

5 1891 4680 2
PRICE 13 CENTS 551 22

OCTOBER 3, 1891.

THE
AMERICAN ARCHITECT
AND BUILDING NEWS

VOL. XXXIV

* REGULAR EDITION *

NO. 823.

ARCHITECTURE

ENGINEERING

DECORATION

TICKNOR & COMPANY

CONSTRUCTION

BOSTON MASS.

CONTENTS.

EDITORIAL SUMMARY.
PULPITS.
ARCHITECT, OWNER AND BUILDER BEFORE THE LAW.—IX.
THE ITALIAN SPECIALTIES IN DECORATION AND THE INDUS-
TRIAL ARTS.—III.
COLONIAL WORK AT SACKETT'S HARBOR.
COMPARATIVE MUNICIPAL BUILDING LAWS.—III.
PUBLIC BATH-HOUSES AT BERLIN.
NATIONAL AID TO ART.
NOTES AND CLIPPINGS.
TRADE SURVEYS.

ILLUSTRATIONS

STAIRCASE HALL OF THE JOHN HANCOCK BUILDING, BOS-
TON, MASS.
[Heliochrome issued with the International and Imperial Editions only.]
HOUSES AT SACKETT'S HARBOR, N. Y.

DETAILS OF OLD COLONIAL WORK, SACKETT'S HARBOR, N. Y.
NEW COURT-HOUSE FOR CHESTER CO., PA.
THE "HIL-TON," NORTHUP PLACE, PORTLAND, OREGON.
MADISON BARRACKS.

Additional Illustrations in the International Edition.

HOUSE AT MUNICH, BAVARIA.
[Gelatine Print.]
A GRILLE AT NANCY, FRANCE.
[Photogravure.]
CLUSTERED COLUMN IN THE CLOISTER OF THE CATHEDRAL,
MONREALE, SICILY.
[Gelatine Print, Reversed.]
DRAWING-ROOM, 52A BERKELEY SQ., W., LONDON, ENG.
HALL OF THE SAME.
ALL SAINTS', LEEK, ENG.
HOUSE AT BEDFORD, ENG.
ANOTHER VIEW OF THE SAME.

Nearly one-half of the Churches
lighted by us are churches that had
already been lighted by other parties,
whose methods proved unsatisfactory.

Why not save annoyance and ex-
pense, by having it properly lighted,
at once, by

I. P. FRINK,

551 Pearl St.,

New York.



THE SANITAS TRAPS AND CLOSETS

Are the SIMPLEST, CHEAPEST and most SCIENTIFIC APPLIANCES in the market.

These Specialties have the approval and endorsement of Archi-
tects, Builders, Engineers, Superintendents, Plumbers and Medical
Authorities, and their acceptance by the owner of the building is
assured if he is made to realize the saving affected by their use.

In one building a Chicago Architect saved his client two
thousand dollars by using the SANITAS Traps instead of the ordinary S. Trap.

We shall be glad to correspond with parties not already familiar with the
merits of these goods.

SMITH & ANTHONY STOVE CO.,

BOSTON,

Makers and Proprietors of SANITAS Appliances.



54 Gold Street, New York.

219 Lake Street, Chicago.

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXXIV.

Copyright, 1891, by TICKNOR & COMPANY, Boston, Mass.

No. 823.

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

OCTOBER 3, 1891.



SUMMARY:—

The Death of M. Félix Narjoux.—Contractors' Portraits as Gargoyles.—How Coal-tar should be used on Iron.—A Chinese Putty.—How Diamonds are Artificially Colored.—The Manufacture of French Bank-bills.—The Excursion of the French Archæological Society.—A Story about the Late Grand Prize Competition.	1
PULPITS.	3
ARCHITECT, OWNER & BUILDER BEFORE THE LAW.—IX.	5
THE ITALIAN SPECIALTIES IN DECORATION AND THE INDUSTRIAL ARTS.—III.	7
COLONIAL WORK AT SACKETT'S HARBOR.	9
COMPARATIVE MUNICIPAL BUILDING LAWS.—III.	11
PUBLIC BATH-HOUSES AT BERLIN.	13
NATIONAL AID TO ART.	14
ILLUSTRATIONS:—	
Staircase Hall of the John Hancock Building, Boston, Mass. —The Sackett House and Woolsey House, Sackett's Harbor, N. Y.—Details of Old Colonial Work, Sackett's Harbor, N. Y. —New Court-house for Chester County, Pa.—The "Hill-Ton," Northup Place, Portland, Oregon.—Madison Barracks. Additional: House in Bernheimer Court, Munich, Bavaria.—A Grille at Nancy, France.—Clustered Column in the Cloister of the Cathedral, Monreale, Sicily.—Drawing-room, 52A Berkeley Square, W., London, Eng.—Hall, 52A Berkeley Square, W., London, Eng.—All Saints', Leek, Eng.: Painted Decorations in Church.—House at Bedford, Eng.—Another View of the Same.	15
NOTES AND CLIPPINGS.	15
TRADE SURVEYS.	16

OUR French Exchanges announce the death of M. Félix Narjoux, an architect of ability and reputation, particularly in the design and construction of school-buildings, who was, however, principally known here by his pleasant and interesting books, some of which have, we believe, been translated into English. M. Narjoux was fifty-seven years old. He had been for many years one of the architects to the city of Paris, and was a member of the special Commission appointed by the Minister of Public Instruction to study the planning of schools. His conspicuous attainments in these matters gained for him membership in the Legion of Honor, and his most useful books have been on school-building. At the time of his death, he had one or more new books in preparation, and it is to be hoped that they may not be lost to the world.

A NEW idea, which architects will, in some cases, welcome heartily, is to be derived from the work on the great church of the Sacred Heart, at Montmartre, in Paris, which is now approaching completion. The style of the church, like nearly all modern French churches, is a sort of cold Romanesque, but M. Abadie, or more probably his successors, MM. Garnier and Rauline, have warmed up the cornice by the addition of a number of fierce gargoyles, which, although more Gothic than Romanesque in idea, accord very happily with the the round-arched arcades over which they project. The mere adoption of gargoyles, however, to enliven a Romanesque silhouette, would not be remarkable, if it were not that the architects have had the monsters endowed with faces which are portraits of the principal contractors; so that, let us say, the plumber, in the guise of a harpy, keeps watch of the faithful who wander beneath; while a vulture, with the features of the cement-contractor, eyes the pointing falling out of the stonework around him. In some cases, the portrait-gargoyles are furnished with inscriptions, as in the case of one which resembles M. Riffaud, the contractor for the masonry. This bears the sentence, "Much will be pardoned him, for he has sinned much." Whether contractors among us would endure such levity on the part of architects is very doubtful, but perhaps a beginning might be made by representing them as angels, to which they could not well object; and a little personality of this sort would not only stimulate the interest of architects and the public in new buildings, but do much to develop the skill of our stone-carvers, which is now, we hope, at its lowest ebb. The only instance that we remember where a portrait of a

living person has been introduced as ornament into a building in this country is in Trinity Church, in Boston, where one of Mr. Richardson's daughters, then a pretty little girl, was painted as a cherub in a lunette in the chancel; but it was always one of Mr. Richardson's favorite ideas to "add interest" to buildings in this way, and one cannot help regretting that his own portrait could not have been so preserved.

THE *Wiener Bauindustrie-zeitung* gives some characteristically useful information in regard to coal-tar. This substance is used abroad, even more than here, as a waterproof and preservative coating for wood, iron, brick, and other materials, but every one does not know how it should be employed. Chemically, crude coal-tar consists of about six parts of naphthalin and liquid hydro-carbons, mixed with three parts tar-asphalt, and one of carbolic acid. The last ingredient is an active acid, and readily corrodes iron, so that iron, either cast or wrought, painted with crude tar, soon rusts under the tar, and, in time, the flakes of oxide scale off, carrying the tar with them. With engineering works, such as iron bridges, this result is anticipated, and provision is made for renewing the coating twice a year or so. By this means, the bridge is kept looking neat, but the iron is found to lose weight by the successive flakings of the surface, and, in course of time, the waste of the metal may become serious. The proper way, therefore, of treating iron with tar is to heat the pieces to be coated, so that the tar boils when it is applied. This boiling drives off the carbolic acid, which is the most volatile portion of the tar, leaving the residue neutral, and so without action on the metal; and it is found that iron so treated retains its coating for many years unaltered. Where it is inconvenient to heat the iron, the tar may be boiled in the open air, and the carbolic acid will gradually be driven off; but it is a useful precaution, before the operation is completed, to make sure of neutralizing the last traces of acid, by adding to the boiling tar two or three per cent of air-slaked lime. If the boiling is continued too long, the tar becomes thick, and it may be necessary to thin it with turpentine before it can be used. When tar is to be applied to wood, the carbolic acid is not only not injurious, but rather beneficial, as it tends to preserve the wood, and the crude tar is better for this purpose than the distilled.

ANOTHER receipt, which may be useful, is borrowed from China. The Chinese, we are told, employ an admirable putty, which they call *schio-liao*, and which serves also as a strong cement, suitable for uniting gypsum, marble, porcelain and stone. The *schio-liao* is made by mixing thoroughly fifty-four parts, by weight, of pulverized slaked lime, six parts powdered alum and forty parts fresh blood, until they form a paste. When made thinner, the same mixture can be used as a waterproof paint, and is much employed by the Chinese for painting their houses, and for coating the inside of barrels in which oil is to be transported. The use of blood for mixing with cements or limes is not new, and egg albumen, which corresponds closely with the serum of blood, has long been employed for mixing with calcareous cements for mending crockery; but the addition of a small dose of alum, which would seem to make the putty a selenitic cement with an albuminous component, appears to be new.

IT will be remembered that, while M. Frémy, the most expert scientific man living in such matters, has been for years trying to make artificial rubies large enough to be used for jewelling watches, rubies of considerable dimensions, exactly resembling the genuine mineral in color, brilliancy and chemical composition, but showing, under the microscope, little bubbles, as if they had been melted, have been sent to the Paris market from Geneva, and sold to dealers as genuine rubies, as indeed, they are in every respect, the only difference being that the Geneva stones have evidently been made artificially, by some process known, probably, only to the manufacturers, instead of being picked laboriously out of the sand in the river-beds of India. It now appears that the same combination of educated ingenuity and desire for gain which has produced salable rubies is devoting itself to experiments, not only on the artificial manufacture of diamonds, but on the artificial improvement of natural stones of defective color. As

every one knows, South African diamonds, although large and brilliant, are apt to have a yellow tinge, and lose a very large part of their value in consequence. The dealers have for a long time possessed the art of temporarily removing the color, so that a stone naturally yellow appears, when placed on white paper, as is done by jewellers to test the tint, perfectly colorless, recovering its natural yellow only after a considerable period. This operation is practised on a large scale, diamonds to the value of millions being treated at once. According to the *Journal de Pharmacie et de Chimie*, M. Gilon has investigated the process of diamond-bleaching, and has succeeded in removing the yellow tint perfectly, without injuring the brilliancy of the stone, by the use of aniline. His first idea was, naturally, to correct the yellow by its complementary, purple, and he began by dipping the diamond in a bath of aniline purple, dissolved in alcohol, with a few grains of gum benzoin, to make the color adhere. This application made the yellow diamond appear white, but it injured the polish and brilliancy. He then prepared a more dilute alcoholic solution of aniline, without the benzoin, and soaked in it a diamond of a bright yellow color. On removing the stone, and drying it on absorbent cotton, it appeared perfectly white, and of full brilliancy. Two weeks later, among a lot of pure white diamonds, the stone so treated could not be distinguished from the rest, and rubbing with chamois-skin or cloth did not alter its appearance. Washing with alcohol, or nitric acid, removed the aniline, and restored the yellow color. M. Gilon, however, succeeded in fixing the aniline so that alcohol would not remove it, but he was not able to make it proof against nitric acid. As the facets show no trace of deposit, the *Revue Industrielle* thinks that the color only attaches itself to the "girdle," or edge between the bases of the upper and lower truncated pyramids of which the brilliant-cut diamond is composed, and which, as it says, is left unpolished. The difficulty about this theory is that if only the girdle were colored with the aniline, the stone, if looked at in a direction parallel with the plane of the girdle, as it would often be when lying on white paper, would show its natural yellow above and below, with a purple edge between. Moreover, in the best-cut stones, the girdle is polished, as well as all other portions, so that the aniline would have no more tendency to adhere there than anywhere else. It seems, therefore, more likely that the aniline actually dyes the stone to a certain depth; and, if this is the case, nothing short of actual removal of the stain, by nitric acid, or by recutting, would expose the fraud.

Le Genie Civil gives an interesting account of the method of making bank-bills in France. All bills are issued by the Bank of France, which carries on the whole process of manufacture, including even that of the paper on which they are printed, and the ink used. The paper factory is at La Ferté-sous-Jouarre, where linen rags are so treated as to produce a paper of a peculiar quality. This special paper is made, inspected, cut into sheets and shipped to Paris, under the care of two of the Bank officials, who are held responsible for every sheet. The sheets are packed in bundles, of one thousand in each, and are printed in the basement of the Bank building in Paris. As with the blank paper, the bills, in every stage of fabrication, are in charge of some official, who must account for every one which has come into his hands, either by showing it, or a receipt given for it by the official to whom he has handed it over. As the Bank has sometimes printed four hundred thousand bills a day, and at such periods employs about four hundred persons in the printing department, strict accounts are necessary to prevent loss, and an elaborate system of numbering and checking is used. A series of bills consists of one thousand, which are numbered from 1 to 1,000, and twenty-five series, lettered A, B, C, etc., and tied up together, under the name of an "alphabet." After each operation, the bills are verified, by women, who sign their names on the band placed around the bundles. As there are nine operations, there must be nine verifications, and the final verification is repeated, by a fresh set of inspectors, so that nothing can be overlooked. After the bills are complete, they are delivered to the Secretary of the Bank, who examines them, and gives a receipt for them, discharging the head of the printing department from further responsibility. They are then placed in the vaults, and are withdrawn for issue only by order of the Governors of the Bank. The principal difficulty in regulating the accounts comes from the defective bills. No bill is allowed to

pass the inspectors which shows a spot, an uneven margin, a defect in printing, or any other imperfection, and the bills thrown out must be recorded in the books with quite as much accuracy as those which pass successfully to the final stage. Every bill rejected by the inspectors is stamped, and its place in the series filled by a check. The stamped bills go to the Secretary of the Bank, who puts them under lock and key, and new bills, corresponding to the checks, are printed, and credit is given to the paper manufactory for the paper necessary to make these. The accounts of the "faulted" bills are carried through the books, and, for verification, the stamped bills themselves are kept for five years. At the end of that time, if there has been no question about them, the regents of the Bank, the secretary, the examiners, the cashier, the chiefs of the printing department, and the chief of the department of bill accounts, join in signing an order, in pursuance of which they are taken from the vaults and destroyed.

THE French have a way of managing scientific excursions, which is worth imitating. For example, this year, the French Archaeological Society has organized its fifty-eighth annual Congress, which is to be devoted to the very interesting region of the Jura. The Congress opens in the *foyer* of the theatre at Dôle, and spends its time in discussions and in visits to places of archaeological importance; terminating with an excursion into Switzerland as far as Berne. Any respectable person, by subscribing two dollars, may have the privilege of attending the meetings of the Congress, and participating in all its excursions; and he is also entitled to join in the discussions, and to receive a copy of the printed report.

AN interesting story comes from Paris in regard to the recent competition in the School of Fine Arts for the Prize of Rome. It will be remembered that the first prize this year was awarded to M. Eustache, and the second to M. Normand, who presented a design for an iron building. His design, which is reproduced, with the other two prize designs, in *La Semaine des Constructeurs*, was a beautiful one, independent of its material, and attracted much attention from the public, as well as from architects, some of whom expressed the opinion that it ought to have been preferred to the dignified and monumental, but rather heavy design of M. Eustache. Since the award was made, it has been reported that a division of opinion existed among the judges themselves. It seems that the selection of the designs, which is placed in the hands of the Institute of France, is made by a two-fold judgment. In the first choice, only the members of the architectural section of the Institute take part, and they choose four architects, not members of the Institute, to help them. These four outside artists are called "supplementary jurors," but they vote on equal terms with the members of the Institute section. On the present occasion, a majority of the jury so constituted is said to have awarded M. Normand the highest place. The decision of this exclusively professional jury is, however, subject to review by the whole Institute, including all the sections. In this review the "supplementary jurors" take no part, and all members of the Institute, whether musicians, painters, sculptors, novelists or architects, have an equal vote. The revision of this year appears to have resulted in a revolt of the non-architectural part of the Institute against M. Normand's startling departure from the traditions of the School of Fine Arts, and the assembled artists reversed the award of the architects, deposed M. Normand from the highest rank, and set M. Eustache in his place. We are by no means disposed to quarrel with the verdict; on the contrary, as iron buildings are familiar to us, and railway stations, with façades in the style of a Roman triumphal arch, are not, we prefer M. Eustache's design to that of M. Normand; but the curious part of the affair is that the lay members of the Institute should have been so conservative as to reject an architectural novelty which had been approved by the Section of Architecture, in favor of something in a style more in accordance with the ancient traditions of the School. The Grand Prizes in all the other departments of the School of Fine Arts, including those of music, painting and sculpture, are awarded in the same manner, the final vote being cast by persons, a majority of whom are, at best, only amateurs of the art with which the prize is concerned; and it would be interesting to know whether the vote of the laymen is generally cast, in other instances, on the side of conservatism and tradition.

