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IT is to be hoped that we have seen the last, for this year, of a series of strikes which seem to have been characterized by more wanton bloodshed and destruction, considering their duration, and the number of men involved in them, than any others which have taken place in this country. In the Buffalo strike, for example, no sooner had two hundred men been ordered, generally against their will, to strike, than the most inexcusable attacks on life and property began. Hardly was the existence of the strike known, before cars and other property were wantonly burned by the strikers, and very soon afterward followed a deliberate and scientific attempt to throw an express passenger-train, filled with passengers, down an embankment. This demonstration was evidently modelled upon that of two years ago, and, like it, was carried out by expert railroad men, who bent a piece of angle-iron, and spiked it to the ties, in such a way that it would lift the flanges of the wheels off the rails at a curve, but, lying close to the rail, and not projecting above it, would not attract the attention of the engineer, or of passers-by as would a tie, or a pile of rails, laid across the track. The devilish device worked just as it was intended to and threw the cars off the track, but, although the train was running at the rate of about sixty miles an hour, the ploughing of the wheels through the sandy road-bed checked it before it reached the edge of the embankment, saving the lives of scores of people, guilty of no other crime than that of travelling on a railroad on which a man named Sweeney had ordered a strike. It is said that the passengers in the train immediately started in search of their would-be murderers, who, if they had been caught, would never have wrecked any more trains; but unfortunately the search was unsuccessful. Meanwhile, other strikers were amusing themselves, in various places in and about Buffalo, by climbing up secretly and throwing brakemen off the tops of moving freight-cars, pounding trainmen to death with coupling pins, and so on. The civil authorities being perfectly incompetent to prevent citizens from being murdered, the State military force was called in, much to the disgust of the city magnates, who protested loudly against the "expense" of defending the lives of innocent people against Mr. Sweeney's protégés. The latter, evidently imagining that the State soldiers were as harmless as the sheriff and police, received them with showers of coal, to which the soldiers responded at last by bullets, after enduring the insolence of the mob much too long. It would be better for all of us to have the ruffians who defy sheriffs and police with impunity, taught that soldiers

represent the overwhelming force of law and order; a force which, when it is once called out, endures no trifling nor questioning, nor anything else except instant submission. A curious illustration of the difference in efficiency between soldiers permitted to use their arms, and those ordered to stand patiently under a hail of stones and lumps of coal is to be found in the Tennessee riots, where a hundred and fifty militia repulsed, and afterward kept in check, three thousand miners, armed with rifles and cannon, as compared with those at Buffalo, where eight thousand well-disciplined soldiers were called upon to keep about a thousand switchmen in order, and, even then, inspired so little respect that the newspapers called urgently for regular troops in addition, and demanded that the United States Army should be greatly increased, so as to provide sufficient force for such occasions.

IT is generally interesting to inquire into the origin of strikes, and the Buffalo switchmen's strike is no exception to the rule. To use the homely phrase, there is generally a cat hidden in the meal of which they are composed, and, on examination, the little animal is usually found to be charged with the personal interests of some labor magnate. In the Buffalo case, a reporter of the Boston *Herald* thinks he has discovered pussy's ears, at least, and explains that Mr. Sweeney, through whose action thousands of passengers were delayed and inconvenienced, murderous attempts made upon train-loads of innocent people, faithful workmen slaughtered at their posts, and eight thousand citizen-soldiers called out to preserve order, is a candidate for reelection to his present position of Grand Master of the Switchmen's Mutual Aid Association, at the general convention of the Association, which takes place in Texas on the fifteenth of September. It seems that Mr. Sweeney very nearly failed of reelection at the last convention, and that a formidable rival, in the person of Mr. Moriarty, will this year contend with him for election to a post which carries with it the very comfortable salary of five thousand dollars a year, and travelling expenses. It is said that Mr. Sweeney's popularity in the order has not increased of late; and while we will not attempt to draw any conclusions from the facts, it is at least a singular coincidence that, two years ago, when the popularity of the dignitaries of the Knights of Labor was declining so rapidly that a delegate to the convention of the order in Baltimore openly denounced them as "thieves and skunks," the terrible and murderous strike on the New York Central Railroad should have suddenly broken out; and that this year, a month before what was likely to be a sharply contested election to the post of Grand Master of the Switchmen, the switchmen's strike should have thrown three great railways into temporary confusion.

THE ingenuity displayed in finding a "grievance" to base a strike upon is something wonderful. It appears that there is, in a little village near Buffalo, a switch, opening upon a siding which is only occasionally used. When it happens to be necessary to transfer a car to this siding, the fireman on the shifting-engine jumps off and opens the switch. One day, as a car was being shifted to the siding, the fireman suddenly refused to get off the engine and open the switch. The engineer ordered him to do his usual work, but he replied that he would rather lose his place than turn the switch. One of the officials of the road was standing near, and took him at his word, discharging him on the spot. A strike was ordered the same day. After it became evident that the strike would fail, it will be remembered that reports were sent all over the country of the approaching conclave at Buffalo of the chiefs of the various railway organizations, and it was asserted that all had arrived except Mr. Arthur, who was hourly expected. According to the *Herald's* reporter, letters or telegrams were sent to each one of these magnates, informing him that all the others were already in Buffalo. It speaks well for the penetration of the chiefs that only one of them ever really came—Mr. Sargent, of the Firemen's Association. Mr. Sargent, whose society has not had a strike for twenty years, and is prohibited by its constitution from taking part in "sympathetic strikes," seems to have labored conscientiously with Mr. Sweeney. According to the *Herald*, he investigated the

"grievance," and concluded that the fireman who would not turn the switch was rightfully discharged, and that his associates would take no notice of his fate. With this cold comfort he departed, leaving Mr. Sweeney in worse plight than ever and Mr. Moriarty, who, of course, had been closely watching his rival's manœuvres, wreathed in smiles. A few days later, according to the newspapers, a committee of the local switchmen themselves waited on Mr. Sweeney, and demanded that he should order the strike "off," which he did. Soon afterwards, he was enabled to appreciate the methods by which "organized labor" exerts its influence upon society, through a savage assault, made upon him by a striking switchman, who was disappointed at having lost his place; and departed for Chicago in a frame of mind not to be envied.

MEANWHILE, a dozen or more men are languishing in hospitals with disabling wounds, the families of several others, who were beaten to death with coupling pins, or jumped upon and crushed, or thrown off moving freight cars, are preparing to exchange their comfortable homes for the almshouse, through the force of circumstances not unconnected, let us say, with the election in the switchmen's convention next month; and neither these poor people, nor any one for them, have the courage to denounce the heartless egotists who turn money into their pockets by means of riots and murders. It will be remembered that, just before the great New York Central strike of two years ago, one of the union dignitaries sent a private note to the officers of the corporation, informing them that unless they had some shares of stock immediately transferred to him, he would "stop every wheel on the road." As the stock was not transferred to him, a "grievance" was immediately found, and a strike followed, so disastrous that it will not be forgotten in New York for many years. It is more than probable that nearly all the railroad strikes, and a large part of those in all other kinds of business, for the last ten years, have had a similar origin; but the poor trainmen and mechanics who could throw light on the subject remember their brethren who were beaten to death with coupling pins, or thrown into the river on a dark night, or hounded into beggary, and hold their peace; while the legislative and congressional committees, who might get at the truth if they chose, invite the concoctors of murder and destruction to consultations about the alleged "grievances" put forward as a pretext for violence, listen respectfully to their stalwart fabrications, and dismiss them with compliments, to arrange fresh schemes of mischief. The result of this forbearance will, we fear, be disastrously evident next year. There will be, through most of the year, an immense passenger business on the railways centering in Chicago, and it will be strange if the people who get their living by having trains stopped or thrown off the track, cars burned, trainmen murdered and passengers frightened, do not make the most of the opportunity. So long as men who threaten to "stop every wheel" on a railroad, unless a few thousand dollars worth of stock is immediately placed to their credit have the power to carry out their threats, it must be expected that they will be constantly on the alert for chances to fill their pockets in their peculiar way; and chances will be plenty next year.

THE science of combining iron and cement appears to be undergoing a rapid development abroad. Quite recently, large water-mains, varying from two to four feet in diameter, have been successfully made by casting cement over a skeleton of iron or steel. This manufacture, which is known as "sidero-cement," is due to M. Bordenave, and is described in *Le Génie Civil*, in an interesting letter from M. Henri Mamy, who is always extremely judicious and successful in collecting information of value to constructors in relation to new processes and materials. In the manufacture of sidero-cement, which is applied to constructing cisterns and reservoirs, as well as pipes, small steel I-beams mainly are used, as giving the greatest strength, and largest development of surface for the adhesion of the cement, with the least weight, while they lend themselves well to the spiral twisting which they must undergo. These are formed into a network, consisting of a double set of spirals, running in opposite directions, enclosing a set of straight bars, parallel, in the case of pipe, to the axis of the pipe. These skeletons are set on end, a mandril inserted, and a smooth cylinder placed outside, and

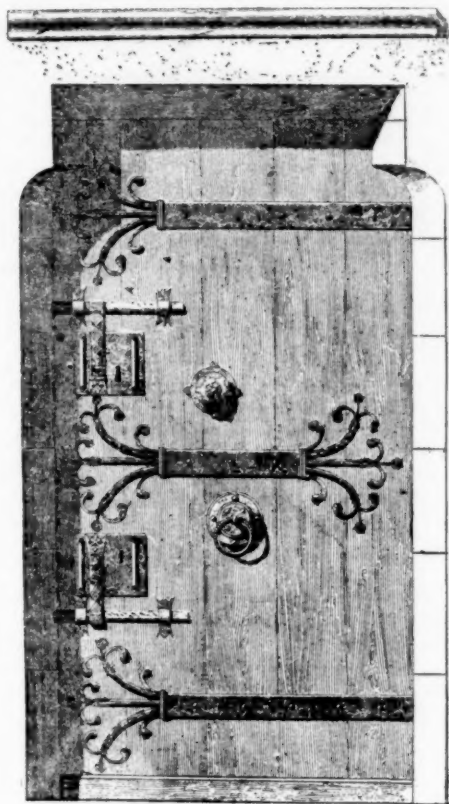
cement poured in. As the cement is, naturally, denser at the bottom of the moulds than the top, the spiral members are compressed a little at the top, so as to give more metal, proportionally, at that point than in the other portions of the pipe. After the cement has set, the moulds are removed, and the resistance of the pipe soon becomes sufficient to allow it to be handled, increasing then with age for two or three years. In laying the pipes, joints are made with rings, of the same structure as the pipes, slipped over the joints, and bedded in cement. So far, the sidero-cement water-mains seem to have answered a very good purpose. They can be safely used where the water acts on iron, as in Nantes, in Brittany, in several Algerian towns, and in many other places.

IN view of M. Bordenave's careful calculations of the resistances of his steel structure, we would offer the suggestion, modestly, that it seems as if a skeleton of woven wire might be used for such purposes, which would be much cheaper than the spiral I-beams, and nearly or quite as good. We all know the virtues of lattice-girders, and it would seem as if wire-cloth, perhaps galvanized after weaving, so as to secure all the meshes from deformation, might be wrapped around a mandril, and secured in such a way as to form a very stiff and strong cylindrical lattice, which could be buried in cement. A lattice of this kind would divide up the cement much less than one of I-beams, and there would be less need of elaborate cleaning of the metal to secure the adhesion of the cement. Apart from this point, there is no doubt that cement is a good material for conveying water. Miles of sheet-iron pipe, lined with cement, have been laid for water-mains in this country, and, considering the perishable nature of the sheet-iron, and the difficulty of getting a uniform lining of cement, have given remarkably good service. Since these pipes were made and used, however, our knowledge of cements and concretes has been greatly extended, and the prospect of extensive use for cement pipes of more scientific manufacture certainly seems good. Moreover, if the sidero-cement is good for water-pipes, it ought to be good for gas-pipes. It is discreditable to modern engineering that gas cannot be carried through our cities without enormous loss. It seems to be settled that, on an average, at least one-fourth of the gas made in the retorts escapes, by leakage from the mains, before it reaches the burners where it is consumed. Of course, the people who buy the gas have to pay for what is lost on the way, as well as for what is burned, so that the customers of the gas-companies have at least one-third added to their bills, to pay for gas which never reaches them, but it is devoted to saturating the ground, and, to a certain extent, poisoning the air which they have to breathe. Whether the cement pipes would be entirely gas-tight we cannot say, but they could probably be made so by dipping in hot tar; and the joints, made with rings, cemented on, ought to be much stronger and tighter, for large pipes, than those of caulked lead.

IT is rather surprising that our rich givers of dinner-parties and wedding entertainments, to say nothing of funerals, do not sometimes employ architects to design the "floral decorations" which form so costly, and often so beautiful a feature of such occasions. Of course, many architects know and care nothing about flowers and foliage-plants, but many others are very familiar with both; and, although the florists often take much pains, and study hard, to get beautiful effects, the training of an architect ought to enable him to devise others, at least as beautiful, and probably more original. Where the florists in charge of such work, or those who employ them, do not possess the necessary taste, which is frequently the case, their productions are sometimes astounding. Most people who go to public dinners, or to testimonial concerts, have seen the fishes, and violins, and American flags, and other devices made of small colored flowers imbedded in white carnations; but these are nothing to the objects which special effort can secure. The funeral of a Chicago butcher is said to have been graced by a representation of a lamb, just slaughtered, the form of the innocent creature being rendered in white carnations, while the blood was imitated to the life by pink and red flowers of various shades; and, not long ago, a New York florist made and sent to San Francisco, on a special order, an enormous shirt, composed of immortelles and other flowers, with white body and sleeves, and bosom, cuffs and collar in pink.

ARCHITECT, OWNER & BUILDER BEFORE THE
LAW.¹—XXV.

THE RIGHTS OF THE LOWEST BIDDER.



Door of the Canon's Sacristy, Rouen Cathedral. From Havard's "Dictionnaire de l'Ameublement."

A GREAT deal of unhappiness often arises, after the award of contracts for public work, from a misapprehension, on the part of contractors, of the rights of the lowest bidder. It is very commonly supposed that the person who offers to do the

THE LOWEST BIDDER NOT NECESSARILY ENTITLED TO
CONTRACT.

work submitted for estimate for the lowest price is entitled to have it awarded to him, unless distinct notice has been given, in the invitation to bidders, that the lowest tender will not necessarily be accepted. This notion is an erroneous one. In some cases² the laws of a State, or the regulations of a private or public corporation, provide that bids shall be invited for all work for the State or corporation exceeding a certain sum in value, and that the work shall be awarded to the lowest bidder; and, where this is the case, the officials in charge of the matter have no discretion; but where no such law or regulation exists, the lowest bidder has no claim to be preferred, and no notice need be given that his bid will not necessarily be accepted. In many cases, where the law or regulation on the subject, instead of saying simply that the work shall be given to the lowest

THE "LOWEST RESPONSIBLE BIDDER."

bidder, provides that it shall be awarded to the "lowest responsible bidder," the discretion which the law allows the officials in judging of responsibility is so extensive that here also the lowest bidder has practically no claim to the work which he can enforce, if the officials have in good faith decided that it would be better to give it to some one else. An instructive case³ involving this point was decided in Pennsylvania a few years ago. There is a statute in Pennsylvania which says that "All stationery, printing, paper and fuel used in the councils and other departments of the city government, and all work and materials required by the city, shall be furnished, and the printing and all other kinds of work to be done for the city shall be performed, under contract, to be given to the lowest

responsible bidder, under such regulations as shall be prescribed by ordinance." Under this statute bids were invited by the

THE PITTSBURGH WATER MAINS.

