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DECORATION

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CONSTRUCTION

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JANUARY 16, 1892.



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THE people of modest fortune who put their money into building societies, believing them to offer, as they should, almost the safest form of investment, must learn the lesson that no investment is safe unless it is looked after, and that corporation officials, however good their intentions, are very apt to be careless of the interests entrusted to them. An English building society has recently collapsed, through the mismanagement of its secretary, who had been left by the confiding directors to do what he pleased with the funds of the society, and who chose to lend about a hundred and fifty thousand dollars without mortgage security, and much of it to persons not members of the society. There seems to have been no question of the honesty of the secretary, but his bad judgment caused, nevertheless, severe loss to many people of limited means. In this country, where small sums are generally put into savings banks, the law, in most States, limits very strictly the security on which loans of the depositors' money may be made. As a rule, such loans are permitted to be made only on mortgage of improved real estate, and to the extent of not more than sixty or sixty-five per cent of the assessed valuation of the estate; yet it is a very common thing for savings banks, particularly in small towns, to be ruined, and their depositors robbed of their money. In most cases, this result is brought about by the indolence of the directors, who are commonly honest enough, but unaccustomed to the management of property, and principally interested in their own affairs. Such people fall an easy prey to a plausible and industrious individual, who has patience to wait for the fruition of his schemes. The first step is to show great energy and interest in the bank's affairs, accompanied by familiarity with real-estate values and financial matters generally. After a few instances of watchfulness in saving the bank from loss, or of good judgment in making a profitable investment, the reputation of the new financier is established, and the directors are only too happy to hand over the management of the bank's funds practically to him, reserving a nominal oversight, which consists in looking vaguely over the periodical statement of loans, and comparing them with the mortgages which purport to secure them. If any director shows himself too inquisitive about the history of the loans, the others, who dislike to be bored with listening to what seem to them useless questions, are glad to exert their influence to have him dropped at the

next election; and the path to the appropriation of the bank's funds is then easy. The usual course is for the financier to lend the money to himself, recording the loans as made to various fictitious persons. The mortgages to secure the loans are readily prepared, by filling in an ordinary mortgage-blank with a description of some suitable piece of property, copied from the records in the Registry of Deeds; and writing appropriate signatures; and if these can be fortified with the Registry stamp, either genuine or forged, it must be an unusually critical director who would think it necessary to inquire further into the matter.

THIS process may go on, and sometimes does so, until all the property of the bank and its depositors has been transferred to the financier's pockets. Then, after he has exhausted his fountain of wealth, and escaped to Canada, the directors find that the signatures on their notes are fictitious, and the mortgages given to secure them are mere bits of waste paper. Of course, rascality of this sort may be unexpectedly tripped up, and most States have skilful and wary Savings Bank Commissioners to look after lazy directors, but no State supervision can take the place of watchfulness on the part of the local officials, who can inform themselves of all the circumstances of each loan in a few hours, if they choose to do so. There is plenty of reason why they should choose to do it, and the depositors in savings banks, who, although they are generally too modest to remember it, own the whole property of the bank, and furnish the money to pay people for taking care of it, would do well to bring them up occasionally to their duty. We venture to say that country savings banks now hold scores, perhaps hundreds, of mortgages, either wholly fictitious, or with the signatures forged, or based upon a valuation many times greater than the real worth of the property, which simply represent money stolen from the depositors, under the eyes of the people appointed to watch over it. Even though losses of this kind in a particular bank may not be so serious as to compromise its solvency, it is none the less true that the money lost belongs to the depositors, and would have been added to their dividends if it had been properly taken care of; and they have a right to complain of the neglect to secure it for them.

THE late Dr. Buckminster Brown, of Boston, a distinguished surgeon, left to the Massachusetts Institute of Technology three thousand dollars, for its Department of Architecture. The legacy will not be available until after the death of Dr. Brown's widow, but it is at least pleasant to record the assurance of a future gift for professional education. Of late years, the Institute of Technology, at least so far as its Architectural Department is concerned, has not benefited by bequests and gifts to anything like the extent of its principal rival, the School of Mines of Columbia College, in New York. Notwithstanding the deserved reputation of the Architectural School at the Institute, its friends should remember that proper professional training is to a great extent a matter of a good library and an extensive collection of artistic objects. These cost a good deal of money, but the school that is best provided with them will, other things being equal, give students the best training; and, although Dr. Brown's legacy will be very useful, it should be supplemented by other gifts, if the school is to be kept in the position which its past work has gained for it.

AN unfortunate law-suit is now going on over some terra-cotta, which was furnished by manufacturers of good reputation for a church in New York. The contract was a large one, the value of the terra-cotta to be used amounting to forty thousand dollars. When the work was nearly done, some of the terra-cotta scaled badly under the action of the weather. The manufacturers were notified, and replaced many of the injured pieces, but a second winter caused renewed trouble, and the church authorities, who had only paid about sixteen thousand dollars on account of the contract, refused to pay the balance. The manufacturers sued for it, and the church brought a counter-suit, claiming forty thousand dollars damages on account of the bad quality of the terra-cotta. The manufacturers assert that the building of the church went on very slowly, and that their terra-cotta was left exposed to the

storms of two winters, without protection. As most building terra-cotta is made hollow, and snow and water, getting into the cavity, and freezing, would be very destructive to it, there may be some justice in what they say, and people engaged in building will look with interest for the result of the suit.

THE case of the wardens and vestry of Holy Trinity Church, in New York, who were condemned to a fine of a thousand dollars for violating the contract-labor law, in importing an alien, under a promise as to salary, to expound the Gospel from the pulpit of that church, was appealed to the Supreme Court of the United States, and argued by the counsel on both sides the other day. The representative of the church proposed the ingenious theory that the contract-labor law, so far as it applied to clergymen, was unconstitutional, inasmuch as it interfered with the free exercise of religion. If the devotions of congregations were directed toward the pulpit, instead of the altar, there might be some ground for this claim, but, under existing circumstances, it hardly appears to deserve more consideration than the judges showed it. The point was also raised that Congress could not have intended to prevent the importation of clergymen, but the court did not feel called upon to ascribe intentions to Congress which were not shown by the language used in the Act; and it seems likely that the decision of the Circuit Court will be affirmed.

IN the death of Albert Wolff, art, as well as literature, loses a brilliant critic and exponent. Although Wolff was more Parisian than the Parisians, he was by birth a German, from one of the most German of towns—Cologne. He was educated in Germany, and wrote for a time for German publishers, but was sent to Paris in 1857 to write a critique of the *Salon* for the *Augsburg Gazette*, and remained there. He was a clever youth, with many accomplishments, and rapidly made his way in his new home. Alexandre Dumas employed him as his secretary, and he wrote more and more frequently for the great Parisian journals, until he became one of the most famous writers and critics in France. Naturally, a bold and unsparing critic, such as Wolff was, makes plenty of enemies, especially in France, where sensitiveness to public opinion is very highly developed among artists and authors, and Wolff had to receive as well as give blows. On the whole, however, he appears to have exercised a wholesome influence in matters of art, and his memory will be much respected among laymen.

IT will interest a good many people to know that services are now held every Sunday morning, at half-past nine, in the new Episcopal Cathedral in New York. It is true that ground has not yet been broken for the erection of the building; but the site has been consecrated, and an acting canon, the Rev. E. H. Cleveland, has been appointed, who will, for the present, hold services in the chapel of the Leake and Watts Orphan Asylum, on the site of the future building. It is expected that a beginning will be made in actual construction within a few months, and, as soon as any part of the new building can be occupied, the services will be transferred to it. At the consecration service, which was held on New Year's Day, two curious objects were shown. One was a brick from the first ecclesiastical building erected in America—a church built in the Island of San Domingo by Columbus in 1492. Columbus must, apparently, have made his bricks on the island, for he could hardly have brought enough of them to build a church with on his three small vessels; but the specimen appears to have been well authenticated, and the documents proving its genuineness, with the brick itself, which was mounted on a silver plate, were presented to the Cathedral by the owner, Dr. Malcolm McLean. The other curiosity was what the newspaper accounts call a carved "altar cover." Whether this means a font cover, or some other article of ecclesiastical furniture hitherto unknown, we will not undertake to say; but, whatever it was, it possessed the interest of having been carved by Joseph Meyer, the impersonator of Christ in the Passion Play of Oberammergau.

A VERY rich man once said that "Most people make money enough, but they lose it, and that is why they don't get rich"; and when one reflects upon the enormous sums thrown away upon worthless stocks, bond schemes, and even

upon transparent swindles, it seems as if there must be some truth in the saying. A good deal of money is, however, lost by prudent, but inexperienced people, by direct frauds, which are perpetrated in such a way that the swindler keeps himself just out of the reach of the law. One common way of robbing honest people of their property is to approach, either directly or through a third party, some one who has a house or piece of land to sell, and get him to agree to take in part cash, and the rest in notes, or stocks, or bonds, which the would-be purchaser asserts to be "just as good as gold," and which appear to bear a good rate of interest, and to be well secured. Often another person, apparently disinterested, is called in to bear testimony to the value of the notes or bonds; and the intending purchaser, who, particularly if his victim is a woman, pleases her by praising the house she has to sell, and offering a good price for it, "guarantees" them, principal and interest. The bargain is struck, the deeds passed, and a certain amount of cash handed over, together with the notes or other securities, which soon prove to be utterly worthless. The individual who "guaranteed" them, and who has long since sold for cash the house he bought with them, laughs at the request that he should make his warranty good. His disinterested friend, who was sure that they were "gilt-edged in every respect," is not to be found; and the former house-owner learns, too late, that there is no law to prevent a person from selling his property for bits of waste-paper, if he chooses to do so, and that the fact of his having imagined the waste-paper to be valuable, on the mere assertion of a stranger, will not help him much. There might be no real doubt that the intention was fraudulent, but the swindler would protest, if brought into court, that he had supposed the securities to be good, and deplored very much the fall in their value after the trade was made, but that he could not undo the transaction; and the court, with some sage remarks about "*caveat emptor*," would side with him.

A NOVELTY in the way of festivities is announced from Paris. The society for mutual relief, known as "*Le Bâtiment*," is to hold its twelfth annual ball; and among the other attractions of the evening will be the drawing of a lottery. The entrance tickets to the ball are free, but the lottery-tickets cost ten cents each. There are to be fifty prizes, of which the principal one is a bond of the city of Paris. Such an announcement in this country, in any State but Louisiana, would attract to the ball-room a crowd of the worst thieves and reprobates within reach of the place, and the "ball" would probably be brought to a sudden end by the police; but the Parisian mind appears to see nothing out of the way in it, and *La Semaine des Constructeurs* gives publicity to the notice "with pleasure."

LE GENIE CIVIL makes an excellent suggestion about the furnishing of railway cars. A certain Dr. Prausnitz lately examined samples of dust, brushed from the cushions of some cars of the line from Berlin to Meran. Meran is a village in the Tyrol, much frequented by consumptive patients; and Dr. Prausnitz found, on microscopical examination of the dust, specimens of the *bacillus tuberculosis*. Some guinea-pigs were inoculated with the dust. In one experiment, four guinea-pigs were inoculated, of whom three were found, after allowing ten or twelve weeks for incubation, to be affected with tuberculosis; in the second experiment two out of four were affected. As it is well established now that consumption is infectious, and that the infection is carried by dried particles from the lungs, it is evident that travelling in a railway compartment recently occupied by a consumptive subject may be fatal to a healthy person; and *Le Génie Civil* proposes that, as there is usually plenty of live steam available at railway stations, all cushions and carpets should be disinfected every day. In our own cars, such disinfection would not only be valuable for itself, but would, it may be hoped, be useful in cleansing the furniture, which, in most of our cars, is sadly in need of purification. We have often wondered what sort of passengers it could be that left the plush cushions of the car they occupied adorned with black or white or brown spots; but, whatever may be their species, they must be common, for nearly all car cushions, even on good roads, present a sickening appearance, and the idea of subjecting them to a wholesome wash of steam every day would be very satisfactory to the decent passengers, apart from any question of microbes.

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

SCHEDULE FEES FOR PARTIAL SERVICE.



A charge by percentage for partial service, on the basis of the Institute schedule, appears to be more difficult to commend to judges and juries than the five per cent for full service. One reason for this is, perhaps, that estimates made in the embryo stage of the proceedings relating to the construction of a building are of a rather vague character; and another may be that the amount of work done under the name of "preliminary sketches" varies greatly with circumstances. In a Michigan case,² a firm of architects sued for compensation for services in preparing drawings for a proposed building, and, in the court of first instance, recovered a verdict for one per cent on the cost of the intended building, that being the schedule fee for "preliminary sketches." The suit was brought before any set of plans and specifications had been completed, and before the owner had decided in what style and manner he would build, and how much money he would put into the building. The architects made floor plans and one elevation, and sent them to the owner, who returned them, saying that he declined them, and would send for the architects if he should want their further services. One of the architects testified that he left the sketches with the defendant "for approval," and that they were returned "not approved"; but the jury seems to have been convinced that the architects were really employed by the plaintiff, and that the plans were not volunteered. While the elevation was being prepared, Wood, the acting man of the architects, met the defendant, Maier, in the street, and Maier asked him how much "that building would cost." Wood replied that he could not tell without calculating, but that this could be done very nearly. While the elevation was in the draughtsman's hands, Wood and one of the Scotts figured that the building would cost about \$17,000. Maier said he could get it done for \$12,000, and Wood said he could not. Maier criticised the cornice as being too showy, but Wood said it was not. This was the last that occurred before the drawings were sent back.

The architects sent Maier a bill, as follows:

"To services rendered as architects and preparing preliminary drawings for trunk-factory, and making estimates of cost of same, being one per cent of estimate of \$17,000 = \$170."

The verdict in the court below was for the amount of the bill, but Maier appealed to the Supreme Court, which took a different view of the matter. The judges of the Supreme Court, in their decision, said: "There is some conflict in the testimony upon various matters, but in the view we take it is not important to consider it in detail. There was testimony that Maier was told that the architects' charges would be two and one-half per cent on the contract for plans, specifications and superintendence of the building, and that he regarded such terms as fair. There is no testimony that he was given any other information about the expense of preliminary work, and the plaintiffs' testimony is clear that he never had any of the elements of the estimate beyond the

"gross sum of \$17,000. It does not appear that any instructions were ever given, or any conclusions arrived at, as to the kind or quality, or the details of building materials and other articles, beyond such general talk and instructions as were had upon the preliminaries."

"The plaintiffs' theory, without which they could not have recovered as they did, seems to have been that, by employing an architect to make drawings which are not finally determined on, and asking his opinion of probable cost, the employer is bound to pay a percentage on a building such as the architect sees fit to figure out, and at a price which he puts upon its probable cost."

"This seems to us an idea which has no foundation in law or common-sense, and, unless such a basis of compensation was specifically agreed upon, it cannot be allowed."

"There is some reason for claiming that, if a man is employed to make preliminary sketches to enable a landowner to determine what sort of building he may profitably erect, and in what style and of what material it should be built, he should not do the work without reward, provided such is the understanding. If, however, as the defendant here claimed, the architect volunteered his services, with the chances of future employment, it would be different."

"But it cannot be held that in either case such preliminary work can be measured by estimates of the cost of the architect's projected building. . . . It would always be for an architect's interest, in such a case as this, if the plaintiffs are correct, to make the plan as expensive as possible, instead of bringing it within bounds. . . . The only claim the plaintiffs could have would be for so much time as was actually spent on their work, with the fair understanding that they should be paid for as much as they did, or with such circumstances as would compel the defendant to the duty of so understanding; but no custom of architects can be received to fix it on any such basis as is here set up. . . . Such a custom, if it prevails, can bind no one who is not made in some way aware of and assenting to it. It is too unreasonable to stand alone. It would put every employer at the mercy of an architect's extravagance in taste and license of guessing at estimates which have nothing to measure them. It cannot be said that the testimony introduced had any lawful tendency to prove the value of the plaintiffs' work, and the absence of any other kind of evidence would not make this appropriate."

The judgment of the court below was reversed.

In this case, the plaintiffs made a mistake in saying anything about percentages in their bill. Unless it had been agreed upon beforehand that they were to be paid by a percentage on the cost, it would have been much better for them,

QUESTION OF SCHEDULE CUSTOM TO BE RAISED WITH CAUTION.

as it is in general for all architects under similar circumstances, not to raise the question of percentages, or Institute schedules, or the customs of architects, but simply to send a bill for \$170, and let the defendant try to prove it unreasonable. It is unlikely that any witnesses whose opinion was entitled to respect would have thought that \$170 was too much for a firm of architects, who kept a managing foreman as well as draughtsmen, to charge for sketches for a seventeen-thousand-dollar building; and, even if the defendant had overwhelmed the jury with witnesses who thought that two dollars a day was high pay for an architect, the result would only have been the cutting-down of the verdict, instead of its reversal.

VALUE OF TIME-BOOK.

In the present state of the law in this country, every architect should keep a time-book, and say as little in court about schedules or percentages as possible, unless he has agreed with his client about them beforehand. Of course, he can make out his bill in accordance with them as to the amount charged, and any architect will testify that the amount is reasonable; but the process of arriving at it, although known to architects as the most ready and satisfactory approximation, is apt, as in this instance, to excite the sensibilities of courts, and is best kept out of the testimony. There is no need of exhibiting it, as the results, which are the important part, generally meet with the approval of judges and juries if nothing is said about the way in which they are obtained. If, as often happens, the Court wishes to know how the architect arrived at the amount of his charge, the time-book will be of great service in showing

¹ Continued from No. 337, page 23.