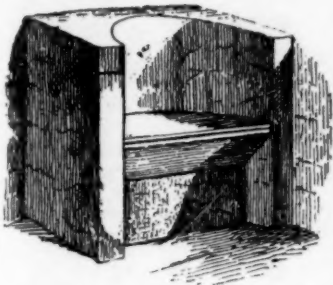
PULPITS.¹

Fig. 1. Cathedra in Beverley Church.

THE French word here translated pulpit, *chaire*, from the Latin *cathedra*, in its primitive application designated the raised seat which the presiding officer of a public assembly occupied. The term is frequently found employed in this acceptance in Greece and Rome, and sculptured monuments exhibit a certain number of *cathedrae* in use in pagan ceremonies. It was natural, therefore, that Christianity in its infancy should continue the tradition. The *cathedra* appears in the catacombs, the meeting-place of the early Christians; later it figures as the seat stationed at the rear of the basilica, from which the bishop overlooked the assembly of the faithful and from which he also addressed them on occasion. The tradition was perpetuated during a part of the Middle Ages, at least as to the position of the *cathedra*, though in the abbey-churches the seat was no longer occupied by a bishop, but by an abbot.

A few examples from the Romanesque era occur in the north of Europe. The episcopal or abbatial chair was placed differently in the churches of a later period,—generally on one side of the choir. In this case, instead of a single seat, there were several; but the original designation soon gave place here to that of stall.

The *cathedrae* were constructed out of all sorts of materials, but more especially of marble or stone. We find a few, at Augsburg and Avignon, for example, dating from the twelfth century and closely resembling the ancient curule chairs, two beautiful specimens of which may be seen in the Louvre.

As an example of an extremely simple type, we call attention to the stone *cathedra* in Beverley church (Figure 1). In Saint-Séverin, at Bordeaux, there is one in carved stone of great richness. It belongs to the fourteenth century. We can plainly discern in it the efforts, so common at that period, to reproduce in stone ornamental motives borrowed from wood and textures (Figure 2).

The word *chaire* signifies to-day more generally the small structure in our churches from which the sermon is preached. In early Christian basilicas we find on the sides an ambo, a kind of pulpit from which the epistle and the gospel were read to the congregation, and from which the word of God

was also proclaimed; sometimes there are two of these ambones; they were usually placed in the partition separating the choir from the portion of the nave reserved for the public, and facing each other, as at Santa Maria in Cosmedin and San Clemente.

Sometimes they were set in line, as at Santa Maria in Ara Coeli.

The ambo is a slightly elevated desk reached by steps; the entire construction is most frequently built against a wall, and in all cases it rests solidly on the ground. We shall see how this primitive form was gradually metamorphosed into that of the pulpit of to-day.

The ambo is made of marble with mosaic incrustations. The decoration is sometimes exceedingly rich, as at San Lorenzo fuori le Mura (Figure 3). On one side there is the twisted column which serves as a support for the Paschal

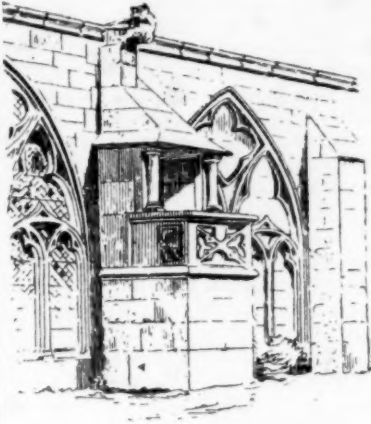


Fig. 4. Exterior Pulpit at Saint-Dié.

candle. This candelabrum is frequently borne on lions, and we find lions forming the bases of columns in a large number of pulpits of a later period.

When the pulpit is isolated from the wall it is sometimes entirely independent and sometimes it is set against a pillar. This latter disposition allows a place for the stairway which would otherwise be an obstruction to circulation and an accessory

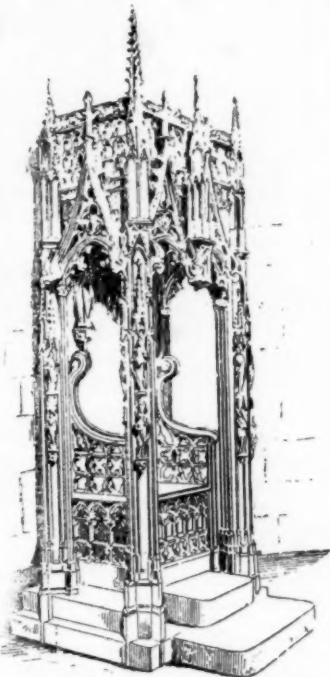


Fig. 2. Cathedra in Saint-Séverin, Bordeaux. After Viollet-le-Duc.

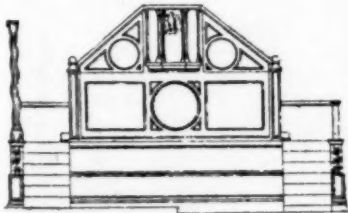


Fig. 3. Ambo in San Lorenzo fuori le Mura, Rome.

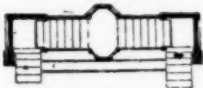
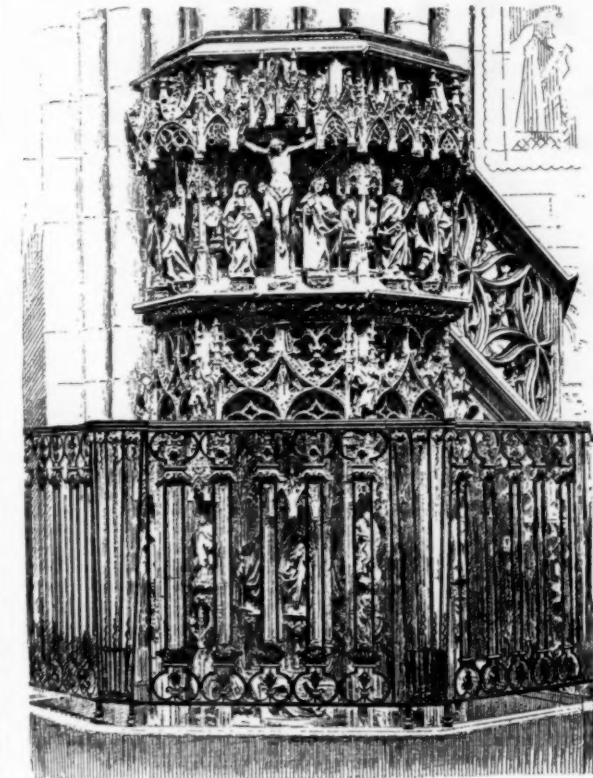


Fig. 5. Pulpit in Strasburg Cathedral.



difficult to dispose of logically. As a specimen of pulpits of this kind we cite the one in the Duomo of Pisa, which is in many respects remarkable. It dates from 1607, but possesses several earlier fragments brought from other structures, particularly two columns resting on lions. The remaining pillars present curious examples of caryatides. But the especially noteworthy feature is the stairway winding about the marble

¹ From the French of E. Rumbler, in Planat's *Encyclopédie de l'Architecture et de la Construction*.

column against which the pulpit is constructed. It is formed of marble brackets separated from one another and fitted into the column spirally. The effect is wonderfully graceful.

The pulpit in the Baptistery at Pisa is entirely isolated; it is supported by seven columns, three of which have lions for bases. It dates from 1260. There is a pulpit at Pistoja, of the sixteenth century, which is borne on a single column.

It is only from the Middle Ages onward that the pulpit proper, forming an independent structure in the interior of the church, is seen in France. It is to the same period also that the external pulpits of certain churches and cemeteries are to be referred. These were generally set against the wall and were approached either by lateral stairways or by a flight of steps pierced in the wall and communicating with the interior of the edifice (Figure 4).

As an example of pulpits resting on the ground, dating from the transitional period between the Middle Ages and the Renaissance, we give that of Strasburg, constructed in 1486 after

worked, the Renaissance and later periods have left us some genuine masterpieces of wood sculpture in pulpit architecture, fine specimens of which may be seen at Antwerp, at Brussels,



Fig. 6. Pulpit in the Church of Santa Cruz at Coimbra, Portugal.

the designs of Johann Hammerer (Figure 5). Such pulpits necessarily obstruct the nave. The efforts of Renaissance architects were therefore directed to the solution of the problem of suspending the preacher's desk in the air. They did nothing more, however, than copy the pulpits of certain religious communities, which were corbelled out from a wall, behind which the stairway of access was built. A fine example of these may be seen in the refectory of Saint Martin-des-Champs at Paris. The stairway here is even made in the thickness of the wall. In the Church of Santa Cruz at Coimbra, Portugal, there is a corbelled pulpit, which is reproduced in Figure 6.

Renaissance artists, as we have said, imitated these examples, and they even boldly suspended their structures from one of the pillars of the nave. The problem of disposing of the stairway became more and more difficult. Benedetto de Majano solved it by cutting the pillar clear through to give place for the steps. But as the construction was weakened by this process and by the weight of the overhanging pulpit, it was necessary to have recourse to various artifices to secure solidity. The employment of lighter material than stone of course soon suggested itself. Wood came into use, especially in northern countries where marble was scarce, and, as it could be easily

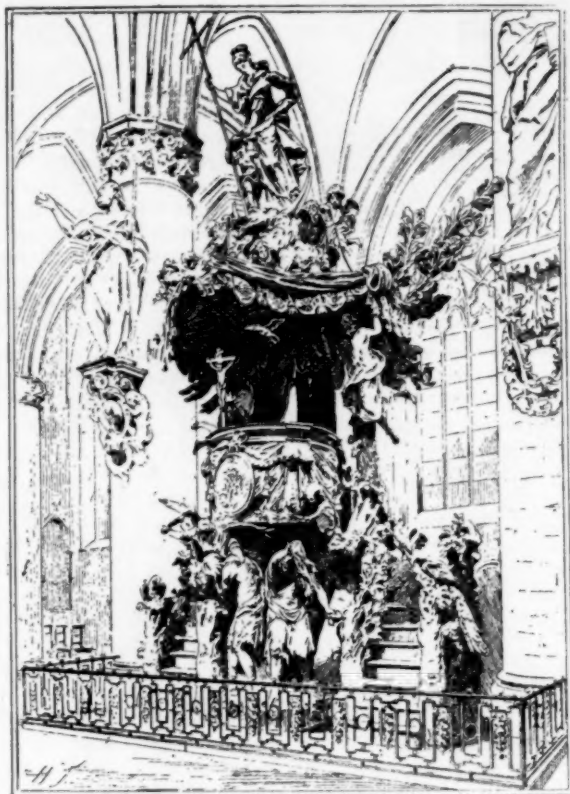


Fig. 7. Pulpit in the Church of Sainte Gudule, Brussels.

and at Paris in the Church of Saint Etienne-du-Mont (Figures 7, 8). It is noticeable that as soon as wood was adopted the

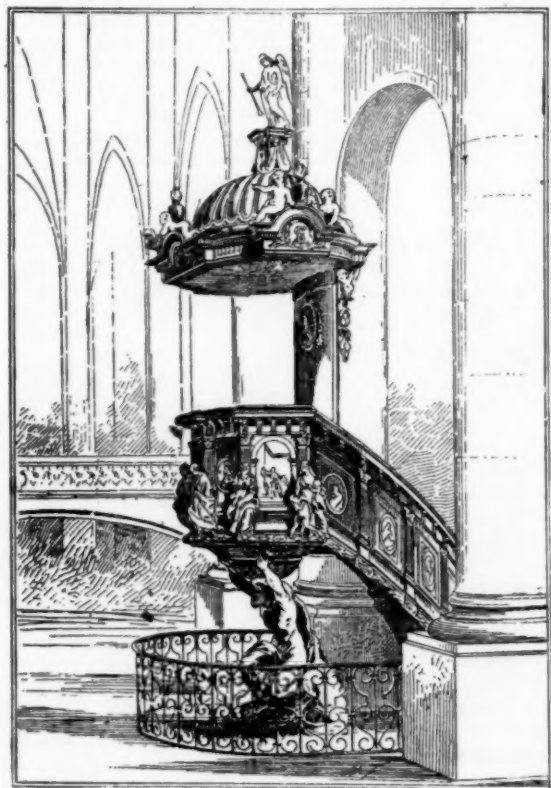


Fig. 8. Pulpit in Saint Etienne-du-Mont, Paris.

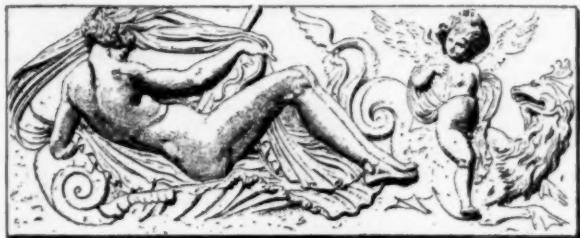
projection of the pulpit at once assumed an exaggerated boldness, especially in the sounding-board. Iron was also employed, as at Burgos; there was likewise an iron pulpit in the abbey

of Saint Antoine at Paris. At the present day the pulpit is most frequently constructed against a pillar, and is generally of wood.

E. RUMLER.

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

THE LAW IN IOWA.



From the Fontaine des Innocents, Paris. From Havard's "Dictionnaire de l'Aménagement."

IN a case in Iowa, an architect was employed to furnish plans, and superintend the erection of a house.² After the house was done, the architect brought suit for the amount of his bill, and it then appeared that one of the walls had cracked badly. The architect attributed the cracking to a defect in the foundation at that point. The court said, "the plaintiff, under his employment, was bound to furnish proper plans, and to see that the house was at least reasonably well constructed. . . . A house is not constructed with reasonable care, the foundations of which are so defective as to cause the walls to crack"; and the architect was held liable on the counter-claim for damages, and recovered nothing.

Here the Supreme Court says nothing about the responsibility of the contractor who built the walls, or about the necessity for proving negligence on the part of the architect; this, it thinks, is the legal inference from the existence of the defect; and the decision must be considered as establishing the law in Iowa, at least for the present.

COMPENSATION CANNOT BE RECOVERED FROM TWO PERSONS FOR THE SAME INJURY.

In New Jersey, a very singular conclusion has been arrived at, in a case decided some years ago.³ The verdict of the jury in the court below established that a house had been badly built in consequence of the joint neglect of the architect and the contractor. The Supreme Court held that a suit, founded on such neglect, would lie against the architect alone, on the ground that "where two or more persons cause damage by contributory misfeasance, each is responsible for the entire detriment," just as in the case of a gang of robbers, as mentioned above. In this case, the owner had retained a portion of the contract price, on the ground of the imperfection of work and materials, and the architect's counsel claimed that, as a man cannot get damages from two persons for the same injury, this should be offset against the claim made against the architect. The court held that if the contractor had sued for the contract price, and the defence had been interposed that it was not due on account of the imperfection of the work, and this defence had prevailed, the action against the architect would have been barred; as if a person recovers indemnification from one wrong-doer, he cannot pursue the other wrong-doer for the same cause of action; but, in this case, the contractor had not consented to the retention of the money (which would also be held as a satisfaction of the claim), and might at any time bring suit for it, and the owner might be forced to pay it; so that, under the circumstances, it could not be regarded as an absolute satisfaction of the damages embraced in the verdict. "It is true that in this way the burden of sustaining the loss is shifted on to the defendant, as the architect, from the contractor, who will thus be enabled, so far as the present damages are concerned, to recover the money in question. But it is to be borne in mind, and the circumstance is an additional reason why the money retained cannot be considered as a satisfaction of this cause of action, that the money in question may be kept back by the plaintiff on the foot of other damages than those embraced in this suit. For it is not a necessary consequence that the defendant is responsible

"for every part of the neglects or misconducts of the contractor in the doing of the work in question. There was a sameness of responsibility only when the negligence of the contractor was such as to be discoverable by the exercise of reasonable care and skill on the part of the architect; for the effects of negligence beyond this measure, the contractor alone would be answerable."

The curious part of this decision is to be found in the reason given by the court for permitting the owner to recover the whole amount of his damages from the architect, at the same time that he retained similar indemnity out of money due the contractor. The court said that the reason why the money that the owner had kept back out of what he owed the contractor was not to be regarded "as an absolute satisfaction of the damages embraced in the verdict" was that the contractor "might at any time bring suit for it, and the owner might be forced to pay it." On the theory of the court, that the architect and contractor were each responsible for the whole damage, the owner could not be "forced to pay" the money unless it was proved that he had not been damaged; and if he had not been damaged, the architect would owe him nothing; so that this system makes the architect guarantee the guilt of the contractor, as well as the penalty. It is as if a man should come into court with an allegation that he had been attacked by two robbers, who had got from him five hundred dollars. He had got his five hundred dollars back, by picking the pocket of one of the robbers, but wanted the court to get five hundred more for him out of the other robber. On the principle here expounded, the court would proceed to do so, on the ground that it might turn out that he had never been robbed at all, so that he would have to give back what he had taken from the first man's pocket.

THE OBJECTION TO THE THEORY OF CONTRIBUTORY MISFEASANCE.

Apart from this, the theory of "contributory misfeasance" between the architect and contractor, to account for defects in the work, although convenient for juries who do not like to take the trouble to inquire into the technicalities of building, is less satisfactory in application than the New York and Wisconsin principle, that architects and contractors have each their own peculiar duties, and are responsible only for proved neglect of those duties. Evidently, an architect who knows that the owner, if the contractor succeeds in doing anything wrong, is at liberty to accept the imperfect work, pay the contractor in full, and extort the damage from him, is under the strongest possible temptation to conceal the builder's bad work or materials, instead of appealing to the owner's authority to compel him to fulfil his agreement; and contractors are quite aware of the power which the theory gives them over the architects under whose direction they work.

