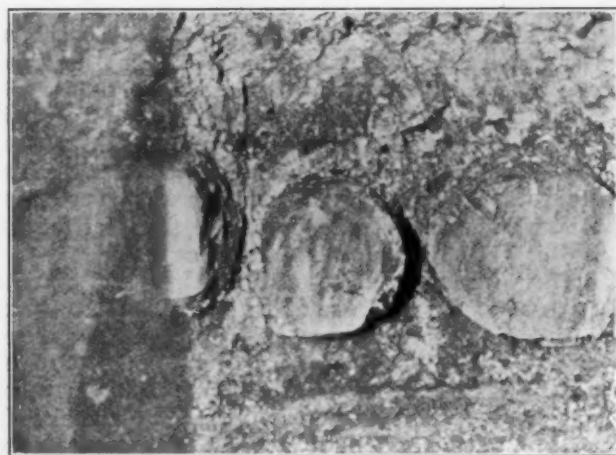


FIG. 2.—WINCHESTER CATHEDRAL. OLD BEECH TREES UNDER WALLS OF PRESBYTERY.

great. These cellars contained costly wine, and it was estimated that the mere transference of it to other cellars would have depreciated its value to the extent of some £10,000. Hence it was essential that, if possible, this should be avoided, and the grouting machine was applied. So successful was the result that not even a

single bottle of wine had to be moved, and the entire cost of the work was only a few pounds.

Soon after this an alarming paragraph appeared in a certain London daily paper to the effect that, owing to

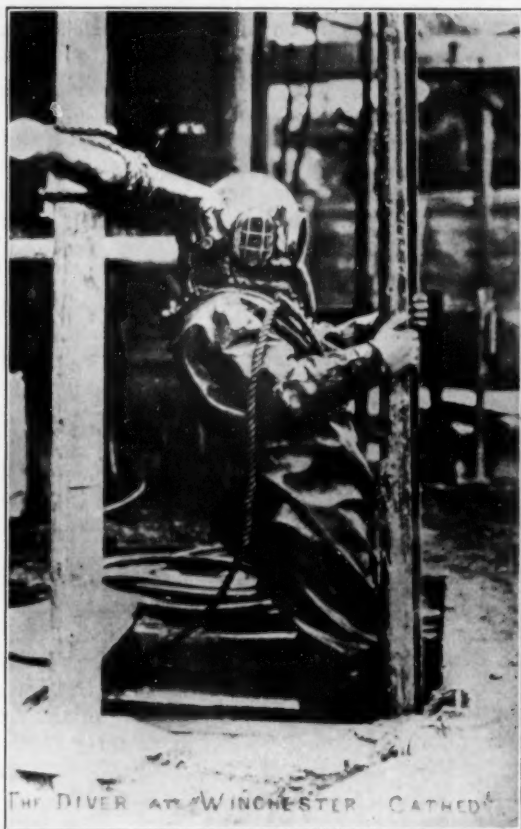


FIG. 3.—THE DIVER DESCENDING TO HIS WORK IN 14 FEET OF WATER.

tunnelling operations, the spire of Bow Church in Cheapside was 13 feet 6 inches out of the upright! The Rector and his Wardens consequently were perturbed by this statement, and requested us to examine and report on the subject. In the course of our investigation several matters came to light which are of considerable interest and deserve to be placed on record. It was deemed advisable, pending the enquiry as to the cause and extent of the injury, to stop the pealing of the bells; and as, we are all aware, those children born within sound of Bow bells are known as "Cockneys," the curious result was that, for the fortnight during which the bells were silent, no "Cockneys" were born. It appears that the foundations of the tower and spire stand upon the Cheapside pavement of Roman time, which to-day is some 18 feet below the present level of the street. This continual raising of the level of London is doubtless due to the fact that the rubbish, resulting from the various fires from which the City has suffered in years gone by, and from the demolition of buildings, was not carted away, as is done to-day, but the surface was simply levelled down and the new buildings erected upon it. That there were cracks in the portion of the building connecting the church with the tower is undoubtedly true, but they were of ancient origin. Our task was to ascertain whether the tower and spire were out of perpendicular, and if so, to what extent. At first sight nothing was easier than to drop a plumb-bob and line from the top to the ground; but we soon found that

there was no access to the upper part of the steeple, and that if it had to be reached it would be necessary to erect a scaffolding—a matter of considerable expense. We therefore decided to take the necessary theodolite observations from both ends of Cheapside, but a fresh difficulty presented itself. It was then winter, and the mornings and evenings were so dark that the traffic had commenced and continued to run, before and after any such measurements could be taken. We therefore had to wait until the summer, when, in the early morning, we could have the free use of the street before carts had begun to pass. But it was then found that, although no traffic was moving, the vibration in the instrument was so great that no accurate result could at first be attained. The goods traffic on the London Chatham and Dover Railway at Ludgate Hill, the early trains on the District Railway, the trains on the Central London, all made themselves felt upon this delicate instrument, and we began to think we should fail to obtain any reliable result, and that London was never free from tremor. At last, however, it was found, on a bright summer's Sunday morning about four o'clock, that the throb and pulsation of London had ceased for a short time, and just at that moment we were able to obtain accurate measurements. Instead of 13 feet 6 inches (which, of course, had been misprinted instead of 13½ inches) we found that the total divergence from a vertical line was

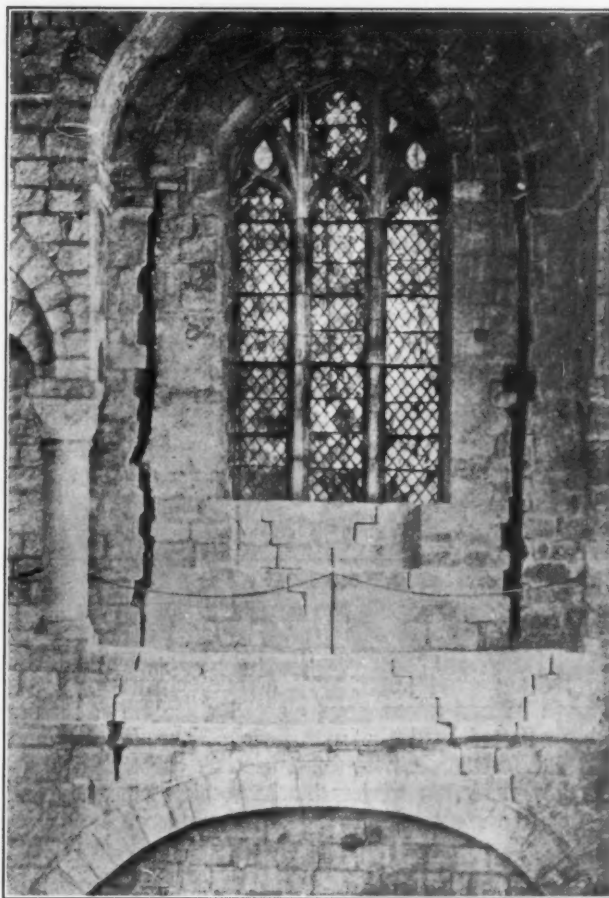


FIG. 4.—WINCHESTER CATHEDRAL. WINDOW IN SOUTH TRANSEPT.

8 inches, which was exactly accounted for by the small cracks visible in the walls of the structure.

About a year later a summons from the Mayor of the

ancient city of Chester necessitated a visit to examine the towers and walls of those interesting remains, partly of Roman, partly of mediæval times. Evidently one of the towers was in jeopardy: it was cracked from top to bottom, and the various parts were moving in opposite directions. Whether the foundations were in fault, or the walls were weak, it was impossible to say; but the first thing to be done was to shore the tower with timber to prevent a collapse. The grouting machine was then applied, commencing at the base of the tower and gradually working upwards. By this means the cracks were filled with cement, and the walls were turned into monoliths; all the bulging portions, the old stones, and worn surfaces were left untouched, thus preserving the artistic and archæological interests. Then the founda-



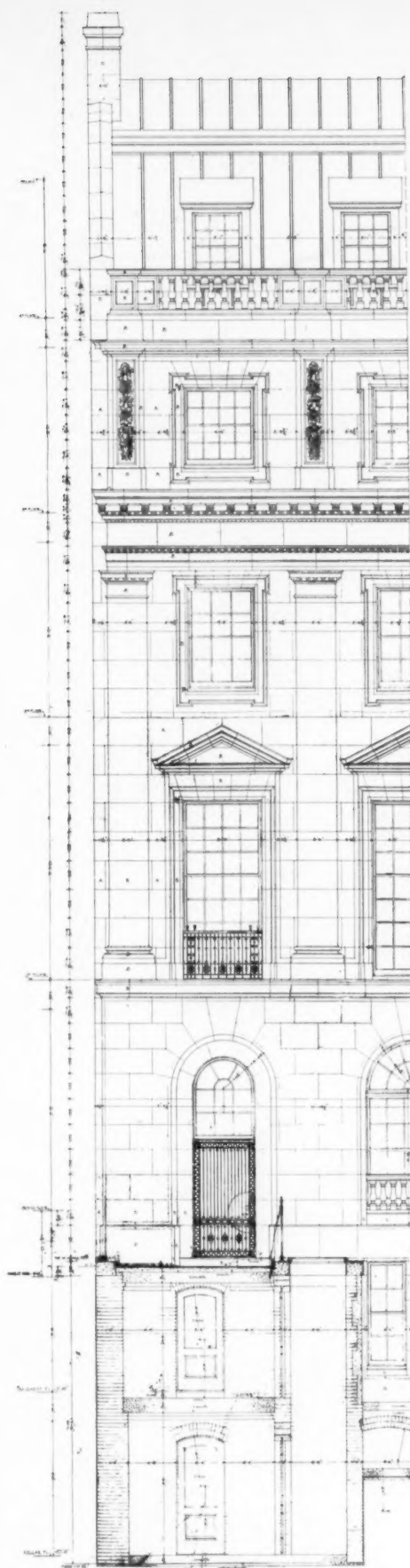
FIG. 5.—WINCHESTER CATHEDRAL. DISINTEGRATED CONDITION OF VAULTING AT PRESBYTERY.

tions could be examined, strengthened, and underpinned, and everything put on a satisfactory basis. Although several years have elapsed since these repairs were effected, and the new lines of the London and North Western Railway have been in constant use, no further cracks nor movements have taken place.

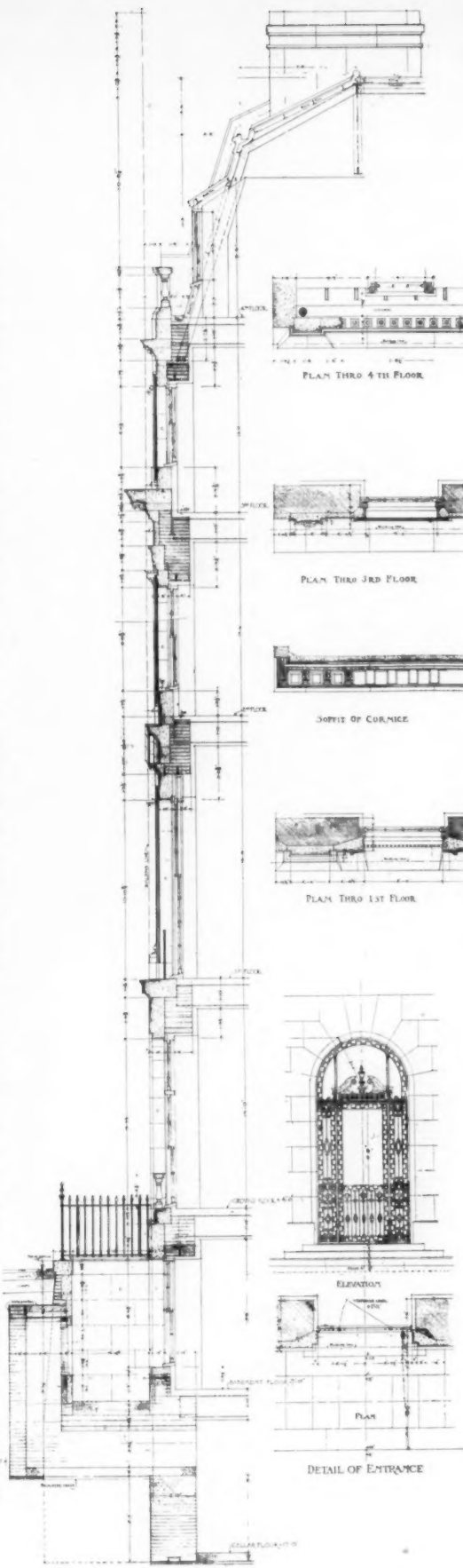
One of the most interesting applications of the grouting machine is at Winchester. This splendid cathedral was—by the direction of Dr. Furneaux, the Dean—being repaired by Mr. T. G. Jackson, R.A., the diocesan architect, and the late Mr. J. B. Colson, the architect of the cathedral, whose recent death is deeply regretted by all. These gentlemen had found that very serious subsidence had taken place in various parts, that in the presbytery amounting to nearly 2 feet 6 inches.

The outer walls and buttresses had gone seriously out of the perpendicular, while the beautiful groined arches were distorted in form and disintegrated in character, and alarm had been caused by the fall of some stone from the roof. Mr. Jackson had sunk a trial pit some few yards distant, and had discovered a bed of peat 8 feet deep below the clay and resting upon a fine solid bed of flints and gravel, into which he had bored to some depth to prove its solidity. An excavation 5 feet in width was then made adjacent to the south wall, in which, at a depth of about 8 feet below the turf, the bottom of the masonry foundation was reached. It was discovered that the wall had been built on logs of beech wood, in fact whole trees placed side by side horizontally (fig. 2), and these again, in their turn, rested in some instances on a second layer of trees. These timbers were to some extent rotten, but in other cases the heart was sound and good as ever. The curious feature was, that even the rotten portion showed no signs of squeezing nor flattening under the weight of the wall. The level of the underside of these timbers coincided at that date with that of the water in the subsoil, although this level varied with dry and wet weather. This probably accounts for the timber decaying, as, in consequence of the draining of the city by the Corporation, the level has been permanently lowered, and the timber, which doubtless was just below water level, has of late years been alternately wet and dry, and has, consequently, to some extent, decayed. Beneath this timber a bed of chalky marl in places 6 feet in thickness, was found to exist; and as very little pumping was required to keep the excavation dry, and the water came away clear and pellucid without any sand or deposit, the work was able to be proceeded with by means of a hand pump. The bed of peat proved to be almost impervious to water; but when within about a foot of the bottom (the entire thickness proving to be from 5 feet to 8 feet 6 inches) the lowest layer was suddenly burst up by the influx of a great volume of water from the gravel bed below, under considerable head. This was due to the water in the adjacent river, and in the course of a minute the whole pit was filled with water up to the original level. Pumping was plainly inadmissible, the use of compressed air was inapplicable, screw piles and caissons were considered and rejected, a slab of concrete on which to float the cathedral was impossible, and finally it was decided to employ a diver, by which means the work could be done quietly and without vibration. A telegram to Messrs. Siebe & Gorman brought down two of their most experienced men, and by their aid (fig. 3) the excavation, in lengths of 5 feet, was finished, after which I descended in the dress to examine the bottom. This proved to be a hard flinty gravel, quite excellent, and, as this overlies the chalk, no better foundation could be either secured or desired.