² Scott vs. Maier, 56 Mich. 514.

that something besides mere arbitrary custom was available

SCHEDULE RATES OFTEN FAVOR CLIENT.

for fixing the bill at a reasonable sum. In point of fact, the schedule rates often work in favor of the owner, instead of the architect. It frequently happens, particularly in the case of dwelling-houses for fussy clients, that the architect's actual outlay, in pay of draughtsmen and a suitable share of office expenses, is more than the five per cent on the cost which he feels himself held to as the limit of his charge.

In such a case, there is absolutely no reason, in this country, why the architect should not send in a bill for a lump sum, in excess of the schedule rate. Other architects, knowing the circumstances, would testify that the charge was reasonable, and the time-book would show that it was only fairly remunerative. The opposing counsel, having no other defence to make, would probably wake suddenly to the sacredness and universal prevalence of the schedule rates; and if the court should be persuaded to find, against the architect, that these rates were reasonable and customary, it could not very well refuse to find that they were equally so in subsequent cases, where it was for the interest of the architect to have the custom regarded as established.

It is not impossible that a judge might find a reasonableness in the schedule, if it could be used to cut down an architect's bill, which he would be unable to discover if it should be invoked in an architect's favor. We have already mentioned some of the experiences of Mr. Tilley, as the winner of the competition for the Chicago City-Hall. (Page 23.) After the earlier differences had been adjusted,¹ Mr. Tilley was appointed by the city of Chicago as the architect of the city's half of the combined court-house and city-hall which it was intended to erect, while the county authorities appointed Mr. Egan architect of their part.

The architects were directed to prepare plans for their respective halves of the building, and, not unnaturally, when the two plans were done, and compared together, they failed to make a harmonious whole. The architects were then instructed to make compromise plans, which would fit together, and were directed to have them ready on a certain day. Mr. Egan had his ready at the appointed time, but Mr. Tilley did

FEE FOR PARTIAL SERVICE BASED ON AGREED FEE FOR FULL SERVICE.

not. However, he finished them, and showed them afterwards at a joint meeting of the city and county officials, and the city council ordered them to be adopted. Some months afterward, when the city council determined to proceed with the construction of its half of the building, Tilley offered his services as architect, but they were refused. He then sued the city for his pay, and the city resisted, on the ground that he had not obtained the assent of the county commissioners to his plan. The court held that his contract with the city did not contemplate that he should procure the assent of the county commissioners to his plans, and that he was entitled to recover compensation for the work actually done.

What that compensation should be, was the next point to be decided. Tilley had agreed to furnish all the plans and specifications for the city's half of the building, and superintend the erection, for \$37,500, which was three per cent on the estimated cost.

On the refusal of the city to employ him further, he brought suit on claims as follows: For services in preparing plans for the city's half of the building, \$25,000, or 2 per cent on the estimated cost; for making the second set of plans, "with specifications and diagrams," \$42,500, which seems to have been intended for 3 1-2 per cent on the cost. To these items was added another, of \$42,500, "for superintending the building of the new city-hall." The total was thus \$110,000.

There would be a certain color of authority for these charges in the Institute schedule, but the judge charged the jury that their award for partial service must be based on the contract price for full service; and Mr. Tilley, having charged for partial service more than he had agreed to accept for full service, was obliged to see his bill reduced to his own standard; the jury awarding him \$13,000.

THE RIGHT OF ARCHITECTS TO MECHANICS' LIENS.

Architects, seeing the terror which the prospect of mechanics' liens usually inspires in owners, and the ease with which

builders, armed with this weapon, collect their pay, often inquire whether the same instrument cannot be made available for their benefit. At present, the law on the subject must be considered as undecided, decisions varying in different States; but the tendency appears to be toward excluding architects from the privileges given by the statutes to workmen.

The case which is most frequently cited on the subject is that of the Bank of Pennsylvania *vs.* Gries.² Gries had a written contract with the bank "to make all designs, plans and drawings for the said buildings and their furniture; to fully explain to and direct the execution of the same by the various mechanics employed by the party of the first part therefore; to draw up specifications, contracts and agreements of and for each and every part of said work; in connection with the superintendent to be appointed by the party of the first part to superintend these works, examining the progress of the same, and the materials provided therefor; and to report their conformity with the requirements of the drawings and specifications to the appointed authority of the party of the first part whenever required; to advise with the same in contracting for any part or portion of the work and materials; to examine all accounts connected therewith, and countersign all orders for payment of moneys thereupon; and in all duties and privileges to have full authority as architect."

The sum to be paid the architect for his services was \$3,500. Before the completion of the building, the bank officials notified Gries to stop the further progress of the work, and immediately afterwards he filed a lien against the building for his services.

The judge in the court below instructed the jury to find for the plaintiff, for the full amount of his claim, and instructed them also that he was entitled to a lien under the statute; and the Supreme Court afterwards affirmed the decision on both points.

This case would seem to fix the law in Pennsylvania plainly enough, but later decisions in that State make extensive exceptions to its authority. In two cases³ where the architect made drawings and specifications only, and in another, where he made plans and specifications for the owner, but superintended only for the builder,⁴ the Supreme Court of Pennsylvania held that he was not entitled to a lien for his work; saying, in regard to the case of *Bank vs. Gries*, when that was cited in the architect's favor, that in *Bank vs. Gries* the architect "occupied the place of a mere builder." Architects, in reading the contract between Gries and the bank, will be unable to agree with the Supreme Court in this idea, but it will be remembered that it is the courts, and not the architects, who make the law.

In New Jersey, where an architect furnished plans,⁵ specifications and superintendence for 2 1-2 per cent on the cost, which was agreed upon at \$75,000, he was held to be entitled to a mechanic's lien for his pay.

In New York, it has been held, in a case where an architect sought to enforce a lien for his work,⁶ that "the statute of 1862 includes all persons who perform labor, . . . irrespective of the grade of their employment, or the particular kind of service;" and in *Hubert vs. Aitken*,⁷ quoted above (Page 46), where the architects had filed a lien for their claim, no question was raised in regard to it, and the lien was ordered to be enforced for the amount of the judgment.

In Illinois,⁸ a distinction is made between architects who draw plans for a building only, and those who superintend its erection, and the latter, who more positively perform work "in or about the building," are held to be entitled to a lien.

In Louisiana⁹ and Minnesota, all the architect's service, including drawing plans as well as superintending, is regarded as work on the building, within the meaning of the statute, and the architect is held to be entitled to a lien, even if he does not superintend. The Minnesota case,¹⁰ which involves several other important principles, is worth quoting. One Knight was employed as architect by McCargar, to make plans and specifications, and superintend the erection of a block. He made two designs; McCargar chose one, and said, "Go ahead with that as fast as you can." No price for the architect's services

² *Bank vs. Gries*, 35 Penn. 423.

³ *Price vs. Kirk*, 90 Penn. St. 47. *R. R. Co. vs. Lauffer*, 84 Penn. St. 168.

⁴ *Rush vs. Able*, 90 Penn. St. 153.

⁵ *Mutual vs. Rowand*, 26 N. J. Eq. 389.

⁶ *Stryker vs. Cassidy*, 76 N. Y. 50.

⁷ *Hubert vs. Aitken*, 15 Daly, 237.

⁸ *Taylor vs. Gilsdorf*, 74 Ill. 359.

⁹ *Mulligan vs. Mulligan*, 18 La. Ann. 30.

¹⁰ *Knight vs. Norris*, 13 Minn. 473.

¹ *Chicago vs. Tilley*, 13 Otto. 146.

was agreed upon, but the implied agreement was, of course, that he should receive what they were reasonably worth. When the building was built up to the cornice, work was suspended for several months, and Knight filed a lien for his services. It was claimed by the defendant, who appears to have been a mortgagee, who had foreclosed after the suspension of operations, and who found the estate encumbered with the architect's lien:

1. That Knight was not entitled to a mechanic's lien under the statute.

2. That Knight's contract was entire, and that he was not entitled to file a lien before the building was completed and his work finished.

3. That the evidence that Knight superintended the building was insufficient.

4. That the item of labor was insufficiently described in the lien filed.

Knight's description of his claim was as follows:

For "plans, specifications and superintendence of building, at five per cent on estimated cost (\$38,780) = \$1,939."

The claim was referred to an auditor, who found the plaintiff to be entitled to \$2,071.72. This appears to have been the amount of the claim, with interest.

In answer to the defendant's objections, the Supreme Court held:

1. That the architect was entitled to a mechanic's lien under the statute, one judge dissenting.

2. That the suspension of the work was not due to the fault of the architect; that his plans and specifications were all done, and he had computed his claim only with reference to the cost of the building to the time of suspension of operations, exclusive of what remained to be done on it; and that suspension, without fault on his part, should not deprive him of his lien.

3. That evidence showed that Knight "came along three times a day most every day," and "stayed ten or fifteen minutes when he came, usually a quarter of an hour or less," and that McCargar told the carpenter to go to Mr. Knight if he wanted any information, and that this "had a considerable tendency to establish the charge for superintending."

4. That, "from the character of the labor (plans, specifications and superintending of building,) it could not be expected that it would be itemized so as to give the hours and fractions of hours during which the services were being performed. This was in reality but one item. The charge, as made, would seem to be customary and reasonable in the gross. We think the account sufficiently specific."

It will be observed that the Minnesota Supreme Court thinks that a charge of five per cent on the estimated cost of a block, where no agreement has been made as to the architect's compensation, is "customary and reasonable"; and this decision may be taken as establishing the law that the five per cent clause of the Institute schedule, at least, will be admitted in Minnesota as legal and customary.

It will be observed that the architect's bill was calculated on the cost of the block up to the time when work on it was stopped, and it may seem strange that a claim was not made for the full five per cent commission on the estimated cost of the completed work, to which the architect appears to have been fairly entitled, under the rule that if a person is ready and willing to complete the work for which he is engaged, and is prevented from doing so, without his fault, by the other party to the agree-

LIMIT OF CLAIM IN MECHANIC'S LIEN.

ment, he is entitled to recover the full contract price, less his probable outlay for completing it, which, in this case, would be nothing, as the plans and drawings were done, and he would have had nothing but a few more personal visits of superintendence to make. The explanation appears to be that, under the statute, a mechanic's lien could be enforced only for work actually done, not for damages or future profits.

Cases will be mentioned below in which the liens of builders have been declared invalid, and their remedy lost, on account of their having entered claims for a larger amount than that actually due; and Mr. Knight's counsel seems to have been careful enough to see that his client did not endanger his suit by making his claim too extensive.

In Missouri, Kentucky and Maine an architect is not entitled to a lien, even if he superintends the building. The Missouri Court of Appeals¹ says that "It seems clear enough

"that an architect is not a mechanic, . . . and that he cannot "be said to perform any work or labor on a building when he "draws or designs the plans according to which it is constructed."

In Maine, it has been held that "The statute plainly does "not include men of the learned professions." In this case² the architect superintended the building, as he did also in the Kentucky case,³ in which he was held not to be entitled to a lien.

In New York, a decision⁴ has been given denying the right of the architect to a lien, which seems to be in direct contradiction to the decision of the Court of Appeals in *Stryker vs. Cassidy*; but, as the statute of New York in regard to mechanics' liens has been greatly modified since these decisions were given, it is impossible to say what might be the opinion of the judges in another case. In fact, as the statutes regulating liens are constantly being modified in the different States, and the words describing the persons who shall be entitled to liens are quite liable to be changed, a decision under the statute is of value as a precedent only so long as the statute remains unaltered; and architects should use great caution in availing themselves of such enactments.

THE SICKNESS OR DEATH OF THE ARCHITECT. — ARCHITECT'S CONTRACT A PERSONAL ONE.

The architect's contract with the owner for professional services is, unless some express stipulation is made to the contrary, a personal one; that is, the performance of it involves the personal skill and judgment of the architect himself,⁵ and cannot be undertaken for him by an assignee, in case of his bankruptcy, or by his executors or administrators in case of his death, or assigned by him to any one else, without the owner's consent. As the rule of law is that, in case of an entire contract, for a certain amount of goods or services, at a fixed price, no part of the price is due, unless the whole of the goods are delivered, or the entire service rendered, and as the architect's

ARCHITECTS CONTRACT ENTIRE.

contract with the owner is held to be an entire one, his family, in case of his death or disability, would be unable to collect any compensation for what he had done on unfinished buildings, were it not for a special exception, which is made by statute in

PARTIAL COMPENSATION RECOVERABLE IN CASE OF DEATH.

some States, and by the common law, at present, in all, under which, "where full performance of contract for personal services is prevented by the death of the servant during the "term of service, the personal representative is entitled to recover rateable compensation for services actually rendered." This is the language of the Alabama⁶ statute; and the Supreme Court of Connecticut⁷ says, to the same effect, "Where the "service is personal, and cannot be performed by the agency "of any other person, there is an implied condition in the contract of service that the party hired is not deprived, by "inability to labor during a part of the stipulated time, of the "right to a reasonable compensation for the services actually "performed."

The Court of Appeals of New York⁸ states the law even more clearly. "Where," it says, "a contract contemplates the "personal services of the party employed, and he contracts to "do the work for a definite period, and enters upon and continues in its faithful performance until prevented by his death, "or other cause, without fault on his part, from completing it, "and the employer has received actual benefit from the service "rendered, the representative of the party may recover from "the employer for the services rendered. The rule that, "when the contract is entire, full performance must be shown, "or there can be no recovery, applies only where the party "employed is to blame for the non-performance."

In another New York case,⁹ where the employer tried to show that the service which had been partially performed was not worth as much as he had agreed to pay for it, the court held that "the compensation in such cases is not confined to "quantum meruit, but is measured by the contract in proportion to the time performed."

¹ Ames vs. Dyer, 41 Me. 397.

² Founsee vs. Grigsby, 12 Busb. 76.

³ Ericsson vs. Brown, 38 Barb. 391.

⁴ Stubbs vs. Holywell R'y Co., 36 L. J. Ex. 166.

⁵ Dryer vs. Lewis, 57 Ala. 550.

⁶ Ryan vs. Dayton, 25 Conn. 188.

⁷ Wolfe vs. Howes, 20 N. Y. 197.

⁸ Clark vs. Gilbert, 26 N. Y. 479. Cole vs. Smith, 4 Ind. 79. Allen vs. McKibbin, 5 Mich. 449.

⁹ Raeder vs. Bensberg, 6 Mo. App. 445.

The highest courts of several other States have maintained the same doctrine; and in a case¹ where sickness, not death, was the cause of the suspension of the servant's labors, it has been held that the same rule applied.

In certain instances, however, the cessation of proceedings may cause prejudice to the employer's interests, and in such cases² it has been held that he is entitled to set off the damage he has sustained from what he would otherwise be obliged to pay the representatives of the deceased. It is therefore prudent for the executors or administrators of a deceased architect to see that the work on hand in the office is promptly wound up to the satisfaction of the various clients.

THE OWNERSHIP OF PLANS. — THE SCHEDULE CLAUSE AS TO OWNERSHIP OF DRAWINGS.

The schedule of the American Institute of Architects contains a clause which says that "Drawings, as instruments of service, are the property of the architect." Although this clause expresses what architects, without exception, believe to be the natural and proper arrangement, it finds little sanction in courts. Why an architect's drawings should be regarded in any different light from a physician's note-books, or a lawyer's abstracts of title, or any of the other records and illustrations which professional men make to facilitate their service to their clients, and keep for their clients' benefit as much as for their own, is a mystery, yet they are unquestionably so regarded. Whether an engineer's plans and note-books, which he uses for the benefit of his clients in the same way that an architect does his drawings, and of which, like the architect, he furnishes, as a rule, only tracings, would be regarded as the property of the engineer or the owner seems uncertain, and there appears to be no recorded case in which the question has been raised; but architects' drawings are more available for laymen's use, and occasionally form the subject of a struggle in the courts, which usually ends unfavorably for the architect.

These struggles, unfortunately, perhaps, for the architects, take place generally in the inferior courts, and there does not appear to be a single decision of a court of record in the United States or in England on the subject.

THE CASE OF THE DRAWINGS FOR THE HOUSES OF PARLIAMENT.

One celebrated case was, however, argued before the highest court in England, and, although it was settled before a formal decision was given, and, therefore, does not appear on the records, the justice who first heard it, Baron Bramwell, expressed a strong personal opinion. This was the case of the British Government against the heirs of Sir Charles Barry, the architect of the Parliament House. After the death of the great architect, the Government desired to obtain possession of the plans of the building. The heirs resisted, on the ground that it was the universal custom that drawings, as instruments of service, should belong to the architect who made them. When evidence of this usage was offered to Baron Bramwell, he is said to have exclaimed: "I will not hear of it, that a man shall not have what he has paid for!"

There is, perhaps, an observation to be made on this remark, that it was the judge who said that the owner had paid for the plans, while the Barry heirs said that he had not, but only for the use of them; and the judge refused to hear their evidence, and decided the case on his own, which was derived entirely from his imagination; but this appears to be a common practice in English courts.

At the time, this case was much discussed among architects and by the public, and the irresponsible opinion of a single judge has, perhaps, acquired in consequence more authority than he would himself have claimed for it.

THE FRENCH LAW.

However, in France, where several such cases have been decided, the highest courts usually hold that the owner is entitled to the drawings. In one case,³ the Court of Paris decided that the architect had a right to retain the plans until he had been entirely paid, which is regarded as implying the contrary — that when he had been entirely paid he must give them up.

In 1848, the Court of Bordeaux rendered a decision⁴ saying

¹ Fahy vs. North, 19 Barb. 341.

² Patrick vs. Putnam, 27 Vt. 759.

³ Dalloz, 1871, 2, 83.

