

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LXVII.

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No. 1261.

Entered at the Post-Office at Boston as second-class matter.

FEBRUARY 24, 1900.

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INDICATIONS that the prices of building-materials will slowly decline during the remainder of the year come to notice nearly every day. A newspaper paragraph recently mentioned that several of the great blast furnaces were storing pig-iron, "in anticipation of future renewed demand." It is hardly necessary to say that a manufacturer of pig-iron who could sell all his product at present prices would not be likely to trouble himself about "future demands," and the paragraph, supposing the information conveyed in it to be correct, evidently means that the supply now exceeds the demand, and that the furnaces, not being able to sell all the pig-iron that they make, and not being willing to shut down, are storing the surplus, trusting to luck to furnish them a market for it later. Meanwhile, several enormous plants are under construction in various parts of the country, and will soon be in operation; so that, if the present production exceeds the demand, the production of a day not far distant will exceed it still more, and the piling-up of pig-iron "for future demands" will go on still faster. If the present demand for iron were exceptionally light, there might be a prospect that all this surplus could be absorbed a few months hence; but it is, on the contrary, the greatest ever known, and the fact that it has already been overtaken by production simply furnishes another illustration of the rule that production, in modern industry, soon overtakes any demand, however extraordinary.

IN finished iron the same process has begun. Notwithstanding the protection of an enormous tariff, and a perfection of processes which makes it possible for our manufacturers to sell their surplus profitably abroad, and thereby dictate prices at home, the anticipation of domestic competition from the new plants outside of the combination, added, perhaps, to a suspicion that the protective tariff on manufactured iron may be successfully attacked in Congress before long, seems to be disquieting enough to the producers to dispose them to a gradual reduction of prices. Steel billets, for example, have been reduced in price eight or ten per cent at the mill already, and rolled shapes are likely to follow; and it is very improbable that this concession will be the last. Copper, also, has fallen about twenty per cent from its price of a few months ago; and, although a convulsive attempt seems to have been made by some of the more closely-controlled combinations to put up prices still further, as, for example, in the case of enamelled iron goods, wrought-iron pipe and window-glass, it is not likely that they can long resist the effect of gradual decline in other materials, aided by increasing competition, and the fear, which will grow more acute as the elections draw near, of tariff changes. In lumber, while the immense production that was arranged for by dealers, coming upon a very material falling-off in demand, would naturally have tended to concessions after the arrival of the new stock, the weather has been so mild that very little timber has been brought to the mills; and, unless the remaining weeks of winter afford relief to the lumbermen, not much new stock will come to the yards next

season from the northern forests, and the prices of spruce and pine are not likely to go much lower with a scanty supply. If, however, March should be cold and snowy, there will be great activity in the forests, and it is not impossible that a full supply may be brought out.

IN studying the outlook for the coming building season, the new finance bill, which has just passed the United States Senate, should be taken into consideration. This bill, which will probably pass the House without substantial change, besides the definite establishment of the gold standard, which will tend to promote confidence in the stability of business conditions, provides for a very material inflation of the currency, by permitting national banks to increase their circulation at once to the par value of the bonds deposited to secure it, and by authorizing the establishment in towns of an indefinite number of small banks, with a capital of twenty-five thousand dollars or more, all of which can issue circulating notes, and are very likely to do so. All this new money will seek employment somewhere, and, as good stocks, at present prices, pay a very small interest, and are very likely to be worth much less, six months or a year hence, than they are now, it is probable that the movement developed by the increase of currency will be in the direction of investment in real-estate, rather than in stocks or bonds. Reasonably good real property now pays, as a rule, a better interest than stocks and bonds, and rents, which have been very low for several years, are, on an average, decidedly rising. This alone would dispose investors to turn to real-estate, but, in addition to the larger income which it offers, real property has been nearly quiescent for a long period, and any change would naturally be for the better; so that the purchasers of improved property, in place of stocks, could look forward, not only to a larger income, but to an increase in their principal which no political storms are likely to disturb. The high price of materials, while it will unquestionably prevent building, will make property already built upon at former prices seem particularly desirable, and it is probable that the passage of the Finance Bill, with the consequent assurance of currency inflation, will be followed at first by transfers of improved estates, rather than by speculative transactions in vacant land. This movement is likely to bring with it alteration work, with which our architects and mechanics will, as it appears, have to content themselves mainly for a time; but as the probability of a fall in the prices of materials to ordinary figures grows nearer, the wiser operators will try to secure desirable parcels of vacant land at the old prices, and we may hope to see the building industry resume its normal activity.

ARCHITECTS and lovers of art will, we imagine, open their eyes at the announcement that "the plans are all drawn" for additions to the Capitol at Washington, consisting, we are told, of porticos and "aprons," to be "thrown out" on the east and west sides of the building, "to match and correspond with the porticos of the two great wings." As anything of the kind on the east side would, independent of ruining the effect of the building, be nearly inaccessible, on account of its height above the ground, we are informed that "of course," the portico will have "a magnificent flight of steps, having ascended which the visitor will pass through a pillared pylon into a great marble vestibule, vieing in beauty with the famous marble room of the Senate." What sort of thing a "pillared pylon" may be we cannot even guess, but the rest of the description suggests the probability that it is some evolution of the "Romanesque-Picturesque," or the "American Ovo" style. The purpose of making these extraordinary changes in what we still consider to be the most beautiful building in the world is to gain additional rooms, partly in the pylons and aprons and other features, and partly by "chopping up" spaces already existing in the Capitol; and, in all these ways, ninety-three extra rooms will, we are told, be obtained, "every one" of which "will be lighted by exterior windows, an obvious advantage."

IT is impossible to believe that the Government of the United States really intends to permit such ignorant mangling of its greatest artistic treasure as this account implies. The triumphant air with which it is announced that the designer of

the proposed additions has provided "exterior windows" for his rooms, just as if it were the habit of competent architects to plan dark rooms in public buildings, goes well with the information that a "pylon," which is, according to accepted architectural language, a truncated pyramid, such as the Egyptians built in pairs, on either side of the entrance to their temples, is to have "pillars" inserted somewhere under or inside it, and is to serve as the entrance to the delicately classical Capitol. We do not say that the Capitol must never be added to or changed; but, if a change is to be made, nothing short of the highest artistic talent that the country can furnish should have anything to do with it; and, even then, it should not be undertaken without long and ample public consideration.

A DISCUSSION on quicksand, which will interest architects, took place the other day at a meeting of the American Society of Civil Engineers. The most sensible and scientific contribution to the discussion was made by Mr. Allen Hazen, who began by disposing of the common idea that quicksands contain clay, saying that a true quicksand rarely or never contains clay. One of the participants in the discussion, who said that he had "never seen quicksand that did not contain clay," gave Mr. Hazen several samples of material labeled "mixtures of clay and sand," which were examined with a microscope, and proved to contain no clay whatever. Another common notion refuted by Mr. Hazen was the one that the particles of quicksand are rounded, so that they flow more easily than those of ordinary sand, with angular grains. According to his careful experiments, it makes no difference whether the particles of quicksand are rounded or angular, or whether they are large or small, the essential condition being that the voids between them shall be more than filled with water, through a hydrostatic pressure which tends slightly to lift the particles. As the grains of fine sand are much more easily lifted than those of a coarse sand, the pressure needed to convert fine sand into quicksand is less than is required for converting coarse sand, an upward flow of water of an inch and one-half an hour being sufficient to convert into quicksand material having particles three one-hundredths of a millimetre or less in diameter, while mortar-sand, the particles of which have a diameter of one-fifth of a millimetre or more, requires, to convert it into quicksand, an upward flow of from five to twelve feet per hour. As an illustration of a typical quicksand, Mr. Hazen referred to the material in a mechanical filter, when in process of washing by an upward current. This sand is usually rather coarse, and the velocity of the current is not allowed to become great enough to carry the sand away; but the slight surplus of water in the voids between the particles lubricates them, so to speak, in such a way that the mass of sand offers little more resistance than so much water to any disturbing influence.

IF the quicksand condition is caused by surplus water in sand, the obvious method of removing that condition is to remove the surplus water; and experience shows that this is entirely sufficient. A contractor once agreed to execute a railway cutting, but in the course of his work, came into a "pocket" of quicksand. This was, to him, so unmanageable that he abandoned his contract. Other parties completed the work, and, by the simple expedient of draining the pocket into the railroad ditch, made the cutting without difficulty, giving the banks, which are still in good condition, the very steep slope, for sand, of forty-five degrees. In architectural work, where quicksands are more likely to give trouble in foundations than anywhere else, special means may be required for draining them; but, where surplus water can be kept out of them, they need present no more difficulty than other sand.

THE profession has been much interested in the designing of the Lafayette Monument, to be presented to the French Government by American citizens, and to stand in the courtyard of the Louvre. It will be remembered that, from the first, it was thought best by the Monument Commission to award the execution of the monument without any general competition; and, on the advice of Messrs. J. Q. A. Ward, George B. Post and John LaFarge, Messrs. Bartlett and Bitter were requested to submit models for the statue of Lafayette, while Mr. Hornbostel was retained, to design the pedestal. Of the two models for the statue, that by Mr. Bartlett was chosen. One of the conditions under which the French Government accepted the gift, and assigned it a place

of such extraordinary distinction, was that the designs should be acceptable to M. Redon, the architect in charge of the Louvre, as representative of the Ministry of Fine-Arts. The model for the statue by Mr. Bartlett seems to have been approved from the first by M. Redon, who, in one of his official letters, calls it "charming," but the design for the pedestal was not so fortunate. The first suggestion was that the statue should stand beside a sort of "pylon"; but this idea was not approved, even by the American advisory jury, which instructed Mr. Hornbostel to arrange for a simple architectural pedestal, apparently, however, providing for ornamenting it with reliefs, as Mr. Barnard was requested to undertake the designing of this part of the sculpture. On the arrival in Paris of the designs for a pedestal of this kind, they were, however, rejected by M. Redon, with what seems to people unaccustomed to the conscientious devotion of French artists to purely artistic considerations, rather unceremonious decision. M. Redon pointed out the interesting fact that Lefuel, the architect of this portion of the Louvre, indicated in his original drawings an equestrian statue in the courtyard, as a sort of artistic climax to the composition, and M. Redon said that, on this account, if on no other, nothing but an equestrian model would have been accepted. In regard to the pedestal, however, he said that figure-decoration was objectionable, as recalling too much the Gambetta Monument close by, and that the pedestal should be purely architectural, and should harmonize with the architecture around it. Even without the sculpture, the pedestal, as shown on the sketches, did not seem to him satisfactory, and, as there is certainly no time to be lost in the preparation of drawings for a monument which is to be unveiled on the Fourth of July next, he suggested that Mr. Thomas Hastings, in whose talent he had great confidence, should be engaged to design the pedestal. This proposition was cabled to the Monument Commission in this country, and the advisory jury immediately called together to consider the substitution of Mr. Hastings for Mr. Hornbostel. This was a matter in regard to which, under the circumstances, only one decision was possible, but Mr. Post qualified his vote by assenting to the change only in case Mr. Hornbostel should voluntarily resign his task. This formality was complied with, and Mr. Hastings commissioned to prepare drawings for the pedestal at once. Naturally enough, Mr. Hornbostel and Mr. Barnard, and their friends, feel themselves a little injured in the matter, but it is evident, from M. Redon's official letters, that he took the entire responsibility for the decision, feeling himself bound, as the guardian of the aesthetic interests of what he calls the "marvellously artistic" Louvre, to exert his authority unhesitatingly and effectively.

NEW YORK is said to be seriously threatened with the loss of its import trade, on account of the foolish and unwarranted annoyance and persecution to which persons are subjected who attempt to enter foreign goods at the Custom-house there. It would seem as if an average duty of sixty-five per cent might be a sufficient penalty to inflict upon American citizens who bring home foreign goods not intended for sale, without adding to it insincere and absurd attempts to place articles in classes to which they obviously do not belong, for the sake of increasing the duty, depending, for the enforcement of such demands, on the unwillingness of returning travellers to submit to the delay and expense incidental to an appeal to higher authority. In a recent case, Mr. George Gould bought in London a precious work of art, in the shape of a basin and pitcher of Limoges enamel, on a copper foundation, like all other Limoges enamels. These two pieces, which were ornamented by Suzanne Court, of Limoges, about the year 1550, cost Mr. Gould in London fourteen thousand dollars, and he entered them, under the only class in which they could have been placed by any sensible man, as paintings. The pieces reached New York in October, 1897, and were immediately classified by the appraiser as "porcelain," and a duty of sixty per cent levied, in place of the twenty per cent to which they would have been subject as paintings. Mr. Gould appealed to the Board of Appraisers, which decided that the classification was correct; and it was not until he appealed again to the United States Circuit Court that a decision was given classifying them as works of art, the value of which consisted in the art, rather than the material, and releasing Mr. Gould from the demand that he should pay, as a penalty for enriching his country with an almost priceless artistic treasure, what he would have had to pay if he had imported a thousand bath-tubs for sale.

NOTES ON SOME EUROPEAN SYSTEMS OF FOREST ADMINISTRATION.¹—II.

Cupola from an Exhibition Building on the Esplanade des Invalides, Paris.

IN the Alps, says Portalis, it was the forests alone which maintained, as it were mechanically, the soil ever ready to escape from their steep slopes. The pastoral population of these mountain regions, poorer than those of the valleys below, had most abused the new freedom of individual action under the Revolution. They cut away the forests to increase their pasture-lands. Their ignorance cost them dearly. The pastures disappeared with the tree-covering. The turf could not renew itself without the fertilization it received from the forest humus.

Torrents came and ploughed the mountain-sides. Instead of rich meadows the peasant found the barren rock. The forest shield gone, the higher terraces were no longer fit for cattle. Landslips and avalanches were at work, scouring off the soil to bury the foothills in débris. Meanwhile, the area of the State forests was being lessened by sales.

The Restoration also, finding the nation burdened with debt, raised money by selling 164,000 hectares of the public forest, from which the timber was at once cut off. After 1830 there was another sale of 117,000 hectares, followed by extinction. In 1848 a government loan of 150,000,000 frs. was secured on 75,000 hectares of State forest. Each new régime paid its way in at the cost of the forests. In 1865 it was proposed to raise 100,000,000 frs. by this means, but the plan was abandoned on account of public protest. Recent serious floods had roused the people to the dangers of destroying the forests.

Meanwhile, the communal forests had continued to have a sort of system. Wholesale clearing of private forests had been stopped by the decree of Floréal in the year XI. Already its effects were becoming serious. The pasturages dying out on the disappearance of the forest left the resultant torrents full swing. Overstocking, which had gone on unchecked for a long time, played also a considerable part in the death of the pastures.

The rights of common pasturage existing in most of the communes had been much abused. The common pasturage contrasts to-day very unfavorably with the private holdings. The peasant looks after his own well enough, as a rule, and does not use his pasture to exhaustion, but he will turn out the greatest possible number of head on the commons as soon as the snow is off, thus destroying the tender young growth. The soil is too soft at that time, and the hoofs, especially of sheep, cut the roots and kill the more delicate herbage. The sheep, coming out from their winter stabling famished for green food, devour everything that shows above ground. The south slopes, where they are driven as soon as the ground shows, are laid waste, and certain sheltered places where the snow lies least are inevitably destroyed.

The destruction of ranges by overstocking is known by innumerable examples to our herdsmen of the great Western pastoral regions of the United States. The far-reaching consequences of such abuse, the degradation of soil and extinction of herbage on the mountain-slopes in sparsely timbered regions, the resultant growth of torrents and the continually increasing injury these do the cultivable valley-lands in covering more and more of their area each year with detritus, have been too little studied and taken account of.