THE FRENCH LAW OF ARCHITECTS' RESPONSIBILITY.

The French law, although nominally very oppressive toward architects, has really come to coincide closely with the modern New York and Wisconsin jurisprudence.

The Code Civil, Article 1792, says, "If the edifice constructed at a fixed price perishes, totally or in part, through vices of construction, even by the vice of the soil on which it is built, the architect and the contractor are responsible for it during ten years."

This would seem to make the architect the guarantor of the perfection of the contractor's work, as many people here would like to make him out to be; but the French courts interpret the law very differently. It is well known, both from the evidence of contemporary writers on architecture and building, and from the history of the discussion which preceded the adoption of this

THE POSITION OF ARCHITECTS IN THE NAPOLEONIC PERIOD.

clause in the Code, that in the early part of the present century, and for many years before, the architect was commonly the principal contractor for the building. At that time, the trade guilds still flourished, and one of the rules of the guilds was that no member of any guild should contract for or do work belonging to any other guild; so that the only way to include a whole building in one contract was to make an agreement with some one outside the trades, and let him make sub-contracts for the different portions of the work. The person with whom the principal contract was usually made would naturally be the architect, and as, like any other contractor, he would be tempted to save money for himself by surreptitious means,

¹ Continued from No. 829, page 165.

² Schreiner v. Miller, 67 Iowa, 91.

³ Newman v. Fowler, 8 Vt., 80.

to the detriment of the strength of the building, the law made him and his sub-contractors responsible for a fixed term for the solidity of the structure. Even at that time, however, there were certain architects, particularly those employed by the Government, who held aloof from contracting, and prided themselves on their strictly advisory, or, as we should say, professional character; and this attitude of architects toward their clients came by degrees to be the recognized and usual one. Still, the language of the Code remained unchanged, and grew constantly less applicable to the changing relation of architects to their clients, until, in 1844, after a contest carried on for several years, the highest court in France defined the legal responsibility of architects of the modern sort to their clients for imperfections in the work under their charge.

A church was built at Saint Germain-en-Laye, from the plans and specifications, and under the superintendence of two architects, Malpièce and Moutier.¹ Curiously enough, a clause in the contract with the carpenter, which was drawn up by the architects, said that "The architects and contractors will be responsible for ten years for the work executed in the construction of the said church, conformably to Article 1792 of the Code Civil," this being perhaps at that time a common formula in such contracts. The specification called for roof-timbers of oak, cut two years, and well seasoned. Actually, the timbers, when put in, appear to have been green, and, after the roof was up, all the timbers were brushed over with tar.

ROTTING OF ROOF-TIMBERS.

Soon after this, some of the trusses failed, and pushed out the walls, and it was found that nine out of the twenty tie-beams were rotten. The church authorities brought suit against the carpenter and the architect jointly, to recover \$2,800, the cost of repairing the damage caused by the failure of the roof. The inferior court held that the carpenter was solely responsible; and the church authorities appealed, claiming damages from the architect also, both under his alleged joint liability with the contractor, under Article 1792 of the Code, and on the general ground that "The architect, moreover, ought to know the quality of the materials employed; in accepting the mission of directing the works, he assumes the responsibility of their good execution." It will be observed that this is just the position so popular here at present, but it failed to secure the support of the Court of Cassation, which confirmed the decision of the court below. The evidence was conflicting as to whether the architect could have discovered the greenness or bad quality of the timber before it was put into the building; and the clause in the contract above quoted might reasonably have been interpreted as a voluntary assumption of a responsibility which the statute might not throw upon him; but the court said that "The responsibility pronounced against architects by Article 1792 of the Code Civil does not apply except in cases where the edifices have been constructed by them for a fixed price. And especially, when the cause of the disorders of an edifice has been recognized as proceeding from hidden vice of material, the architect who did not undertake to build it at a fixed price, but who limited himself to preparing the plans, writing the specifications, and directing the work, should not be held to the responsibility of Article 1792, when it is otherwise established that the plans are conformable to the rules of art, that the direction of the work has been conscientiously pursued, and that the verification of the materials has been well done. In such a case, the responsibility falls upon the contractor who has furnished materials infected with an internal vice." As to the claim made by the appellants, that the decision of the lower inferior court violated Article 1792 of the Code, the Court of Cassation repeated, later, that "Inasmuch as this article, which renders architects responsible during ten years for the edifice which they have constructed (*font construire*), applies only to edifices constructed for a fixed price, it follows from this that when edifices have not been constructed by architects for a fixed price the article is inapplicable.

"Inasmuch as, in fact, in the present instance the Sieurs Malpièce and Moutier have not constructed for a fixed price, (*à prix fait*), the church of Saint Germain, but, on the contrary, it has been constructed by contractors, of whom the judgment of the court below recognizes the responsibility, and whom it has condemned in consequence, it follows that the judgment, instead of violating Article 1792 of the Code Civil, makes, on the contrary, a just application of it."

¹ Ville de S. Germain-en-Laye, vs. Malpièce et Moutier. Cass. 12 nov. 1844. Dalloz, 1845, 18.

In 1863, the Court of Cassation² made a further modification of the law. In the case of the church of Saint Germain, it held that the architect, to free himself from responsibility for defects in his buildings, must establish "that the plans are conformable to the rules of art, that the direction of the work has been conscientiously pursued, and that the verification of the materials has been well done." In the latter case, the court decided that the burden of proof should not be upon the architect, but upon his accuser, saying, "If an architect limits himself to directing the execution of plans which he has prepared, it is Article 2270 of the Code which is applicable, and the responsibility of the architect is not engaged except so far as fault is proved against him, according to Articles 1382 and 1383."

The articles referred to read as follows:

Art. 1382. "Any act whatever, which causes damage to another, obliges him by whose fault the damage occurred to repair it."

Art. 1383. "Every one is responsible for the damage which he has caused, not only by his act, but also by his negligence or imprudence."

Art. 2270 simply limits the responsibility of architect and contractor to ten years.

All the more recent French cases have been decided in accordance with these principles. Article 1792 of the Code is universally held not to apply to architects unless they are also contractors; and the responsibility of an architect under ordinary circumstances is governed by the Articles 1382 and 1383, which apply equally to all other persons; while, as by the more recent decisions in our courts, the negligence or incompetency for which it is desired to hold him responsible must be proved against him by proper evidence, and not left to presumption or inference.

SPECIAL FRENCH DISTINCTIONS.

The French courts, however, in applying these principles, make certain distinctions which are unknown here, but which seem to be valuable. It often happens that a building turns out to be badly built, or unsatisfactory in some other way, partly through the fault of the builder, and partly through that of the architect. If, as is often the case, there is no way of distinguishing accurately between the damage due to the architect's fault, and that for which the builder should alone be responsible, the court takes it upon itself to apportion between them the damages to be paid to the owner.

A couple of cases,³ out of many to be found in the reports, will serve to illustrate this point.

In 1873, a party-wall was underpinned by a contractor, under the direction of an architect. The wall was not shored, and the new work built underneath it was not of the proper thickness. The wall fell, injuring the adjoining house, and the owner of the injured building sued both the architect and contractor for damages. It was claimed, on behalf of the architect, that he could not be held responsible for work done by the contractor; but the court held that the architect might be held responsible for damage occurring through the act of the contractor, if proper supervision on his part would have prevented it. In this case, the court found that the damage was caused by bad workmanship on the part of the contractor, and deficient supervision on the part of the architect, and condemned them to pay the loss together; the contractor to contribute two-thirds, and the architect one-third, of the sum required.

"SOLIDARITY" OF RESPONSIBILITY BETWEEN ARCHITECT AND CONTRACTOR.

The court expressly said that the architect and contractor were not held responsible under Article 1792 of the Code, but under Articles 1382 and 1383; and that as the cause of the damage was a single circumstance, the result of the joint fault of the contractor and the architect, there was reason for pronouncing "solidarity" between them.

Dalloz, the editor of the *Jurisprudence Générale*, in commenting on this case, says, "The architect is not legally responsible '*solidairement*' with the contractor for damages resulting from the bad work of the contractor; but it is otherwise if a fault, such as defective supervision, is proved against him. In this case, the principle applies that damage caused by the concurrence of several faults, not accompanied by intention to injure, ought, since the result is indivisible, to be

² Cass. 15 juin, 1863.

³ Costansin vs. Duperche et Chauvet, Req. 25 mars, 1874; Dalloz, 1874, 1, 285.

'solidairement' repaired by its authors, even though neither concert nor community of interest existed between them."

In another case,¹ Boisson was architect of a house, and Sénetaire was the builder. The plans were defective and the materials very bad. The building cracked and settled, and the owner sued the architect and builder for damages. The court found that the defects were due in part to imperfect plans, and lack of precise directions, on the part of Boisson, but more to Sénetaire's bad materials and workmanship. It considered that as Boisson was shown to have visited the building "at least once a week," "these frequent visits rendered supervision easy," and he ought, with his science and experience, to have observed the bad quality of the mortar, as well as the settling of the walls. It held, as in the case just quoted, that the architect and builder were liable *in solidum* for the damage, but that there was reason to divide the responsibility between them, in the proportion of one-tenth for the architect and nine-tenths for the builder.

In this last case there was a further complication, as the builder had gone into bankruptcy shortly before the trial of the suit, and it seems to be the rule that when damages are apportioned in this way, if either party is actually unable to pay his share, the other must make it good. The obvious moral of this is that architects in France ought to be very careful not to have anything to do with any but the most solvent contractors; but the question of requiring either the architect or the contractor to act as indorser for the just liabilities of the other belongs to a branch of law which need not here be considered.

[To be continued.]

THE ITALIAN SPECIALTIES IN DECORATION AND THE INDUSTRIAL ARTS.²—III.

WORKS IN WOOD, PAINTED, INLAID AND CARVED (Continued).



XVI Century Sideboard. From Havard's "Dictionnaire de l'Ameublement."

LET us now speak of the seventeenth century, and of those succeeding, down to our own time, giving also a glance at the productions of the present day, and finish thus our study of works in wood.

Before entering upon the discussion of these works, it is necessary that I should pause to mention and explain a rather curious fact.

The Italians, as Taine says, are saturated with Classicism, and, so far as they can, they seek inspiration and form from Latin sources. That this assertion of Taine's is just may be seen every day in Italy. How much do the Italians study the art of the seventeenth century? Very little—almost not at all—and, for that reason, it is not properly appreciated. For example, in Tuscany the art of the seventeenth century is just beginning to be somewhat more regarded, but even yet the study of this art has not been introduced into the schools. On the contrary, at Milan, a city more modern and less tied to traditions, the seventeenth century is appreciated and studied, though not, let us confess, very profoundly. Thus, some time ago, one of the ablest instructors in the Milanese Academy of Fine Arts said, in a public discourse, that he deplored the fantastic forms which succeeded the beautiful and simple ornament of the

Renaissance. To show, moreover, how little valued the seventeenth century is in Italy, it is sufficient to observe that its art is known as *barocca*, or baroque, a word of contempt, which signifies anything which is at the same time strange and foolish.

I need not say how unjust such a judgment is; but the Italians are always guided by their Classical, or, as Taine would say, their pagan instinct. A proof of this is that, until recently, even Gothic art was held in no regard in Italy, and was classed with the baroque as an object of contempt, receiving its name of "Gothic," that is, barbarous, as being an art derived from the Gothic barbarians who invaded Italy in the Middle Ages. However, the detractors of Gothic art have passed away, and so will those of the baroque period, which has given to Italy monuments conspicuous in every branch of art.

My reader will be kind enough to remember that in Italy, in the seventeenth century, a veritable revolution was in progress in the field of art. Italy never had a true mediæval period; and, while in France, England and in Germany were progressing the solemn monuments of the Pointed style, in Italy the Classical, after a brief interregnum, had reconquered the field of its triumphs. Until after the second half of the sixteenth century, the Latin revival continued to influence the fancy of artists, checking, it must be understood, independence of thought, and subjecting all individual fancy to the imitation of the Classic. For a long time this imitative spirit held the highest sympathies of the public and of artists; but at length appeared a reaction, which took definite form in the seventeenth century, and, from that time to beyond the middle of the eighteenth century, advanced from success to success, showing thus the legitimate character of its aspirations. Antiquity had been imitated so much, and often with such servility, that, finally, it came to be time for fancy to assert its rights as superior to those of tradition. The Renaissance, glorious, if you will, unjustly claimed the right to impose itself upon the future, as if proclaiming the dogma of immobility, and of absolute and unquestioned superiority.

Thus the new ideas triumphed in the seventeenth century, and, after a second period of dormancy, have returned to flourish again in our own days, and prepare new and splendid victories.

The Italian cabinet-makers of the seventeenth century, that is, of the early part of the century, continued the manufacture of those so-called "ladies' cabinets," inlaid with stones, or embellished with marquetry, of which I have spoken in my previous study on "Pietra Dura Work."³ My reader will remember that these cabinets formed an Italian specialty. Composed after the fashion of a Palladian façade excepting a certain exuberance of cornice, and some ornamental flourishes of a character not strictly Classical, they were, and are, full of columns, niches and statuettes, often combined with much grace. Cabinets of this kind were, and still are, supremely decorative, and in the boudoirs of ladies they are extremely appropriate, either through their small proportions or the preciousness of the materials of which they are made, and the delicacy of their ornaments. To this day modern "cabinets" are still made in Italy, generally of ebony and ivory, or fictitious ebony, and continue to attract the favor of the public, especially of the ladies, for, as I have said, they are ladies' pieces, *par excellence*. Their price, which is now very moderate, encourages buyers and promotes their manufacture. Moreover, their manufacture is anything but difficult. Even without the columns, a design can be made out of rectangles and niches, adorned with "plaques" of ivory engraved with ornamental or figurative forms, which will give an extremely attractive aspect to the piece. Such cabinets, placed upon a small table, or stand, form a combination pleasing to the eye, and very convenient, on account of the number of small drawers which they contain, every rectangle forming a drawer.

The Italian production of the seventeenth century is not to be so much studied in the cabinets, which are, so to speak, the forms of transition between the heavy and inflexible Classic, and what we must call the Baroque, for want of a better name; but is to be sought particularly in the carved work of the period. To understand properly the works in wood of that century, it is necessary to keep in mind the proud and splendid stateliness which was fashionable among the Italians of the time. Not even the sixteenth century was so dignified and haughty as the seventeenth. The sixteenth century was rich, without excess; but the seventeenth loved extravagance and magnificence to such a degree as to provoke, more than the sixteenth, severe laws against luxury; and, even now, the splendor of stuffs, and richness of carving, show what the age must have been.

But, for to-day, let us keep to the furniture.

In the seventeenth century, there was in Italy what was called the Cremonese School, from Cremona, a town near Milan, which distinguished itself particularly in the art of wood-working. Cremona had already been brought into notice, during the Renaissance period, by the Sacchi family, a veritable dynasty of sculptors and inlayers, which left works of the highest importance. The successes of Cremona in the seventeenth century were not shared by Sienna, which, as I have shown in the first part,⁴ was for a long time the cradle of Italian carving.

In the seventeenth century, color was less sparingly used than in the sixteenth, or rather, it was not abused in the sixteenth as it was in the succeeding century. In the Church of San Francesco, at Perugia, in an oratory, there is a piece of furniture of carved wood,

¹ Fleury-Boisson vs. Juguet et Sénetaire, C. de Lyon, 26 mai, 1883; Dalloz, 1884, 2, 132.

² Continued from No. 809, page 199.

³ See *American Architect*, No. 805.

⁴ See *American Architect*, No. 809.

entirely colored with azure, brightened with gold; the work of one Alessandro Riccardi, dating from 1626. Perugia, however, retained through this century the good reputation which it had long maintained for work in wood.

The characteristic sumptuousness of the seventeenth century stimulated the efforts of artists, so that at this epoch inlaid and gilded



furniture became more common. For example, the carved woodwork which abounds in the subalpine region, that is to say, the region of Turin, is for the most part gilded, and gilded all over. Does not this abundance of gold dazzle the eyes, and give a vulgar appearance? Quite the contrary. In general, at that time, furniture was very richly carved, with high reliefs, and a strong and energetic movement; and the light, penetrating in various ways among the hollows and cavities of the flowers, gives an extremely pleasing variety of effect. It is not to be denied that the artists of the seventeenth century had the decorative instinct very strongly, and that this was preserved to them by the ancient artistic traditions, and these also perpetuated the quick fancy, and dexterity of hand, which made light of all difficulties.

Here a description should be given of one of the carvers. As Desiderio of Monte Cassino excelled in the historical field in the Italian mediæval period, so in the artistic field of the seventeenth century the figure of Andrea Brustolon is the most conspicuous, uniting, so to speak, all the charms which the century, in Italy, was able to give to woodwork. Brustolon, born at Zoldo, in the province of Belluno, about 1672, came from his native town to study in Rome. It was perhaps intended to make of him a sculptor in marble, but the facility with which wood was worked attracted the young artist so much as to make him prefer it to any other material. Few persons, and perhaps no one in Italy, have had the dexterity and rapidity of Brustolon in wood-carving. Skilful both in ornament and in the figure, he formed for himself a style in which cherubs and other ornamental forms entwine themselves freely together in compositions which have a character peculiar to themselves — the "Brustolon character." If I should merely mention the work which this eminent sculptor executed at home and abroad, I should need much space. I will therefore only point out his specialty in the execution of mirror frames, full of foliage, of fruits, of cherubs, of symbols and allegories, grouped so singularly, and executed in so masterly a manner, that they are eagerly sought for, even to-day, and are paid for at the highest prices. Now, Brustolon's frames are museum objects. I know of several; among others, that of the Doglioni mansion, where twenty graceful children's figures repose on ornaments of leaves and flowers, with gestures so graceful and varied that, without exaggeration, they would make Boucher jealous.