Water Committee of the city of Pittsburgh for wrought-iron forcing mains, to be made in conformity with certain specifications. The firm of Snyder & Co. made a proposal, in conformity with all the requirements, which was \$5,000 lower than any other bid received, and accompanied their offer with a good and sufficient bond. Instead of awarding the contract to them, the Water Committee, after some consideration, awarded it to another firm, whose bid was higher. Messrs. Snyder & Co. thereupon applied to the courts for a mandamus, to compel the committee to award the contract to them. The committee, being summoned to show cause why the mandamus should not be granted, said that it "was within their full knowledge and belief" that the said Snyder & Co. on a previous occasion, "by some means or other, attempted and did perpetrate a gross deceit and wrong" upon the committee, "in surreptitiously departing from the specifications for a certain contract for the construction of boilers for the new water-works, by striking therefrom, without the knowledge or consent of the said committee, the word 'mud-drum,'" and that "it was within the knowledge of some, if not all, the members of the Water Committee that N. Snyder, the senior member of the firm of Snyder & Co., was a man of intemperate habits, whose character for sobriety was not such as would warrant the committee in giving said firm a responsible contract; that said N. Snyder also had attempted to bribe the mechanical engineer of the water-works, who was the inspecting officer of said contract," and that Snyder & Co. were "otherwise disqualified for the proper fulfillment of the requirements of the proposed contract."

The court appointed a commissioner to take testimony, and found, on his report, that Snyder & Co. were the lowest bidders, and were pecuniarily responsible; and further, that the evidence did not sustain the allegation that "it was within the knowledge of the committee that Snyder & Co. had attempted or perpetrated a gross deceit or wrong" upon it; or that N. Snyder was a man of intemperate habits, or that he had attempted to bribe the engineer; but it was of opinion that the committee fully believed that these facts were true. On this finding the court held that the action of the Water Committee could not be interfered with.

The case was appealed to the Supreme Court, which confirmed the decision of the court below, saying, "The learned judge who, as the mouthpiece of the court to which this case was submitted, delivers the opinion, finds that the facts stated in the petition are true, and that the allegations contained in the answer, as above set forth, are wholly without foundation, but that, notwithstanding this, the committee fully believed that what was asserted in the answer was true. We must take this opinion of the court as to the belief of the respondents to be correct, . . . nevertheless, it does somewhat surprise us that this body of men, intrusted with so important a duty, should have rested so contentedly under a delusion which a little inquiry in the right direction would have dissipated, and thus saved a handsome sum of money to the city treasury." The Court, however, held with that below, that the word "responsible," as employed in the statute, "means something more than pecuniary ability." "In a contract such as the one in controversy, the work must be promptly, faithfully and well done; it must, or ought to be, conscientious work; to do such work requires prompt, skillful and conscientious men. A dishonest contractor may impose work upon the city, in spite of the utmost caution of the superintending engineer, apparently good, and even capable of bearing its duty for a time, which in the end may prove to be a total failure, and worse than useless. Granted that from such a contractor pecuniary damages may be recovered by an action at law; this is at best but a last resort, that often produces more vexation than profit, a mere patch upon a bad job, an exceedingly meagre compensation, at best, for the delay and incalculable damage resulting to a great city from the want of a competent supply of water. The city requires honest work, not lawsuits. Were we to accept the interpretation insisted upon by the relators, the difference of a single dollar, in a bid for the most important contract, might determine the question in favor of some unskilful rogue, as against an upright and skilful mechanic. Again, we know that, as a rule, cheap work and cheap workmen are but convertible terms for poor work and poor workmen, and

¹ Continued from No. 870, page 128.² People vs. Croton Bd., 9 Barb. 259. Topping vs. Swords, 1 E. D. Smith, 109. Starkey vs. Minneapolis, 19 Minn. 203.³ Commissioners vs. Mitchell, 82 Penn. 343.

"if the city, for the mere sake of cheapness, must put up with these, it is indeed in a most unfortunate position." . . . "It is settled beyond controversy, that where the complaint is against a person or body that has a discretionary or deliberative function to exercise, and that person or body has exercised that function, according to the best of his or its judgment, the writ of mandamus will not be granted to compel the undoing of what has been done."

The summary of the decision in this important case states the view of the court as follows: "The word 'responsible' in the 6th Section of the Act of May 23, 1874, has a broader meaning than is involved in the pecuniary ability to make a good contract by security for its faithful performance; and, where the term is applied to contracts requiring for their execution not only pecuniary ability, but also judgment and skill, the statute imposes not merely a ministerial duty upon the city authorities, but also duties and powers which are deliberative and discretionary; and therefore, where these authorities have exercised a discretion, mandamus will not lie to compel them to modify a decision, even though their action was erroneous, in the absence of clear proof of fraud or bad faith."

A very similar view of the law was taken by the Supreme Court of Nevada in a case¹ of the same sort. An asylum for the insane was to be erected by the State, and the statute providing for it declared that the Board of Commissioners might adopt or reject any or all bids not deemed reasonable or satisfactory; but, in determining bids for the same work or material, the lowest responsible bid should be taken. Bids were presented for the construction of the building, that of the plaintiff being \$52,000. The Commissioners awarded the contract to another bidder, whose proposal was to do the same work, and furnish the same materials, for \$60,000. The plaintiff applied to the court for a mandamus to compel the Commissioners to cancel the award and to transfer the contract to him.

A BID LESS THAN THE REASONABLE COST.

The Commissioners replied to the application that they had ascertained from the testimony of skilled experts that the buildings could not be carried out as required by the plans and specifications for less than \$58,000; that the plaintiff had not the requisite means or credit for building them for less than about \$60,000; that the sureties on the bond offered by the plaintiff could not all qualify in the sums for which they proposed to become surety; and that, after laborious examination and inquiry, they concluded that the plaintiff's bid was not reasonable or satisfactory, or entirely or in any way responsible, and that the bid which they accepted was the lowest responsible one, and that they had strictly complied with the statute in accepting it. Neither fraud, negligence nor favoritism was alleged against the Commissioners.

The Supreme Court held that the statute was mandatory in requiring the Commissioners to take the lowest responsible bid, and they had no power or authority to accept any other; but, in ascertaining whether or not a bidder was responsible, they were required to deliberate and decide, and, in doing so, they exercised judicial, not ministerial functions; "and, in deciding upon the responsibility of bidders, it was their duty to consider not only their pecuniary ability to perform the contract, but it was their right and duty to inquire and ascertain which ones, in point of skill, ability and integrity, would be most likely to do faithful, conscientious work, and fulfill the contract promptly, according to its letter and spirit."

Laymen will probably wonder at the penetration of a court which could discover all this depth of meaning in the seemingly simple language of the statute; but it will be found that courts in general show great respect for the decisions of honest and capable men, who may be vested with discretionary powers, and are likely to interpret statutes as favorably for them as they can. In this case the Nevada court held, summing up its decision, that "it was the right of the Commissioners to reject the plaintiff's bid, and their duty to do so if, after examination, it was not, in their best judgment, the lowest responsible bid. The testimony showed that the Commissioners acted conscientiously, and their decision could not be disturbed."

CHARACTER OF BIDDER MAY BE CONSIDERED.

Another example of the tendency of courts to allow the character of the bidder to be considered, as well as the pecuniary resources at his command, in determining his responsi-

bility, is to be found in a New York decision,² in which it was held that, where the law required a contract to be awarded to the lowest *bona fide* responsible bidder, the officers in charge of the matter might reject the tender of a bidder who was himself pecuniarily irresponsible, although the bond which he offered was ample.

On the other hand,³ a board of officials is not entitled to exercise its discretion capriciously. Where the statute provided that the lowest responsible bid should be accepted, but that the board might, at its discretion, reject all the bids, it was held that this did not authorize the acceptance of any but the lowest responsible bid; and where, under a similar statute,⁴ an award was made to the highest bidder, instead of the lowest, on the ground that his goods were the best in quality and most suitable in design, the award was held to be unauthorized.

In cases of this sort, however, a board or committee is usually allowed some discretion as to the relative value of the articles offered by different bidders. It has been decided in Ohio⁵ that, in receiving bids for heating-apparatus, a board is at liberty to adopt a particular system before advertising for bids, but need not do so. If it advertises so as to put all systems in competition, it need not select the lowest bid, provided it selects the lowest bid for the particular system it decides to be the best; and its decision as to what system is best, if made in good faith, cannot be reviewed by the courts.

BIDDERS MUST COMPLY WITH CONDITIONS.

In any case, persons who bid for public work must be careful to comply with all the conditions imposed upon bidders. It has been decided in New York that, where the statute required a contract to be given to the lowest bidder,⁶ a bid not made in conformity with the conditions was not to be considered, even though it was the lowest.

FRAUDULENT BIDDING DANGEROUS.

Fraudulent bidding is, of course, to be avoided on moral grounds; but contractors do not always know that such bidding exposes them to temporal penalties, as well as to post-mortem torment. In two cases⁷ in New York, where one of the bidders has purchased from the others the right to bid, and has induced them to destroy their tenders, so as to secure the contract for himself at a more remunerative price, it has been decided that all combinations, of this or any other kind, to obtain the award of contracts to any other than the lowest bidder, are fraudulent, and, on discovery, the State, or other party interested, may maintain an action for damages against a bidder who secures a contract by such means.

BUILDERS NOT ENTITLED TO COMPENSATION.

It should be remembered, also, that the making of a bid for work does not put the one to whom the offer is made under any obligation, unless he has made some promise or agreement in relation to it. Where a man had talked about building, and had obtained some estimates, and, after he had given up the undertaking, the contractor who had submitted the lowest bid sued⁸ him for damages equal to the profit he would have made on the job, it was held that mere vague talk about building, without an agreement to give the work to the lowest bidder, did not give any claim for damages.

[To be continued.]

THEFT OF ELECTRIC CURRENT.—The proprietor of a hardware shop in St. Louis is charged with having put a "jumper" wire across the meter of the Missouri Electric Light Company on the service wire in his shop, thus short-circuiting the current, so that it did not enter the meter, which, consequently, registered only a very slight portion of the current actually used. The loss to the company amounted to only \$3.20, but the act was made use of as a test case and the offender was charged with larceny. The defendant's attorney set up the defense that the alleged offence could not constitute larceny, as electricity was not property, and could not, therefore, be stolen. Authorities were cited to show that gas, which it was claimed was a similar substance, was considered personal property by law, and it was, therefore, a larceny to steal it. The defence then claimed that if any offence was committed by defendant it was attempted fraud and not larceny. The State accepted this view of the affair, whereupon the culprit was bound over for the offence, which is also a felony. — *Boston Practical Electricity*.

¹ People vs. Dorshelmer, 55 How. P. R. 118.

² Ross vs. Board of Education, 42 O. S. 374.

³ State vs. Betts, 4 C. C. 85 (Ohio).

⁴ State vs. Board of Education, 29 Bull 156.

⁵ Weed, etc., vs. Barch, 56 N. Y. P. R. 470.

⁶ People vs. Lord, 6 Hun. 390. People vs. Stephens, 71 N. Y. 527.

⁷ Boyle vs. Desenberg, 74 Mich. 79.

⁸ Hoole vs. Kinkaid, 16 Nev. 217.

[Note: — In these tables bracketed letters invariably refer to preceding passages in the same column.]

Supports over Openings.

Compiled by H. A. PHILLIPS

STROLLS ABOUT MEXICO.¹—XVI.

FROM PUEBLA TO ATLIXCO—A DELIGHTFUL TOWN AT THE FOOT OF POPOCATEPETL.



Street in Atlixco.

PUEBLA has become a railway centre of importance. The Inter-oceanic and the Mexican railways give it the benefit of two lines to the capital and to Vera Cruz. The Mexican Southern (Ferrocarril meridional Mexicano), another narrow-gauge line, is building from Puebla southward to Oaxaca by way of Tehuacan, a favorite watering-place which perhaps is destined to continental reputation, for its hot springs are said to be identical in quality with those of Carlsbad. The Mexican Southern has a special interest as being the railway for which General Grant obtained a concession, which, unfortunately, lapsed during the depression that in 1884, came over nearly all Mexican enterprises. General Grant's sagacity in estimating the importance of this line bids fair to be confirmed, for its prospects for a rich traffic are said to be brilliant. It continues the continental system far down into southern Mexico and will ultimately bring Guatemala and other portions of Central America into direct railway communication with the United States, possibly forming a link in the Pan-American line intended to extend to Buenos Ayres, Valpariso, and beyond.

The Pacific division of the Inter-oceanic, now building towards Acapulco, also begins at Puebla. A branch from the Morelos division, running on the other side of the volcanoes from the City of Mexico down into the *tierra caliente*, will connect with this line to Acapulco. With the completion of that link tourists will be enabled to make a circuit trip by rail entirely around the volcanoes, beholding their glorious forms from all points of view; it will, too, make accessible many places of great interest. The trip can be easily made in two days, but it would be worth while to give it a least a week.

A charming excursion of a day which we made from Puebla very nearly completed for me this circumvoyaging of the majestic peaks, for a horseback trip which a few weeks before I had made across country in the hot lands of Morelos from Cuautla had given me the views of the volcanoes from the southward which the projected railway link would afford. The Pacific division of the Inter-oceanic is now completed for some distance beyond a place called Izúcar de Matamoros. Directly at the foot of Popocatepetl on the easterly side lies the little city of Atlixco. I had heard much of the picturesque charms of the place from a friend who had been there. It was off the beaten track of tourists, and as the train from Puebla left early in the morning, returning from Atlixco before sunset, it made an attractive excursion for a day, giving a decided change of scenery and climate, for the place lay something over half-a-mile nearer the sea-level than Puebla.

As we waited patiently for the train to start, we wished we were already there in Atlixco, for the early morning air was biting in its chill; it seemed almost frosty, and our teeth fairly chattered. Our train was a curious-looking affair, contrasting strongly with the modern equipment of the main line of the Inter-oceanic. It was made up of compartment coaches in the European style, and the transition from New World to Old World methods of railroading showed how much better adapted were the former to travel in the tropics, with the superior ventilation, air-space, and freedom of movement. These coaches had been bought second-hand from the Mexican Railway, and had been changed to narrow-gauge trucks for which they did not seem any too wide. Being short and light they went with a disagreeable, jiggery motion.

At Cholula the station was directly at the foot of the great pyramid, which towered impressively above us. Its features seemed very familiar, for I had long been acquainted with the spot in an indirect way through one of W. H. Jackson's superbly artistic photographs. I am almost ashamed to say that these passages through, going and returning, comprised the most that I saw of Cholula, for it is a sort of a duty to visit the place when one is in Mexico, and to visit Puebla without a pilgrimage to Cholula is like going to London without seeing Westminster Abbey. But our stay was so limited that we really did not get the time; I had visited San Juan Teotihuacan and scrambled to the apices of the pyramids of the Sun and the Moon, not to mention several of the Stars. So we preferred Atlixco, where nobody went, to Cholula, where everybody went.

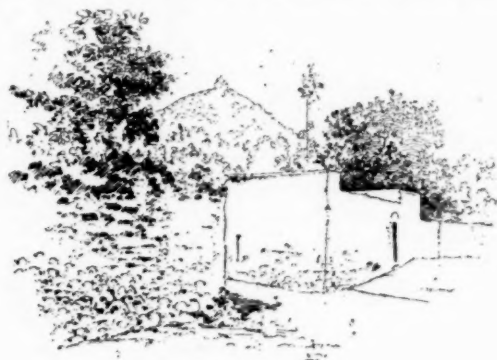
¹ Continued from No. 865, page 56.

As the sun climbed, our altitude gradually diminished; the air grew warm and increasingly soft. To the right were ever visible, close at hand, the snowy summits above slopes mantled with forests of pine and cedar. Before us the wide valley fell gradually away to the southward, and our train rattled quickly down the long decline, curving and twisting in all directions. Soon after leaving Cholula we observed the bluish summit of what appeared to be another great pyramid, also crowned with a chapel and peering up at us from the lower levels where it stood. This pyramid seemed to have a fascination for our train like that which a serpent is said to exert upon a bird fluttering near. Turning away we would ever recur to that point, continually circling closer and closer.