One instance of many which have come under the writer's notice among our Western sheep-ranches was as follows:—From a certain ranch the herd kept open the whole winter a trail through deep snow to a spot on the south face of a neighboring mountain-head where no snow lay. When the weather was favorable they were let out of their pens every morning, and at once made off up this trail in a long file, toiling up for hours, to browse an hour or so in the sunshine, and then return for folding at nightfall, which they did with great regularity and without loss, though always unattended. Now, this was more sagacious of the sheep than of their masters.

As the spring opened their feeding-time on the summit lengthened out until the foddering at the sheds was stopped and they remained above permanently. Two seasons of this abuse of the scant herbage left on the mountain's south shoulder a barren spot which spread into the neighboring vegetation and began to show the ploughing of the formerly harmless waters. A torrent was born which in a few years laid waste the whole slope and annihilated a good range—which with management would have lasted out the time of its owners—to say nothing of its ravages upon the lands in the valley below.

The great mistake with the pastures is letting the cattle on them in the early spring. In summer and autumn reasonable stocking does no harm, the soil being firmer and the sod tougher. But they should at no time be overstocked, and must be given proper time for recuperation.

Some of the French mountain-communes do not regulate this matter closely enough. It is better managed in Bavaria and in parts of Austria. In the absence of strict regulation every one gets all he can out of the commons. The communes sometimes let pasturage to outsiders for migratory herds driven up in the early summer from Italy. This happens as well in certain border cantons of Switzerland and in the Austrian Tyrol.

Miane states that some 500,000 sheep invade the Alpine pastures every summer from the burning plains of la Crau. These animals, famished with the dust of the long march, attack the fresh grass of the mountain-pasture and devour it to the roots, while their countless moving hoofs chop and disintegrate the sod, leaving the soil in danger of being swept clean by the next torrent.

They crop the herbage close and maim the young tree-growth. Miane says of these sheep of la Crau, that they have a singular habit, learned on the stony plains of the South, of digging up the soil with hoof and muzzle as they feed, and this they continue in the mountains upon the steep slopes of the Alpine meadows, where the loosened soil, but insecurely held upon the slanting bed-rock, is quickly carried off by sudden torrential rains. In return for this damage, the sheep of Provence pay only 1 fr. 25 c. the head per season while native sheep yield a profit of 4 frs. the head. But the natives are too poor to own large herds and the commune lets in the migratory cattle rather than tax its own citizens.

These abuses of the pasturage are not less serious than the destruction of the standing timber, and have an important bearing upon the question of reforestation, inasmuch as that over a large area of the mountain-lands of France the humus is now too shallow to admit of replanting, the drought being thus more destructive to the young plants, whence it follows that well-sodded pasture can alone be looked to for the preservation of the soil against erosion.

The annual invasion of wandering herds, the overstocking of the common grazing lands, and their use too early in the spring have already gone far to destroy the more accessible meadows. Hence, the cattle are now being driven in greater numbers upon the upper pastures, which more closely concern the question of control of torrents.

These abuses have not until recently received, say M. Miane, the attention of the reforestation specialists, and the law of 1882 first takes account of this phase of the question. Miane heads a chapter thus: "*Le déboisement a fait naître le torrent.*"—Deforestation has made the torrent. — As the forest dies the torrent is born.

We need not follow his eloquent description of its sinister workings. We are familiar with the disasters which follow the sudden rise of the mountain-torrent. The mountain-side, stripped of the protecting forest and ploughed with ravines, is scoured away. Permeable earths are washed into the bed, filling it up and turning out the waters to plough new furrows. Terraces begin to move slowly downward. Shoulders and foothills become unstable, sometimes moving visibly, to rush down eventually in one grand flood of ruin, overwhelming the habitations, the copses and meadows upon the slopes, and burying villages and farms at their feet.

The Alps have seen many such catastrophes in recent years. Besides endangering human life, the torrents have done incalculable damage to property. It has been estimated that the famous flood of August, 1876, in the torrent of Sanières brought down a mud-flow of 234,000 cubic metres, about one-fourth water and the rest solid matter, covering to an average depth of an inch-and-a-half the whole surface of the basin which receives this torrent.

Thus the torrent, having ravaged the mountain-flank, dumps its

¹ Continued from No. 1258, page 36.

booty into the valley, where it menaces the surrounding habitations and cultivated land, changing about continually in its ever-growing "cone of dejection" which rises high above the valley-level. Dykes are necessary to hold it back from the lands. Sometimes railroads have had to tunnel under it. It may shoot the floods from its rounding back in any direction upon the fields. The peril is constant. The rivers into which these torrents discharge are subject to sudden overflows, which destroy the crops along their banks and carry off trees and bridges.

Surell's "*Etude sur les torrents des Hautes-Alpes*" mentions the Durance as a typical torrential river which in thirteen years has deposited 92,000,000 cubic metres of mud and slime on adjacent farm-lands. Roads in the course of such a stream are continually under repair. On the mountain-sides the roads are carried away bodily by great landslips. Villages are cut off from all communications. In torrential regions the private lines of railway are protected against loss by landslides, the government charging itself with consequent repairs, once the road has executed the necessary protective works.

The fate of St. Gervais, and the disasters of 1857, 1868 and 1876, are traceable to the denudation of the mountains and the resultant torrents.

Depopulation of mountainous regions has followed fast on the destruction of the forests. The immediate results of denudation, the waste of the pasture-lands and the ruin of crops by frost, drought, and inundation, drive off many families each year, and this in spite of the well-known deep love of the mountaineer for his native hills.

The *Département* of the Basses-Alpes averages eighteen inhabitants to the square kilometre. The torrential *arrondissement* of Barcelonnette drops this figure to twelve and a fraction.

Depopulation has acted most rapidly in the very mountainous deforested regions. The most mountainous portions of the Basses-Alpes have lost twenty-four per cent of population in forty years, according to Demontzey. The Barcelonnette region has lost 4,000 inhabitants. Deforestation and its attendant evils are the admitted chief cause of this. These things have been an object-lesson whose significance has not been missed in France. Their warning to ourselves is what many writers and thinkers to-day in the United States are striving earnestly to impress upon our people and our governors.

The theory which attributes the growth of torrents to the destruction of the forest, and which prescribes reforestation of the denuded lands as the only cure for the evil, was not accepted generally in France without opposition which at one time somewhat impeded the force of legislation in this direction. The principle is to-day hardly contested, the experience of many years and the splendid results of experimental reforestation having carried conviction everywhere.

But the practical French mind has been quick to see that reforestation operations were not sufficient alone to check the quickly increasing evils from former waste of forests. The time required for broad results by that means, ultimately the best and the most essential, was too long, and the cost of a general reforestation of the mountains too stupendous, to be faced at once. The specialists therefore have turned their attention to devising something which would give instant relief. And in the first line of improvement have been their masterly corrective works upon the torrents themselves, by means of dams, wattling, straightening, canalization and diking, and the wise regulations protecting the existing pasturages, and preventing the abuse of the standing forests. Matters which had hitherto been too little regarded, such as the abuse of the privilege of removing leaves, moss, litter, thus causing injurious disturbance of the forest soil, and the abuse of grazing on the borders of forests near the young plantations, etc., were in this connection studied and provided for. These corrective measures, in some cases very costly and involving careful expert study of individual cases, consideration of economic conditions, the conservation of rights to the populations of affected districts, the avoidance of prohibitive measures likely to deprive already diminished populations of their accustomed means of subsistence, have been designed and carried out with ability and success. The use of such auxiliary means has produced immediate results whose benefits serve to reconcile the people to the more far-reaching process of reforestation.

The legislation of 1882 was most important in its provisions for the regulation of the pasturage. Under this law the rights of grazing in certain forests and pasture-lands have been suspended during a period long enough to permit of a certain natural restoration of pasture and forest. The recuperative forces of nature have been protected in their workings, and the results have been instantly and unexpectedly excellent in some places. In others "the ruin has been too far advanced," to quote M. Demontzey; "the denudation too complete, climatic conditions too severe" for nature, even under long periods of rest, to produce more than insignificant results. "In the Basses-Alpes certain slopes whose use has been forbidden for thirty years have made no progress, the turf has not extended itself." Here thorough reforestation is the only efficacious means. The forestry reports multiply experiments and results upon which is based the finally accepted principle of administration which requires the auxiliary corrective works and the complete reforestation of certain regions to advance hand in hand. Reforestation will repair the old evils. Corrective handling of torrents will prevent the growth of new dangers.

More money is being appropriated each year for the extension of these measures of reclamation and restoration. The benefits hoped

for are, reforestation, the extinction of torrents, the regulation of the flow of rivers, the cessation of inundations, the reclamation of arid lands, the safeguarding of the public highways, and, finally, the arrest of depopulation by bringing new lands into value and securing the woods, pastures and cultivable lands of the mountainous regions, thus bringing an addition to the public wealth and relief to suffering communities.

Here comes in the important question of whether the solution of the economic problem involved should be left to private initiative or determined by the intervention of the State. We will glance at the reasoning of M. Miane, who unhesitatingly pronounces for State intervention. This intervention is legitimate, he says, because it is necessary. Given the existence of a pressing danger, of conditions threatening the prosperity of an important portion of the country, conditions which can only be removed by State intervention, and we have a case where it becomes the duty of the State to act, and the duty of every citizen to accept and support such action, even at a sacrifice of personal and private interests. Such is his argument. The necessity for State intervention in the matter of reforestation has, he maintains, been amply proved by the disastrous experience of the first half of the century. Individual initiative had absolutely failed. The ignorance and poverty of the people, their indifference and indolent acceptance of a ruinous state of things, their disinclination to suspend the exercise of individual rights whose abuse was bringing destruction upon them, their attitude of obstruction to all corrective measures, the neglect of the communes to enforce proper regulation, and the rapid growth of all these evils and their ruinous results, called for the strong hand of the State. Collective action of the communes had been also tried and had failed. The State alone could pay the cost of the cure and enforce its application. This intervention at first bore hard on the people here and there, but the law of 1882 succeeded in eliminating the more vexatious features of its working, while adding to its efficacy.

M. Michel, in presenting this law to the Senate, thus justifies the part which the State plays under its terms: "The law has substituted its will for the blind indifference of private owners; it has willed to check the cupidity which is robbing France of her forests just as it prevents a man burning his own house in order to protect that of his neighbor."

The effective intervention of the State in the struggle against deforestation had been delayed by various causes, chief of which were the fear of causing discontent among the people, and appreciation of the economic and financial difficulties involved. Although no special measures had been formulated against deforestation previous to the legislation of 1860, the State had for centuries been making edicts to that end.

Already in the fourteenth century the Dauphin Humbert had forbidden the razing of the forests, "because they arrest the avalanches." In 1572 Provence had memorialized the king on the denudation of the Alps. In 1669 there is real legislation on this matter in the acts of the King's Council and in the decisions of the Sovereign Courts of Dauphiné and Provence. In 1605 the States of Provence petitioned the Court "that it might be pleased to look into the abuses which threaten to deprive the province of wood both for building and fuel, and, far worse, to destroy the good lands in the low places which are washed and carried off by the waters." Whereupon the king prohibited the destruction of public or private woods, and provided that those cutting for their own use were not to damage the roots of trees. The penalties were, for owners, a fine of five hundred livres, for outsiders, the lash and confiscation of cattle. In 1606 there was an edict against clearing for agricultural purposes. There were similar ordinances in the eighteenth century, and the famous laws of 1669 had created rigorous penalties for causing forest fires. The law of 1669 likewise prohibited the custom of grazing in the woods and forests, and even upon adjacent pastures. Some efforts were even made in the direction of reforestation proper. Edicts of the parliament of Provence required planting by all communities which had not at least eight hectares of woodland. Numerous regulations provided for the replanting of clearings in excess of a proper limit. There were dikes ordered, and the division among the interested parties of the costs of similar defences against the torrents. So that in these scattered and temporary provisions there will be found the nucleus of a complete reforestation and corrective scheme, to which, indeed, the law of 1860 added nothing altogether new. The law of 1882, as well, went over old ground.

It is agreed that the forest depredations of the Revolution are chiefly responsible for the condition of the mountain-lands of France at the end of the present century.

The laws of September, 1791, had abolished all the prohibitions pertaining to the forest and pastures. The ensuing destruction bore fruit quickly, and it was not long before the Basses-Alpes reported: "The little streams are growing into torrents; many of the communes are losing their crops and herds, their habitations, by the streams breaking their banks. The hill-slopes are becoming bald and barren."

Some of the old provisions were restored. Later, there was a decree providing for certain protective works against the action of the torrents by syndicated communes under designated engineers, the costs to be assessed against interested parties pro rata on the accrued benefits. But such legislation was insufficient. Disasters multiplied. The prefects, the councils-general, the engineers and publicists sounded a warning. The work of Surel on the subject, in

1841, made a great impression, and in the same year the Director-General of Forests put forward a comprehensive scheme of reforestation under the Administration at the cost of owners.

Some further tentative and unsuccessful legislation, and the inundations of 1855, 1856 and 1859 led up to the passage of the law of 1860. This, an admitted experimental measure, failed because of the extreme rigor of its provisions, and because it entirely neglected to provide adequate preventive measures. For a thorough analysis of this legislation and a filling-in of the historical data given briefly in the foregoing lines, the reader is referred to "*Le Reboisement*" of Maxime Miane, from whose pages the facts here presented have in part been borrowed.

The law of 1864 amended that of 1860 in certain provisions which were thought excessive, more particularly those regarding sequestration for great periods of time, and arranged for indemnities. It contained a concession to the interests of pastoral communities, which allowed returfing operations on certain degraded pasture-lands in place of reforestation, and was generally conceived more in a spirit of regard for the interests and rights of the people and of the communes.

A. B. BIBB.

(To be continued.)



THE TROUBLE BETWEEN THE CONTRACTORS AND THE TRADE UNIONS.—THE FALLING-OFF IN BUILDING-OPERATIONS IN 1899.—PROPOSED NEW DEPOT FOR THE ROCK ISLAND RAILROAD.—THE ILLINOIS THEATRE.—OPENING OF THE DRAINAGE CANAL.—RECENT PICTURE EXHIBITIONS.—FIRST USE OF THE LIBRARY WATER-CURTAIN.—A WOMAN LANDSCAPE-GARDENER.

At the present writing, interests in building circles are merged in the all-important question of the trouble between the contractors and the trade-unions. For the past month matters have been simmering and at one time the local press tried to persuade itself that the contending parties were about to "kiss and make up," though where any hearty agreement came in it was hard to discover. Any amicable settlement was certainly not forthcoming and the contractors, the first of the month, published the following ultimatum:—

"The unions affiliated with the Building Trades' Council having absolutely ignored the joint-arbitration agreement and failed to ratify same, we hereby make the following rules to be enforced by the contractors of Chicago, on and after February 5, 1900, and you will govern yourselves accordingly:—

"Wages for carpenters will be 42½ cents per hour.

"Wages for building laborers will be 25 cents per hour. Eight hours shall constitute a day's work.

"Time-and-one-half will be allowed for all overtime.

"Double time for Sundays and holidays.

"No limitation as to the amount of work a man shall perform in a day.

"No restriction as to union or non-union made material.

"No restriction as to the use of machinery.

"The foreman shall be the agent of the contractor.

"The right to employ and discharge whoever he may choose is reserved to the employer."

These rules, though first published by the carpenters, have been subsequently adopted by contractors of most of the other trades. They certainly are not unreasonable demands, for short hours and fair wages, the two just demands of the laborer, are granted, and the interference of the walking-delegate, at most times a worse tyrant than any contractor would ever dream of being at present, is strenuously and systematically repudiated.