Perhaps a few words may be of interest with reference to the diving. The boots weigh 20 lbs. apiece, each having a thick lead sole; the dress weighs 30 lbs.; the leads on chest and back are 40 lbs. each, and the helmet 20 lbs., making with the remainder of the equipment, a total load to be carried of nearly 200 lbs. But, notwithstanding all this, the flotation power of the water is so great that, in the case of a lightly built person going down the ladder, instead of treading on the rungs, it is necessary to place the feet beneath them, and pull oneself down step by step. The pits are absolutely dark



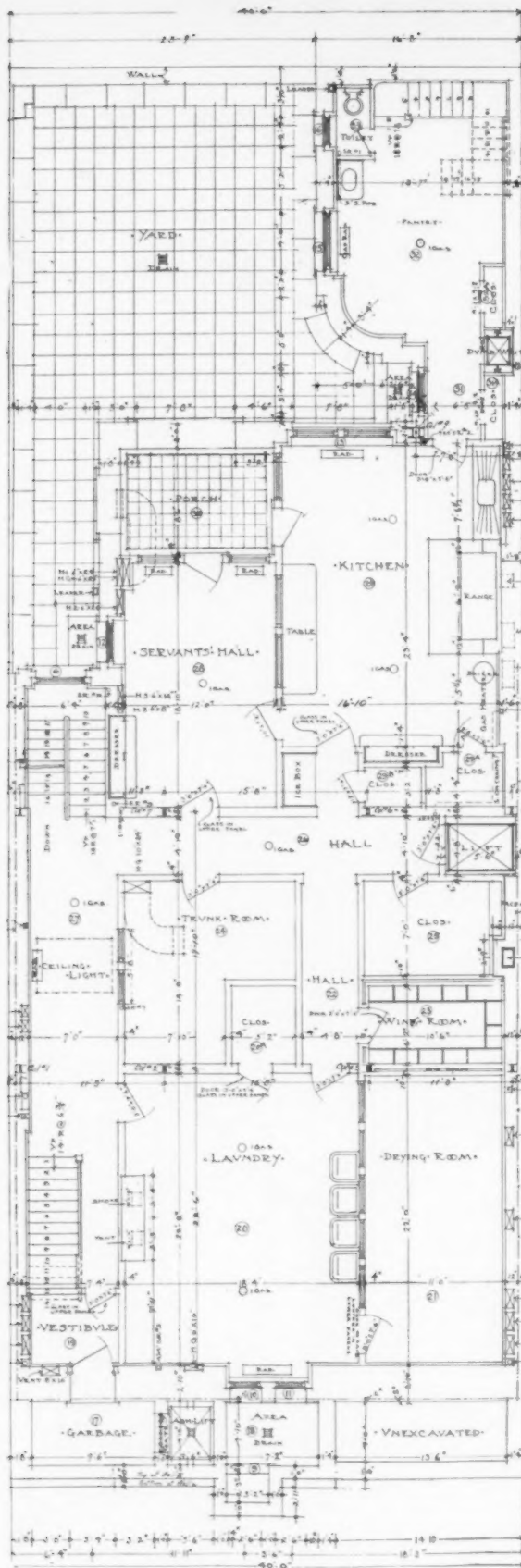
ELEVATION



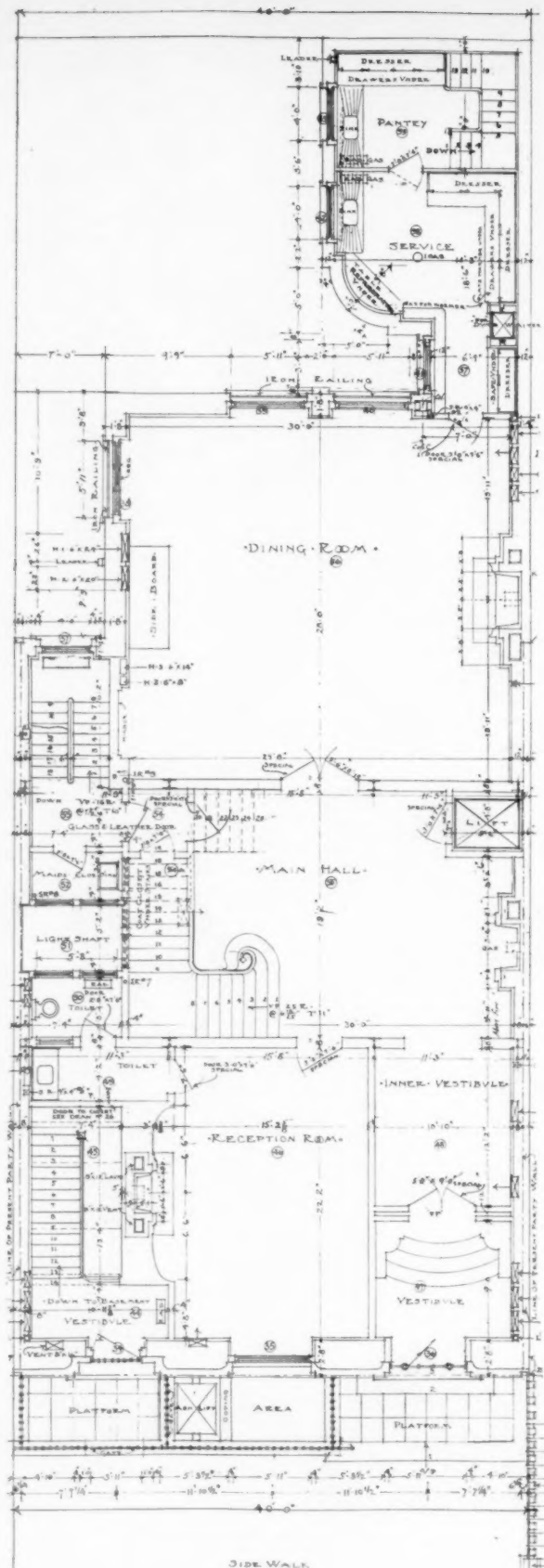
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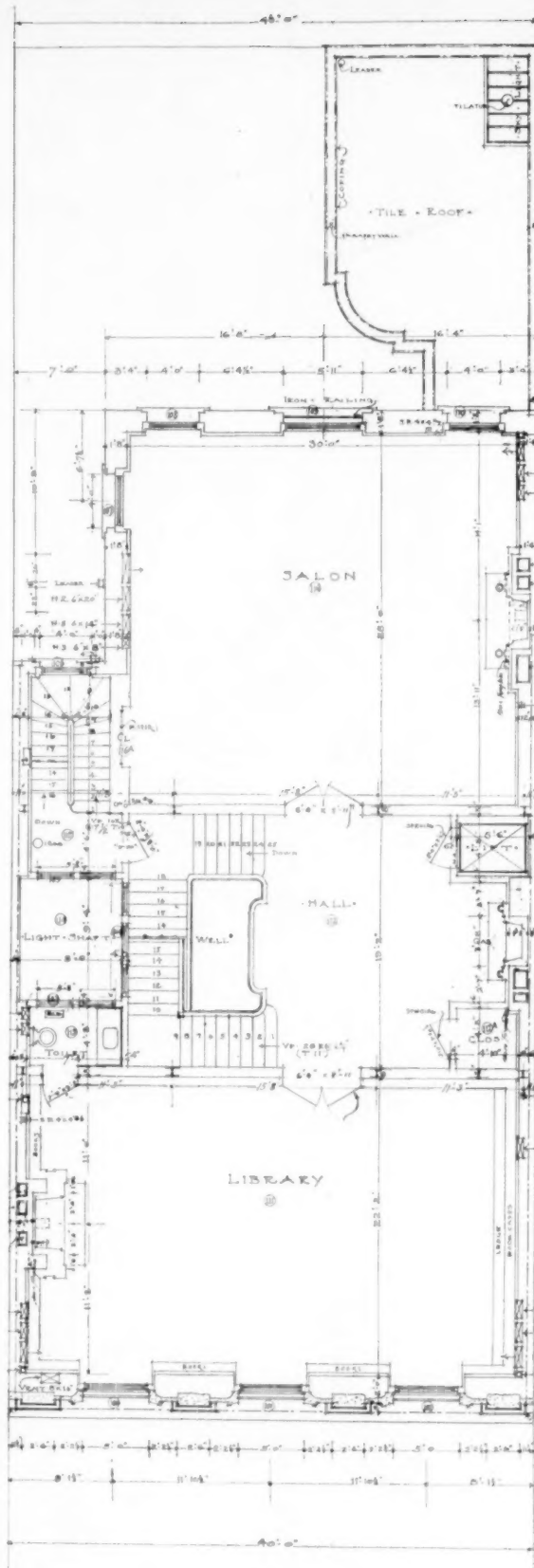
PLAN OF BASEMENT.
SCALE $\frac{1}{4} = 1'-0"$



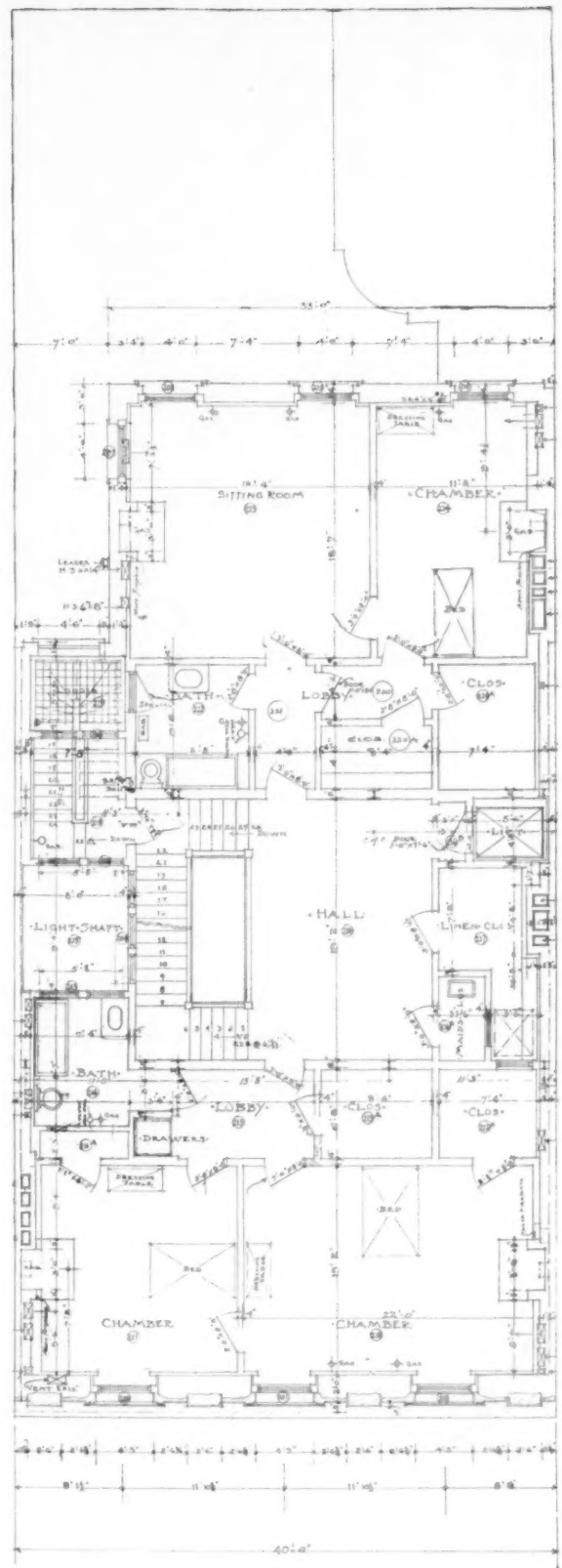
PLAN OF GROUND FLOOR.
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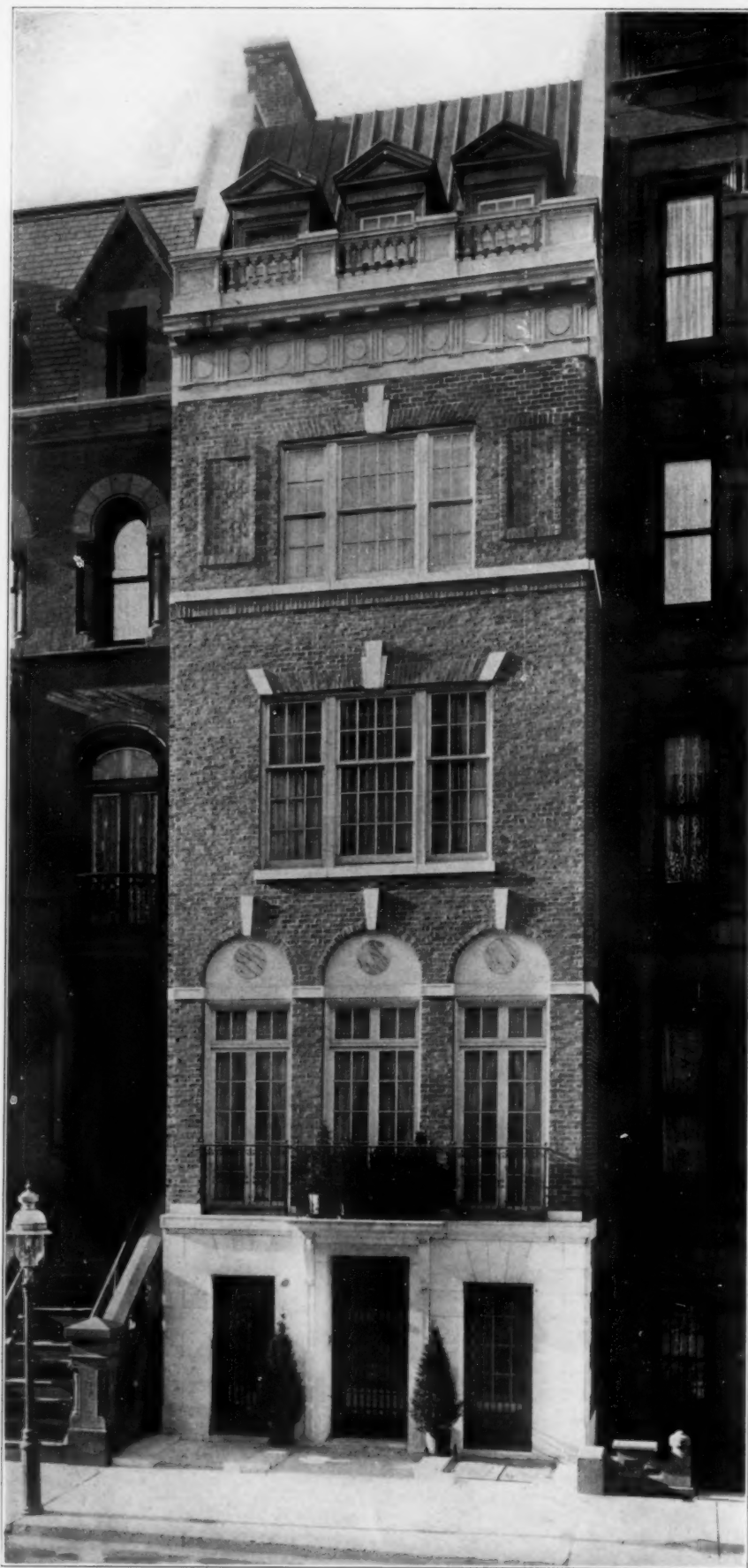
PLAN OF FIRST FLOOR.
SCALE 1/8" = 1'-0"