At last we came to a more abrupt slope of the tawny, sun-browned expanse of landscape adown which we were coursing, and a beautiful great level of sugar-cane plantations lay spreading below like an emerald lake, with a coast of fair mountains hazily blue in the intense sunshine. Our mysterious pyramid, which had been growing taller and nearer as we descended, became lost to sight for a while as we zigzagged down into the neighborhood of the far-spreading verdure. Then as we rounded a promontory-like projection from the upland, the pyramid came fully into view from foot to summit; it was really a great cone-shaped hill, remarkably symmetrical, and the centre of a scene which for architectural and landscape picturesqueness can rarely be equalled even in picturesque Mexico. Clustered at its foot lay the city of Atlixco, fringed with luxuriant foliage, surrounded by a soft green carpet. Over the rocky slope of the hill were grouped convents and churches—their towers and domes, and rambling walls, forming the accentuating features of an enchanting composition that was crowned by the solitary and beautiful chapel at the summit.

This was the nearer portion of the picture. Above all, in awful majesty, close at hand, there rose the tremendous dome of Popocatepetl, whose shape was epitomized most singularly in that of the pyramidal hill of Atlixco.

As we approached the place I noticed lying near the railway track a good-sized boat; a rare sight on the Mexican table-land,



The Cerro, from the Huertos, Atlixco.

where the streams seldom offer an opportunity for navigation. There was no body of water in sight, but we were in the valley of the Atoyac, whose general course we had followed, though not visibly, since leaving Puebla. The boat indicated, however, that the river could not be very distant.

At the station we were accosted by a pleasant-faced boy, who asked us if we wished to go to a *fonda*. Somehow we had conceived the idea that there was a "*Fonda de Diligencias*," in the place and we asked the lad to show us thither, but he said there was no hotel of the kind: "*No hay otra fonda que la de Señor Don —*." [There is no other *fonda* than that of Señor Don —.] I wish I might remember the name, but as it is probably still the only *fonda* in the place, visitors will doubtless find their way thither without fail. It is on the street leading out of the plaza on the right. We were suspicious that the boy was in the service of a rival *fonda*, and therefore wished to conceal from us the existence of the "*Diligencias*," but on questioning other persons we assured ourselves that there was indeed no such place, and we submitted ourselves to the guidance of Eduardo, as he was called. The boy attached himself faithfully to us for the day and proved the devoted, intelligent guide, that most of these little Mexican fellows are.

It was the nicest little *fonda*, as it proved. It had an irregular-shaped *patio*, and was scrupulously neat throughout. A massive stone stairway led to a balcony in the second story, where we were shown to pleasant rooms. After removing the dust of the journey, we sallied forth to see something of the town, after having ordered dinner, which the cordial landlady said would be ready at one o'clock.

The place was bathed in the soft and gentle heat of the upper *tierra caliente*, a temperature which was not at all oppressive as we strolled along. The great parochial church facing the plaza had been spoiled so far as the exterior of its body was concerned, by a senseless modern "improvement" that had covered it with a plain coating of stucco, making it in the body a bald and bulky hulk. Fortunately its single tower and its domes—which had impressed

us from the train—had not been disturbed. Eduardo said the church was worth seeing inside, and so it proved to be; it was good, architecturally, and there were some attractive old pictures and carved work. It was a modern feature, however, that proved most interesting: it was the frescoing of the chapel ceiling with a series



At the Foot of the Cerro, Atlixco.

of scriptural pictures—beautifully drawn and composed, and painted with a harmonious refinement that reminded us of modern French work. The artist, however, who had recently died, was a resident of Atlixco and had studied only at the State School of Fine Arts in Puebla. The plaza was one of the old-fashioned kind, of the ante-Maximilian days, such as is now seldom found even in the smallest and most remote cities of Mexico, for the spirit of local improvement is strong nearly everywhere in the republic. Somehow the spirit had not reached Atlixco, in spite of the railroad, for there was no central garden in the plaza, only a group of a few large trees. Under the portales an indolent commerce was going on. A row of great ollas containing *bebidas refrescantes*, refreshing drinks—or “temperance drinks” as we would call them at home—made us aware that we were thirsty, and so we took some *Jamaica con chilla*, no, not Jamaica rum! simply an infusion of the dried petals of a flower called Jamaica, making a beautiful clear currant-colored and pleasantly acid drink, and floating on top, a handful of the little seeds called *chilla*. The *chilla* does not affect the taste, but acts as a sort of lubricant; when wet they are surrounded by a sort of mucilaginous envelope that makes them slip down the throat with a most agreeable sensation.

There was no ice, yet these beverages had a grateful coolness, notwithstanding their exposure to a tropical sun in the open street. The great jars of pottery in which they were contained were sunk nearly to their rims in a bank of dark earth, smoothly patted, with sloping sides, and ornamented with flowers and sprigs of greenery, thrust into it in regular patterns, making a pleasing bit of decoration. This bank of earth was kept constantly wet by the cheery-voiced Indian woman in charge, and the quick evaporation in the warm, dry air maintained the liquids within, at an agreeable temperature.

We bought some nice oranges and some *garbanzas*, roasted in the pod—“snug as two peas in a pod,” we thought, for that was all there were, as a rule—to still our hunger until dinner-time. Then, as souvenirs of the place we purchased some rosaries made of *lagrimas de San Pedro*, Saint Peter's tears—handsome large seeds, bigger than peas, stone-like and smooth, tear-shaped, and looking like great gray pearls. We sauntered through the rambling streets, paved with cobble-stones, generally without sidewalks, and very clean. Through open doorways we could see people at work, plying various industries in a leisurely way, as if they liked it.

Eduardo said that we ought to see the orchards, *los huertos*, out beyond the *cerro*, the hill; it was only a little ways to walk. It was an idyllic place out there, with beautiful shaded lanes, and clear streams gurgling by the way, and delightful roadside fountains. The orchards, densely filled with fruit trees of various kinds were separated into small individual areas, as if the property of each householder in town. In many small Mexican towns the primitive methods still exist in relation to the land; the town stands in the centre of a square league, which is held in common, and a certain space for cultivation is assigned to each householder.

The orchards were separated from the intersecting lanes by high walls, and in each was usually a little house, with a steep roof of thatch. The *granadita*, the luscious fruit of a species of the passion-flower, grew here in abundance. I had been longing to see it in blossom, but it was too late in the season for that. The fruit has a rich yellow shell, the shape and size of an egg; inside is a delicate pulp, with seeds, something like the pulp of a gooseberry.

On the way back we stopped to look into a pilgrimage chapel,—La Soledad, I believe it was called and it had the usual miraculous image with many testimonials to its efficiency. There were some charming decorative frescos in the quarterings of the dome. I think they must have been done by the same artist who painted those in the parochial church. The delightful humor of one of these lingers vividly in the memory: there were two jolly little cherubs in mid-air, surrounded by the sacred emblems of the Saviour's passion; the hammer, the nails, etc. But the boys had evidently forgotten all about these things, which appeared to have been given into their charge, and were indulging in a playful bout with their fists quite after the manner of earthly youngsters. If little boys in Atlixco ever con-

ceive the same dislike of Heaven that some little boys I have known in the United States have been heard to express, on account of the monotony of existence there, as they have been led to conceive it, then this picture must do excellent service in reconciling them to the fate that awaits them if they are good, and die young. For no better time could be imagined than that which those little fellows were having up there among the clouds!

What an exuberance of picturesque material there was all around this neighborhood! My companion who was a painter, longed to spend a season there, and the thought of being limited to but a few hours, altogether, in the place was an aggravation. There was a picture at every turn, in every direction. The beautiful chapels and churches against the luxuriant masses of dark and glossy foliage in the orchards; the magnificent heights of Popocatepetl dominating all; the wide, sea-like expanse of the fertile valley stretching away, bathed in glowing sunlight; the great monastery on the flank of the *cerro*, deserted and half-ruined, with a road winding down into the city, buttressed by heavy retaining-walls and bordered here and there by wayside shrines—I despair of giving more than the haziest idea of the fascination which it had for us. We longed to ascend to the chapel that was perched so enticingly up there on the summit of the *cerro*, beckoning us to climb the easy-looking path so plainly marked as it wound upward in an irregular spiral. But the noonday sun beat down fiercely on the bare, stony slopes, and time also failed us. So we felt obliged to forego what must be a view of surpassing grandeur and loveliness. But in our hearts we registered a vow at the shrine of Our Lady of Guadalupe, the divinity chosen by the multitude to preside over the destinies of this fair land, that if fate should ever again bring us to Mexico, we would stop in Atlixco at least over night. Then, either in the cool of the early morning, or when the lengthening shadows of the great mountains above us were creeping over the plains we would make the pilgrimage to the *capilla ne el cerro*, and receive our reward in the glorious view that awaits us there.

At the *fonda* an excellent dinner awaited us; well cooked and nicely served in courses, the kindly landlady evidently exerting herself to do her best for us. And we were charged the sum of thirty cents apiece, which amounted to less than twenty-five in American money! The faithful Eduardo, was waiting at the door, and, as there was still an hour before the train left, I went with him to look at a great *ahuate*, a giant cypress, which he said was worth seeing. It stood near a brook in a field just outside the city, to the northward, and was truly a magnificent spectacle. It was, in reality, a sort of Siamese twins, for there were two great trunks growing side by side, each taller and, apparently of greater girth, than even the famous cypress in the historic grove at Chapultepec, the *árbol de Moctezuma*. But when I remarked there were two of them, Eduardo shook his head and said: “No señor, con perdón de Usted, es uno, no mas; pero vino un rayo y lo hizo como se ve Usted.” [No señor, begging your pardon, it is one tree, and no more; but there came a stroke of lightning and made it as you see it.]

On our way back to the *fonda* we passed a fine old convent with a beautiful neglected garden and a group of the graceful cypresses that consort so well with architecture, particularly of the ecclesiastical kind; not the cypress of the sort we had just seen—which was an American cypress, or *taxus (taxodium distichum)*, and a deciduous species—but the European cypress of classic associations—dark, slender and spire-like, in shape much like our northern savin, or red cedar.

Before sunset we were back in the Gran Hotel de America at Puebla, with appetites that made us appreciate an informal supper in the excellent café near by, our memories well stored with pictures of the day's trip down into the *tierra caliente* where the delightful little tropical town lay nestling at the foot of the “Great Smoking Mountain” capped with arctic snows. SYLVESTER BAXTER.



IMPROVEMENTS AND BETTERMENTS.—THE OXFORD MUNICIPAL BUILDING.—THE DOUBLE COMPETITION SYSTEM.—THE GLASGOW EXHIBITION BUILDING.—THE EXTENSION OF MUNICIPAL BUILDING SCHEME.

THE Strand Improvement Scheme has been passed by the London County Council after a long and animated discussion, lasting over two meetings. There were several amendments brought forward, some objecting to the planning and design of the new street, while others were not satisfied that the terms of payment proposed were equitable. The County Council still cling with praiseworthy persistence to what is termed “betterment,” viz, the special rating of a certain area of property supposed to be financially benefited by the proposed improvement. This has been again and again refused by Parliament, but the Council simply declined to proceed with any further public improvement until this question had

been settled in their favor. Their new bill, however, which will incorporate this proposed improvement is not to have the lines of the betterment scheme so fully laid down as has been the case in former bills, as the Council have practically left the question in the hands of Parliament to solve. All that is insisted upon is that the whole burden of the improvement shall not fall upon the shoulders of the occupiers, but that a certain proportion shall be charged to the ground landlords, who, it is contended, reap considerable benefit from the improvement and who, it is urged, should make a corresponding contribution to its cost, whether by a betterment scheme, or an improvement rate, or by some system of taxation of ground values. It is all very well for the County Council thus to attempt to shelve its burdens upon the shoulders of Parliament; but the new Liberal Government may be induced to accept the responsibility. At any rate, with them there will be some chance, while with the Conservatives there would have been none. After all, the question of how the money is to be raised is not of as much importance to architects as the manner in which it is to be spent, and happily there is every appearance of this being satisfactory. I explained the proposed scheme last month, and this has been passed by the Council without modification of a material character. It is to be hoped this is the earnest of better things in the planning of our streets and that in days to come a 100-foot street in London will not be chronicled as something so very marvellous.

Two important competitions, for the Oxford Municipal Buildings and the Staffordshire County Council Buildings, have been won by a young architect, Mr. Hare, whose prowess has been noteworthy in several recent competitions. The Oxford buildings are to be erected upon the site of the old library and corn-market near Carfax, and thus a picturesque part of old Oxford will be destroyed, which is rather a pity. The site was an awkward one, but was grappled with very successfully by Mr. Hare, and there is every reason to hope that his elevation, with care and attention to the detail, will work out successfully. This competition was worked upon a system which has become fashionable now in England and known as the "double" competition. The principle upon which this is founded is good, but like many good principles, it works badly in practice. The first part of the competition is open to all, with the restriction that only sketch-plans to a small scale, say sixteenth, are asked for. The best six of these sketch designs are selected and their authors asked to compete again by working out their designs more fully to a larger scale. Each of these six competitors is paid a certain sum, generally about £100 each, and the successful competitor is entrusted with the execution of the work at the ordinary fees. The theoretical advantages of this dual system are great. All that the competitors are asked for at first and without payment is the single set of sketch designs to a small scale, and in practice it has been found that all the care and attention which are usually lavished upon an ordinary set of competitive drawings is bestowed equally upon these sketch designs which are, in fact, simply ordinary drawings in miniature. The frustration of the first object of the competition is accompanied by the conversion of the second part into a farce. The competitor having thought out his design so completely in the first instance is scarcely likely to modify it materially for the second part of the competition, and consequently he does little else than enlarge his design which could really have been quite as well decided upon for the first part as for the second without the additional labor of preparing a second set of drawings. On the other hand there are six prizes to be competed for instead of two or three and if competitors could only be brought to see that sketch-plans really mean sketch-plans, and not elaborately worked-out drawings, there is much to be said in favor of the dual system. Generally, competitions have improved greatly during the past few years. In all important competitions the appointment of an assessor is considered to be a necessity, fair premiums are given and there is much less chance of favoritism than there used to be. It has also become the custom for drawings to be delivered mounted upon stretchers of uniform size without colored borders and without names or mottos; these precautions are all in favor of fairness and honesty and serve to encourage that confidence in an impartial judgment which is necessary if good architects are to be enticed to compete. Of course there is much to be said against the morality of competitions at all, but admitting their existence as a necessary evil, it is as well to take every precaution that they shall be conducted in an efficient and straightforward way.

Exhibitions are the order of the day now and scarcely a year passes that does not see some exhibition held on a fairly large scale. It is not so often however that they leave behind them a substantial surplus and therefore when the Exhibition Commissioners of Glasgow reckoned up their balance-sheet it was pleasant no doubt to them to find that they had about £35,000 in hand. This they invested as a nucleus for a fund for erecting galleries for the advancement of art and science. The Corporation of Glasgow, which is widely known for its munificence, presented the Commissioners with a fine site and a subscription-list was started, with the effect that a sum of nearly £60,000 has been collected, making with money already in hand nearly £100,000 towards the object to be achieved. Upon this basis the Commission or Association as it became called, felt justified in inaugurating a competition and Messrs. Simpson & Allen of London were adjudged the successful architects for a design in that phase of Scotch Renaissance of the sixteenth century which shows so strongly the influence of France, and which has been adopted in the Heriot's Hospital, Edinburgh. The plan of the building is a curious

one, but doubtless well adapted for its purpose. It seems to lend itself fairly well to the design in the minds of the Association of cultivating the taste for music in combination with the other arts of sculpture and painting, but it is difficult to avoid misgivings as to the possibility of carrying out this idea in practice. Surely good music requires the undivided attention and to attempt to appreciate it while a crowd is tramping about looking at pictures and sculpture seems to be difficult. The tendency to my mind will be to reduce the orchestra to a mere accompaniment or to prohibit wandering in the halls while music is being performed. These are, however, practical difficulties which do not detract from the public spirit shown by the citizens of Glasgow in coming forward and contributing to a municipal institution of this nature. The tendency to municipal buildings and work seems to be increasing every day in England. Baths and libraries are now possessed by most municipalities of importance and this move of Glasgow seems to indicate another direction for surplus municipal enterprise. Several of the larger corporations are tackling the question of the housing of the poor by building dwellings themselves, and although this department of municipal work is yet in its infancy it seems clear that it will have to be undertaken to a great extent in the future, for there is no doubt that great representative institutions can perform work that neither individuals nor companies are able to confront. Their funds are practically unlimited and the interest on invested capital small. The chief argument against municipal work in this direction is the advantage they obtain over work performed by means of private enterprise and the consequent tendency to stifle the work of individuals. This would undoubtedly be an unfortunate economic calamity and it is to be hoped that our energetic representatives in the great corporations will consider well both sides of the question before they commit themselves too deeply in this direction.