At present the influence of Brustolon is here and there very visible; so that a person who cannot permit himself the luxury of a real Brustolon may content himself with an imitation fresh from the carver's chisel.

As Brustolon died in 1732, his career conducts us directly to the eighteenth century, which, in Italy, was not so prosperous a period as in France. In fact, we might speak of the eighteenth century in France as of the Renaissance in Italy; and the works in wood in Italy of this century betray the rising influence of France.

Among us, even speaking of local productions, a distinction is

made between the Louis Quatorze and Louis Quinze styles, and we speak of the Pompadour style, and the rococo (*genre rocaille*), at Rome or Florence, just as at Paris or Versailles. Therefore, as it would be unjust to speak merely of the works in wood of the eighteenth century, I propose to write about the Italian specialties in the field of industry and decoration. In Italy, as is known, furniture was covered with flowers, festoons and romantic scenes; and, if it did not have a Watteau or a Boucher to decorate it, or a Boule or Caffieri, or the Meissonnier (Giusto Aurelio Meissonnier, born at Turin in 1695) whom it gave to France, Italy can boast, even at that epoch, of artists who did it honor.

Less popular than Brustolon, Pietro Piffetti, for example, among the Italian cabinet-makers of the eighteenth century, is the one who most attracts attention from those who interest themselves in our study; so that a piece of furniture inlaid by Piffetti is precious either in Italy or abroad. Pietro Piffetti was born at Turin about 1700. In 1731 he received the title of principal cabinet-maker to the king, who employed him frequently for inlaid work. The skill of Piffetti in this craft was exceptional, and those of his works which have reached us through the vicissitudes of time are so striking and brilliant as to give us reason to believe that it would be difficult to surpass him. His pieces of furniture are, for this reason, much sought after for museums and private collections. For the convenience of amateurs, I will note that the works of Piffetti have almost all a ground of rosewood, with ornaments in ivory. A few have the ground of tortoise-shell, with ornaments of mother-of-pearl. This sort of inlaying is easily damaged, and is very difficult to repair. In Italy, at this time, appeared a certain taste for Oriental things, due, evidently, to French influence. This taste in France, thanks to Mme. de Pompadour, was widely diffused, both in and out of the court of Louis XV. It was at this time, also, that the attempt to imitate the Japanese varnish, known as lacquer, engaged the attention of artists and of the public.

The reader will remember the painters, named Martin, who, by their varnish (the so-called vernis-Martin), made themselves celebrated, not only in France, but in Italy and England. France, which in the eighteenth century loved Oriental things so much, was not willing to pay to the Orient the tribute of its preference; but attempted every means to liberate itself from dependence. If the results of its attempts, before the Martins, were only moderately successful, they became completely so later; and France made varnishes as beautiful and brilliant as those of the Japanese. A fashion of decorating furniture with pictures, and ornaments in brass, then arose in France, as if to honor the discovery of the Martins, which, in the history of French cabinet-making in the eighteenth century, has a great importance.

It will not be supposed that I have mentioned this sort of French furniture without a purpose. France, in the eighteenth century, invaded Italy with her arts; so, also, the furniture painted and varnished with Martin's varnishes, or the so-called "Vernis-Martin" work, crossed the Alps, and acclimated itself in the Peninsula, where



it was joyfully received. While in France the vernis-Martin furniture was being made, and the Caffieri were executing their wonderful works in gilt-brass, in Italy, at the same period, the art of inlaying flourished, as that of carving had flourished in the previous century. At Turin, more than elsewhere, inlaying was cultivated, and Bonzanigo, who was related to Piffetti, contributed to gain honor for his

country, which, after the eccentricities of the two centuries preceding our own, needed to return to plain eclecticism. In fact, to-day artistic Italy finds itself on the deep sea, without compass or pilot. To-day the Italian cabinet-makers have no specialty. They work, taking their model from any sort of fashionable style; but rarely try for individual inspiration. Until yesterday, it was Classical art which ruled them, and this they have followed strictly; to-day, it is the art of any sort of epoch which serves to kindle their imaginations, and there is a wide diversity in the choice of a style between different localities. At Florence, for example, classic taste, that is, that of the Renaissance, is more followed than at Milan. At Milan, not unfrequently, models are sought in examples of the seventeenth and eighteenth centuries, and graceful and pretty work is produced. The Milanese carvers are very dexterous in following the style of the eighteenth century, so that many pieces of furniture, particularly mirror frames, small tables, and *étagères* for small rooms are executed by them in the taste of that period.

The cheapness of such work is wonderful. There are, in Italy, carvers, particularly young men, who do nothing but make mirror frames, tables and *étagères* in eighteenth-century style, for merchants, who make extensive shipments of them to South America. Now,



as a consequence of the crisis in the Argentine Republic, work of this sort is somewhat stopped, but will, in time, regain its vigor. If the modern production of Italian furniture has any characteristic, it consists above all in its cheapness. For example, at Vicenza, where there are very many carvers, furniture carved all over is made at prices ridiculously low. For an investigation of mine, I have had made a sort of inquiry into the prices of cabinet-work at Vicenza, and have obtained very singular results—so singular as to excite astonishment. “Do people work for nothing in Italy?” They certainly do. And it must not be supposed that the lowness of the price is justified by the vulgarity of the execution. Far from it. It is because there are men in Italy who prefer a certain kind of work, and, occupying themselves always with this, do it very rapidly, and, as they are modest in their desires, the price of their work is exceptionally low.

So carving is still at this day very much cultivated in Italy; and inlaying less so; and, among the different sorts of inlaying, that principally used is the so-called “*certosina*,” of which I have spoken in my previous communications.

ALFREDO MELANI.

COLONIAL WORK AT SACKETT'S HARBOR.



On the Battle-field.

SACKETT'S Harbor is chiefly notable as an important military station on our northern frontier. It occupies a high, wind-swept bluff overlooking Lake Ontario. A little bay sweeps in and forms a natural harbor which is further protected by a long, low breakwater on which grows a line of stunted willows, leaning all one way—mute evidences of the force and direction of the prevailing winds. On one side of the bay is the garrison—a group of stone buildings, old and low, flanking three sides of a well kept parade-ground, the fourth being open to the water's edge where a few shapeless mounds of earth mark the location of an old pioneer fort. Inland, behind the barracks is a cemetery where lie buried upwards of fifteen hundred nameless soldiers, killed in battles of the War of 1812. The first gun of that war was fired from the promontory on the other side of the bay. The battlefield is now an unkempt pasture in which the village street almost loses itself and then recovers to take a final plunge over the rocks into the lake.

This first battle seems not to have been a great affair, but in the accounts of it one hears—in the hotel or barber-shop, from the mouths of oldest inhabitants—there are pleasing suggestions of British swagger and of Yankee grit and resource. Five men-of-war (so goes the story) each carrying eighty guns and fully manned, suddenly appeared before the frightened inhabitants of the little town, who had for their defence only the little brig “*Oneida*” of seventeen guns, under Lieutenant Woolsey—but it was David and Goliath over again, as the event proved. Prevented from escape by water, Woolsey and his sailing-master landed with a company of marines and manned a thirty-two-pounder on the bluff. They had no shot large enough for the gun, but equal to the emergency, the twenty-four-pound balls were wrapped to size with cuttings from carpets, and when these were gone, the flannel petticoats of the women. With these unique projectiles the British fleet was disabled, and actually driven from the waters.

In the war which followed, Sackett's Harbor was a centre of activity. Here the army was organized and the navy constructed. It was from this point that Gen. Zebulon Pike—he who gave Pike's Peak its name—started on that secret and perilous expedition in which he lost his life, and his body now lies in the old burying-ground behind the barracks. Nor is Pike's the only illustrious name associated with the place. General Jacob Brown made it his headquarters while he commanded the forces on the Canadian frontier. Here lived Dr. Samuel Guthrie, one of the discoverers of chloroform and the inventor of the percussion compound for firearms which superseded flints. Grant was stationed here for a short period after his Mexican campaign, and there is a barrack-room story about a bet he made and won—that he could walk around the long public square at Watertown before another man could eat an army cracker, without water.

In former times the little bay was filled with shipping and Sackett's was a place of commercial as well as military importance, as the ruined old stone mills and an abandoned railroad even now testify. Those palmy days are now long past and as there has been no subsequent revival of prosperity, the town remains to-day very much as it was then—happily free from the blighting and vulgarizing influence of the “great American hustler.” The military atmosphere is all that remains to remind one of its departed greatness, but this is all pervasive. Every vista contains a blue uniform; dogs are numerous and barbers prosperous; the children have a soldierly bearing and one even fancies that the little brick and wood stores elbow one another along the sidewalk of the principal street like a company of raw recruits on parade.

At the garrison there is guard-mount daily at half-past nine, on which occasion the regimental band discourses the latest popular melodies while the officer of the day is examining the arms of the guard. Battalion-drill is held every pleasant afternoon at four. Dress-parades and band-concerts are given from time to time and hops—at which wall-flowers are an unheard of variety.

There is society of a certain sort, as is inevitable where idle men and women of the commanding class are brought together. It is made up of officers and their wives and daughters and a few remaining representatives of the old families still living in the houses built by their grandfathers—but these, too, are military, and the number of retired colonels one may meet of an afternoon brings to mind Gilbert's witty line,

“When everybody's somebody, nobody's anybody.”

With the summer weather people come here from the great world outside, infusing a new spirit into the officers' balls and other

garrison festivities. Then there is tennis on the parade-ground and yachting on the bay; teas and card-parties are given in the great old houses, the dingy portraits on whose walls looked down perhaps on not so very different scenes in times long gone.

It is of these houses — some of them — I wish particularly to speak. Aside from their historical associations, they are intrinsically excellent in architecture. This, though lacking much of the richness and elaboration of some of the Eastern and Southern colonial work, is characterized by great elegance of proportion and refinement of detail. This lack of excessive ornamentation, though probably dictated by motives of economy, is, on the whole, fortunate, for architecture often gains rather than loses by such enforced simplicity, just as "an honest tale speeds best, being plainly told."

Although there is much good and interesting work beside, there are only three houses in any way deserving the title of "mansion," and to the task of preserving some sort of a record of them the present writer devoted a few days of a short vacation spent in the vicinity. This work, if valuable, was timely, as one of the three is already falling to pieces through age and neglect, and another has recently undergone extensive alterations in order to more nearly fulfil the requirements of modern life.

The Sackett house was built in 1803 by August Sackett, from whom the town received its name. It is square in plan, with a long wing to the rear. The second story is lighted entirely by dormers, and the exterior is thereby rendered very effective by reason of the ample space above the tops of the first-story windows. The low, broad façade, with its well-proportioned columns and pediment, seen from the main street above the large, old-fashioned garden, produces that rarest of earthly things — a genuine architectural emotion. The interior is less interesting. There is very little woodwork, and that little is quite lacking in refinement. This house served as a hospital during the War of 1812, and blood-stains may yet be seen on the upstairs floors — so it is said.

The Woolsey mansion, now owned and occupied by Col. Walter B. Camp, was built in 1816 by Commodore Woolsey. The knocker



The Woolsey Mansion.

on the front door bears, quite appropriately, the shape of an American eagle, and behind the door there is a row of big wooden pegs, where, we are told, the Commodore used always to hang his hat on entering. In plan, the house is a departure from the usual type, the hall being at the side of the main part, instead of in the centre; there are two rooms adjoining, and the wings contain two more, with pantries and the like. As originally built, there were but two bedrooms on the second floor, the servants' sleeping rooms being located in the basement.

The old Commodore's love of formality and symmetry is apparent in the laying-out of the grounds and out-buildings. The house sets far back from the road, and is approached through a central gateway flanked on each side by smaller ones, for pedestrians. The drive is lined with trees and shrubbery, and the white central pavilion of the house, with its slenderly pillared portico, is thus seen at the end of a green vista.

Nowhere is anything allowed to interfere with symmetry, the rear being as perfect in this respect as the front. A few rods behind the house a fence divides the lawn from the garden, and this is made another opportunity for a piece of formal grouping, charming in its effect. On one side is the well-house and on the other the smoke-house, both alike, of stone, with segment-shaped roofs: between the two, surmounting a low wall, is a white fence of delicate design, with frequent posts. In the centre this fence forms a semicircle, in the middle of which is the garden-gate, flanked by two large posts: the path leads to a summer-house, which occupies the centre of the garden.

Some of the old furniture still remains in the house, notably a number of tables of very graceful outline, beautifully inlaid.

The Camp mansion, or "The Brick," as it is called, was built in 1816 by Col. Elisha Camp, an officer of artillery in the War of 1812. It is now tenanted, from June till October, by the family of his granddaughter, Mrs. Col. Mason. It is a most substantial structure, built of brick brought from England for the purpose. The cellar bottom is formed by the living rock. The plan is of the common colonial type: there is a wide hall in the centre, with two rooms on each side and a one-story addition to the rear overlooking the garden, which contains what used to be the children's rooms and nursery. The main hall is divided into vestibule, reception-hall

and stair-hall by means of arches with elliptical, fan-light transoms above. These arches contain mahogany doors in four folds, the two centre ones being used on ordinary occasions; while in the hot days of summer, or when the house is thrown open for purposes of entertainment, all are folded back out of the way against the wall, making



Front Entrance to "the Brick."

of the hall one large apartment. This seems a good solution of a much-vexed problem in house-planning: to obtain necessary divisions between the parts of the hall possessing different functions, without impairing its spaciousness or embarrassing the movements of a crowd of guests.

Some of the rooms remain just as they were when the house was built. The same carpet has been on the parlor floor for over seventy years: it was woven in England to fit the room, and is of such good material that even now, though used constantly, it shows few signs of wear.

The original "scenic" paper is on the walls; on either side of the fireplace are graceful wall tables, semi-elliptical in shape, and between the windows there is an old upright piano in mahogany and gold, the first ever brought into the country, and considered a grand and wonderful affair when it was new. Some of the upstairs bedrooms are extremely bright and pretty. There are old-fashioned, high-post bedsteads, with canopies above, and dressing-tables of quaint and now obsolete patterns. Woodwork and draperies are all pure white, the door-panels alone being tinted a light blue, with good effect. There is a great attic over the entire house, lighted at the ends by enormous semicircular windows. Here are stored old beds, clocks and spinning-wheels, and trunks and chests and boxes, among which one might delightfully rummage away the hours of the longest of rainy Sundays — if the opportunity offered.

These few random notes may add interest to the accompanying sketches and measured drawings [See illustrations]. Young architects and draughtsmen throughout the country are apt to complain of the complete lack of sources of architectural inspiration in their environment, while, perhaps, at their very doors are unheeded examples of a refined and even scholarly treatment of wood — the very material in which nine-tenths of their designing must needs be done. If such would hunt up old houses in their vicinity, and by measurements and sketches convey to paper what they find valuable therein, they would not only be individually profited thereby, but would also be assisting to preserve a lasting record of the now fast-diminishing remnants of the only good and characteristic architecture this country has yet succeeded in producing.

CLAUDE FAYETTE BRAGDON.

INDIAN ROCK-CUT TEMPLES. — Almost every one who sees these temples is struck with the apparently prodigious amount of labor bestowed on their excavation, and there is no doubt that their monolithic character is the principal source of the awe and wonder with which they have been regarded, and that, had the Kylas been an edifice of masonry situated on the plain, it would scarcely have attracted the attention of European travellers at all. In reality, however, it is considerably easier and less expensive to excavate a temple than to build one. Take, for instance, the Kylas, the most wonderful of all this class. To excavate the area on which this stands would require the removal of about 100,000 cubic yards of rock, but, as the base of the temple is solid and the superstructure massive, it occupies in round numbers, about one-half of the excavated area, so that the question is simply this, whether it is easier to chip away 50,000 yards of rock and shoot it to spoil (to borrow a railway term) down a hillside, or to quarry 50,000 cubic yards of stone, remove it probably a mile at least to the place where the temple is to be built and then raise and set it. The excavating process would probably cost about one-tenth of the other. The sculpture and ornament would be the same in both instances, more especially in India where buildings are always set up in block and the carving executed *in situ*. Nevertheless, the impression produced on all spectators by these monolithic masses, their unalterable character and appearance of eternal durability, point to the process as one meriting more attention than it has hitherto received in modern times, and if any rock were found as uniform and as easily worked as the Indian amygdaloidal traps, we might hand down to posterity some more durable monuments than many we are now erecting at far greater cost. — *Exchange*.

COMPARATIVE MUNICIPAL BUILDING LAWS.—III.

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

Excavations Effecting Adjacent Walls.

Boston:—*a.* Whenever any excavation is to be carried to the depth of more than 10' below the grade of street, and there shall be any wall or structure wholly or partly on adjoining land, or near the intended excavation, the party causing such excavation to be made, if afforded the necessary permission to enter on such adjoining land, shall at all times, from the commencement until the completion of such excavation, at his own expense, preserve such wall or structure from injury, and so support the same by proper foundations, that it shall remain as stable as before the excavation was commenced.

Baltimore:—(Not regulated.)

Brooklyn:—(*a.*)

Charleston:—(Not regulated.)

Chicago:—(Not regulated.)