PLAN OF SECOND FLOOR.
SCALE 1/8" = 1'-0"

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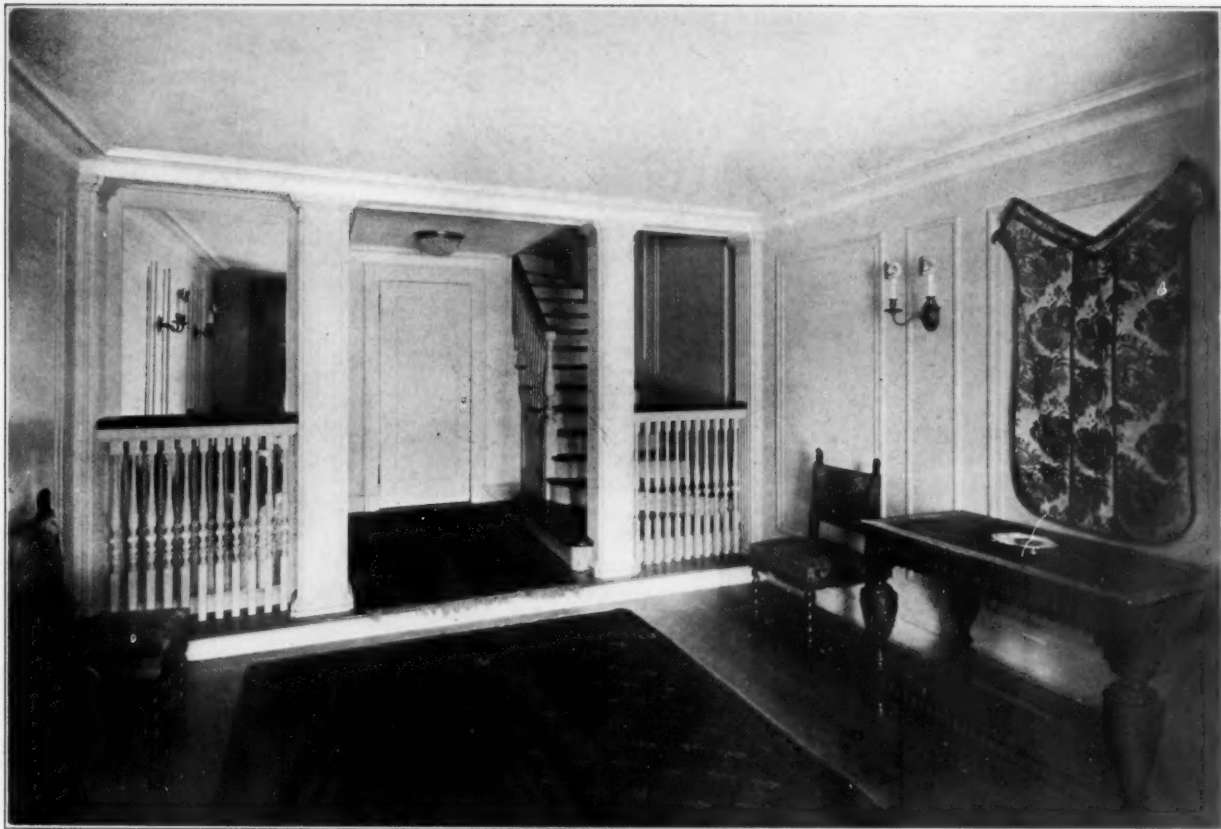
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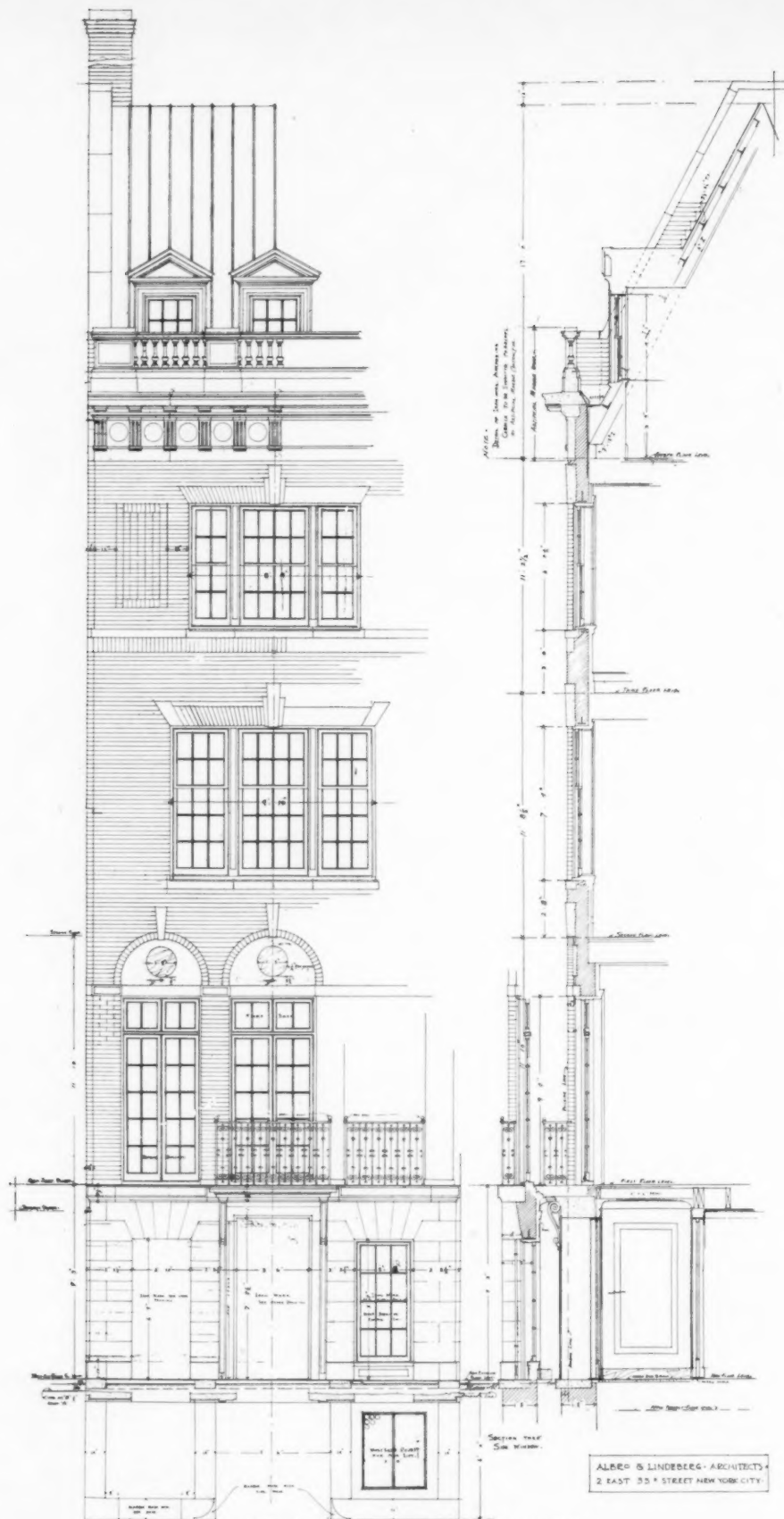
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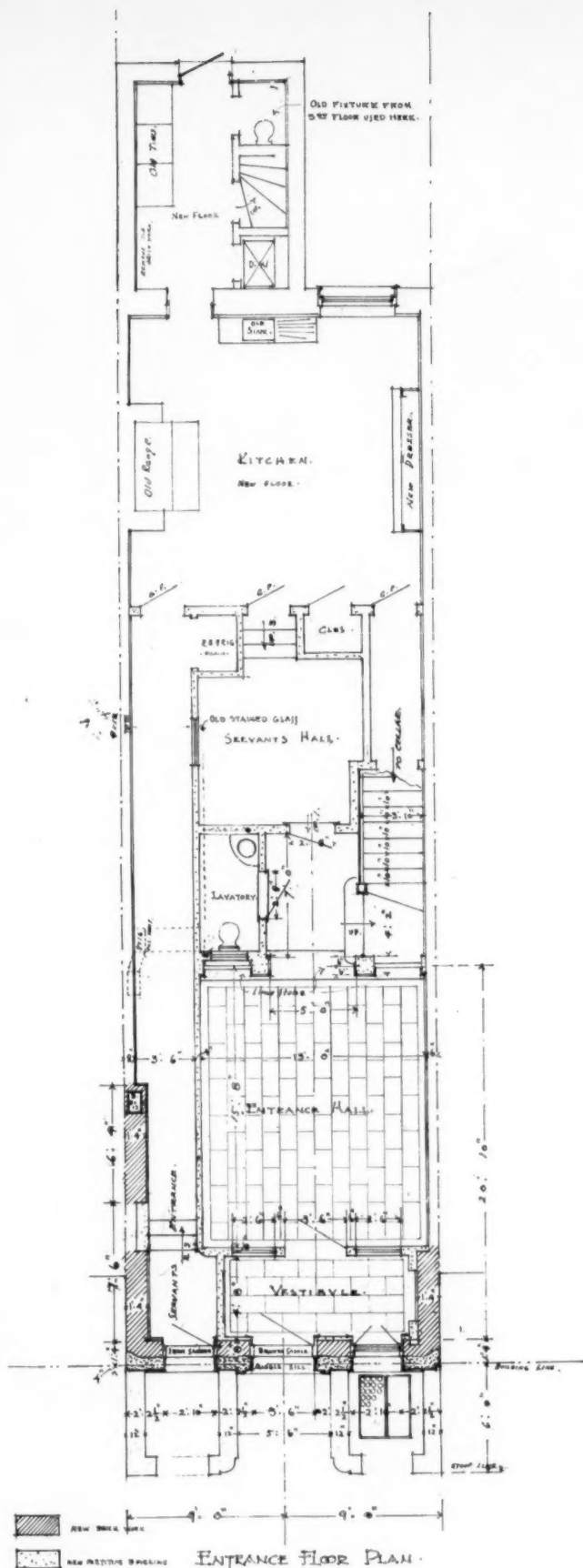
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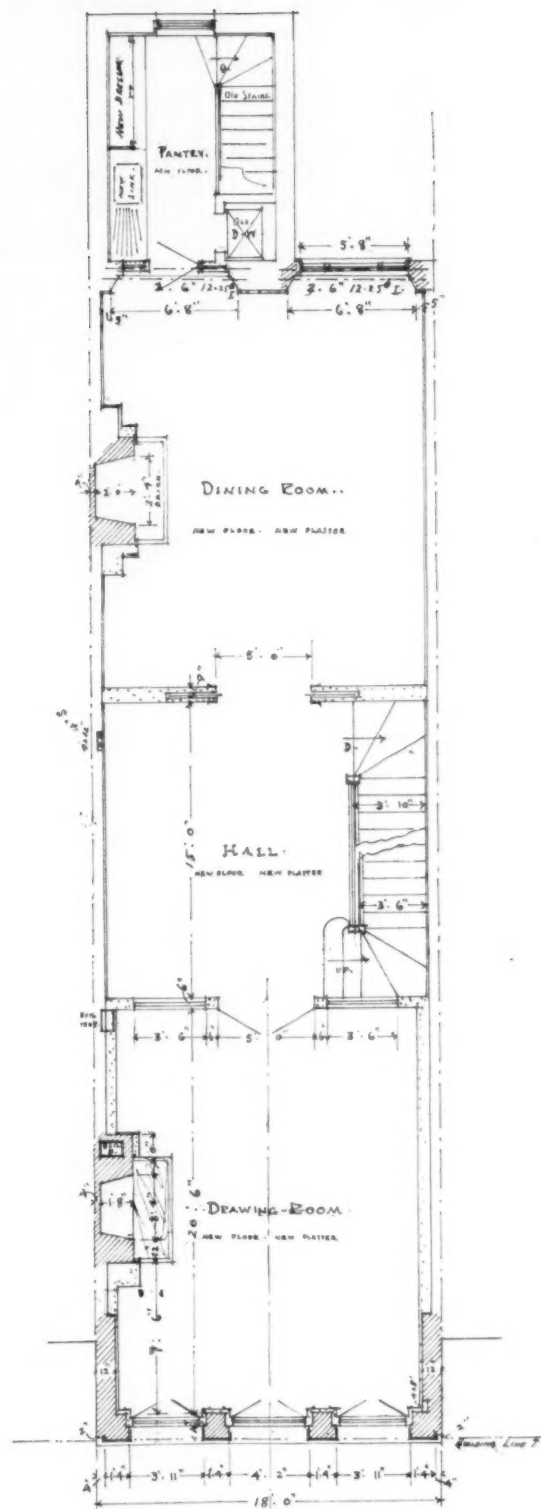
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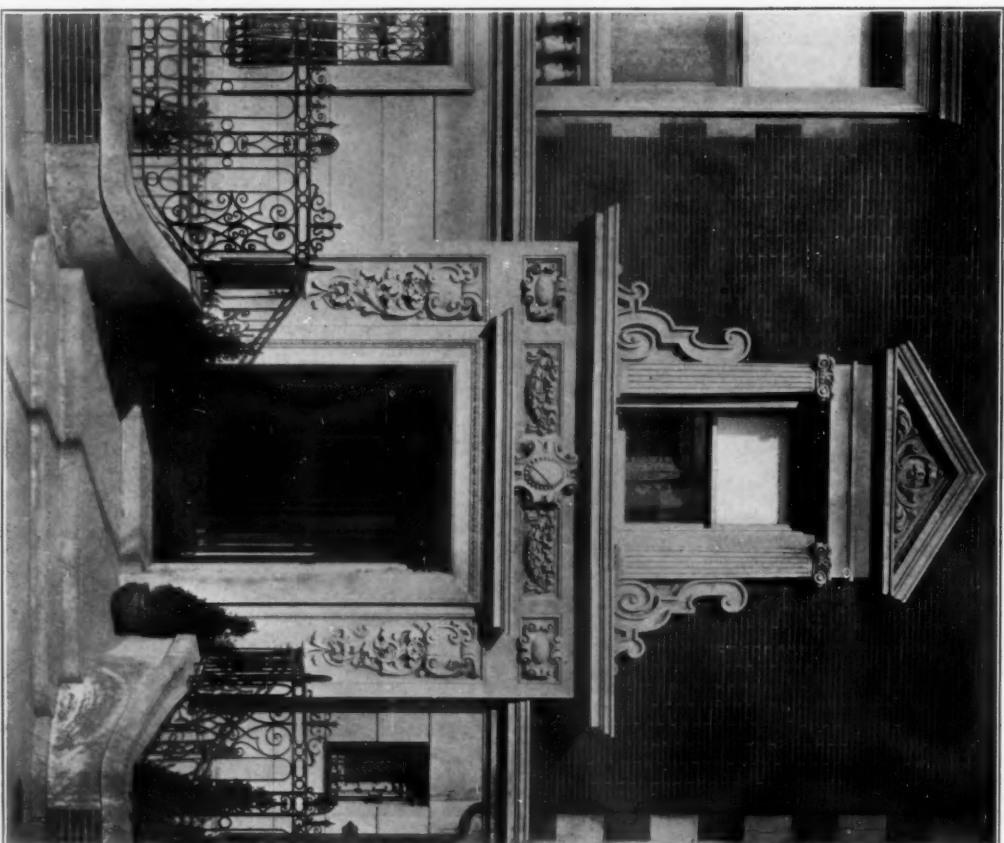
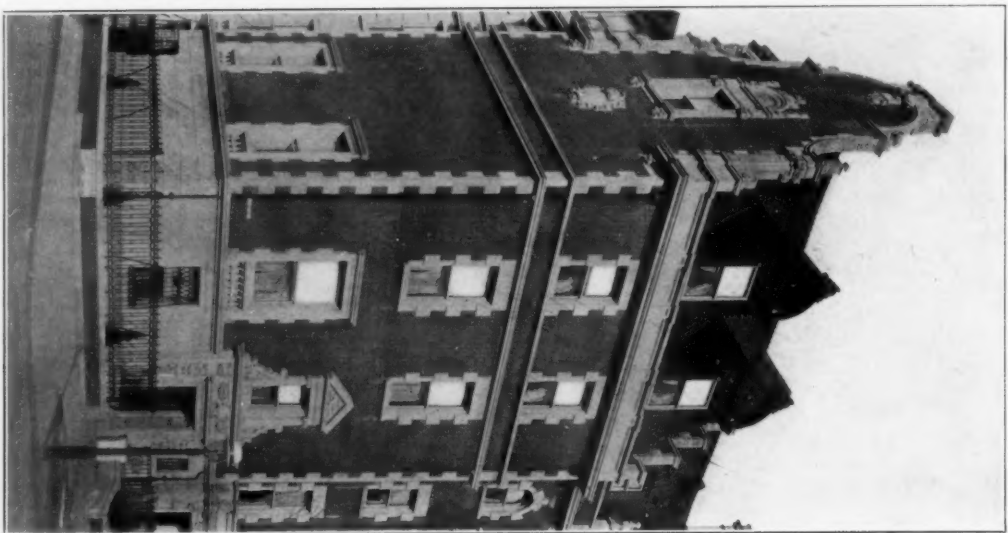
62 EAST 80 STREET.