ENGLISH BY-WAYS.—II.

DOWN THE WYE.



The Town-hall, Ross.

OUR route after leaving Hereford lies along the beautiful Valley of the Wye. This is considered, and very justly too, to be one of the most charming portions of all England. A half-hour's ride through a beautiful rolling country, with high wooded hills, on either side of a valley perhaps four or five miles wide, crossing and recrossing the River Wye, and getting glimpses of quaint and home-like farm and manor houses, on our way, brings us to the little

town of Ross, where we have to wait a couple of hours for the train. Ross presents almost the appearance of a Welsh town, rambling up and down a side hill in picturesque fashion. In fact it is one of the old border towns, partaking in many respects of the characteristics of both countries.

The first thing that strikes us, as we walk up the principal street, is the absence of the half-timber houses, which were so prominent and characteristic in both Shrewsbury and Hereford. While here and there we may perchance find a single house of this construction, still the general character of the architecture is different, and stone houses, sometimes plastered, but much more generally showing the natural face of the stone, are the rule.

The main street leads us to the King's Head, an old-fashioned inn, where we are shown into the coffee-room, but hardly are seated, when the landlady comes in, and humbly apologizing for asking us to go there, tells us that the commercial dinner is being served in the "commercial-room" across the hall, and begs us, as she has but one waitress to take our dinner there. Nothing could please us better, for the "commercial-room" is a feature in the English hotel, that the pleasure tourist does not often get a chance to investigate. It is a room set apart for the "commercial," or in American language "drummers," who make it their headquarters, having their meals served there, using it as a working, sitting and lounging room, very much in the same manner that the other guests, who are not rich enough to indulge in the luxury of a private sitting-room, make use of the coffee-room. Very often there is a table d'hôte dinner served in the commercial-room, and this is the jolliest kind of a meal imaginable, for the English "commercial" is full of fun, and always inclined to chaff his brethren. As a rule they are exceedingly jealous of the privileges of the room set apart for their use, and no one not of the fraternity is permitted to avail himself of the good cheer there set forth, except by special invitation, or under circumstances like this at the King's Head. When you consider that a meal in the "commercial-room" costs from one-fourth to one-third less than the same meal served in the coffee-room, it becomes an object to ingratiate oneself with some friendly drummer and get the entrée to his special domain. At the commercial dinner, the curious custom holds that the guest longest in the house sits at the head of the table, carves the joint and is addressed as "the President." The second in point of seniority is called "the Vice-President." A bottle of wine is generally ordered among the party, but a vote is always put,

¹ Continued from No. 846, page 171.

in regular parliamentary form, to determine the kind which shall be drunk. If you wish to leave the table before the meal is finished, you must ask permission of the President and Vice-President, and, in short, there is a regular unwritten code of etiquette which governs the commercial-room. The architect travelling in England will find the commercial-room of advantage to him both in his pocket-book and in the odd points of information he is able to pick up, for the commercial-traveller, being constantly on the go, knows the



Workmen's Cottages, Ross.

country very thoroughly, and can direct him to many a charming old house or picturesque hamlet that the guide-books are entirely silent about, or give him much good advice about hotels and railways.

After dinner we joined company with a very jolly "commercial," who was waiting, like ourselves, for the train over the Wye Valley Railway, and started out to see the town. He led us to the church, a very handsome building in the Decorated and Perpendicular styles, with a tall spire which can be seen for some miles from every direction, for it is on the highest spot of ground in the town. In the chancel is the tomb of John Kyrle, "the Man of Ross," immortalized by Pope in one of his well-known poems. His house, in the market-place, is distinguished by his bust. By the side of the church-yard is a small park, called the Prospect Walk, which commands a beautiful view of the Wye. As we retrace our steps we go through some narrow, winding streets, on one of which is a row of small workingmen's cottages, built of stone, with dormer-like gables facing the street. They are as neat, clean and comfortable-looking as they can be, but so tiny that we, with our American ideas of spaciousness, wonder how any human beings can live in them. However, they do manage to exist in them, and seem contented and happy. It is a rare thing, indeed, in the smaller towns in England to find squalor or misery. Everywhere we go we see comfort and thrift among the working classes, and one thing that is especially noticeable is the neat and tidy appearance of the children. As a rule, they are better dressed than children of the same class of life in America—clothing is cheaper is the reason of this—and they are almost always courteous, respectful and well-behaved. So characteristic of the average houses of the English workingmen was this particular row that we could not resist making a photograph of it. Our commercial friend posed for us in front of one of them, that we might carry away with us a proper measuring-stick to estimate their size by. He was not a tall man, but the top of his silk hat—what Englishman who wants to be thought respectable would dare to appear without that badge of civilization?—reached well above the stone lintels of the front doors, which in two of the houses were entered directly from the street level, without any elevation of the floor above the pavement. One particularly noticeable thing is the smallness of the windows, and the height from the tops of the first story to the sills of the second-story windows. This is a characteristic which we have observed frequently repeated, especially in this part of England.

We next turn our steps to the market-place, and, having more leisure now than when we were hurriedly hunting a place to dine, we stop to make a sketch of the town-hall, which stands out in the street at one end of the market-place. This quaint little building is entirely open on the lower floor, forming a sort of covered market-house. The upper story is carried on arches supported by pillars of red sandstone. The double gables and parallel ridge lines, with the square clock-tower in the centre, capped by a low pyramidal roof, give a very picturesque effect to a plain and straightforward building. Though we might find many subjects for our pencil to tempt us to linger here in Ross, the town is so small that we have really scoured it from end to end in the short time at our disposal.

The train takes us in twenty-five minutes by a beautiful route, lying for a great part of the way along the bank of the charming river, to Symond's Yat station. Our luggage we have sent right through to Monmouth, so we need not bother about that, and we prepare ourselves for a good, swinging walk. At this point the river makes a great loop, flowing toward the north for two miles and a half, and then coming back again to a point not more than six hundred yards away in straight line. Our first thought is to climb to the top of Symond's Yat, a hill between six and seven hundred feet high, from which point we get an exquisite view of hills, rocks, woods and meadows. One great charm of the scenery is the absence of the ruggedness and wildness which is so characteristic of two very similar looking streams at home, the Juniata and the Lehigh; but instead, the whole country appears like one vast park, in which hills and valleys, woods and streams appear to have been arranged by the art of some skilled landscape-gardener, who has so ordered every detail that not one single thing shall mar the universal harmony and beauty of the scene. The soft and brilliant greens of the English foliage and the rounded forms of the trees, the warm haze pervading the atmosphere, and the distant lowing of cattle and tinkling of

the bells upon their necks are in strong contrast to the dark hemlocks, the brilliant glow of the summer sun and the smoke from blast-furnaces or coke-ovens so characteristic of the scenery of the two Pennsylvania streams.

From Symond's Yat a good road takes us on to Monmouth, some four miles down the stream. On our way we stop to sketch one of the many picturesque farm-houses that we find bordering the river. They are nearly all built of stone, though occasionally we see one of brick, and are very often, either entirely or in part, dashed with plaster and whitewashed, glistening in the sunlight. The roofs are nearly all of slate or tile. Here and there on outbuildings a thatched roof may be seen, but this method of roofing is not so common here as in some other parts of England. Nearly all the farm-houses are quaint, rambling things that look as if they had grown up piecemeal, instead of having been designed with any sense of unity. Judging from the parallel gables and longitudinal valleys in the roofs, snow cannot have many terrors for the dwellers in this peaceful region.

Monmouth, a town of some six thousand inhabitants, is delightfully situated on a rising ground at the confluence of the Wye and the Monnow, a small tributary stream, which, in America, would be called a creek, but in England is dignified by the name of river. It is historically famous as having been the birthplace of Henry V in 1388. His statue adorns the façade of the town-hall, fronting the market-place. It was here, too, that the romancing chronicler, Geoffrey of Monmouth, who died in 1154, was born. Crossing the Wye by a bridge which leads us into the town, we follow the quaint and picturesque streets until we reach the market-place, where we find another King's Head, a comfortable hotel of the old-fashioned sort, where we get pleasantly quartered for the night. After supper we feel refreshed, and start out to see the town. We stop in a quaint old Perpendicular church to rest a bit, and listen to the choir-boys practising their music for the coming Sunday, then stroll on again, to find the ruins of the old castle in which Henry V was born.

In the neighborhood some new houses are going up, little semi-detached villas, which will be occupied, when they are completed, by well-to-do clerks or government officials. The most curious thing about them, from the American standpoint, is the fact that they have no cellars, the ground-floor being built on sleepers which are imbedded in concrete. All the interior partitions are of brick, four-inch walls being used in some cases, and nine-inch in others. We find with this exception the work does not differ materially from the average "speculative operation" houses at home. The absence of cellars of course prevents any general system of heating, like that of the hot-air heater, so that every room is provided with a fireplace. Some of these are quite tiny in dimensions, but will doubtless be fitted up with a small grate when the house is completed. The joists strike us as rather light, accustomed as we are to three-by-ten inch hemlock, but they are really amply strong.

In our walk we come across an old gateway situated on a bridge across the Monnow. This structure dates back to the thirteenth century. A central arch spans the roadway while two smaller openings cover the sidewalks. There is a room or chamber above the gate proper, with loop-holes, through which archers could fire down upon any force attempting to storm the gate, and thus effect an entrance into the town. With modern arms and ammunition, and the knowledge we possess of powerful explosives, it seems hard to realize that such insignificant means could ever have been sufficient to bar the progress of an enemy. Hard by the gateway is an old Norman chapel, which is also worthy of notice.

The next morning we take the early train to Tintern, which is only three and a half miles farther down the river. The scenery here is very wild and picturesque, the valley becoming quite contracted and the high, wooded hills coming close down to the river's edge, leaving room enough only for the railway and the wagon road. At Tintern station we leave the train, and walk from this point to the ruins of the famous old abbey, about a mile beyond. The railway crosses to the bank of the stream just below the station, while the abbey is situated in a lovely meadow on the right bank. Before we reach it, however, we stop in the village to sketch a picturesque old cottage, lying in a low and rambling fashion along the road. It is a curious thing that so many of these old houses are situated below the road level. This one has a sort of area way running along the front, with several steps leading from the door up to the road. It is



Farm-house near Monmouth.

an old stone building which has been plastered and white-washed, and looks clean and neat; perhaps not so charming to the artist's eye as though it were time-worn and gray with age, but these scrupulously clean houses look very bright and pleasant amidst their surroundings of rich and vivid green.

These old cottages gain an added quaintness from their irregular roof lines, for it is rare to find one where the ridge has not sunk into undulating curves, and where the once plane surface of the tiles has not assumed all manner of warped forms. Surfaces far more

complicated than any that we ever bothered our poor heads over in our college days, when the higher mathematics were our *bête noir*.

A turn of the road brings us to Tintern Abbey, once one of the greatest establishments of the Cistercian monks in England, but now one of the most beautiful of ruins. What is it, that gives such a



Cottage at Tintern.

charm to an old ruined church? Is it the memory of former days, the thoughts of departed grandeur, or is it some air of sanctity that still hangs about the holy place, that makes it peaceful and restful, a spot where man loves to commune with his Creator, even though the busy hum of commerce is near at hand? How much more is this

charm increased when the ruined sanctuary is in some quiet vale, by the side of a rippling river, far removed from the busy haunts of men, where the lark and the thrush wake the echoes through the arches and broken vaults that once resounded with the solemn chanting of "Misereres" or "Te Deums," rolling out in sonorous bass, and mingling with the full rich notes of the organ. Be this charm what it may, nowhere is it more felt than at Tintern Abbey, where the grass that grows in the nave and transepts, or about the cloisters and refectory is kept smooth and velvety, like a well kept lawn. The very ivy that clings to the wall is tended as carefully and lovingly as if it were some old man's darling, and the whole place shows a feeling of veneration for this noble pile and the sacred purpose for which it was erected. The church itself was not a large one, only 228 feet long, but it must have been, when it was in its prime, an exceedingly beautiful building, to judge from the grace and refinement of its detail, and the noble proportion of its great arches, some of which, once the ribs of the vaulted ceiling, still span the nave. Begun late in the twelfth century, it is partly Early English, but mainly a glorious example of the Decorated Gothic. Much of the exquisite window tracery remains. The secular buildings of the Abbey are almost entirely gone, very little but the bases of the columns, and the foundations of the walls remaining, but enough still exists to show that the old monks had the chance to lead a very jolly life, if they were so minded, for the great refectory is one of the most important rooms in the place.

Leaving the Abbey, our road leads us by the river bank for a couple of miles till we reach the Wyndcliff, a tall hill, up which a tremendous but rapid climb brings us to a sort of eyrie or lookout platform, which is said to command one of the finest views of river scenery in all Europe. Unfortunately, when we reach the top, we find that the soft haze, which has been gathering all the morning, prevents a very extensive view, although in the distance we see the broad waters of the Severn glistening in the sun. But we must not linger long, for a glance at the watch shows us that we have but an hour to make our train at Chepstow, four good miles away. Off we start at a brisk walk, soon reaching the main road, where for nearly two miles we follow the stone wall surrounding Piercefield Park. What a charm there is in one of these great walled estates! How pleasantly the trees hang over and give kindly shade to the sidewalk. Here and there a break in the wall occurs, where the road crosses a little brook, or where some gate gives easy access for the owner of the broad demesne. Here we can peep through the iron wicket and watch the deer browsing under the shadow of the great oaks, or skipping gracefully, with a startled air, over some sunny meadow. Now we pass a white milestone with the broad arrow of England deeply carved thereon, together with those ever-present letters, "V. R." Truly, the Englishman must find it hard to forget that Victoria is his Queen.

Chepstow is a quaint old town with rambling streets, lined with sombre-looking houses built of dark-colored stone. But we cannot linger even for a passing look, for we have barely time to catch the train, which soon comes along, and hastens us away toward one of the greatest feats of railway engineering, the famous tunnel under the Severn River. This tunnel is over four miles long, and its depth below the bed of the river varies from forty to one hundred feet. Great pumping-engines are constantly at work to keep it free from the spring-water, which would otherwise soon fill it. As we plunge downward into the darkness a curious sense of fullness oppresses us, together with a disagreeable ringing sensation in the ears. Of course, the conversation turns on the proposed tunnel under the English Channel, always an interesting theme for the average Briton. We have plenty of time to discuss it, for it is more than ten minutes ere we see daylight again, and then but a short time longer before the train draws up in the handsome railway station in Bristol.

EDWARD HURST BROWN.

THE MODEL OF ST. PETER'S.—M. Spiridon, a wealthy Frenchman, has offered to loan to the World's Fair, to be exhibited in the department of fine arts, the original model of St. Peter's Cathedral in Rome. The model will come with an authenticated history showing it to be the one designed by the architect San Gallo in 1540. — *New York Times*.

THE PERISHED CHURCHES OF PARIS.



Emblem of Claude de France: From the Chateau de Blois. From Havard's "Dictionnaire de l'ameublement."

THE troubles which have recently occurred in the churches, as the consequence of lectures and sermons made against the Republican institutions, have led us to the summing up of some curious and interesting facts on the most ancient religious edifices of Paris.

In former times and up to the time of the revolution, churches were very numerous. Under the first monarchies, in "la Cité" proper, about fifty parishes and chapels were existing. In 1789 twenty-one churches

and about twelve convents were still remaining.

Notre Dame was surrounded by a true circle of churches; it was flanked by Saint-Jean-le-Rond and Saint-Denis-du-Pas, while only a cemetery and some pestiferous lanes separated it from the following churches: Saint-Aignan, Saint-Landry, Saint-Christophe, Sainte-Madeleine, etc. Although the population was very pious at that time, the agglomeration of so many churches had produced queer results. For instance, the church of Saint-Martial had but twenty parishioners, and Sainte-Marine had only nine.

