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TOO late in the season to allow us to perfect our plans and make announcement earlier, we determined to make a change in the manner and method of publishing our International edition, and we now give notice that the change impends and will have effect in the second quarter of the year. The change consists simply in gathering the extra illustrations which constitute the International edition into four quarterly issues in place of their being, as now, scattered through thirteen weekly issues. The result will be that the subscriber to the International edition will receive each week a copy of the Regular edition and with each quarter a quarterly volume in which will be collected the gelatine and other International plates. That is, a subscriber will receive exactly what he now receives, but it will reach him in what, we believe, will be a more acceptable and agreeable form. Amongst other advantages incident to this condensation of matter is the fact that it will enable us to publish in the same issue all the plates in illustration of a given building, instead of being forced to let them dribble out, a few at a time, in four or five different weekly issues, as in the past. — *From our issue for Jan. 4.*

THE Commission for beautifying the city of Washington, among the other suggestions which it makes, provides in its plan a suitable place for a large hall, which can be used for exhibitions of various kinds, as well as for the inaugural ball, which occurs every four years, and for other State festivities. The need of something of the kind has really become pressing. State balls or receptions are not infrequent in Washington, and would be more common if there were a place to hold them in, but, unless, as sometimes happens, a temporary shed is built for them, or a tent set up, it is necessary to find room for them in the Pension Office, or some other structure which, to say the least, was never intended for such a purpose, while the preparations for the entertainment interfere very seriously with the work of the branch of the public service whose hospitality is called upon. Some twenty years ago, a ball was to be given in honor of an important assemblage of military men with their families in Washington, and, as nothing better offered, a huge tent was set up for it. The night before the ball the tent was blown down by a furious snow-storm, and the Government, with the never-failing courtesy which is characteristic of Washington, lent the Capitol to the distracted managers of the entertainment. It cannot be said that the sandstone pavement of the Rotunda was particularly favorable to dancing; and, although very few balls have been held in a more dignified room, it would be possible, without great expense, to build a structure large enough to hold the company of an inauguration ball, and, at the same time, beau-

tiful and comfortable, which would be useful in many ways, as for example, for exhibitions of flowers and pictures, patriotic fairs, receptions to distinguished people, and so on. Senator McMillan has already introduced a bill for the erection by the Government of such a structure, and, although there is little probability that Congress will pass the bill, the matter has excited so much interest that a meeting is to be held in Washington on the fifteenth of February to see whether a private corporation cannot be formed to build and maintain a structure of the kind, asking the Government only for the concession of a site on public ground. In view of the many public or semi-public uses to which the building would be put, it is probable that Congress will readily grant this, and it is much to be hoped that the undertaking may be carried out.

A CASE of importance to architects came up recently in the Supreme Court of Indiana. An architect contracted with a public Board of Commissioners to furnish plans and specifications for a certain building, and superintend its erection, for a certain percentage on the cost of the completed building. It was stipulated in his contract that the building should not cost more than a certain sum, and that he should make necessary changes in the plans and specifications without additional expense; and the contract also provided, presumably by implication only, that the architect should pay all loss or damage due to his own mistakes in preparing plans, specifications or contracts, or in superintending the erection of the building. After the original plans and specifications were made, the Commissioners directed changes to be made, which greatly increased the cost of the building, and the architect superintended its execution at the increased cost. The question before the Court, which was decided unfavorably to the architect by the court below, was whether, under his contract, the architect was entitled to a percentage on the extra cost of the building over the sum originally stipulated. The Supreme Court reversed the decision of the lower court, and held that the architect was, under the circumstances, entitled to his percentage on the entire cost of the building as finally completed. The attorneys for the Commissioners thought that it strengthened their case to claim that the contract with the architect was illegal, under a statute forbidding "commission or percentage contracts with State or county officers"; but the Supreme Court held that the case in question was not within that statute.

THE New York builders, with good reason, are endeavoring to prevent the adoption by the Assembly of a bill to tax mortgages, on the ground that, as they are obliged to carry on their business with money mostly borrowed on mortgage, the tax would add greatly to their burdens. The people who vote for laws taxing mortgages often have a vague idea that they are in this way getting money out of the "money-lenders," or the "Shylocks," or whatever else they choose to call them; but, in practice, all mortgages on real-estate contain a clause by which the borrower agrees to pay all the taxes which may be imposed, either on the estate or on the mortgage, and, as no legislation can, under the Constitution, set aside an agreement of this kind, the taxation of the mortgage, independent of its abstract justice, simply increases the burden of the borrower. In the case of builders, who often carry a burden of from fifty to a hundred thousand dollars of mortgage-loans on a capital of a thousand dollars, a tax on the mortgages, which they would have to pay, would soon ruin them. Supposing the mortgages to bear the usual rate of taxation of personal property, which would be, in New York, about two per cent, the additional burden which would be imposed on them every year would be, in many cases, more than their entire capital, and more than the income which they could reasonably hope to derive from their business for the support of their families. In practice, the matter would be worse than this, for, as most builders would be absolutely unable to pay such a tax on their usual amount of borrowed capital, they would soon be overwhelmed with foreclosures, and ruined; while such as held out or passed through bankruptcy would find their operations limited to very meagre proportions by the smallness of the loans on which they could pay interest.

A CURIOUS and important case has just been decided by the New York Court of Appeals. Some twelve years ago, a block of three apartment-houses was built on three contiguous twenty-five-foot lots in New York by the owner of the three lots, who made the walls between his houses party-walls. Not long ago, one Schaefer contracted to buy one of the lots with the house standing on it. After he had agreed to buy, he learned that the party-wall, for a distance of twenty-seven feet, was entirely on the adjoining lot. He sued the person from whom he had agreed to buy for damages, on the ground that he had not a complete house on the lot in question, since the support of a portion of the beams was on neighboring property. This view was confirmed by the Supreme Court, but the Court of Appeals held a different opinion, saying that the original owner of the three lots, by resting the beams of one of the houses on what was supposed to be a party-wall, but which was really on the adjoining lot, created thereby a servitude on the latter lot, so that Schaefer was entitled to rest his beams on the wall in question, as long as it should stand; and, as his house was so much wider in consequence, he was benefited, rather than injured, by the mistake.

THE establishment of a Germanic Museum at Harvard College comes at a very appropriate time. Large as the German population of the United States is, Americans in general know almost nothing of German literature and much less of German art. Even German industry is just beginning to make its way here, and, while many of our merchants and manufacturers have now their regular connections in Berlin, or Elberfeld, or Hamburg, they do not say much about them, and the average citizen, who is occasionally surprised to see a German mark on the stockings, or scissors, or pen-knives that he buys for his family, as being of the best quality obtainable, would be still more surprised to hear that German manufactures are to be found everywhere; that a large proportion of the richest mines, the most important railroads, and the finest steamships in the world belong to Germans, and that the larger manufacturing cities of Germany have, within the past twenty years, surpassed in rapidity of growth anything known, even in this country, outside of a mining camp. This rapid development of Germany has unquestionably been of great benefit to civilization. Independent of the traditions of sober probity which still rule in German business affairs, the intelligence of the Germans in making practical use of the scientific reasoning in which they excel all others has been of incalculable advantage to the world, and there is hardly a household in Europe or America which does not enjoy some comfort which, except for the Germans, would have been beyond its reach.

IT is probable that the industrial capacity of the Germans will through the force of circumstances soon become more familiar to us, but there is a whole world of German sentiment and feeling which, if it were better known, would appeal particularly to Americans. Unfortunately, perhaps, true sentiment does not put itself forward like the commercial spirit, and the friends of German art, by the forms of which German feeling is expressed, must make some effort to bring it to the attention of their kinsmen on this side of the ocean. For such an effort the new Germanic Museum offers an opportunity which will, we hope, not be neglected. It is reported that the Emperor of Germany, who is a sincere admirer of the American character, and earnestly desires a better understanding between the two nations, has interested himself in making a collection of casts and other examples of German art to be presented to the Museum. This would be a very pretty compliment, not only to the Museum and the University, but to the American people; but even if the report should prove to be without foundation, it would still be possible to get together, in the building which the University has set apart for the use of the Museum, a very interesting assortment of objects, illustrating, not only German art and history in general, but their variations, Prussian, Rhenish, Saxon and Bavarian, from Charlemagne down to our own time.

THE poor consumers, who meekly look on while Trust magnates are fighting among themselves, and wonder whether the fray will end in any relaxation of the iron grip of the magnates on prices, will find interest just now in the movements in the glass manufacture. It will be remembered that, not long ago, the American Window Glass Company executed a masterly stroke of policy in making an agreement with the glass-blowers'

union, by which the members of the latter, in consideration, it is said, of a large number of shares of the Glass Company's stock, together with other valuable considerations, agreed to work only for the Trust, the latter agreeing on its side to employ only members of the union. As the union comprises only about two-thirds enough men to operate the window-glass factories in the United States, and, practically, refuses to admit any new members, the combination between the monopoly of employers and the monopoly of labor was looked upon for a time as invincible. It appears, however, that a cloud has come over this delightful scene. A window-glass manufactory is not a very costly affair, and from time to time, small parties of glass-blowers, dissatisfied with union methods, have raised a little capital, and entered upon manufacturing for themselves. These small concerns have not until lately been important enough to interfere with the monopoly of the Trust, and, taking advantage of the high prices established by the latter, they have prospered. Now, the aggregate production of all the factories, including those of the Trust and the independent concerns, is greater than the consumption, and it has become a serious question which party shall curtail its operations. Immediately after the alliance between the American Company and the union, the independent concerns found it so difficult to get men that it was reported that all of them were closed, but this state of affairs lasted only a short time, and matters are now as bad as ever. Each party is suspected of designing to make a sudden and great reduction in prices, in order to secure heavy contracts for the next season; but each party evidently fears difficulty in getting men to carry out such contracts as it may secure. The union, apparently foreseeing defections from its ranks in case of the inability of the Trust, which protects it, to control the business, has voted to admit "apprentices," to the amount of ten per cent of its total membership. The object of this proceeding seems to be to make sure of supplying the Trust with the men that it may need, at the same time that the regular union manœuvres are carried on to prevent the outside concerns from getting men. Whether it will succeed remains to be seen; but, meanwhile, it may be observed that no Trust, or combination, or monopoly can long keep up prices of goods which are being manufactured at a rate fifty per cent greater than the consumption. If production can be checked until it equals the demand, prices can be maintained; but, in order to check production, some one must go out of business, and nobody is likely to do that so long as profits are large. The earlier Trusts kept down production by paying the proprietors of competing manufactories to let their establishments lie idle, but this is out of the question in the window-glass manufacture, and the chances seem to be that the contest will, for a time, at least, take the form of a radical cutting of prices.

THE importers of antiquities are having a hard time just now, under the new Custom-house regulation, by which the price actually paid for articles imported from abroad is not regarded in the collection of duties if the examiners in this country think that they were bought too cheap. Boston is, probably, the best market in the world for the sale of miscellaneous bric-à-brac, and two dealers have recently had their importations confiscated for undervaluation, the appraiser, in one case, valuing at two thousand dollars each certain tapestries, smaller, and probably, not very much better, than pieces which have sold for twenty-five dollars or less. Under the Custom-house regulations, if the examiner in this country thinks that imported articles are worth over fifty per cent more than the declared invoice cost, they are absolutely confiscated, and the owner can only obtain them by buying them of the Custom-house at the appraiser's price, in addition to what he may have paid for them originally, or by waiting until the confiscated goods are sold at auction for Government account, and bidding on them. It is hardly necessary to say that, if our Custom-house inspectors were not men of perfect integrity, it would be easy for them to appropriate anything in a tourist's or importer's trunks to which they might take a fancy, by the simple process of rating the value fifty per cent higher than the cost, seizing it, sending it to the Government warehouse, and, at the auction sale, quietly having it bid in by a confederate. In the case of the tapestries, for example, it is incredible that two thousand dollars each should ever be bid for articles of the kind, in connection with the old boots, damaged hides, broken crockery and other staples of Custom-house auctions, and an understanding among the officials might easily throw all the bargains into their hands.