Cincinnati:—*b.* If the owner or possessor of any lot or land digs or causes to be dug any cellar, pit, vault or excavation to a greater depth than 12' below the curb of the street on which such land or lot abuts, or if there be no curb below the surface of such adjoining lot, and by such excavation causes any damage to any wall, house or any other building upon the lots adjoining thereto, such owners or possessors shall be liable, in a civil action to the party injured, to the full amount of the damage aforesaid. Such owner or possessor may dig or cause to be dug any such cellar, pit or excavation to the full depth of any foundation wall of any building upon the adjoining lots, or to the full depth of 12' feet below the established grade of the street whereon such lot abuts, without reference to the adjoining foundation wall, without incurring the liability prescribed in this chapter.

Cleveland:—(*b.*)

Denver:—Whenever there shall be any excavation hereafter commenced upon any lot or piece of land, and there shall be a building or buildings on adjoining land, and standing upon or near the boundary lines of said lot, the person or persons doing such excavation shall notify the owner or agent of said building in writing at least five (5) days before commencing such excavation. Any person who shall excavate to a greater depth than 10' 6" below the sidewalk grade in front of same shall, at his own proper cost and charge, save and protect the owners of adjoining property from injury or damage resulting from such excavation.

Detroit:—(Not regulated.)

District of Columbia:—The person or persons appointed by the Commissioners to superintend the buildings may enter upon the land of any person to set out foundations and regulate the walls to be built between party and party, as to the breadth and thickness thereof, which foundation shall be laid equally upon the land of the persons between whom such party-walls are to be built. . . . The cost of underpinning party-walls shall be borne by the building owner. Where an excavation is to be made adjacent to and below the foundation of a wall other than a party-wall, the building owner shall give adjoining owner ten days' notice, in writing, before proceeding with the work.

Kansas City:—Whenever any excavation is to be made for any building or other purpose, and there shall be any wall or other structure wholly or partly on adjoining land, or near the intended excavation, the party causing such excavation to be made shall notify the owner or agent of said adjoining premises of such intended excavation, and of the depth to which it is proposed to be made, and the owner of said adjoining premises shall have the right to enter upon the premises of the party causing such excavation to be made, for the purpose of securing his building, and at such time as he may be notified to do so by the Superintendent of Buildings, and, upon the receipt of such notice, he shall immediately proceed to make such building secure.

Louisville:—(Not regulated.)

Memphis:—(Not regulated.)

Milwaukee:—(Not regulated.)

Minneapolis:—Any person excavating for or commencing any foundation for any building shall fully protect all adjoining land, or buildings or the walls thereof, so that it shall remain as stable as before the excavation was commenced.

Nashville:—(Not regulated.)

Newark:—(Not regulated.)

New Orleans:—(Not regulated.)

New York:—SEC. 474. (As amended by Sec. 3, Chap. 566, Laws of 1887.) Whenever excavations for building or other purposes on any lot or piece of land shall be intended to be carried to the depth of more than 10' below the curb, at a place where there is any party or other wall wholly or partly on adjoining land, and standing upon or near the boundary lines of such lot, the person causing such excavations to be made, if afforded the necessary license to enter on the adjoining land, and not otherwise, shall at all times, from the commencement until the completion of such excavations, at his own expense, preserve such wall from injury, and so support the same by a proper foundation that it shall remain as stable as before the excavations were commenced, whether said adjoining wall is down more or less than 10' below the curb.

Omaha:—(Not regulated.)

Philadelphia:—*c.* Inspector to examine all such party or division walls upon or adjoining said lot of ground, and which shall have been erected prior thereto, and, if deemed and adjudged by them to be insufficient and unfit for the purpose of such new building about to be erected, such party or division walls shall be removed or taken down *c* by the last builder, the costs and expense of which removal, together with the cost and expense of the new wall or walls to be erected in lieu thereof, shall be borne and paid exclusively by him.

Pittsburgh:—(*c.*) Inspector to determine how wall shall be rebuilt and appropriation cost.

Providence:—Wall endangered by excavation on adjoining lot shall be made safe at expense of owner of old wall.

St. Louis:—All walls of buildings hereafter to be erected on the lines of lots between different owners, not extending down below the curb level, upon the streets where said buildings are erected, to the depth of nine (9) feet to the bottom of footing for dwelling-houses, and fifteen (15) feet the bottom of footings for business houses, shall be underpinned, sustained and protected at the entire charge and cost of the owner or owners thereof; provided, however, that it shall be the duty of the adjoining owner or owners wishing to sink their cellars or walls to a greater depth than those adjoining, to give timely written notice to the owner or owners of prior erected buildings of their intention to do so, and shall also permit the occupancy of their ground to so protect and underpin the said walls, building or buildings. But in all cases where the former walls have been extended down to the depth, as above specified, then and in that case parties building upon the adjoining lots, and excavating their cellars to a greater depth than above named, shall, at their own proper cost and expense, use all proper care to underpin, sustain and protect the former erected walls or buildings.

San Francisco:—Any persons excavating for or commencing foundations at a greater depth than the above standard¹ shall be responsible for all damages to adjoining buildings, the foundations of which have been constructed at the standard depth. No person constructing foundation walls down to the standard depth shall be responsible for damages to contiguous buildings, the walls of which have not been constructed at the standard depth.

Wilmington:—Party-walls of buildings not extending down below the curb line upon the street to the depth of 6' for dwelling-houses, and 7' for business houses, shall be repaired or underpinned where needed and protected at the entire charge and cost of the owner or owners thereof; provided, however, that it shall be the duty of the adjoining owner wishing to sink his walls to a greater depth than those adjoining, to give timely notice to the owner of the prior erected building, and also give reasonable time and permit the occupancy of his ground to protect and underpin the adjoining aforesaid walls. In case the owner of the party-walls, as above specified, wishes to deepen the party-walls of the adjoining building, etc., or to excavate the cellar to a greater depth, he shall, at his own proper cost and expense, underpin, sustain and protect the said walls and buildings. . . . It shall be the duty of the owner, contractor and builder, or either of them, who are excavating cellars, taking down, repairing or underpinning walls and banks, to shore, prop or place necessary supports as the work progresses, in order to make it safe and secure.

¹ Fourteen feet below the curb.

Footings-Courses.

[See also Foundations, Foundation Walls, Thickness of Walls.]

Boston:—For brick buildings exceeding thirty-five (35) feet in height:

a. There shall be under all foundation walls, piers, columns, posts and pillars resting on the earth, a base, or footing-course, of stone or concrete.

b. A base course under a foundation wall shall be not less than twelve (12) inches wider than the bottom width of said wall.

c. And not less than twelve (12) inches thick.

d. The base course shall not be less than twelve (12) inches wider on all sides than the bottom area of pier, post, column or pillar which it supports, and of stone for such support.

e. And of not less area than 2' by 3' for such support.

f. Not less than 12" thick, and thoroughly bedded in cement.

g. Isolated piers carrying walls shall have the footings not less than sixteen (16) inches thick, thoroughly bedded in cement.

h. All piles shall be capped with block-granite levellers, each stone to have a firm bearing on at least one pile in each row.

Baltimore:—(Not regulated.)

Brooklyn:—Where, in the judgment of the Commissioner, the nature of the ground or the weight to be sustained may require it; (*a*), (*b*), (*c*), (*d*) or under a truss girder.

i. And if built of stone, the stone shall be not less than 2' by 3' and eight (8) inches thick.

j. All base stones shall be bedded and laid edge to edge.

k. For walls built of isolated piers, there must be two footing-courses of large stone at least ten (10) inches thick in each course, or inverted arches at least twelve (12) inches thick, turned under and between the piers.

Charleston:—(Not regulated.)

Chicago:—(See "Foundations" and "Thickness of Basement Walls.")

Cincinnati:—(See "Foundations" and "Thickness of Basement Walls.")

Cleveland:—(See "Foundations" and "Thickness of Basement Walls.")

Denver:—For brick buildings not more than thirty-five (35) feet above the first floor of joists, there shall be under all foundation walls, piers, columns, posts and pillars resting on the earth a footing of brick, stone or concrete; the footing under a foundation wall shall be not less than nine (9) inches wider than the bottom width of said foundation wall, except in case of inner lot lines, when said footing shall be of flat stone or concrete, and not less than eight (8) inches thick; footings under columns, posts and pillars shall not be less than eight (8) inches wider on all sides than the bottom widths of said columns, posts and pillars, and not less than ten (10) inches thick.

*For brick buildings exceeding thirty-five (35) feet high, (*a*), (*b*), except in case of inner lot line, (*c*), (*d*), (*f*); when the foundation walls are built of isolated piers or columns, posts and pillars, additional footings may be needed.*

Detroit:—(See "Foundation Walls.")

District of Columbia:—The footing-course shall be at least nine (9) inches wider than the thickness of the wall and bedded in cement.

Kansas City:—All brick buildings not exceeding thirty-five (35) feet in height shall have footing-courses not less than thirty (30) inches in width and eight (8) inches thick.

*Brick buildings exceeding thirty-five (35) feet in height, (*a*): a base course under a foundation wall shall not be less than eighteen (18) inches wider than the bottom of said wall, and not less than fourteen (14) inches thick; under piers, columns, posts and pillars of stone, or concrete and stone, not less than eighteen (18) inches wider on all sides than the bottom area of columns, posts or piers; (*c*): not less than fourteen inches in thickness of each material, thoroughly bedded in cement; (*g*): All piles shall be capped with dimension-stone levellers, each stone to have a firm bearing on at least one pile in each row.*

Louisville:—Foundation walls in all cases must start from footings at least six (6) inches wider on each side than the wall. Stone footings not less than six (6) inches thick. Brick footings to set off not less than three times before the thickness of the wall is obtained.

Memphis:—The footings and foundation walls shall be laid in cement-mortar to at least twelve (12) inches above the grade line. All footings to be twice the width of the basement walls, and their thickness one-half their width. All piers, columns or posts resting on the earth shall be set upon a bottom in the same manner as foundation walls.

Milwaukee:—(See "Foundations" and "Thickness of Walls.")

Minneapolis:—*k.* Foundations shall rest upon proper base or footing-courses.

l. Stone footings shall have each stone close fitted, bedded solid, with upper and under surfaces approximately parallel.

m. The base course shall be not less than twenty (20) inches wider than the wall upon it, or of such greater width as the Inspector may judge required by the nature of the soil.

Nashville:—(Not regulated.)

New Orleans:—(Not regulated.)

Newark:—(*a*), (*b*), (*d*): the thickness of all footing-courses shall not be less than one-third their width; no concrete footing shall be less than twelve (12) inches thick.

New York:—(*a*): (*i*) for walls, and not less than sixteen (16) inches in thickness under piers, columns or posts; (*b*): (*d*); (*j*).

If, in place of continuous foundation walls, isolated piers are to be built (or columns used), then, where the nature of the ground and the character of the building makes it necessary, inverted arches shall be turned between the piers, said arches to be at least twelve (12) inches thick, and to rest upon a continuous bed of concrete at least eighteen (18) inches thick, and the outside piers shall be secured to the second piers with suitable iron rods and plates; or two footing-courses may be used, said footing-courses to be composed either of two courses of large stones or one course of concrete and one course of stone. The stones must be not less than ten (10) inches thick in each course, and the concrete shall not be less than eighteen (18) inches thick; and the area of the lower course must be equal to the area of the base course that would be required under a continuous wall.

Omaha:—(See "Foundation Walls.")

Philadelphia:—(See "Foundations," "Foundation Walls" and "Thickness of Walls.")

Pittsburgh:—(See "Foundations," "Foundation Walls" and "Thickness of Walls.")

Providence:—(*k*); (*l*).

Timber shall be used only where it is constantly immersed in water.

Every pier or column supporting walls of masonry shall have for a footing-course a broad leveller of block-stone or ledge stone of sufficient thickness, and with a bearing surface equal in area to the square of one foot more than the width of the footing-course required for a wall of the same thickness as that borne by the pier or column.

St. Louis:—(See "Foundation Walls.")

San Francisco:—The footing or base course under all foundation walls shall be of stone or brick, and shall not be less than twice the width of the bottom course of the foundation walls. Each course of footing, if of brick, shall not project more than 2"; if of stone, the thickness of each course shall be not less than 12", and shall not project more than six (6) inches. If a wall be built upon isolated piers, there must be inverted arches at least 12" thick, turned under and between the piers, the spring of the arch not to be less than one-third the span; or two footing-courses of large, well-shaped stone, at least 12" in thickness for each course, and to project not more than 6" each.

All piers and columns resting on the earth shall have footing-courses equal to three times the thickness of said piers or columns.

Wilmington:—(See "Foundation Walls.")

² Good, flat stone.

Foundation Walls.

[See also Foundations, Footing-Courses and Thickness of Walls.]

Boston:—Foundation walls of brick buildings to be used as dwelling, tenement or lodging houses may be built of block-stone laid in horizontal courses, of brick laid in cement, or, for such buildings less than seventy-five (75) feet high, of uncoursed rubble laid in cement-mortar, but one-fourth thicker than when of block-stone, and shall be thoroughly bonded and at least two-thirds of the bulk of the wall of through stones, and no round or boulder stones used, provided, when laid on piles, the lower course shall be block-stone not less than sixteen (16) inches in height.

Foundation walls of brick buildings other than dwelling, tenement or lodging houses shall be constructed of block-stone, laid in horizontal courses, with good bed and build surfaces, wedged with slate-stone and laid in cement-mortar. For such buildings not more than forty (40) feet in height, rubble-work laid in cement and sand-mortar may be used if the thickness is one-fourth greater than required for block-stone, and laid as specified for similar work under dwelling-houses.

a. In case of severe thrust or pressure on foundation walls, they shall be strengthened by thickening or buttressing, or both, as the Inspector may approve.

Baltimore:—(Not regulated.)

Brooklyn:—All buildings shall have the front, rear and side walls built upon foundation of stone or brick.

All foundation walls shall be built of stone or brick laid in cement or lime and sand-mortar.

Stone foundation walls shall be at least eight (8) inches thicker than the wall next above them to a depth of sixteen (16) feet below the curb level, and increased four (4) inches in thickness for every five (5) feet additional below that depth.

Brick foundation walls shall be at least four (4) inches thicker than the wall next above them, with additional width as for stone ones.

Charleston:—(Not regulated.)

Chicago:—b. Water lime cement-mortar shall be used in the masonry of all foundations exposed to dampness.

(See "Foundations" and "Thickness of Basement Walls.")

Cincinnati:—c. All foundation walls shall be at least four (4) inches thicker than the base of the wall of the next story above them.

(See "Foundations" and "Thickness of Walls.")

Cleveland:—(c). (See "Foundations" and "Thickness of Walls.")

Denver:—Foundation walls of brick buildings other than dwelling, tenement or lodging-houses over thirty-five (35) feet in height shall be constructed of good, flat stones, with good bed and build surfaces, and six (6) inches thicker than the external or party-wall immediately above and over the same. The thickness increased by four (4) inches for each eight (8) feet in depth more than 10' below the street grade. (a).

Foundation walls of brick buildings used as dwelling, tenement or lodging houses, not exceeding thirty-five (35) feet in height, shall be of brick or stone laid in cement or brown lime mortar, four (4) inches thicker than the wall immediately above. For each additional 15' in height, the thickness increased four (4) inches.

Detroit:—The foundation, basement or cellar walls shall be well laid in good cement-mortar, at least four (4) inches thicker than the first-story walls of the building.

District of Columbia:—Foundation walls must be built of brick, stone or other hard and incombustible material.

Collar or basement walls of buildings erected within reach of tide-water shall be built up to the level of spring tides in cement-mortar, and of a thickness to be determined in each case by the Inspector of Buildings. Cellar or basement walls of all dwellings shall be fully protected from dampness below the ground by an exterior covering of slate or hydraulic cement.

Kansas City:—Foundation walls of brick buildings to be used as dwelling, tenement or lodging houses, not exceeding twenty-five (25) feet in height, may be of stone or brick laid in cement. The work shall be thoroughly bonded, and at least one-sixth (1/6) of the stone shall be through stone evenly distributed. When such walls are laid on piles, the lower course shall be block-stone not less than sixteen (16) inches in height. The foundation walls of other brick buildings, if set at a depth of more than twelve (12) feet below the grade of the street, shall be laid in cement or lime and cement-mortar; the work shall be thoroughly bonded; at least one-fourth (1/4) of the stone shall be through stone, uniformly distributed. When such walls are laid on piles, the lower course shall be block-stone not less than sixteen (16) inches in thickness.

Louisville:—(See "Footings.")

Buildings not exceeding twenty-five (25) feet in height from the top of the sills to the highest point of the roof, area not exceeding one thousand (1,000) square feet, may have brick walls not less than 12" thick, erected on wooden sills, the sills supported on piers sunk 4' below the surface of the ground, the foundation under such piers to be of brick or stone, sills not to be set closer than 1' to the ground; sills and space below protected by fireproof material.

Memphis:—(See Footings.)

Milwaukee:—(b). (See "Foundations" and "Thickness of Walls.")

Minneapolis:—(See "Foundations" and "Footings.")

Nashville:—(Not regulated.)

New Orleans:—(Not regulated.)

Newark:—All foundation walls shall be built of brick or stone.

New York:—All foundation walls shall be built of stone or brick, and shall be laid in cement [or, \$482, lime and cement] mortar to the surface of the ground.

Stone foundation walls shall be at least eight (8) inches thicker, and brick foundation walls at least four (4) inches thicker, than the walls next above them to a depth of ten (10) feet below the curb level, and for every additional ten (10) feet or part thereof, the additional ten (10) feet or part thereof shall be increased at least four (4) inches in thickness.