⁴ Dalloz, 1849, 2, 171.

that, "In the absence of any agreement establishing, for the benefit of the architect, a fixed price for the execution of the building, and a second price for making the plans, custom and equity decide that the owner of the thing constructed, when he has paid the constructor, is also the owner of the plans which have served for its construction."

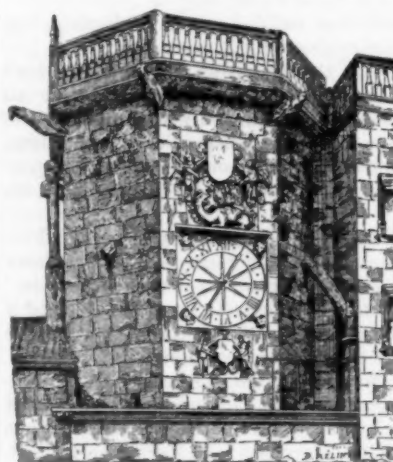
In this case the author of the drawings was an engineer, but, being plans for the erection of a building — to be used as a factory — it may be supposed that he was regarded as virtually an architect.

There is, perhaps, some reason for supposing that, if a case involving the ownership of plans should be vigorously pushed to a Supreme Court decision in some of the States in this country which show themselves most independent of foreign precedent, a conclusion might be reached more in accordance with the universal custom and understanding of architects and clients.

In a case in Minnesota,⁵ where an architect agreed to make plans for a house for a fixed price, and delivered them, but afterwards got possession of some of them and carried them away, it was held that there had been a sufficient delivery to entitle him to the price.

[To be continued.]

NOTRE DAME DE BRUGES.



Clock at Bruges. From Havard's "Dictionnaire de l'ameublement."

THE Church of Notre Dame at Bruges is more noteworthy by reason of its contents, than for its intrinsic value architecturally. The eighteenth-century restoration demon played his usual pranks of tearing down thirteenth to fourteenth-century tombs and shrines and screens, and substituting erections in black and white marble of the approved Pagan pattern so dear to his depraved taste, and now, alas! so common throughout the whole of Belgium. The Eternal Father in flowing beard hurls thunderbolts after the manner of a Pagan Jove; angels, with or without bodies,

recall to our minds the little cupids of antiquity; Justice, Charity, Faith and Hope sprawl about without any sense of decency, or respect for the building in which they find themselves. The whole of the screen of Notre Dame and all the altars have been "improved" by this sort of decoration; and of the exterior, although black and white marble are not conspicuous, yet the one unique fragment of the early church which remains is the fine porch under the tower, and this has been mutilated within, and converted into the baptistery. This *paradijs* (Flemish) dates from the end of the fifteenth century, and remains a little architectural *chef-d'œuvre*.

The interior of the church contains much that is interesting apart from the sprawling Virtues. Carved stalls and confessionals abound, though not of earlier date than the seventeenth century. The wrought-iron of the gates and grilles is also very fine workmanship of the same period. But the main object of every visitor to Notre Dame is to see the exquisitely beautiful tombs of Charles the Bold, Duke of Burgundy, and Maria his daughter, wife of the Emperor Maximilian. Before the Revolution they were in the choir; but having been taken down and the different parts hidden by the beadle of the church, one Pierre Dezitter, they were replaced in 1816, in the shabby chapel in which they now repose, separated from the aisle by a wooden hoarding which completely conceals them alike from sightseers and worshippers. But although the tombs were saved from robbery by their custodian's presence of mind and tender care, their contents shared the usual fate at the hands of the invaders. The bones of the duke and his daughter, and the heart of Philippe-le-Beau which rested in a leaden box upon the body of his mother, were all scattered and thrown into the common pit.

The earliest and most beautiful of the tombs is that of Marie, which was designed and executed by Pierre de Beckere of Brussels, a goldsmith and worker in metal. It was commenced in 1495 or the following year, and finished about 1502. The effigy of the duchess in gilt copper, lies upon a black marble slab. She wears her state robes, the pattern of which is chased, and the border in high relief after the manner of *passementerie*. The sides and ends of the sarcophagus are ornamented with elegant foliated branches springing

⁵ Marcotte vs. Beaupré, 15 Minn. 152.

from a central tree stem; the branches supporting angels, who hold enamelled shields emblazoned with the arms of the various duchies and lordships belonging to the duchess, and scrolls bearing their several mottos and legends. At the corners are figures of the four Evangelists standing upon little colonettes with canopies over their heads.

The tomb of Charles is of later date (1559), made in imitation of his daughter's. It was executed by Jacques Joughelinck, ironsmith, Josse Aerts and Jean de Smet, masons, from the design of Corneille Floris of Antwerp. On comparing the photographs of the two tombs it will be seen that the ornament upon the sarcophagus is far richer in the earlier work, and the branches no longer spring from a tree in the later one.

In relation to the large number of shields of armorial bearings, it must be remembered that the possessions of Mary of Burgundy formed the nucleus of the enormous sovereignty of her grandson, the Emperor Charles V.

Passing round at the back of the high altar, the visitor comes upon an exquisitely carved wood tribune built into, or rather, out of one of the bays of the side aisle. It was a species of pew belonging to the family of Grunthuse, into which they passed from their hotel hard by, through a covered passage. Below the tribune is an entrance from the church, from which a staircase leads to the upper story. The front of the tribune bears the arms of the Grunthuse family and their motto, "*Plus est en vous*," and the arms of the Van der Aa, with their initials, L. M. (Louis, Marguerite.) This gem of the carpenter's art was constructed in 1471-72 by Louis de Bruges, Seigneur de Grunthuse, and his lady, Dame Marguerite Van der Aa. This same Louis rebuilt the hotel adjoining Notre Dame, now partly occupied as a museum of lace, and undergoing a thorough restoration in the best possible manner; but the founder of the family, Gildolf Grutorius, who, between 1214 and 1226, was receiver of taxes, was the builder of the original house. The southern façade, constructed of brick and stone, the exterior galleries, the staircase and the tower (not yet restored) were commenced about 1465. The façade upon the canal side is earlier, about 1420, and the rest of this wing later, 1448.

But Louis was not only a great builder; it was he who began collecting books and manuscripts until the Grunthuse library was only second to that of the dukes of Burgundy. How the collection fell into the hands of Louis XII of France is a mystery; but amongst the many treasures of the present Bibliothèque Nationale in the Rue de Richelieu, not the least valuable are those which originally belonged to the Grunthuse library.

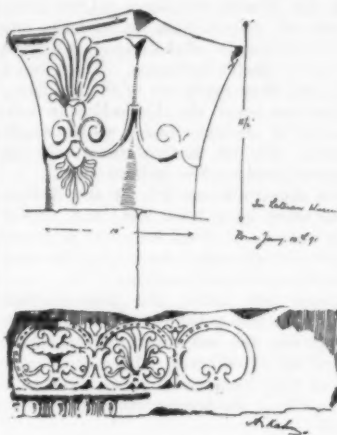
This great patron of art and letters, who seems to have kept all the best illuminators and scribes of Ghent and Bruges constantly at work for him, was also a protector of fugitive princes. In 1471, Edward IV, being compelled to fly from England, became the guest of Louis de Grunthuse, both in Bruges and at his country-house at Oostpeine. From January 13 to February 19 Edward and his brother Richard held their court at Bruges; and it is edifying to find that the King did not consider the commoner sufficiently paid for his hospitality by the honor of entertaining a crowned head, for we find him, as soon as he regained his country and his throne, sending his thanks to "*ses chers et speciaux amis*" of Bruges for their "*bonne et grande courtoisie*" during his exile, and conferring the title of Earl of Winchester upon his late host.

In 1590 the hotel was bought by Philippe II, and sixty years later was used as a Mont de Piété, but in 1875 it became the property of the town council, and steps were immediately taken to restore it to its former grandeur. Its halls and rooms have fine open beam roofs and ceilings, fireplaces, and wainscotted walls, all of which are being restored in the best manner possible; indeed, some of our celebrated so-called restorers, the rebuilders of west fronts, the substitutes of Victorian Gothic for honest Elizabethan and Jacobean, would do well to study the restorations and the modern buildings of Bruges. Comparisons are odious; but in looking at the old Town-Hall and the new Government buildings in the Grande Place, one must fain give vent to a sigh when one thinks of our own—no, Lord Grimthorpe's St. Albans.

SOPHIA BEALE.

A NOVEL SKATING FLOOR.—In the St. Stephen's Hall, Westminster, adjoining the Royal Aquarium, there is now completed a skating-rink, called the "Crystal Ice Rink," but which is really a skating floor, with a surface made with sulphate of soda or some other such material, probably mixed with some other similar substances. It is laid upon a floor of two thicknesses of boards, crossed, upon which rests a bed of concrete, three inches in thickness, covered or floated with about one half-inch of asphalt. The surface is not as lively for skating as real ice, but a very little practice seems to enable skaters to allow for the difference. The rink is not very large, but is sufficient to provide room for a considerable number of skaters, provided that they do not all want to rush madly about. Whatever the mixture employed for the surface may be, it is worth mentioning that when at first it was attempted to put it in the liquid state on the concrete bed, it was found that it percolated through the concrete and dropped into the swimming-bath below; for this reason a coating of asphalt over the concrete had to be adopted. The mixture of the skating materials used is stated to be the invention of Dr. Calantariens, of Scarborough.—*Invention.*

CONSTRUCTION.¹—I.



CONSTRUCTION is a science; it is also an art—that is to say, the constructor must have knowledge, experience and a natural gift. Some are born constructors. Science, which is acquired, can but develop the germs already deposited in the brain of those destined to give useful employment and permanent form to rough materials.

It is with peoples as with individuals: some are constructors from the cradle, others can never become so; the progress of civilization adds but little to this natural faculty.

Architecture and Construction must be taught, or

practised simultaneously; Construction is the means, Architecture is the result. Nevertheless, there are works of architecture which cannot be considered as construction, and certain constructions which can scarcely be ranked among architectural works. Some animals construct: these cells, those nests, others mounds, burrows, hovels, wickerwork—e. g., woven twigs. This is certainly construction, but it is not architecture.

Architectural construction is the employment of materials according to their quality and their adaptability, with the idea of satisfying a want by the most simple and solid means, giving to the constructed object the appearance of durability and proper proportions, subject to certain rules imposed by the senses—reason and human instinct.

The methods of the constructor must necessarily vary according to the nature of the materials, the means at his disposal, the requirements which he must satisfy, and the civilization in the midst of which he is placed.

The Greeks and the Romans were constructors, yet these two peoples set out from opposite starting-points. They did not employ the same materials, they worked them by different means, and satisfied wants which were not the same.

Accordingly, Greek monuments differ essentially in appearance from Roman. The Greek uses but the lintel in his constructions; the Roman uses the arch, and, in consequence, the vault: this alone proves sufficiently what very dissimilar constructions those opposite principles must produce, as well in the means employed as in their appearance.

We need not notice here the origin and the consequences of these two principles; we take Roman architecture at the point it had reached in the latter days of the Empire, for that is the only source from which the Middle Ages at first derived their ideas.

The principle of Roman construction is this: To establish points of support, offering by their position and their perfect cohesion masses sufficiently solid and homogeneous to resist the weight and the pressure of the vaults; to distribute these weights and the pressures upon stable piers, the inert resistance of which is sufficient.

Thus the Roman construction is but a concrete mass, skilfully calculated, by which all the parts devoid of elasticity hold one another by the laws of gravity and by their perfect adherence.

Among the Greeks, stability is obtained solely by the judicious observance of the laws of gravity. They do not seek the adherence of the materials; in fact, they neither know nor use mortars. In their monuments the weight acts but vertically; they, therefore, need but vertical resistance. Vaults being unknown to them, they do not require a support for oblique thrusts.

How did the Romans proceed to obtain passive resistance and perfect adherence between all the inert and active parts of their constructions; that is to say, between the points of support and the vaults?

They built up homogeneous masonry by means of small materials, such as pebbles and stones united by good mortar, and they enclosed these masses in an encasing of brick, ashlar or freestone. As to the vaults, they were formed of ribs of brickwork or stone in the axis of the arches, filled-in with béton thrown on centres of wood.

This method presented many advantages. It was expeditious, and edifices upon the same plan could be constructed in any country by employing the armies or the levies to erect them; it was durable, economical, and only required good direction, with a limited number of able and intelligent workmen, under whom a considerable number of simple hodmen could work. It rendered unnecessary the slow and heavy transport of cumbersome materials and of the machinery wherewith to raise them; it was, in fact, the consequence of the social and political state of Roman society.

The Romans, however, built edifices, etc., after the same manner as the Greeks, such as their temples, their basilicas; but these

¹ From the "*Dictionnaire raisonné de l'Architecture Française*," by M. Violette-le-Duc, Government Architect, Inspector-General of Diocesan Edifices, translated by George Martin Husz, Architect.

monuments are an importation, and must be placed outside of the true Roman construction.

The barbarians who invaded the Roman provinces did not bring with them any arts or methods of construction, or, at least, the elements which they introduced in the midst of the expiring Roman civilization could have had but a very feeble influence. They found monuments already constructed, and they made use of them. Long after the invasion of the barbarians upon the Gallo-Roman soil, there still existed a large number of ancient edifices, which would indicate that the Germanic hordes did not destroy them all. In fact, they often tried to repair them, and soon to imitate them.

But, after such long disasters, the traditions left by the Roman constructors must in a great measure have been lost; and, under the Merovingians, the buildings erected in Gaul were but barbaric reproductions of the ancient constructions either spared by the war, or which had been able to withstand prolonged neglect.

The few remaining monuments antedating the Carolingian period present constructions in which but a slight reflection of the art of the Roman is discernible; they are but rough imitations of the numerous edifices, the ruins of which still covered the soil.

It is only during the reign of Charlemagne that we find constructors making some attempt to dispel the ignorance in which the preceding ages had been plunged.

The continuous relations of this prince with the East, his connections with the Lombards, with whom the last traditions of the ancient art seem to have taken refuge, supplied him the means of drawing to him and into the countries under his rule builders whom he knew how to utilize with remarkable zeal and perseverance. His aim certainly was to revive the Roman arts, but the sources to which he had to apply for this result had been greatly modified in their origin.

Charlemagne could not send architects to study the monuments of ancient Rome, for he had none: he could ask for artists, engineers and skilled workmen only from the East, Spain or Lombardy, the countries which alone possessed any. They brought with them methods that had already deviated from those of antiquity.

The Carolingian revival produced, therefore, quite different results from those probably expected by its author. After all, the object was attained, as the new elements imported into the West soon produced notable efforts, and since that period the arts progressed rapidly.

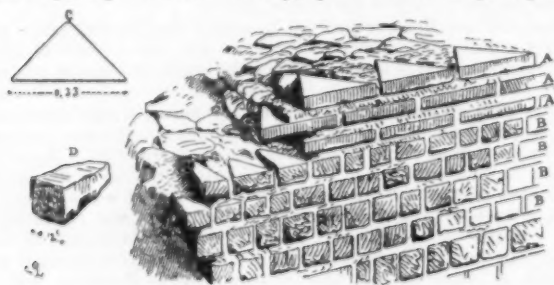
It is the history of this advancement in relation to construction only which we shall try to describe, referring our readers to the word architecture for all which appertains to the development of this art from the tenth to the sixteenth century.

During the existence of the Roman Empire, whether at Rome or in Byzantium, it is easy to recognize that vaults were the dominant motive of the constructors. From the barrel-vault they quickly arrived at the groined or intersecting vault, and from the dome supported upon a circular wall or drum to the hemispherical vault borne upon pendentives, as in the construction of the Church of Santa Sophia; this being an immense step which established a line of demarcation between the ancient Roman construction and those of the modern age.

Neither Rome, Italy nor Gaul could show one single Roman edifice in which the hemispherical vault is supported by pendentives. The Church of Santa Sophia is the first to supply us with an example of that kind of construction, and, as every one knows, it is the largest dome in existence.

How could the Roman architects established in Byzantium manage to conceive and execute a construction of this kind? This we will not try to unravel. We take the fact, where, for the first time, it shows with undoubted grandeur and freedom.

To cover a circular enclosure with a hemispherical vault was quite a natural idea, and was adopted in remote antiquity; to introduce cylinders or barrel-vaults in the circular drum was but a natural consequence of the first step. But to erect a hemispherical dome upon a square plan—that is to say, upon four isolated piers placed



at the angles of a square—was not a deduction from the first principles; it was an innovation, and one of the boldest.

The builders whom Charlemagne brought from Lombardy and the East, to the West, did not, however, bring with them this mode of construction; they contented themselves with erecting, as at Aix-la-Chapelle, vaults with octagonal or circular bases upon drums rising from the foundation. It was later on that the constructions derived from the Byzantines obtained a direct influence in the West. As to the building methods of the Carolingian constructors,

they approached the Roman methods, which consisted in massive rubble-work enclosed in facings of brick, of ashlar or stones, or else of ashlar alternating with courses of brick, the whole bedded in thick joints of mortar, as shown in Figure 1.

We indicate at *A* courses of triangular bricks, presenting their largest side to the face, and at *B* the courses of ashlar, more or less regular, and presenting a front, for the most part square, to the faces.

At *C* is shown a brick of which the thickness varies from 0.04 c., to 0.05 c., and at *D* a facing ashlar.

This is Roman construction roughly executed. But the Romans seldom employed this method unless they wanted to cover the facings by a veneer of marble or of stucco. When they made facings with freestone, they laid these without mortar upon their natural beds, leaving them a wide base, so that these facings might really become a bond, capable of resisting a pressure which the wall alone could not have supported.