At present writing the number of unemployed men is daily increasing, either as a result of some strike or lock-out, and it is thought that by another week all building-operations will be practically at a standstill. The contractors have promised to stand by one another and it is certainly to be hoped that this will be the case, for the unions as conducted at present in our city have grown to be chiefly a matter of boss-rule, in which many of the original good points of the association have been lost. If the contractors will stand together, and if as reported the strength of the unions has been weakened by a rival organization made up of men tired of the tyranny of the old trades' unions, there would be no doubt of the ultimate outcome of the fight. These two ifs are large ones and most important to final results. It has been reported that the rival association called the Independent Building Trades' Council has already furnished the contractors with names of 2,500 men who are ready to accede to the demands of the contractors, and take the places of the men called off by the unions. One of the strongest independent unions is that of the stonecutters, which equals in numbers the stonecutters of the old Building Trades' Council, which gave so much trouble to the contractors at the time of the laying of the cornerstone of the Post-office last fall. Matters are conducted with a good deal of "diplomacy," if not actual secrecy, and the final outcome will

alone show what the actual facts of the case are and how much the new organization amounts to.

The men themselves see that the present state of things is simply killing all building activity here in Chicago, and that there is not enough work to go around. The following statement recently published in one of our newspapers shows, in a nutshell, the condition of things here, in comparison with other cities:—

	WORK IN 1899.	WORK IN 1898.
Brooklyn.....	\$25,459,482.....	\$17,330,881
Chicago.....	21,137,360.....	23,246,666
Cincinnati.....	2,650,879.....	1,873,070
Cleveland.....	5,400,664.....	3,613,837
Detroit.....	4,002,680.....	3,915,665

When all this labor trouble is going on it seems idle to talk of erecting new buildings, yet certain schemes are being agitated. One, vague enough for existing conditions, is that in relation to a new station for the Rock Island Railroad, a station to be constructed on novel plans in connection with the elevated tracks on which the road enters the city. There is no definite date for the beginning of such an undertaking, but eventually a large station must come of a necessity. Some preliminary sketches have already been made, but the practical problems confronting the railway officials and architects are many and difficult to solve. The idea is quite a different one from any of the large Eastern stations, being a combination on a large scale of office-building and railway-depot. The plan, so far as has been outlined, contemplates the erection of a ten-story modern office-structure, to occupy not only the full frontage of the present station, but 24 feet along Pacific Avenue now used by teams in delivering baggage. The building in its entirety will cost about a million and a half. The new structure as here outlined depends on the obtaining of an ordinance authorizing the roads to close up Taylor Street. Should this be done, a model and large station on Van Buren Street would be possible.

A competition for a new bank-building for the Chicago National Bank has recently been carried on. The entire building is to be devoted exclusively to banking purposes. There will be three stories in front. The second and third will have a depth of not more than a quarter to a third of the ground-floor, which will have a north frontage of 90 feet and a depth of nearly two hundred. The approximate cost of the building is \$200,000. The competition was awarded to Jenny & Mundie, their design being an excellent one of Classic character.

A new theatre to be known as "The Illinois" is about to be built on the site of the old armory on Jackson Boulevard. The cost of the building will be between two and three hundred thousand and in many respects it will be quite a model structure of its kind. It will be devoted exclusively to theatrical purposes. The material will be of stone and polished granite. A large lobby faced with marble and mosaics will lead directly into the foyer, which is of better or rather larger proportions than those in most of our theatres. Parlors and smoking-rooms have been devised and though the building will be of fireproof construction, forty exits have been arranged. As the building has a clear space on all sides the question of lighting and ventilation has been especially well solved. Special attention will be given to the decoration, and it is to be hoped the results will justify the glowing accounts given of it.

The event of the past month has been the opening of our great sanitary canal, which turns our river water with all its drainage back from the lake towards the rivers which drain into the Mississippi. From a reeking, smelling stream the Chicago river has been turned into an inoffensive current, odorless, and at times quite green. Though a twice-told tale, it is interesting to refresh one's memory with the fact that this great engineering feat, this great ditch which connects the Great Lakes with the Gulf of Mexico cost \$38,000,000. It has a flow of 600,000 cubic feet in a minute, has a minimum depth of 21 feet, and varies in width from about one hundred to three hundred feet. One is apt to think of it as only being dredged through soft prairie soil, but when one realizes that for fourteen miles it was cut through solid rock, our respect for it increases.

To turn from our great undertaking in scientific engineering to art: The charming exhibits at the Art Institute should be mentioned. The Caxton Club has made a fine display of Whistler's etchings, which of course need no descriptive adjective.

Mr. Herman Murphy has shown the result of his new theory of color in his collection of fifty or sixty paintings, and Mr. Herter has an equal number, in which he riots in color effects. That the Herter pictures are so superbly done is to some a fault, for they lead you into scenes where you feel yourself a third party, and where an audience makes the pictures indelicate.

The young Englishman, Byam Shaw, has an interesting but small collection, the subjects chiefly inspired by the Rosettis. They are very curious, and you wonder who is the queerer—he, that he could paint them, or you, that you can more than half like them. A casual observer strolling through the gallery remarked she thought his name ought to be spelled Buy'em Pshaw! They certainly are a shock at first sight.

But Birge Harrison has, almost next to this, a collection which is quite normal, and you know he is not queer, and you don't think anything about yourself but just enjoy the glorified nature of his landscapes. They are delightful and you will carry an impression of his all-pervading sunlight through a whole week of the worst kind of Chicago weather, fog-bedimmed and smoke-laden.

Last week, in the neighborhood of the Art Institute, a fire in a large wholesale warehouse brought into play a curious feature introduced into the construction of the Public Library. Around the entire cornice of the building every six inches are quarter-inch water-pipes curving downward, and through which water can be turned on, enveloping the entire building in a sheet of running water. Last week when the warehouse just across the way from the library caught on fire, this water-curtain was tested for the first time and proved in every way satisfactory, the building being not even scorched.

Another innovation, though of a very different kind, has been the introduction of a woman into the position of landscape-gardener for Lincoln Park. This woman is Mrs. A. E. McCrea, wife of the late J. F. McCrea, himself a landscape-gardener of some reputation. Mrs. McCrea has had some experience in laying out parks in Milwaukee, St. Paul and Detroit, and is said, further, to have a thorough knowledge of trees and shrubs and their habits.

EXPLORATIONS AT SUSA.

HALF a century has elapsed since Mr. Kennet Loftus, by his brief excavations, directed attention to the archaeological importance of explorations on the site of ancient Susa. At that time nothing was known of the ancient and powerful Elamite kingdom of which Susa formed the capital, and little else than the remains of the palaces of the Achæmenian kings were expected. The decipherment of the historical records of the Chaldean and Assyrian empires showed that from the remotest times the great confederation of tribes who occupied the highlands of western Persia and the lowland plains on the right bank of the Tigris had played no inactive part in the earliest acts of the drama of Oriental history; and the attention of scholars was then forcibly directed to the importance of systematic explorations on the site.

The position of the two great tumuli which mark the site of the ancient Elamite capital is of great strategic value, as they protect plains watered by the Karun and Dizful rivers and guard the ranges of mountains which rise step by step to the great tableland of Iran. The larger of the tumuli is about fifteen hundred metres in length, and some eight hundred in its greatest width. The larger mound marks the site of the Achæmenian capital, and at its northern extremity M. Dieulafoy uncovered the apadanas or palaces of Artaxerxes, Memnon and Darius during his explorations in 1884 and 1886. Loftus had obtained several inscribed bricks bearing the names of Elamite rulers contemporary with the Sargonide dynasty, B. C. 721 and 625, but no traces of buildings prior to the Persian age had been found, and many scholars had formed the opinion that the town had been completely destroyed in the terrible siege and sack by Assurbanipal in 640 B. C. The mention of Elamite palaces in Babylonian inscriptions as early as B. C. 1300 and in the later Assyrian times proved that such buildings must have existed. One special mention may be quoted: Kurigalzu, king of Babylon about B. C. 1300, states that he recovered a certain gem of agate "from the palace of Susa, which is in Elam." The obverse of this gem has a dedication by the order of the Babylonian King Dungi. It was no doubt carried away by the Elamites in B. C. 2285 when they overran Chaldaea. Other kings also mention these royal residences. The work of Oppert, Sayce, Weissbach and others on the rock and brick inscriptions made it clear that explorations in the older portions of the ruins would produce good results.

On his resignation of his post as director of the Gizeh Museum, M. de Morgan was entrusted with a special scientific mission to make a thorough exploration of the site; the first results are made known to the world of science in his report to the minister of public instruction, and they fully justify the expectations that were formed of the richness of the site. Indeed, it is no misstatement of the facts to say that no explorations in Mesopotamia have produced such astonishing results or opened up so many new problems, not only as regards the historic ages of the Mesopotamian valley, but in what has been entirely wanting—traces of prehistoric times. Those results are due to the fact that the head of the expedition was a skilled and trained explorer, assisted by those who had long served under him in Egypt and were versed in his methods. Of the staff MM. Jequier, Lampre and Gautier had worked in Egypt especially on primitive sites, and Father Schiel, a learned French Assyriologist, joined the expedition at a later period as expert. As Loftus and Dieulafoy had been unable to find any extensive pre-Achæmenian remains in the larger tumulus, work was commenced in a smaller but loftier mound about two hundred and fifty metres to the west. The mound rises to a height of nearly one hundred feet above the surrounding plain, and presented every indication of being a more ancient ruin. On his arrival at Susa in December, 1897, M. de Morgan, who had previously visited the site in 1891, prepared for a thoroughly scientific exploration of the site, and here his previous training as a geologist stood him in good stead, as it had previously done in Egypt. The skilled explorer knows that in all ancient sites, especially in the East, the law of stratification holds good, and that to ascertain the various strata and their ages is the first task, before the more minute examination can be made. To this end M. de Morgan commenced his work by driving a series of tunnels into the mound at varying heights above the plain. By this means he struck a number of strata, which yielded results hitherto not found in Chaldaea or Assyria.

Starting with a base-tunnel which revealed a yellow alluvial—no

doubt a deposit brought down from the Persian mountains—he pierced the slope of the mound with five tunnels, until the first historic stratum was reached, at a distance of about seven metres below the upper surface of the mound. It was in the lower tunnels that most important discoveries were made in the finding of no less than three strata of prehistoric times. Here, as in all previously-excavated stratified ruins, pottery afforded important data. The first stratum was 10.93 metres above the plain, and showed traces of a civilized people. Much pottery, remarkable for the fineness of its glaze and decorated with painted patterns in red, black and brown, was discovered. The patterns were chiefly geometrical, but some had figures of birds resembling the prehistoric pottery from Nagada, in Egypt, and the early Greek work. In this stratum but few worked flints were found. In the next stratum, 14.30 metres above the base, the pottery was not so fine, mostly vases of rough earth, but the flints became more numerous, and here an important discovery was made. In many places heaps of small flaked flints were found which the explorer, from his Egyptian experiences, recognized as the flint teeth of sickles; and in the upper portion many such fragments were found with the bitumen adhering to them which had been used to seal them into the wooden frame of the sickle. It will be remembered that the Egyptian hieroglyph *ma*, a sickle, is colored at Medum and other sites as a wooden frame, modelled from the ox-jaw, in which flint teeth are set. Here, then, was a discovery which gladdened the heart of M. de Morgan. He had maintained in his work on "*Researches on the Beginnings of Egyptian Civilization*" that cereal-growing was not indigenous to Egypt, but had been introduced by an Asiatic race, who naturally brought with them the instrument with which to reap the crops. Here, then, in the Susanian plain, one of the greatest corn-growing regions of Western Asia, ample evidence of a great corn-growing population is found. The ancient Chaldean records dating from B. C. 5000, the cone of Entemena and other inscriptions, refer to the corn-wealth of those regions, and Strabo states that their yield was one hundred or even two hundred fold. In the strata above, the remains of these implements were still more numerous, and the teeth polished and worn from usage. Stone maces, one of the earliest prehistoric weapons, began to appear. Rising now to another stratum, 21 metres above the base line, we first find burnt bricks and traces of buildings, but no inscriptions whatever; and, 4 metres higher, the first town is discovered, the remains of the most ancient Susa, which in many respects resemble the lowest stratum found by the American explorers at Nippur, but still no inscribed bricks. Above this, at a depth of about 4½ metres, we come upon the ancient Elamite, or Anzanian, citadel, which was destroyed by Assurbanipal about B. C. 640.

Now, all these strata, presenting evidence of progressive degrees of culture, show clearly what an immense antiquity we must assign to the first settlements on this site, and raise the important question whether we have not evidence of antiquity greater than is discovered in Chaldaea. Having ascertained the order of this strata, M. de Morgan entrusted the work of opening trenches to M. G. Lampre.

After passing through two metres of Persian and Arab *débris*, the Græco-Persian level was reached, which, by enamelled vases and coins, may be said to cover a period of about five centuries from the Macedonian conquest to the rise of the Sassanian dynasties—that is, B. C. 330 to A. D. 226. Below this the Elamite stratum was reached, and the remains of walls and pavements of bricks inscribed with the names of Elamite rulers, such as Kudur-nakhunta, Selkhak and Sutruk-nakhunta, were found; and, from the amount of cinders and charred wood, it became evident that this was the palace destroyed by Assurbanipal in his vengeance on Elam. The terrible destruction by fire and the deliberate razing of walls made it impossible to ascertain accurately the general plans, but many discoveries of great archaeological importance were made. The walls were of square, kiln-burnt bricks (0.35m sq.) of bright-brown color, those facing the interior being inscribed, so that the walls were covered with lines of writing. Along the walls were found many fragments of enamelled bricks bearing inscriptions or decorative patterns, also portions of bricks with figures of men and animals used to form decorative panels. This mode of decoration had been familiar to us in its highest style in the Achæmenian palaces, as is shown by the splendid enamelled brickwork found by M. Dieulafoy, and now in the Louvre. Its use by the Elamite rulers in the eighth century shows us the source from which the Achæmenian artists derived their inspiration; there are many other indications of this influence of the older Susanian civilization. In the larger rooms the bases of columns were found, but from the large quantity of cinders and carbon around them, it is evident that these rooms had been roofed, like the Persian apadanas. We can now trace this interesting form of construction back to a much earlier period than the Achæmenian age. We have the ancient Elamite halls, dating about B. C. 700, probably earlier, but these reproduce the columned hall of the Kassite period of Nippur, about B. C. 1300. The Kassite, or Cossean, was first-cousin to the Elamite and of mountain origin, and therefore it is not difficult to see, as Sir Henry Layard suggested, the origin of this style in the wood-columned chambers of the mountain-tribes, such as the Bakhtiari or the Yezidis of to-day.

We come now to the most important and astonishing discoveries of the historic period. Assurbanipal stripped the palace as far as he could and wrecked it, but there were certain monuments which escaped removal on account of their weight. Space will permit us to describe only one of these, but its importance justifies us. As we

have already said, there was enmity between Elam, or Anzan, and Chaldea from the earliest ages, and, indeed, these border wars form the chief items of history. One of these campaigns of the greatest importance is that of Naram-Sin, the warlike son of the great hero Sargon of Akkad, whose reign is fixed at B. C. 3750. This event was regarded as of the greatest importance, and by it contracts were dated. In the Museum at Constantinople are several contracts found at Tello by M. de Sarzec which bear the date "the year when Naram-Sin placed his yoke on the land of Elam." Of this conquest M. de Morgan discovered a most remarkable record in the ruined Elamite palace. Torn from its place and much injured by fire, the explorers unearthed a large stele of yellow limestone, which stood six feet, six inches high, and about three feet in width at the base. The whole face was covered by an elaborate sculptured tableau containing many figures. The work is most remarkable, both as a whole and in the details, and although bearing every mark of antiquity, may compare favorably with the sculptures of Assyria. At the top of the stele are three solar discs with their rays. Below is a lofty cone representing the peak of a mountain, on the surface of which is cut a long inscription. Before this stands the king, wearing a horned helmet and armed with an arrow or short spear in his right hand, a bow in his left. He wears a rich robe reaching to the knees, and wears sandals. A dagger is thrust into his girdle. His beard is long. The royal warrior places his foot upon a dead foe, while before him another falls wounded and tries to draw an arrow from his breast; and, farther off, another personage is represented, standing with his hands raised in supplication. The heap of dead beneath the victor's feet in various complicated attitudes is most remarkably drawn and carved. Below the king, mounting some steps, come three ensign-bearers, each with the right hand placed on his dagger, and his left holding the banner. The ensigns are of considerable interest, as they are already familiar to us from the engraved gems of Chaldea, namely, the sacred lance, whip and mace. Below the standard-bearers come the soldiers, variously armed. In front of these are two trees, behind which are the enemy, who are represented as turning round in supplication. From the whole tableau we see that it represents a campaign in a forest region, the enemy defeated and driven to the highest peaks, where they are slain or surrender to the victors. It is exactly the region of the dark pine forest of the hero Khumbaba, described in the Epic of Chaldea.