On account of numberless small, dark and watery streets, lanes and dens, which crowded the large edifices, daylight and air were almost unknown in the place called "La Cité." Several times there was talk of making room for Notre-Dame, and under Louis XV the project was upon the point of being carried out. Several bankers and business men met together in order to buy the land at ridiculous prices and build large and fine houses upon it. Madame de Pompadour, who took hold of the matter, promised to speak to the king in behalf of the project, and moreover to persuade the ministers to adopt it. The authorization was about to be given, when bishops, priests and superiors of convents complained of the damages they would have to endure, if their churches and convents were torn down. Louis XV did not dare to go ahead and the whole enterprise was abandoned.

During a very long time the clergy was dreaded by the nobility as well as by the common people. The Bishop of Paris, whose palace was situated between the Cathedral and the Seine, was almost as powerful as the King; being the sovereign of the burghs of Saint-Marcel, la Ville-l'Evêque, la Grange-Batelière, le Roule, etc., he was on equal terms with the King. Bishops were ceaselessly trying to increase their power and they went so far in their abuse of it that kings were compelled to deprive them, little by little, of their jurisdiction, in order to put a check upon their ambition. However, it was not until 1662 that bishops lost their authority and ancient power.

SAINTE-MARINE.

Only about ten years ago, one could still see at the end of the *impasse* Sainte-Marine (number 6 Rue d'Arcole) the last remains of the Church of Sainte-Marine, founded at the beginning of the eleventh century. This church having been suppressed in 1790, was divided into several lots and sold to private parties and business men. For many years, one of the chapels was used as a theatre, where a sort of mountebank and clown gave theatrical representations as well as a Punch-and-Judy show.

In the Middle Ages, this church enjoyed a queer privilege; it was only here that girls who had been seduced could contract marriage.

"No girl who has anticipated the marriage rights," said an ordinance, "can marry except at the Church of Sainte-Marine."

Moreover, in order that the benediction might be performed, a special authorization from the ecclesiastical jurisdiction was necessary. At that time the said jurisdiction was called the "Officialité."

This church being almost deprived of parishioners, got its support only from this kind of people.

The wedding ceremony was a great humiliation for the unfortunate girl. She was compelled to sit upon a wooden stool, roughly made, and as a wedding ring the priest slipped on her finger a straw ring "as an emblem of the frail virtue of the spouse."

In 1629 the magistrates succeeded in replacing the straw ring with one of silver. This curious custom ceased in 1765 when maidens were allowed to marry in whatsoever church they might choose.

In the "sotties" and "farces" represented by the young law-students allusion was often made to the straw ring used at espousals in the church of Sainte-Marine.

In 1866 while making excavations where the ancient church had stood, several tombs, full of bones, were discovered. In one of these

tombs a leaden coffin was found, in which was the skeleton of François Miron, a civil lieutenant, who was buried in the church of Sainte-Marine, June 4, 1609, and was, as every one knows, a very honest man; to-day there can scarcely be found a functionary who would be willing to follow his example, for François Miron had voluntarily relinquished the salary of his high situation to be used for the construction of the front of the Hôtel Dieu.

SAINT-JEAN-LE-ROND.

As said above, in the very cloister of Notre Dame, two churches, Saint-Jean-le-Rond and Saint-Denis-du-Pas, used to exist.

Saint-Jean-le-Rond, built against the northerly side of the tower of Notre Dame, was erected in the thirteenth century to be used as a baptismal chapel to the Cathedral. Having been constructed in a rotunda shape it was called for that reason "le Rond," but in later years the building having fallen into disrepair, part of the edifice was built anew in the shape of a parallelogram. It is thus that we see Saint-Jean-le-Rond shown in the ancient engravings representing Notre Dame, in a form which contrasts with its former name.

A new-born child was found on the steps of Saint-Jean-le-Rond during the winter of 1717, and having been adopted by a poor glazier's wife he was baptized under the name of Jean le Rond. That child became the renowned encyclopedist and mathematician d'Alembert.

Later on, when he was famous, his father M. Detouchez, commissary in the artillery, and his mother Madame de Tencin made themselves known to him and expressed a desire to have him home. But d'Alembert refused, being unwilling to leave the dear old woman who brought him up and cared for him so tenderly.

Saint-Jean-le-Rond was demolished in 1748. About twenty years ago, while digging at the entrance of the cloister for the laying of gas-pipes, the foundations of this little church were discovered. Large masses of masonry were found which must have been constructed as buttresses for the northern tower.

The baptismal founts of Saint-Jean-le-Rond were removed to Saint-Denis-du-Pas, another small church situated *vis-à-vis* to the apse of Notre Dame. The name of "le Pas" was given to it because only one step separated it from the Cathedral.

The church was devoted to the service of the ancient Hôtel Dieu in 1789. It entirely disappeared at the time of the re-building of "la Cité."

Boileau lived not far from here, in the very cloister of Notre Dame; it is easily understood that amidst so many churches, he found himself very much annoyed by the unceasing tinkling of bells which

"Pour honorer les morts, font mourir les vivants."

SAINT-DENIS-DE-LA-CHATRE.

Among the ancient churches of "la Cité" we must not forget Saint-Denis-de-la-Châtre, erected at the southerly extremity of the Pont Notre-Dame, upon the very site of the ancient prisons of Lutèce, where Saint Denis and his companions were imprisoned. It was designated by a charter of the eleventh century under the name of: "Saint-Denis de la prison de Paris," and some ancient records state that a ransom was paid by it to the Normans in 856 in order to escape plunder.

Although this edifice seemed to have been built at the same epoch two very distinct portions of the structure were to be seen, each bearing the mark of a special style of architecture. The one above ground was called "la Grande Eglise"; the one under ground was known as "la Cave."

The latter which possessed relics that had belonged to Saint Denis was the most frequently patronized of the two. The faithful who visited it came especially to kneel before a flag-stone upon which was a red spot. A legend said that it was the blood of the Saint and that every year, at the same time, the blood was renewed and appeared as if it were freshly shed. Some instruments of torture were also much venerated by the faithful, among which was a large black stone which was used to strike the doomed men: its angles were polished by frequent use. There was also an enormous stone having a very large hole bored through the middle, which Saint-Denis, so says the record, was compelled to carry upon his shoulders after having passed his head through the hole.

In the ninth century, the church possessed a great deal of wealth and enjoyed large revenues. Charles le Gros wishing to appropriate to himself all these properties and revenues, gave it to his son Henri, who took the title of "Abbé de Saint-Denis."

The church was torn down in 1810.

SAINT-CHRISTOPHE.

Upon the site of the new "Hôtel Dieu" there was formerly a street called "Rue de la Regraterie" on account of the hucksters who lived there. Later the name of Saint-Christophe was given to it, after the church of that name, the origin of which goes back to the seventh century.

The monks of that community had for their mission to nurse the sick people and to gather in forsaken children. To that end they had a special building erected which extended as far as the passage-way "la Seine."

"When a child is found in a street or whatsoever place," said an ordinance, "the finder shall carry him to the house devoted to the

nursing and feeding of foundlings, such an house is near Notre-Dame in a lane bordering on the Seine."

The house annexed to the church and in which sick persons were cared for, was the origin of the Hôtel Dieu, for ancient manuscripts name the church of Saint-Christophe, the "hospital of the Blessed Virgin Mary."

SAINT-PIERRE-AUX-BŒUFS.

The church of Saint-Pierre-aux-bœufs was built in Rue d'Arcole during the twelfth century by the butchers' brotherhood. It is on that account that two oxen's heads were sculptured on the portal instead of its being ornamented by religious allegories.

This church was demolished in 1837. Several sculptures were removed, stone by stone, and replaced on the westerly entrance of Saint-Séverin.

Not far from here was the prison of the Chapter of Notre-Dame.

Bishops and priests of that epoch were no more patient than those of to-day in money matters.

The Chapter of Notre-Dame enjoyed the same prerogatives as the lords; it was the lawful owner of lands and burghs, whose inhabitants were compelled to pay regular tithes; when they were unable to pay or when they refused to submit themselves to the exactions of the priests and prebendaries, they were unmercifully locked up in this prison. These prisoners were the target for all kinds of persecutions. Their lives were often endangered by the maltreatment they received.

One day, in 1226, Blanche of Castile, learned that some peasants were suffering from privations and ill-treatment for some trifling offense. Immediately she sent a messenger, respectfully begging the Chapter to release all the prisoners under her own bail. The messenger was not well received. He was told to mind his own business and that instead of releasing the prisoners their punishment was going to be more severe, on account of the Queen's intervention.

"Blanche of Castile," says a history of that time, "after having heard the report of her agent, became angry at seeing her authority laughed at, and went herself to the prison; when she arrived there she struck the heavy door with a stick she had carried in her hand; as if it were a signal, her guards and those who had followed her began at once to break the door in and thus she set at liberty the prisoners men, women and children, who came to kneel before her, asking for her protection."

We cannot relate the history of all the churches which used to exist in ancient Paris. Lack of space forbids us so doing. However, we will point out a few more because they bring to mind some queer facts.

SAINT-CÔME.

During the opening of the Rue des Écoles the workingmen discovered numerous sepulchral stones which belonged to the cemetery and the church of Saint-Côme which was formerly at the corner of the rues de la Harpe and des Cordeliers.

This church, built in 1210, was torn down in 1836. Among the tombs of great personages buried on that spot one could see, not without much surprise, a plain tombstone upon which the following epitaph was engraved:

"DANS CE PETIT ENDROIT, À PART,
REPOSE UN SINGULIER CORNARD;¹
CAR IL L'ÉTAIT SANS AVOIR FEMME.
PASSANT, PRIEZ DIEU POUR SON ÂME!"

The person to whom this epitaph referred was an unfortunate man, named François Trouillac, whose forehead was ornamented with a natural horn. He was born that way. The poor man took the greatest care to hide his deformity under a large cap and avoided, as much as possible, going about bareheaded. One day, while he was working in the fields, his suzerain, the Marquis of Lavardin, passed by. In order not to be compelled to salute him, Trouillac acted as if he had not seen him. The marquis growing furious at what he called a lack of respect, ordered the peasant to be brought into his presence and compelled him to take off his cap. Seeing his deformity, he burst out laughing, made Trouillac his prisoner and brought him to the palace of the king in order to "amuse the Court."

Good King Henry—if it is thus that he justified his title of good—laughed heartily at the unfortunate man, who, during several weeks, was the target for the sarcasms and insults of the whole court.

When tired of such enjoyment Henry IV gave him to one of his valets to do with Trouillac whatever he pleased. That valet (like master, like man) exhibited him from town to town and made a large fortune. Trouillac, driven to despair, on account of having been separated from his wife and children, died at the fair of Saint Germain and the king's valet, doubtless overcome by remorse, took the necessary steps to have Trouillac's body buried in the Church of Saint-Côme.

SAINTS-INNOCENTS.

An ancient church which disappeared during the Revolution was the Church of the "Saints-Innocents" in the quarter of the "Halles." It was built during the eleventh century.

In 1170 a child by the name of Richard who had been martyred and crucified at Pontoise by Jews, was buried in this church. The

¹ Cuckold.

body of the young martyr was solemnly carried from Pontoise to Paris, thence to the Church of the Saints-Innocents. It appears that numberless miracles were performed on the tomb of Richard; the faithful crowded the church and unceasingly prayed upon his tomb.

Saint Richard became so famous that when the English troops became the masters of Paris they, being so confident of his power, exhumed the body and carried it to England. The head alone was left in the coffin.

In the chapel of the Virgin in the Church of the Saints-Innocents was a bronze monument, at the top of which was the statue of a nun.

On one of the sides of the monument a long epitaph was engraved, which began thus:

"EN CE LIEU GIST ALIZ LA BOURGOTTE
DE SON VIVANT RECLUSE TRÈS DÉVOTE."

Said Aliz la Bourgotte, being possessed by the strongest desire of living "an exemplary life," resolved to exclude herself from the world. To that end, she began to live alone in a garret for one year, neither speaking nor seeing any one. The year being over, she seemed satisfied with that first experiment and she shut herself up in a small cell in the cemetery of the Saints-Innocents. From the only window she had she was able to hear and to see the priest celebrating the holy mass. There she lived, isolated from all human beings, during forty-six years.

On a tombstone of each chapel one could read this very queer epitaph:

"CY GIST YOLANDE BAILLI
QUI TRÉPASSA L'AN 1514, LE 88ÈME AN DE
SON ÂGE, LE 42ÈME DE SON VEUVAGE
LAQUELLE A VU OU PU VOIR DEVANT
SON TRÉPAS DEUX CENS QUATRE-VINGT-
QUINZE ENFANTS ISSUS D'ELLE."

It was also in this church that was buried the well-known historian, François de Mezeray.

THE CHURCH OF THE BERNARDINS.

Some ten years ago, while excavating in order to lay the foundations for a private house at the corner of the Boulevard St. Germain and Rue de Pontoise, the remains of an ancient church which had belonged to the convent of the Bernardins were brought to light.

The Church of the Bernardins, the corner-stone of which was laid on the 24th of May, 1338, by Pope Benoît XII, was never fully completed. When the building was advanced enough to allow the celebration of the mass, the anniversary of the laying of the foundation was solemnly celebrated every year, and on that day the priests enjoyed an "extra meal," so we read in an old manuscript of that time.

"Queen Jeanne de Bourgogne has ordered the Receiver of Paris [sort of treasurer] to deliver every year, on the same day, the sum of one hundred livres to the priests and choir, on account of the service being more elaborate and more sumptuously performed, so that said persons might enjoy a better meal on that day."

Pope Benoît XII had a great interest in the construction of this church. By his will he bequeathed a very large sum, in order that it might be finished; but the money was stolen during the journey to Paris. As no one was willing after that to furnish the necessary funds, the church was torn down before its completion.

Pope Benoît XII, whose true name was Jacques Fournier, was the son of a baker of Toulouse. He had a niece of remarkable beauty. Several lords had requested her hand in marriage.

"No, never," answered Benoît XII, "she is the daughter of a tradesman, and she cannot accept such an honor." He married her to a business man of Toulouse.

The young couple came to visit him in his palace. A few days after, while wishing them good-bye, he gave them a purse containing a large sum of money, saying: "It is not the Pope, but your uncle, who presents you with this purse."

THE CHURCH OF SAINTE-OPPORTUNE, NOTRE-DAME-DES-BOIS.

On the very spot where the square of Sainte-Opportune is, scarcely one hundred years ago, was one of the most ancient churches of Paris. It was built during the remotest ages of Christianity.

In the middle of a forest—as Lutèce [former name of Paris] was so surrounded at that remote epoch—a church was erected, and the name of Notre-Dame-des-Bois was given to it.

In the ninth century, the Bishop of Sees, being forced to run away before the Norman troops, came to take refuge in that church, and there he deposited the relics of Sainte-Opportune. From that time on the church and the forest took the name of Sainte-Opportune.

In the fifteenth century houses and church had replaced the forest, and the church, having been considerably enlarged, had become a parish church. The relics of Sainte-Opportune were much venerated. To them were attributed the power of bringing to an end public calamities, and during the time of civil wars or famine processions were formed, in which the shrine of Sainte-Opportune was solemnly carried, the people being persuaded that it would re-establish

lish order and restore plenty. At the time of the "Black Plague," during which one-third of the population of Paris died, several of these processions took place.

This ancient church having been demolished in 1795, there remains to-day no vestige of it.—*La Lanterne*.

BUCRANIA.¹—I.

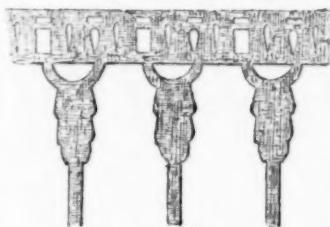


Fig. 1.