Messrs. Albro & Lindeberg, Architects.



HOUSE FOR J. LANGDON ERVING ESQ.

No. 62 EAST 80 STREET.



The American Architect and Building News.
Regular Edition.

HOUSE ON WEST END AVENUE, NEW YORK, N. Y., WITH DETAIL OF DOORWAY.

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May 6, 1908.

owing to the water being thick with peat, and no artificial light is possible; consequently the whole of the work is done, not by sight, but by feeling. So soon as the peat is excavated the bottom is covered over with bags filled with concrete, carefully and tightly trodden in all round; these are then slit open and another layer of bags placed on the top. These again are ripped up, and so on for four courses in all. The grouting machine can be used, the pipe being directed by the diver, but in this case all the chinks and crannies between the bags are filled by hand with cement concrete lowered down to him in buckets. Thus this mass becomes practically a solid rock and seals down the flood of water from the gravel, enabling the excavation to be pumped dry. Concreting is then continued, either in bulk or in block, until a considerable height is attained, and upon this blocks of concrete or brick in cement are carried up and tightly pinned to the underside of the old masonry, constituting the original foundations of the cathedral. When all these excavations or pits are completed, the walls of the presbytery will be practically standing on a bed of rock, instead of on compressible peat, and great credit is due to the diver for the excellent manner in which he has executed this most responsible work.

The sequence of operations is as follows:—

1. Shoring up outside and inside the walls and vaulting.

2. Grouting the walls, arching and buttresses.

3. The underpinning of the walls down to the gravel.

When the above is done, the cracks will be cut out and repaired, and steel tie-bars will be fixed in different parts of the fabric. Photographs illustrative of the cracks are given (figs. 4, 5 and 6).

An interesting fact in connection with this cathedral is given in the *Ecclesiastical Annals of Winchester*. It appears that in 1079 Bishop Walkelyn, a relative of William the Conqueror, laid the foundation of the Norman Church, but the Bishop, finding himself distressed for want of timber, applied to the King for permission to fell some of the trees. William consented, and gave the Bishop a grant to fell and bear away as much as he could in four days and nights. Walkelyn collected together all the woodmen of the country and cut down and carted away every tree in the forest in the prescribed time, save the large oak under which St. Augustine is said to have preached. The King, returning to Winchester a few days after, looked about for the wood, saying that his eyes were either fascinated or that he had lost his senses, as he could not discover the forest which had existed there a short time before. His attendants, however, explained the circumstances, which at first irritated William against the Bishop, the King remarking, "Most assuredly, Walkelyn, I was too liberal in my grant, you too exacting in the use of it." The timber then cut still forms portions of the nave roof. The building occupied fourteen years, and on 8th April, 1093, in the presence of nearly all the bishops and abbots of England, the monks of Winchester removed from the old minster to the new church with the "greatest exultation and glory."

It has now been ascertained that almost the entire cathedral stands on peat, which must be excavated. The south transept is over 4 feet out of the perpendicular, and cracks of the gravest character are found in all directions. The most serious fact is that the cathedral is sinking, due to the further compression of

the peat in those places whence it has not yet been removed. "Tell-tales" or fillets of cement are placed across the cracks to give warning of any movement taking place, and except in those parts which have already been underpinned, these cement fillets are broken through, in many cases within a month. In fact, the cathedral is doomed unless it is underpinned, and that without delay. Further extensive investigations will have to be made and repairs effected, both in the transept walls and main north and south aisles of this splendid cathedral, involving heavy expense. His Majesty the King has not only subscribed liberally to the fund for saving the edifice, but has commended this great work to his people; and surely they will not allow the Dean and Chapter to be hindered for the want of the necessary



FIG. 6.—WINCHESTER CATHEDRAL. CRACK IN WINDOW, MAIN CRYPT.

means to secure this building for the use of future generations. It is the burial place of several of our Saxon kings, and is bound up in the history of our country through the whole line of sovereigns to the present date.

The ancient church of Corhampton, near Bishop's Waltham, in Hampshire, repaired by Mr. Jackson, is another satisfactory instance of the application of the grouting machine. This Saxon church, 1,300 years old, was in a sadly dilapidated condition. In the west gable there were three large cracks, one from the ridge to the ground wide enough for a man's arm to enter; another, nearer the side wall, wide enough for the insertion of his head, whilst at the northwest angle the Saxon work threatened to fall bodily off. The mortar of the walls had perished through age, and the ivy had penetrated into the interior of the church in every direction. It

would have been unsafe to attempt any examination of the foundations for fear of bringing down the whole fabric; consequently the grouting machine was applied all over the building. The "grout" escaped at every point, and it occupied the attention of the masons both inside and outside, to stop it promptly by dabbing red clay onto the openings from which it was running. By the time the walls had taken all the grout that could be forced in, the church was practically a red building, both inside and outside, from the extensive use of this red clay. The cracks were in places so wide that they had to be specially treated before commencing to grout them, and the clay was so arranged as to extend into the crack about an inch on both faces. After the operation had been completed and the cement had set hard, the clay was removed and the interior was found to be filled with adamant; but as it did not come within an inch of the face of the wall, sufficient depth was left for fixing the flint work outside, and tiling inside. The result is that no trace of the crack is visible, and after this treatment of the walls they are stronger and better than they ever were. Subsequent steps were then taken to examine and, where necessary, to underpin the walls, and we have the satisfaction of knowing that these efforts have saved the church. The Vicar, the Rev. H. Churton, writing on the subject on 18th October, 1906, said: "The grouting was most effective, and I think the walls are now quite safe, and all without moving one of the Saxon 'long and short' stones."

Holy Trinity Church, Hull, of which the Rev. A. B. G. Lillingston is vicar, is the most recent instance of the application of this system; but the difficulties were as great or greater than any of those already described. This magnificent church, one of the three largest in England, was built soon after A. D. 1300, at which date the foundations of the tower were laid. The choir was completed in 1361, the nave in 1418, and the upper portion of the tower in 1520. The church consists of a fine nave of eight arches on each side with side aisles; the choir of five arches and also with side aisles; a transept with the handsome tower in the middle standing on four massive piers, each one cruciform on plan. The weight of the tower is 2,800 tons, equivalent to 700 tons on each pier. For some time past signs of serious settlements had shown themselves in the arches and piers surrounding the tower, and these had been under the observation of the architect of the church, Mr. F. S. Brodrick, York diocesan surveyor. These movements had caused considerable cracks, and portions of masonry had from time to time fallen, the most alarming of which was that of a large corbel carrying the ridge of the choir roof on the eastern face of the tower. The piers of the nave, which for their height are very slender, and are each carrying a load of 75 tons, exhibited serious deviation from the perpendicular, being from six to seven inches out of plumb, and the subsidence of the tower had caused the joints of the shafts to open on one side and to crush on the other. These movements were going on at a somewhat alarming rate when I was called into consultation. A tradition existed that, as the town of Hull stands on a bed of clay overlying a deep bed of silt, the tower was built on a raft of timber, but this required investigation. On making a careful survey of the building in conjunction with Mr. Brodrick, we came to the conclusion that, from some cause or other, the

tower was slowly sinking, and in so doing was pushing all the arches at the west end towards the west, and all the arches at the east towards the east. The first thing to be done was to strut and cross-brace the arches and columns to prevent the possibility of a collapse; next to examine the brickwork in the spandrels of the arches adjacent to the tower. These were covered with plaster, but, on this being removed, serious cracks were found, showing that the brick work was being dragged down by the pier. A hole was then made in the floor of the church, and, as expected, a timber raft of horizontal oak baulks crossing each other at right angles was discovered. The upper layer had been reduced—by rot—to a powder resembling "coffee-grounds," and innumerable worms known as "eel worms," from one eighth of an inch to a half inch in length, infested the material. The destruction of the upper layer was practically complete, and the lower layer of timber was decaying. The masonry overlying this timber was cracked and flaked in all directions and most seriously injured, and a very interesting and unexpected discovery was made. A stone seat, or bench table, was found surrounding the pier of the tower, and partly in consequence of the sinking of the tower, and partly as a result of the floor being raised at some period, this seat is now below the tiling, and completely out of sight, and all record of it had been lost. Stone seats of this character are said to have given rise to the expression "the weakest go to the wall." This is generally considered to imply that in the rush and race of life the strongest pass by the weakest, who are ground against the wall. However, it is said to mean that in mediæval times, when services were held in the body of the churches (as in the cathedrals and churches on the Continent of to-day), no sitting accommodation being provided, the strongest had to stand, but the weakest would find seats if they went to the wall. Certainly this is the more pleasing interpretation of the saying.

Pending the decision as to the very difficult problem involved in this parish church of Hull, for the removal of the decaying timber and crushed masonry, all of which had to be replaced, the grouting machine was freely used for pumping or forcing in cement into every cavity and crevice, and for filling up all the voids left by the decayed timber. Beneath the columns of the nave vertical piles, probably of larch, were found, but in some instances the timbers had gone into powder, leaving only the form of the timber impressed in the clay, so that where a pile formerly existed only a cylindrical hole similar to the moulded form for casting a pipe remained, and at the bottom of the holes was a mass of the before-mentioned "coffee-grounds." The contractors are Messrs. Thompson, of Peterborough, whose representative, Mr. Ball, has carried out the difficult and often dangerous operation with great skill. One pier of the tower was dealt with at a time, and the greatest care had to be exercised. An excavation 24 feet in length by 6 feet in width, and to the same depth as the old work, was made clear of the pier, and on both the east and west sides, and was filled with concrete in which were placed grillage beams in order to distribute the eventual weight over the whole area. A hole 2½ feet in depth and about 9 inches in width was then carefully cut or "jumped" through the masonry of the pier, and a steel girder, 24 inches by 7 inches, was threaded through the hole and rested on the grillage beams

in these concrete blocks. In order to prevent subsidence, due to the deflection of the girder when it received its load, steel wedges were driven in under the end of the steel beams, thus giving the initial deflection, and avoiding by this means all sinking of the pier. The girder was then built into position with blue brick in cement and was carefully grouted up. A second, third, and fourth steel beam were in due rotation placed in position, and in this manner the load was quietly and safely transferred from the decaying wood beams on to the steel girders. After this the old cracked masonry and rotting timbers (which were found to be snapped through) were removed, one-fourth part at a time, from beneath the pier, and their place filled up with concrete in cement, with the result that to-day each pier stands on about 560 square feet of solid concrete instead of on the old defective foundation. As soon as the four piers of the tower were secured the columns of the nave were taken down, one at a time, and rebuilt in vertical position with so much of the old masonry as was available; but in consequence of the transverse strains brought to bear upon them, we found about two blocks out of twelve fractured and useless.

A most satisfactory feature in connection with Hull Parish Church is the fact that when a town meeting was convened by the Mayor—a prominent Wesleyan Methodist—he called attention to the fact that the saving of this church was the duty of all classes and of all denominations. One of the local Members of Parliament, a Primitive Methodist, endorsed these remarks, and urgent appeals were then made by the Bishop of Ripon, the Bishop of Hull, and by the Vicar, the Rev. A. B. G. Lillingston. The meeting was attended by all classes and all denominations, and thus a great and united effort was made to raise the necessary funds to secure this fine church as the future cathedral of Hull.

I am desirous of saying a few words as to the risks of fire in these venerable and priceless buildings. We introduce all kinds of modern ideas in order to bring them in comfort up to date, such as furnaces, gas, electric light; but we often fail to introduce at the same time the necessary precautions. The plumber on the roof is a well-known cause of disaster, and to-day workmen carry into the most inflammable places, such as amongst timber roofs, flaring petroleum lamps and plumbers' blow-lamps. The most stringent rules are required if we desire to protect these buildings. If workmen have to visit such places in the dark, the use of oil should be absolutely prohibited, and wax candles inside lanterns only allowed. Even these should be numbered and returned when done with to an official entrusted with this duty.

Two objections have been urged against the use of the grouting machine. The first is that the cement blown into a wall may afterwards expand and again crack the building. The answer to this is that cement which does swell or expand should never be used, whether with or without the machine, and that it can easily be detected beforehand by efficient inspection and tests. The second objection is that if such a high compression of air be used, the walls may be blown to pieces; but this is impossible, for although it is necessary to obtain penetration into the heart of the work by velocity, yet the safeguard is the use of the rubber hose which would very soon burst. In addition to this the clay pointing of the cracks would not sustain any heavy pressure.

My opinion, after long experience, is that the grouting machine in the hands of a practical man who knows how to employ it, is of unmixed advantage, and that no valid objection exists against its wholesale adoption.

NOTE ON CEMENT.