The question now most important is, Of whose campaign is this remarkable monument a record? M. de Morgan, who appears not to have had the benefit of Father Schiel's expert evidences, regards it as Elamite, but the inscription upon it reveals the astonishing fact that it is a monument erected by Naram-Sin to commemorate his great campaign some time about B. C. 3750. How came it here? M. Maspero and Dr. Schiel seem to think that it was carried away from Chaldea by the Elamites, but considering the great size and weight, this seems hardly feasible. The more possible solution is that the stele had been set up by the Chaldean king either in Susa or in the region. But the Elamite ruler Sutrunkhunta has boldly annexed the monument and inscribed his own name and titles on it. This is, in all probability, the earlier king of that name, who reigned about B. C. 1300, who pillaged many Babylonian cities and carried away statues of the gods.

This is not the only monument of importance found in these explorations. There was also found a large obelisk of granite six feet in height, the four sides of which were covered with a long inscription of some twelve hundred lines written in very archaic character. The text has not yet been published by Dr. Schiel, but it proves to be the record of a Chaldean king named Manistusu, of whom some inscriptions were found at Nippur. For further details we must await Dr. Schiel's report on the inscriptions.

Such, then, is a summary account of these most important explorations. They have traced the history of this city from the remotest ages to well-known historical times. They raise many questions of importance, but chief among these is that of the origin of the civilization of Chaldea. Is it in these settlers of Elam, whose memorials extend back to an unknown prehistoric age, that we are to look for those tribes who, attracted by the rich, alluvial soil of Chaldea, came and settled there and founded Nimrod's kingdom? We look anxiously to M. de Morgan's continued work for an answer to some of these most interesting questions.—*London Times*.



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

THE BROADWAY CHAMBERS, NEW YORK, N. Y. MR. CASS GILBERT, ARCHITECT, ST. PAUL, MINN.

THIS eighteen-story building is located upon the northwest corner of Broadway and Chambers Street, New York, overlooking the City-hall Park, and the upper stories command a fine view of the North and East Rivers, of the lower end of New York, and of the harbor.

All the rooms and corridors in the building, excepting only the corridor in the basement story, are admirably lighted by direct natural light.

The building is constructed throughout after the most thorough and scientific system of steel construction, and is absolutely fireproof. The foundations are of concrete and steel grillage.

The first three stories are of dressed granite. Above this, to the thirteenth story, inclusive, the material is of unusually hard brick, especially made for this building, entirely enclosing and protecting the structural steel; thence to the top of the building is brick and terra-cotta. The roof is of semi-vitreous tile, laid in cement.

The building is equipped with the most approved modern mechanical devices to provide first-class mechanical service in all departments. The piping is so arranged as to be concealed from view (so far as possible) in the offices, and yet accessible for inspection at any time. The systems of plumbing, heating, ventilation and electric-lighting have been laid out upon advanced and scientific principles. Toilet-rooms are located upon each floor.

There are four elevators with electric-signals at each story. An independent electric-lighting plant will be provided in the building. A mail-chute, convenient of access, at every floor, is provided.

The interior finish of the corridors will be of marble, having only such woodwork as is necessary at the doors. The corridors will be handsomely decorated throughout.

DESIGN FOR A M. E. CHURCH AT M——. MR. F. E. WALLIS, ARCHITECT, NEW YORK, N. Y.

TOMB OF CARLO MARZUPPINI, IN STA. CROCE, FLORENCE, ITALY.

This and the following subject are copied from Grandjean de Montigny's "Architettura Toscana."

TOMB OF H. BASSO, IN STA. MARIA DEL POPOLO, ROME, ITALY.

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

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[Additional illustrations in the International Edition.]

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HOUSE OF E. C. CONVERSE, ESQ., NO. 3 EAST 78TH ST., NEW YORK, N. Y. MR. C. P. H. GILBERT, ARCHITECT, NEW YORK, N. Y.

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FIRST-CLASS SMOKING-ROOM: R. M. S. "Oceanic," WHITE STAR LINE. MR. R. NORMAN SHAW, ARCHITECT.

ADMINISTRATIVE BLOCK: LINEN AND WOOLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX, ENG. MR. GEORGE HORNBLLOWER, ARCHITECT.

CENTRAL PORTION OF THE SAME BUILDING.



TURK vs. AMERICAN AT THE PARIS EXHIBITION.—The power possessed by the United States has been again exemplified with regard to the approaching International Exhibition in Paris. When the spaces were assigned America insisted on having a far larger area than was proposed by the administration, and after a long debate the demand was agreed to. The United States were placed on the same footing with Russia. The latest example of Western power has been displayed at the expense of Turkey. The palace which the Sublime Porte had erected was to be surmounted by an immense dome, which would no doubt excite much interest. But the nearest building to it was the palace of the United States, and when it was perceived that the American structure would appear insignificant on account of the proximity of its Turkish rival, the Exhibition authorities were compelled to decree that the great dome must be sacrificed. Of late years nobody hesitates to wound Turkish pride, and it might be supposed the Ottoman race was deprived of feeling, but to transform the character of a building at the present time is to run the risk of having the Turkish palace incomplete when the Exhibition opens.—*The Architect*.

STEVENS'S LIONS.—We are glad to find that a number of the celebrated little cast lions, designed by Stevens, and formerly on the guard-rail outside what we may appropriately call the "peribolus wall" of the British Museum, are now to be made use of as final ornaments for the barrier round the Wellington monument in St. Paul's. This is one of the best and most suitable uses to which they could be put. Some others of them, we have observed, have already been made use of rather well in certain situations in the interior of the British Museum. — *The Builder*.

THE DUTY ON ELECTRICITY.—The question whether electricity is dutiable has been brought before Assistant Secretary of the Treasury Spaulding, in consequence of a resolution recently adopted by the Merchants' Exchange of Buffalo pledging themselves to opposition by counsel before the Treasury Department to the levying of a duty upon electricity brought to the United States across the Niagara River. The case is a hypothetical one and comes from Niagara Falls, the Americans there desiring to furnish electricity to persons on the Canada side, while there are companies on the Canada side who want to furnish electricity to people on the American side. — *Exchange*.

THE MAGNITUDE OF LONDON'S WATER-SUPPLY.—In 1898 the population supplied by the eight companies was 4,478,396 persons within and 1,341,187 without the County of London. These figures are open to question, but they may be taken as approximately correct, and are of interest as bearing on the demand of the London County Council to acquire the control of water-supply. The area supplied is 120 square miles within, and 230 square miles without the County of London. In 1898 the companies supplied an average daily quantity of 204,053,955 gallons of water from all sources. During the last seventeen years the average per head per day varied from 30.32 gallons in 1883 to 35.43 gallons in 1897. The increase has on the whole been gradual, but the supply varies largely in accordance with the nature of the seasons. — *Engineering*.

RUBBER NAILS.—A German novelty that is being successfully introduced is india-rubber nails of all shapes and sizes for use in work where ordinary nails are liable to corrosion, or where they may set up a galvanic action, or for any one of a large number of purposes where metallic nails are objectionable. These india-rubber nails, which are made by the Hamburger Gummi-Kamm Company, near Hamburg, come in all shapes and sizes. The common form have either counter-sunk or cup heads, the stems being square and drawn to a point. In color they are a beautiful golden brown. They are very light, but notwithstanding their extreme brittleness can be driven with a hammer into soft woods in sizes up to one inch long without boring a hole for their reception. For sizes from one to two inches long it is necessary to bore holes to start them, or for the larger sizes for their entire length. For withstanding the action of acids and alkalis in commercial chemical processes, as in dyehouses, breweries, bleaching-works, etc., they are excellent. Then, too, being non-conductors of electricity, their uses in building accumulator-cells and other electrical apparatus are many, the nails with perforated heads being designed especially for electric work. It is also suggested that they would be of particular value in attaching copper sheathing to vessels, owing to their non-galvanic action, the corroding power of which action has heretofore been one of the greatest difficulties in this work. It is asserted that they clinch fairly well. For use about explosives, where a spark from a nailhead when struck by a hammer might prove fatal, they are particularly desirable. — *Boston Transcript*.

THE ARCHITECT AS ARBITRATOR.—At first sight it seems strange that a decision relating to a broker who was appointed to decide in a dispute about the quality of raisins (*Pappa vs. Rose*) should be taken as determining the limits of responsibility of an architect. But in law apparent anomalies are common. That case was again invoked in an action brought by Mr. J. T. Chambers, an architect, against a client for the recovery of fees. The defendant, while admitting the plaintiff's claim, counterclaimed damages for negligence, as it was said materials had been incorrectly measured, and the amount was in excess. The case was heard in the Holmfirth County Court, where the judge allowed the plaintiff his claim and the defendant his counterclaim. The architect appealed. His counsel argued that when giving a certificate an architect was an arbitrator, and so long as he acted honestly he was not liable to an action for damage for want of skill. It was laid down by Chief Baron Kelly, in *Pappa vs. Rose*, that it is for the parties themselves to take care that the person in whose judgment they confide should possess the requisite skill to exercise it properly. Defendant's counsel maintained that the architect was liable because when measuring up the quantities he was a servant of the defendant, and not an arbitrator. Mr. Justice Channell held that if the plaintiff was acting in a judicial capacity an action for mere negligence could not succeed. It did not matter that the person who acted as arbitrator had contracted obligations to one or other of the parties. The plaintiff was only liable for negligence so far as he was the agent for the defendant, but in acting as arbitrator between the builder and the defendant he was not liable. The builder had a right of appeal, according to the contract deed, from the architect's decision, but that did not prevent the architect from being in a judicial position in the first place. The architect's appeal was therefore allowed. — *The Architect*.

THE TRUTH ABOUT THE PALISADE PRESERVATION.—It is idle to throw the odium of this hideous work [destruction of the Palisades] upon the contractors or upon the owners of the land. The odium must rest upon the people of the City of New York. It is a burning shame that in the city which has given the world a new conception of what colossal wealth means, a city in which lavish expenditure for luxury and ostentation has passed every mark set by older communities, the sum required to save the Palisades should not have been gathered by private subscription within the space of twenty-four hours. The ever

lasting hemming and hawing about combined action by the Legislatures of New York and New Jersey is simply disgusting. If the money were offered to the New Jersey State Government by private individuals, the State would soon enough find means to acquire the land by condemnation. The Brooklyn *Eagle* says the mischief can be arrested at the present point "if the States of New York and New Jersey will unite in the purchase of the heights." This is the kind of thing we have been hearing for years, and it looks as if we were going to keep on hearing it when the last bit of the rocks which once were the Palisades is about to be blown up to be made into paving-stones. "It is given out," says the *Eagle*, "that less than a million dollars will buy the entire line of cliffs, nearly twenty miles long," including so much of the land back of the edge that some of the purchase money could be recovered by the sale of building sites, if it were decided not to use the whole as a park. What a magnificent opportunity is here presented for one of New York's millionaires! As we have said, there ought to be no difficulty in collecting the money by subscriptions from a great number of New York's wealthy men; but if this is not done, what a glorious chance there is for a single one of the great millionaires of New York City! To have saved from utter destruction the noble cliffs which have been the most unique feature of New York's river scenery, to have one's name forever associated with a great park lining the west bank of the Hudson for twenty miles, and facing the metropolis of the New World, would be an immortality which any man might cherish. Whoever should do this will put an end to what it is mild language to designate as a disgrace to American civilization; and at the same time he will build for himself "a monument more lasting than brass," and keep his memory green to the latest generations. — *Baltimore News*.

ST. GEORGE'S TOWER, LIVERPOOL.—We much regret to hear that the Liverpool Town Council have, after all, voted the destruction of St. George's Tower and spire by a majority of 58 votes to 43. It was hoped that the tower was saved, but the counsels of stupidity appear to have prevailed. The detriment to the architectural appearance of the neighborhood may be compared to that which would be caused in London by pulling down St. Mary-le-Strand, except that the case is stronger for the Liverpool erection, because it occupies a more central position, is in the way of no traffic, and, as Sir William Forwood mentioned, it marks the site of the ancient castle of Liverpool. It is to be pulled down for purely commercial reasons; "the site was valuable," as one councillor frankly stated. Among those, besides Sir W. Forwood, who defended its retention in the discussion were Alderman Radcliffe—who moved that the question be postponed, Alderman Paul, Mr. Wilkin (the architect, and recent President of the Liverpool Architectural Society), Mr. Lister, and Alderman Grindley, whose names should be recorded as having done their best to prevent a fine erection being destroyed. — *The Builder*.