IN former ages the bull, the ox or the heifer, which, with their superb gait, have been the dumb companions of countrymen, the peaceful representatives of fruitful agriculture and benevolent industry, were sacrificed to the great gods only. These animals have been used as models by artists and decorators, either to express materially through symbolism, certain ideas, or only to reproduce, through pure fancy, a

typical portrait, as true and as sincere as possible. In both cases, sculptors, painters, engravers, ceramists, toreuticians, have almost always known how to render, with great happiness and with a very high degree of perfection, the proper accents, the expressive features, the dreamy or imposing aspect of the species, whatever the decoration might have been, whether used to ornament a temple, to decorate a public place or a garden, to portray an *objet de haut luxe* or more simply to reproduce portraits of these animals either in bronze, wood, costly marble or terra-cotta. All these artistic, numerous and varied ancient and modern manifestations that we meet everywhere prove to us that these alluring models have always been interpreted not only in their different attitudes, standing, lying down, motionless, moving about, but also that they were copied in different ways, life-size, mutilated, living or dead. When reproduced whole and living, these animals were used in numberless bas-reliefs, statues, bronzes, cameos, paintings, drawings, crests, pillars, etc., and generally they were reproduced with much skill.

Mutilated, but represented in the natural state, they were used to create, here, ornamental, commemorative or emblematic heads, rhytons, parts of crests or friezes; there, different supports to pieces of furniture; elsewhere, cornucopias or vases, each and all with a graceful effect. Finally, mutilated and dead, sometimes already dried up, sometimes in a skeleton state, they have given birth to an ornament, which formerly played an important part in ancient decoration where it has furnished a beautiful ornamentation well appropriated to things pertaining to the religion of the ancients, and next it has occupied a very important, although fanciful place, in the graceful creations of the Renaissance.

By this short outline where one can read between the lines, one can divine how long and important a chapter would have to be devoted to the different parts and to the numberless modifications these animals have undergone in decorative art.

Therefore, in order to be more simple and clear, we have thought best to divide this large subject and solve one by one the questions to which it gives rise, which are, however, perfectly independent of each other, and to which, almost always, a special name has been devoted as well as a special classification. As neither rank nor priority can be claimed by any one of these different subjects, inasmuch as it is ascertained they were brought to light at the same epoch, we shall begin with the pure ornament that we all have seen reproduced upon altars, in temples, on sacrificial instruments and which is commonly called now-a-days *bucranium*, (*Bovæ*, ox; *Χρῆνον* head).

This is the name we find in some old books of drawings or architecture, under the title of "Victim's head"; although that does not exactly express the true idea, it has at least the merit of bringing out the origin of the motive. In fact the elementary type really came to us through funeral and religious practices, and expiatory sacrifices. Indeed the bucranium originating from beliefs and rites which were in practice for centuries during the time of our first ancestors, is nothing but the copy, the painted or sculptured interpretation, of the head of the beast sacrificed to the divinity. It is the simplified and ennobled representation through Art of a hideous and disgusting thing in nature.

During a long period, for want of serious researches, we considered ourselves as indebted to the early Hellenes for this motive of ornamentation; but to-day, thanks to the important reports of Prisse, Lepsius, Perrot and Dieulafoy, who did not disdain to analyze such small things and carefully portray even the smallest details, pertaining to decoration, we have undeniable proofs that the bucranium has existed since the remotest antiquity. Some paintings on monuments, accurately copied, show us that its use was widely spread previous to its appearance in Greece. It has left remarkable and numerous traces in Egyptian art, not only during the Thebaic period, under the eighteenth and twentieth dynasties which correspond to the Pelasgic epoch, but also under the fourth and fifth dynasties, during the sovereignty of Memphis, which indicate that the ornament was existing something like three thousand years before our era.

¹ From the French of M. Jules Passepont in *La Revue des Arts décoratifs*.

In the old Egypt, near the banks of the fruitful Nile, under a sky ever blue, upon which no cloud appears to stain its transparency and limpidity, in the middle of a wide avenue scorched by the straight rays of an African sun, an imposing procession, an endless cortège of people in mourning garb slowly marches down. Mourners,

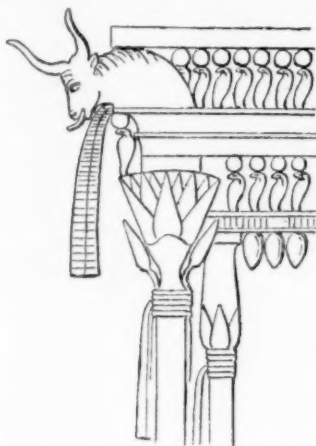


Fig. 2. Painting from the Tomb of Cham-hatti.

men and women, uttering cries, slaves loaded with offerings, priests carrying the venerated images of gods, young men with their hands full of brilliant flowers artistically grouped in bouquets and garlands, servants burning penetrating perfumes, others driving along numerous animals which are to be immolated, all these slowly precede the sacred bark in which the cold and dumb mummy, wrapped in bands, is being conveyed to its last dwelling-place in the valley of graves. It is the funeral of a high dignitary. During the prayers and exhortations of the priests, amid the rhythm of the mourning songs of relatives and friends, while the women of the family weep and strike their breasts, men lay down the lotus flowers, which signify immortality, cakes, fruits

and jars well filled; then they kill, dress and cook upon burning coal the various and numerous quadrupeds and fowls which have been brought. The entire stock is divided in two parts: one for the repast of the mourners, the other for the living dead who may come to take it, according to his need, from the tables upon which they shall be placed, and which shall be buried with him, after the last farewell of the family and the closing of the ceremonies.

Then the expiatory sacrifice is performed, and the mummy is sealed up in the tomb, after every crevice has been carefully walled up in order that the dear departed one may rest in peace far from this noisy world, sheltered away from any spoliation, in the eternal abode that he has caused to be built at great expense for his own use.

Herodotus tells us that the fire being lighted, libations poured out and invocations said, the sacrifice was performed: the victim was killed, its head cut off and skinned; upon that head which should bear all the sins of the deceased the priests pronounced a very impressive imprecation.¹ The writer adds that next "the head of the victim was carried to the market, if there was one, and sold to some Greek merchant in town; in case no Greek merchant could be found, the head was thrown into the river." This measure was general, inasmuch as, according to the same writer, "all Egyptians observe the same custom regarding the heads of victims; no Egyptian would ever taste the flesh of any animal's head." By the latter part of this phrase the Father of History did not mean that the Egyptian people did not eat the heads of animals, as it was thought and refuted by Prisse d'Avennes,² who gave a wrong interpretation to that phrase. Certainly if such was the idea of our

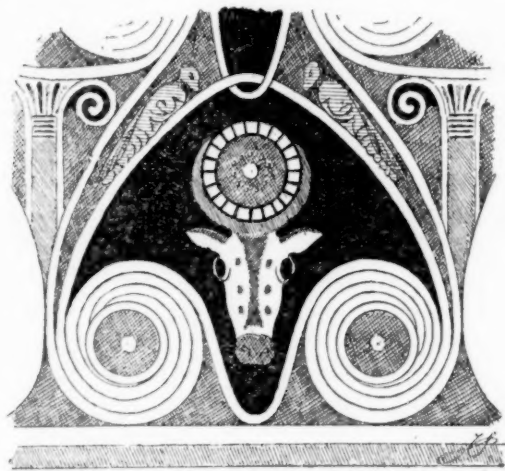


Fig. 3. From the Tomb of Aichesi.

historian, he would have made a gross mistake; but he could not commit such a blunder, although many others may be imputed to him, because he would have placed himself in absolute contradiction,

¹ Herodotus, Book II, Chapter XXXIX. The curse they pronounced upon that head was as follows: "If any misfortune is to fall upon those who offer this sacrifice or upon the whole of Egypt, may the evil be turned aside and fall upon this head."

² Prisse d'Avennes; "History of the Egyptian Art," page 368.

not only with the customs in force at that time, but also with the numerous representations figured in the tombs, representations which show us tables of offerings loaded with provisions, and among them several heads of calves, oxen, etc.

However we must consider the last phrase of Herodotus as having been applied to the heads of sacrificial victims. It is true, however, that instead of saying: "Egyptians never taste the flesh of any animal's head," he should have said: "Egyptians never taste the flesh of the head of any sacrificed animal"; in this case neither mistake nor confusion would have been possible.



Fig. 4.

Moreover, it is sufficient to read attentively the passage in question to perceive that, in spite of the determinative word: *sacrificed* or *immolated*, the true meaning is really what we have said; this is the only one which comes to mind, the only one we can logically infer from what has been formerly related. Now, what does Herodotus do before telling us that the head shall be thrown to the inhabitants of the river or sold to people disdainful or regardless of customs because no Egyptians shall eat it? He takes great care to advise us, at length too, concerning what beast he is going to speak of. He does not allude to oxen, gazelles, ducks, hares, rabbits and other victuals which are served at funeral repasts, and still less does he refer to daily food; he speaks only of the beast immolated in sacrifice and, he explains with full details what qualities the beast should have and how the priest acknowledged and recognized its purity and suitability by affixing to the horns a piece of papyrus bark duly inscribed and sealed. Therefore we must conclude that the Greek historian when speaking of a branded beast had really in mind that very beast and none other; he says that this beast was carefully selected and under the death penalty, it was the only one which must be used for the sacrifice. Egyptians being forbidden to eat even the smallest part of it in order not to be guilty of sacrilege, they naturally hate the very sight of the head, and try to get rid of it as soon as possible; for that head is accursed, it has been loaded with all the sins of the deceased, all the evils of the country have been poured upon it.

But there is a wide difference between refraining from the use of a thing and refraining from the representation of it and especially with such a people as the Egyptians, whose love for decoration does not consist in the pleasure of the sight, but whose decorative art comes from religious ideas, where it has been born from rooted belief, where it has a special virtue and a special power, where it represents a venerated idea, where it is considered as a symbol and even may be looked upon as a talisman.

"As long as that decorative representation was lasting," says M. Maspéro, "it assured the benefit of the homage rendered or of the sacrifice accomplished; to the living or to the dead were confirmed the favors that the god had granted to him as a reward for his virtues." Therefore was it not convenient, was it not consistent with the customs of that epoch, to leave to the dead, in his living appearance, a present and durable souvenir of that important and solemn act? Hence the portrayal of the object which plays the leading part in the ceremony, the representing of the head of this branded victim upon the very spot where the expiatory sacrifice has been consumed; on the very place where the gods have been entreated to bring upon the head of the victim the evils that might otherwise fall upon those who offered the sacrifice or upon the whole of Egypt; and by so doing to show to one and all that the sacrifice has been accomplished and that, as a matter of consequence, the gods' anger must be disarmed.

The Egyptians did not miss this opportunity and they have left numerous proofs. Moreover it is in two ways, although very different in appearance, that they have brought forth this revival of a

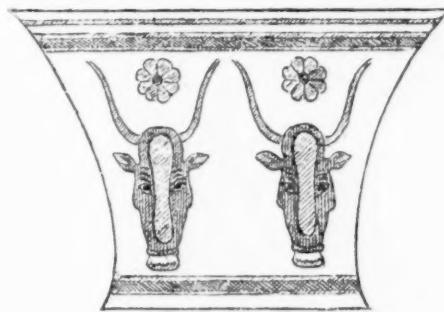


Fig. 5. Vase from Kafar.

sacred rite, although it was used only in the decorations of tombs. At first, at a very remote period, where the ceremonies we speak of were performed, it is probable, we might say certain — because it was done formerly in the same manner by many other peoples, and especially by ancient Greeks, as we shall see later — the old Egyptians hung the very head of the victim conspicuously on the outside of the tomb, in order to show that the sacrifice had really been consumed.

They hung it, for instance, either at the door, on a beam, against a little wooden column, or finally to the moulding surmounting the entrance. This custom may have given rise to certain Hathoric crests; but, at any rate, it suggested the idea of replacing the heart-revolting head, which rapidly decayed under that burning climate, by something more agreeable and more lasting, by a sort of copy, a solid, sculptured and painted silhouette.

If we are in want of genuine documents of that epoch, have we not the interpretation in metal of the primitive scheme of that custom? We can see it in the very decoration used as a crest to the fencing of light wrought-iron bars before a sort of tub in which an Apis is laid away (Fig. 1, picture of the fifth dynasty, the drawing of which was preserved by Lepsius).

Is it not this old custom, which has been out of use for many many years, that the Egyptian decorator indicates to us by this head with its protruding tongue? It ornaments the upper angle of the wooden edifice under which Amenophis III is seated while receiving homage (Fig. 2, painting in the tomb of Chamhatti, a royal intendant under the eighteenth dynasty). After all, when the artist was decorating the tomb he did but holy work; he expressed the consoling idea that evils have been turned aside; in using this symbol, he spoke a language which was as easily understood as the one he used when in sculpture, in the frail constructions or in painting upon the walls, he surmounted slender floral columns with lion, antelope or sparrow-hawk heads.

All this primitive art improved and refined itself, and at the apogee of the decoration of tombs, in the time of the Pharaohs of the eighteenth dynasty, instead of hanging up natural or moulded objects, they preferred, in order to be more certain that the dead had forever all he might need or wish, to replace with great expense all these things by paintings, and at the same time to represent the surroundings in which the sacrifices were consummated; then the representation of the sacrifice and imprecation becomes more and more alluring; it becomes the central motive of a rich ornamentation.

From this time on it is no longer necessary to make the living remember that rites have been conscientiously observed; one works, paints, carves or speaks, not for the eyes of the living but to the deceased; for this reason the bucranium is no more seen upon the exterior; it is inside the tomb, in a great many cases, that it is placed and occupies a very prominent place where formerly was the sky lit with stars and constellations. Thenceforth the dear departed one will have but to open his eyes in order to see that symbolical ornament, repeated several times, regularly placed on the ceiling in spaces reserved for it, among a thousand varied and elegant combinations full of charm and fancy, which form cords or posts interlacing and crossing each other in every way with the leaves, the buds or the flowers of the lotus with its brilliant colors. In this manner it is represented to us in the paintings of the necropolises of Thebes;

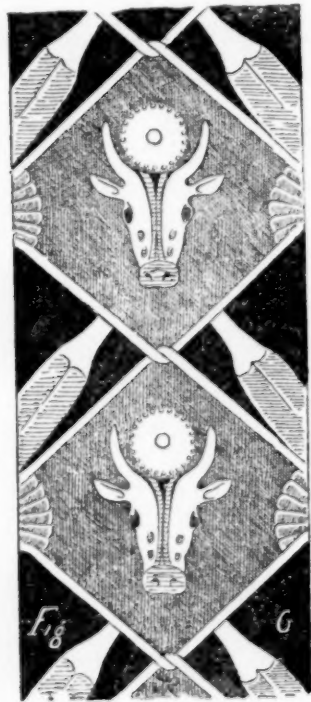


Fig. 6. From the Tomb of Nofrehotep.

for instance, there is (Fig. 3) a fragment of the ceiling of the tomb of Aichesi, great priest of Ammon, in which the bucranium carries between its horns an ornamented disc, a sort of rose; there is another specimen (Fig. 4) in which the disc is simple and placed alone above the head. It is in tombs and on their ceilings that we may see all Egyptian bucrania; the only exceptions occur on certain vases of the tributaries of Kafar (Fig. 5); these vases, however, seem to have played a certain part in the sacrifices. Moreover, in both cases, this motive of decoration and symbolism is always uniformly conceived and done. The ornamentation is characterized by the fact that it represents the ox's head partially skinned, although skin and ears are adhering, and it is ornamented with colors and conventional points, with a sort of nasal section, and invariably accompanied with roses and globes; this kind of decoration is well indicated in Figures 3, 4, 5, 6, 7 (Fig. 6 coming from the tomb of Nofrehotep).