In using the grouting machine it is all-important that only cement of excellent quality should be used. It should not be quick-setting, as this tends to clog the machine and piping, and would if allowed to do so ruin both; nor should it be a cement which will expand to an appreciable extent in the work. This points to the necessity for submitting it (not only that which is used in the machine, but equally so that used in ordinary building) to the tests provided for in the standard specification. All kinds of natural cement, especially Belgian, should be absolutely condemned; for the author has been called in to advise on several buildings in which it had been employed with most disastrous results.

As regards burying steel girders in cement concrete, the author is of opinion, after long experience and many tests, that, if properly treated, the metal is indestructible when fixed above water level. What the eventual result may be below water level remains to be proved, and its history still has to be written; therefore for cathedral and church work he would not care to recommend its adoption.

Chicago Architectural Club Exhibition

EACH succeeding architectural exhibition held this Spring emphasizes more than its predecessor the tendency of committees of selection to provide exhibits that will attract the laity. The day of the purely technical architectural exhibition seems to be passing rapidly. The exhibition of the Chicago Architectural Club, which has just closed, measured as to its value as an educational factor in the life of the general public was a most satisfactory and a successful one.

Few problems were presented that would invite discussion among the profession. The absence of material of this character would seem to be another indication of the growing tendency in exhibitions of this nature to educate the client, rather than to broaden and assist the architect.

While much of the material exhibited has been seen in previous exhibitions this spring and during the winter, there is a large amount of work by local architects that materially adds to the high character of the exhibition.

Much interest is shown in the exhibit of successful drawings entered for the eighth annual travelling scholarship of the Chicago Architectural Club. The subject, a public gymnasium and bath, is shown in five sketches. The successful competitor was George Ausumb.

There is also a display by the Chicago School of Architecture which presents good examples of student work.

Mr. D. H. Perkins' exhibit of proposed new Chicago schoolhouses is most interesting.

Exhibits by Mr. George W. Maher, Messrs. Jenney, Mundie & Jensen, Messrs. Holabird & Roche, all show sanely designed types that are worthy of careful study. Other exhibits of much interest are noted, and the general impression received by the visitor is that this exhibition is on the whole a creditable one.

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Additional:

Courtyard and Staircase in the Palazzo Gondi, Florence, Italy—XVII. Century Court and Stairway, Palazzo Controni, Lucca, Italy.

THE unusual number of disastrous fires which have occurred in rapid succession since the beginning of the present year render of more than passing interest the fire tests of building materials that have been recently conducted. Among the most important of these may be mentioned those made by the United States Geological Survey in behalf of the Government, in cooperation with the National Board of Fire Underwriters and the National Fire Protection Association. Panels of various building materials, including brick, concrete blocks, sandstone, granite, limestone, glazed building and partition terra cotta blocks, concrete of gravel, cinders, limestone, and granite were tested. The conditions under which the tests were made were exceptionally severe, the specimens being quickly heated to a temperature of approximately 1700 degrees Fahr., and this temperature maintained for an hour and a half when water was turned on from a hose with a pressure of fifty pounds to the square inch.

WHILE the results obtained from these tests were not conclusive, they furnish a basis for comparison of the different materials, and also serve to attract attention to several important facts. As might have been expected, the natural building stones were almost entirely destroyed, while brick behaved rather better than any other material tested. Of these the

hydraulic pressed brick was the least affected, and recently manufactured common brick the most, while between the two extremes were the ordinary hard burned brick taken from a piece of work that had been standing for some years. Of the concretes tested it would be difficult to state positively which sustained the least damage, although the evidence seemed to point toward that in which granite was used as being perhaps in a slightly better condition after the test than the others. The damage, however, in no case extended very far into the concrete, probably not more than one and one-half inches. At this depth it would seem that the temperature was comparatively low, and moreover the evidence indicated a slow rate of travel for heat through concrete, two qualities which are essential in any material intended for fireproofing purposes.

ONE of the most important and useful lessons taught by these tests would seem to be the effect that the proportion of cement used and also the wetness of the concrete mixture bore to the fireproofing qualities of the concrete. The richer mixtures with the greatest percentage of water, while somewhat pitted and scarred, were in comparison with the leaner, dryer mixtures practically uninjured after the tests. With the increasing use of concrete as a building material the study of the mixtures best suited to meet the requirements not only of strength, but also of safety in the event of fire, becomes of timely interest, and various tests such as those noted above afford excellent opportunity for such study. If architects in general would give attention to, and be guided by, the results of comprehensive tests as supplementing the lessons taught by some of the great conflagrations of recent years, the time would not be far distant when really fireproof structures would become the rule rather than the exception, and a fire of large proportions an impossibility.

EVEN casual readers of the better class of current literature, those who read for pleasure rather than profit, and who do not perhaps appreciate the specific bearing of archaeology on the elucidation of historical questions can scarcely have failed to note the unusual activity in this special field of investigation and research, as reflected in publications giving attention to such matters. In all sections of the old world, where ancient civilization reached its highest development, the spade of the excavator is busy, and the relics and fragments of art, architecture, and inscriptions being unearthed bear silent but none the less eloquent witness to the matchless achievements of many of the races of antiquity. Among the more important recent discoveries is a temple of Saturn unearthed at Dugga by the French archaeologists, in which a number of columns and other architectural details are still in an excellent state of preservation. Also in the collection was found a colossal figure of Apollo carrying a richly ornamented lyre. In Greece, near Athens, excavations have yielded much of interest and importance, while discoveries of no less significance and value have rewarded the labors of those engaged in tracing the record of ancient Rome. A more fascinating work than that of the archaeologist or one which does more to broaden and develop the understanding and add to a liberal education would be difficult to imagine.

Current News Section

Notes and Clippings

Philadelphia members of the Grand Army of the Republic are expressing indignation at the Park Commission for its refusal to permit a local post to erect a soldiers' monument in Fairmount Park, and will bring the matter before the City Council.

The contention of the Park Commission is that the monument as completed is so poorly designed, so lacking in the proper artistic qualities, that it is not worthy to find a permanent site in the public parks.

Setting aside the sentimental aspect of the case, and looking at the matter purely from the artistic point of view, we are led to indorse the action of the Park Commissioners, if the published photographs of the proposed monument are to be relied on.

No one will deny the right of Civil War veterans to erect memorials to their dead comrades, but veneration for the dead should not be shown in such an inartistic way as the erection in public places of any further creations that mar the beauty of so many public squares in our small towns and the parks of our cities.

It is time to call a halt in these matters, and to insist upon a due regard for the artistic qualities of these monuments.

In almost every city there are groups of these statues and shafts that are little less than eyesores. Sentiment is against their removal, and so, they stand a constant reproach to the artistic perception of their originators and a source of irritation to the aesthetic body of communities.

The new Opera House, now in course of erection in Mexico City and which is expected to ultimately cost \$6,000,000 for construction, will, it is said, be of unusual architectural excellence. This building, which is to be 220 feet wide, and 330 feet deep, will stand in the centre of a square, and thus can be viewed from every side. The architect is Adam Boari, who, at one time, was associated with Messrs Burnham and Root in the erection of the World's Fair Buildings at Chicago.

The following, clipped from an exchange, will be found of interest to those who have not visited London for a considerable period:

"The palatial building for two years in the course of construction at Piccadilly and Park lane is now nearing completion. It will be the most superb and expensive apartment house in Europe.

"The ground floor will be given over to shops, but the five above will consist of apartments, each containing sixteen rooms. In each there are eleven bedrooms, three bathrooms, a drawing room and a boudoir with sliding doors, so that they may be formed into a ballroom, and these apartments are approached by a noble hall 36 feet long and proportionately wide.

"These are suites for which tenants will be asked to pay \$15,000 a year, approximately, in addition to the rates and taxes.

On the fifth floor, a rather smaller flat, with only nine bedrooms, may be had for about \$10,000 a year rent, and the sixth and topmost floor has an estimated rental value of \$7,500."

Personal

Mr. William Albert Swaysey, architect, announces the removal of his office to the Marbridge Building, Broadway and Thirty-fourth Street, New York City.

Mr. Charles N. Lowrie has removed to 103 Park Avenue, corner Forty-first Street, New York City.

Messrs. Thompson & Harrison, architects, have opened an office for the practice of their profession in the Wilson Building, Dallas, Texas.

Mr. J. H. Phillips, architect, formerly at 50 East Twenty-ninth Street, announces his removal to the New Terminal Building, Forty-first Street and Park Avenue, New York City.

It is stated that the firm of Myers & Fisher, architects, of Williamsport, Pa., has dissolved partnership. Mr. Myers has moved to Watertown, N. Y., to engage in practice, while Mr. Fisher will continue his architectural work in Williamsport.

Mr. George W. Eldridge, architect, of Salt Lake City, Utah, is delivering a course of lectures before the local Y. M. C. A. on the History of Architecture.

Mr. E. B. McNaughton, of Portland, Ore., is also lecturing before the local Y. M. C. A. on a similar subject. Mr. McNaughton is the architect of the proposed new building for the Y. M. C. A. and has added a novel feature to his lecture. He has had lantern slides prepared from his plans and working drawings and explains in an interesting way the features of the structure.

J. H. Kent, of Helena, and George H. Shanley, of Butte, Mont., have, it is reported, formed a partnership for the practice of architecture. Messrs. Kent and Shanley have been prominently identified with the larger building operations in Montana for a number of years.

It is reported that the firm of Duffy & George, architects, of New London, Conn., has dissolved partnership. Mr. Duffy will continue in practice in New London.

H. C. Gerlach, architect, formerly of Milwaukee, Wis., has returned to Mankato, Minn., where he will resume the practice of his profession.

It is stated that Mr. Richard Dana, architect, of New York City, has been selected to supervise the course of architecture during the coming year at the Yale Art School, New Haven, Conn.

Mr. H. S. Strong and Mr. E. H. Reckett, both of Columbus, O., have formed a partnership under the firm name of Reckett & Strong, for the practice of their profession as architects.

Competitions

Referring to the competition for the selection of designs for low-cost houses, not to cost over \$3,000, outlined in a program put forward by Messrs. F. W. Bird & Son, of East Walpole, Mass., and to which reference has already been made in these columns, we are now able to announce the award of the judges as follows:

First—Herman J. Voss, 122 Ames Building, Boston, Mass.

Second—William C. Ayres, 35 Wall street, New York City.

Third—J. T. Tubby, Jr., 81 Fulton street, New York City.

Fourth—C. F. Rosborg, 35 Wall street, New York, N. Y.

Fifth—Marcus R. Burrows, 1103 Union Trust Building, Detroit, Mich.

Sixth—W. T. Robertson, 72 Weybosset street, Providence, R. I.

Seventh—Edward J. Brown, 1143 E. 175th street, New York.

Eighth—Otto R. Eggers, Walter Haefeli, 520 Fifth avenue, New York City.

HONORABLE MENTION

G. Stanley Wires, 34 Claflin street, Milford, Mass.

W. W. Johnson, Construction Office, West Point, N. Y.

Russell Eason Hart, 500 Park avenue, New York City.

Louis S. Weeks, 20 West Thirty-fourth street, New York City.

George Guppy, 22 Congress street, Boston, Mass.

The judges in the competition were Prof. F. W. Chandler, of the Massachusetts Institute of Technology, and Mr. Charles Collens, of the firm of Allen & Collens, of Boston.

Competitions Decided

As announced in our issue of April 22, Messrs. Palmer & Hornbostel were the successful competitors in the New Western University of Pennsylvania competition.

The scheme outlined is a modernized adaptation of the acropolis at Athens.

The rendering of the general view presents a most original and well-balanced composition, and it will be of much interest to note the progress of this work.

As previously stated, the competition for the new postoffice, to be erected in this city, was won by Messrs. McKim, Mead & White. This building will be erected fronting on Eighth avenue, extending from Thirty-first to Thirty-third streets, and will extend 335 feet toward Ninth avenue.

The treatment of the main façade is in keeping with the general architectural features of the Pennsylvania railroad station,

adjoining this new postoffice building, by the same architects.

Messrs. McKim, Mead & White were also the successful competitors in the New York City Municipal Building competition. Particulars of this competition will be given in a succeeding issue.

The Porto Rican capitol competition, it is announced, was awarded to Mr. Frank E. Perkins, of this city.

The premiated design shows a low dome over Doric columns. The plan calls for a reinforced concrete building with marble decorations.

Horace Trumbauer, Philadelphia, has won the first prize of \$2,000 in the competition for plans for the \$120,000 penitentiary to be erected at San Juan, Porto Rico by the Government.

Societies

At the request of the city authorities the Los Angeles, California, Chapter of the American Institute of Architects have been in conference with the Board of Public Works with reference to proposed changes in the city's building ordinances.

A State business association of Kansas architects, was, it is stated, organized recently at Topeka. T. H. Lescher, of Topeka, president; C. E. Hair, Salina, vice-president; J. F. Stanton, Topeka, secretary. It is further stated that the first object of the association will be to secure the enactment of a law requiring all architects to procure a license before practicing in the State.

On March 28 the Columbus Society of Architects was organized at Columbus, O., with a charter membership of forty-one practicing architects. The stated object of the society "shall be the advancement of interest in architecture and the allied arts, the professional improvement of its members, and to bring into social relations those interested in these objects." President, A. M. Allen; vice-president, C. A. Stribling; secretary-treasurer, Fred W. Elliott; directors, Frank L. Packard, C. E. Richards, Edwin E. Pruitt, C. E. Bellows.

The draughtsmen of Seattle, Wash., have, it is stated, organized a club with a present membership of thirty-five.

Lectures before the club have been arranged, and a course of problems will soon be undertaken.

At a recent meeting of the Chicago Architects' Business Association, Mr. F. W. Patton, engineer of the Chicago Telephone Company, delivered an address, illustrated by models and photographs, on the proper measures to be provided in buildings for telephone accommodations.

The exhibition of the Cincinnati Chapter of the A. I. A. was opened in the Art Institute on April 21. Further reference to this exhibition we hope to make in a forthcoming number.

The Louisville, Ky., Chapter, A. I. A., and the Builders' Association of that city are in conference, looking to a more harmonious association.

Industrial Information

SIDEWALK LIGHTS

In our crowded sections of cities, where tall buildings convert the streets into veritable chasms, and where the supplying of light and air become important problems, that part below the sidewalk line could not be made available for other than storage purposes because of its unwholesomeness due to lack of natural light. It is only during recent years that the possibility of refractors through scientifically constructed glass prisms has been thoroughly studied. Owners, through this scientific method of light direction, have been able to utilize the cellars and basements of buildings for something more than storage, and find that on a moderate outlay for a properly constructed sidewalk they have been able to secure a rental at very satisfactory figures.

The Raydiant System of sidewalk and vault lighting has done much to bring about this result. Just what can be accomplished in this direction is well explained in an illustrated pamphlet issued by the Berger Mfg. Co., of Canton, Ohio. It is interesting to note to how many purposes the area below the sidewalk has been made available, and architects, builders and owners will find in this pamphlet much valuable information.

STORE FRONTS

The architect with a problem in store front construction will find his labors materially lessened if he will possess himself of a copy of a catalogue recently issued by J. W. Coulson & Co., of Columbus, Ohio.