THE RECENT EXCAVATIONS NEAR POMPEII.

NEAR Pompeii, just now, they are exhuming invaluable relics which belong, probably, to some faubourg of that lovable, but unfortunate, town. These excavations are being made about a kilometre from the walls and at 200 metres from the mouth of the Sarno. After removing a layer of half-sedimentary and half-volcanic deposit, they have come upon an old portico, with the remains of travellers and visitors who had sought refuge there.

In accordance with some of the indications, and, perhaps, after a last effort of imagination, some have asserted that it must be granted that there were recognized amongst the bodies discovered the *familia* of Pliny the Elder, Pliny himself being present in the guise of one of the bodies most richly clothed and evidently that of the most important personage. But this is, doubtless, only a very audacious hypothesis put forth by a fertile poetic imagination impressed by certain historic reminiscences. It is far more prudent to feel that we are in the presence of the relics of a band of fugitive Pompeians whom the cataclysm overwhelmed at the place where the excavation brings them to light.

It is almost beyond doubt that the body of the great naturalist of antiquity was neither abandoned nor forgotten in the disaster. They found it the next day, when the incandescent showers had ceased, when the black clouds of mephitic vapor no longer rolled over the shores of Campania, and, in the celebrated letter which Pliny the Younger addresses to Tacitus, he says that they found "*corpus integrum, intesum, opertum ut fuerat indutus*," and expresses himself in terms which prove that his uncle was not buried in a shroud of lava, as were so great a number of his compatriots. He supposed, even, that he died of asphyxiation, since his body showed no sign of agony, but was calm and serene, without any contractions of suffering or tragic agony, and was still, according to his nephew, "*habitus corporis quiescenti quam defuncto similior*."

However this may be, it will not be easy to determine the condition and the names of the unfortunates overwhelmed between the Sarno, a little stream of Campania, and the sea, burned by the incandescent mud of Vesuvius, blinded by ashes and exhausted by heat, at the very moment when they were about to secure their safety through embarking on a galley which would have transported them into the open sea. But one can reconstruct the scene of their agony: without difficulty, one calls up the torments and the horror of their last hour, between the land transformed into a lake of hot mud and lava, the air changed into a burning furnace, and the sea lashed into a whirlpool which refused to receive them.

There are seventy of these bodies lying under the massive arcades of the portico, upon the line of the road from Pompeii to Stabia; they are the relics of all classes of unfortunates — men and women, old and young, rich and poor, laborers with calloused hands, and rich epicureans. Some are covered with gold; there is one of them, amongst others, which is distinguished by its rich jewels and amulets, and which must be that of the most important personage, the chief one of the group. Near by his pelvis, which time has deprived of its covering, a girdle was found, and a sword with coquille hilt, which leads one to think that its wearer was a seaman. It remains for the learned amongst us to say whether we are in the presence of the ashes of the edile of some maritime village, of the captain of a galley, or of an admiral. This last hypothesis is that which is preferred by those fertile spirits who rush too speedily to a conclusion, and who have asserted that this is the corpse of Pliny the Elder.

But Pliny, let us repeat, has not lain eighteen centuries under the ruins of Pompeii; when he was found — and this supposition is as easy as it is natural — his relatives and his fellow-citizens, aghast, could not be deprived of the pleasure of erecting to him a mausoleum worthy of his deserts. So, if one must expect everything else from the lavas of Pompeii, so fertile in historic and artistic treasures, one must search elsewhere for the ashes of the grand Roman naturalist.

The wealthy personage whom I have just mentioned, whether edile or admiral, the one whom some suspect to be Pliny, and of whom, perhaps, some day we shall know the real history and the name, does not seem to have belonged to the Pompeian colony. Everything leads to the belief that he was some functionary travelling about his duty or about his pleasure. I need no better proof of this than the composition of the little court which accompanied him and the nature of the baggage which followed him. What likelihood is there that an inhabitant of Pompeii, on the approach of that unheard-of catastrophe, when the flames were darting from Vesuvius like a condemnation for the town built about its feet, would have taken the time to gather together his terror-stricken slaves, and brought together the baggage necessary for a journey? Terror causes one to forget the rules of social life, the little precautions, and effaces all hierarchic differences. This is so simple and true that it seems almost puerile to state it.

Now, here the unknown who interests us met his death surrounded by his court, by his entire *familia*. A few paces from him fell his domestics, at the proper distance required by respect; the death which overwhelmed him laid low at the same time the slave who bore his toilet-service — a precious collection of silverware, finely engraved; the slave physician, near whose skeleton lies his medicine-case, filled with surgical instruments of very careful workmanship, and all the other servants; the one who walked at the head of the procession, lighting the way with his lantern, in the plain obscured by the burning cinders of Vesuvius, a veritable Colossus who measured six feet in height, fell without letting his lantern from

his grasp; and farther on were men of herculean proportions, the litter-bearers who must have abandoned their master on his reaching the portico; they have discovered the remains of this litter, without any human relics near it, without an indication which allows one to imagine that its master perished in it; the wood of the vehicle was destroyed, of course, but all the metal ornaments, skilfully wrought, remain intact — amongst others, a fine head of Victory surmounted by an eagle which must have crowned the canopy.

The long portico of the Sarno, supported by robust columns of masonry and brick pilasters, covered with white stucco with red bases, is one of those constructions, so numerous along the course of the old Roman highways, where the voyagers rested during the heat of the day, and where their horses found vast drinking-troughs. Behind the portico rises a mass of structures, a series of sixteen *tabernæ*, or shops, the seventh of which is distinguished by its panels separated by violet-colored pilasters and ornamented with yellow framework around paintings representing bacchic scenes; upon the walls at the back is painted, under the figure of the household god, the goddess of the River Sarno. This shop, then, was a wine-shop; the marble table which is found near the door takes the place of our bar-counter, over which are served drinks. By the door of this wine-shop were found twenty human skeletons, amongst which was one of an infant, and some objects which these fugitives were carrying away: a golden collar, an aureus of Domitian's date, ear-rings, bracelets in the form of a serpent, with eyes of emerald, golden rings, vases, silverware, silver and bronze coins, and so on. In another group were more jewellery and other objects of art: small mounted emeralds, a bracelet finished with a lion's head, a small bust of Sileus, another, in bronze, of Minerva, and a statue of Mercury. It would take too long to enumerate all the little marvels of jewellery which are still being brought up from these excavations on the Sarno. I will content myself with mentioning certain objects, such as a box, divided into several compartments, still containing the remains of color, a pair of scales, more than a hundred fish-hooks and lead sinkers for the fishermen's seines, amphoras of terra-cotta, some of which were painted and enriched with inscriptions, one of them bearing about the neck an inscription which boasts the quality of the wine contained within, the facts concerning its origin, and the name of the vine-grower who produced it on the slopes of Vesuvius and who was sending it to his friends in the city; another amphora still contains the remains of pickled fish, which indicates that the wine-shop was not only used as a drinking-place, but that there were also sold there the coarser foods, at low cost, for the workmen and small tradespeople of the neighborhood.

The money found also has its importance. Although a great many of the pieces have been eaten and deformed by chemical and atmospheric action, and have become in consequence unrecognizable, it has been possible to classify a large number, which fact does not lack a distinct value. In the first place, there are forty-five gold pieces of the times of the following emperors: Augustus, Tiberius, Caligula, Claudius, Nero, Vespasian, Titus and Domitian. Seven hundred and ninety-five are in silver and belong to the times of the Republic and these same emperors, while there are thirteen hundred and twenty-two bronze pieces, all except one dating from imperial times.

From all these indications and from other numberless little details, which would be tedious to enumerate, but especially from the presence in this place of certain articles, — the fish-hooks, for instance, and the instruments used in the making of nets, leaden weights for nets, the anchors and bronze naval ornaments, — it has been inferred that the ruins which are now being brought to light are those of a maritime suburb of Pompeii. Their position gives yet more weight to this hypothesis, for, as we have said, these ruins are at about a thousand metres' distance to the south from Pompeii, and two hundred from the mouth of the Sarno, which formed a little natural harbor. Nothing is more likely than that at this spot on the road from Stabia should have been built the portico in question and the poor habitations of the fishermen and sailors built up against it. So there should have been found here only a few bodies, a few simple amphoras of terra-cotta, a few jewels, if the population of this maritime suburb of Pompeii had alone found their death at this place. But from the city, from the villas of the neighborhood, some fresh from an orgie, with their heads still crowned with roses, others leaving their work or breaking short off in their journey, numberless groups hurried towards this little port in the hope of embarking there and entrusting their lives to the waves; but the absence of boats, and especially the condition of the sea, denied them this last chance of safety, and all found the same frightful death under the arcades of the portico.

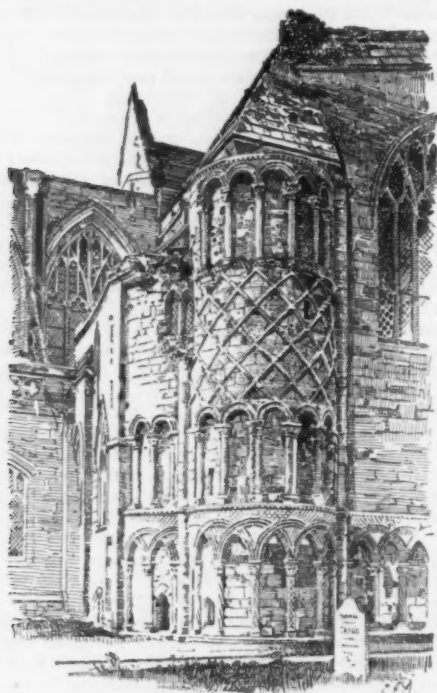
No corpse of Pliny, then, is here, but merely that of some patrician, some dignitary who was passing along the road from Stabia, and had reached the spot where this road crossed this fishing-village, a fact which does not prevent these excavations on the Sarno from being of very great importance, for they will serve to define more closely the physiognomy of the city celebrated for its unique misfortune and clear up certain obscure points in the customs of Pompeian life in the year 79, which we have known only imperfectly up to the present time. So these investigations are being prosecuted with much activity, in spite of the difficulties which are due to the infiltration of water from the Sarno.

H. MEREU.

DOMESTIC ARCHITECTURE IN ENGLAND DURING
THE MIDDLE AGES.¹—IV.

THIRTEENTH CENTURY.

THIS period of architecture is known as the Early English, or "First Pointed," and in English history extends through the reigns of Richard I, John, Henry III and Edward I (1189-1272). These were troublous times in England: the Crusades to the Holy



Christ Church, Hants.

Land under Richard Cœur de Lion; John disputing the authority of the Pope in matters ecclesiastical, ending, however, by his becoming the Pope's vassal and paying tribute; internecine warfare between the King and the Barons, and the wresting by the latter of "Magna Charta," held sacred to this day as the foundation of English liberties.

In Henry's time the first great council of the realm was summoned by Simon de Montfort, an assembly of the "King's tenants," attended also by the Barons and clergy (those, at any rate, who were favorable to the Earl), and this became the first step in the formation of a parliament.

Settlements of students under independent masters not attached to any ecclesiastical foundation were formed at Oxford during the twelfth century, and colleges within the universities were incorporated and endowed, showing the progress in learning during the time under consideration.

These, too, were the times of Robin Hood and Friar Tuck, as told by Sir Walter Scott in "*Ivanhoe*"; of Fair Rosamond and of Thomas à Becket.

The latter part of Edward's reign (1272-1307) is more properly classed with the next, or Edwardian, period.

Towards the close of the twelfth century a remarkable change set in: the arch, that had throughout all past ages and centuries been semicircular, became pointed, an acute junction of two segments of a semicircle; a change so fundamental, so conspicuous, that it entirely diverted the normal method of building and opened up hitherto undreamed of possibilities.

How the pointed arch arose and became an essential element in the architecture of the period is lost in the mists of ages; the interlacing of two circular arches in superficial decorative arcades was not uncommon, as, for instance, Christ Church, Hants, and Castle Acre Priory, which are late Norman; the Crusaders, too, would in all probability have met with the same features in their wanderings in Sicily and France. Flying-buttresses, which spanned the aisles of the Norman churches, were segments of circles butting against the vertical walls of the nave, and demonstrated the stability of one segment.