However, in spite of all the skillfulness with which these bucrania are represented, in spite of the very acceptable appearance, which is far from lacking a certain coquetry, under which they have reached us, this particular type has been used only in Egypt and seems to have entirely disappeared from the twentieth to the twenty-second dynasty. From that time on we cannot trace it. Unlike a great

number of other ornaments the bucranium was not transported, as was the ox's head represented as still living, either into Assyria where it was never used, or elsewhere amongst the Phenicians and other people, who also performed sacrifices, who immolated a very large number of oxen and fell under Egyptian influence regarding things religious. Probably this was because it was painted in closed tombs and therefore could not be easily carried away, as was done during a very long time with the gods and the useful as well as luxurious objects which ornamented the tombs, which objects were used as prototypes by Mediterranean peoples who in this way have rendered popular scarabei, winged globes, genii, sphinxes, the lotus and especially roses. Unless, indeed, the image did not seem proper and pleasing to the sight, or did not meet with the fancy of customers, or finally could not be easily sold when applied on vases, cups, arms, etc. Whatever the true reason might be, the fact is that if the type of the bucranium we are going to



Fig. 7.

meet with in Greece and in Rome has not been directly furnished by Egypt, if the ancient model has not remained what it was formerly, the true idea has been kept untouched; the bucranium in a new aspect and differently placed will keep forever its mourning and religious character; it will be found used especially in the decoration of tombs, temples and altars. Finally we have seen that the artist of the banks of the Nile invariably surmounts the head of the victim with a disc or with a rose; if that skinned head has not been copied the emblem which accompanies it the rose, has, on the contrary, been copied often and in similar circumstances; it is that rose that Greeks and Persians of former times have reproduced in different instances, either by placing it directly upon the heads of heifers, or by hanging it to the necks of bulls. Those two people, through the relations and influences which affected them, were made acquainted with the Egyptian custom of representing in certain cases the ox's head accompanied with a disc or with the characteristic rose that the Greeks have called *anthemion*.

(To be continued.)

ILLUSTRATIONS

[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

THE BOOK-ROOM OF THE CRANE MEMORIAL LIBRARY, QUINCY, MASS. H. H. RICHARDSON, ARCHITECT.

[Gelatin Print issued with the International and Imperial Editions only.]

NEW HOTEL, HOT SPRINGS, VA. MR. G. W. E. FIELD, ARCHITECT, HOT SPRINGS, VA.

This hotel is being erected by the Virginia Hot Springs Co. to provide a house for the convenience and care of invalids too crippled to stand the transfer to the hotels away from the depot. The railway-shed connects with the house through a waiting-room from which an elevator runs to the office and upper floors. Thermal baths are located on the ground floor on a somewhat higher elevation than floor of waiting-room, and are accessible by elevator from the upper floors. Cost of building \$60,000.

HOUSE FOR MRS. FLORINDA J. TILFORD, WASHINGTON, D. C. MR. C. B. KERFERSTEIN, ARCHITECT, WASHINGTON, D. C.

This house is built on New Hampshire Avenue near O Street, N. W. The front is faced with pressed brick with brownstone trimmings.

TYPOGRAPHICAL UNION BUILDING, WASHINGTON, D. C. MR. O. VON NERTA, ARCHITECT, WASHINGTON, D. C.

This building is erected by a labor organization. The building is 45' x 110' in size and contains three large assembly-halls, committee-rooms, secretary's office and a number of office-rooms for rent. The cost of the building, including steam-heating, was about \$31,000.

COMPETITIVE DESIGN FOR THE CALIFORNIA STATE BUILDING FOR THE WORLD'S FAIR. MESSRS. B. MCDUGALL & SON, ARCHITECTS, SAN FRANCISCO, CAL.

To this design was awarded second place in the competition.

CLOISTER OF THE CATHEDRAL, LE PUY, FRANCE.

[Additional Illustrations in the International Edition.]

DEUTSCHE REICHSBANK, BERLIN, GERMANY. HERR G. H. F.
HITZIG, ARCHITECT.

[Gelatine Print.]

SIXTEENTH-CENTURY CHAIRS, FROM THE COLLECTION OF THE
LOUVRE: TWO PLATES.

[Copper-plate Etchings.]

THE CATHEDRAL, GHENT, BELGIUM.

ACCORDING to tradition King Dagobert sent a missionary to christianize Ghent in the early part of the seventh century. As a result two monasteries were founded, and among the wealthy Vandals who enriched them was Bavon, whose name ever since has been associated with the city. An abbatial church dedicated to him was rebuilt in A. D. 935. The foundation of a new building on the site was laid in 1138. The building was dedicated in 1195, and apparently was one of the most remarkable of the Belgian churches. By order of Charles V it was demolished in 1540, who considered the site was well adapted for the citadel that was necessary to control the citizens.

But the name of St. Bavon was not to pass away with his twelfth-century church. It was attached to the great church of St. John, which is now known as the Cathedral of St. Bavon. The vast crypt of the building was constructed in the tenth and reconstructed in the thirteenth century. The choir was commenced in 1274, but the nave and transepts were not undertaken until 1533. The first stone of the tower was laid in 1461, but the upper part, which is seen in Prout's drawing, was not completed until 1534, and according to the design of Jean Stassins.

It is easy, therefore, to understand the reason for the variety of styles which is visible in St. Bavon's Church. It is a grand building, although the absence of capitals and the thinness of the shafts and mouldings diminish the impressiveness of the central nave. The choir is at a higher level than other parts, which is an advantage when grand ceremonies are performed. There are many side chapels, but as most of them are kept closed as exhibition rooms (in one is the principal portion of the unfading *Adoration of the Lamb*, by the Van Eycks) they diminish rather than enhance the architectural effect, unless when seen from the outside of the building.

SEDILIA, BRISTOL CATHEDRAL. DRAWN BY MR. J. A. SLATER.

HADDESCOE CHURCH, SOUTH DOOR. DRAWN BY MR. S. TUGWELL.

CITY BANK CHAMBERS AND BEDFORD ROW CHAMBERS, NOS. 42
AND 42 THEOBALD'S ROAD, W. C. MR. T. R. RICHARDS, AR-
CHITECT.

THESE premises are close by the north end of Bedford Row, and have a look-out over the gardens of Gray's Inn. The front portion of ground floor of No. 42 is used as a shop, and the basement under goes with it, and the ground floor of No. 44, with its basement, as a bank. The upper floors of both buildings are arranged in convenient suites as offices and residential chambers. There are two blocks of buildings in No. 42—the one in front shown in the view, and a block in rear of it, a staircase being placed between serving for both, with inner area for lighting, etc. Both fronts above ground floor are in red brick, the materials on ground floor being stone and hard woods.



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

A PARTY-WALL QUESTION.

CHATTANOOGA, TENN., August 20, 1892.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I have a new four-story brick store to build, 50' x 125' and the parties owning the adjoining property won't let me put the footings of brick wall on their side, that is, won't let me project on their property. Will you kindly tell me through the columns of your valuable paper, how I can get a good and solid foundation under the existing circumstances? Please explain it in detail, and oblige,
Yours truly, S. JOHN PATTEN, JR., Architect.

[It is impossible to get a good and solid foundation in safe ground under such circumstances as those described. Obviously, nothing can be done but to give the footings the proper width, and set the wall on the edge of them. In this way, the weight of the wall acting near one side of the footings, and the reaction of the ground acting at their centre, there is a strong

tendency to turn, or "roll" the footing-stones. The tendency can be somewhat palliated by setting the footings, which must, of course, extend across the trench, deep in the ground, so as to have the help of a considerable weight of earth on them to keep them in place, and by receding from the inner edge of the footings to the inner face of the wall by small offsets, so as to carry out the weight of the wall as much over the footings as possible; but it cannot be entirely counteracted. It is for this reason, more than for any other, that party-wall laws, which require walls between adjoining estates to be properly placed on the footings, are beneficial. — EDS. AMERICAN ARCHITECT.]



THE STONES OF BAALBEK. — A word must be said upon one question about the Baalbek ruins which must naturally arise in every one's mind with respect to the transport of the colossal stones. How could they possibly have been removed from the quarries to their appointed place? How raised from the ground into their present position? By way of solution of this mystery many suggestions have been offered, but none of them can be considered entirely satisfactory. Such theories as those of inclined planes, rollers and such-like methods are well-known to all. One ingenious surmiser has hazarded the opinion that elephants were common in Syria in those days, and that a score or two of these animals could have managed the business by the aid of ropes of raw cow-hides. But no theory that has yet been started is sufficient of itself to solve the difficulty; though it is, of course, not improbable that one or another of the methods suggested may have been utilized in combination with other means. About four years ago, however, a couple of Druses from the Hauran described to me a remarkable machine, which had been discovered, according to their account, at Salkhah at the southeastern base of the Jebel-ed-Druse, or Druse Mountain, celebrated by the Psalmist as "the Hill of Bashan." At the time I did not, unfortunately, realize the importance of the discovery which these Druses had made. But after due reflection and consultation with others, I came to the conclusion that nothing less than an original machine, for the hoisting and conveyance of enormous blocks of stone, had been brought to light, and that, if it could be produced, one could see with one's own eyes a practical example of the solution of that which has so long been a mystery. The information which I received was necessarily vague and indefinite, for the Druses had no idea that they had made any important discovery; but from what I could make out, the principle of the machine was of a marvelously simple nature. It appears to have been a gigantic lever of the first order, the fulcrum of which was supported by a huge tripod pedestal. The tripod and the beam were each composed of a great number of bundles of rough logs of wood (probably of the silver poplar, which still abounds in the neighborhood of Damascus, and the trunks of which are straight) stout, strong and seasoned, and clamped firmly together by iron bands and rivets. It is evident that such a machine could be made strong enough for any required purpose by the simple addition of a sufficient number of these wooden logs or beams, each secured to the others by these stout iron clamps. The lever worked on a pivot on the top of the tripod support, and was so arranged that the arms had a horizontal as well as a vertical motion. At the end of one arm of the lever was a series of strong iron claws to catch the stone; at the end of the other an enormous cage. When the stone was required to be raised from the ground, this cage was simply filled with smaller stones, until their united weight counterbalanced the weight of the stone required to be raised. As soon as the stone was lifted the necessary height from the ground, it was pulled round horizontally, either through an angle of one hundred and eighty degrees, if it were a question of transport, or above its required position if it were a case of building. Then it would be lowered into its place by the simple expedient of removing the stones from the cage. This mechanical power was of a very primitive but ingenious character, and it answered its purpose admirably. Of course it must be understood that the above description is in a great measure conjectural; for I never saw the machine myself, nor, so far as I know, has any European examined it. Indeed, from the Druses account, even when discovered it must have been in a fragmentary and dilapidated condition, and even before the circumstance was reported to me at all the inhabitants had already begun to break it up for the purpose of using the beams for the roofs of their houses and availing themselves of the iron. From some travellers who have visited Salkhah this year, I learn that all traces of it have disappeared. It is possible that my theory may itself be wrong, and that after all the machine may have had nothing to do with the raising and conveyance of stones; but several mechanical engineers to whom I have mentioned the subject consider it not only possible, but highly probable that it was by means of such an appliance as this that the difficulty presented even by the Cyclopean stones of Baalbek may have been surmounted. — *Macmillan's Magazine*.

SOIL-PIPES AS LIGHTNING CONDUCTORS. — Mr. W. H. Preece at the Edinburgh meeting of the British Association called attention to a new danger in the destruction of lightning protectors by recent municipal legislation. He said that the immunity of private houses from being struck by lightning is very marked, and this is considered to be due to the fact that the lead on our roofs and the iron stack-pipes that drain these roofs, connected as they are together, form admirable lightning protectors. Any charge of atmospheric electricity which may fall upon a house so protected is conveyed harmlessly away to the earth. Householders are now required to remove these pipes from direct connection with the drains, and to leave an air-space between the end of the pipe and the grating of the drain. The result is that the electric conduction of the pipe is broken, the stack-pipe ceases to be a lightning protector, and houses are left exposed to the danger of atmospheric electricity. The remedy is very simple. The pipe need not be entirely cut away. Three-fourths of its circular section may be removed for the

distance required, and one-fourth may be left to maintain the old electrical connection; or, if the separation has been effected, then the stack-pipe should be connected with the drain by a wire or rod, so as to restore a path for the charge to the earth. Householders are also now compelled to put up stack-pipes to ventilate their soil-pipes, erecting above their roofs a metal tube forming a prominent object exposed to the atmospheric charge, and terminating frequently in an earthenware pipe on the first floor. They are thus liable to be struck by lightning without offering any means of escape. The tubes should be connected electrically with the earth, either directly or indirectly through the stack-pipes, which would then make them sources of safety rather than of danger. — *Building News*.

THE ECHOES OF STATUARY HALL, WASHINGTON. — Statuary Hall was for many years occupied by the House of Representatives previous to the completion of the great south wing of the Capitol where the Representatives now meet annually. It is a semicircular room, is this old Hall of Representatives, and a very peculiar place. For some reason, which no one has been able to explain, it is an echo hall, possessed of remarkable acoustic properties. There are certain blocks upon the tiled floor which echo to other blocks, so that when a Capitol guide familiar with these blocks is standing seventy-five feet from you he will address you in an ordinary tone of voice and the sound will come from the floor beneath you or seemingly from the air above your head. Under the eagle there is an exit, and any one standing in the door back of those marble pillars can talk away across the hall to the opposite entrance and startle strangers as they enter the room. Some of the newspaper men have learned the location of these echo stones and take great delight in puzzling visiting friends or new men on Newspaper Row. The natural telephone is one of the wonders of this wonderful hall. Away over in the corner you can stand and whisper, while your friends may be at a similar corner on the opposite side of the room and hear every syllable as plainly as though you were standing face to face. The sound goes upward, presumably, and comes down on the other side, but how it is connected no one knows. This is the most wonderful acoustic puzzle in America — a great deal more inexplicable than the well-known echo at the top of the dome. It was not the intention of the architect to make an echo hall. It was to build a room in which speech-making would be easy and agreeable. Instead, he built a beautiful hall in which all conversation was veritable jargon. How the gentlemen ever managed to make their speeches and continue their debates no one now can imagine. Yet Daniel Webster, Henry Clay, John C. Calhoun and Hayne of South Carolina delivered some of their finest oratorical efforts beneath this roof. There is one block — about the tenth one on the floor from the base of the column over which the eagle presides — which is called by the guide "the central block." That is because it does not carry its echo to any other block in the room, but brings back to whoever stands upon it his own voice. If you were to stand upon the central block and utter your name you would hear the voice ringing in your ears — your own voice — like the roaring of a thousand people shouting in unison and calling you. It seems that this block is the acoustic centre of the hall, and every sound made upon it is reflected back from every cranny of the room. What a terrible place it would be for an orator to stand and listen to his own words as they came bounding back and reverberating with thunderous mockery. It is stated, however, by the "oldest inhabitant" that when the floors were carpeted the echoes were not so pronounced, but, nevertheless, the members of the House complained constantly of the bad acoustic properties of the hall. — *Rochester Post-Express*.

THE CELL OF A VESTAL HERMIT. — During some building changes in Utrecht, writes the *Vossische Zeitung*, an interesting discovery was made under the so-called Buurkerk. The well-defined ruin was found of the stone cell in which, in the year 1457, the richest and most beautiful girl in Utrecht had allowed herself to be immured. The historical facts are as follows: On May 8, 1457, a mystery-play was performed in the cathedral, and among the spectators was Bertke, the beautiful daughter of the Proctor. But instead of the expected reverential feelings she experienced only vexation and disappointment, and was especially indignant at the sexton calling out, before the play began, that the young men in the church were "not to tickle the young girls, or pinch their calves, on pain of being expelled the church." Still more disgusted at the conversation of some women standing near, Bertke left the church and told all she had heard to her father confessor, who confessed that the slander cast upon the priests was often too true. This was enough for Bertke, who, convinced that not even the cloister could keep her secure from evil, determined to cause herself to be walled up in a special cell with only a small aperture for the reception of food. No one knows how she died, but it is certain that she lived in her cell for fifty-seven years — that is, till 1514.