This is an elaborately prepared pamphlet of thirty-six pages, measuring 9 by 12 inches, with well-drawn illustrations of sections of the Coulson patent corner posts, transom bars and quarter rounds.

It also has photographs of many store fronts, recently constructed, which admirably illustrate the claims made as to the adaptability under varying conditions of these posts and bars.

CORRUGATED BARS FOR REINFORCED CONCRETE CONSTRUCTION

To meet the requirements of those who for various reasons prefer a round bar for reinforcing purposes, the Expanded Metal and Corrugated Bar Co., of the Frisco Building, St. Louis, Mo., are prepared to furnish these bars in addition to the usual corrugated squares and flats.

In order to fully illustrate these new bars, and to present a record of recently constructed concrete work, where this company's reinforcements have been used, the Expanded Metal and Corrugated Bar Co. have issued an illustrated pamphlet of more than one hundred pages measuring 9x11 inches.

This pamphlet illustrates examples of concrete construction from the modest country dwelling to the massive railway bridge, viaduct and spillway dam. It is a valuable book to have at hand, as it shows the possibilities of reinforced concrete as applied to the largest class of work.

An interesting feature is the space devoted to floor construction. These show

spans of varying widths and the method of their reinforcement, based on the best modern practice.

MERRILL'S PATENTED FURNITURE

On turning over the leaves of a large illustrated pamphlet sent to us by the Merrill Financial Company, of Vancouver, British Columbia, one is reminded of his childhood days, when the transformation scenes of the pantomime filled him with wonder.

The first page of this pamphlet illustrates an attractive drawing-room, with nothing whatever to suggest its possible use as either a dining-room or a bedroom.

On turning the leaf, it is seen that the room has been transformed into a bedroom, no feature of which, excepting the rugs and draperies, give a hint of the preceding picture. And again, on the following page, is the dining-room, still the same room, all except the furniture, again transformed, and this time into a well appointed dining-room.

It is claimed that the dweller in small flats and studios can have, by the use of this patented furniture, all the furnishings of a well-appointed house.

It is also claimed that the manipulation to make the various changes is so simple that they can be quickly and easily effected by a child, without fear of damaging the furniture or accident to the person operating it.

The Merrill Financial Co. will, we are advised, send one of these illustrated pamphlets on application.

UNITED STATES CHANGEABLE SIGN CO.

Large buildings in large cities present interesting features to statisticians who study elevator traffic. The figures presented are almost incredible.

To quickly and with certainty find an occupant in one of these vast structures that house a population equal to a small suburban town is only possible when an accurate directory is kept in readily accessible places.

The familiar black panel with its clear cut white letters is a ready guide to the stranger, and we at once, upon entering these buildings, direct our eyes in search of these directories.

These are supplied by the United States Changeable Sign Co., of 3 West Twenty-ninth street, New York City, whose illustrated pamphlet may be had on application.

From this pamphlet it is learned that the use of these directories is not limited to the purpose above described.

Armories find them useful as rosters in staff and company rooms, and in lodges they serve as bulletins. Hospitals, brokers' offices, railway offices, and, in fact, every place where an easily read and attractive bulletin is required, it is claimed these changeable signs are a requisite. It is further claimed the changes are easily and quickly made, and, with proper care, they will serve their purpose for an indefinite time.

These signs are sold outright. They can be made according to architect's designs or sold out of stock in quartered oak or bronze.

Building News

MAINE

BRUNSWICK.—Bowdoin College, according to press reports, is going to erect a new gymnasium at a probable expenditure of \$100,000.

NEW HAMPSHIRE

CONCORD.—Land has been acquired by the New Hampshire Historical Society, it is reported, for the erection of the proposed new building.

VERMONT

BELLOWS FALLS.—The property on Westminster street, according to press reports, has been decided upon as the site for the proposed new library building to be erected at this point.

POULTNEY.—The Trustees of the Troy Conference Academy, according to reports, have decided to rebuild the dormitory recently destroyed by fire.

RICHFORD.—Seventy thousand dollars has been appropriated, it is said, for the erection of a Federal building at this point.

MASSACHUSETTS

BOSTON.—Chas. H. Bond is reported interested in the erection of the new theater building to be built on Tremont street. Hill, James & Whitaker are the architects and the estimated outlay is about \$500,000.

The Jewish Helping Hand Home has bought property at the corner of Canterbury and Austin streets, in the West Roxbury district, and it is reported that they will erect a handsome edifice on the site.

LYNN.—The managers of the Woodbury estate on Andrew street have decided, we understand, to demolish the old building on the property and erect a brick building on the site.

\$50,000, according to the local press, has been appropriated towards the erection of a new police court to be built here.

SPRINGFIELD.—The plans prepared by Architect Edward S. Tilton of New York, it is said, have been accepted for the new library building to be erected here. Bids for the construction of the building will be received until June 1.

STERLING.—It is stated that Architect G. H. Desmond of Boston is drawing plans for a new hotel to be erected in Sterling for John H. Coughlin to replace that burned last winter.

RHODE ISLAND

PROVIDENCE.—According to the press all the bids for the new City Hospital have been rejected and the plans prepared by Architects Martin & Hall will be revised and bids advertised for again.

CONNECTICUT

BRIDGEPORT.—The Germania Singing Society, it is said, will rebuild at once its building recently destroyed by fire.

WATERBURY.—Architects Griggs & Hunt, we understand, have prepared plans for a residence to be erected on Pine street and bids will be shortly received. The same architects are also preparing plans for the

remodeling of the County Court House. Estimated expenditure, \$80,000.

NEW YORK

CLINTON.—Architects Merrick & Randall of Syracuse are preparing plans for a large colonial house to be built by Edwin Fuller Torrey, Jr., upon the site of the historic White Seminary in Clinton.

HEMPSTEAD, L. I.—The Morton Lodge of this village has decided, it is said, to purchase a plot on Fulton street, for the purpose of erecting a Masonic temple.

MARCELLUS.—Architects Merrick & Randall, it is said, are preparing plans for a colonial house to be erected for J. M. Moir. The same architects have been commissioned to prepare plans for an animal hospital to be established by the S. P. C. A. at West Belden avenue and Wallace street.

NEW YORK.—We learn from the press that the plans prepared by Architects McKim, Mead & White have been accepted for the new Municipal building to be erected at a probable outlay of \$2,000,000. It will be twenty-two stories high.

We understand from the local press that Lee Shubert is about to erect a new theater on Thirty-ninth street near Sixth avenue.

The property at the southwest corner of One Hundred and Seventy-eighth street and Prospect avenue will be shortly improved, we understand, by a five-story apartment house.

ROCHESTER.—Steps are being taken, it is said, to obtain options of property extending from Elm street to Cortland street, for the purpose of erecting a new vaudeville theater.

WHITE PLAINS.—The Claffin Theater Company of New York is reported as having decided to erect a theater at this point which will cost in the neighborhood of \$40,000.

\$75,000 has been appropriated, we understand, for the proposed Armory building to be erected here.

YONKERS.—According to despatches the Yonkers Federation of Labor is contemplating the erection of an imposing edifice to cost in the neighborhood of \$100,000.

NEW JERSEY

ATLANTIC CITY.—Paul A. Davis, architect of Philadelphia, it is stated has been awarded the contract for the new First Presbyterian Church to be erected at Pennsylvania and Pacific Avenues.

It is reported that Watson & Huckel, architects, of Philadelphia, have finished plans for a seven-story and roof garden hotel, to be built in Atlantic City for the Federal Realty Company, of New Jersey.

JERSEY CITY.—The congregation of the Second United Presbyterian Church, Hancock Avenue, according to the local press, is considering the erection of a new edifice.

We understand plans have been completed by Architect John A. Resch for the erection of a three-family flat for Lewis Bollareni, of 42 Stevens Avenue.

It is stated that Architects Dodge and Morrison of 82 Wall Street, New York, are receiving estimates for the construction of an addition to the People's Palace on the corner of Bergen Avenue and Forrest Street. Estimated cost, \$120,000.

OCEAN CITY.—From the local press we learn that a syndicate has been formed for the purpose of erecting a hotel building at this point to cost, approximately, \$500,000.

PENNSYLVANIA

BANGOR.—Architect Harvey T. Hauer of Lebanon, Pa., is reported as preparing plans for four school buildings to be erected in this city.

BROCKWAYVILLE.—Dr. R. Eiseman is reported as contemplating the erection of a business block upon the lot owned by him on Ligonier Street. Plans are being prepared.

CARBONDALE.—\$60,000 has been appropriated, we understand, for the erection of a Federal building at this point.

CHAMBERSBURG.—Sixty-five thousand dollars has been appropriated, we understand, for the erection of a new Federal building at this point.

CHESTER.—The property on Twenty-fourth Street, between Crosby and Madison Streets, has been bought by a Philadelphia syndicate in which Mr. Hoffman, the contractor, is interested, and it is reported that they will erect a number of handsome residences on the property.

DUBOIS.—As a result of the visit in DuBois last week of the Buffalo, Rochester and Pittsburgh officials, it is stated that work will be started within the next few weeks on the erection of a modern office building for the officials and dispatchers located at that point. The cost of the building will be about \$40,000.

ERIE.—The Knights of Columbus, it is said, are contemplating the erection of a new structure on a site located on State Street.

GREENSBURG.—W. G. Sloan, of this place, it is stated, has been elected architect of the school buildings to be erected in the Seventh and Fourth Wards.

HARRISBURG.—According to press reports we learn that the new Harrisburg Academy will be located on the river front. Plans for the building are under consideration.

The State Trust Company has acquired the property at 306 Union Street and it is reported that they contemplate the erection of a handsome building on the site.

LANCASTER.—The plans for the school building to be erected at the corner of Fremont Street and Love Lane have been prepared by Architect Urban of this city.

LINWOOD.—Fifteen thousand dollars will be spent by the Masons of this city in the erection of a new lodge building, it is reported.

MEADVILLE.—Estimates are being taken for the erection of a Federal building at this point, it is said.

NATRONA.—We understand that a new town hall is to be erected here near Center Street.

NEW CASTLE.—Plans have been prepared for the proposed New Castle High School building by Architect W. G. Eckles, and according to reports bids will soon be asked for.

PHILADELPHIA.—Samuel Jamieson has acquired property on Arch Street near Broad and it is currently reported that he will erect a \$500,000 commercial hotel on the site.

The plans for the Hammerstein Grand Opera House, at Broad and Poplar Streets, are being completed by Architects J. B. McElfatrick & Sons, it is said.

From the press we understand that all the property needed at the site for the new St. Rita's Church has been secured. The plot is located at Nos. 1152 to 1162 South Broad Street.

Architect F. B. Davis is reported as having prepared plans for an addition to the Women's Hospital at Twenty-second Street and North College Avenue.

Robert M. Catts is organizing a syndicate for the purpose of purchasing the three properties at the southeast corner of Broad Street and Girard Avenue for the site of an apartment house. The project will involve an expenditure of over \$100,000.

It is stated that Architect J. C. Rieger is planning a \$25,000 brick and stone residence, to be erected on Beechwood Boulevard, Squirrel Hill, for George H. Shickler.

PITTSBURG.—D. A. Crone, architect, is designing a brick dwelling for Dr. Nicholas Albrecht, to be erected on South Twelfth Street, Southside.

According to reports Congressman John Dalzell, who owns the property at Penn Avenue and Wood Street, is contemplating the erection of a fine business block at the site to cost about \$60,000.

The property at 627 Liberty Avenue has been bought by Charles H. Lockhart, and it is said that he will shortly improve same with a four-story office building.

SCRANTON.—The Masons of this place have purchased the old Armory on Adams Avenue and it is reported that they will extensively improve same into a commodious home for the Masons.

According to press despatches Philadelphia capital is interested in the erection of a new hotel building, to be erected in this city at an approximate expenditure of \$650,000.

WEST LIBERTY.—L. J. King is reported as having purchased property on Saratoga Avenue on which he will erect a handsome residence.

OHIO

CLEVELAND.—Bids will be received until May 25 for the erection of a new school building to be located on Orange Avenue, S. E.

W. G. Marshall has acquired property on Superior Avenue, N. W., and according to press reports he will erect a \$1,000,000 office building on the site.

The German Beneficial Union has purchased the property at 1905 West Twenty-fifth Street, and it is said that they will build a modern structure for club purposes.

CINCINNATI.—According to reports a store and apartment building will be erected at 23, 25 and 27 East Thirteenth Street, costing about \$10,000. The improvement, now being designed by Architect Philip Pfeiffer, is for F. B. Stafford.

DAYTON.—The congregation of the First Christian Church is having Schenck & Williams, architects, prepare plans for their new edifice, which will be erected at Broadway and Home Avenue.

St. Andrews Episcopal Church has decided on the erection of a new church and parish house, which will be located at the southeast corner of Buckeye and Pulaski Streets.

EAST LIVERPOOL.—Bids for the new Municipal building are being received by City Clerk Hart, we understand. The building is to be located on Midland Avenue.

The members of the M. P. Chapel have purchased a lot on Pleasant Heights near the end of the car line and, it is said, will begin the erection of a chapel at once.

GALION.—Architect Robert C. Gotwald, of Springfield, is reported as having been appointed to prepare plans for the new edifice to be erected for the congregation of the Reformed Church.

LANCASTER.—Plans are being prepared by Architects Richards, McCarty and Bulford, of Columbus, for an I. O. O. F. temple. The same architects are also preparing plans for a hospital building to be erected by the Board of Public Service.

MASSILLON.—Architect J. M. Bostick is reported as having been appointed to prepare the plans for the addition to the Vinedale school building. He is also preparing plans for the proposed City Hall building, to be erected here at a probable outlay of \$65,000.

MARION.—One hundred thousand dollars has been appropriated, we understand, for the erection of a new Federal building at this point.

MARTIN'S FERRY.—The congregation of Baptist Church at this point has decided to erect a new edifice, we understand, at a probable expenditure of \$40,000.

MIDDLETOWN.—Plans for the new Elks' temple have been received, it is reported. It has been decided to receive bids May 14.

MT. PLEASANT.—The Church of Assumption, it is reported, will erect a combination school and sister home. Plans for the improvement, to cost \$15,000, are now being prepared by Architect A. Kunz, of Cincinnati.

NEWARK.—The congregation of the First M. E. Church has secured the ground adjoining the residence of W. N. Fulton, and it is said that they will erect a church edifice on the site to cost about \$60,000.

SEBRING.—The Catholics at this point are contemplating the erection of a new church edifice, it is currently reported in the local press.

SPRINGFIELD.—The Al Yembo Temple, Dramatic Order of the Knights of Khorasan, it is stated, has decided to erect a new club house. Frank Geer is on the committee.

TIFFIN.—The Board of Trustees of the National Junior O. U. A. M. Orphans' Home has decided, we understand, to erect additional buildings here at a cost of \$50,000.

INDIANA

CONNERSVILLE.—Dunlap & Glassop, architects of Indianapolis, it is reported, have won in the competition for the new Carnegie Library building to be erected here. Estimated outlay, \$20,000.

EVANSVILLE.—Architects Harris & Shopbell have prepared plans for a six-story

building to be erected at Fourth and Vine streets, it is said, and they will receive estimates on the construction of same.