If we can conceive the necessity arising from hurriedly adapting the centres over which a series of wide semicircular arches had been turned (as in the case of reducing an opening in rebuilding), it is clear that any such reduction would be made by cutting out the centre portion, and bringing together the two segments to fit the opening. We should thus have a pointed arch formed by two similar segments butting at the apex, and, curiously, as lending evidence in support of this contention, we actually find in numerous cases two such segments butted together at the apex, and not built with a key-stone, as before. Pugin, the great apostle of Gothic

architecture, was so impressed with this not uncommon construction that he maintained that it was the true Gothic principle: that the Gothic, or pointed, arch was a keyless arch.

When we note that every salient feature was clearly traceable to a defined necessity, and that it was the simplest solution of the case, it is not unreasonable to suppose that the first pointed arch was the outcome of some defined necessity, and that when first seen it was so transparently perfect and beautiful, and opened up such vast possibilities, that it spread abroad, and was adopted by the monastic architects throughout the length and breadth of Southern and Western Europe.

It is possible that among extant examples of the pointed arch the earliest may be found in the Isle-de-France, at Paris, but, with the great intercourse among nations due to the Crusades, each country, no doubt, subscribed its quota of advance. These were progressive times!

The facility of the pointed arch was, however, seized on with avidity; the soundness of its construction, when once seen and appreciated, led the builders of Western Europe to dare to span spaces not before attempted, and to raise their vaults to greater and still greater heights, as we see at Westminster Abbey, 120 feet, and later on, at Beauvais, 147 feet to the underside of the groining. It led up to forms of lofty grandeur soaring skywards, culminating in the spire of Salisbury Cathedral carrying the cross 400 feet above the great plain from which it so grandly rises.

We may broadly note, therefore, that, prior to the last quarter of the twelfth century, all arches without exception were semicircular, and that during the last decade most of the arches were pointed, and that after the commencement of the thirteenth century till near the close of the sixteenth century semicircular arches are never found in work executed during that period.

The juxtaposition and mingling of styles so frequently noticed is due to rebuilding, enlargements, or alterations at subsequent dates which the architecture and detail clearly define. The fundamental principle is that, during any one period, the people, by common consent, spoke, dressed, and built alike. The fashion was all-pervading, and the style in building is the ear-mark of the period. The buildings remaining to us are the history and the romance of by-gone days written in stone, and, when correctly understood, are a study of surpassing interest. They are essentially anecdotal, and remain scattered over the country as feathers dropped from the wings of Time.

The monastic buildings were always in the van of progress, and in them every feature is found more conspicuously developed. We notice, as compared with the work of the twelfth and thirteenth centuries, that the general proportions are more slender and more lofty: the arches are pointed instead of semi-circular, and with a different type of moulding; the chevron decoration has disappeared, and deeply channelled mouldings have taken its place. The piers are composed of clustered shafts as compared with the huge circular shaft of the preceding styles, the external shafts are often detached, and sometimes executed in local marbles, horizontal bands or zones appear on the shafts, the bases have deep hollows between bold, rounded mouldings. The capitals also are totally different, the former cushion type with the square abacus and the angles of the bell rounded off to the circular shaft has been replaced by a well-developed moulded abacus, and the bells of the caps are decorated with freely undercut conventional foliage, springing from the neck and clustering under the abacus, showing a total departure from precedent.

A good deal of rude sculpture is found decorating large doorways, conventional in character, often grotesque, but vigorous, and well adapted to its purpose as decorative enrichment.

The windows are not only pointed, as single lancets, but increase in width and become divided into two or more lights by mullions, which gradually decrease in thickness, the centre light in triplets being the highest. These three lights gradually become enclosed within one external arch, the centre one being the highest, or the head is filled-in with a single stone pierced with foliated openings. This is called "plate tracery," which towards the close of the century gave way to "bar-tracery," which in section is similar to the mullion, but constructed with small stones with joints radiating from the various centres, usually dowelled together, evidencing a great advance in scientific masonry.

The doorways are deeply recessed, enriched in the jambs with slender detached shafts of local marbles and decorated with carving; the arched mouldings are deeply undercut, decorated with the peculiar dog-tooth ornament and the conventional foliage characteristic of the period, entirely replacing the "chevron" and "boulé" ornamentation of the past period.

Surface decoration with the diaper replaces the scale decoration of the Normans.

Pointed vaulting with diagonal ribs replaces the barrel vault of the thirteenth century.

Roofs become high pitched, replacing the flat roofs of the Normans as they cease to be required for defensive warfare.

There is a peculiar cosmopolitanism about the Church of Rome: its official language is Latin; it is a language that is understood and used by all the representatives of the Church, regardless of nationalities, throughout the world; a common or universal language of intercommunication in precisely similar manner as Hebrew is common to Jews throughout all the nationalities of the world. It was this cosmopolitanism, this facility for intercommunication, that spread knowledge, science and the arts simultaneously over the face of Southern and

¹ Continued from No. 1328, page 78.

Western Europe; that accounts for the marked uniformity in style of architecture found in all these countries at any one period. As the pronunciation of the Latin tongue varies slightly in different countries, so the architectural expression varies slightly under the influence of climate and the national peculiarities in different countries; but the broad principle is common to all. The advent of the pointed arch marks a contemporaneous epoch throughout Christendom. The Early English is coeval with the "first pointed," or "ogivale primitive," of France.

This period is distinguished not only by the rapid rise of the middle classes, evidenced especially by the assembling of the Commons House of Parliament and the consolidation of public laws, but also by the culmination of the ecclesiastical power in England, which gave so great an impetus to monastic building. This period produced many notable works of ecclesiastic architecture, as for instance, the Abbeys of Dryburg, Netley, Rivaulx, Fountains, Whitby and others, and is also seen in the domestic buildings of the landed proprietors and of those of the mercantile class. The improvements in domestic buildings took place, not so much in the modification of plan or principle as in the general amplification of detail, providing more for the advance in personal and social refinement. All alike proceeded along the path of incessant progress.

privacy; the great log fire was in the midst of the hall, with portable braziers for use in other places; kitchens had the open fire; glass windows were mainly confined to ecclesiastical buildings, framed blinds of cloth or canvas dipped in oil, called fenestrals, being commonly used; furniture was the rough production of the estate carpenter and mostly fixed in its place, and, as Professor Kerr remarks, "spoons and fingers had to serve for forks, and whether between linen sheets in the private chamber of the Baron or under a blanket in the common hall, the sleeper slept without the luxury of a night-dress."

Among the "remains" of this century, Parker gives Temple Farm and Godmersham, Strood, Kent; Aydon Castle, Northumberland; Little Wenham Hall, Suffolk; Charney Bassett, and the old Manor-House, Sutton Courtney, Berkshire; Ryball, Rutland; Somerton Castle, Lincolnshire; Stanford and Woodcroft, North Hants; the Prebendal House, Thame; Chipping Norton and Collingsford, Oxfordshire; Gooderich Castle, Herefordshire, etc. The Tower of London was considerably rebuilt by Henry III, and the castles of Manorbere, Kenilworth, Windsor, Raglan, Bodiam and many others were more or less rebuilt, and many scattered manor-houses and granges have portions dating from this century and of clearly marked Early English character.



Christ Church, Hants.

The races had intermarried, and the policy of the Crown was to check the power of the Barons by direct appointment or creation wherever possible, exacting direct personal fealty and homage. During the reign of Henry II the foreign mercenaries were sent away, the reign of the conquering, marauding Norman Baron was drawing to a close, and the Crusades and other foreign wars and travel had enlarged men's minds and improved the manners and customs of the age. The ladies of the period had a certain nobleness of character, the Baroness and her daughters, though not yet very refined and certainly quite unlettered, had begun to consider the great "house-place" of their ancestral "keep" wanting in those conveniences and comforts which developed during the progress of the age. The earlier necessity for security and defence had placed them on the third story in a tower approached by narrow winding stairs. The remoteness of the kitchens and offices impaired their facilities for hospitalities. The growth of these ideas gradually resulted in the abandoning of the keep for family residential purposes and the erection of more suitable apartments and buildings in the court-yard, or inner bailey. We find, therefore, in buildings of the latter part of this century the common hall so situated, to which were attached a "presence" or audience chamber, at one end, and the kitchens and other domestic offices at the other end.

Defensive fortification was still essential; subsidiary towers were built to protect these new buildings, and the old defences of the castle were maintained in efficient fighting condition.

In the new castles built by Edward I in Wales, we find, by comparison, the progress of the times fully illustrated. We find the manor-house with its more spacious chambers, its more expansive accommodation in the family apartments and in the offices, its court-yards surrounded by massive walls and towers as before, and further defended by one or more lines of circumvallation, as may be plainly seen in the works of this period in London and Windsor.

As further evidence of the domestic aspect of the times we may note that ladders and trap-doors were more common than stairs; many of the lofty halls of earlier days became divided by floors into stories; chambers were thoroughfares without much approach to

portions of the Royal hunting-lodge at Woodstock Chase are of this period, and are inseparably associated with the life and times of Fair Rosamond, her bower being pointed out to this day, though partially destroyed by Cromwell.

THOMAS C. SORBY.

[To be continued.]

PARTIAL USE OF THE DECIMAL SYSTEM THIRTY-FIVE YEARS AFTER LEGALIZATION.¹

THE process of transition to the use of Federal money, inaugurated by resolutions of the Congress of the Confederation, July 6, 1785, and Aug. 8, 1786, was protracted through the time of our grandfathers, the generation following that which established the money. Kelly's "*Universal Cambist*," whose preface is dated in 1821, thirty-five years after the original legislation, is a standard authority, having had official support. It said of the United States:—

"Accounts are kept here in different ways, but chiefly in Dollars, which are divided into 10 Dimes, 100 Cents, or 1,000 Mills. This is called Federal Money, to distinguish it from the various currencies which were formerly the monies of the United States, and which are still partially retained in domestic traffic. . . ."

The Constitution of Massachusetts said then, and says now, in Chapter VI:—

"III. In all cases where sums of money are mentioned in this constitution, the value thereof shall be computed in silver at six shillings and eight pence per ounce. . . ."

The United States Mint, though it began to coin money in 1793, did not strike many coins except cents, half-cents and half-dollars down to 1820; and coins of the several nations of Western Europe continued in circulation. The Spanish original of our dollar was well known as the "piece of eight," meaning eight "bits" in the

¹ A paper published in *School Science* for December, 1901.

vernacular tongue of the United States, where the Spanish name is less familiar; one bit thus becomes 12½ cents obviously to us, but our grandfathers knew it as of the value expressed according to their long established custom in their different monetary reckonings. John Quincy Adams, Secretary of State, in his celebrated report on weights and measures, also dated in 1821, wrote as follows:—

"... now, when the recent coinage of dimes is alluded to in our public journals, if their name is mentioned, it is always with an explanatory definition to inform the reader that they are ten-cent pieces; and some of them which have found their way over the mountains, by the generous hospitality of the country, have been received for more than they were worth, and have passed for an eighth, instead of a tenth, part of a dollar. Even now, at the end of thirty years, ask a tradesman or shopkeeper in any of our cities what is a dime or a mille, and the chances are four in five that he will not understand your question. But go to New York and offer in payment the Spanish coin, the unit of the Spanish piece of eight, and the shop or marketman will take it for a shilling. Carry it to Boston or Richmond, and you shall be told it is not a shilling but nine pence. Bring it to Philadelphia, Baltimore, or the City of Washington, and you shall find it recognized for an eleven-penny bit; and if you ask how that can be, you shall learn that, the dollar being of ninety pence, the eighth part of it is nearer to eleven than to any number. . . ."