From the first days of the Carolingian period, constructors also wanted to erect edifices faced with freestone, upon the style of certain Roman buildings; but they did not possess the powerful means employed by the Romans. They could neither transport nor much less raise to any considerable height blocks of stone of a large size. They, therefore, contented themselves with the appearance only; that is, they made facings composed of a veneering, generally of stone set on edge and of thin scantling; carefully avoiding the settling, and filling the hollows between these facings with rubble bedded in mortar.

They sometimes went so far as to try to imitate the construction of Roman work by placing these facings of stone upon dry joints without mortar. It is needless to say how defective this construction was, the more so that their mortar was poor, their lime badly burned or badly slaked, their sand adulterated with earth, and their rubble extremely irregular.

Sometimes they took a middle course; that is, they erected facings of small freestones held together by thick beds of mortar.

These efforts, these gropings, did not constitute an art. If, in the details of construction, architects gave evidence of an imperfect knowledge, if they could but so poorly imitate the process of the Romans, it stands to reason that, in the variety of their buildings, they found themselves repeatedly cornered by difficulties which they were not in a condition to surmount: wanting in knowledge, possessing only precedents almost obscure, having no able workmen nor powerful engines, groping their way, they had to make, and did make, tremendous efforts to erect small buildings, to render them solid and, above all, to vault them. It is there that, in the Carolingian monuments, one can always recognize the incompetence of the constructors, their embarrassment, their uncertainty, and often the discouragement resulting from incapability. From this very ignorance of ancient methods, and especially from the continued efforts of the builders from the ninth to the eleventh centuries, there sprung up a new art of building: the result of unfortunate experiments at first, but which, repeated with perseverance and attended with uninterrupted improvement, marked out a road not already explored. No less than three centuries were needed to instruct these barbarians; but they were able, nevertheless, after such slow efforts, to congratulate themselves upon having opened to future constructors a new era, which borrowed but little from the arts of antiquity.

The stern necessities by which these first constructors found themselves confronted compelled them to fall back on their own resources in preference to the studies of ancient monuments, which they understood but very imperfectly, and which in the greater part of the Gallic provinces existed only in a state of ruin. Ever ready to imitate foreign works, they submitted these to their own imperfect processes, and in thus transforming them they made them contribute towards a unique art, in which reason prevailed over tradition. That was a hard school: resting with uncertainty upon the past, finding itself confronted by the needs of a civilization where everything had to be created, possessing but the elements of the exact sciences, it had no guide other than experiments; but this method, if not the quickest, had, at least, the advantage of making practical observers, who were careful to collect all the improvements which could help them.

In the edifices of the eleventh century construction already makes sensible progress, which is but the consequence of errors avoided with more or less skill; for an error and its effects instruct men more than perfect works.

They had no longer at their command the means employed by the Romans in their undertakings: short of workmen, of money, of means of transportation, of connections, of roads, of tools, of appliances, confined in provinces, separated by the feudal administration, the constructors could only count upon very feeble resources; and meanwhile, at this time [the eleventh century], they were already called upon to erect vast monasteries, palaces, churches and fortifications.

It was necessary that their industry should supply all that Roman genius had known how to organize, all that the state of our modern civilization furnishes us in profusion.

It was urgent to obtain great results at little expense [for then the West was poor], and to gratify numerous and pressing needs upon a soil ravaged by barbarism.

It was incumbent upon the constructor to procure the materials,

to find the means of transporting them, and to fight against the ignorance of unskilful laborers, and that he himself should make his own observations as to the quality of the lime, of the sand, of the stone, and to look after the storing of the lumber. He not only had to be the architect, but the stone-cutter, the tracer, the modeller, the superintendent, the carpenter, the lime-burner, the mason, and could be assisted only by his own intelligence and reason as an observer.

To-day, when a lawyer or a business man has a house built without the assistance of an architect, it is easy for us to consider these first efforts as rude; but the genius which a builder of that period required and evinced in the erection of a hall or a church was certainly superior to that demanded from an architect of our time, whose operations may be carried on without any knowledge of the first elements of his art, a thing which too often occurs.

In those days of barbaric ignorance, the most intelligent, those who had raised themselves by their own genius above the common workman, were alone capable of directing a structure, and the superintendence of buildings, necessarily limited among a restricted number of superior men, for that reason produced original works, in the execution of which the reasoning faculties were largely called upon, where calculation is apparent, and the form bears that stamp of superiority which is the distinguishing mark of buildings ably planned, subservient to the needs and customs of a people.

It must clearly be recognized, if even we were to be designated as barbarians ourselves, that the beauty of a structure does not lie in the improvements wrought by an advanced civilization, or a state of highly developed industry, but in the judicious employment of the materials and the means placed at the disposal of the constructor. With our numerous materials, with the metals delivered to us from our workshops, with the multitude of skilled workmen in our cities, it sometimes happens that we erect a structure defective, absurd, ridiculous and without reason or economy; whereas with ashlar and wood, a good, handsome and sensible structure can be made.

So far as we know the variety or the perfection of the material employed has never proved the merit of him who has used it; and excellent materials are detestable if used in disregard of their proper place and function, by a man devoid of knowledge and of sense.

What one may be justly proud of is the good and proper employment of the materials, and not their quantity or quality.

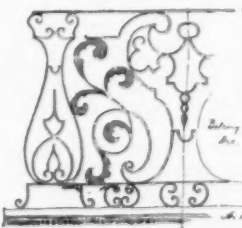
The foregoing written under the form of a parenthesis, is to impress upon our readers that we should not despise the constructors, who had at their disposal only stone badly quarried, bad ashlar from the soil, badly burned lime, imperfect tools and weak implements; for with such coarse appliances, these constructors teach us excellent principles, applicable at all times.

And the proof is what they did, that is, they formed a school which from the point of view of practical as well as theoretical science, and of the judicious employment of materials, arrived at a degree of perfection unsurpassed in modern times. Let those who teach architecture without having practised the art, judge the architectural productions of ancient and modern civilization by mere appearance, by superficial form which impresses them; but we who are called to construct must seek our instruction through the attempts and the progress of these ingenious architects, who having nothing to draw from were compelled to solve the problems which were imposed by contemporary society.

[To be continued.]

STROLLS ABOUT MEXICO.

A GLIMPSE AT A PROVINCIAL FESTIVAL.—ACROSS COUNTRY IN THE HOT LANDS.



THE historic and beautiful provincial city of Cuautla de Morelos in Mexico was in a hubbub of preparation for its annual feria. This great fair was to be the engrossing interest of the city for an entire week, and it was to be a week of merry-making, theatricals, bull-fights, cock-fights, a circus and unlimited gambling. Among the list of advertised attractions was even a series of extraordinary religious functions in the parish church.

Earliest among the arriving strangers appeared to be the game-cocks. On the incoming trains an invariable article of baggage would be large cage-like constructions of wickerwork, each holding something like a dozen cocks, thrust into cone-shaped apertures out of the small end of which their heads projected, while their long tail-feathers flaunted behind. There were usually several of these together and one company faced another. They seemed to bear their constraint patiently and were not at all cast down; indeed, they regarded each other with an air of persistent defiance that seemed to say: "Just wait until we meet in the pit!"

It was towards the end of a several weeks' stay in the favorite winter-resort, and as the hotels would be overcrowded and the confusion in the place very great, I decided to spend the time in the national capital. I had arranged to visit another great feria in

the same State—that of Tepalcingo, which was to take place in the week succeeding that of Cuautla. An entirely native affair, devoted chiefly to trading and including many extraordinarily picturesque features, it promised excellent material for an article which I had in contemplation for one of our great magazines. Therefore to miss the more sophisticated Cuautla festival would not be a great deprivation. I did not miss it entirely, however, for Cuautla was to be my point of departure for Tepalcingo, which I was to reach by a horseback ride across country in company with a Mexican and an English companion, and an escort.

It is generally agreed, I believe, that the fair, as an institution, has a religious origin. Some locality is associated with some celebrated rite or observance that periodically attracts multitudes thither from distant regions. The various objects brought by people coming from one quarter are naturally sought by those from another quarter where such objects may be rare or unknown. A reciprocal demand thus springs up; each time the pilgrims from a given place find it more and more for their interest to bring with them those things which pilgrims from other places may covet; finally a regular system of barter is instituted, an important commerce is developed, and most likely the attractions of the place for those coming for the sake of traffic will overshadow its original devotional character.

It is probable that some of the world's greatest centres of population originated in this way. The importance of the fair as a commercial feature usually declines with the advance of modern methods of intercourse. Europe, however, still possesses two celebrated institutions of this kind: the great fair of Nishnii Novgorod in Russia, the greatest in the world, and the famous Messe of Leipsic, in Germany. The former continues with all its old-time importance to-day, for Russia is still on a semi-barbaric plane of development and the fair offers the best opportunity for commercial intercourse under such conditions. The Messe of Leipsic, out of which has been developed that city's important rank as a business centre, has long since become relatively unimportant in comparison with its ancient magnitude, although it still is the occasion for attracting great numbers of buyers and sellers to that market.

Here in the Western world we may yet see the various stages in the development of the fair, from its primitive character as a strange Pagan festival up to the modern county "cattle-shows" and the great industrial concourses of our chief cities. To the student of ethnology all these successive stages are of extreme interest and value, for in the light of comparative research he may find ancient customs still in full play and trace their course through various guises in which the originals would be hardly recognizable except under such methods of examination, until they are encountered in familiar commercial usages of to-day.

It is notable that in our own country, rather than Mexico, we shall find the earliest stage of this institution that has been one of the most powerful of instrumentalities in the evolution of civilization. In Mexico its aspect is that of the indigenous festival with European features superimposed. It therefore exhibits a blending of the two forms, in which it would require much patient investigation to determine which usages are of Old World derivation, and which are of New.

If we go among the aboriginal peoples of our own country we will find the purely primitive phases of the institution in the strange recurrent festivals, sometimes annual, sometimes occurring at regular intervals of several years. Such are the Sun Dance of the Sioux and the Rattlesnake Dance of the Moquis, both described so interestingly by Captain John B. Bourke, of the United States Army, and the various festivals of the Zuñis, of which Mr. Cushing has given most valuable accounts. These great festivities are not only most important events among the tribes where they occur, but they attract visitors from more or less remote tribes, who bring with them articles prized in the locality or by visitors from other quarters, and carry away things that they covet. Thus at Zuñi, for instance, will be obtainable the beautiful basket-work from Moqui, the exquisitely soft deerskins prepared by the Hava-Supai—the handful of almost subterranean people living at the bottom of a wild "box-cañon" adjoining the Colorado; the rich and enduring blankets of the Navajos, and many other things brought from afar. The Zuñis buy these from their visitors and the visitors barter with each other when they assemble to witness one of the great annual dances in that remarkable pueblo, and the latter also carry away quantities of the richly decorated Zuñi pottery, and of the *haperloki*—the peculiar wafer-bread—and other favorite edibles prepared by the Zuñi housewives.

Mr. Cushing's researches in Zuñi folk-lore show that these festivals have occurred from time immemorial in the same form as to-day. It is, therefore, doubtless to occasions like these that we owe the finding in the ancient mounds of Ohio of articles from the Black Hills, from the Gulf of Mexico, from the North Carolina mountains, from the great lakes and from the Atlantic shore. These things, brought from many distant parts of the continent, demonstrate the existence of an extensive intertribal commerce, and probably in the days when the rich valleys of the fertile Ohio country teemed with large Indian cities there were held great ceremonials which attracted members of other tribes from near and far. If we could look back into dim antiquity we would probably find the origin of many great European arts of to-day under very similar conditions.

These great Mexican ferias thus have both an Old-World and a New-World origin, commingling with the ancient customs of the

aborigines some of the customs imported by their conquerors, and some of the usages that characterize them to-day appear to be largely developed out of the paganism of both continents.

I returned to Cuautla on the last day of the *feria* there, and found the city full of strangers and excitement. It was a brilliant sight in the evening for one strolling amidst the gambling-booths that occupied a large vacant space near the Calle Real, the main street. The various establishments vied with each other in making themselves attractive to the crowds. The decorations were elaborate, and clusters of Japanese lanterns, diffusing their soft radiance throughout the shadows, reinforced the white splendor of the flood of tropical moonlight. Every place had an orchestra of some kind, and the half-passionate, half-plaintive Spanish music, with its abrupt transitions from sensuous languor to wild fierceness seemed as appropriate to the spectacle as if it were a scene from some opera enacted before us.

The games were chiefly monte and roulette. It was Sunday evening and large crowds were out, but most of the gaming-places were doing a dull business, I was glad to observe, even though a feeling of pity arose in me for the poor fellows who surveyed the passers-by with pathetically covetous looks. It was a pity akin to that which one might feel for a fine-looking cannibal regarding us with longing eyes under circumstances that denied the satisfaction of his appetite, or for a beautiful great tiger eagerly licking his chops as we passed his cage. Was it not such a feeling of pity that, according to tradition, induced Lord Gautama Buddha to give himself to a poor famished tiger, in one of his incarnations long before he had attained his great wisdom? Certainly that was a very foolish thing to do, but I could sympathize with his motive. These gamblers, whose business it was to prey on their fellows, had made such elaborate preparations, all purely for our pleasure, of course! Their music was so delightful and the notes sounded so appealingly; their pretty dens were so bright and cheery; their great piles of bright silver dollars were displayed so enticingly. Out of compassion I almost felt tempted to give them a bit of encouragement and wager a dollar or so myself.

I always feel that way in the presence of wasted effort, where elaborate preparations have been made and no trade is forthcoming. I never pass a nice-looking shop just opened in a town where there are plenty of other shops of the same kind, and the proprietor is seen through the door standing around "sort of discouraged like," without wanting to step in and buy something I do not want, just to help the man along. Of course the right spirit would be to blame the man for entering into an unneeded occupation and thereby competing with others and reducing their returns, as well as finally making things more expensive for the public by the waste of energy in distribution. How these gamblers epitomized the spirit of modern trade—creating artificial wants, tempting buyers with false attractions, and selling wares injurious to the public health, physical and moral. In all probability the reason they were doing so poor a business was that it was the last night of the *feria* and they had got all the money out of the people they could. Their piles of dollars were certainly very large.

The next day there was a general packing up and moving away. Tired peasants—men, women and children—were lying around everywhere, as careless of where they threw themselves on the ground as were the too-numerous dogs that had made night hideous in the place. I noticed one man lying in the hot morning sunshine with his head pillowed on a pile of pottery.

Our departure for Tepalcingo took place in the gray dawn of an hour or so before sunrise. It was near the middle of March, which in the Mexican hot country, where really cold weather is never known, is at the beginning of the long summer with its fervid temperature.

The *azotes*, the flat roof of the Gran Hotel Morelos, is a favorite place for the guests at the approach of evening, when the sunset lights playing upon the majestic mountain chains that encircle the valley offer a glorious spectacle, infinite in the variety of its daily repetitions. Off to the southward, just peering above the ultimate undulation of the brown upland beyond the river, one sees from there the sharp summit of a strangely abrupt minor elevation, and I had often wondered, with the curiosity aroused by all concealed things, what its base was like, and what might lie there. Directly towards this we were now going.

How sweet and fresh was the morning air! The words of a favorite German student song, a *Wanderlied*, came to my lips: "My heart is a lark and it sings in the breeze!" The cool gray of the lofty Cordilleras to the left began to flush tenderly, and a sliver of snow on the farther edge of Popocatepetl's apex caught a rosy gleam. Then the sun came up over the summits and a faint stir was felt in the clear, calm air. Bird notes came twittering with faint melody through the vastness from somewhere out on the open, like the voice of a singer in a great empty amphitheatre.

What a pleasant sense of illimitable freedom there was in those early hours amidst that noble landscape! The sunny land-waves went off into the distance in exquisite nuances, suggesting in their recedence glimpses of distant sections of this beautiful Mexican land, that, with all the transparency of the atmosphere, could hardly be visible. Off there, just around the broadening flank of the great volcano, must lie the valleys of Puebla; beyond these mountains before us there spreads the great State of Oaxaca; these rugged

mountains to the right, descending in terraces toward the Pacific, shut out Guerrero from the vision.

Now and then we would come upon a *barranca*, a deep chasm seaming the plain, and we would descend cautiously by a zigzag path, and cross the silvery thread of water by an old stone bridge that vaulted the space in a graceful arch. There were deep shadows there in the depths, and luxuriant foliage nourished by the water. Somehow it seemed as if the V-shaped opening, looking up the *barranca* from below, always enclosed a view of the majestic form of Popocatepetl, which everywhere dominates the landscape in this part of Mexico, very much as Fujiyama, the sacred mountain of Japan, is said to dominate the country around Tokio.

Our way rose gradually as we passed along the slope of a considerable elevation and the rarer air that comes with an increase of altitude made itself clearly perceptible. One who travels much in Mexico changes his altitude so frequently that his lungs develop what might almost be called a new sense, a barometric sense. We had known this hill as a bald elevation, seeing it on the side towards Cuautla, but now we perceived that its further side was mantled with trees, indicating that it there received the humid airs from the Pacific. Here we went through an Indian village. The peaked roofs of its huts were covered with thatch, and in the house-yards there stood the strange-looking structures for storing grain that are peculiar to this part of the country. They consist of a thatched construction shaped something like a pineapple and supported on a thick and short pillar of adobe. The form is indigenous, antedating the conquest, and the name is a queer Nahuatl word bristling with consonants, and savoring strongly of *x*. Unfortunately for those readers who thirst for useful information, that is all that I can remember of it!