OWENSVILLE.—We understand Harris & Shopbell are drawing plans for a new church edifice for the Methodist congregation at Owensville.

WABASH.—It is stated that a new Federal building will probably be erected at this point. About \$75,000 will be spent in the construction of the building.

WASHINGTON.—W. Scott Morr, of Indianapolis, has been selected to prepare plans for the remodeling of the County Court House, it is reported.

ILLINOIS

ALTON.—According to exchanges the plans for the new Cathedral Church to be erected at this point have been accepted.

CHICAGO.—Oscar H. Haugan is chairman of the committee which is raising funds for the erection of the Norwegian Lutheran Orphan Children's Home at Edison Park. \$35,000 will be spent on the construction of the building.

Hasterlik Brothers, wholesale liquor dealers, have purchased the property at the southeast corner of Van Buren and Aberdeen Streets and it is reported that they will erect a four-story building on the site.

John R. Thompson has leased the land at 105 to 109 Madison Street and it is reported that he will erect a fire-proof structure thereon to cost not less than \$250,000.

Jacob L. Kesner has acquired the property at 406 and 408 State Street and, according to reports, he will erect an apartment house on the site.

Charles E. Carson has purchased the property at the southwest corner of Kenmore Avenue and Argyle Street and, it is said, will improve it by the construction of an apartment house to cost \$50,000.

Edward Wendel and Charles W. Quentin have bought the vacant land on the south side of Edgecomb Place and we understand that they will improve it with a large apartment house.

GALESBURG.—The members of the Galesburg Club are contemplating the erection of a new club house, it is said, to cost approximately \$40,000.

MICHIGAN

CADILLAC.—The Board of Supervisors has appointed a committee to look up a site for a Wexford County Court House in this city.

WISCONSIN

MILWAUKEE.—M. Goldstine has leased the property at Grand Avenue and Fifth Street for a long term of years and it is reported that he will erect a handsome business block on the site.

MISSOURI

KANSAS CITY.—The plans prepared by C. A. Smith for the proposed enlargement of the Public Library building have been approved, it is said.

ST. JOSEPH.—According to press reports the Merchantile Building & Realty Company, recently organized, is the owner of the new building to be erected at Fourth and Faraon streets.

ST. LOUIS.—St. Louis architects are invited to submit plans for the erection of a branch library building at Seventh and Soulard Streets. Further information can

be had from the Building Committee of the Public Library Board.

Charles J. Mueller has acquired property in Lindell Park and it is reported that he will erect a \$15,000 residence thereon.

The plot of land adjoining the Maryland Hotel has recently changed hands and it is said that the new owner contemplates the erection of a six-story commercial building on the site.

IOWA

COUNCIL BLUFFS.—The members of the First Christian Church have decided to erect a handsome edifice at the corner of Scott and Mynster Streets. Estimated outlay, \$20,000.

We understand that the question of building a new fire station in this city is under consideration.

WATERLOO.—A seven-story business block is to be erected here, it is said, to cost approximately \$120,000. A syndicate of Waterloo capitalists have organized to forward the enterprise.

MINNESOTA

MINNEAPOLIS.—According to press despatches the Evangelical Association of Minnesota has announced that they will shortly spend \$150,000 for the erection of a hospital building to be erected here.

NEBRASKA

FAIRBURY.—Steps are being taken to procure a site for the new Carnegie Library building to be erected at this point according to reports.

We understand that a movement is on foot among the Masonic bodies of Fairbury to erect a Masonic Temple here.

KANSAS

ATCHISON.—At a meeting of the members of the Alumni Association of St. Benedict's College at Atchison, plans were formulated for the raising of \$50,000 for the purpose of erecting a new building at the college.

TOPEKA.—The Knights of Columbus, according to press despatches, will build a new \$25,000 home here.

The congregation of the Central Congregational Church will erect a \$30,000 edifice, according to the local press. The architect has not yet been decided upon.

COLORADO

COLORADO SPRINGS.—Architect T. P. Barber is reported as having been commissioned to prepare plans for the administration and one of the ward buildings to be erected for the Deaconess Hospital on East Boulder Street.

W. H. Bacon is reported as having decided to remodel the building at 18-20 East Pike's Peak Avenue at a probable expenditure of \$25,000.

VIRGINIA

WINCHESTER.—It is currently reported in the local press that the City School Board will shortly advertise for bids for the erection of the proposed new school building.

WEST VIRGINIA

MORGANTOWN.—According to the local press a movement is on foot to erect a handsome new structure at this point.

WHEELING.—According to reports the

Neil Grocery Company will erect a new business block, on Twenty-second Street.

KENTUCKY

CALHOUN.—We understand from the local press that Architects Harris & Shopbell, of Evansville, Ind., have been appointed to prepare plans for the new City Hall building to be erected here. The same firm is also drawing plans for a Masonic Temple to be built by the Masons of this City.

JEFFERSONVILLE.—\$50,000 has been appropriated, we understand from the press, for the erection of a new Federal building at this point.

LEXINGTON.—The South Side Christian Church congregation is preparing to erect a house of worship on its lot at the corner of Maxwell and Mill Streets. The plans for the new structure are now being prepared by Architect George Cramer, of New York.

LOUISVILLE.—The Standard Club of this city, which was recently destroyed by fire, is to be rebuilt, it is reported.

Architects Gray & Hawes, it is said, have been appointed to prepare plans for the new City Hospital to be erected here.

TENNESSEE

BRISTOL.—Stone Brothers, architects of New Orleans, La., are reported as having been awarded the contract for the new City Hall to be erected here at a probable expenditure of \$60,000.

NASHVILLE.—\$300,000, it is reported, will be spent in the erection of a structure to be built on Eighth Avenue. Paul Roberts is interested.

NORTH CAROLINA

HAMLET.—According to reports Architect H. E. Bonitz, of Wilmington, has been commissioned to prepare plans for a handsome three-story, forty-room, brick hotel for Mr. E. A. Lackey and associates at Hamlet.

GEORGIA

ATLANTA.—According to reports the branch library building to be erected here will be located at the corner of Merritts Avenue and Luckie Street.

MISSISSIPPI

CLARKSDALE.—We understand that at a probable expenditure of \$30,000 a new school house will be erected at this point.

DECATUR.—According to the local press \$50,000 will be appropriated towards the erection of a new court house at this point.

OKLAHOMA

GUTHRIE.—The question of erecting a new capitol is being agitated at this point, it is reported.

EL RENO.—Plans have been prepared for the erection of a \$20,000 church edifice for the Christian Church of this city.

OKLAHOMA CITY.—According to reports announcement has been made that a large apartment house will be constructed by the Central Title and Investment Company.

Plans are being prepared for a proposed ten-story office building to be erected by Oscar G. Lee.

George K. Williams, according to reports, has acquired property at Ninth and Broadway on which he intends to erect a new building to cost approximately \$20,000.

An addition is to be built to the St. Anthony's Hospital, at Ninth and Brush Streets, at a cost of \$25,000, it is said.

J. F. Harbour, of Bass & Harbour, has acquired property on Fifteenth and Hudson Streets, where, it is said, he will erect a handsome residence to cost \$25,000. He has also bought property on Broadway between Main and State Streets, on which, according to reports, he will erect an office building at a probable expenditure of \$150,000.

ARKANSAS

FORT SMITH.—Plans are being prepared by Sanguinet & Staats of Fort Worth, Texas, for a seven-story fireproof office building. The same firm will also soon take figures on the First National Bank building.

HOT SPRINGS.—C. W. Bulger & Son of Dallas, Texas, are preparing plans for a new \$60,000 Baptist Church.

TEXAS

GALVESTON.—The People's Theater Company, according to the local press, has appointed Architect McKenzie to prepare plans for a new theater to be built here. Bids will shortly be received.

CISCO.—Sam P. Herbert, architect of Waco, Texas, will receive bids about May 10 on a new \$25,000 school building.

FORT WORTH.—Sanguinet & Staats, architects, will soon take figures on a new \$100,000 opera house.

HOUSTON.—Smith & Schenk of Fort Worth are preparing plans for a \$50,000 colonial residence for Mr. Edward B. Parker, to be built of brick and stone.

MINERAL WELLS.—H. A. Overbeck, of Pallas, is drawing plans for a combination store and apartment building to cost \$50,000.

PRAIRIE VIEW.—Plans are being drawn by Smith & Schenk, of Fort Worth, for a three-story brick dormitory for A. & M. College, costing \$20,000.

SAN ANTONIO.—Sanguinet & Staats of Fort Worth, are preparing plans for an eight-story fireproof office building.

STANTON.—Plans are being prepared and bids will soon be received by Architect Sam P. Herbert, of Waco, on a \$40,000 court house.

NEW MEXICO

ALBUQUERQUE.—The local lodge of the Independent Order of Odd Fellows has decided, it is said, to call for bids on the \$50,000 temple they are going to erect.

FORT BAYARD.—It is currently reported in the local press that two double sets of non-commissioned staff officers' quarters and an administration building will be erected at this point. About \$50,000 will be spent in the erection.

ARIZONA

FLORENCE.—The plans of Architect Thornton Fitzhugh of Los Angeles, have been accepted for the proposed new territorial prison buildings to be erected here.

CALIFORNIA

EL MONTE.—Architect R. Myron Woolpert of San Gabriel has been selected to prepare plans for a school building to be erected here.

LOS ANGELES.—Architect Francis Lou-

don, is reported as having been commissioned to prepare plans for a handsome residence for L. M. Brunswig to be erected on West Adams Street, near Sixth Avenue.

Bids are being received by Architect Albert R. Walker on a residence to be erected on West Twenty-eighth Street, near Severance, for Homer Laughlin, Jr., at a probable cost of \$20,000.

SAN FRANCISCO.—The Elks at this point have acquired property in Powell Street, where it is said they will shortly erect a new and pretentious clubhouse. According to reports architects will be invited to submit plans.

According to the press a new Masonic

Temple is to be erected here on property recently acquired by the Masons of this city on the northwest corner of Van Ness Avenue and Oak Street. Approximately \$1,000,000 will be spent in the erection of the building.

OREGON

PORTLAND.—Preparations are being made for erecting forty different residences on the Waverleigh tract this season. Architect A. H. Faber is preparing plans.

Louis J. Wilde has bought a lot on the corner of King and Washington Streets and it is said that he will erect a modern building thereon.

\$55,000 will be spent in the erection of a

new Chinese headquarters at this point, according to the local press.

We understand that John Miller is to build a three-story brick apartment house on Williams Avenue, between Burnside and Couch.

WASHINGTON

PASCO.—It is currently reported in the local press that the question of building a new court house at this point is being considered by the citizens.

SPOKANE.—August Wolf, Secretary of the Public Committee of the Chamber of Commerce, has announced, it is said, that the New York Life Insurance Company is contemplating the erection of an office building here to cost in the neighborhood of \$1,000,000.

POSITIONS WANTED.

WANTED—Position as superintendent or assistant, by a M. I. T. man. Address M. I. T., care American Architect. (1689)

EXPERT DESIGNER, English and domestic Gothic, etc., who is at present manager to a firm of Fifth Avenue architects is desirous of making a change, and would entertain a proposition from an established firm of recognized standing in the profession. Address 18-B, care American Architect. (1689)

GERMAN ARCHITECT, 15 years' experience in exterior and interior architectural design, detail drawing in best firms of Germany, offers his services to a first-class firm, Boston preferred. Address E. Grossmann, 90 Green Street, Jamaica Plain, Mass. (1689)

DRAUGHTSMAN and superintendent, with eighteen years' best practical experience, covering working drawings, details, specifications and superintendence, desires a position with architect or builder. Address 18-D, care American Architect. (1689)

HELP WANTED.

ARCHITECTURAL draughtsman wanted; a man who has studied in Greece and in general has had a good school and office training; he would be engaged upon work of importance, and after working drawings were completed might be called upon to superintend the construction; only those familiar with Greek architecture need apply; position would be open about June 1. Address 18-C, care American Architect. (1689-90)

PROPOSALS.

NOTICE TO CONTRACTORS.

New York State Education Building.

Sealed proposals will be received by the Secretary of the Trustees of Public Buildings in the Executive Chamber, the Capitol, Albany, N. Y., up to 12 o'clock, noon, June 2, 1908, for the entire work of constructing the New York State Education Building, to be erected on the north side of Washington avenue, extending from Hawk to Swan street, in the city of Albany, N. Y., and opened publicly by the Trustees of Public Buildings, in the Executive Chamber, at that time.

Proposals shall be accompanied by a certified check or cash deposit to the amount of one hundred thousand dollars (\$100,000).

The Trustees reserve for the State the right to reject any or all bids received, if they consider it to be the best interests of the State so to do.

Each bidder submitting a proposal will be required to furnish a guarantee from a surety company or surety companies that it or they will furnish bond or bonds aggregating the sum of one million dollars.

The contract provides that the building shall be completed on or before the 31st day of December, 1910.

On and after April 30, 1908, drawings and specifications, the form of contract, the bond, and blank forms for proposals may be obtained at the office of the architects, Palmer & Hornbostel, 63 William Street, New York, N. Y.

One set of plans, specifications, etc., will be furnished to general contractors upon application to the said architects and upon the payment of a deposit of \$50, this deposit to be forfeited if the plans and specifications

are not returned to the architects in good condition. Additional copies will be furnished upon the payment by the contractor of the net cost of the same. Plans and specifications will be supplied to subcontractors wishing to submit to general contractors figures for the various departments of work, upon reasonable notice to the architects and payment of the net cost of the prints and specifications required.—Robert H. Fuller, Secretary of the Trustees of Public Buildings, Executive Chamber, the Capitol, Albany, N. Y. (1688-89-90)

Treasury Department, Office of the Supervising Architect, Washington, D. C., April 20, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 2d day of June, 1908, and then opened, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. Post Office at New Ulm, Minnesota, in accordance with drawings and specification, copies of which may be had at the office of the Custodian of Site at New Ulm, Minnesota, or at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1688-89)

Treasury Department, Office of the Supervising Architect, Washington, D. C., April 20, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 1st day of June, 1908, and then opened, for the construction (complete) of the U. S. Post Office and Court House at Grand Island, Nebraska, in accordance with the drawings and specifications, copies of which may be had at this office or at the office of the Postmaster at Grand Island, Nebraska, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1688-89)

Treasury Department, Office of the Supervising Architect, Washington, D. C., April 25, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 8th day of June, 1908, and then opened, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. Post Office at Dover, New Hampshire, in accordance with drawings and specification, copies of which may be had at the office of Custodian of Site at Dover, New Hampshire, or at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1688-89)

Treasury Department, Office of the Supervising Architect, Washington, D. C., April 25, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 3d day of June, 1908, and then opened, for the extension, remodeling, etc. (except elevator and lifts), of the United States Post Office and Court House at Detroit, Michigan, in accordance with the drawings and specification, copies of which may be had at the office of the Custodian at Detroit, Michigan, or at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1688-89)

Treasury Department, Office of the Supervising Architect, Washington, D. C., April 27, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 12th day of June, 1908, and then opened, for the construction, complete, of the U. S. Post Office at St. Charles, Missouri, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at St. Charles, Missouri, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1689-90)

NOTICE TO CONTRACTORS.