This was characterized by Mr. Adams as absurd, and justly. Oh, yes—but—by the way, what is it that we are doing, A. D. 1901, thirty-five years after the inauguration by our fathers by the Act of Congress of July 28, 1866, of the change to metric weights and measures? Our rates of postage on foreign-mail matter are by weights in grammes, and we try to look them up in pocket diaries or other common places of reference and find them inaccurately stated by weights in ounces. We turn to the Revised Statutes of the United States, Section 3515, referring to our minor coins, and read:

"The weight of the piece of five cents shall be seventy-seven and sixteen-hundredths grains troy:—"

a circumlocution for five grammes. We have had profile-paper printed with metric subdivisions for its whole length and have measured it off in portions for sale by the yard. Imported paper in rolls of ten metres we have advertised as eleven-yard rolls. These few examples suffice out of many instances of misapplication of units of quantity in business and in publications.

We see the unreasonableness both of the Massachusetts Constitution and of the adherence by our grandfathers, so long after they had established decimal reckoning, to their antiquated book-keeping, which occasioned great inconvenience from the incongruity of the two methods in use at the same time. When our grandchildren look back to 1901, what will they say of our now hanging on to weights and measures that are out of date by consequence of the substitution of the metric units legalized thirty-five years ago?

Consider electricity, whose standards of measurements are fixed upon a metric basis by the law of July 12, 1894. The following is an extract from it:—

"The unit of power shall be the watt, which is equal to ten million units of power of the centimetre-gramme-second system, and which is practically equivalent to the work done at the rate of one joule per second."

Several of the electrical units have become familiar to us through the enormously rapid development of the applications of electricity. This is the case especially with the kilowatt, a commercial unit which we meet with in almost every technical publication we take up; but it has not yet entirely displaced that anomalous old unit, the horse-power (as to which reference may be made to *Engineering*, vol. 63, pp. 245 and 325, for Feb. 19 and March 5, 1897).

Consider the matter of assaying and coinage, in which the metric system is established. It has been used in the Mint for years, and is used in published tables or schedules of coins. The United States subsidiary silver money weighs one gramme per four cents, and thus metric weight is in everybody's pocket. The troy pound has dropped out of practical use. Nevertheless, the troy ounce, incongruous as it is with other weights and measures, still comes in our way sometimes (in other places besides the Massachusetts Constitution).

Consider pharmacy and some other matters connected with chemistry. The "*United States Pharmacopœia*," the reference manual of the apothecary, is exclusively metric. The "*Dispensatory*," the corresponding manual of the physician, has metric values throughout. The use of the metric system was introduced in the United States Marine-Hospital Service about a quarter of a century ago quite thoroughly, and in the army and navy more recently. In practice in civil life prescriptions are to a large and increasing extent written in metric terms; but the mysterious old "apothecaries'" weights and measures (which for sales of candy and popular wares are not used by apothecaries) continue to be used in the prescriptions of some of the older physicians, who in the natural course of events are gradually passing off the stage. Meanwhile, pharmacists have double sets of weights and measures, and employ clerks who understand both, with extra trouble, cost and risk of mistake. In the sale of high-grade chemicals the metric system has been introduced. E. R. Squibb & Sons, of Brooklyn, have used it exclusively for nine years, and the Bausch & Lomb Optical Co., of Rochester, issues a sixty-page priced catalogue "G" of "Chemicals and Reagents" in metric terms, with a conspicuous notice at the top of each page, "Prices of

Chemicals are by Metric, not Avoirdupois Weight." Much glass-ware and rubber stoppers are made to metric scale. As to chemical manufacturing, all the tanks in a factory built by the Merrimac Chemical Company, of Massachusetts, for their extensive sulphuric-acid works, were made on metric dimensions, and the Pennsylvania Salt Manufacturing Company have built a large plant entirely upon metric dimensions. The great Solvay Process Company, of Syracuse, makes use of the metric system in every way possible in its works. Drawings to go outside of the works for construction, etc., are not made in the metric system. The Company says it finds no disadvantages, and would be very glad if its entire work could be upon the metric system. That means that as long as people outside cling to ancient weights and measures, so that conformity with them is required of the Solvay Process Company, the Company gets only part of the advantages naturally belonging to its system. Chemical analyses are expressed in parts per million, per hundred thousand or per thousand, corresponding to grammes per cubic metre, per hektolitre or per litre. Grains per gallon are out of date. Nevertheless, in dealing with quantities and consumption of water, there still lingers some use of the United States liquid gallon, a unit long ago abandoned in Great Britain and Canada, distinguished for its lack of connection with other measures or weights, and not ordinarily used in the reading of water-meters.

Consider geodesy and precise levelling. The metric measure has been very extensively used in precise levelling or other work of the United States Coast and Geodetic Survey, the United States Geological Survey, the United States Lake Survey, and the surveys under the Mississippi River Commission. Among other literature from which evidence may be obtained about this, and about working in old measures incongruous with metric, there is an article and discussion on "Precise Spirit Levelling," occupying pp. 1-206 of vol. 45 of the *Transactions of the American Society of Civil Engineers*, June, 1901.

Bulletin No. 26 of the United States Coast and Geodetic Survey, dated April 5, 1893, contained an announcement signed by T. C. Mendenhall, Superintendent of Standard Weights and Measures, and approved by John G. Carlisle, Secretary of the Treasury, from which the following is an extract:—

"... the Office of Weights and Measures, with the approval of the Secretary of the Treasury, will in the future regard the international prototype metre and kilogramme as fundamental standards, and the customary units, the yard and the pound, will be derived therefrom in accordance with the Act of July 28, 1866. Indeed, this course has been practically forced upon this Office for several years. . . ."

The Treasury Department is the department to which are attached the Mint, the Marine-Hospital Service and the Coast and Geodetic Survey, in all three of which, as above stated, the metric system has been in practical use for years. Incongruity is found, however, in the fact that the Treasury Department continues the use of old weights and measures in other branches of its work; for example, in its Bureau of Statistics, largely occupied with foreign trade (whereas metric units have been introduced to some extent in the Bureau of Foreign Commerce of the State Department and in the section of Foreign Markets of the Agricultural Department); and for another example, in the Customs Service, where there will be special gain in the substitution of the international system, and where its substitution has been repeatedly urged, officially and unofficially.

Consider manufactures. The April, 1900, report of the American Railway Association's Committee on the Metric System enumerated among manufactures in which the metric system has been introduced watches, injectors, refrigerating-apparatus, screw-cutting lathes, scales, drills, gauges, astronomical and physical instruments, measuring implements and draughtsman's supplies. A very large number of manufacturers have had some call for the application of metric measurement for goods for export, if only on a small order; and goods of widely diverse character are among the metric manufactures. We have exported to metric countries a great deal of ordnance and machinery for manufacturing ordnance, and rapid-firing guns have been designated by their calibre in millimetres. The Baldwin Locomotive Works' illustrated catalogue of narrow-gauge locomotives has printed on its title-page, "Adapted Especially to Gauges of 3 Feet 6 Inches, or One Metre," and on each of the sixteen pages (108-38), on which are tabulated various types of locomotives, has printed conspicuously, "Gauge, 3 Feet 6 Inches, or One Metre." The Library Bureau, of Boston, has cards and cases made of exact metric dimensions. In the *Electrical Review* (New York) for June 22, 1901, Geo. H. Draper says:—

"There is no first-class shop in America that will not undertake to build machinery according to metric measurements, and many of them are at the present time compelled to build stock forms of machinery in measurements of this system in order to be able to compete for trade in foreign countries where the specifications are given in round metric terms."

The following sentences are quoted from the *American Manufacturer*:—

"The metric system is making some headway among American manufacturers engaged in the export trade. This is especially true of machinery builders. It will continue to make headway according to the increase of our exports. . . ."

"There are firms that have adopted the metric system for their export business. They do not seem to be suffering from the effects of having two sizes of templates and dies for their plants. They are filling orders for export and are teaching their workmen the use of the metric system in so doing."

The incongruity of having two sizes, whether there seems to be suffering from the effects or not, continues until the superseding in domestic trade also of old weights and measures by metric. A similar remark may be made in regard to United States importations of bottled goods, textiles and other manufactures from foreign countries where the metric system is in use.

Consider bodily measurements, etc. The stature and strength of athletic young men in the colleges in different parts of the country are recorded in metric units and are published; but sometimes the newspapers, instead of recognizing the kilos, call them "points." Dimensions of statuary, etc., have been given metrically in the reports of the Boston Museum of Fine Arts regularly for many years. There is great convenience in measuring the clothes, as well as the body, in centimetres, not requiring fractions; and among men's furnishing goods some suspenders may be found with the length marked upon them in centimetres; but there remains in principal use for the measurements of tailors and dressmakers, and for sizes of such things as gloves and hats, the old unit with the ubiquitous fraction.

Consider applications of science. The metric system has been thoroughly adopted for scientific research upon all subjects and for the diffusion of scientific knowledge by publications and educational institutions. The extent of its use for instruction, laboratory supplies, apparatus, etc., is enormous; yet when scientific knowledge is utilized in technical work or for commercial purposes it often happens that old units of measurement are employed; so we have the incongruity of preaching one thing and practising another, of producing certain effects with one measure in investigation and with another measure in business. Such complications are now a characteristic feature in our literature, the discussions of our professional organizations, reports of committees of research, periodical publications, or books of the day. Similar complications are common in shops, offices and practical work, a fact so familiar as to require little illustration. Fineness of sand is expressed by the millimetre, and fineness of the sieves and screens for it by the number of meshes per inch. It is by the cubic centimetre of water that the number of bacteria are reckoned in biological examinations, but, rather than say so, men otherwise intelligent have sometimes disguised it for the popular mind as "thimbleful." Opticians have adopted metric measure, and, besides whatever else they have done in regard to their apparatus and accessories for microscopy, etc., they have a metric basis for expressing the power of lenses of spectacles. Their "dioptries," depending on the focal length in metres, are found in the optician's price-list; yet it is not uncommon to express the diameters of lenses in old measure, which may be found even in the same catalogues that give generally the metric system.

It is needless to marshal further evidence. The cutting off of the dog's tail is by centimetres, so that the tail may continue in some measure to wag the dog as long as he likes to have the operation protracted.

BOOKS AND PAPERS

FEW people realize the advance which has been made within the last twenty years in the matter of public water-supply, and sanitarians and engineers, to whom the improvement is almost wholly due, would deserve the gratitude of mankind for this work, if they had never done anything else. On the other side of the ocean, much greater progress has been made than here. Twenty or twenty-five years ago, it was not only disagreeable, but often dangerous, for an unacclimated tourist to drink the water supplied to the cities of Paris, Liverpool, Venice and Naples, to say nothing of smaller towns. Now each of these cities is abundantly supplied with water of a purity which would make almost any American city envious. Paris has its special supply of spring-water; Liverpool has brought water from the mountains of Wales by a submarine tunnel; Venice has replaced its cistern-water by an ample supply from the mountains of the mainland, and Naples has just finished an aqueduct, some twenty miles long, which brings the clearest water in profusion from springs in the mountains. To those elderly tourists who remember the pangs which, not very many years ago, followed indulgence in the drinking-water then supplied to these places, the change is very striking; and more than one such person, probably, has wished that similar regeneration might come upon Philadelphia, Boston, and other towns of our own. In this compact and convenient book¹, the third edition of a work which first appeared only five years ago, Mr. Thresh gives an immense amount of valuable, and thoroughly modern, information in regard to what might almost be called the new science of gathering, purifying, preserving and distributing both public and private water-supplies. As readers of technical books know, English works of the kind often contain an inordinate amount of padding, in the shape of accounts of the engineering practice of the ancient Romans, and long descriptions of con-

structions of the period of George the Fourth; and it may relieve the minds of such persons to know that Mr. Thresh has found enough matter of interest and importance to fill his work completely, without any archaeological or historical digressions.