Omaha:—Proper foundations of masonry shall be prepared for the support of all buildings. The walls of all buildings shall, below the surface of the ground (Sect. 32), be built of stone or brick laid in cement-mortar. Water-lime cement-mortar shall be used in the masonry (Sect. 34) of all foundations exposed to dampness.

As soon as the walls of any building are built above the grade of the street or lot, it shall be the duty of the contractor or owner to have the space on the outside of the walls filled up in a substantial manner.

Philadelphia:—(c.) It is the duty of the Inspector to see that the materials are suitable and the work substantial, workmanlike and of sufficient strength.

Pittsburgh:—(c).

Providence:—Foundation walls of wooden buildings shall be of brick, at least twelve (12) inches thick, or rubble or block-stone at least sixteen (16) inches thick, laid in cement-mortar or dry rubble-stone at least eighteen (18) inches thick. (See Thickness of Foundation Walls.)

St. Louis:—All foundation walls shall be built of stone, laid in best lime or hydraulic cement mortar.

San Francisco:—All foundation walls shall be built of stone or brick. All foundation walls shall be at least four (4) inches thicker than the walls next above them to a depth of sixteen (16) feet below the curb level, as lawfully fixed, and shall be increased four (4) inches in thickness for every five (5) feet below the said 16'.

Wilmington:—Good and substantial stone or hard brick foundation walls under all buildings hereafter erected. Stone foundation or cellar walls, four (4) inches thicker than the brick wall of the first story.

Various Methods of Measuring Height.

Boston:—a. The height of a wall means the height from the mean grade of the sidewalk or adjoining ground to the highest point of the wall.

Baltimore:—(Not regulated.)

Brooklyn:—b. The height of all walls shall be computed from the curb level.

Charleston:—(Not regulated.)

Chicago:—c. The heights of all buildings . . . shall be taken from the grade of the sidewalk to a point half-way from the lowest to the highest point of the roof.

d. The height of stories for all given thicknesses of wall must not exceed in the clear 11' for the basement, 15' for the first story, 15' for second story, 13' for third story, 12' for the fourth story and 14' average height of upper story. If any story exceeds these heights respectively, the wall of such story and of all stories below it shall be increased four (4) inches in thickness additional to those mentioned in tables.

Cincinnati:—e. The height of every external and party-wall shall be measured from the base of the wall to the level of the top of the topmost story.

f. The height of every story shall be the clear height of such story, exclusive of the thickness of the floor.

g. The height of every topmost story shall be measured from the level of its floor up to the underside of the tie of the roof, or, if the roof has no tie, to the vertical height of the rafters.

h. No story enclosed with a wall less than thirteen (13) inches in thickness shall be more than 11' in height.

i. If any story exceeds in height sixteen times the thickness prescribed for the walls of such story in the following tables, the thickness of each external and party wall throughout such story shall be increased to the one-sixteenth part of the height of the story; but any such additional thickness may be confined to piers properly distributed, of which the collective widths shall amount to one-fourth part of the length of the wall.

Cleveland:—(e); (f); (g); (h); (i).

Denver:—(Not regulated.)

Detroit:—The walls between the floor-joists shall be deemed a story, and shall be numbered, the first story walls commencing immediately above the walls of the basement, cellar or foundations, as the case may be.

All mansard roofs and all other roofs that have a pitch of one-third or over shall be considered as a story.

District of Columbia:—The height of all walls to be computed from the curb level or terrace.

Kansas City:—(a).

Louisville:—(e). The height of stories for all given thicknesses of wall must not exceed in the clear, for basement, 11', first story 15', second story 15', third story 13', fourth story 12', and no story above the fourth story 13' unless the walls for each of the stories shall be increased to greater thickness than given in the tables, except the last story of the building may have an average height not exceeding 18'.

Memphis:—Each fifteen (15) feet in height to be considered one story, except the grade-line story, which may be twenty (20) feet high.

Milwaukee:—(e); k. The height of stories for all given thicknesses of wall must not exceed, in the clear, for the basement 11', first story 15', second story 15', average height of all stories above the second 14' respectively, the walls of such story and of all stories below the same shall be increased 4" in thickness additional to the given thickness.

Minneapolis:—The height of every external or party wall shall be measured from the level of the sidewalk to its highest point.

(k); also if any story exceeds 18'.

Nashville:—(Not regulated.)

New Orleans:—(Not regulated.)

Newark:—The height of all walls shall be computed from the curb level, and shall be measured to the highest point.

New York:—The height of each and every wall shall be measured from the curb level at the centre of the building to the top of the highest point of the roof beams, and, in case the wall is carried on iron girders, or on iron girders and columns, or on piers of masonry, the measurements as to height may be taken from the top of the girders.

Omaha:—(c).

Philadelphia:—(Not regulated.)

Pittsburgh:—(Not regulated.)

Providence:—The height of every external or party wall shall be measured from the level of the finished grade to its highest point; on sloping ground, such height shall be measured at intervals of 10'.

St. Louis:—The height of stories for all given thickness of walls must not exceed in the clear, for the first story eighteen (18) feet, for the second story fifteen (15) feet, for the third story thirteen (13) feet, for the fourth story twelve (12) feet, for the average height of the upper story fourteen (14) feet; if any story exceeds these heights respectively, the walls of such story and of all stories below the same shall be increased four (4) inches in thickness additional.

San Francisco:—The heights of walls and buildings shall be computed from the curb level to the top of the highest point of the wall or building, exclusive of chimneys.

The heights of the several stories shall be computed from the level of the surface of the floor to the line of the ceiling above, measured on the wall line.

The heights of the first and successive stories shall not exceed for a one-story building, 16'; for a two-story building, 16' and 14'; for a three-story building, 17', 14' and 12'; for a four-story building, 18', 14', 13' and 11'; for a five-story building, 20', 15', 13', 12' and 11'; for a six-story building, 22', 16', 13', 12', 11' and 10'; for a seven-story building, 22', 16', 15', 14', 12', 11' and 10'. When the same thickness of wall is used for both stories, one may be made higher if the other is made as much lower. For any other increase in height of stories, the wall must be strengthened by piers, buttresses or columns so placed as not to exceed 12' from centres.

Wilmington:—(b).

[To be continued.]

PUBLIC BATH-HOUSES AT BERLIN.¹

Symbolic Sculpture. From Havard's "Dictionnaire de l'Aménagement."

AS cleanliness is a prerequisite to healthfulness, it may be well first to consider the convenience offered for bathing in the public bath-houses.

In the municipal report for the years 1877-81, after comparing the bathing facilities of Berlin with those of other great cities of ancient and modern times, it was said:

"We do not need to imitate the luxury of the hot baths of Titus and Caracalla, but we cannot expect our lamentably bad public facilities—at present

we offer only river-baths to the public—to suffice much longer." The public has now within its reach, at very moderate prices, tub and shower baths in the so-called Volksbäder (people's baths), which are partially supported by the Commune.

As long ago as 1873, in consequence of the increasing interest in sanitary matters and the rising value of land in Berlin, a Volksbäder society was established, and in the same year the first Volksbadeanstalt (people's bath-house) was opened at 13 Höchste Street. A new impulse was given to this movement by the erection, at the Hygienic Exposition in 1883, of a bath-house by Dr. Lassar, of Berlin, which, in a comparatively small space, and with moderate building and current expenses, guaranteed absolutely clean and fresh baths. This was made possible by the use of shower-baths alone. This form of bath was not new, as it had long been in use in connection with tub and basin baths; but the unquestionable service done by Dr. Lassar was that he exhibited before the eyes of the public, as a distinct and independent form of bath, the shower-bath, whose high sanitary value, as compared with other baths, had often before been recognized by great medicinal authorities. The problem how to establish bath-houses offering most abundant accommodations, and thereby enabled to pay expenses from their own receipts, thus seemed solved.

The Volksbäder Society, however, held firm to the opinion that no Volksbadeanstalt could entirely dispense with tub-baths; still, it placed on its programme Dr. Lassar's shower-baths also.

After much preliminary negotiating, on December 24, 1886, the City Council agreed to allow the society to build two bath-houses on municipal park property, and, in addition to this, gave in cash 108,000 marks toward the building cost, with the understanding that these bath-houses were to be the property of the society, built and conducted by it. The city, however, retained the proprietorship of the land and the right to purchase the bath-houses at prices agreed upon, to oversee all business details, and to assist in fixing the tariff of prices. At a meeting of the City Council this plan was vehemently attacked by some members, on the ground that such important establishments should be directly under the control of the city, and run at its expense. It was argued, on the other side, that this was only an experiment, and that, if the city took it into its own hands, this would require the appointment of new officials; that the society had already in its employ experienced men; that leaving this matter to the voluntary efforts of the public encouraged a general interest in sanitary affairs, and that, by this arrangement, 80,000 marks were saved to the municipality, the amount which the society offered to contribute to the building expenses. Moreover, the society gave every guaranty that the business would be properly conducted, and even left the municipality the right to acquire the full rights to the property at any time. It was finally agreed to consider these two bath-houses as the beginning of a system, and to confine the agreement between the magistracy and the society to these two bath-houses, leaving the extension of the system entirely in the hands of the magistracy. These two bath-houses were completed in 1887, and put into operation in the spring of 1888.

For the use of those who can afford to pay more, there are tub and shower baths of the first class, which are more luxuriously equipped. The price for a tub-bath is fixed at 50 pfennigs (12 cents), while the shower-bath costs only 25 pfennigs (6 cents). The greater part of the space is, however, given up to second-class baths, which, in spite of their cheapness—the prices are 25 pfennigs (6 cents) and 10 pfennigs (2½ cents), respectively, for tub and shower baths, inclusive of the use of soap and clean towels—are equipped with all the requisites to a healthful bath.

In the first business year, beginning March 12, 1888, the results were as follows:

Volksbade Oranienburger Vorstadt.—The total number of bathers was 84,105, of whom 62,296 were males and 21,809 females. Of the males, 43,324 took tub-baths and 18,972 shower-baths; of the females, 19,776 took tub-baths and 2,033 shower-baths.

Volksbad Alt-und Neu-Kölln.—The total number of bathers was 91,967, of whom 67,536 were males and 24,431 females. Of the

males, 43,443 took tub-baths, 23,909 shower-baths and 184 salt-baths; of the females, 22,319 took tub-baths, 1,932 shower-baths and 180 salt-baths.

The fact that, in spite of their cheaper price, the shower-baths were not more largely taken is, no doubt, due chiefly to their not being so well understood by the public. This seems more probable, as the shower-bath establishment erected at the central slaughter-house for the use of butchers enjoys great popularity.

The business results were also satisfactory for the first year; the receipts not only covered expenses, but paid a small interest on the capital invested. The municipal authorities are, therefore, disposed to extend the system under its own management. It is next intended to build two such bath-houses, one in the eastern part of the city and one in Moabit.

The extension of the municipal activity in this direction did not, in the period under report, prevent increased attention to river-baths. The first of these baths was built for males in 1850; the first for females was built in 1863. At the close of 1884 there were eight such bath-houses in operation, five for males and three for females. The patronage of these baths since the year 1880 has increased about 20,000 per annum. In the year 1888, in these municipal establishments, almost 700,000 baths were taken, and on warm days in June and July many persons had to be turned away.

On account of the great number of petitions received from individuals and societies, and especially from workmen's clubs, the City Council was obliged to regard the increase of the river bath-houses as a public necessity. In 1885, therefore, it was decided to increase systematically, year by year, the number of such establishments. Since then the following improvements have been made: In 1886, the area of the bath-house for males on the Nordhafen was increased to 1,412 square metres, and other extensions were made. In 1887, two bath-houses with swimming-basins were erected for males, each at a cost of 20,000 marks. Each of these has a water-surface area of 242.19 square metres, and have basins of 101.84 square metres. The latter are divided into two parts, for persons who can swim and those who cannot. By the erection in each of seventeen closable closets, accommodation is afforded to some of the visitors to undress and clothe themselves in private. For other visitors, fifty-eight closable clothes-wardrobes are provided. Furthermore, each basin has a springboard and a shower-bath room, with water supplied by the municipal water-works.

On account of these improvements in the new bath-houses, their patronage became so great that it was necessary to exclude boys under fourteen years of age and persons holding free bath-tickets from the Poor Commission, and to require such persons to go to the old bath-houses. The price was fixed at 15 and 10 pfennigs, respectively, with or without dressing-closets. Persons taking swimming-lessons pay one fee of three marks (72 cents) to the swimming-teacher. The acceptance of fees by employés is strictly forbidden. Monthly tickets can be had for 3 marks (72 cents), and season tickets for 10 marks (\$2.38). The holders of such tickets are entitled to one bath daily, and to the use of the shower-bath and dressing-closets so far as possible.

Furthermore, in 1887, but after the close of the bathing season, a new bath-house, with swimming-basin, was erected near the Schilling Bridge. This bath-house was intended for the alternate use of the sexes, and cost 11,000 marks. In the fall of 1888, the female bath-house on the Nordhafen, owing to impurities in the water, was removed to another part of this pond.

Several other bath-houses will be built so soon as the necessary consent of the river officials can be obtained.

The following table gives an idea of the business and financial results of the Berlin municipal river-baths:

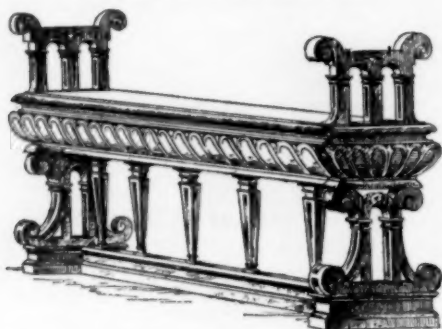
Year.	Number of bathers.			Number paying.		Receipts.	Expenses.	Deficit.
	Male.	Female.	Total.	Number	free.			
						Marks.	Marks.	Marks.
1882.....	296,833	133,370	430,203	203,157	227,046	10,157.85	11,487.38	1,329.53
1883.	363,013	161,589	524,602	259,212	265,390	12,900.60	19,743.95	6,783.35
1884.	369,239	183,587	552,826	265,698	287,128	13,284.90	16,749.45	3,464.55
1885.	396,428	200,167	596,595	285,443	310,152	14,272.15	20,437.42	6,165.27
1886.	479,508	208,853	688,361	335,419	352,942	16,770.95	26,292.50	9,521.55
1887.	449,466	186,650	636,116	312,789	323,327	16,656.45	26,998.47	10,342.02
1888.	365,012	158,004	523,616	255,356	268,260	17,130.07	26,463.00	9,332.93

The fact shown by the above table, that in the year 1886 the number of bathers was greater than in the two following years, notwithstanding that in 1888 there were four more bath-houses in operation than in 1886, was due to the summer of 1886 being exceptionally warm and favorable to the river-baths. The decrease in the patronage of the river-baths is also, perhaps, partially due to the increasing competition of the "Volksbadeanstalten."

ENGLISH MEMORIAL TO THE MAYFLOWER.—The County Council has decided to erect a memorial tablet on the Barbican Pier, Plymouth, Eng., to commemorate the departure of the Mayflower, and also to erect a pedestal of freedom in the fields near Plymouth, in memory of the battle fought there between the Roundheads and the Cavaliers.—*Exchange.*

¹Translated by the U. S. Consular Clerk, George H. Murphy and published with the Consular Reports by the United States Department of State.

NATIONAL AID TO ART.



Bench. From Havard's "Dictionnaire de l'Ameublement."

THE French Government is not only actually engaged in the development and fostering of the fine arts on its own account, but it is making a series of studies on the subject of the policy of other nations in respect to the encouragement of painting, sculpture, music, and the drama.

M. O. Fedière, for a long time attached to the Luxembourg Museum, in Paris, was recently dispatched by the French Minister of Public Instruction to make a careful study of the question of Government aid to art in Great Britain.

His official report is an interesting and seemingly accurate one, and I have appended a condensed translation of it.

M. Fedière explains in detail the British system of fostering the fine arts and indicates some of the salient points wherein it differs from the administration of the fine arts in France.

FRANCIS B. LOOMIS, Consul.

UNITED STATES CONSULATE,
St. Etienne, May 15, 1891.

THE FINE ARTS IN GREAT BRITAIN.

[Inclosure in Consul Loomis's report.—Translation.]

It is difficult, if not impossible, to establish a parallel between the English and French system of encouraging the fine arts by means of national aid. The French system, established immediately after the revolution, possesses a homogeneity and freedom vainly sought for in England, where the fine arts are subjected to the restrictions of certain traditions, some of which are obsolete, being, indeed, of mediæval origin. Furthermore, whereas in France the State claims all the institutions, the English Government abandons willingly everything that might be left to private enterprise. Consequently, in England there exists no minister of fine arts, nor a minister of public instruction, properly so called. This does not mean, however, that the English Government takes no interest in these institutions; but, on the contrary, art and education are the objects of special solicitude, and their fostering gives employment to a large number of persons. In order to control in a measure the development of the fine arts, since there is no special ministerial department, the plan of placing them under the control of a private committee is adopted. In this way there exists a committee forming a court of appeal called "the judicial committee of the private council," another of commerce styled "board of trade," and, finally, a committee which presides over education and the fine arts, to which the name of "committee of council on education" is given. The head of these committees is, officially, the president, but the real head is the vice-president of the council. All questions relating to education and the fine arts are referred to him. He is assisted by a central administration, sitting permanently in London. This administration is subdivided into two great sections or departments, of which one presides over education and the other over sciences and arts. This latter is called "the science and art department." This department has under its direction the elementary schools of sciences and art, the mining and geological schools, the South Kensington Museum, and certain other establishments which owe their existence to the Government. But the British Museum and the National Gallery enjoy a certain autonomy, and are controlled by special committees.