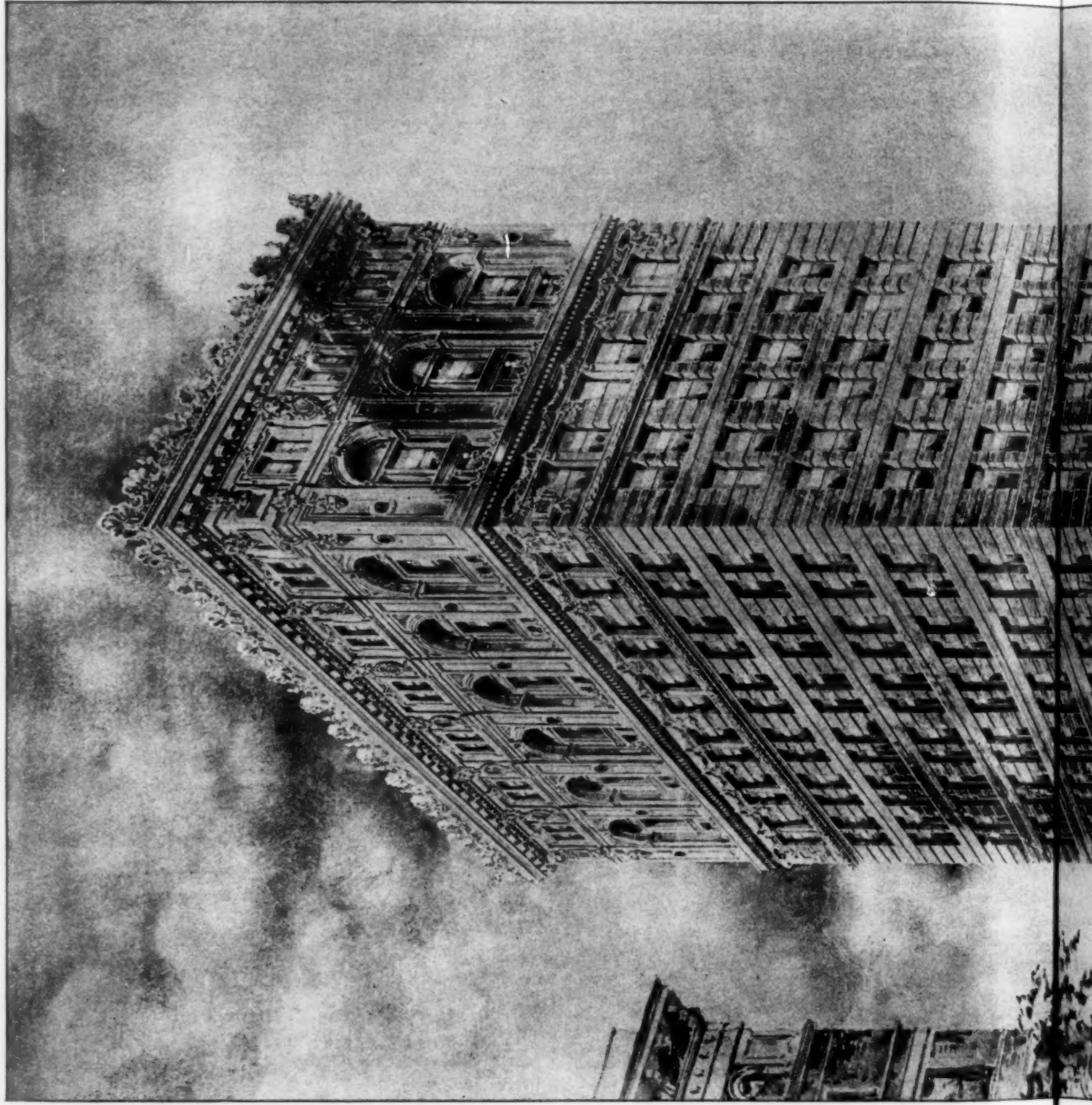
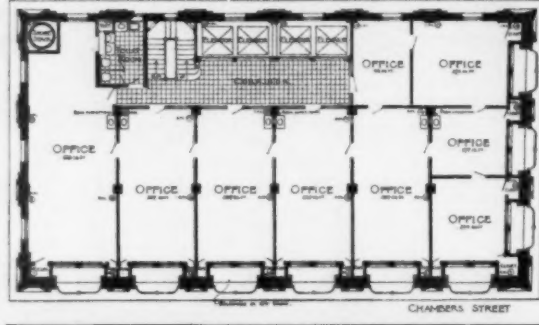
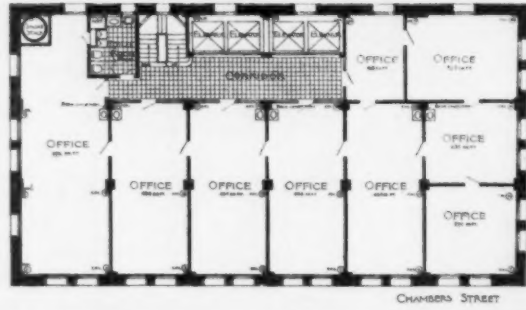
REFORESTING PENNSYLVANIA.—The work of reforesting Pennsylvania has been well begun. Thus far, 60,000 acres at the head-waters of the principal rivers have been purchased by the State, and 40,000 more will soon come into its possession. Most of the land purchased has been denuded of merchantable timber, the maximum price of \$5 per acre fixed by the Legislature barring the purchase of more valuable lands. This limitation may not be a misfortune, however. Much of the land acquired has a young second growth that will make valuable timber hereafter; and while the work of protecting the watersheds may proceed more slowly than if timbered land could be obtained, a lesson in care of forest-lands will be taught, and a greater amount of land will be secured through the available appropriation. The growth on the State lands is to be carefully fostered, one of the plans being to cut a protecting lane around the State's land, to bar out neighboring forest fires. — *N. Y. Evening Post*.

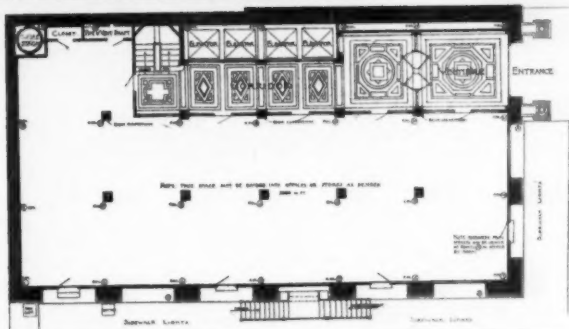
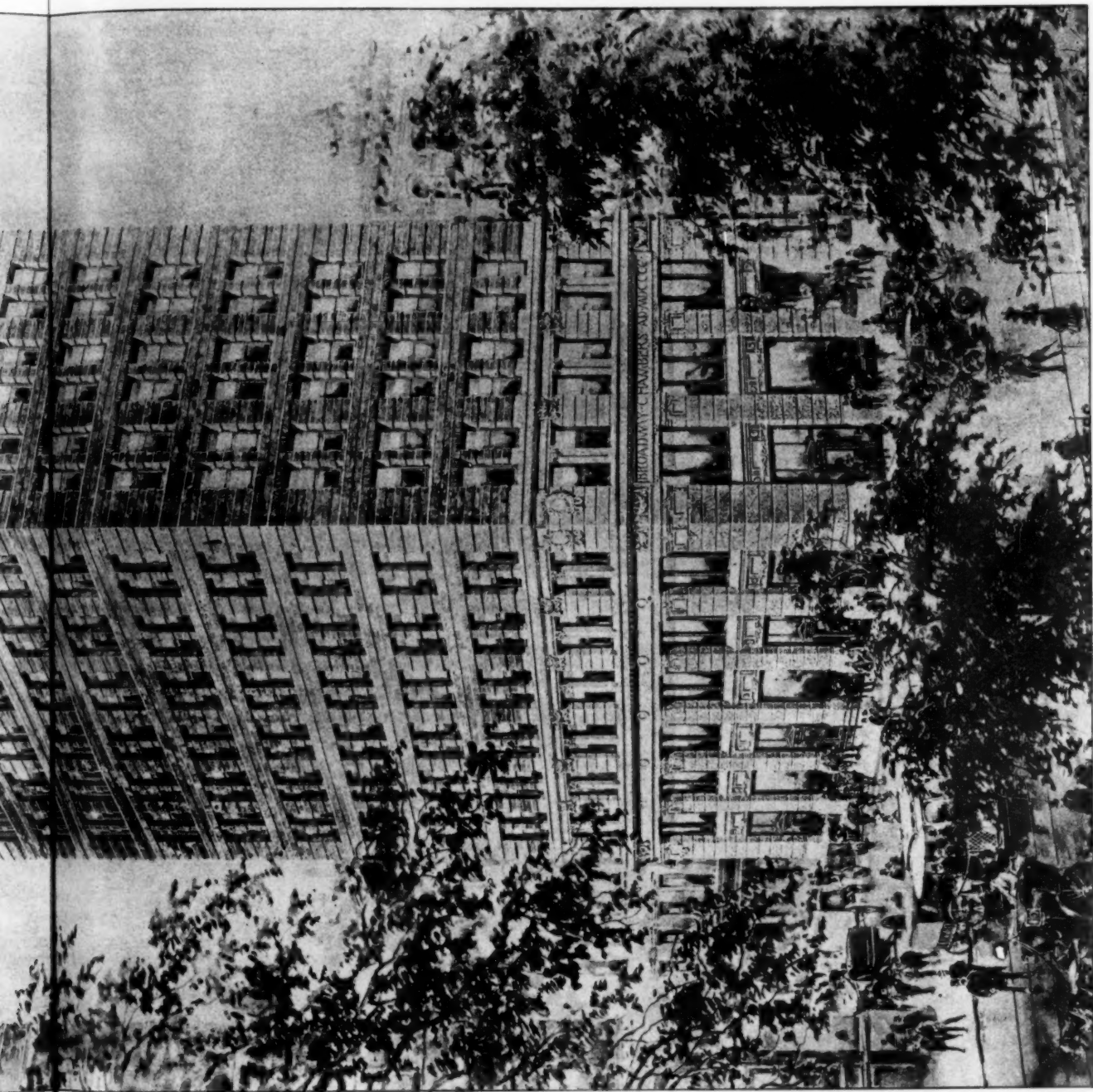
AN ENGINEER'S OBSERVATIONS IN CHINA.—An American engineer, Mr. W. P. Parsons, has given an account of his experience of a railway survey in China. The line proposed was about seven hundred and forty miles in length. The Chinese Government allowed the party about three hundred soldiers as a protection, and the same number of coolies were required. It was also necessary to have pioneers carrying placards warning the peasants against interfering with the surveyors. The line was surveyed in 77 days, or about ten miles a day, but as most of the country traversed was level, the work was not difficult. The engineers made it a rule never to sleep at an inn, and they spent the nights at the public examination-halls, wayside temples or in tea-ware-houses. They met with numerous pagodas of about one hundred feet high which were built of solid masonry, but they must have been intended as landmarks or memorials, for it was impossible to enter them. The party found many houses on the river banks which were built on slender poles driven in the mud. The river was subject to floods of 50 or 60 feet, and miles of the houses were recently destroyed and about ten thousand lives lost, but the houses have since been rebuilt in exactly the same place and manner. There were many ancient arch-bridges with perfect cut-stone *voussoirs*. The spans were of 50 or 60 feet, and in one place where the river had for 100 years flowed through a different bed, leaving the bridge high and dry, the Chinese continued to pass over it, climbing up at one end and down at the other. A curious wooden cantilever bridge of 70 feet span was seen, which was made of successive corbels overlapping each other and knee-braced at the piers. The corbels were built out far enough for their opposite ends to be connected by wooden girder-beams. The road was paved with stone, but the timber was so much decayed it was unsafe to load the bridge heavily. — *The Architect*.

AN INHOSPITABLE INSCRIPTION.—Just upon the boundaries of Bedfordshire and Hertfordshire formerly stood a rambling old farmhouse. The living-room was long and low, and on the centre-beam that went across the ceiling was inscribed this legend, "If you are cold, go to Hertfordshire." This seemingly inhospitable invitation was explained by the fact that one-half of the room was in one county and one-half in the other. The fireplace was in Hertfordshire. — *Exchange*.

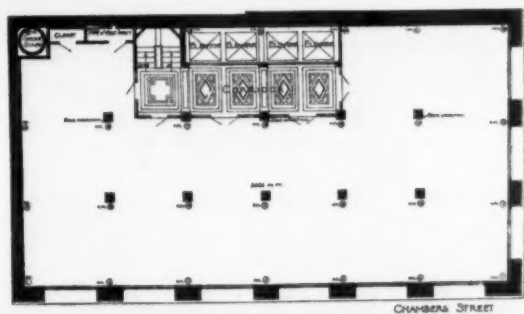
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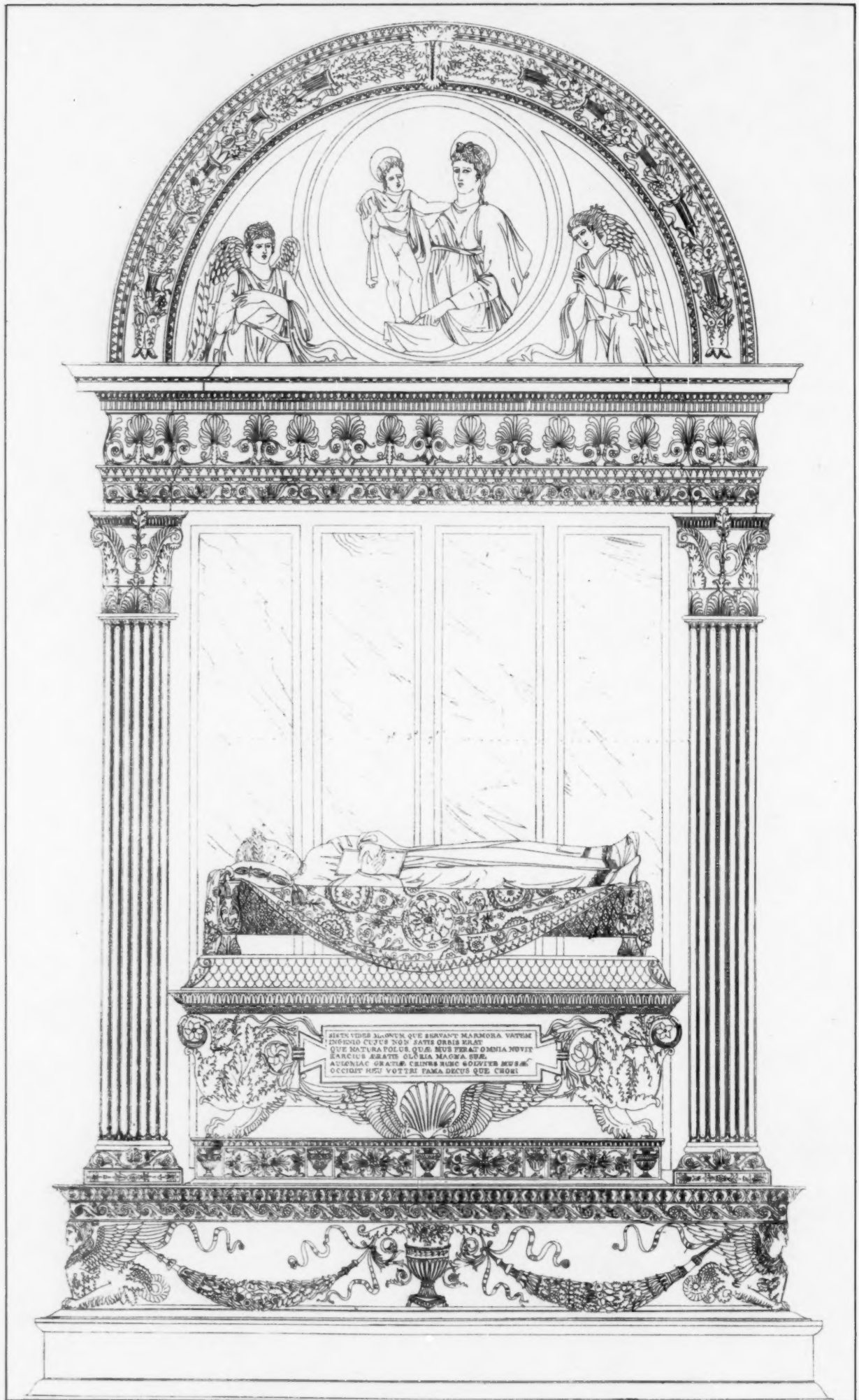