Beginning with the necessary observations on the sources and properties of water, the book continues with an examination of public water-supplies as they actually exist, including the sources of contamination to which they are exposed; and here we find a concise, but most instructive, review of the cases of contamination by microscopic animals and plants, so many of which have been recently reported, and of the measures, unsuccessful and otherwise, which have been taken to remedy the trouble. Next to this we find a chapter of great importance, on the "self-purification of rivers," in which the results of modern investigation are well summed up by the author, who says, "The question in which we are interested, therefore, is, not whether a fouled river-water may regain its pristine appearance of purity, but whether it can ever again become absolutely safe for drinking purposes. Ordinary observation enables us to answer the first question in the affirmative; all the researches of chemists and bacteriologists, since the days when the Rivers Pollution Commissioners first experimentally studied this subject, have failed to answer the second." On the whole, Mr. Thresh thinks that the preponderance of evidence is "decidedly on the side of those who uphold the theory of self-purification"; and the most important opinion on the other side seems to be that of the Massachusetts State Board of Health, which says that "no river is long enough to purify itself." In the approaching struggle between the cities of St. Louis and Chicago, in regard to the pollution of the Mississippi River by the Chicago Drainage-canal, this matter will, presumably, be thoroughly discussed to the advantage of mankind.

After this, we find discussions of the sources of public and private water-supply, and of the modern modes of storage, which, as all architects and engineers know, have been greatly modified within the past few years; and these, with some observations on distribution, complete an extremely useful little book.

ILLUSTRATIONS

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

ENTRANCE TO THE EQUITABLE LIFE ASSURANCE BUILDING, BROADWAY, NEW YORK, N. Y. MR. GEORGE B. POST, ARCHITECT, NEW YORK, N. Y.

HOUSE OF JOHN CALDWELL, ESQ., STOCKBRIDGE, MASS. MESSRS. G. E. AND G. FOUNTAIN, ARCHITECTS.

RIVAULX ABBEY, ENGLAND;—ITHAM MOAT, ENGLAND.

FOR reference to these and the following subjects see article elsewhere on the "Domestic Architecture in England during the Middle Ages."

CASTLE ACRE PRIORY, NORFOLK, ENGLAND.

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

"TIGBOURNE COURT," WITLEY, ENG. MR. E. L. LUTYENS, ARCHITECT.

This plate is copied from the *British Architect*.

[Additional illustrations in the International Edition.]

BANKING-HOUSE OF EDWARD C. JONES, PHILADELPHIA, PA. MR. GUY KING, ARCHITECT, PHILADELPHIA, PA.

HOUSE OF MOORFIELD STOREY, ESQ., 24 FENWAY, BOSTON, MASS. MESSRS. PEABODY & STEARNS, ARCHITECTS, BOSTON, MASS.

TERRACE GARDENS, FOOTS GRAY PLACE, SIDCUP, ENG. MESSRS. T. H. MAWSON AND D. GIBSON, ARCHITECTS.

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PINE-TREE FORMS AS FRIEZE DECORATIONS.

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TERRACE AND SUMMER-HOUSES, DAZHAM HALL, SUFFOLK, ENG. MESSRS. T. H. MAWSON, C. E. MALLOWS & GROCOCK, ARCHITECTS.

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¹"Water and Water-supplies." By John C. Thresh. Third Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co. 1901. Price, \$2.

NOTES AND CLIPPINGS

FORGED PICTURES.—The statement by Mr. Sidney Cooper, R. A., that of 287 pictures purporting to be by him no fewer than 255 had proved on examination to be frauds and the signatures forgeries has naturally aroused widespread interest. Unfortunately for the artist, the imitation of his signature on a painting is not forgery in the eyes of the law. To constitute forgery the thing imitated or falsified must be connected with a document or a writing. Consequently it is a common thing for pictures to be copied and the signature of the original painter boldly inserted. Sir Lawrence Alma-Tadema said recently: "I have been chairman for three or four years of a committee which has been striving to amend the laws of artistic copyright. We got as far as introducing a bill, but the House of Lords cut out the most important points as affecting artists. They knew nothing of the subject, and Lord Thring went so far as to make the strange statement that an artist's signature on a painting was not a signature but a part of the painting itself. It is a scandalous state of things that a painter is not protected in his copyright. The purchaser is protected, but not the painter." Mr. S. J. Solomon, R. A., had much the same story to tell—he is also a member of the Artistic Copyright Committee—and drew attention to the enormous number of piracies and forgeries on the Continent. "There are literally thousands of Corots," he said, "which have never been within a mile of Corot's studio." The chief art-dealers of London are on the side of the artists in this matter. At Messrs. Agnew's, in Bond Street, a hearty agreement with Sir L. Alma-Tadema was expressed, and it was stated that it was also as much in the interest of the purchaser as that of the artist that the copyright law should be amended. At Messrs. Graves's galleries in Pall-Mall it was stated that copies and imitations were regularly manufactured in this country as well as in France and elsewhere. — *London Daily Mail*.

TWO THEORIES OF WHITE LIGHT.—In an article in *Comptes Rendus*, by O. M. Corbino, two opposite views of the constitution of white light are stated, and a theoretical decision between them, based on known experimental results, is arrived at. Gouy maintains that the constituents of the spectrum of white light are the sinusoidal components of a single complex vibration, and are capable of mutual interference; while Carvallo regards the separate radiations as completely independent, and therefore incapable of interference with one another. The latter view is supported by the spectroscopic observation of beats produced by two pencils of white light, one of which is slightly altered in period by means described elsewhere by the author and by Righi. In the case of monochromatic light, alternations of light and darkness are observed; in the case of white light, movable fringes are seen. In the latter case the fringe system should exhibit no alteration when the change of period is effected, if the hypothesis of Gouy is true. The fringes are, however, seen to move, and hence it follows that interference takes place only between radiations which had the same period in the source before the alteration of period, and not between those which, originally different, have been brought into coincidence of period. Hence, the second hypothesis is accepted. — *N. Y. Evening Post*.

A REPENTANT VANDAL.—At Mount Vernon there is the largest army of "spotters" on the lookout for vandals; and it is more necessary there than anywhere else, for Washington's home would be easily despoiled. The visitor pays a quarter admission, and the money goes to pay his watchers. There is one thing in the house that strikes the notice by its contrast with the prevailing simplicity. It is the carved mantelpiece of Carrara marble in the dining-room. One who is not a vandal cannot gaze upon it without anathematizing the whole race of relic-seekers. Even with watchers in every room some individual managed to "get in his work" and get off the head of a galloping deer in the centre of the group. The animal remained headless for months. Then one day the head came back in a little box. It was post-marked Paris. An accompanying note stated: "It did not occur to me, in my own country, where everything is so well cared for and preserved, the outrage that it is to mutilate historic places for relics. Here in Europe nothing is preserved; everything is marred and chipped and broken by travellers like myself. I return herewith," etc. The letter was anonymous. When the head was put back the glue stained the marble, and the milkwhite deer has a yellow streak around his neck. — *N. Y. Tribune*.

FINE FOR COUNTERFEITING OLD TAPESTRIES.—The Paris Court of Appeals has given its decision in the case of tapestry-dealers who had falsified their wares so as to resemble antiques. Charlaunes, of Paris, and Sauvageot, of Troyes, had sold these "doctored" aubussons to Mme. Lemaître, of Eprenay, and for this offence the Seine tribunal condemned them some days ago to six months' imprisonment, \$200 fine and \$1,400 damages. On appeal, the sentence has been confirmed, and the damages increased to \$2,600. — *Exchange*.

DAMAGE DONE BY LOCOMOTIVE SPARKS.—Damage to property through the ejection of sparks by locomotives is an old grievance of those holding property adjacent to railways. The question has, however, been brought rather prominently forward of late by one or two serious fires and by correspondence in the *Times* and in the columns of the *Engineering Press*. Under the present state of the law, railway-companies are not responsible for fires caused by their locomotives, so long as the best known appliances are fitted for preventing, as far as possible, the escape of sparks from the chimney. A bill was recently introduced into Parliament to alter these conditions, but failed to pass. It will, however, probably be brought forward again next session. The case of *Hipkins vs. the London and Southwestern Railway Company*, recently

tried and settled in favor of the defendants, produced a good deal of interesting evidence on the part of railway-engineers, both English and American. For the plaintiff, whose field of corn was burned, it was held that if the engine had had a netting or grid below the base of the funnel dangerous sparks could not have been emitted. The arrangement is common in America, but it has its drawbacks, inasmuch as it checks the draught and thus reduces the efficiency of the engine. Partly to get over this the American engineers prolong the smoke-box in front of the boiler so as to get in a bigger netting and thus give a larger area for draught. The somewhat unsightly extension of the boiler structure beyond the chimney, which adds so much to the grotesque appearance of American locomotives, is accounted for in this way. — *London Times*.

CONTROLLING THE SHIFTING SANDBANKS ON CAPE COD.—The Harbor and Land Commission of Massachusetts is trying an experiment, which, if successful, will attract attention outside of the Commonwealth and will be adopted by other States along the coast which are similarly afflicted. This affliction is the shifting of the sand by the wind on Cape Cod and is a constant annoyance to those who live or spend the summer on "The Right Arm of Massachusetts." Provincetown, situated on the extreme end of the Cape, has been the greatest sufferer, and a fine pine-grove, the pride of the town, which was set out a few years ago, is threatened with swift destruction by the blowing sand. The remedy which is under trial is simple, and consists of planting beach grass along the ocean side of the Cape. A few months ago a large amount was transplanted from another part of the State, where it was not needed. It is hoped that the grass will spread, and it is said that the roots will hold the sand better than anything else that is known. The sand-dunes of Cape Cod grow at the rate of about two feet a year, and the force of the sand driven by the wind is so great that the glass in the lanterns of some of the lighthouses becomes completely ground in a short time and frequently has to be renewed. — *N. Y. Tribune*.

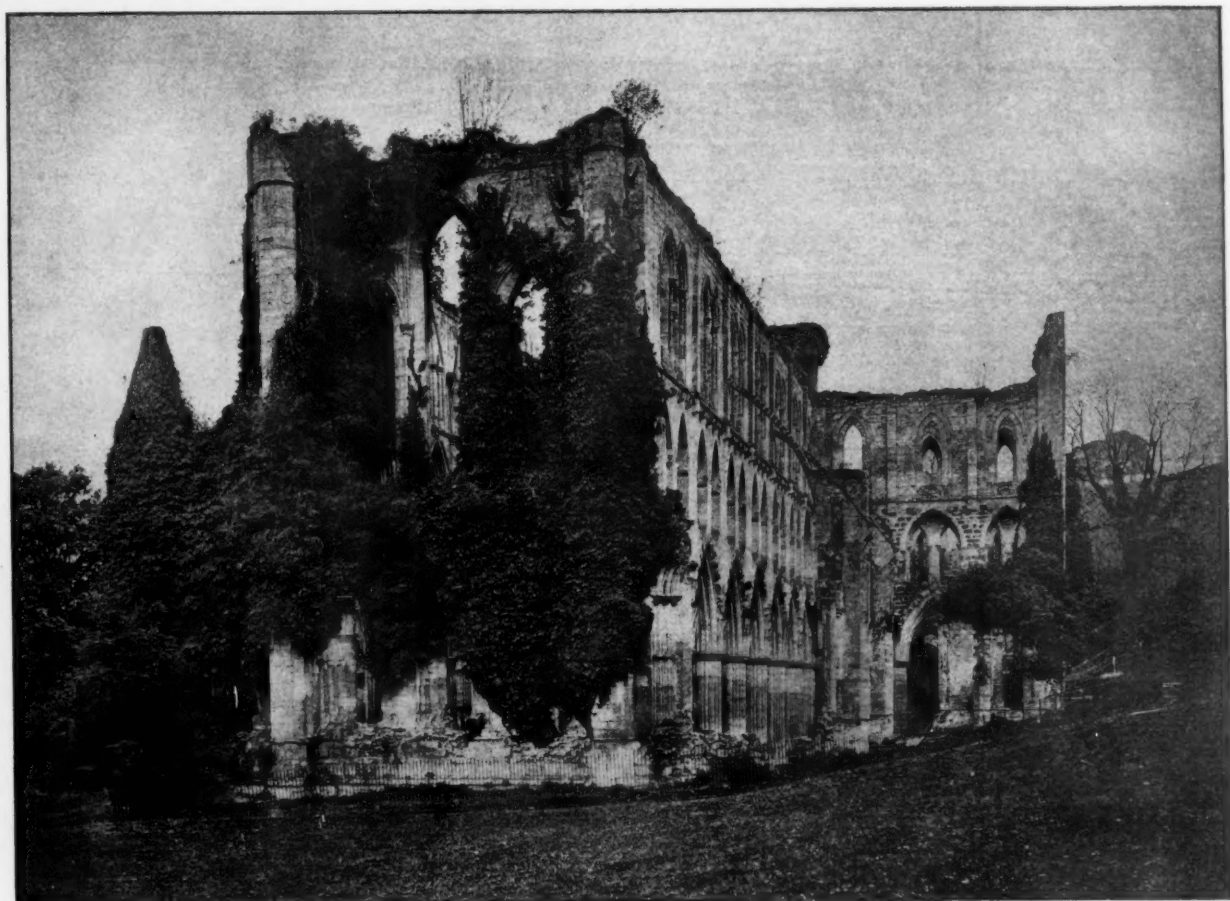
SOUTHERN PINE OUTPUT.—Secretary George K. Smith of the Southern Lumber Manufacturers' Association, in his annual report before that body, gave out statistical information which will be of interest to manufacturers of lumber throughout the United States. An average of 160 mills for the twelve months of the year, embracing 1,759 firms, cut 1,992,602,851 feet, while shipments for the same time were 2,090,120,270 feet. This is an increase of 200,000,000 feet in the output as compared with the previous year, or 11 per cent, while shipments were in excess of those of 1900 by 344,000,000 feet, or 20 per cent, thus reducing stocks held 100,000,000 feet, or about 10 per cent. These figures apply to the yellow-pine lumber situation. With regard to white-pine, there was a reduction, through excess of shipments over cut, of 200,000,000 feet, or 13 per cent, in the visible supply up to Dec. 1, and an increase in output of 119,000,000 feet, or 5 per cent. — *Exchange*.