The rôle of the Government in respect to these institutions is limited to grants of money, which, however, are very insufficient. The expenses provided for by the budget of 1890-91 amount to £474,896, distributed as follows:

Central administration	£ 29,059
Salary of professors of sciences.....	113,072
Salary of professors of arts.....	47,432
Expenses common to both departments.....	60,907
Grants to students.....	58,912
Grants to museums.....	85,714
Grants to schools of science and art.....	78,800
Total.....	474,896

In this sum the amounts allotted to the British Museum and the National Gallery are not included, as well as to some other independent institutions, and consequently these subsidies may be added:

British Museum.....	£155,145
National Gallery.....	14,594
Gallery of National Portraits.....	2,209
Grant to Royal Academy of Music.....	500
Grant to Irish Academy.....	500
Total.....	173,948

The head of the department is an officer who bears the title of secretary, and whose salary amounts to £1,500 a year. The director of the arts division has £925, while there are 44 clerks receiving salaries amounting in the aggregate to £8,186.

This department regulates questions relative to (1) the teaching of fine arts (schools of fine arts, Roman school, school of design, etc.); (2) exhibition manufactories, purchase of pictures for the National Gallery, grants to theatres, etc.; (3) museums and historical monuments.

SCHOOL OF FINE ARTS.

The State, except in the case of primary artistic education, leaves to private initiative the care of forming painters, sculptors and musicians, and the only school is that of the Royal Academy, which is a private society.

The State gives no grants to theatres, nor does it organize any artistic exhibitions; but the importance of those undertaken by private societies each year has been such as to deserve the term of national institutions, the principal of which are the Royal Academy Exhibition, the Royal Society of Water-colors, the Institute of Water-colors, the British Society of Arts.

Each of these societies has two exhibitions yearly—one in winter, the other in summer. The society bears the expenses of its own exhibitions and receives a percentage on every picture sold. Besides these societies, there are commercial societies which organize with a good deal of success annual exhibitions, such as the Grosvenor Gallery and the New Gallery. Both of these societies have rendered good services to art in allowing artists of slight fame to expose their works.

None of these exhibitions give prizes, and the State does not buy the productions of living artists.

The Royal Academy possesses a fund for the purchase of modern pictures. This fund was placed at its disposal by the celebrated sculptor Chantrey, who in dying decided that his fortune, exceeding £100,000, should go to the academy after the decease of his widow, in order to buy each year a picture from an English or foreign artist, provided that the said picture was executed in England.

PRESERVATION OF WORKS OF ART.

In the case of museums, England need not be jealous of other countries. The National Gallery, the British Museum and the South Kensington Museum are too well known to require any comment of praise.

The British Museum.—The British Museum dates from the second half of the last century. About that time a doctor, Sir Henry Sloane, lived in London, and at his death he bequeathed to the State a rare collection of books, curiosities of a varied nature, and a whole roomful of natural history. He died in 1753, and the State accepted the gift, and Parliament passed an act authorizing the acquisition of this collection, as well as that of manuscripts formed by Robert Halley, and the library of Sir John Cotton.

A national collection was thus at once formed, but a place to put it in was required. A second time Parliament was appealed to, with the result that a lottery was organized to defray the expenses of the site of the present museum. From this moment gifts flowed in and legacies were left, so that in 1843 the museum had to be enlarged to its present proportions. The British Museum is divided into the following departments: (1) books, (2) plans and charts, (3) manuscripts, (4) oriental manuscripts, (5) designs and impressions, (6) Egyptian and Assyrian antiquities, (7) Roman and Grecian antiquities, (8) British and Middle-Age antiquities, (9) coins, medals and natural history. The museum is administered by a committee of fifty trustees, of whom one is appointed by the Queen.

Royal Academy of Arts.—The Royal Academy was founded within the reign of George III, in 1768. In the month of November of that year a number of artists addressed a petition to the King, asking his support for the creation of an institution to encourage art and design. A month later the King approved the petition by founding the Royal Academy, which from that time has been administered with increasing success. Its aim is to give gratuitously tuition in painting, design and architecture, and to organize an annual exhibition in London. Its revenue is derived solely from these exhibitions, which are much patronized by the public.

The society is composed of forty academicians, who elect amongst themselves each year a committee of ten for the control of the institution. Each member must, within six months after his election, present to the academy one of his productions. The members form the jury for the admission or refusal of works to their exhibitions and distribute no prizes. The only privilege which the exhibitor enjoys is that of free entry to the exhibition and to the lectures at the school. For the public the admission is one shilling.

The School of Art of the Royal Academy.—For the teaching of the fine arts properly called, there is in England but one school, that of the Royal Academy. This school was founded in 1768, and has a class for the study of antique models, a preliminary class of painting, a high class of painting, a class for the study of the nude, a class of sculpture from living models and a class of architecture. An art library is open to students, and each year a course of lectures is given by competent professors. During the first three years of study the students are obliged to follow these lectures.

Before being admitted to the school the candidate must furnish a specimen of his capabilities. The instruction given in the classes is absolutely gratuitous, the students being only asked to furnish what instruments they require.

The National Gallery.—The National Gallery was founded in 1824. In that year the Government bought, for the sum of £57,000, the collection of a rich banker, consisting of thirty-eight pictures by the old masters. This was the beginning of the superb museum so much valued to-day. Two years later Sir G. Beaumont presented to the gallery fifteen pictures of great value. The example was rapidly followed by others, and soon funds were voted by the Government for

the purchase of paintings, and, when these funds were insufficient, private persons came to the relief of the gallery. It was thus that a picture costing £55,000 desired for the gallery was obtained when the Government refused to offer more than £24,000. Three gentlemen promptly gave £10,000 each and the treasure was secured.

The National Gallery was at first situated in Pall Mall, but in 1828 the present building was constructed at a cost of £200,000 in Trafalgar Square.

The control of the gallery is in the hands of six trustees, who have under them a director with a salary of £1,000 a year, a secretary paid £875, and a staff of thirty-six curators and employés of different ranks.

The National Portrait Gallery.—This collection, which is installed in Bethnal Green, owes its origin to Lord Stanhope, who conceived the idea of assembling in one place the authentic portraits of the most distinguished persons of the century. Sovereigns, statesmen, generals, men of letters and artists figure in this gallery. The number of portraits exceeds eight hundred and eighty, of which more than half were presented by private persons.

The South Kensington Museum.—This museum is one of the largest in the world. It is well organized and lends out to provincial schools many subjects of natural history or works of art.

Theatres and Singing Schools.—No theatre in the United Kingdom receives a grant from the State, nor is there any conservatory of music. However, the Royal Academy of Music replaces advantageously a conservatory. It receives an annual grant from the Queen of £500. Students are required to pay £30 for the session of nine months.

Such is the information I was able to procure in prosecuting my inquiries, and by it may be seen that the English employés are much better paid than our own (French).

The salaries for corresponding services are from 75 to 100 per cent higher in England than in France. I find, also, that the English Government is powerfully seconded in its efforts by private subscriptions. It is to this latter source that England owes the most of its institutions of art, and it is to it that the country has recourse when a pecuniary effort is necessary. Another fact to be observed is that the administration of fine arts in England centres all its efforts in preserving works of art, paying but a secondary attention to education.

England gives facility to the art student to acquire the first notions of the subject, multiplies the models in the museums destined to form his tastes, but proceeds no further. The artist is obliged to shift for himself without the hope of receiving any decoration or pecuniary encouragement, which is the reverse of the system that obtains in France.



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

STAIRCASE HALL OF THE JOHN HANCOCK BUILDING, BOSTON, MASS. MR. W. G. PRESTON, ARCHITECT, BOSTON, MASS.

[Hello-chrome, issued with the International and Imperial Editions only.]

ANOTHER view taken in this hall was published in our issue for August 22, last.

THE SACKETT HOUSE AND WOOLSEY HOUSE, SACKETT'S HARBOR, N. Y. DRAWN BY MR. CLAUDE BRAGDON, ARCHITECT, ROCHESTER, N. Y.

SEE article elsewhere in this issue.

DETAILS OF OLD COLONIAL WORK, SACKETT'S HARBOR, N. Y. MEASURED AND DRAWN BY MR. CLAUDE F. BRAGDON, ARCHITECT, ROCHESTER, N. Y.

NEW COURT-HOUSE FOR CHESTER COUNTY, PA. MR. T. RONEY WILLIAMSON, ARCHITECT, PHILADELPHIA, PA.

THE "HILL-TON," NORTHUP PLACE, PORTLAND, OREGON. MR. I. HODGSON, JR., ARCHITECT, PORTLAND, OREGON.

MADISON BARRACKS.

[Additional Illustrations in the International Edition.]

HOUSE IN BERNHEIMER COURT, MUNICH, BAVARIA. HERE MARTIN DULFER, ARCHITECT.

[Gelatine Print.]

A GRILLE AT NANCY, FRANCE. AFTER A WATER-COLOR BY M. J. BERGER.

[Photogravure.]

THIS water-color was exhibited at the last Salon.

CLUSTERED COLUMN IN THE CLOISTER OF THE CATHEDRAL, MONREALE, SICILY.

[Gelatine Print, reversed.]

DRAWING-ROOM, 52A BERKELEY SQUARE, W., LONDON, ENG. MR. M. MACARTNEY, ARCHITECT.

HALL, 52A BERKELEY SQUARE, W., LONDON, ENG. MR. M. MACARTNEY, ARCHITECT.

ALL SAINTS', LEEK, ENG.: PAINTED DECORATIONS IN CHURCH. MR. G. C. HORSLEY, ARCHITECT.

HOUSE AT BEDFORD, ENG. MR. RICHARD LUND, ARCHITECT.

THIS house has been recently erected for Mr. W. H. Smith, manager of the Bedford Gasworks. It is built of red bricks, with Douling stone dressings, the roof being covered with Broseley tiles.

ANOTHER VIEW OF THE SAME.



AN INVENTOR'S QUICK WORK.—The invention of the Hotchkiss magazine rifle, now the standard rifle of the United States Navy, occurred under circumstances known until now to only a few of the Hotchkiss Company. The gun was invented by the late B. B. Hotchkiss in 1877. In that year Mr. Hotchkiss was en route from Vienna to Bucharest. He was accompanied by his wife. While on the train he fell into conversation with a Roumanian officer who had very pronounced views in favor of a magazine rifle. At that time, it should be remembered, there was no such thing as a magazine rifle in reality, at least not a military piece. Military men simply had ideas, and prophesied as to the future. The Roumanian officer argued the necessity for a magazine gun in a most forcible manner, and only discontinued his remarks when the train stopped at a station for dinner. Instead of rising, Mr. Hotchkiss complained of having no appetite, and requested of the Roumanian that he do him the honor of escorting Mrs. Hotchkiss to dinner. No sooner had the Roumanian left the car than Mr. Hotchkiss seized a newspaper lying on the seat, and in less than thirty minutes drew in detail the design of the present Hotchkiss magazine rifle. The paper, a copy of the Paris *Figaro*, is now in the office of the Hotchkiss Company in Paris, and on its margin are the complete detail drawings. Under the drawing is written: "This is a magazine rifle. Make it at once. B. B. H." Mr. Hotchkiss mailed the newspaper to the Paris works from the same station, as the wrapper still shows, and before the Roumanian and his wife had finished eating joined them at the table. In three months the rifle was put to test and won against all rivals. In designing the piece the details on the margin of the *Figaro* were rigidly adhered to. — *Artisan*.

A MEISSONIER EXHIBITION.—A letter has been received at the Treasury Department from Minister Roustan, of France, stating that a Committee, composed of the most prominent French artists, has decided to organize, in the spring of 1892 in Paris, an exhibition of the works of the late artist Meissonier, and that American owners of such works are to be approached for the purpose of requesting loans of pictures in their possession for the use of the exhibition. The Minister, in his communication, expressed the hope that the United States Government would allow the free entry on reimportation into the United States of such pictures by Meissonier as might be sent from this country to Paris for use at the exhibition. In replying to this letter, Acting Secretary Spaulding assures the Minister of the warm interest he feels in the proposed exhibition and of his readiness to promote in every practical way its success. Unfortunately, he says, he has failed to find in the law any authority for the remission of duties accruing upon importations of foreign productions, even when they have been previously imported upon payment of duty. He has no doubt, however, he says, that on a proper presentation of the matter, Congress would take such action as would meet the Minister's views. He suggests that works of art, imported as the permanent property of institutions established for the encouragement of art and not for sale, are admitted free. It is believed, he says, that some of the paintings of Meissonier are held in the United States by institutions of the character described, and a re-importation of them, under the law of October 1st, last, would be entitled to all the immunities enjoyed on the first importation — *Philadelphia Telegraph*.

MOVABLE WALLS FOR THEATRES.—Some years ago a Frenchman devised a kind of movable floor for theatres, so that in case of fire the audience should be bodily transferred to a position of safety. Recently another Frenchman has conceived the brilliant idea of movable walls. Three methods of carrying out the notion are proposed. One is that the walls, which are of two sheets of iron having the space between filled with cork, refuse or any light material that will not affect the

heat or sound injuriously, are suspended by cables running over pulleys fixed to the upper part of the building. A balance-weight is attached to each end of the chain, and the weight is connected with a windlass placed in the basement. In case of fire the windlass is put out of gear, and the wall descends by its own weight to the space provided for it in the ground. In the second alternative system, the walls of each story are mounted on hinges, and connected outside by cables and balance-weights communicating with a windlass. It is only necessary to ungear the windlass for the walls to descend like a drawbridge and resting on the balustrades, to form so many balconies from which the outer staircases reach the street. The third system, specially adapted for buildings with only one side free, allows the wall to move horizontally through grooves worked by roller and balance-weights, leaving an opening corresponding to its own width. Steam, electricity, or any other motive power can be used to work the windlass and the undergearing. — *Invention.*

SEMI-CESSATION OF WORK AT POMPEII. — The pecuniary straits of the Italian Government have compelled it to exercise a rigid economy in every direction, and the pinch is felt in artistic circles as well as elsewhere. Hitherto the sum of 43,000 lire has been allowed annually for the excavations at Pompeii, but, in the new zeal for retrenchment, this amount has been reduced to 8,000 lire, about \$1,000, which is wholly inadequate to the requirements of the case. Signor Bonghi has addressed a vigorous appeal to the Government, in which he says that this parsimony will compel the practical abandonment of the work. He points out that the funds obtained from admission-fees are insufficient to preserve the ruins already excavated from further decay, and dwells at length upon the disgrace which would fall upon Italy if she should permit these monuments of her past to perish. After describing the hardships which must inevitably follow the discharge of a number of skilled laborers, who have no other means of livelihood, and who have been especially trained in the work, he denounces the foolish extravagance shown in the expenditure of \$12,000 a short time ago for the useless gratification of a whim of the German Emperor. Even at the old rate, he says, the excavation of Pompeii could not be completed in a hundred years, and now it is stopped altogether. Not only this, but other excavations in Southern Italy must cease, wholly or in part, for lack of the money which the attractions of Pompeii helped to furnish. — *N. Y. Post.*

PECULIAR WATER-WORKS. — There are not many places in the world where "Adam's ale" is an expensive drink, but one of these places is the great Atacama Desert in South America. Until within a few years a gallon of water in this great desert cost \$2.50, and a drink for a mule cost 15 shillings. Not many years ago, a great sun-condenser, with 50,000 square feet of glass surface, was established at Carmen Alto, and was employed to distil fresh-water from the sea or salt-water. This structure was finally destroyed by a cyclone or whirlwind. A similar one on a smaller scale is now being profitably worked at Sierra Gordo, and the price has been lowered to about thirty cents for eight gallons. Most of the coast-towns and inland factories are now supplied by means of condensed steam, some of the condensers producing no less than twenty-five tons of good water for every ton of coal burned in the boilers. More recent schemes have been started for supplying the coast-towns with water by means of pipes running across the desert from springs at the foot of the mountains. Iquique, Taltal, Antofagasta, and Mollendo are supplied in this manner, and other similar aqueducts are being constructed. — *Exchange.*

THE LOWEST BIDDER. — The obligation to award contracts to the lowest bidder is the subject of a recent decision by the Supreme Court of Pennsylvania. The officials of a city advertised for proposals for constructing a certain public work, inserting the usual clause: "The right is reserved to accept or reject any and all bids as the best interests of the city may demand." All the bids received were rejected; but the lowest bidder sued for the contract, claiming that under the statute which requires contracts for public work to be awarded "to the lowest responsible bidder," he was entitled to the work. It was argued on behalf of the city that the advertisement was not an absolute and final call for proposals, such as the statute contemplates, but a provisional call, conditioned upon the decision of the proper authorities that the bids received were such as the best interests of the city demanded. The Supreme Court upheld this rather strained construction of the law and decided that the city officials had a right to reject all the bids. — *Engineering News.*

GREEK SCULPTORS' KNOWLEDGE OF THE HUMAN EYE. — Ernst Curtius, the renowned Greek scholar and archaeologist of the University of Berlin, has made an interesting discovery regarding the knowledge of the Greek sculptors. During the examination of a number of heads found in Greece, Curtius devoted much time to a study of the eye. On extending his observations to the eyes of perfect figures from the classical period he learned that the sculptors made considerable difference in the forms of the male and female eyes. While the eyes of the male were rounder and more arched, those of the females were longer and flatter. These observations agree with the measurements of anatomists to-day. The discovery that the Greeks were aware of this difference also will be valuable in determining the identity of many heads in the museums of the world. In numerous cases it has been impossible to say whether the heads have belonged to statues of men or statues of women. Professor Curtius will soon publish an accurate account of his observations. — *N. Y. Tribune.*