The country now sloped gradually downward before us. That curiously abrupt elevation at last stood revealed to its feet, and we saw that it stood, with several lesser heights of similar character, in a broad valley plain. Each was thrust up out of the ground like a sharp tooth, in pyramidal isolation from its fellows. All about them was a wide expanse of sugar-cane, its fresh verdure hazy with the heat of the late forenoon. Here and there a tall chimney, peacefully smoking, gave an industrial aspect to the scene, as if an incipient Manchester were arising on the spot. These chimneys marked the mills of great sugar-estates. With the softly expanding gray smoke of the burning *bagazo* (the crushed cane) arising from them into the still air, these chimneys seemed like gigantic pencils essaying to decorate the mild blueness of the sky with a delicate wash tone.

At the foot of a sharply serrated range of wildly piled hills, toward which we now turned our course to the southwestward, there appeared a cluster of beautiful domes and towers peering out of a grove-like mass of dense foliage. This indicated a considerable town. Plunging into the shady depths of a romantic-looking *barranca* where silvery cascades were purling amidst the glossy frondage of masses of bananas and crossing a quaint bridge of stone, we found ourselves in the meandering and shady lanes of the out-skirts.

"Jonocate, Señor," answered Manuel, to my inquiry as to the name of the place.

I did not learn, until some time after we had passed through, that that word was the popular abbreviation for the well-known city of Jonocatepec, just as the Californians commonly call their metropolis "Frisco." Jonocatepec is, in fact, itself an abbreviation of the original name which, I was told by a doctor I afterwards met at Tepalcingo, was Xonocatepetl, which means "Hill of Onions" and is pronounced Sho-nó-cat-áye-petl.

Jonocatepec is one of the considerable cities of Morelos. Mexico is, indeed, a land of cities and it is a long time before a tourist gets over his surprise at finding the land so thickly sprinkled with well equipped urban communities. Conditions there have caused the population to precipitate itself into compact masses much more sharply defined than in our own country. And the comparative isolation of these communities from each other has caused them to differentiate so that I have never yet been in any town in Mexico without finding about it some feature that notably distinguishes it. This imparts a flavor of picturesque variety to the experiences of an observing traveller.

Here was a little city with an independent life of its own; doubtless the most important place on earth in the eyes of its inhabitants, who know little, or care little, about the great busy outside world.

They are doubtless absorbed in the affairs of the place and probably get much excited sometimes over occurrences never heard of beyond the border of their girdle of green sugar-fields. They have their little upper circles of society, and their nice houses, and their well-dressed people, and perhaps they even gossip! Their life must be uneventful, and somewhat vegetative. Books cannot play much of a part therein, and there is probably no local newspaper. There can be few persons who await the arrival of the mail with impatience, and eagerly unfold the daily from the capital. But there is evidently considerable local public spirit and civic pride, for I noticed that the place was carefully kept, the public buildings were of tasteful architecture, and the pavements were very clean.

How many thousands of such little "Hubs of the Universe" there are in the world; how many millions of little centres of these hubs—as many millions as there are human beings! How many countless worlds, indeed, from which intelligence goes out into limitless

space and seeks to focalize all knowledge upon one point! And all these, however wantonly they may ignore the fact, are members one of another!

It was a charming plaza that we crossed, with a beautiful and carefully-tended public garden in its centre, enclosed by a low wall of ornamental tiling. In this garden there stood a campanile-like tower with a large clock that was evidently illuminated at night. Beyond, there was a large church with a beautiful group of graceful domes. I wanted to take some pictures of this attractive spot with my little hand-camera, but while I had paused a moment to look about me, my companions had been pressing forward. Fearful that I might lose them in their turnings through the irregular streets I hurried after them, consoling myself with the thought that I would have an opportunity on my return. But alas, I came back by another route, and my only photographic memento of Jonocatepec was a glimpse of a beautifully designed wrought-iron window-grating hastily caught in passing a house that was evidently inhabited by well-to-do people.

A little farther on I noticed an odd sign. Shops are generally named in Mexico, and occasionally a ludicrously eccentric designation attracts the attention. Over the doorway of a corner shop was the inscription: "*Tiendajon de G.*" I could not conjecture whether that upward-pointing hand indicated "*arriba, paraiso, or cielo*" — "the Corner Grocery of the Above," "of Paradise," or "of Heaven."

Traversing the city, we followed the highway along the parched expanse at the foot of the low and jagged range, towards a notch that divided it near its extremity on the right. It was the old Spanish highway from the City of Mexico to Acapulco, over which, in days long since passed, untold treasures in the way of rich Oriental goods had been brought from the galleons arriving at the Pacific port from China and the East Indies.

It was now baking hot in the midday sun. I had dismounted but once since leaving Cuautla, and the indescribable gait of my wretched nag had long since changed my condition from one of discomfort to misery, and it had now become one of absolute torture. The stirrups were too short, and could not be lengthened. My legs were stiff and their aching gradually extended to every bone in my body. Only by dint of steady thrashing could I urge the beast into a gallop, during which life seemed tolerable. But, although an easy loping gallop is the normal gait of the average Mexican horse — and for good saddle-animals the average can be higher in but few countries, I fancy — this wretched creature seemed to have the most positive aversion to a gallop. In the transition he would devote what seemed a small segment of eternity to a nondescript bone-racking pace, in the course of which he had the faculty of apparently dislocating every joint in his anatomy, after the manner of certain trick contortionists, with the effect of a threatened dislocation of all of mine. With a good horse I would hardly have minded the heat, but the motion and the fiercely-beating sun together, combined to produce in my head what seemed to be the discharge of a Gatling gun with each infernal movement. It was impossible to keep my steed in a gallop more than half a minute, and then he would subside into a crawling walk with another interval of tormenting rack-bone trot. In consequence, I preferred the snail-pace, and even our *mozo*, Manuel, with the pack-mule in tow, was usually considerably ahead. Once, as I gradually fell back, after a vain effort to overtake the main section of the party, I muttered, "*Que maldito animal!*"

"*Es un gran troton!*" responded the laconic Manuel, with an amused gleam of white teeth through a sympathetic smile. Hardly a greater insult could be heaped upon a horse by a Mexican than to call him a "grand trotting beast," for if there is any gait that a Mexican abhors it is a trot.

When we were through the pass a wide valley-plain spread before us, descending coastward, faintly blue in the tropical heat. The greater part of this valley appeared to be under cultivation. Vast areas were green with sugar-cane, but the corn-lands were in stubble, awaiting the summer rains. Beyond the valley, billowy ranks of mountains receded coastward.

Our way took us through an Indian village of thatched huts. Its remarkable name escapes my memory. Indian towns and villages are scattered all through Mexico. While there are comparatively few Mexicans who do not have a much larger proportion of Indian than Spanish blood in their veins, these distinctively Indian pueblos are composed of people of not only pure indigenous race, but speaking commonly an indigenous tongue and little or no Spanish, in many instances. Modern commerce has little direct concern with them, and the railways pass them by. To the stranger it is surprising to see what appears to be a place of notable magnitude, perhaps architecturally prominent with a dozen stately and beautiful church domes — a place that would figure conspicuously upon the schedule of a Western railway — and find the train passing by with swift indifference; the locomotive seeming to give a snort of nineteenth-century scorn for the "*naturales*," as these natives are called in Mexico, in contradistinction to the "*gente de razon*," the "people of reason," as persons of European culture are termed.

Commerce will not always ignore those places; their wants will increase with the growth of their modern environments, and the time probably is not far distant when these "*naturales*" will contribute largely to the industrial and commercial resources of Mexico. They

have, however, a commerce of their own, proceeding mainly on its own lines and forming a sort of sub-network spread beneath the modern system. This commerce is akin to the ancient traffic of the aborigines, from which its descent may be directly traced. Tepalcingo is one of the most typical ganglia of this ancient commercial system.

These Indian towns hereabouts had names of appalling length and consonantal complexity, vying in both respects with Mark Twain's celebrated German word dragging itself across the Heidelberg bridge. I observed a significant token of progress in this village, as we passed through: its irregular and lane-like streets were all named in city fashion, with signs at the corners. The main thoroughfare was called the "*Calle del General Preciada*," in honor of the present governor of Morelos. The governor of a Mexican State customarily has as many honors paid him in the way of recognitions of this kind as a European monarch receives from his loyal subjects. In Tepalcingo and several other towns I noticed public school buildings bearing the name of "*Institute Preciada*."

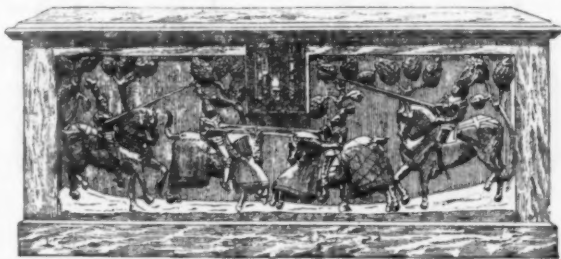
The Governor is said to take a particular interest in the cause of popular education and to contribute personally towards its advancement. Nearly all over Mexico public schools appear to be on the increase. With a public educational system made universal, Mexico will be carried a long way on the road towards becoming a great, prosperous and truly free country. In the Mexican schools the children study their lessons aloud, as they do in China, and the neighborhood of a schoolhouse is made evident to the ear at a considerable distance, by a very Babel of sound. I am told that the custom is a Spanish one. Possibly it came to that country from the Orient through the Moors, like various other Eastern peculiarities prevalent in Spain.

As we proceeded out into the valley I observed in the distance the clustered buildings of a great hacienda gleaming white in the sunlight — the usual tall chimney, with its smoking pennant, contrasting with the beautiful dome and tower of a great church close by. "*Allí está Tenango!*" said Don Joaquin. It was far off and it seemed provokingly slow in growing near. Looking back through the pass we could see the great church of Jonocatepec perched above us in the opening, as if on a higher shelf of land. We were several hundred feet lower than at Cuautla and changes in the vegetation indicated a different climate, although Cuautla was tropical enough to have a great cocoanut palm growing in its cemetery. The most notable difference in the vegetable growth was the appearance of the great pitahaya cactus with its clusters of tall branches growing upright from a common centre at the ground.

But all things mortal have an end, and my horseback-misery was no exception. We came close to Tenango at last, and as I managed to urge my animal into overtaking the rest of the cavalcade the one o'clock whistle of the sugar-mill blew with a nineteenth-century effect strangely out of keeping with the character of the scene. We received a hearty welcome from the administrator, Don Celso Ortega, to whom we brought letters from a friend in Cuautla and were soon made at home in the palatial mansion of the estate, which was one of the finest sugar-plantations in Mexico. Tenango was to be our headquarters while visiting the fair, which was a few hours distant across the valley. Fortunate enough we deemed ourselves in enjoying the privilege of the genial hospitality of Don Celso, with his bounteous table, typical of the best Mexican cuisine, and the delicious repose in the large and airy rooms, scrupulously clean, and giving upon spacious corridors and an enchanting garden.

SYLVESTER BAXTER.

THE HOUSES OF CAIRO.



XVI Century Bread-box. From Havard's "*Dictionnaire de l'Ameublement*."

M. PRISSE D'AVESNE has bequeathed to us a markedly beautiful work in which the art of the Arabs is described and very ably discussed. From this work we draw the history of the Egyptian house. The monuments which remain to us of ancient peoples testify at once to their beauty and their grandeur, but teach us almost nothing as to the manners and customs of the nations which created them. Domestic architecture, of which the form was determined by the exigencies of private life should be able to give us precious information upon this portion of history so little known and yet so interesting. Unfortunately, there are only here and there any traces of dwelling-houses. Of all the countries of Islam Egypt has been the most often conquered and exposed to those dissensions of the soldiery who disputed with one another the

sovereign power. The capital in which these bloody dramas ordinarily began and ended has preserved no trace of the ancient dwellings of the caliphs and sultans, except the door of the Beybars Palace, near the Bab-el-Wisir. Some old houses have preserved, in spite of the ravages of time and revolution, fair reminders of their ancient splendor, and give evidence that the richness and elegance which the Arabs displayed in their public buildings were equally lavished on their private dwellings.

The greater part of these elegant habitations, after the fall of the Mamelukes, fell to the greatest Turkish personages. Recently they have destroyed the moucharabies, in order to substitute casement windows for them; they have destroyed the arabesques in the gallery under a thick coat of lime wash; finally they sacrificed to the taste ruling the palace at Constantinople all the comfort and beauty of the old dwellings of Cairo.

Among the barbarians who thus mutilated the *chefs-d'œuvre* of Arab art we will single out Atham-Bey, formerly director of the arsenal, and once Minister of Public Instruction, because he had spent several years in Europe, and piqued himself on his knowledge and taste. He ought to have appreciated this architecture in a higher degree, because of the eulogies which he must have heard bestowed upon it in France, and yet he was pitiless to the arabesques and windows of his own house, once the most enchanting in Cairo. Moreover, to him is due the destruction of the divan of Salah-ed-Din at the citadel, an act of vandalism by which Mahomet Ali profited, and placed there a mosque of slight worth, which to-day dominates the city of the Caliphs and the Emirs.

Yet we still find in Cairo some houses which, in spite of the injury done them by men and time, have preserved an aspect and arrangement which buildings recently erected no longer exhibit. These ancient houses are built of cut-stone for the lower story and of brick for the upper stories. They are very solidly built and are almost like cages; that is to say, they have massive piers of masonry which form the framework, as it were, of the structure. These piers are cut by light walls which enframe immense bays filled with reticulated grille-work, where elegant moucharabies allow the admission of more air than light. Outside, the aspect of these houses is bare and gloomy, for they are always built not only in such a way as to hide the goings on of their inhabitants even from their neighbors, but even more to resist one of those hot sieges which were so frequent in the time of the Mamelukes, whose bloody quarrels so often left the streets of Cairo defenceless and exposed to the pillage of the soldiers. Nevertheless, we find some of these houses in which the façade is very regularly pierced with wide windows filled with grille-work. Such an one is the old house situated near the mosque of the Sultan Schaban.

The outer doors were more or less decorated, according to the importance of the dwelling. The oldest are usually decorated with inscriptions drawn from the Koran. We enter this house through a narrow vestibule, quite obscure, always forming one or two angles, so that a fair view cannot be had into the court. This narrow passage, like the entrance to a fortress, is often defended by two massive gates, and sometimes by real military construction. We see above the door of the Sultan Beybars a stone moucharaby with machicolations, and in a house facing the mosque of Djanou we see under the stalactites which ornament the lintel of the door three machicolations which defend the entrance to the house. We here give, as

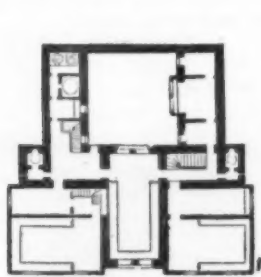


Fig. 1.

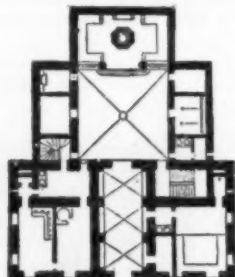


Fig. 2.

typical, plans of the first floors of a house at Fouah. A first room, which is found ordinarily at the rear of the court-yard, is the *mandarah*, or *salamlik*, a large hall sometimes decorated with a fountain and mosaics. The greater part of these halls adjoin the *that-boche*, an open room supported by a column, and furnished on three sides with wooden benches, where common people are received and everyday matters attended to. When the *mandarah* is somewhat raised above the ground it is, in old houses, often preceded by a large room called *icau*, or more generally *maqad*, lighted through two or three arcades supported on marble columns. It is used, particularly in the summer-time, in the same way as the *mandarah*. These two apartments are the only ones that are decorated on the outside. Upon their façades are expended all the architectural luxury of the dwellings. Sometimes, however, the entrance to the harem reveals the decoration of the *icau*. It is much less lofty, but elegant after another manner, so that no one could state its character as a place prohibited to strangers. A *mandarah* is generally divided into two parts by a space called *dorqaah*, which is lower than the rest of the

room, is never covered with mats or carpets, and serves as a depository for shoes. In the finest apartments this room is square and open, with marbles or mosaics, and decorated with a fountain. Upon the wall facing the door of the *dorqaah*, often flanked with niches or *khawarnakah*, one generally sees a series of small trefoil or festooned arcades, not less than a metre and a half high, bearing a large pier-table, upon which are placed vases and utensils. This table, as well as the wall above it, is often decorated with sculptured marble or mosaics, a combination which is called *bokharyeh*, because it is made, as they say, after the manner in vogue at Bokhara, where arabesques detaching themselves from a background of gold and blue are used.

The part, or rather the two parts which are the highest portions of the *mandarah* are designated under the name of *lican*, a corruption of the word *el-lican*, which signifies at once a palace, or an elevated place where one can sit and pray. The *mandarah* generally has a *lican* on each side of its entrance; one, being always longer than the other, is considered the more honorable, and for this reason is the more decorated. The walls are wainscotted their full height with Persian tiles, and the windows are filled with reticulated grilles of wood, iron or bronze. On the floor above the *mandarah* is sometimes found a room precisely similar to it but more richly decorated, and serving as the women's saloon. This room, called *quah*, resembles the *mandarah*, and is furnished with rich *souffehs*, where formerly was set out the show service, china vases, Indian *gargoulettes* damasked with silver and Egyptian glass. The *dorqaah* has neither fountain nor basin. The roof above the *dorqaah* which separates the *licans* is a little higher than the two others, and pierced midway by a lantern, called *memraq*, which carries a little cupola and gives entrance to as much light as air. The two portions of this large room are differently decorated. The one which is larger than the other is more richly treated. Wood plays the chief rôle in their decoration, and is carefully carved in the ceilings, cut into openwork about the niches and shelves, covered with fine mouldings in the panels of the doors and cupboards, often incrustated with shell-work and ivory, and finely turned and artistically put together in the moucharabies and the grille-work which takes the place of windows.