TROLLEY-OPERATED FIRE-ENGINES.—The Chief of the Fire-department at Rouen proposes to make use of the electric trolley-wires which extend to so many parts of the city, and in which power is or can be always ready for use as a source of power for driving the pumps of fire-engines where the fire occurs in the neighborhood of electric tram-lines. The fire-engines will be fitted with electric-motors instead of steam-engines, and connection will be made to the trolley-wire or to the trolley-feeder in the immediate neighborhood of the burning building. The arrangement should save valuable time, especially during that important first fifteen minutes, since there will be not even the necessity of getting steam up from banked fires. If also the connection to the electric tramway service is made at one of the feeder-pillars, as can easily be done, the tramway service should not be interfered with. — *London Trade Journals' Review*.

TRANSPLANTING TREES FOR THE ST. LOUIS FAIR.—Probably the largest contract ever let in this country for the transplantation of big trees is that just entered into for the World's Fair in St. Louis. The site of the World's Fair is Forest Park, in which there are many large trees. Actuated by a desire to preserve as many as possible of the trees and to have their shade in the broad avenues of the Exposition, the Director of Works will have 700 trees, each 12 to 18 inches in diameter, lifted and replanted where they will remain permanently. Special machines will be used and the transplanting will be done while the trees are dormant and the ground is deeply frozen, so as to carry as much earth with the roots as possible. Very great care is required for a successful operation, and the trees will be given the best care and attention, in order to assure their thrifty growth. The trees are principally maples and elms. — *Boston Transcript*.

CARPEAUX'S MODELS.—The *Paris Chronique des Arts* announces the gift to the city of Paris by the widow of the sculptor Carpeaux of a large number of important studies found in the master's atelier after his death. Especially interesting are the monumental group erected to the memory of Maréchal Moncey, and the studies for the famous figures of dancing nymphs in white marble on either side of the main entrance of the Opera-House. These figures were criticised thirty years ago as too bold, criticism taking the shape one night of a shower of ink, an act which aroused a stormy controversy that lasted for months, Napoleon III was, however, a firm friend of Carpeaux, and the statues remained. Carpeaux's study for a monument to Moncey was not intended for execution, as he was a member of the jury that awarded the prize, but simply as an expression of his own ideas upon the subject.

THE SPEED OF SOUND.—The last determination of the speed of sound has been made by Mr. A. Leduc, who finds that the rapidity of propagation of sound-waves through dry air at 0° C. (= 22° F.) is 1,088.58 feet per second. — *Comptes Rendus*, December 26, 1898.



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Carpenters' Hall, Philadelphia, Pa.	" 1770
Independence Hall, Philadelphia, Pa.	" 1729
Faneuil Hall, Boston, Mass.	" 1741
and others.	

CHURCHES

King's Chapel, Boston, Mass.	Date 1749
Seventh-day Baptist Church, Newport, R. I.	" 1729
Christ Church, Alexandria, Va.	" 1767
Christ Church, Philadelphia, Pa.	" 1727
St. Paul's Chapel, New York, N. Y.	" 1764
Old South Church, Boston, Mass.	" 1729
First Church, Hingham, Mass.	" 1681
St. John's Chapel, New York, N. Y.	" 1803
First Congregational Church, Canandaigua, N. Y.	" 1812
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Gloria Dei Church, Philadelphia, Pa.	" 1700
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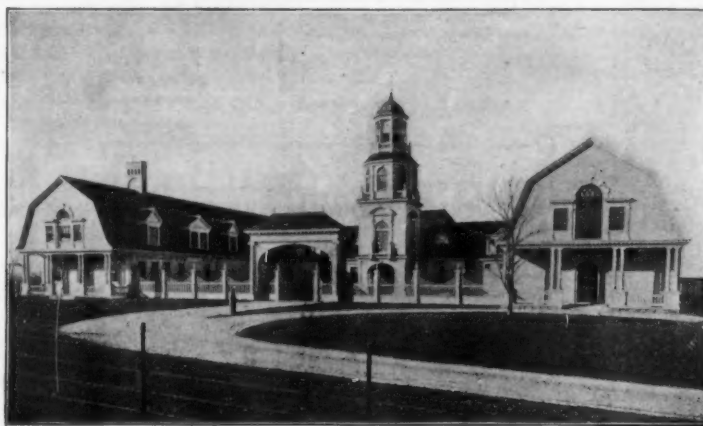
Fairbanks House, Dedham, Mass.	Date 1636
Royall Mansion, Dedham, Mass.	" 1737
Philipse Manor House, Yonkers, N. Y.	" 1745
Tudor Place, Georgetown, D. C.	" 179-
Mappa House, Trenton, N. Y.	" 1809
Woodlawn, Va.	" 1799
Mount Vernon, Va.	" 1743
and others.	

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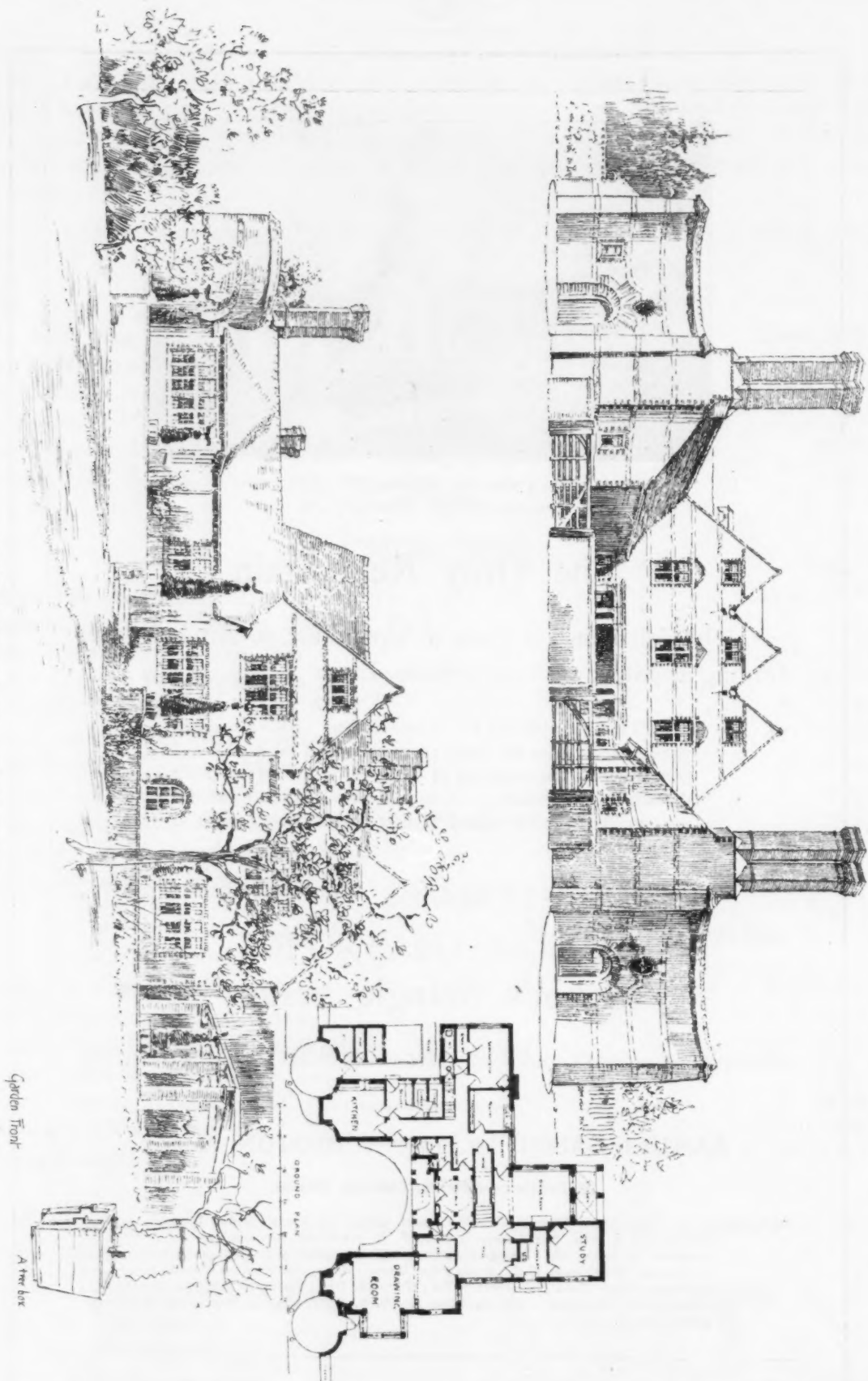
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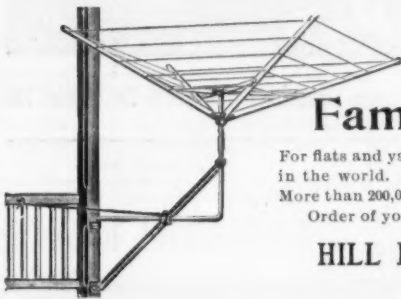
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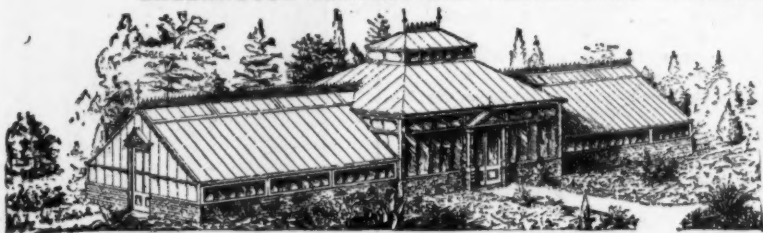
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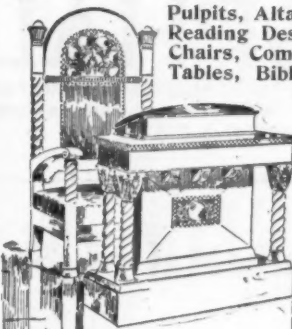
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Escanaba, Mich.—St. Patrick's congregation has had plans prepared by Schick & Roth, architects, of La Crosse, Wis., for a \$35,000 church.

Evansville, Ind.—It is reported that in the will of Miss Caroline S. Rathbone, who died recently at Clifton Springs, N. Y., provision was made for the erection and maintenance of a home for aged women.