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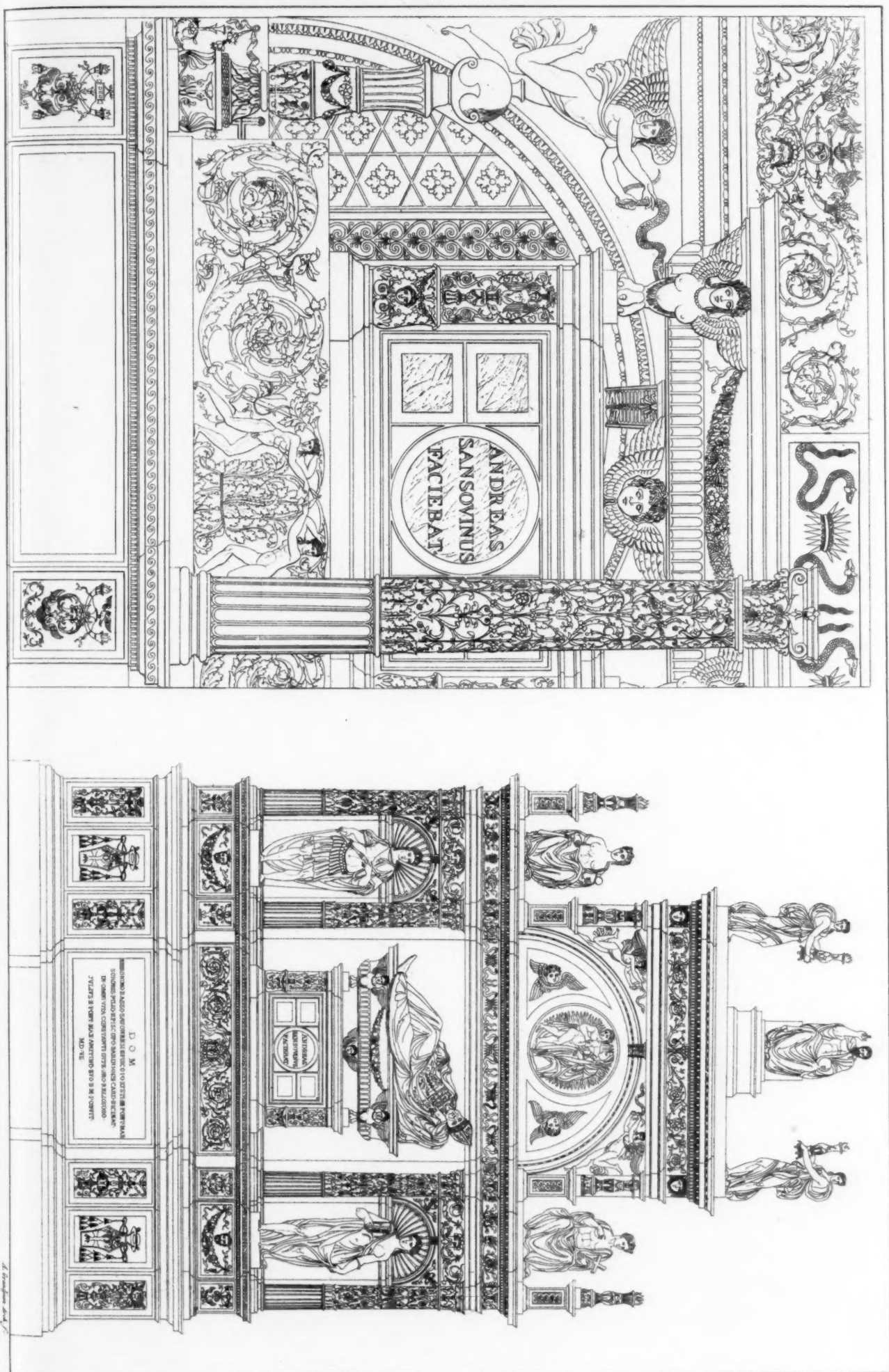
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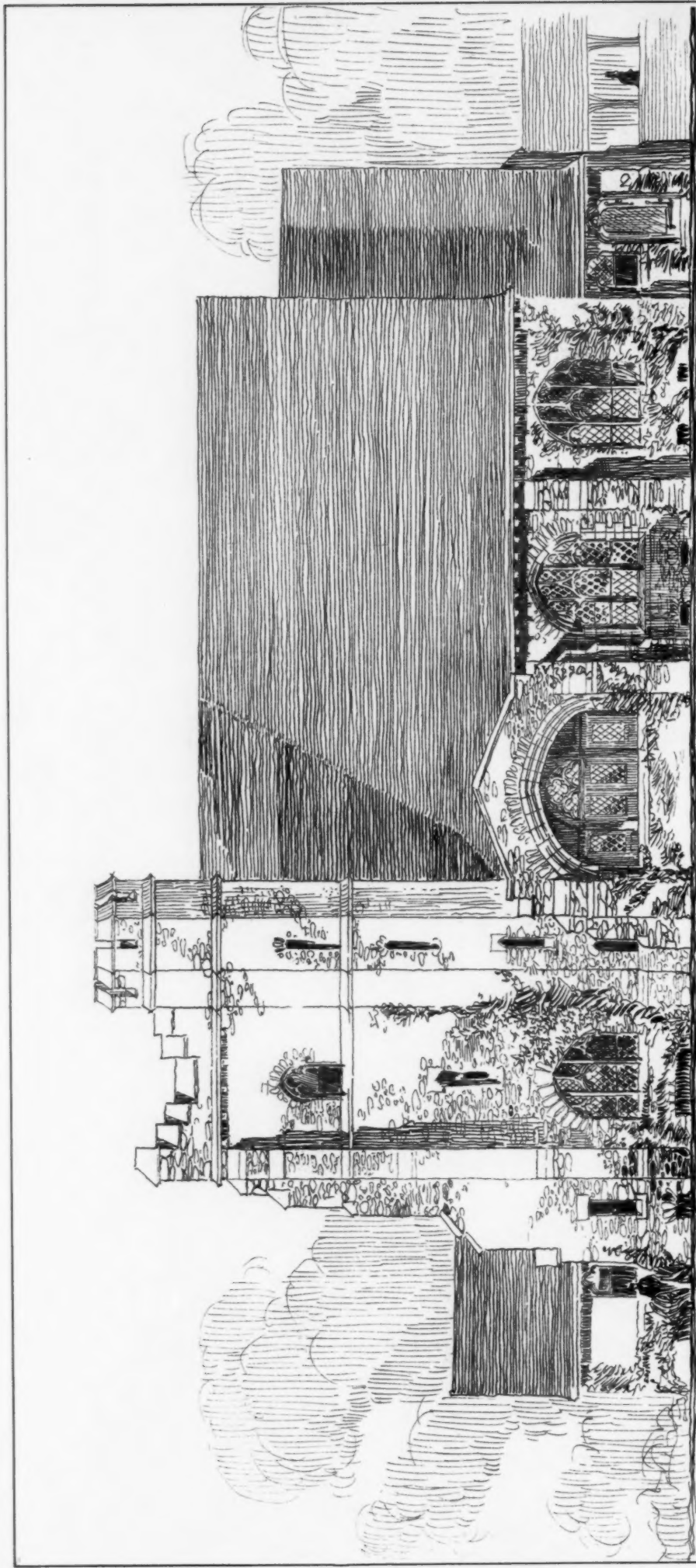


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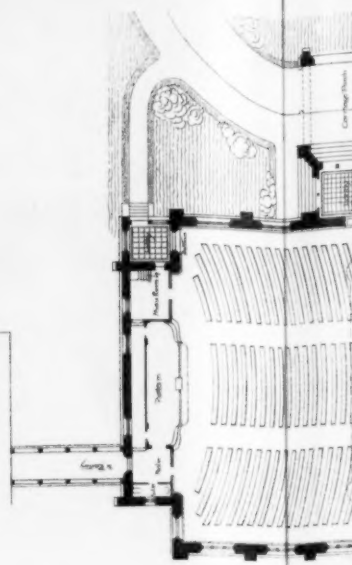
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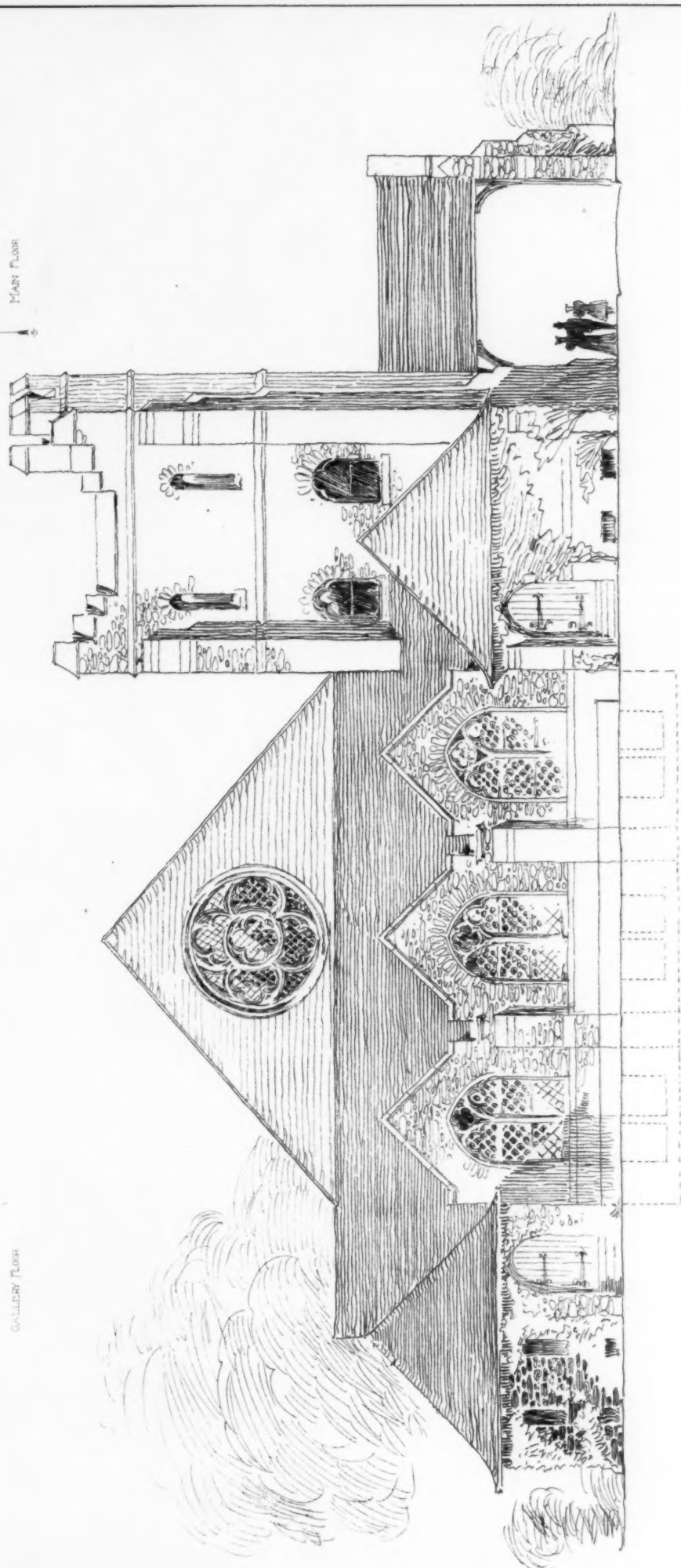


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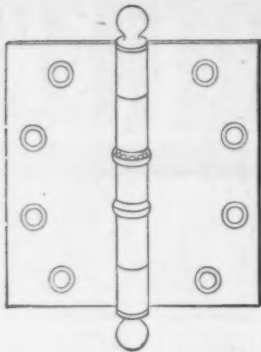
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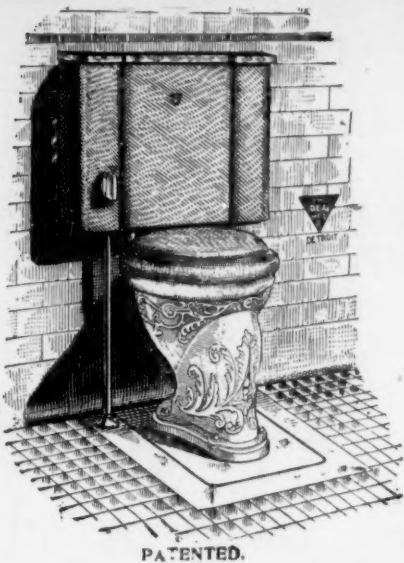
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Passaic Rolling Mill Co. [Structural Iron.]
Perth Amboy.
Perth Amboy Terra-Cotta Co. [Terra-Cotta.]
Trenton.
N. J. Steel & Iron Co. [Iron.]

NEW YORK.

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Moore, Benjamin. [Muresco.]
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Opener.]
Geneva.
Vance Boiler Works. [Heating Boilers.]
Irrington-on-Hudson.
Lord & Burnham Co. [Conservatories.]
Jamestown.
Art Metal Construction Co. [Art Metal
Work.]
N. Y. City.
Aisen's Cement Works. [Cements.]
Atlas Cement Co. [Cement.]

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N. Y. City.
Bicklehout, G. [Skylights.]
Bostedo Package and Cash Carrier Co. [Pneumatic Tubes.]
Deane, E. Eldon. [Colorist.]
Fisher & Co., Robert C. [Marble.]
Flexible Door & Shutter Co. [Rolling-
Shutters.]
Frank, L. F. [Reflectors.]
Gorton & Lidgerwood Co. [Boilers.]
Hayes, George. [Metallic Lathing.]
Hitchings & Co. [Greenhouses.]
Holophane Glass Co. [Holophane Glass.]
Jackson & Co., Wm. H. [Grates.]
Jackson Architectural Iron Works. [Iron Work.]
Jenkins Bros. [Valves.]
Johns Mfg. Co., H. W. [Asbestos.]
Jones, T. W. [Fanes.]
Kenney Co., The. [Plumbers.]
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Okonite Co. (Ltd.). [Insulated Wire.]
Pitt, W. R. [Folding-Gates.]
Raritan Hollow & Porous Brick Co. [Fireproof-
ing.]
Roebbing Construction Co. [Fireproof-
Building.]
Sargent & Co. [Builders' Hardware.]
Simone, W. & J. [Decorators.]
Smith Co., H. B. [Steam Heat.]
Smith, E., Edward. [Furnishes.]
Thiele, E. [Portland Cement.]
United Correspondence Schools. [Education
by Mail.]
U. S. Mineral Wool Co. [Mineral Wool.]
Warren Chemical & Mfg. Co. [Asphalt Roofing.]
Williams, John. [Wrought Metal.]

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Caldwell Mfg. Co. [Door Holder.]
Cutler Mfg. Co. [Mail Chutes.]
Syracuse.
Dunning, W. D. [Mixer.]
Troy.
Globe Ventilator Co. [Ventilators.]
Troy Laundry Machinery Co. [Washing Ma-
chines.]

OHIO.

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Berger Mfg. Co., The. [Steel Ceilings.]
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Barron, Boyle & Co. [Old English Floor Wax.]
Cleveland.
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Steel Rolling-Shutters. [Steel Ceilings.]
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Dayton Automatic Elevator Gate Co. [Ele-
vator Gates.]
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Bostwick Steel Lath Co. [Metal Lathing.]
Tole.
Buckeye Paint Co. [Paint.]

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Keasbey & Mattison Co. [Magnesia Covering.]
Philadelphia.
Electric Storage Battery Co. [Chloride
Accumulator.]
French & Co., Samuel H. [Mortar Color.]
Gara, McGinley & Co. [Steel Corner.]
Harrison Brothers & Co. [Protective Paint.]
Loomis Filters Improved System. [Filters.]
Maxwell & Co., J. [Gypsum Water Paint.]
Merchant & Co. [Tin Roofing.]
Morse, Williams & Co. [Elevators.]
Taylor Co., N. & G. [Tin.]
Thorn, J. S. Co. [Sheet Metal.]

Pittsburgh.
Apollo Iron and Steel Co. [Galvanized Iron.]
Monarch Water Heater Co. [Heaters.]
Scaife, Wm. B. & Sons. [Filters.]
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[Architectural.]