All these houses furnish precious details of interior cabinet-work. What gives the Egyptian buildings a very peculiar character are the moucharabies, which jut out on corbels over the street or the interior court-yard. In the old quarters, we meet in each house the projecting stories and encorbelments of the Middle Ages, and are astonished at their elegance and variety. In old times, the moucharabies (as the etymology of the word indicates) were little projecting niches or simple grille-works, intended to contain the refrigerating vases, which could in that way be exposed to a current of air. People finding the spot agreeable, they were gradually enlarged so as to receive a little divan, so that one might breathe the fresh air without being seen. Little by little they began to grow important, and became the most remarkable part of the dwelling-houses of Cairo. The moucharabies are often surmounted with stained-glass lights, representing bouquets of flowers, or peacocks, or capricious arabesques, which diaper the interiors with all the colors of the rainbow. These lights of stained-glass, which are called *qamarieh*, are 50 to 70 centimetres wide by 70 or 80 high. They are composed of small bits of colored glass, sometimes framed in wood finely cut, but more often in an arabesque work of plaster, surrounded with a frame of painted wood. The side opposite the moucharaby in the upper rooms is fitted with a series of cupboards, whose doors are fitted to compartments of various sizes, which are flanked and surmounted with little festooned niches. Above rules a long shelf decorated with a bordering cut with merlons, where, also, Indian and China vases can be placed.

The four walls and the corners of these vast rooms on the ground floor, as on the first story, are wainscotted full height with tile-work arranged in panels and framed with borderings of the same material, blue dominating, and being allied with the gilding of the ceiling in a most ravishing manner. The large rooms are generally very lofty, in order to obtain all the coolness practicable. Oftentimes chambers which flank them are but half as high, so that two stories are formed in the place of one, or for the purpose of facilitating the piercing of a window on the north side in order to establish a current of air. We find this same arrangement practised in mosques built from the fifteenth century down to our time. To-day, to ventilate the apartments at the top of the dwelling a large wooden ventilator called "*malqaal*" is built, pointing from north to northeast, so as to bring to the corridor the fresh breezes which blow from that direction. The use of this immense construction has fallen into disuse because of sicknesses which this current of air frequently occasions. The upper rooms on the sides are generally flanked with a second story, and often, fronting the wall where the divan is there is a little room, decorated with a succession of festooned wooden arcades, where the women place themselves during certain ceremonies, or in which on fête days the musicians and singers are stationed. This room always has its separate entrance. The ceilings of the principal rooms are decorated with richness and much artfulness, the beams and the spaces between are carved and then colored and decorated with a delicacy which hardly yields place to the beautiful frontispieces of Oriental manuscripts. Arab artists seem to have followed all the caprices of their brilliant imagination, except that they could not represent a heaven peopled with houris. The ceilings above the

dorqaah are often surmounted with a cupola. The ceilings of the little *iwans* and those of the moucharabies are flat and divided into different apartments by wooden strips planted on, being variously colored in blue, green and red and gilded with exquisite taste. In the ceilings which cover the principal *iwans* the beams are exposed and richly decorated. Below these ceilings reaches a long epigraphic frieze which contains verses from the Koran or passages from the "*Borda*," a poem in honor of Mahomet, in which are found many beautiful thoughts. Other inscriptions scattered in different places, and always arranged so as to form a decoration, are more interesting. They contain sentences or moral maxims or inscriptions appropriate to the place. That which is most frequently met is "*Ras-el-Hokmé Marafet Allah*," that is, "The fear of God is the commencement of Wisdom." We also copied another legend, which is quite remarkable, being painted upon the window of a moucharaby, "*En-nas kesman-el-mecht*" — "Men are like the teeth of a comb," — a sentiment smacking too much of equality, but quite in accord with Arab sentiment and worthy of a Mameluke's palace.

The following inscription is found cut above a little marble niche which holds a vase of drinking-water: "*Hemyar bekhayr*," which apparently means "To your good health." Finally, the one which is usually found over entrance doors, even to-day, in the Mussulman quarters, exhibits a sort of play upon words, which is not uncommon: "*Iâ moftah-el-aboab, eftah lenéé Khair-el-hab*," which may be translated as "Opener of portals, open for us the safest port." In the greater part of the large dwellings the date of inscriptions is declared by a chronogram formed by the last hemistich of a verse the numeral values of whose letters produces the number which they wish to express. This invention, which is not of Arab origin, shows itself first with the conquest by the Turks, that is to say, towards the middle of the sixteenth century.

The doors to the cupboards are built in little compartments or panels and framed with a bordering, so as to counteract the warping due to the heat and dryness of the climate. These compartments are sometimes very complicated and their design very difficult to follow, when one is not accustomed to this entanglement of lines which increase in every direction like the threads of a piece of lace-work. The large rooms which we have just described generally bear individual names. Thus in the house of Sheik Essadat, the descendant of the prophet, and the house for three hundred years has belonged to the same family, there are on the ground-floor three saloons which are called, one "Mother of Joys," the second the "Mother of Light," and the third the "Mother of Columns."

To the large apartments which we have described are attached a multitude of chambers more or less rich and well ventilated, to say nothing of little retreats fitted up as boudoirs, secret passages, hidden staircases and numberless hiding places. Like all the habitations of the Middle Ages and the Renaissance, the old houses of Cairo contain a concealed retreat built with much solidity and protected from fire, its purpose being to receive precious objects; and most of the buildings had a secret door through which escape could be had in case of danger. The precepts of Mahomet as to the seclusion of the women and the daily life of the Arabs, always exposed to the outrages of despotism, regulated the distribution of these buildings so as to seclude the daily life and at need defend it. The walls of the Mussulman habitation are not like those of our dwellings. The walls are furnished with cupboards, niches and pier-tables take the place of the greater part of our furniture. A platform which skirts the rear wall or the three principal sides of the room, according to its importance and destination, serves to receive the divans, which are at once sofas in the daytime and beds at night. After the Arab fashion, it is quite enough to bring a few mats and rugs and cushions, and a few utensils to furnish luxuriously a vast dwelling wherein nothing is wanting to the comfort which one looks for in a dwelling of high class, under a tropical climate.

The use of baths, once so common in ancient times, is still practised in the East, and all the dwellings of people in good circumstances contain two or three little rooms devoted to the bath, that is to say, a sweating-room furnished with a bath and a little retiring-room where one can await the vital reaction. This portion of the dwelling has suffered most, and we know only one house where one still discovers the remains of a far distant time. The sweating-room and the retiring-room were covered by an open-work ceiling decorated with colored-glass bull's-eyes. The slabs of marble which form the pavements of these two rooms are ornamented with arabesque in relief, so that the women might not slip upon it while wearing the large shoes they usually put on in such places. The exterior and interior doors, even those of the cupboards, are closed with a wooden lock, whose size and degree of ornamentation vary according to circumstances.

NOT AFRAID OF POLLUTED GROUND. — In Berlin there appears to be little reverence for the dead. The old cholera churchyard of 1831, which afterward became a cemetery for the poor, has long been neglected, though there have been funerals there during the last ten years. The place is now to be changed. In the lower part of the churchyard, where a new church is to be built, the graves have been opened and the skeletons and remains of coffins taken out, to be buried in a general grave higher up, where it is intended to make a public garden. On the upper part of the churchyard two schools are being built. Other portions of the ground will be sold for building, though it does not seem a very healthy site for human abodes. — *London Daily News*.

THE UNITED STATES LIFE-SAVING SERVICE.¹



OUR Declaration of Independence had been proclaimed and made good before such a thing as a life-boat had been conceived in England, where the first one was invented, and George Washington had been two years in our presidential chair when the first serious steps were taken in "the mother-country" for the rescue of the shipwrecked.

The good people of the United States were no laggards in this great work. The year 1786 witnessed the organization in Massachusetts of the Humane Society of that commonwealth, which three years later formally dedicated its energies to the rescue and relief of castaways on that coast. So it happily appears that a life-saving service of some sort, limited and imperfect, it is true, began its career with the infant steps of the Republic. The Massachusetts society was the first organization of its kind in this country of which I have knowledge, and, if it may not be called the parent of all others, it was, at least, the pioneer. Though already a centenarian, let us hope that it is still in the flower of youth.

The life-saving service of the United States had its inception in the year 1848, when Congress first made an appropriation for such an agency of the general government. It may be worth while to note the fact that this was also the year in which attention was re-awakened to the same subject in England, where it had languished to such an extent that a recognized authority declares the whole system to have been "in such a low state that in the entire kingdom there were, perhaps, not a dozen really efficient life-boats." But our appropriation of 1848 was only a beggarly pittance of \$10,000, to be expended solely upon the coast of New Jersey. A few boat-houses were cheaply erected and equipped with this sum, but, although small appropriations were subsequently made for additional houses and equipments at other points, no crews were employed until 1869, and then only at alternate stations.

While it might not be true to say that the service from 1848 to 1871 was discreditable, it certainly was not brilliant. Its new and glorious career began on the 20th of April, 1871, when Congress made an appropriation of \$200,000 for life-saving purposes, to be expended by the Secretary of the Treasury through the medium of the Revenue Cutter Service, with which life-saving operations were then connected. The chief of the Revenue Cutter Service, at that time, was a young man who had only a few weeks before taken charge of the office, and who had himself suggested the appropriation mentioned, and devised a scheme for its judicious expenditure. The marvellous results achieved with this comparatively small sum, the record showing that on the coast of Long Island and New Jersey, to which the appropriation was limited, every life imperilled by shipwreck during the following season was saved, induced further favorable action by Congress, gradually enlarging the service, and finally, by the act of June 18, 1878, organizing it into a separate bureau. . . .

The coasts of the Atlantic, Gulf of Mexico, Great Lakes and the Pacific — Alaska not included — comprising more than 10,000 miles, are divided into twelve life-saving districts, designated by number, beginning with Maine on the Atlantic, and terminating with Washington on the Pacific. The first district includes the coast of Maine and New Hampshire; the second, Massachusetts; the third, Rhode Island and Long Island; the fourth, New Jersey; the fifth, Delaware, Maryland and Virginia to Cape Charles; the sixth, Virginia and North Carolina from Cape Henry to Cape Fear; the seventh, South Carolina, Georgia and Eastern Florida; the eighth, the Gulf of Mexico; the ninth, Lakes Ontario and Erie; the tenth, Lakes Huron and Superior; the eleventh, Lake Michigan; and the twelfth, the Pacific Coast. . . .

The single-hearted devotion of many of these men to their noble work is a matter of well-deserved admiration. To them their vocation is much more than the mere holding of office with pecuniary reward. Nothing draws one so close to another as a kindred woe. Some of these men have themselves felt the clutch of the icy waters about them, and have been saved by only a little less than a miracle. In them the hoarse wail of the storm awakens the deepest emotions and the best impulses of human nature. Several have immortalized their names by acts of extraordinary heroism well worthy of recital here, but omitted for obvious reasons. Some have made important inventions and improvements in life-saving appliances, and all are men of excellent reputation in their profession.

The districts are subdivided into stations, known by the names of their localities, and situated with regard to the special dangers of the coast. They are of two kinds: complete life-saving stations and houses of refuge. The former have a building constructed of wood, without much reference to architectural effect, but designed to withstand the tempest and afford comfortable quarters for the surfmen and convenient rooms for the apparatus. On the first floor there are a boat-room, kitchen, keeper's office and sitting-room for the

¹Extracts from a lecture delivered by Horace L. Piper, Assistant General Superintendent of the Service, before the Franklin Institute of the State of Pennsylvania, and published in the *Journal* of the Institute.

crew; on the second floor, the sleeping-apartments. A lookout tower for the day-watch is placed upon the roof or near by, and there is a flag-staff for signalling, the service coöperating in this matter with the maritime associations of the country. A wreck-pole is also generally set up in the vicinity for the purpose of practice with the breeches-buoy apparatus. The equipments usually comprise two boats with outfits, a life-car, two sets of breeches-buoy, a Lyle life-gun, cork-jackets, heaving-sticks, night-signals, rockets, signal-flags, barometer, thermometer, necessary furniture, etc. Crews, generally consisting of six men and a keeper, are maintained during the active season—defined hereafter—the keeper being required to reside at the station the year round, unless granted an occasional short leave of absence during the inactive season, when a substitute must be furnished.

A house of refuge is provided with a frame house of sufficient capacity to accommodate as many persons as are likely to be cast on the adjacent shore, and furnished with the means of supplying their immediate wants. A small boat is supplied for the use of the keeper, but no crew is maintained. The keeper and his family reside in the house, and the beach is patrolled by them at such time as wrecks are likely to occur.

The whole number of stations of both kinds at the present time is 240, several of them not yet fully completed and manned.

By far the greater part of our ocean commerce is on the Atlantic, and on that dangerous coast is located a majority of the stations. On the coast of Maine and New Hampshire there are ten; these shores, though rugged and stormy, having excellent and numerous harbors of refuge. The Humane Society of Massachusetts renders good service from the New Hampshire line to Race Point on Cape Cod, and therefore, the United States provide protection for only a half-dozen especially dangerous points within those limits. In Mr. Kimball's address before the recent International Marine Conference, Cape Cod is aptly described as a narrow strip of sand, stretching directly out into the ocean some forty miles, then turning abruptly northward for an equal distance, like a threatening arm, its bars and beaches being the burial-ground of unnumbered craft. Here ten stations keep "watch and ward," at nearly equal distances apart, and well arranged to coöperate with one another. From the extremity of the Cape to Montauk Point there are nine.

White-winged messengers of commerce swarm along the coasts of Long Island and New Jersey as a multitude throngs the principal thoroughfare of a metropolis, and these shores are abundant with perils. On Long Island there are thirty-nine and on the New Jersey coast forty stations. From Cape Henlopen to Cape Charles seventeen treacherous points are guarded; from Cape Henry to Cape Hatteras—the sailors' traditional horror—twenty-three. On the coast of Florida, wrecks are usually cast well upon the land, the shipwrecked generally reaching the shore in safety, but sorely in need of temporary shelter and sustenance. Here are located the houses of refuge, ten in number besides one fully-equipped station at Jupiter Inlet, a point of considerable danger, about two-thirds of the way down the coast. The Gulf of Mexico has points of sufficient importance to call for eight complete stations.

Passing up to the Great Lakes we find five immense bodies of water with few natural harbors, and freighted with commerce of amazing proportions. Here the mariner finds the dreaded lee-shore always under his forefoot. The extraordinary dangers of these land-locked waters furnish ample work for forty-nine crews. On the Pacific Coast, strandings are not frequent, the prevailing winds blowing along rather than upon the shore. To the present time twelve stations have been located there.

Keepers.—Every station is in charge of an officer who is really the captain of the crew, but is technically known as the keeper. . . . Keepers must not be under twenty-one nor over forty-five years of age upon entering the service, and are required, aside from the requisite qualifications of surfmen, to possess sufficient education to keep the records of the station, and conduct ordinary correspondence. Under this system an excellent body of men has been secured. Their record for courageous conduct in the face of extreme danger is without stain, but there have been some instances where a fatal error of judgment has required a keeper's removal. I recollect such a case (the error resulting in loss of life) where the keeper distinguished himself by the display of remarkable courage on the very occasion of his failure, risking his life with reckless daring, and even suffering physical injury. The general superintendent was criticised for this removal as an act of unnecessary harshness, but his conclusive reply was that when human life is at stake, whatever may be second among the qualifications of a keeper, unquestionable sound judgment must be first.

The keepers of complete stations are generally paid \$700 per annum. The Secretary of the Treasury may, under the law, allow a maximum of \$800, but this sum is awarded only in cases where keepers have won special merit by the exhibition of superior courage and capacity. Keepers of houses of refuge receive \$600 each per annum.

The crews are technically known as surfmen. Nobody need tell you what stuff they should be made of—the hazardous nature of their vocation tells that. Mere sailors will not do. Between the average sailor and a genuine surfman there is a wide difference; the former frequently, I might say generally, knowing little of surf-life. These crews must be surfmen, they must be the best, with

muscles of steel and hearts of oak. They are selected by the keeper from the best men obtainable in the neighborhood, and must not be over forty-five years of age when originally enlisted. They are admitted only after rigid examination as to their physical and professional qualifications. They may not be discharged without good cause, and (with only two exceptions) not without special authority from the general superintendent. The exceptions noted are neglect of patrol duty and disobedience at a wreck, for either of which a keeper may dismiss a man on the spot. Happily these offences are of rare occurrence. Almost always the surfmen have displayed royal qualities crowned with dauntless courage. Their pay is \$50 per month, during the active season only, and \$3 for each occasion of service during the inactive season. From the meagre sums paid to keepers and surfmen, they must supply their own food and clothing. That the rates of compensation are less than just is hardly an open question. At all events, as long as they prevail, the service may be considered safe from the assaults of unworthy seekers of soft places with fat salaries.

Lookout—Patrol—Telephone.—From sunrise to sunset the lookouts by turns keep their perch in the lookout tower, and when night approaches the patrols prepare for the lonely tramp along the shore. At any hour from night-fall to day-break, during the eight stormy months of the year, were you to find yourself on a beach protected by the life-saving service, you would be sure of meeting one friendly traveller to give you greeting.

The importance of this system of patrol at night—and by day in thick weather—cannot be overestimated. It makes sure that a wreck shall not come tumbling in and be left undiscovered and helpless for hours when moments are precious, and delay is almost certain to result in unnecessary if not wholesale loss of life. By the patrol system a wreck is almost always discovered within an hour, generally in a few minutes.