Fall River, Mass.—The foundations are in and the walls started for the extensive addition to the Stevens Mill. It will be of granite and brick, two stories, and will cost about \$50,000.

Flatbush, L. I.—Frank H. Quinby, Bennett Building, New York City, has drawn plans for a one and two-story private stable, shingle construction, size 35' x 85', to be erected on Church Ave. for Wm. A. Engeman.

Fort Smith, Ark.—Horace Rogers, Huntington, contemplates the erection of a \$35,000 residence in this place.

Hamilton, O.—The debris is being cleared from the old plant of the Champion Coated Paper Co., which was recently burned. It is the intention of the company to rebuild immediately.

Hancock, Mich.—C. Archibald Pearce, architect, has plans for a \$40,000 business block for the Ryan estate.

Harrisburg, Pa.—Joseph M. Huston, of Philadelphia, has been selected as architect for the new capitol, for which the Legislature has appropriated \$4,000,000.

Helena, Mont.—Plans will be selected soon for a new hospital building for St. Peter's Hospital; cost, \$50,000.

Holyoke, Mass.—W. F. Towner, 157 Summer St., Boston, has drawn plans for a church, chapel and rectory, to be erected for St. Paul's Episcopal Society at a cost of \$75,000.

Houghton, Mich.—H. T. Liebert, of Hancock, has prepared plans for a \$35,000 business block for Hodgson Bros.

Huntington, W. Va.—It is announced that this city will erect an \$80,000 free library building. Andrew Carnegie will give \$25,000 toward the institution.

Indianapolis, Ind.—The University of Indianapolis expects to have a new library the coming fall. Mr. and Mrs. C. E. Thompson gave \$30,000 in land and money toward the fund, and this amount has been materially increased by subscriptions. Work of construction will begin in the spring, and the building is expected to be ready for use when the fall term opens.

Kingston, N. Y.—Andrew Carnegie has agreed to give \$20,000 for a new public library building in this city on condition that 10 per cent of the amount is raised annually for its maintenance. The site will probably be furnished by the city near City Hall.

Los Angeles, Cal.—A. L. Haley has drawn plans for a \$50,000 four-story frame hotel, to be built at 6th and San Joaquin Sts.

Marquette, Mich.—The County Board is considering the erection of a court-house to cost \$100,000.

Marshalltown, Ia.—Andrew Carnegie has offered \$30,000 for a library building under the usual conditions. These have all been complied with and arrangements will be made to have the work started on the building in the spring.

Melrose, Mass.—Andrew Carnegie offers this city \$25,000 for a public library, provided the city furnish a site and maintain the institution. The city will comply with the requirements.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Milwaukee, Wis.—The Y. M. C. A. will erect a new building to cost \$300,000.

Plans have been prepared by Jacob & Wiskocill, 630 Chestnut St., for a six-story brick warehouse, 50' x 150', to be built for the William Frankfurth Hardware Co. on W. Water St.; cost, \$10,000.

Minneapolis, Minn.—A new building will shortly be erected on the property occupied by Evans, Munzer, Pickering & Co., at 7th St. and Nicollet Ave. Preliminary sketches have been submitted by architects. The contemplated improvements involve the expenditure of about \$100,000.

Montclair, N. J.—Geo. W. Maher, 218 La Salle St., Chicago, Ill., has been selected to prepare plans for a country house to be erected here for F. T. Gates, to cost about \$125,000.

Montreal, Can.—Sir William McDonald has placed \$125,000 at the disposal of the Ontario government to be used in the erection of buildings at the Guelph Agricultural College, for the purpose of giving instruction to school teachers in the elements of nature study and domestic science, the latter for women especially, as related to agriculture. Principal Mills of the Guelph College will go to American centres to get ideas for the new building.

Muscataine, Ia.—Governor-elect A. B. Cummins and Judge Selden P. Soencer, of St. Louis, were speakers at the recent Y. M. C. A. banquet and conference in this city for the purpose of raising \$40,000 for a new Y. M. C. A. building. Thomas Irvine, of St. Paul, a wealthy lumberman and president of the Hershey Lumber Co., gave \$10,000. He was formerly of this city. P. M. Musser, a millionaire lumber man, who recently presented the city with a \$40,000 library, also promised to give \$10,000.

Myatie, Conn.—The Mystic Industrial Co. is to double the size of its velvet factory at a cost of \$35,000.

Nashua, N. H.—The Senate committee on public buildings and grounds has authorized a favorable report on a bill for a \$100,000 public building at this place.

Newark, N. J.—A seven-story apartment-house is to be erected in Lagrange Pl., near Clinton Ave., for Leschziner & Co., to cost about \$100,000. Plans by H. C. Lehman, 224 Market St.

New London, Conn.—William H. Chapman, president of the savings bank, has presented to the city, through the board of school visitors, \$100,000 for the building and equipment of a manual training school for use in connection with the public school system.

Newton Centre, Mass.—Matthew L. Crosby has had plans drawn by C. A. Turner for a handsome dwelling to be built on Middlesex Road at a cost of \$11,000.

New York, N. Y.—Press reports state that George C. Thompson, 66 Broadway, has drawn plans for a large extension to the building at 64, 66 and 68 Broadway, and 9, 11 and 13 New St. It will be seventeen stories on Broadway and twenty-four stories on New St.; cost, \$500,000.

The Battery Place Realty Co. will erect a sixteen-story business block in Battery Pl.; cost, \$750,000. Bruce Price, 1133 Broadway, has drawn plans for a sixteen-story bank and office building to be erected at Union Sq. and 16th St. by the Bank of the Metropolis, at a cost of \$500,000.

Three new dormitories are to be built by the General Theological Seminary of the Protestant Episcopal Church in the United States, on the block occupied by them, between 9th and 10th Aves., 20th and 21st Sts. The buildings are to be four-story and basement, fireproof, and of the same

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

materials and general architectural type as those already standing in the seminary grounds. Charles C. Haight is the architect, and the estimated cost is \$30,000. Work will be begun in time to have the rooms ready for occupancy by the beginning of the next school year.

George F. Felham, 503 Fifth Ave., has drawn plans for a two-story hotel, 77' x 105', cost \$500,000, which Nathan E. Clark will erect at the corner of Broadway and 53th St. He also has designed a nine-story apartment-house, 100' x 113', cost \$325,000, which the West Side Construction Co. will erect at the corner of Riverside Drive and 87th St.

Jacob H. Sehlf, of Kuhn, Loeb & Co., has purchased a plot, 50' x 100', on 123d St., near Broadway. He will erect on the site a new building for the Jewish Theological Seminary, now located at 736 Lexington Ave.

Plans have been drawn by Horgan & Slattery, 1 Madison Ave., for the new Butterick Building, Spring, Macdugal and Vandam Sts., sixteen stories, steel construction, brick and stone; estimated cost, \$1,000,000; owners, Butterick Pattern Co. The Evangelical Lutheran Church of the Holy Trinity, now located on 21st St., between 5th and 6th Aves., has purchased a plot 100' x 125', at the corner of Central Park West and 65th St., and will erect thereon a new church.

Plans have been filed for a five-story brick building to be erected at 8 E. 57th St., for David H. Morris, to cost \$80,000. Horgan & Slattery, architects, 1 Madison Ave.

Miner's 8th Avenue Theatre, which was burned on January 1, will be rebuilt at once.

Norman, Okla.—Rowles & Bailey, of Omaha, have the contract to erect a three-story brick and stone building here for the University of Norman; cost, \$68,000.

Norwalk, Conn.—It is stated that W. & G. Andsley, 11 Broadway, New York City, have completed plans for a one-story and basement brick, stone and half-timber library to be erected here. Andrew Carnegie donated \$20,000 for the building.

Omaha, Neb.—Plans have been completed by John Latenser for a three-story pressed brick apartment-house at Park Ave. and Leavenworth St., to be erected by J. C. Barnard, at a cost of \$50,000.

Philadelphia, Pa.—Architect A. H. Moses, 136 S. 4th St., will soon invite estimates on a large addition to the Samaritan Hospital at Broad and Ontario Sts. Addition will consist of two brick and stone wings to the present building and will cost about \$60,000.

Plans and specifications are being revised at the office of F. R. Watson, architect, 1288 Chestnut St., for the fifteen-story office-building which will be

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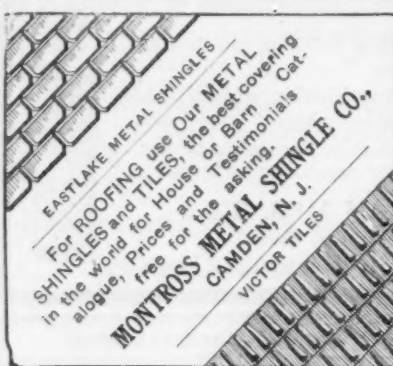
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

constructed at 1426 Chestnut St. by Wm. Gorman,
of the Stephen Girard Building.Architects Furness, Evans & Co., of the Provident
Building, will soon send out plans and specifications
for a new and handsome hospital structure for
the Jewish Hospital Society. It will be a two-story
building, located at York and Tabor Roads, and
will cost \$300,000.Architect Wm. L. Price's plans have been selected
for the proposed seven-story apartment-house to
take the place of the homestead of the late Joseph
Singerly at the corner of Broad and Jefferson Sts.
H. J. Seibel, who represents a syndicate, recently
purchased the residence for \$82,500. The company
intends pulling down the present building and
erecting on the ground a modern apartment-house.The demolition of the old Church of the Epiphany,
so long a landmark, at the corner of 15th and Chestnut
Sts., will be begun at once, and the ground will
be occupied by a seventeen-story office-building at
the corner, to be followed in time by a thirteen-
story hotel on the adjoining ground. The Thompson
Sterrett Co., of New York, has the contract for
the new office-building. It will be known as the
Pennsylvania Building and will be built at the north-
west corner of 15th and Chestnut Sts., fronting 78
feet on 15th St., and extending 132 feet along the
entire front of Chestnut St. The first three stories
will be constructed of granite, and the upper 14 of
fancy brick and terra-cotta ornamentation. Five
stories facing Chestnut St. will occupy the ground
floor. The upper floors are each to contain 20
rooms, fitted up in an elaborate manner. Architect
H. L. A. Jekel planned the building, and the deal
was negotiated by the Land Title & Trust Co.A press report states that Builders J. S. Connell
& Son are asking approximate bids to erect the
proposed Faculty Club-house and new dormitories
in the rear of the new Law School of the University.
The plans show a three-story building, 220 feet long
by 55 feet wide. It will be built of brick and Indiana
limestone, to match the present dormitories.Contractors are figuring for the construction of
the new laboratory building for the Medical Department
of the University of Pennsylvania. The structure
will stand on the south side of Pine St., above
36th, where the Veterinary Department is now
located. The building is estimated to cost \$500,000,
and the bids are to be opened on January 31. The
building is to be two stories high, with basement,
and will measure 340 feet front by 200 feet in depth.
It will be quadrangular in shape, of fireproof construction.
The materials of the front will be brick
laid in Flemish bond and trimmed with bluestone
and buff Indiana limestone. Architects Coyle &
Stewardson prepared the plans.Harry B. Shoemaker & Co. will erect the new
four-story factory for Frank Hardhart, at the corner
of 9th and Filbert Sts.Builder John W. Fritzingher has applied for a permit
to build the new \$45,000 parochial school, four
stories high, 59' x 175', for St. John the Baptist's
congregation, on Rector St., below Cresson, Manayunk.Architect Robert E. Peterson is to erect a \$10,000
dwelling for Sam'l Bartram Richards at the corner
of 21st and Pine Sts. It will be four stories high,
18' x 72', with a front of brick and stone.Plans have been drawn by Milligan & Webber,
520 Walnut St., for a seven-story brick apartment-
house to be erected on Broad and Jefferson Sts., to
cost about \$500,000.