Sealed proposals, endorsed "Proposals for Boilers and Pump-Room Machinery for Eastern New York State Reformatory, Napanoch, N. Y.," will be received up to 10 a.m. on the 14th day of May, 1908, by Hon. Henry Mellville, President of the State Board of Managers of Reformatories, at Eastern New York State Reformatory, Napanoch, N. Y.

Proposals shall be accompanied by a certified check in the sum of five per cent. of the total bid, and the contractor to whom the award is made will be required to furnish surety company bond in the sum of Three Thousand Dollars. The right is reserved to reject any and all bids.

Drawings and specifications may be consulted and blank forms of proposals obtained at the Eastern New York State Reformatory, Napanoch, N. Y., or at the office of the State Architect. Complete sets of plans and specifications will be furnished to prospective bidders, upon reasonable notice to, and in the discretion of, the State Architect, Franklin B. Ware, Albany, N. Y. (1689-90)

Treasury Department, Office of the Supervising Architect, Washington, D. C., April 29, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 27th day of May, 1908, and then opened, for metal vault shelving for the U. S. Post Office, Court House and Custom House, Superior, Wisconsin, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Architects, Messrs. Barber & Barber, 210 Hammond Block, Superior, Wisconsin, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1689-90)

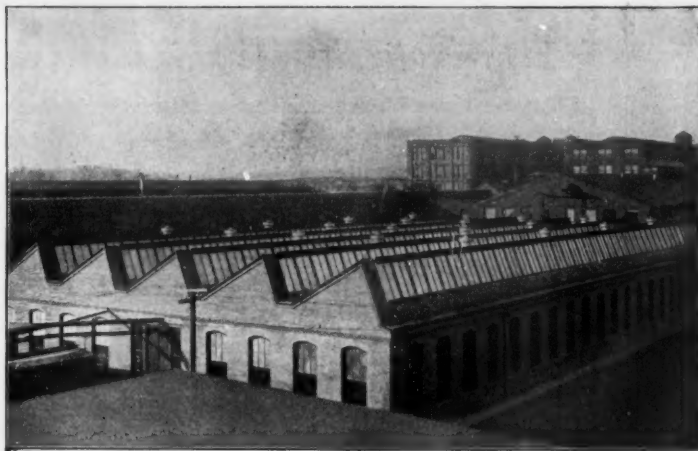
Treasury Department, Office of the Supervising Architect, Washington, D. C., May 2, 1908.—Sealed proposals will be received at this office until 3 o'clock p.m. on the 10th day of June, 1908, and then opened, for the installation of a conduit and electric wiring system in the extension to the U. S. Post Office and Court House building at Ogden, Utah, in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Superintendent of Construction, Ogden, Utah, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1689-90)

NOTICE TO CONTRACTORS.

Sealed proposals for construction, complete, including heating, plumbing and electric work, endorsed "Proposals for Two Cottages for Boys, Cold Storage and Creamery Building, Grist Mill, Slaughter House, Assembly Hall and Teachers' Cottage," will be received by Miss Lura E. Aldridge, President of the Board of Managers, New York State Agricultural and Industrial School, at Industry, N. Y., up to 7 o'clock p.m. on the 26th day of May, 1908, when they will be opened and read publicly.

Proposals shall be accompanied by a certified check in the sum of five per cent. of the amount of the bid, and the contractor to whom the award is made will be required to furnish surety company bond in the sum of twenty-five thousand dollars. The right is reserved to reject any or all bids.

Drawings and specifications may be consulted and blank forms of proposals obtained at the office of the Superintendent, Industry, N. Y., or at the office of the State Architect. Complete sets of plans and specifications will be furnished to prospective bidders upon reasonable notice to, and in the discretion of, the State Architect, Franklin B. Ware, Albany, N. Y. (1689-90)



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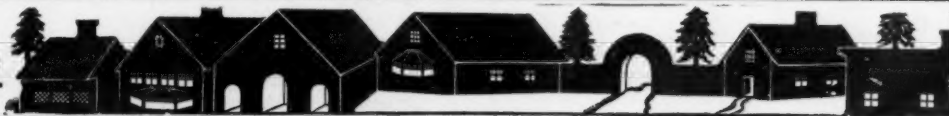


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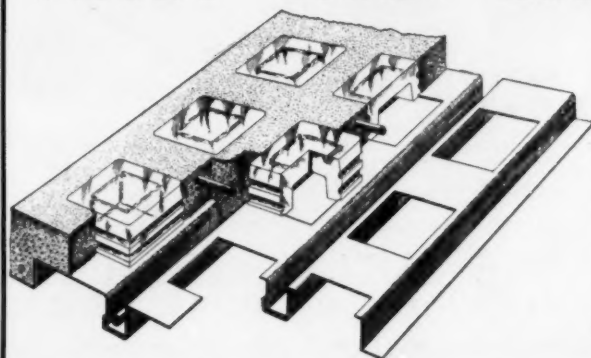
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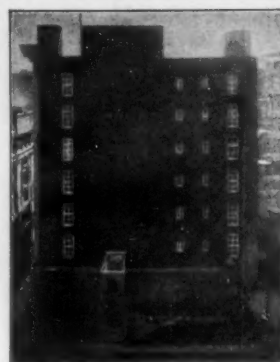
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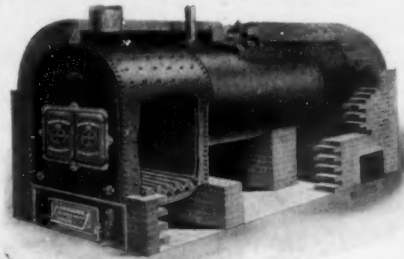
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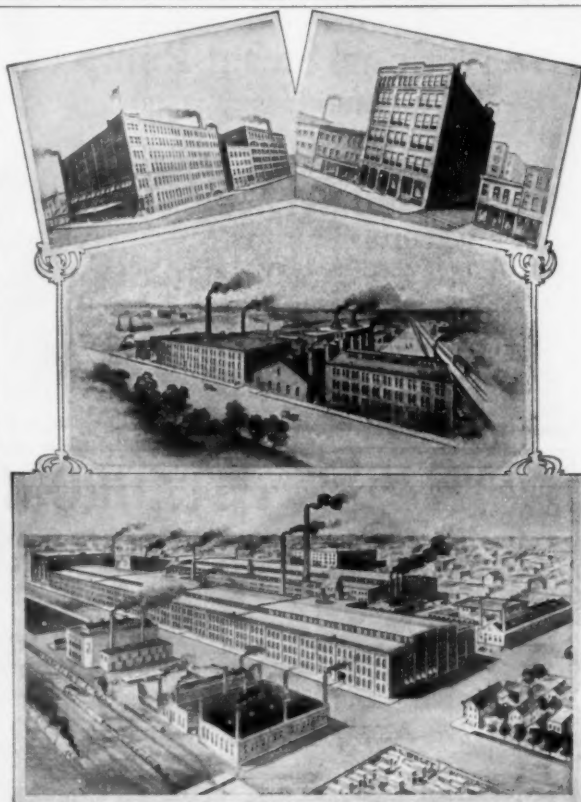
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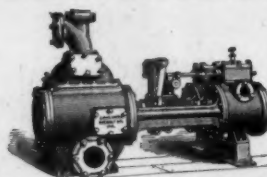
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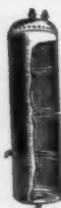
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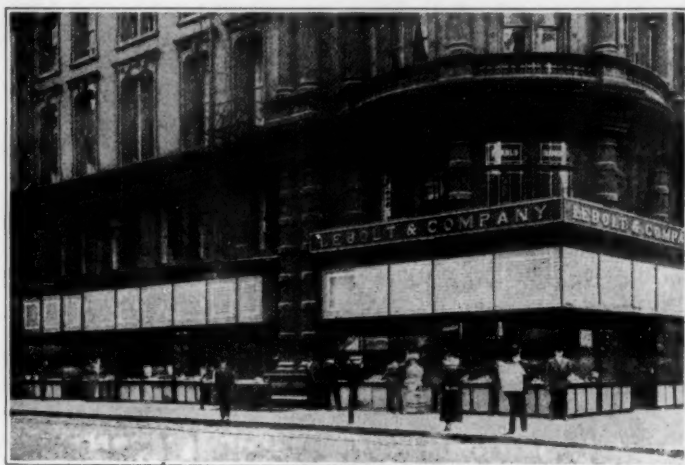
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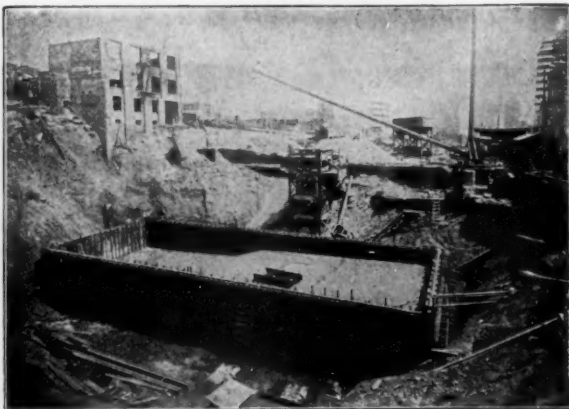
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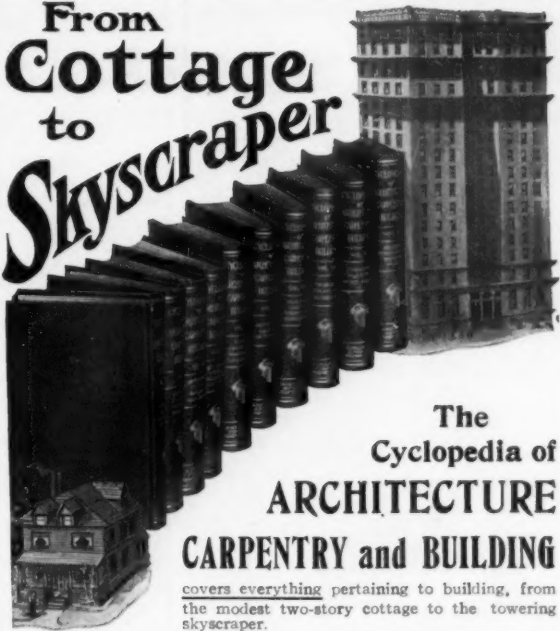


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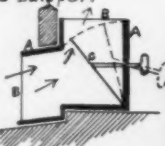
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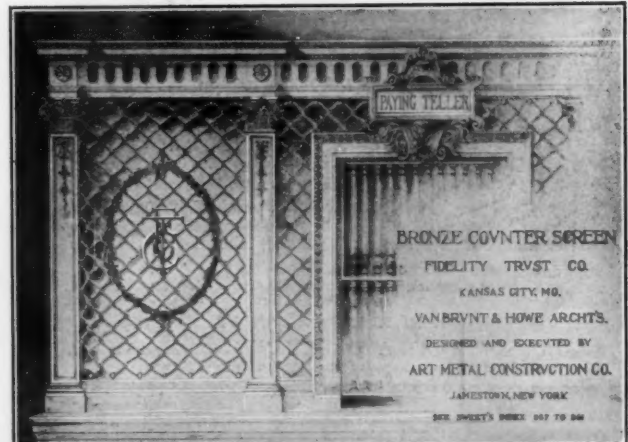
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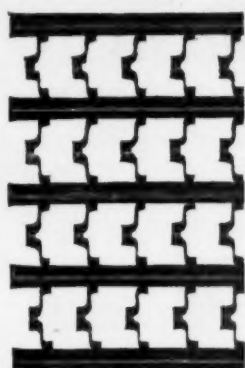
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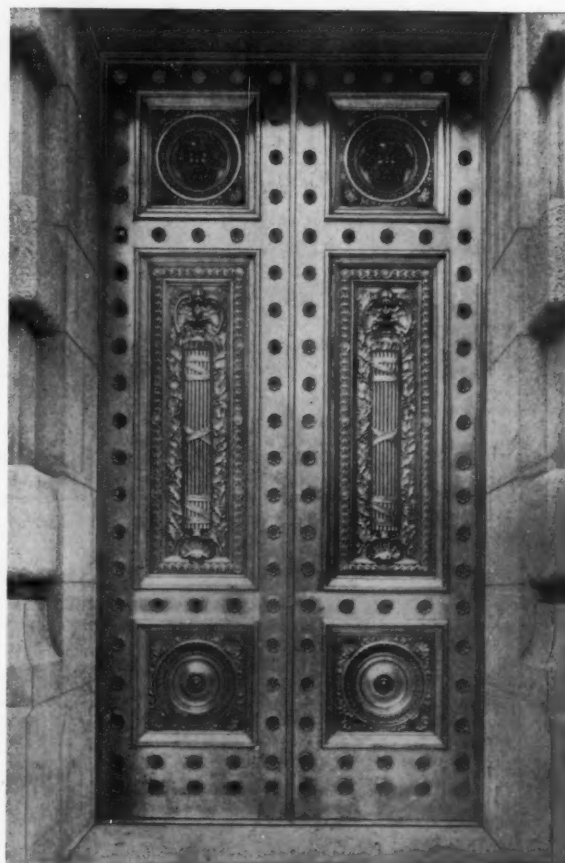
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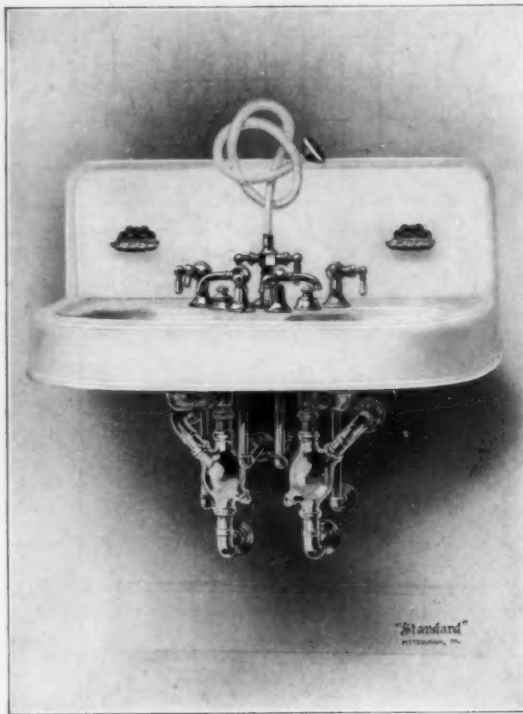
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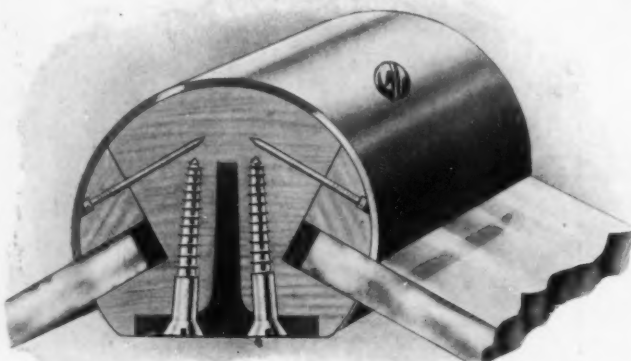
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