The labor and hardship patrol duty imposes upon the surfmen are not likely to be fully appreciated until one is informed of the difficulties and dangers attending it. On some of our beaches the patrol is at all times compelled to wade for considerable portions of his beat through small streams and inlets, and when the tide is unusually high or the rivulets are swollen to formidable proportions, his duty is never without peril to his life. It not unfrequently happens that the way is lost, or the stress of circumstances compels a deviation from the usual course, when unseen and unknown dangers are encountered, such as bluffs and gullies, occasioning frequent injury by falling, etc.

The six members of the crew are divided into three reliefs of two men each, the first relief doing duty from sunset to 8 P. M.—the men going in opposite directions—the second from 8 P. M. to midnight, the third from midnight to 4 A. M., and the first again from 4 A. M. to sunrise, the order being so changed from day to day that the double duty of the first relief, as above indicated, shall not fall to the same individuals.

The patrolman is equipped with a lantern, a night signal or two, and a check. The lantern lights his way; the signal—something like a Roman-candle burning a brilliant red light—is carried to warn off vessels standing into danger. During the last year 227 vessels were warned away and saved with many valuable lives by this simple beacon light. The check the patrolman carries to exchange with his fellow on the adjacent beat, each taking back as a voucher of his fidelity the one received from the other. Sometimes, alas, the check is never exchanged. Darkness and tempest and pit-fall with exhausted human energy have conquered the brave heart, and its pulsations have expired on the stormy pathway of duty. It is a perilous task to traverse those desolate shores for miles in weather which would deter us from the streets of Philadelphia, and I can imagine no sadder scene than that which has been witnessed more than once in our service, of a search-party tenderly bearing back to the stricken station the body of a comrade fallen by the wayside, every man impressed with the knowledge that, come what may, another must complete the broken journey.

Pertinent to lookout and patrol duty, and very closely related to it, may be mentioned the system of telephonic connection now widely used in the service. Where the coasts are most dangerous the stations are most numerous, and therefore nearest together, enabling them if informed of a disaster to coöperate in the work of rescue. The telephone furnishes a ready means of communication by day or night, and without the necessity of special operators to use it. The admirable results obtained in this way may be illustrated by the fact that as many as three crews have thus been brought together for combined service within less than two hours from the discovery of a doomed vessel. . . .

Results.—Omitting anything like an exhaustive statement, let me submit a few figures epitomizing the great results accomplished by the present system. During the destructive tempest of September, 1889, three crews in the vicinity of Cape Henlopen rescued 194 persons from twenty-two stranded vessels, thirty-nine being landed by boats, 135 by the breeches-buoy, and twenty by the life-car, not a soul being lost. On the 3d of February, 1880, in a night of intense darkness, wild with sleet and snow, the entire crews of four vessels were rescued upon the coast of New Jersey without the most trivial mishap. The appliances were set up and worked by the dim rays of ice-covered lanterns, under the most discouraging circumstances. It would be almost impossible to imagine better evidence than this

of the usefulness of the daily drill to which I have already referred. During that year (1880) only nine persons were lost out of 1,980 imperilled. The smallest number lost in any other year was seven—out of 3,950 imperilled. In the memorable March blizzard of that year (1888) fourteen sail vessels and two steamers were assisted near the Lewes, Del., breakwater, only two persons being lost. Four crews, thirty-two men, on the Delaware coast, served in the two years, 1888 and 1889, at sixty-five wrecks, rescuing 499 persons (an average of fifteen lives saved for each individual surfman).

Although the scope of a station's operations is usually limited to a few miles, much longer distances are sometimes made. Probably the most remarkable instance ever recorded occurred on the 18th of November, 1886. On the morning of that day, two ghostly figures, proving to be two vessels in distress, were discovered off the town of Marquette, on Lake Michigan. There was no life-saving station there, and the people of the vicinity devoted the entire day to every sort of effort to reach the forlorn mariners. Boats and steam-tugs were tried, a mortar and life-line were invoked. All failed. With the departure of daylight a pall of horror and dismay enveloped the town. The nearest life-saving station was at Ship Canal on Lake Superior, 110 miles away. Faintly hoping, almost despairing, a telegram was sent stating the appalling facts. A special train was at once ordered at the nearest railway station to Ship Canal, and the crew and apparatus were hastily embarked in the midst of one of the heaviest snow storms of the year. Before midnight the life-savers reached the scene of disaster, and after eight hours of indomitable effort, safely landed the two entire crews, twenty-four persons. During that year out of 6,601 lives imperilled, only fifty-eight were lost.

From 1850 to 1870, there were lost on the Long Island and New Jersey coasts alone, 512 lives—an average of twenty-five per annum—while under the present system from 1871 to 1889, with a largely augmented commerce and corresponding increase of disasters, there were lost 119, an average of less than seven per annum, a reduction of eighty per cent. It may be stated also that the figures for the former period (no official record having been kept) are undoubtedly far short of the true aggregate, while, for the latter period, all disasters are included. Taking the scope of the entire service into account, the loss of life under the present system has been only a small fraction over one in 100.

To summarize the whole matter in a single statement, the entire loss on all the coasts of the United States under the present system since 1871 has been only thirty-eight in excess of the loss on the Long Island and New Jersey coasts alone during the preceding twenty years. Twenty-eight of these were wreckers, who rashly cast off the lines of the Life-Saving Service already on board, and declined assistance until too late to be of any avail.

We have attended at 5,452 disasters, involving 46,383 lives, of which only 550 have been lost, including the twenty-eight unfortunate wreckers just mentioned, who were unquestionably the victims of their own folly. In addition to this grand total of lives preserved, we have saved and assisted to save property to the value of \$89,337,179.

BOOKS AND PAPERS

IS there any one who has ever been a student at any academy or college in this country who has not at some time repined at the fact that the bleak and prosaic dormitory in which he "roomed" was not planned so as to enclose a "quad"? It used to be a favorite topic of discussion in our class, and, whenever the authorities began to build a new building of any kind, we all watched with interest to see if the excavations promised to provide for a court, however small. And when we got to building those castles in Spain, whose most successful architects are the sophisticated undergraduates, there were not a few who declared that, when their ship came in, their first outlay would be upon a house with a turf-covered quad. There were some few, whose imaginations were more or less trained in practical affairs, who perceived that unless their houses were to be very large and stately indeed, the quad and the southern front of the north side would be almost wholly deprived of sunlight, and be, in reality, a chill and dismal abode, rather than the cheerful home their fancy pictured. These fellows decided they would content themselves with building about three sides of their quad, leaving the south side open.

These college chats came back to mind as we consider this view of the east front of Rushton Hall, for here is the very problem solved in a way which was not dreamed of by our castle-builders; and yet the solution is simple enough, and by rather obvious means gives a unity and firmness to the whole design, and makes of the building the most attractive, practicable and homelike country-house that can be imagined.

About a court or quad, perhaps a hundred feet square, are built upon the south west and north sides the living-rooms of a structure whose several parts date from the fifteenth, seventeenth and nineteenth centuries, whose general character shows a most successful blending of the last elements of Gothic work with early Elizabethan Classicism. These living-rooms are but one room deep, and the wings are two stories and a half high, the long stretches of roof being broken by gable dormers. The composition of these three sides is

extremely successful, but the striking feature of the building is the treatment of the east side: here a one-story corridor, with a heavy balustrade to crown it, and with low but numerous windows and a generous arched entrance in the middle, closes-in the eastern side of the quad and connects the north and south wings. What a place for children to romp in by daylight and to avoid after the falling dusk suggests the haunting shades of dead-and-gone ancestors of former owners! This narrow, low structure, which gives so strong a horizontal feeling to a design which really is Perpendicular by derivation and intention, practically would cut off very little sun if it were built upon the south instead of east side of the enclosure, and so shows in an interesting way how a court-enclosing dwelling may be built, and yet remain cheerful, sunny and healthful. This plate alone of those in the Third Part¹ of Gotch's "*Architecture of the Renaissance in England*" will be worth to some architects many times the price of the whole work, for the suggestion is practical to the last degree; and, if an architect is not averse to bald plagiarism, he might prig the design bodily and build up a lucrative practice on the reputation the building would win for him.

Rushton Hall is by all odds a more attractive creation than its more famous fellow, Kirby Hall, designed by John Thorpe, remodelled by Inigo Jones, and now partially in ruins, while Rushton is in a thorough state of restored preservation. Yet, from the outside and from certain points-of-view, Kirby Hall seems to be in good repair, and it is not till one enters the court-yard that it is disclosed that this is one of those curiosities of English life, an inhabited ruin, or a semi-ruinous habitation. A building may with us be in a serious state of disrepair, but it is not easy to comprehend how people can go on year after year contentedly occupying one part of a domicile while another portion is unchecked on its path to further dilapidation. The plan shown does not disclose the purposes to which the several rooms are devoted, but evidently the habitable portions are upon the south and west side, while back of them lies a large quad measuring 100 by 150 feet or so, which is surrounded by the walls of the long side corridors, an open arcade on the north, and the hall and ruined dining-hall on the south. It is hard to understand how this dining-hall reached its present condition: roofless it is, and one naturally thinks first of fire; but there are no signs of smoke or spalling of the stonework about the openings, and, moreover, the great windows, five compartments high, still contain the leaden sash-bars which once held the quarries in place, and here and there, amid the broken, bent and drooping leadwork, are still to be seen whole panes of glass. Was it a builder's blunder or an architect's miscalculation that let down the roof, or was it a simple case of dry-rot, for which no one was responsible? It could not have been a very serious disaster, as the walls seem to be quite intact, so we may hope that the coming failure was detected in time to allow the roof to be taken down piecemeal. Apart from its interest as a ruin, this court-yard is, architecturally, of great interest. The impure Classic forms are used with a purpose and assurance that is in gratifying contrast with much of the work that was done about the same time. These great canellated Ionic pilasters, rising two stories in height, projecting from the wall nearly their full diameter, yet supporting nothing but an abbreviated fragment of entablature, which in turn hold the narrow posts of a plain parapet wall, seem to be equally in place separating the great, square-headed Perpendicular windows of the south side or the arcade on the north side, with pedimented windows in the second tier. Here on the north side Thorpe—for we cannot believe that Inigo Jones would have done it—treated the central pair of the six pilasters at that end in a manner at total variance with the other: in place of the voluted caps there are here used capitals, where the Ionic volutes are replaced by a Pegasus upon either side of a group of human figures, which vary in the two cases; upon one side is Bellerophon, who kills the Chimera (or Samson who kills the lion), and on the other it is the struggle between Hercules and Antæas (or Jacob and the angel—it will not do to be too positive in such identifications). The face of the pilaster in each case becomes a long panel decorated with a large candelabra supported by floreations, putti, dolphins and so on, while a similar treatment is given to the face of the pedestal's die. One would say that, with such a great ordonnance, it would be quite impossible to unite another of half the scale without setting one's teeth on edge. Yet this has been done with a certain success in a two-story porch, with curved gable over, on the south side. At all events, the porch, taken by itself, is an effective, rich and successful composition, and it certainly heightens the effect of the simpler treatment of the adjacent walls.

These two buildings would of themselves make Part III of Gotch and Brown's "*Architecture of the Renaissance in England*" seem more interesting and valuable than the parts that had preceded it; but there are other plates quite as interesting and no less generous in their promise of easy adaptability to everyday needs on this side of the ocean.

EASY adaptability is a very good catch phrase to apply to another work² which Messrs. Ticknor & Co. have in press just now, and

¹ "*Architecture of the Renaissance in England*," by J. Alfred Gotch and W. Talbot Brown. Part III, Boston, Ticknor & Co., Publishers, 1892. Price \$5.00 per Part.

² "*Norman Monuments of Palermo and Environs*": a study by Arne Dehlil, architect, assisted by Howard Chamberlin, architect, now in press and to be published in four parts, each containing eighteen plates with descriptive letter-press. Price \$5.00 per Part. Ticknor & Co., Publishers.

which will, when published, be found of practical use by several classes of artist-artisans as well as by the architects for whom it is more specifically designed. The amount of mosaic-work that is nowadays being introduced into American buildings of different kinds increases hardly faster than the improvements that are introduced into the handicraft in the way of methods, materials, and most of all, in design. Patterns have hitherto been adapted from originals at Venice, Ravenna, Grenada, to say nothing of ancient Roman work; from Persian and Indian designs, and, we doubt not, from the patterns woven into their baskets or carved upon their war-clubs by the South Sea Islanders. To this assemblage of inspirations Mr. Arne Dehli now proposes to add a work treating largely of the mosaic-work used by the builders employed by the Norman rulers of Sicily. As the plates which illustrate the mosaic-work are drawn to scale, and as many of the cylindrical surfaces are "developed," the work should be unusually useful to the practical man.



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

NEW ENGLAND SHOE AND LEATHER ASSOCIATION'S BUILDING, BEDFORD ST., BOSTON, MASS. MESSRS. HARTWELL & RICHARDSON, ARCHITECTS, BOSTON, MASS.

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

THE SOUTHERN HOME FOR DESTITUTE CHILDREN, PHILADELPHIA, PA. MR. JAMES H. WINDRIM, ARCHITECT, PHILADELPHIA, PA.

CATHOLIC UNION BUILDING, MILTON, MASS. MR. P. A. TRACY, ARCHITECT, BOSTON, MASS.

HOUSE OF H. G. KNAPP, ESQ., ST. LOUIS, MO. MR. A. F. ROSENHEIM, ARCHITECT, ST. LOUIS, MO.

DOUBLE HOUSE FOR W. R. SPRAGUE, ESQ., ST. LOUIS, MO. MR. A. F. ROSENHEIM, ARCHITECT, ST. LOUIS, MO.

TOMB OF CHARLES THE BOLD IN THE CHURCH OF NOTRE DAME, BRUGES, BELGIUM.

TOMB OF MARY OF BURGUNDY IN THE CHURCH OF NOTRE DAME, BRUGES, BELGIUM.

NORTH PORCH OF THE CHURCH OF NOTRE DAME, BRUGES, BELGIUM.

TRIBUNE OF THE GRUNTHUSE FAMILY IN THE CHURCH OF NOTRE DAME, BRUGES, BELGIUM.

For this and the preceding three subjects see article elsewhere in this issue.

[Additional Illustrations in the International Edition.]

WOMEN'S TRIBUNE IN A HOUSE AT TEKASSIR.

[Engraving.]

For description of this and the following two plates which are drawn from Prisse d'Avesne's "*L'Art Arabe*," see article on the "Houses of Cairo," elsewhere in this issue.

PLAN OF A SMALL ARAB HOUSE.

[Engraving.]

PLANS OF A PRIVATE ARAB DWELLING-HOUSE.

[Engraving.]

DESIGN FOR COMPLETION OF SOUTH KENSINGTON MUSEUM: DETAIL. MR. JOHN BELCHER, ARCHITECT.

NEW LIBERAL CLUB, HAMPSTEAD, ENG. MESSRS. SPAULDING & CROSS, ARCHITECTS.

In this building the accommodation provided for the members comprises the ordinary requirements of a club-house, and includes billiard and bagatelle, card, smoking and reading rooms; and, in addition, there is on the ground-floor a large public room, available for political meetings, concerts, etc., and capable of seating from 150 to 200 persons. The building was erected by public subscription, at a cost of about £2,600, and much credit is due both to the building committee and to the indefatigable treasurer, Mr. B. A. Lyon, for bringing the undertaking to a successful issue. The fronts are faced with red bricks and Ancaster stone, and the roofs are covered with green slates. Our illustration is taken from the architects' drawing exhibited in last year's Royal Academy exhibition.

DETAIL OF PALAIS DE JUSTICE, ROUEN, FRANCE.

The Salle des Procureurs of the Palais de Justice at Rouen dates from 1393, but the other parts were erected by Louis XII in 1499, some say in 1504, as a Court of Exchequer—an institution that led to the Normandy Parliaments, in which popular rights were protected. The building generally known as the Palais forms one side of a square, and adjoins the Salle. The hall, or Grand Chambre, is one of the finest in France. Francis I in 1517 dwelt in the Palais,

and it was in the register described as "sompieux et de grand coût." In the course of the centuries the building underwent changes, and in 1812 a part fell down. Credit must be given to M. Grégoire for the care with which he restored the Palais. The lower windows of the central tower, shown in the illustration, he found with square heads, and, in fact, there was a medley of incongruous and beautiful detail. The illustration is a reproduction of a drawing by Mr. A. McGibbon, of Glasgow, that was exhibited last year in the Royal Academy.

BANKING PREMISES FOR A COUNTY TOWN.

This illustration is taken from a drawing by Mr. Albert Breden, which was exhibited in the last exhibition of the Royal Academy.