RED CEDAR SHINGLES. — Are you "onto" the growth of the red cedar shingle industry, and the way those shingles are coming eastward to replace other kinds? The business has grown to immense proportions and the manufacturers out there think that they own the earth, almost, in a shingle way; and if they keep on conquering it, it won't be many years before they will own most of it. Maybe you saw in these columns last week a list of the new shingle mills of Washington. There are fifty-six of them, with a daily capacity of 6,210,000. Remember, those are only the new ones; there are old ones scattered around, here and there. The best estimate to be arrived at is that 7,500 car-loads of cedar shingles will be shipped eastward this year, 5,000 over the Northern Pacific and 2,500 over the Union Pacific. Washington papers state that the car-loads will number 10,000, but there is a little boom in such a statement. A car-load comprises 140,000 shingles, and multiply that number of shingles by the car-loads, the result is 1,050,000,000 shingles! Almost a third as many as were manufactured in the white-pine territory in 1891. It is said that the business is being overdone on the coast: that farmers are mortgaging their farms to buy shingle machinery. That may be bad for them, but don't forget that the more competition there is out there, the hotter the fight between

the red cedar product and white pine, white cedar and cypress shingles in the east will be. The Washington people are in the shingle business clear up to their necks; and they are in it to make the eastern fellows hustle, too. — *Northwestern Lumberman*.

TRADE SURVEYS

THE volume of business transacted in the United States week by week is larger than for corresponding weeks last year. Railroad traffic is heavier, and net earnings of 190 roads for the first seven months of this year are, in round figures, \$131,000,000, as compared to \$124,000,000 for the first seven months of last year. Bank clearings show an enormous business, but manufacturers, jobbers, store-keepers and business men generally complain of low prices and narrow margins, and of discouragements to fresh investments. The fact is overlooked by many that narrow margins and low prices benefit the people at large, and broaden the foundation of business and multiply opportunities for new ventures. Careful thinkers now recognize that the alarm sounded two years ago in the Baring failure has been followed by good results. A general whittling-down of margins was a necessity. The condition of the common people, especially in manufacturing communities, has improved, and the agricultural communities where crops were good have profited still more. Comparing conditions of the common people now and two or three years ago, an improvement is easily noticed: first, in more regular employment; next, in many cases in better wages; and lastly, in obtaining more for a dollar now than then. The tendency in general is for the price of labor to advance, and for the price of labor's products to decline. The tendency to a consolidation of capital will not offset this advantage to any extent, so that the net gains of labor will be permanent, though very gradual. Years ago much was expected, especially in Great Britain, from cooperation, an expedient which ran its brief course and left some permanent good. For awhile attention has been given in that kingdom to manhood suffrage, in the belief that better conditions would come therefrom, but that reed broke, and trade-unionism, enlightened by the duties of a higher individualism, is looked to for a gathering to better conditions. On this side, labor is trying its experiments as rapidly and learning faster, and the masses of laborers are at least learning that, while organization is desirable and helpful within certain limits, the true progress and development is, in reality, an individual matter. There are many reasons to give why trade-unionism will grow faster in the future than in the past, and there are just as strong reasons to show that with this increase of strength there will be a decrease in strikes and strike agitations. Strikes do not occur among the iron-workers or locomotive-engineers. A score of trades could be enumerated to show that strikes are waning in number, and that a more pacific spirit is animating the great body of workers. Certain rights and principles are being defined on both sides which, in the future, will not be invaded. Imposition will become more rare, and the tyranny of labor unions will be less offensive. The strikes that have been fought through will be worth all they cost in establishing limits and defining rights and duties and certain ethical considerations which nothing but force can bring into proper relief. Labor is a new estate, so to speak, third or fourth, which for ten or twenty years has been defining and asserting itself. It is the self-asserting element of human nature that has made these agitations possible, as much as deficient compensation or constructive injustice to labor. Neither cooperation, productive or distributive, nor political action ever attracted many American workmen. Much of their trade-unionism was transplanted, but the great body have adopted it as the best present means of defence against what they regard as actual injustice. Public opinion is now the key-note by which strikers gauge their strides. The foreign element has less control of unions than formerly, a fact shown by the list of leaders in each union. These considerations have been drawn out by the recently-expressed fears among employers in some quarters that the country was on the eve of a striking agitation. That there will be a series of levelling-up strikes is probable as soon as the present impulse to greater industrial activity expends itself and produces better conditions. But whatever striking is done will be of this sort: simply an effort of those behind as to wage-earning to step up to the front. It may be said this means nothing; that as soon as the equalization or harmony has been established all along the labor line that a fresh movement for a further advance will naturally follow. Not so, for various reasons. The present lowest rates of ordinary day-laborers will work up under restrictive emigration laws and increasing demand for labor. The middle and upper classes of wage-workers cannot make or maintain a successful demand, because margins of profits, speaking generally, do not and will not allow; and next the supply of skilled labor from the lower ranks, under the stimulus of increasing wages, will be sufficient to keep the higher and highest paid workers in order. Hence it is unnecessary to borrow trouble on the score of a general labor uprising. It will never take place. It is possible it might, in labor's ignorance, be attempted, but the mere attempt would permit the causes here referred to to leap out and protect both laborer and employer. Another factor worth noting is that, of late years, agriculturists are beginning to get more for their labor, consequent upon the general decentralization of industries, and their ranks can and will be increased from the manufacturing side faster on this account. Census reports show this in the doubling in ten years of small towns and villages, which sprang up because of the increase of small farmers. The labor question is simplifying itself and solving itself. Some difficulties will arise because of the prejudice or stubbornness of employers to recognize the mighty force that is driving all labor up to one common level — not of equal daily or hourly compensation, be it particularly understood, but up to a common level of right and justice as it will appear to the comprehension of each worker. In short, the \$1.14 a day laborers will advance themselves, while the \$3 to \$5 a day men will stay where they are. The strikes of the future will be mostly among the cheaper laborers. The intelligence of the laborers is being yearly more and more developed in building and loan associations and in fraternal orders. The statistics of house-ownership are very encouraging in that direction. The growth of funds in savings banks and of wage deposits elsewhere exhibit a growth of the spirit of economy that is creditable. There is also a rapid increase in small land owners and of manufacturers of small capital. The cheapening of machinery and of steam-power opens the way wider for men of small means to try their hands at self-employment. It is not quite true that there is a rapid and dangerous centralization going on. Centralization there is, but it is of that pattern which all can safely endorse. Agitation of the millions for more of earth's gifts will continue, but they will be made within limits and under agencies that will rob them of the extravagance and danger that men sometimes imagine are in store.





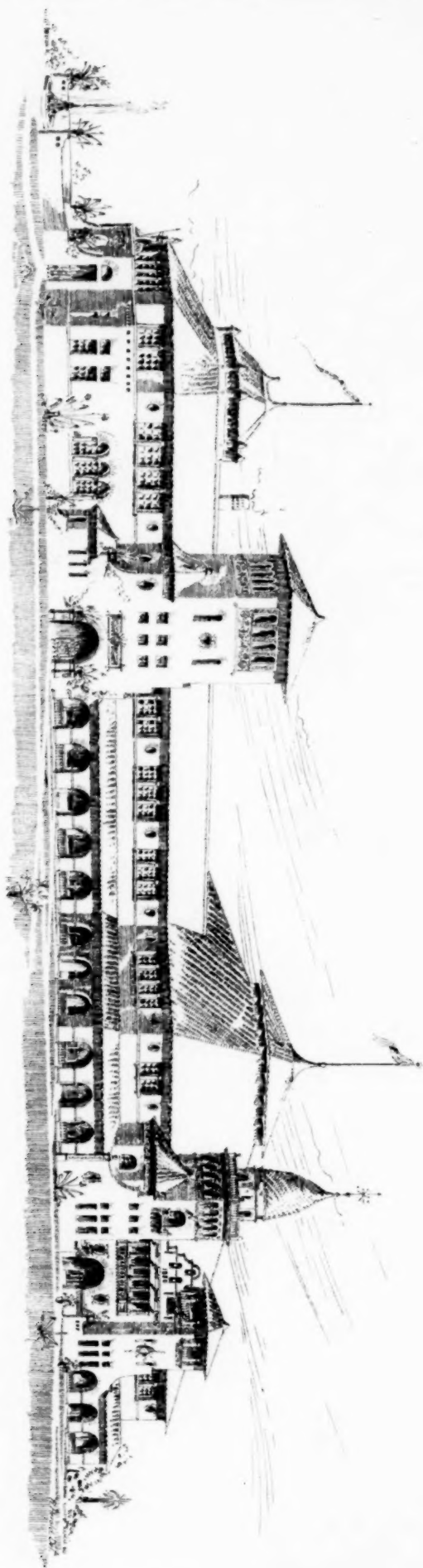
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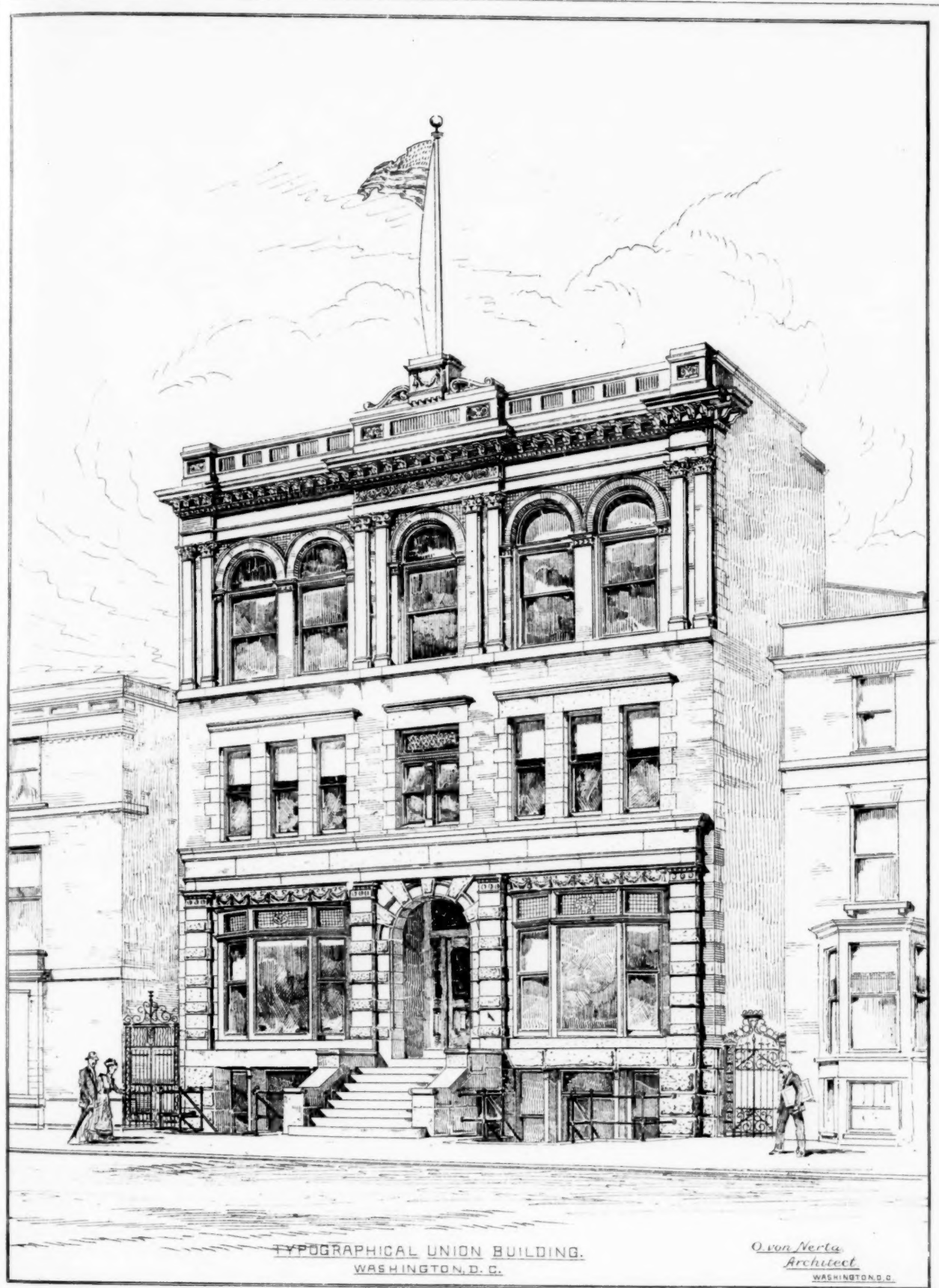


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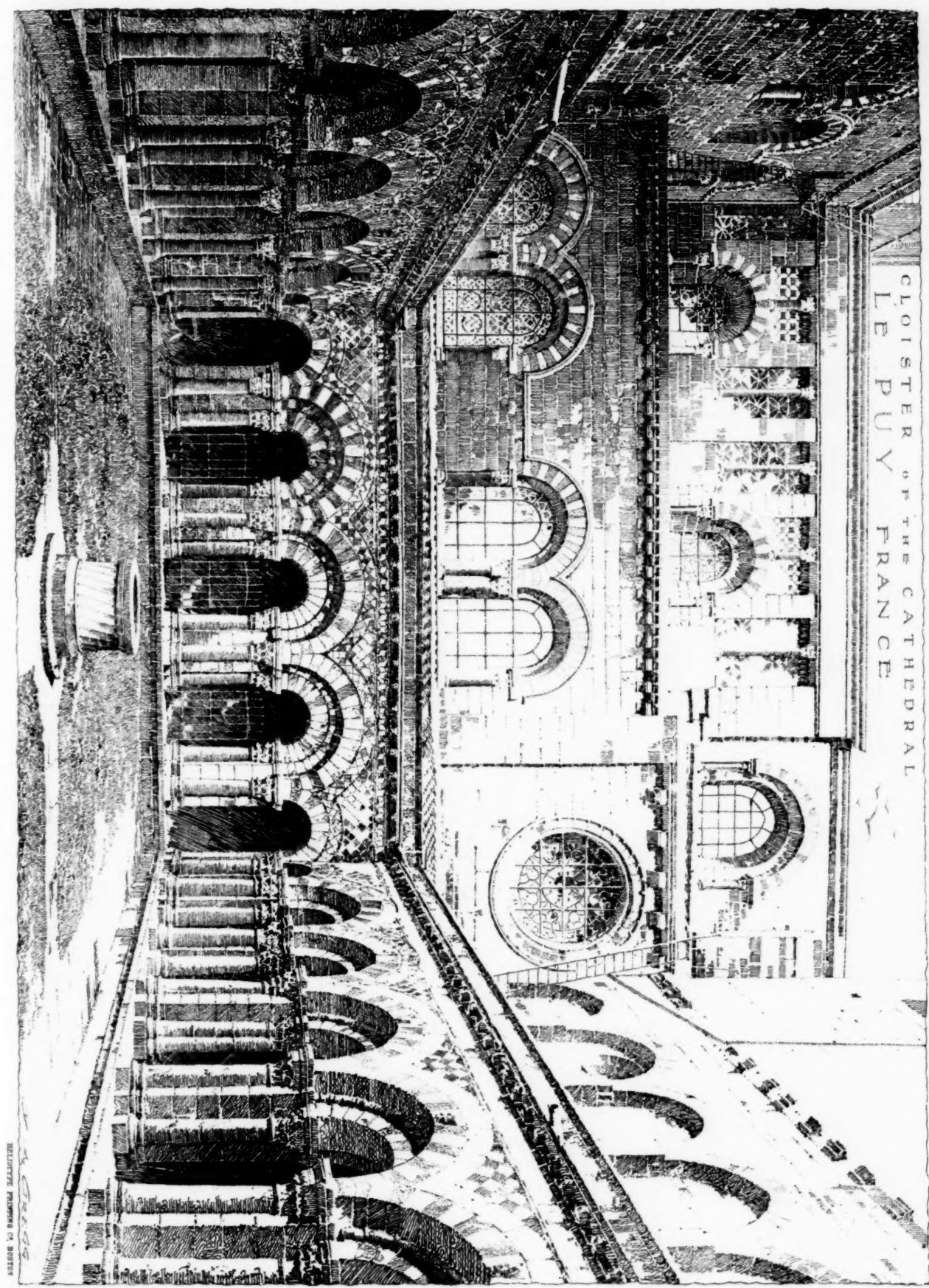
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