Plans have been prepared for an eight-story store



BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

and factory building at 1219 and 1221 Market St. to
replace the Hunt-Wilkinson Building, recently de-
stroyed by fire. Felix Isman is the owner of the
property.Pittsburgh, Pa.—Bids are being received for the
construction of the \$6,000 five-story brick, stone
and terra-cotta hotel, 40' x 110', on Federal St., for
Charles E. Wolfendale, after plans by Joseph Still-
burg, 421 Wood St.Charles Bickel, 524 Penn Ave., has designed a
store and office building for M. Arnfeld & Son, to
be built at 11th St. and Penn Ave. It will be five
stories high, built of brick and stone, have composi-
tion roof, and will cost \$60,000.Plans are being made by E. M. Butz & Co., Ham-
ilton Building, for 14 residences, to be built on
Lincoln Ave., Bellevue, at a cost of \$84,000.Plans are being made by the Century Architectural
Co., Park Building, for a \$25,000 four-story brick
and stone flat building, to be built on Margarette
St. for James J. Leahy, 126 Sheridan St.It is announced that the American Bridge Co. has
decided to erect an important addition to its plant
at a cost of several hundred thousand dollars.Port Clinton, O.—O. W. Marble, of Sandusky, has
drawn plans for a bank and office building to be
erected by C. I. York.Providence, R. I.—At a mass meeting of the stu-
dents of Brown University in the interests of a
building for the social and religious interests of the
college, a gift of \$75,000 from John D. Rockefeller
to erect such a building was announced. Mr. Rocke-
feller has made one proviso, which is that the
college raise an endowment fund of \$25,000 for
the building by commencement day of this year.
This can be done, and the building is, therefore,
assured.Racine, Wis.—The Mitchell & Lewis Wagon Co.
contemplates enlarging the plant, erecting a new
shop and warehouse at a cost of \$100,000 or more.Rensselaer, Ind.—Plans have been drawn by Chas.
A. Brehmer, South Bend, for an opera-house and
business building to be built at Washington
and Cullen Sts. by Judge S. P. Thompson. The
structure will be of brick, two stories, 110' x 140',
and will cost \$50,000.Richmond, Va.—Joseph H. McGuire, 3 W. 29th St.,
New York City, has prepared plans for a new
church, to be erected by the Catholic congregation,
at a cost of \$250,000.The School Board will ask the City Council for
\$100,000 for a new high-school building.A \$25,000 addition will be built to the post-office
building. It will be one-story high, 20' x 70', of
gray brick with steel roof.Salamanca, N. V.—Plans have been prepared for a
new passenger station at this place, for the Erie
Railroad Co., to cost \$100,000.San Antonio, Tex.—A seminary is to be erected on
Laurel Heights, by the Oblate Fathers, who have
charge of St. Mary's Church and College in this
city. It will cost \$250,000.San Francisco, Cal.—It is stated that W. B. Bourne
will erect a \$40,000 business block on East St.Saratoga Springs, N. Y.—Andrew Carnegie will
give this village \$20,000 for a public library building,
provided Saratoga Springs furnishes a site and
agrees to raise \$2,000 annually to support a library.Sault Ste. Marie, Mich.—J. W. Moffly and C. E.
Chepley will erect a \$75,000 apartment-house in the
spring.Architectural Sheet Metal
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Schenectady, N. Y.—It is reported that a \$25,000
brick addition will be built to the hospital building
for the Ellis Hospital Association, after plans by
L. C. Holden. Rev. J. Philip B. Peudleton, Alonzo
P. Strong and others, building a committee.Penn Varney, 46 Central Sq., Lynn, Mass., has
prepared plans for a \$20,000 residence, which will
be erected by J. R. Lovejoy on Douglas Road.Seattle, Wash.—Report states that 22 residences
are to be erected at 14th and 15th Aves. and Co-
lumbia and Marion Sts. by the firm of Smith &
Kerly. The total cost of the improvement will be
\$45,000.Josephans & Allen, architects, have taken out
permits for a three-story and basement brick block,
at 2301-2305 First Ave., for Keen & Smith; cost,
\$33,000.South Omaha, Neb.—Mrs. E. T. Mullins will erect
a three-story brick hotel, to cost \$20,000.Spokane, Wash.—Plans have been drawn by L. L.
Rand, 519 Rookery Building, for a five-story brick
and terra-cotta building, costing \$40,000, to be
erected by the Spokane Dry Goods Co.St. Paul, Minn.—Foley Bros. & Kelly, wholesale
grocers, contemplate the erection of a large whole-
sale house in the rear of the Great Northern general
office building. It is stated that the company will
expend \$250,000.The St. Paul Masonic Association has recently
purchased a site on W. 4th and Market Sts. for the
projected Masonic Temple. \$100,000 will be ex-
pended on this building and a committee is now
consulting over plans and specifications.Whatcom, Wash.—Cance & Holly will erect a two-
story brick building, to cost \$40,000.Woonsocket, R. I.—Mayor Greene recommends the
appropriation of \$65,000 for the purchase of a site
and the construction of a city-hall.

PROPOSALS.

ASPHALT WORK.

[At Washington, D. C.]
Office of U. S. Engineer, 735 N. Capitol St., Wash-
ington. Sealed proposals will be received here until
February 3, 1902, for tile and asphalt roof work,
ventilators, copper guttering and asphalt floor
work, for new building for government printing
office. Information furnished on application. JOHN
STEPHEN SEWELL, captain, engineers. 1361

OFFICERS' QUARTERS.

[At Fort Greble, R. I.]
Office of Constructing Quartermaster, 209 Thames
St., Newport, R. I. Sealed proposals will be received
here until February 7, 1902, for constructing,
plumbing and electric wiring one double set non-
commissioned officers' quarters at Fort Greble,
R. I. Information furnished on application. CAPT.
THOMAS H. SLAVENS, Q. M. 1361

REMODELLING STOREHOUSE.

[At Fort Greble, R. I.]
Office of Constructing Quartermaster, 209 Thames
St., Newport, R. I. Sealed proposals will be received
here until February 7, 1902, for building cellar
under and making alterations, etc., in subsistence
storehouse at Fort Greble, R. I. Information fur-
nished on application. CAPT. THOMAS H. SLAV-
ENS, Q. M. 1361

[*"A Hit, a Palpable Hit!"*—HAMLET.]

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CASS GILBERT.

PROPOSALS.

BUILDINGS.

[At Decatur, Ill.]

Bids are wanted February 4 for erecting the first group of seven buildings for Decatur College and Industrial School of the James Milliken University. Cost, \$200,000. Patton & Miller, archts., 115 Monroe St., Chicago. I. R. MILLS, Pres. Bd. Mgrs. 1361

COURT-HOUSE.

[At Livingston, Ala.]

Bids are wanted February 6 for erecting a two-story brick court-house. W. A. C. JONES, Chmn. Co. Commrs. Ausfeld & Chapman, archts., Montgomery. 1361

CITY-HALL.

[At Findlay, O.]

Bids are wanted February 8 for erecting a city-hall. FRANK C. RAY, City Clk. 1361

JAIL.

[At Brownwood, Tex.]

Bids are wanted February 6 for erecting a stone or brick fireproof jail; cost not to exceed \$30,000. R. P. Conner, Co. Judge. W. D. McCHRISTY, Co. Clk. 1361

PIPE.

[At Washington, D. C.]

Office of the Commissioners, D. C., Washington,

PROPOSALS.

D. C. Sealed proposals will be received at this office until February 1st, 1902, for furnishing 40,000 lin. ft. of 6-inch cast-iron water-pipe. Specifications and blank forms of proposal may be obtained at this office. HENRY B. F. MACFARLAND, JOHN W. ROSS, JOHN BIDDLE, Commissioners, D. C. 1361

SEWER SYSTEM.

[At Fort Fremont, S. C.]

Sealed proposals will be received here until February 14, 1902, for installing water and sewer system, including pump-house, pumping machinery, tanks, distributing mains, etc., also detached lavatory at this post. Information furnished on application. EARL W. TAYLOR, Q. M. 1362

SCHOOL-HOUSE.

[At Newport, Vt.]

Sealed proposals for the construction of the new school-house for the Newport Academy and graded school district are invited. Plans and specifications may be seen at the office of E. A. Cook, Newport. Bids will be opened February 14. E. A. COOK, Chairman Building Committee. 1362

SCHOOL-HOUSE.

[At Delanco, N. J.]

Bids will be received by the Board of Education of

PROPOSALS.

Beverly Township until February 10 for erecting an 8-room stone and brick school at Delanco. Address H. J. DENNIS, Dist. Clk., Delanco. 1362

CITY-HALL.

[At Jacksonville, Fla.]

Bids are wanted February 10 for erecting a city-hall. JOHN N. C. STOCKTON, Chmn. Bd. Pub. Wks. 1362

BUILDING.

[At Boston, Mass.]

Sealed proposals will be received at the bureau of yards and docks, Navy Department, Washington, until February 15, 1902, for constructing a brick and steel building at the navy yard, Boston, Mass. Estimated cost, \$170,000. Plans and specifications can be seen at the bureau or at the navy yard named, or will be furnished by the commandant of said navy yard upon deposit of \$25 to secure their return. MORDECAI T. ENDICOTT, chief of bureau. 1362

SCHOOL.

[At West Concord, Minn.]

Bids will be received until February 15 for the erection of the school-building, on plans by F. D. Ork, architect, of Minneapolis. H. H. ORFF, clerk. 1363

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PROPOSALS.	PROPOSALS.	PROPOSALS.
Treasury Department, Office Supervising Architect, Washington, D. C., January 14, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 18th day of February, 1902, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Post-office at Janesville, Wisconsin, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Janesville, Wisconsin, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1361 SCHOOL. [At Rollo, Mo.] Bids will be received February 3d for a \$50,000 school-building. 1361 COURT-HOUSE. [At Aberdeen, S. D.] Separate sealed proposals for the erection of a court-house and steam heating plant therefor for Brown County, South Dakota, at Aberdeen, including all labor and material, will be received by the Board of County Commissioners of said county until the 18th day of February, 1902. All bids must be in strict accordance with the plans and specifications,	tions, prepared by Kinney & Detweiler, of Austin, Minn., which may be seen on and after January 20, 1902, at the office of the county auditor at Aberdeen, S. D., and may also be seen on application to <i>Improvement Bulletin</i>, Minneapolis, Minn., <i>Builders' Exchange</i>, St. Paul, Minn., <i>The American Contractor</i>, Chicago, Ill., McLeod & Smith, Duluth, Minn., and Kinney & Detweiler, Austin, Minn. CHAS. EYGBROAD, county auditor, Brown County, S. D. By order of the Board of County Commissioners. 1362 U. S. Engineer Office, 735 N. Capitol St., Washington, D. C., January 3, 1902. Sealed proposals will be received here until noon, February 3, 1902, and then publicly opened, for furnishing ventilating fans, with direct connected motors, for new building for Government Printing Office. Information furnished on application. JOHN STEPHEN SEWELL, capt., engr. 1362 FACTORY. [At Philadelphia, Pa.] Bids are asked for Beiswanger Bros. factory buildings at 46th St. and Pennsylvania Railroad, Philadelphia, Pa. The cost of the building will be between \$50,000 and \$60,000. 1361	COURT-HOUSE. [At Elk Point, S. D.] Sealed bids will be received until February 11, 1902, for the erection of a court-house for Union County, S. D., to be built at Elk Point, in said county. Plans and specifications are on file in the office of the county auditor at Elk Point, and at the office of G. W. Burkhead, Iowa Bank Building, Sioux City, Ia. P. HERRITY, Ch. Board of Co. Commissioners. 1362 U. S. Engineer Office, 735 N. Capitol St., Washington, D. C., January 3, 1902. Sealed proposals will be received here until noon, February 3, 1902, and then publicly opened, for vault doors, mahogany doors and frames, fireproof doors and hardware, for new building for Government Printing Office. Information furnished on application. JOHN STEPHEN SEWELL, capt., engr. 1362 U. S. Engineer Office, 735 N. Capitol St., Washington, D. C., January 3, 1902. Sealed proposals will be received here until noon, February 3, 1902, and then publicly opened, for tile and asphalt roof work, ventilators, copper guttering and asphalt floor work, for new building for Government Printing Office. Information furnished on application. JOHN STEPHEN SEWELL, capt., engr. 1362