WITH an increase of two per cent in the volume of coin and currency last year over 1890, the volume of business, as shown by bank clearings, declined about seven per cent. This decline in volume of business was accompanied with a corresponding decline in the value of a long list of products, but with, in many cases, an increased output, to which the decline was only in part due. Twenty per cent less public land was taken up. Petroleum production increased 15 per cent; anthracite coal, 13 per cent; corn, 25 per cent; wheat, 34 per cent. The estimated value of the wheat, corn and cotton crops increased 15 per cent. Prices of flour have remained almost stationary for a year. Corn has declined, also cotton, about two cents per pound. Prints are a trifle higher than a year ago, wool three cents per pound lower. Crude and refined petroleum have declined slightly. Iron and steel products have varied slightly, generally downward; ocean steam freights have advanced. The production of gold and silver has increased a little, especially silver. Copper output was ten per cent greater because of increased electrical requirements, lead product thirteen per cent; zinc, ditto; bituminous coal increased four and one-half per cent; salt, five per cent. During the year, capacity has been greatly increased, and a vast amount of new work and a great number of new enterprises have been projected. It is not clear yet to what extent new work will be undertaken early in the spring. Capitalists, investors and projectors of new enterprises are all earnestly studying the situation, anxious to forge ahead, apprehending stronger and possibly advancing prices, and yet fearing to launch out in the near future. The monetary situation is not especially disquieting, though the necessities of borrowers and the average business man are urgent. Business adapts itself to the supply of money. Agitations for what is called financial reform are gaining strength, and will likely continue until popular wrath, or whatever it may be, is appeased through changes of some kind. It is hard indeed to say what course the agitation will take, but that the great majority of business men and agriculturists and miners throughout the West will rigorously demand a readaptation of financial methods and theories is evident to all those who take the pains to keep in touch with the rank and file of the West. As to the further extension of capacity, it can be said that there will be no abatement in this form of enterprise. Thousands of energetic business men and small manufacturers are full of confidence in the coming of a booming time, as the outcome of a number of causes long at work, and they stand ready to invest at the first signal of the coming good times they are expecting. This may be delayed for years, and growth may be gradual, but there is a strong feeling that our progress will be by sudden breaks or jumps. Real-estate authorities who speak as students or observers look for a general rise in real-estate values in the country at large, and they argue substantially in this way: that for years there has been no real increase except in isolated localities, because so much good territory has been opened up by railroads that for the next few years, even if railroads are largely built, as they will be, they will not pass through regions which will be necessary to the settlers of the future, and that the outflow of population will be largely into regions already furnished with railroad facilities; that the steady outgrowth of manufacturing capacity will of itself stimulate surrounding enterprise, and add value to land through the increased market for land-products afforded. These views are not always endorsed, but the drift is certainly towards a moderate advance, at least, in land that has a growing market within easy reach. The evidence of this truth is especially visible in the Southern States, and where, at this time, a vast amount of agricultural land is appreciating in value. Textile mills, saw-mills, iron plants, electrical plants and a hundred new industrial branches have been built up, to the benefit of land-owners. This tendency has not shown itself much in the West as yet, but within the past year the start was definitely made. The confidence of foreign and home money-lenders has been strengthened in borrowers, whether State or county, or corporations or firms or individuals, and, if this confidence grows, it will probably result in the general lowering of the rate of interest. Further steps are being taken by many who have control of large loanable funds to place them in these Western localities. The developments of the past two weeks have not shown much anxiety on the part of the buying public to make early provision for future requirements. Two reasons exist: first, prices declined steadily during the early months of last year, and buyers apprehend the same may happen now; second, capacity has been greatly enlarged, and orders can be filled readily should the volume of business expand this year as much as it was contracted last year. It is quite probable that, even with the greater capacity, prices will harden. The equipment of railroads, street-car lines, electrical plants and general manufacturing plants will absorb more shop products than last year. The increase of failures in several Southern States cannot more than temporarily affect investments and production. The twelve months' partial rest the country has taken has made recuperation possible, but it will be preceded by stronger land values in the strictly agricultural States. The mortgage indebtedness of these States is being steadily reduced, and this fact will have its weight in increasing land values. Commercial agencies report stronger conditions all over the West, not due merely to good crops, but to the deeper and more silent influences growing out of the assimilating of industries. Stockholders in all manner of enterprises have been obliged to do with a small share for a year or two past; but, unless appearances are deceptive, the spirit of investment will be encouraged by larger dividends not only in railroad, but in manufacturing channels. Trade organization and control of production has not grown rapidly of late, and some more efficient method of harmonizing interests is being sought for than mere organization.



· TOMB · OF · MARY · OF · BURGUNDY ·

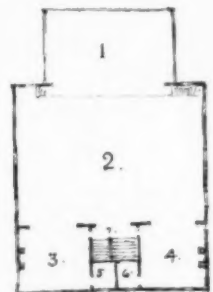


· TOMB · OF · CHARLES · THE · BOLD ·
· NÔTRE · DAME · BRUGES · BELGIUM ·

CATHOLIC UNION BUILDING. TO BE ERECTED AT MILTON.

PATRICK & TRACY, ARCHITECT

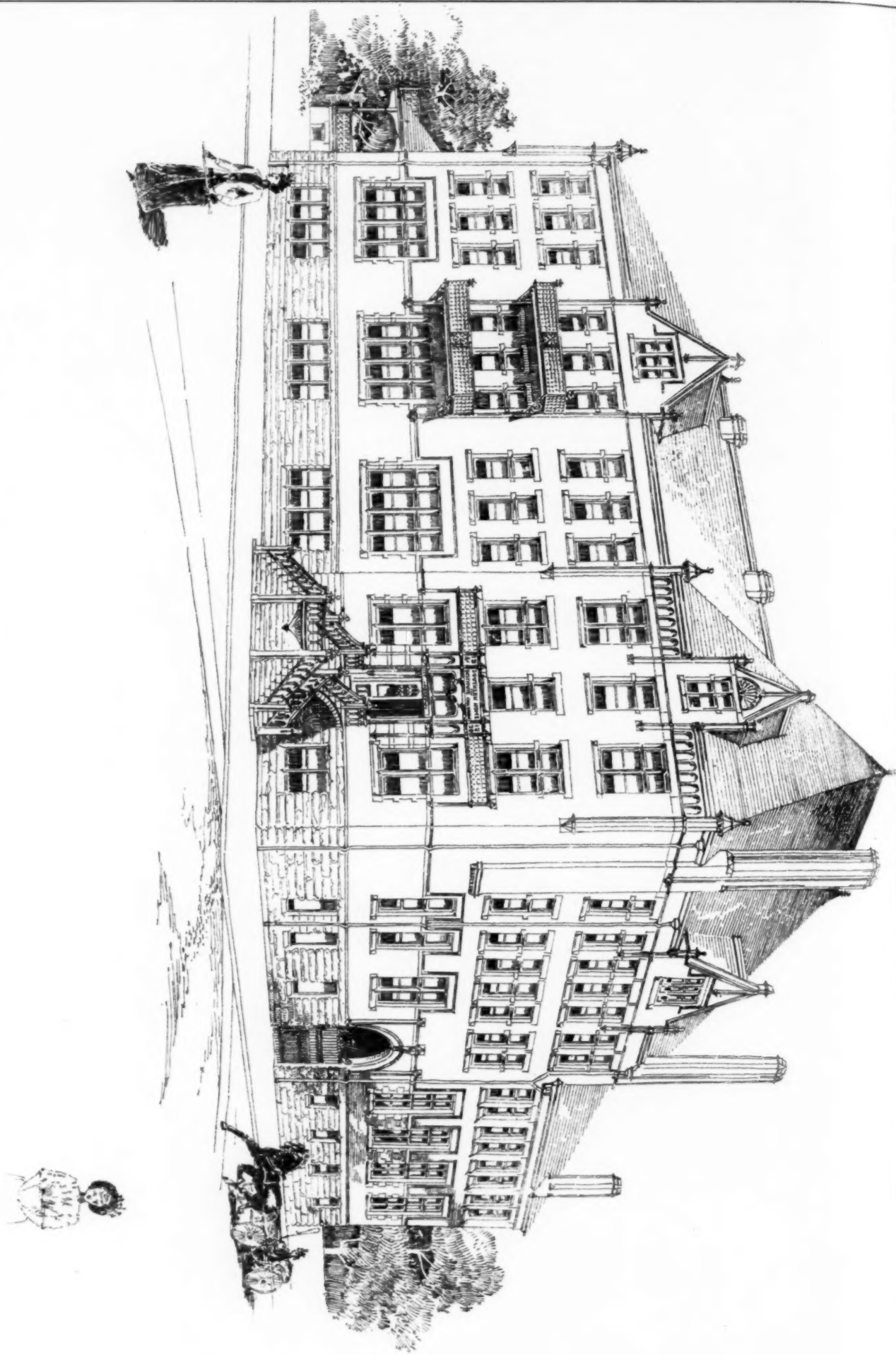
99 BROADWAY, 50 BOSTON, MASS.



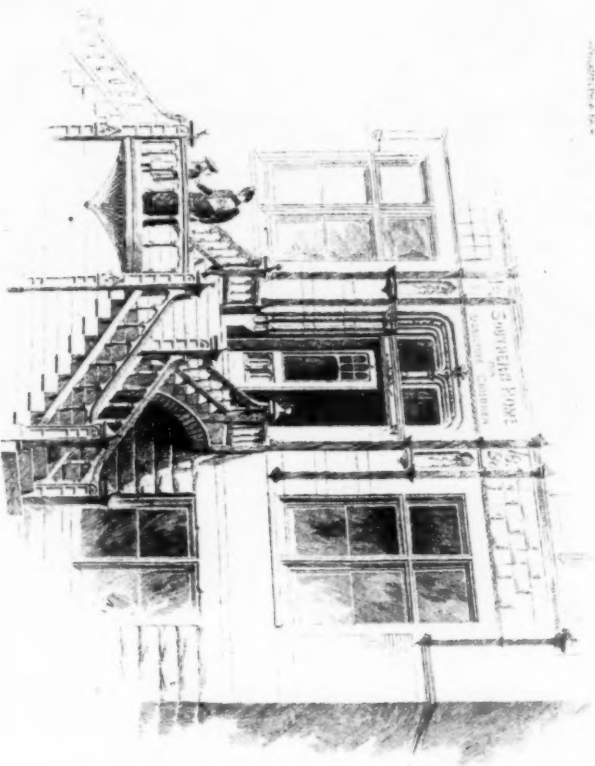
FIRST-FLOOR PLAN.

- 1. PLATFORM 20x50
- 2. HALL 35x48
- 3. PARLOR 17x17
- 4. PARLOR 17x17
- 5. TOILET 6x8
- 6. TOILET 6x8
- 7. STAIRCASE TO GALLERY, ENTRANCE BELOW.





THE GOVERNMENT HOME FOR TESTIVE CHILDREN.
-PHILADELPHIA, PA.-



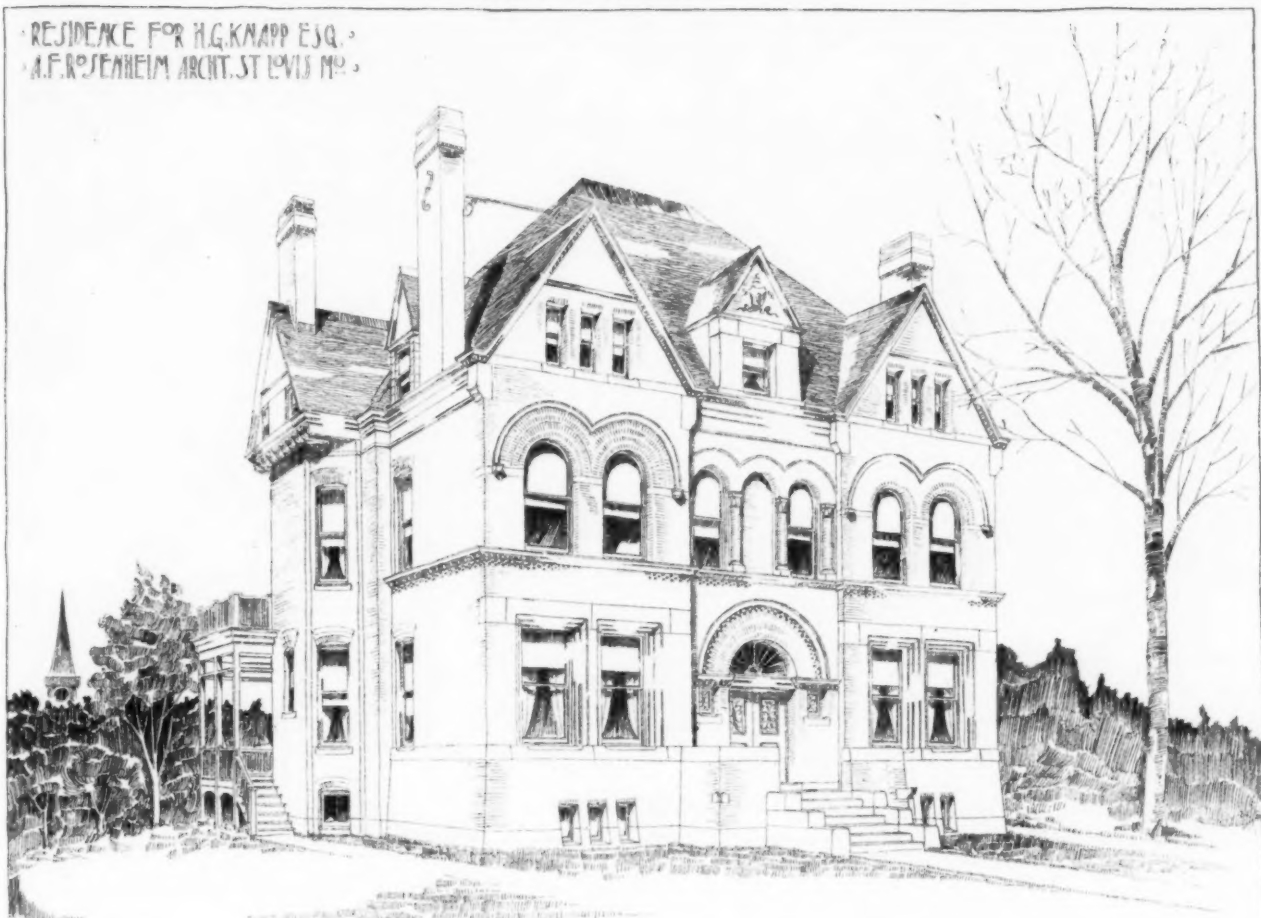
THE GOVERNMENT HOME FOR TESTIVE CHILDREN.
-PHILADELPHIA, PA.-

-JAS H. WINTZ - ARCHITECT -



-JAS H. WINTZ - ARCHITECT -

RESIDENCE FOR H.G. KNAPP ESQ.
A.F. ROSENHEIM ARCHT. ST. LOUIS MO.

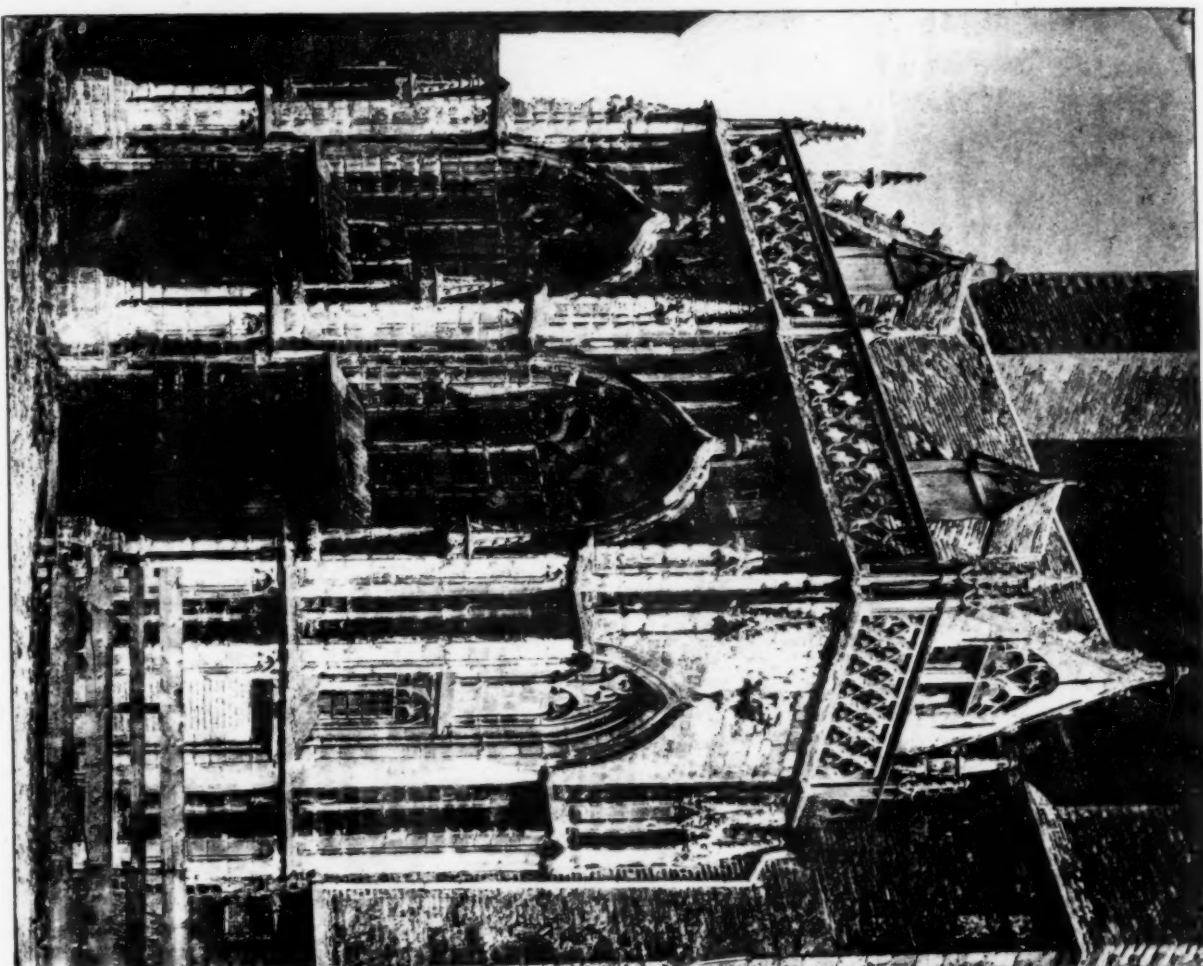


DOUBLE HOUSE FOR W.R. SPRAGUE ESQ.
A.F. ROSENHEIM ARCHT. ST. LOUIS MO.



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THE NORTH PORCH.



NOTRE-DAME : BELGIUM.

TRIBUNE OF THE GRUNTHUSE FAMILY.