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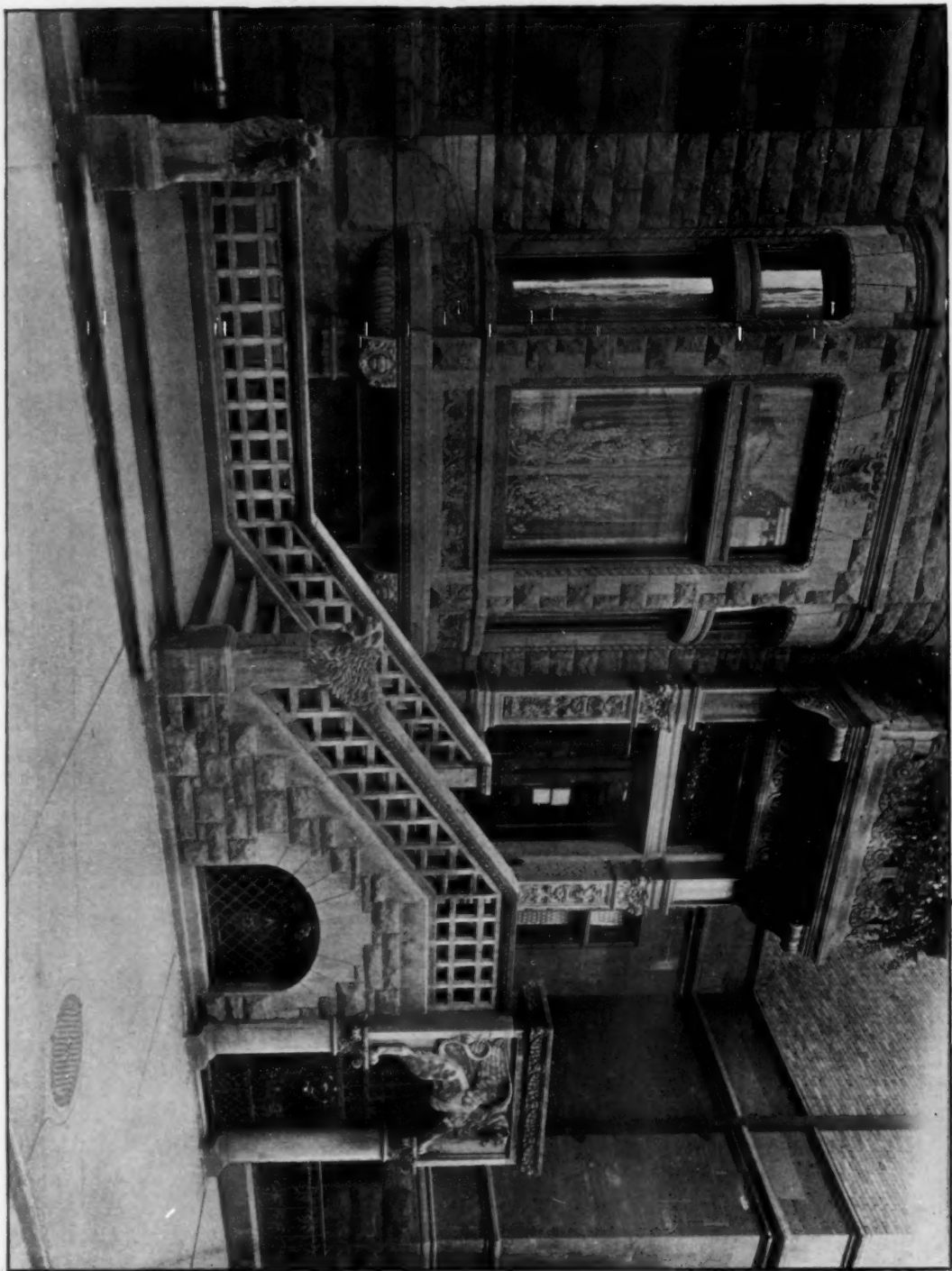
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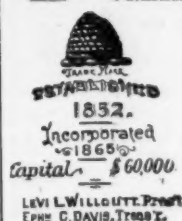
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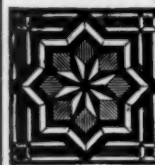
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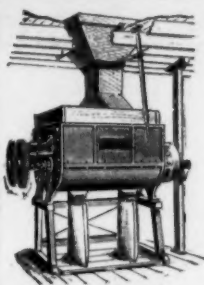
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

factory on Delaware Ave., after plans by Architect Frederick Mohr; cost, \$5,500.
A two-story brick store and factory, to cost \$5,500 is to be built for Amelia Knarr, at the corner of Broadway and Iroquois Pl.
Cambridge, Mass.—Plans have been drawn for a large apartment-house on Massachusetts Ave., by Miss Josephine Wright Chapman. The building will be seven or eight stories in height, occupying about 20,000 square feet of land, and will be constructed of steel, granite and fancy brick; cost, about \$350,000.
Camden, N. J.—Members of the Camden Board of Freeholders are agitating a proposition to erect a building that will contain a commodious meeting room, committee rooms and office for the County Collector, County Physician, County Engineer and other county offices, on the plot north of the courthouse.
Cheraw, S. C.—The Cheraw Cotton Mills have incorporated, with capital stock of \$100,000, and will make arrangements for the early erection of a plant.
Cleveland, O.—At a meeting of the Board of Education recently it was decided to erect a \$30,000 school-building in the village of Glenville.
Columbus, O.—The Kinnear Mfg. Co. have prepared plans for the erection of a new building for the manufacture of their steel rolling doors, shutters, partitions, metal cases for merchandise boxes, etc., and metal wardrobes for school-houses. The six of the building will be 110 feet wide by 200 feet long. The building will be located on N. 4th St. The outer wall will be of brick and height of story 15 feet. The entire building will be lighted by windows all around and metal skylights placed throughout the roof. The floor of the entire building will be concrete, and an electric-light outfit will be installed, and a 50 or 60 horse gas engine will be wanted. Contracts will be let within the next two weeks and the building will be rushed in order to prepare for the many large contracts which the company have under contract.
William A. Gill is contemplating the building of a large tinware factory on Mt. Vernon Ave. Mr. Gill has purchased the entire block on Mt. Vernon Ave., extending from Grant Ave. to Mosette St. The main building will be 150' x 200', constructed of brick and stone, and two stories high. There will be twelve apartments and the entire plant will be modern in every particular. Work will be commenced on the structure in a few weeks, and the firm expect to be ready for business by early spring. The plans are being prepared by Yost & Packard.
Davenport, Ia.—Edwards Congregational Church will build a chapel and Sunday-school, 40' x 80'; cost, \$7,000. Edward S. Hammatt, architect.
Delroy, Mich.—The Methodist Society contemplates the erection of a \$10,000 church.
Des Moines, Ia.—Liebbe, Nourse & Rasmussen, architects, are preparing plans for converting the Industrial School for the Blind, at Knoxville, into a new normal school; cost, \$15,000.
Liebbe, Nourse & Rasmussen, architects, are making plans for a modern Colonial frame residence on W. Grand Ave., for J. R. Baxter; cost, \$12,000.
Dwaver, N. J.—The Methodist Episcopal Society is preparing to build a new church, to take the place of the one recently destroyed by fire.
East Liverpool, O.—Reports state that a new church will be erected by St. Stephen's Episcopal Society to replace the structure recently burned; cost, about \$20,000. Rev. Edwin Weary, pastor.
Emden, Ill.—Reports state that the Lutheran Society will build a new church, to cost about \$10,000.
Evansville, Ind.—The trustees of the Willard Library Association will erect a store and flat building at 5th and Vine Sts., to cost \$12,000. R. D. Richardson, secretary.
Fergus Falls, Minn.—Plans have been drawn for a \$40,000 hotel to be erected on the Park Hotel site. Omeyer & Thorl, architects, of St. Paul, are preparing plans for a \$15,000 building to be erected here. It will be 50' x 142', three stories & basement, of cream face brick, with stone trimmings.
Grand Forks, N. D.—The Y. M. C. A. has appointed a Building Committee, and a building to cost about \$20,000 is projected.
Grand Rapids, Mich.—The Grand Rapids Chair Co. will erect a four-story addition to its factory; cost, \$20,000.
Griffin, Ga.—E. H. Spivey is organizing a company with a capital stock of \$20,000 for the erection and operation of a knitting mill.

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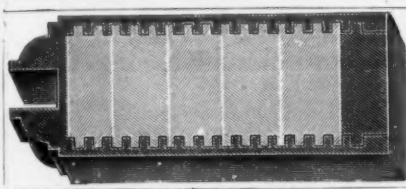


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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Hamilton, O.—George Barkman, National Bank Building, is preparing plans for a new school-building in this city, to cost about \$25,000.
Hampton, Minn.—Herman Kretz & Co., architects, are preparing plans for a church to be erected by the Catholic Society. It will be 50' x 120', pressed brick front and cut stone; cost, \$12,000.
Hartford, Conn.—The Hartford Golf Club has accepted plans submitted by W. C. Brocklesby for a new club-house, to be built on Asylum and Prospect Aves.
Hayfield, Minn.—John M. Doherty, architect, of Rochester, has prepared plans for a two-story brick double store and office building to be erected here by Andrew Severt, of Rock Dell; cost, \$10,000.
Hedrick, Ia.—Ernest Koch, Ottumwa, has prepared plans for a two-story frame residence, 31' x 50', for J. F. Brooks; cost, \$5,000.
Houghton, Mich.—The Baltic Co. have let the contract for a new 4-stamp mill to be erected at the mouth of the Salmon Trout River; cost, about \$80,000.
Indianapolis, Ind.—Architect H. C. Hendrickson, Union Trust Building, is preparing plans for a flat building for Julius Matzke; cost, \$15,000.
Architect H. C. Hendrickson, Union Trust Building, is preparing plans for a brick department store for George J. Maratt, to cost \$30,000.
Iowa City, Ia.—James S. Templin, of Los Angeles, Cal., contemplates erecting a flat building here, to cost, \$15,000.
Jackson, Mich.—The Eberts Brewing Co. will make improvements to their plant, expending about \$10,000.
Kalamazoo, Mich.—Patton, Fisher & Miller, 604 Mountauk Block, will design the new \$50,000 three-story college building, to be erected for the Kalamazoo Baptist College. A. Gaylord Slocum, sec'y.
Kanosh, Utah.—J. A. Headland, Dooley Block, Salt Lake City, has prepared plans for a \$10,000 brick school-house, 60' x 75', to be erected here.
Kansas City, Mo.—C. A. Smith has prepared plans for the rebuilding of the Franklin School at 11th and Washington Sts., at a cost of about \$50,000, also the Oakley School, Brighton and Independence Aves., at a cost of about \$40,000.
Architects Shepard & Farrar, 507 Commerce Building, are preparing plans for a five-story flat building, 150' x 155', to be erected on the northwest corner of 12th and Troost Sts., for the W. P. Dearing estate; cost, \$40,000.
It is stated that the Cudahy Packing Co. will soon begin the erection of another building for the exclusive use of the pork department. It will cost about \$350,000.
The congregation of the Second Church of Christ have purchased a building site at the corner of 31st St. and Troost Ave., whereon it is proposed to erect a church edifice within the year. The structure will be Roman, Classical in design, furnishing a seating capacity of 1,000. It will be built of white Carthage stone.
Kenosha, Wis.—The Y. M. C. A. has raised \$20,000 necessary to erect a building and will let contracts at once.
Lake Forest, Ill.—An addition will be built to Ferry Hall Seminary at Lake Forest University. The cost will be shared by the trustees and alumni.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Lehi City, Utah.—R. K. Kletting, 49 S. Main St., Salt Lake City, has prepared plans for a \$15,000 brick and stone church to be erected here.
Leipsic, O.—Charles Henry, 120 S. Main St., Akron, has plans for a new brick and stone church for the Lutheran Society; cost, about \$10,000.
Macon, Ga.—It is proposed to commence at once the work of remodeling the Federal Building, for which Congress appropriated \$58,000.
Massillon, O.—Yost & Packard, Y. M. C. A. Building, Columbus, are preparing plans for the remodeling of St. John's Evangelical Church. The improvements will cost about \$15,000.
John Shutler will erect a \$30,000 brewery from plans drawn by Architect Richard Griesser, 909 Schiller Building, Chicago, Ill.
Marquette, Mich.—Reports say that J. M. Longyear and J. F. Ayer have donated the site and will erect a dormitory building at the Michigan Normal School, to cost about \$20,000.
Milwaukee, Wis.—John Kern will erect a modern residence on Wahl Ave., after plans by Crane & Barkhausen, architects. It will be 50' x 64', the exterior of the building being dark red terra-cotta, with red stone trimmings and facing of dark brown brick; cost, \$25,000.
H. A. Betts, Colby and Abbott Building, is at work on plans for the building to be built by the Young Women's Christian Association on Jackson St., between Wisconsin and Michigan Sts., to cost about \$50,000.
Minneapolis, Minn.—Harry W. Jones, architect, has plans for a flat building to be erected on Linden Ave., opposite Wilson Park, by the Wisconsin Syndicate Co. It will be 40' x 90', four stories, of pressed brick, cut stone and terra-cotta; cost, \$25,000.
Mobile, Ala.—It is stated that James K. Glennon & Co., real estate agents, are completing arrangements for the erection of a six-story fireproof hotel, to cost approximately \$250,000.
Monessen, Pa.—The Pittsburgh & Lake Erie contemplate erecting a new depot in this city, to cost about \$15,000. J. M. Schoonmaker, general manager, Pittsburgh.
Nashua, N. H.—The Nashua Manufacturing Co. is to build an addition to its plant in the early spring in order to enlarge its cloth department.
Nazareth, Pa.—The Imperial Portland Cement Co. will incorporate with a capital stock of \$300,000 for the erection and operation of a cement mill. Among others interested are William H. Parsons, Francis H. Banks, M. Walter.
Newfields, N. H.—Mrs. Josephine Broadhead, widow of the late Dr. John Broadhead, of Washington, who died recently, bequeathed \$10,000 to the town for a public library.
New Hampton, Ia.—Fred. Heer & Son, of Dubuque, are preparing plans for a \$6,000 brick church for the Lutheran Society.
New Haven, Conn.—Yale is to have a new dormitory to be erected from funds that the University has received from the Fayerweather will. The new dormitory is to be exactly similar to the "White" dormitory, and will extend from Elm St. into the block bounded by Elm, High, Wall and College Sts. Work will begin early in the spring; cost, \$100,000.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

E. W. Maynard, Boston, Mass., is preparing plans for a new theatre to be erected at Savin Rock. The building will be circular in form, about 80 feet in diameter, with stage and ante-rooms, etc., and will be so constructed as to give plenty of light and air.

New Rochelle, N. Y. — Adrian Iselin, Jr., has awarded a contract for the erection of a building here which he intends to lease for a hotel. The new building is to be completed by June 1.

Newton, N. C. — It is stated that the trustees of Catawba College have decided to erect an additional building, to cost about \$10,000.

New York, N. Y. — The Atlantic Mutual Insurance Co. will build a seventeen-story building on a site owned by it at the corner of William and Wall Sts., to cost about \$1,000,000. Work will be begun about May 1st. Clinton & Russell are the architects. The Seawanhaka-Corinthian Yacht Club contemplates erecting a club-house in this city, to cost about \$100,000. Percy Chubb, D. Le Roy Dresser, H. L. Satterlee, committee.

Oconto, Wis. — H. A. Foeller is preparing sketches for the new brick and stone bank building for the Citizen's National Bank. Work will begin about April 1. Cost, \$9,000.

Orange, N. J. — Mr. and Mrs. Joseph W. Stickler will give to Orange Y. M. C. A. \$40,000 for the erection of a new building, provided the association will raise \$25,000. The offer will be accepted and the proposed new building will be known as Stickler Hall, a memorial to the late Dr. J. W. Stickler.

Palmer, Mass. — Gardner, Payne & Gardner, of Springfield, are preparing plans for a \$40,000 three-story brick school-building to be erected here.

Philadelphia, Pa. — St. Bartholomew's Mission will build a two-story brick and stone parish house, 33' x 70', at the southeast corner of 25th St. and Lehigh Ave., after a design by Architects George Nattress & Son; cost, \$6,625.

Pittsburgh, Pa. — Architect J. A. Harper, 16 Cliff St., is preparing plans for a new plant for the Opalite Tile Co.; cost, \$18,000.

Architects Alden & Harlow, 314 Fourth Ave., have completed plans for 2 two-story buff pressed brick residences, to be built in the 20th Ward, for J. H. Elder; cost, \$30,000.

Architect Edwin Carroll, Hamilton Building, is preparing plans for a brick residence to be erected in Squirrel Hill District, to cost \$18,000.

The Pittsburgh Savings Bank will erect a twelve-story bank and office building at the corner of 4th Ave. and Smithfield St., to cost \$500,000.

The Wilson & Snyder Manufacturing Co. will

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

erect an addition to their present plant on Ross St.; cost, about \$30,000.

Reports state that H. M. Bennett & Co. will erect a twelve-story theatre and office building, costing about \$175,000.

Plainfield, N. J. — At a recent meeting of the Common Council the request of the Board of Education to borrow \$100,000 for the erection of a new high school, was granted.

Portland, Ore. — Spore & Robinson will erect the new Doernbecher factory; cost, about \$50,000.

Poughkeepsie, N. Y. — Mrs. Caroline Swift Atwater, an alumna of the class of '77, has doubled her original gift of money to Vassar College for a new infirmary, on account of the rise in price of building material since the gift was made in June.

Pruntytown, W. Va. — The Board of Directors of the West Virginia Reform School have made preliminary arrangements for erecting a three-story brick administration building, to cost about \$40,000.

Riceville, Tenn. — The Osley Stave Co., of Chattanooga, are having plans prepared for a stave factory to be erected here, at a cost of \$5,000.

Rochester, N. H. — C. D. Coleman, of the Hotel Wristley, contemplates building an opera-house on Hanson St., to cost about \$20,000.

Rock Island, Ill. — T. E. Murphy will expend about \$10,000 for improvements and additions to his residence. Plans are now being prepared by Architect Harry W. Jones, Minneapolis, Minn.

Roxbury, Md. — George T. Gambrell, Baltimore, will erect a three-story iron and wood distillery, 40' x 90', for the Roxbury Distilling Co.; cost, \$20,000.

San Francisco, Cal. — Reid Bros. are drawing plans for a fine large business building to be erected in this city for Hale Bros. The structure will be of the Italian Renaissance type, five stories in height, and will be 98' 6" x 170'. The front of the building will be constructed of terra-cotta.

Sault Ste. Marie, Mich. — Charlton, Gilbert & De Mar, Marquette, have prepared plans for a \$75,000 depot to be built by the Duluth South Shore & Atlantic. W. M. Noon, superintendent bridges and buildings, Marquette.

Seattle, Wash. — It is reported that John Cort will expend about \$75,000 in remodeling the Palm Garden Theatre on Cherry St.

Spokane, Wash. — It is reported that V. Dessert will build a three-story addition to the Pacific Hotel. It will be 45' x 115', and cost about \$25,000.

St. Louis, Mo. — Architects Barnett, Haynes & Bar-

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

nett have almost completed plans for the new St. Ann's Widows' Home, Lying-in Hospital and Foundling Asylum to be erected on Union and Page Boulevards. It will be built of brick and Bedford stone, and will be three stories in height. The main building will have 365 feet front, with a centre chapel wing extending in the rear, and wings on the east and west extending back 170 feet; cost, about \$200,000.

St. Paul, Minn. — D. C. Shepard is preparing to rebuild the Griggs, Cooper & Co.'s building, which was recently destroyed by fire; cost, about \$30,000. Wm. Kingsley, architect, is preparing plans for a store and flat to be erected near Seven Corners to face 3d St. It will be 32' x 98', two stories, pressed brick fronts; cost, \$8,000.

Swissvale, Pa. — The Union Switch and Signal Co. will build a new plant here, to cost about \$350,000. The structure will be of brick, stone and steel, two stories in height, and 300 feet wide by 564 feet long.

Syracuse, N. Y. — Press reports state that a \$20,000 convention hall will be built on N. State St., by E. J. Macks.

Terre Haute, Ind. — It is stated that \$35,000 will be expended in making alterations to the Williams Hospital.

Topeka, Kan. — The Moers Ice & Cold Storage Co. will erect a brick and stone building, 100' x 150', which will contain an engine and four boilers; cost, about \$10,000.

Troy, N. C. — The Capelsie Cotton Mills have been incorporated with capital stock of \$40,000 to build a small mill on a water power near here.

Tuscola, Ill. — Wortham Bros. Co. is having plans prepared for a three-story business building, to be built on Main and Central Sts., to cost \$30,000.

Unionhill, N. Y. — R. C. Dixon, 146 Bergenline Ave., has designed a new building for the trustees of the Old People's Home. It will be constructed of brick and stone, and cost about \$10,000.

Uniontown, Pa. — William Kaufman, Lewis Block, Pittsburgh, has prepared plans for a three-story brick and stone office-building for the Fayette County Trust Co.; cost, \$40,000.

Utica, N. Y. — G. Edw. Cooper has prepared plans for a \$50,000 three-story brick school-building to be erected in this city. J. Phil Bannigan, Clerk School Board.

Vernal, Utah. — Plans are being prepared by R. C. Watkins, architect, Provo, for a \$15,000 court-house to be built by Uintah County.

Victor, N. Y. — George F. Hutchison, 1005 Granite Building, Rochester, has prepared plans for a brick and stone town-hall, to cost about \$7,000.

Washington, D. C. — C. L. Harding, architect, is drawing plans for an apartment building to be erected at 1133 Twenty-fourth St., northwest. The building will have a frontage of 52 feet and a depth of 110 feet, and will be four stories in height, with a basement. Gray Roman brick will be the material used in the front, with trimming of Indiana limestone.

Webster, Mass. — John A. Whitaker, of South-bidge, has prepared plans for a woollen mill to be erected on N. Main St., for Eben S. Stevens. The structure will be a two-story heavy frame building, costing about \$30,000. Work will begin immediately.

Wheeling, W. Va. — Architects Giesey & Faris will prepare plans for a new \$30,000 residence for the Right Rev. Bishop Donahue.

Wilmington, Del. — The trustees of the New Castle County workhouse will soon arrange for erecting a new structure, to cost about \$100,000.

Wilmington, N. C. — Reports state that Mr. James Walker has signified his intention of presenting a \$30,000 hospital to the city.

Winnebago City, Minn. — S. J. Bowler, Collum Building, Minneapolis, has prepared plans for an \$8,000 church for the Presbyterian Society.

Worcester, Mass. — Architect Geo. H. Clemence is completing plans for a large manufacturing building adjoining the Howard Bros. Mfg. Co.'s factory on Foundry St. The building will be four stories high, of brick, considerable ironwork will be used, and the estimated cost will be \$35,000.

The contract for the colonial house for G. C. and H. A. Moss at Richmond Heights has been awarded to H. G. Tannebrink, 195 Austin St. The plans were drawn by Architect Louis Plack, Jr., and the cost will be \$5,500.

H. G. Hadley has been given the contract to erect a private residence for Mrs. Sargent at Whitman and Waconah Roads, Montvale. The architects are Barker & Nourse. The house will have all modern improvements and be heated by steam and hot water; cost, about \$7,000.

Dr. E. E. Frost, proprietor of the Lincoln House,

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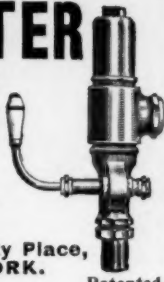
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

is desirous of building a fine hotel on the present hotel site and is confident of raising the requisite money. Plans have already been made by Fuller & Delano, architects, and call for a fine building, which will cost about \$300,000.

Yonkers, N. Y.—Plans are being prepared by A. J. Van Suetendale, 15 N. Broadway, for a pressed brick, stone and terra-cotta theatre to be built here; cost, about \$40,000.

APARTMENT-HOUSES.

Brooklyn, N. Y.—Thirteenth St., n. s. 297' w 8th Ave., four-sty bk. flat, 50' x 87' 8"; \$18,000; o. & b., Thomas L. Clark, 534 Hancock St.; a., F. S. Lowe, 186 Remsen St.

New York, N. Y.—One Hundred and Eighteenth St., seven-sty bk. flat, 50' x 87' 8"; \$75,000; o. Max Vogel, 50 W. 119th St.; a., G. F. Pelham, 503 Fifth Ave.

Stebbins Ave., n. e. cor. 169th St., four-sty bk. flat & store, 46' x 95'; \$35,000; o., Thos. Farley, 960 E. 169th St.; a., H. B. Milliken, 289 Fourth Ave.
One Hundred and Eighteenth St., s. s. 225' e Amsterdam Ave., 2 six-sty bk. & st. flats, 50' x 100'; \$60,000; o., Jas. Brown; a., Henry Anderson, 1180 Broadway.

CHURCHES.

Hobart, Ind.—Bk. & st. church, 40' x 70', shingle roof, furnace; \$10,000; o., Trinity Church; a., Edw. W. Bessler, 820 W. 12th St., Chicago, Ill.

Milwaukee, Wis.—Broadway and Janes St., bk. & terra-cotta church, 60' x 100', slate roof, steam; \$50,000; o., Grace Church; a., H. C. Koch & Co.

FACTORIES.

Milwaukee, Wis.—Belview and Park Pl., two-sty bk., st. & iron power-house, 38' x 100', comp. roof; \$12,000; o., Christensen Engineering Co.; a., O. C. Uehling.

EDUCATIONAL.

Closter, N. J.—High and White Sts., bk. & st. school; \$10,000; o., Board of Education; a., Vaux & Emery, Bible House, New York City.

HOTELS.

Brooklyn, N. Y.—Surf Ave., s. e. cor. W. 16th St., two-sty fr. hotel, 30' x 61' 6"; \$6,000; o., Dennis Sullivan and Patrick Shay, 241 Bowery, New York; a., T. Bennett, 198 Fifty-third St.; b., D. Ryan, 723 Third Ave.

Rockaway Park, L. I., N. Y.—Three-sty fr. hotel, 57' x 190'; \$75,000; o., Austin Corbin Estate; a., Irving B. Ellis, Arbuckle Building, Brooklyn.

HOTELS.

Atlantic City, N. J.—Six-sty bk. & fr. hotel, 40' x 90', shingle roof, steam heat; \$28,000; a., Benj. H. Barton, Girard Building, Philadelphia, Pa.

OFFICE-BUILDINGS.

Philadelphia, Pa.—Broad and Sansom Sts., eight-sty granite, bk., terra-cotta, and steel office-building, 76' 4" x 104'; \$500,000; o., T. B. Wanamaker; b., Doyle & Doak; a., James H. Windrim.

PUBLIC BUILDINGS.

Bellaire, O.—Three-sty st. & bk. city-hall, slate roof, steam; \$40,000; o., City of Bellaire; a., Gleason & Faris, Wheeling, W. Va.

Fort Dodge, Ia.—Four-sty st. court-house, 120' x 130', comp. roof, steam; \$100,000; o., Webster County; a., H. C. Koch & Sons, Pabst Building, Milwaukee, Wis.

Minnewaukan, N. D.—Two-sty & base, bk. & st. court-house, 60' x 88', shingle roof, steam; o., Benson County; a., W. S. Russell, Grand Forks, N. D.

HOUSES.

Elmhurst, L. I., N. Y.—Two-sty fr. dwell., 38' x 41'; \$8,000; o., Cord Meyer, 62 William St.; a., B. Driesler, 1432 Flatbush Ave., Brooklyn.

BUILDING INTELLIGENCE.

(Houses Continued.)

Highland Park, Mich.—Two-sty st. & fr. dwell., 34' x 49', shingle roof, hot water; \$5,000; o., W. H. Ashwell, Bennett Building, Detroit, Mich.; a., S. C. Falkinburg, Hammond Bldg., Detroit, Mich.

Indianapolis, Ind.—N. Delaware St., two-sty bk. & fr. dwell., 35' x 71'; \$5,000; o., Mary Knight; a., Homer V. Place.

New York, N. Y.—Tinton Ave., nr. 168th St., 5 two-sty & base, bk. dwells., 19' 6" x 53' 8"; \$50,000; o., G. W. Flagg, 2634 Decatur Ave.

Crane Pl. nr. Grev St. or 175th St., 2½-sty fr. dwell., 21' x 61' 6"; \$5,000; Andrew J. Carson, 105 W. 124th St.; a., Fred'k Jaeger, 717 Tremont Ave.

E. Eighty-second St., No. 107, two & three-sty bk. dwell. & stable, 25' x 102' 2"; \$10,000; o., Harris D. Colt, 77 E. 55th St.; a., S. E. Gage, 3 Union Sq.

Plainfield, N. J.—2½-sty fr. partly shingled dwell., 30' x 43'; \$5,000; o., F. H. Coward; a., Jacob Wind, Jr., 141 Broadway, New York City.

Somerville, N. J.—2½-sty fr. dwell., 40' x 40'; \$5,000; o., Redden W. Farramore, 401 W. 124th St.

Vincennes, Ind.—Three-sty Bedford st. dwell., 45' x 60', slate roof, hot water; \$8,000; o., Dr. W. T. Van Knappe; a., Thomas Campbell.

THEATRES AND HALLS.

Kenosha, Wis.—Three-sty bk. & st. Y. M. C. A. Building, 33' x 64' x 100', comp. roof, steam; \$25,000; o., Young Men's Christian Association; a., C. Leenhauts, Milwaukee, Wis.

New York, N. Y.—W. Forty-second St., Nos. 207-211, three-sty bk. & st. theatre, 69' x 100' 4"; \$200,000; o., Oscar Hammerstein, 42d St. & 7th Ave.; a., A. E. Westover, 307 W. 33d St.

COMPETITIONS.

SCHOOL-HOUSE.

[At New Haven, Conn.]

Plans and specifications will be received until February 23, for a school at Canner and Livingston Sts.; cost, \$45,000. BOARD OF EDUCATION. 1260

PROPOSALS.

COURT-HOUSE.

[At Mason City, Ia.]

Sealed proposals will be received until February 24, for the erection and completion of a court-house for Cerro Gordo County. J. J. LONG, auditor. 1261

CLUB-HOUSE.

[At Mobile, Ala.]

Bids will be received until March 1, for erecting the Fidelia Club House. HENRY HANAW, chmn. bldg. com. 1261

CITY-HALL.

[At Winchester, Va.]

Sealed proposals will be received by the Building Committee of the Rouse City-hall until March 1, for the erection of a city-hall. J. E. MORELL, secretary. 1262

CHURCH.

[At Tolva, Ia.]

Sealed proposals are wanted until March 1, for the erection of an edifice for the M. E. Church. F. S. TORY, pastor. 1262

HIGH SCHOOL.

[At Macon, Miss.]

Bids will be received March 6, for the erection of a high school. MAYOR AND BOARD OF ALDERMEN. 1262

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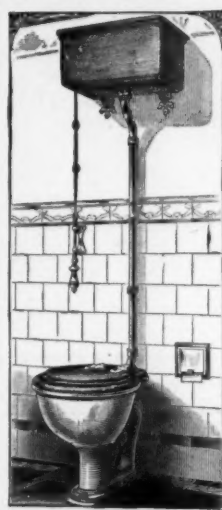
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PROPOSALS.

PRISON.

[At Wilmington, Del.]

Bids will be received by the Trustees of New Castle County Workhouse until March 6, for a prison with workhouse and appurtenances, also a power-house and underground passageway at Greenbank. J. N. GAWTHROP, pres. 1262

FACTORY.

[At Kosciusko, Miss.]

Sealed proposals will be received until February 28, for the erection of a cotton-factory with warehouses and tenement-houses. WALTER BURGESS, Secretary. 1261

JAIL.

[At Aberdeen, S. D.]

Bids are wanted March 9, for the county jail and sheriff's residence for Brown County; separate bids will be received for cells and iron work. CHAS. EYGBROOD, Co. Aud. 1262

CHURCH.

[At Wawaka, Ind.]

Sealed bids will be received until April 2, for an edifice for the Bapt't Church. SIDNEY J. OSGOOD, Grand Espsds, Mich. 1262

Treasury Department, Office Supervising Architect, Washington, D. C., February 24, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 5th day of March, 1900, and then opened, for the installation of a wiring system for the U. S. Custom-house and Post-office Building at Bristol, Tenn., in accordance with the drawings and specification, copies of which may be obtained at this office or at the office of the Superintendent of Construction at Bristol, Tenn., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1261



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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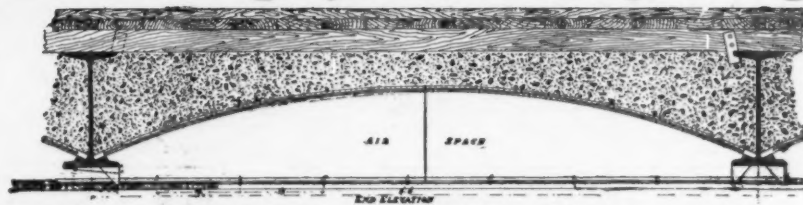
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