IMPORTING PHOTOGRAPHS THROUGH THE MAILS. — Mr. F. C. Beach has an article in the *American Amateur Photographer* on the recent Treasury ruling forbidding the importation of photographs by mail. From the correspondence and Treasury circulars he reproduces, it

appears that the primary aim was to prevent mail importations of lottery tickets. To effect this, resort was had to that section of the regulations of the Universal Postal Union which forbids the mailing of "any packets whatever, containing articles liable to customs duties." As "printed matter," lottery tickets were so liable, but so were photographs, it was held. However, a letter from the Superintendent of Foreign Mails contains the gratifying intimation that, in respect to photographs, the "annoyance, it is hoped, will soon be prevented by a restoration of the understanding previously held by the Treasury and Post-office Departments in regard to the execution of the 'Regulation governing the treatment of dutiable articles received in the mail from foreign countries,' concerning which correspondence is now in progress between the Secretary of the Treasury and the Postmaster-General." But the *American Architect* prints a letter from the Acting Secretary of the Treasury of later date than any of the correspondence cited by Mr. Beach, which expresses with some asperity the purpose of the Department to continue in its present course. — *N. Y. Evening Post.*

NO OBSERVATORY FOR MONT BLANC. — M. Imfeld, the Swiss engineer appointed to examine the summit of Mont Blanc for the proposed construction there of M. Jansen's observatory, has abandoned the work after cutting a shaft to a depth of twenty-six metres without finding the necessary rock for a foundation. In the opinion of M. Eiffel, it would be impracticable to construct an observatory if the snow and ice on the summit exceeded a depth of twelve metres. — *N. Y. Evening Post.*

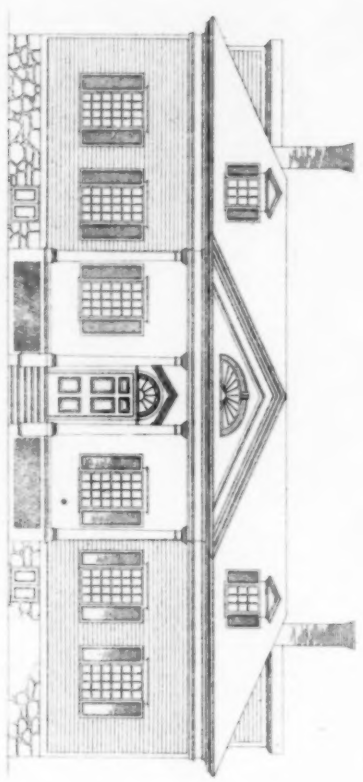
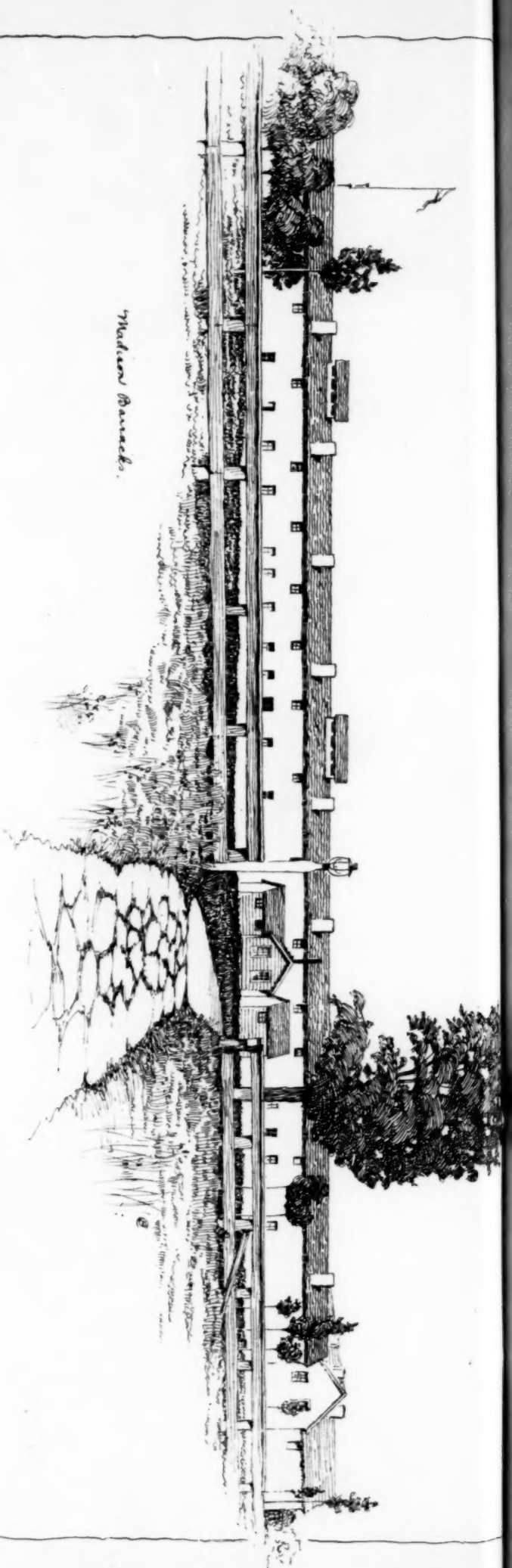
THE CATHEDRAL OF ST. FRONT. — The restoration, or rather the reconstruction, of the Cathedral of St. Front (Périgueux), has been completed. There remains nothing more to be done than to place on the belfry the angel which is to surmount that part of the monument.

DR. SCHLIEMANN'S LEGACY TO BERLIN. — The splendid collection of the relics of Troy left by the late Dr. H. Schliemann to the Museum of Art in Berlin, arrived recently in that city. The collection is much larger than was supposed. — *Exchange.*

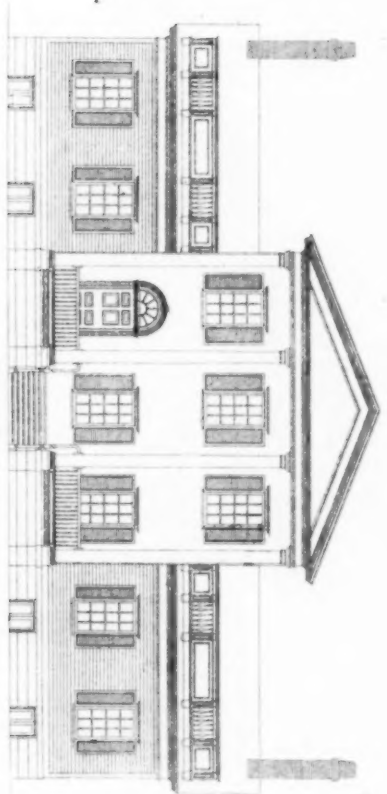
TRADE SURVEYS

ABOUT the only thing to be done at this time is to record the favorable indications visible on all sides. They are certainly not hard to discern, and they are unmistakable in their meanings. The foreign markets will absorb about all that has been allotted to them in our calculations. Over seventeen-million dollars in gold is coming or to come within a week or two. Liberal treasury disbursements continue. The contest for gold with the great banks of Europe and Great Britain on one side, and our Western farms on the other continues. The foreign banks have some eighty millions in gold that they are trying to clutch with miserly greed and fear for emergencies of war and politics. English financiers whose mental vision does not get beyond Threadneedle Street are foolishly predicting a monetary disturbance on this side in consequence of the confusion of silver money and the attempts to establish a double standard. They overlook the fundamental fact that a restricted supply of currency restrains energies and prevents the creation of wealth that would be created were there a larger available supply of money, even of alleged inferior money. The energies of the American people have been more or less restrained for years because of the supposed damage that would follow from a large volume of paper or silver money not immediately redeemable in gold at its face value. The masses of the people on this side would promptly accept silver dollars for services and products. It is this fact that theoretical financiers constantly overlook. While there are no symptoms of stringency, a great many practical men, and students of finance as well, keep in mind the possibilities of a stringency in the event of a general expansion of trade, such as now seems probable. Thousands of new and ill-advised business ventures would be made, production would be stimulated, obligations would be multiplied, and, with barely enough money to keep things square and safe now, the business of the country might then be transacted with considerably more friction and hot-boxes. Still there is no use in fighting possible dangers, which intervening circumstances might destroy. Bankers claim there is an abundance of money, which, as they measure necessities, is relatively true. Railway managers are generally pleased with the volume of business, and returns are improving. Rigidly economical management is adhered to. Land-speculation is maintained in some selected localities. Real estate in the larger cities is not lessening in value. Building operations this year will, in the aggregate, show a slight falling off. Much new railroad construction is talked of for the coming year. Within the last ten days, steel-rail sales foot up over one hundred thousand tons. Manufacturing activity is beginning to increase, but the utmost care will, no doubt, be manifested to avoid throwing too much on the market. Cars are being called for at the present time on, perhaps, one-fourth or the roads of the country. Extreme economy in expenditures in general management is likely to be followed by the presenting of unusually large requirements. This will make business active during the fall and winter months, especially if agricultural products shall continue to command good prices. The possibilities of a general European war are never lost sight of in all calculations. The smaller industries are holding their own, and they are on a more solid foundation than the larger. The outflow from the older to the newer States will receive an impetus from the favorable causes now at work in the West. In the New England States, labor is better employed than since last winter. Hardware manufacturers have controlled output, and stocks have to be made to fill orders. Textile manufacturers believe that the era of extremely narrow margins is about over. Large supplies of cotton have been lately purchased. Workers in iron and steel have a good winter's work in sight. The mining interests, with the exception of iron-ore interests, are quite prosperous. Anthracite production has been increased, and a swelling demand is showing itself in all markets. Great activity is displayed among the bituminous miners, and the development of new coal properties in the farther West and South is one of the interesting features of the time. Paper-makers find the distribution of stock about equal to production. House-furnishments, carpets, upholstery, etc., are bringing better prices because of the wiser control over production. Building material is low in price, and embarrassments have arisen among manufacturers in many instances.



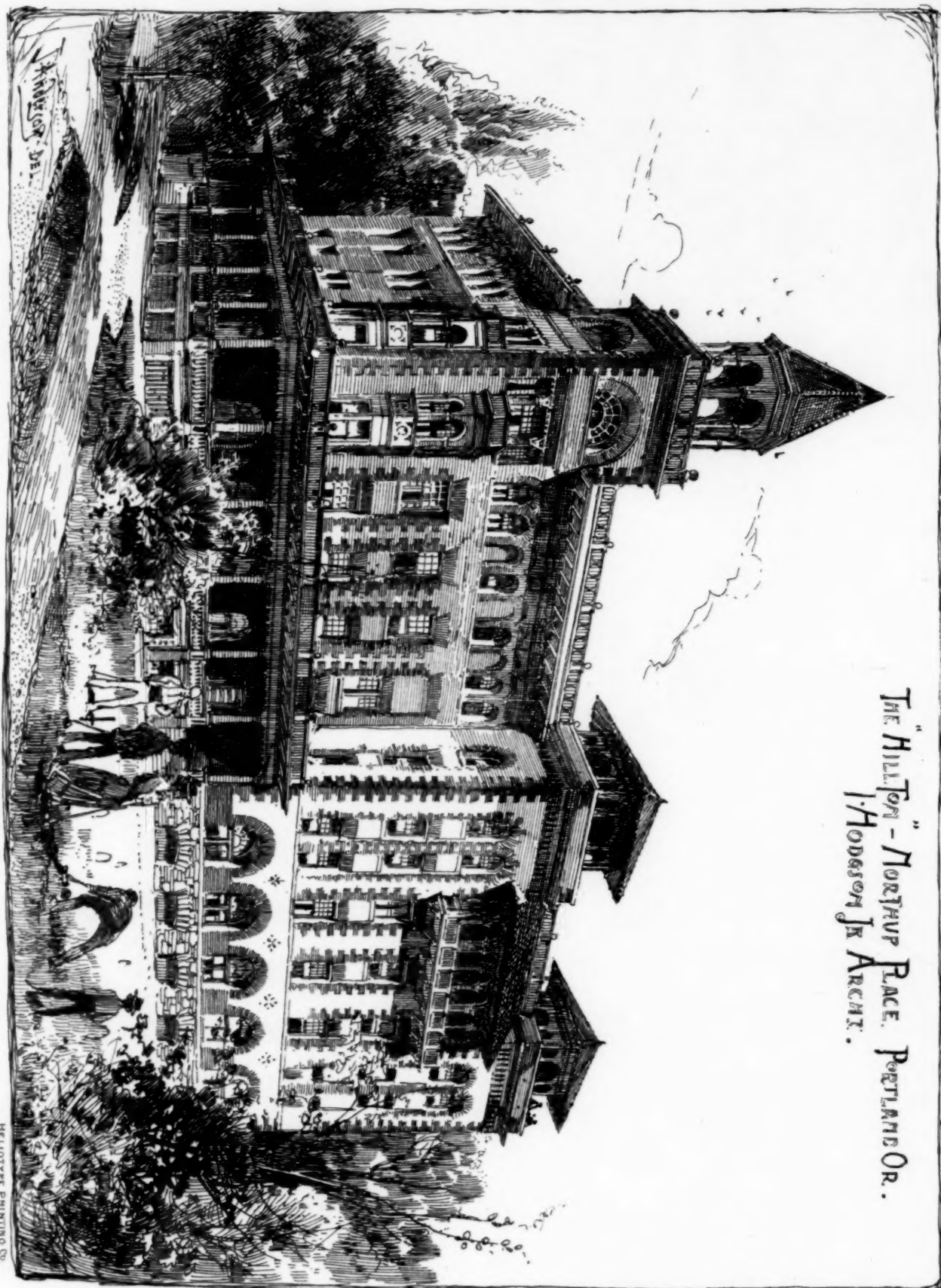


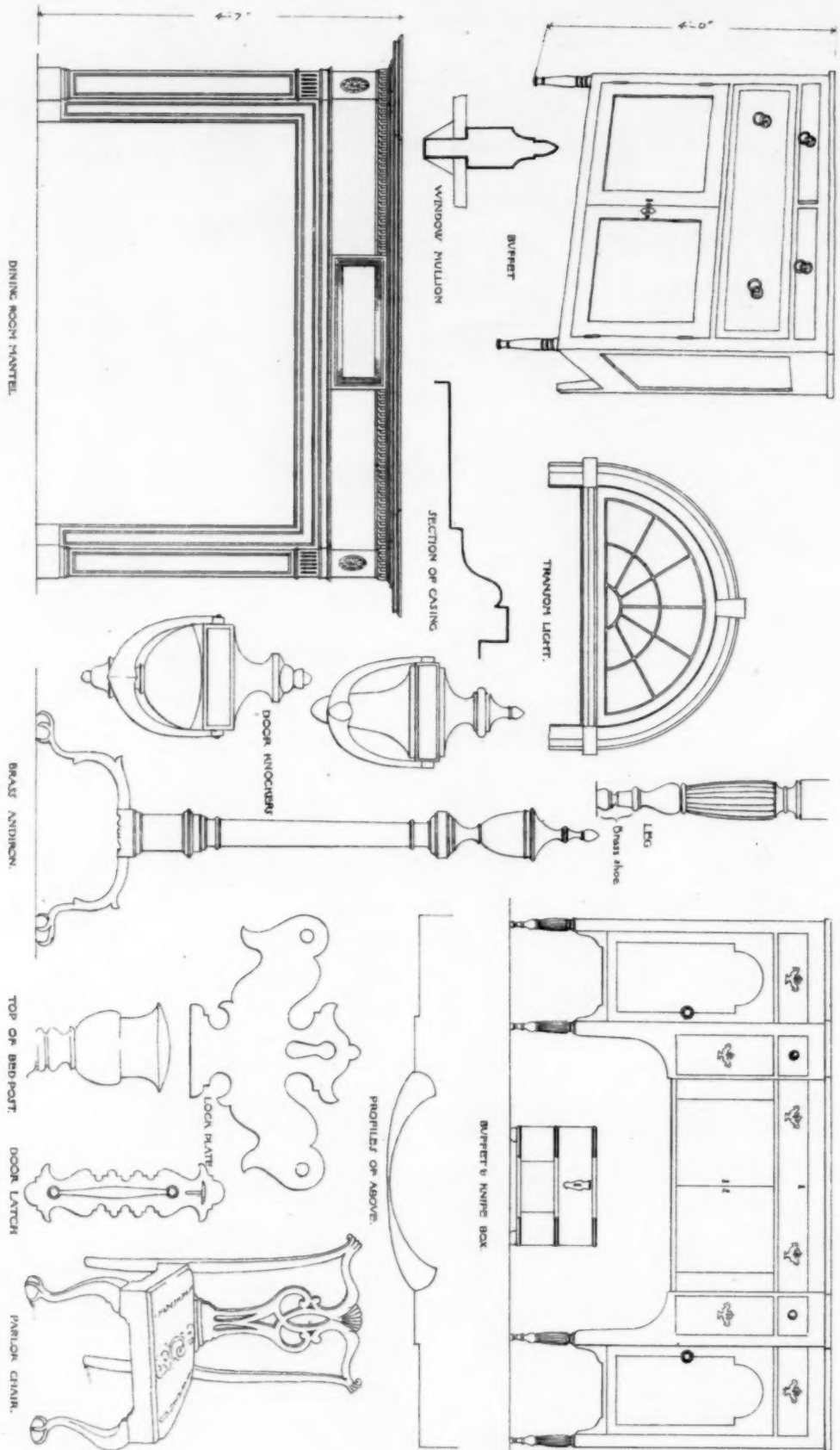
PROJECT ELEVATION OF THE KINGSLEY HOUSE
 1/2" = 1'-0"



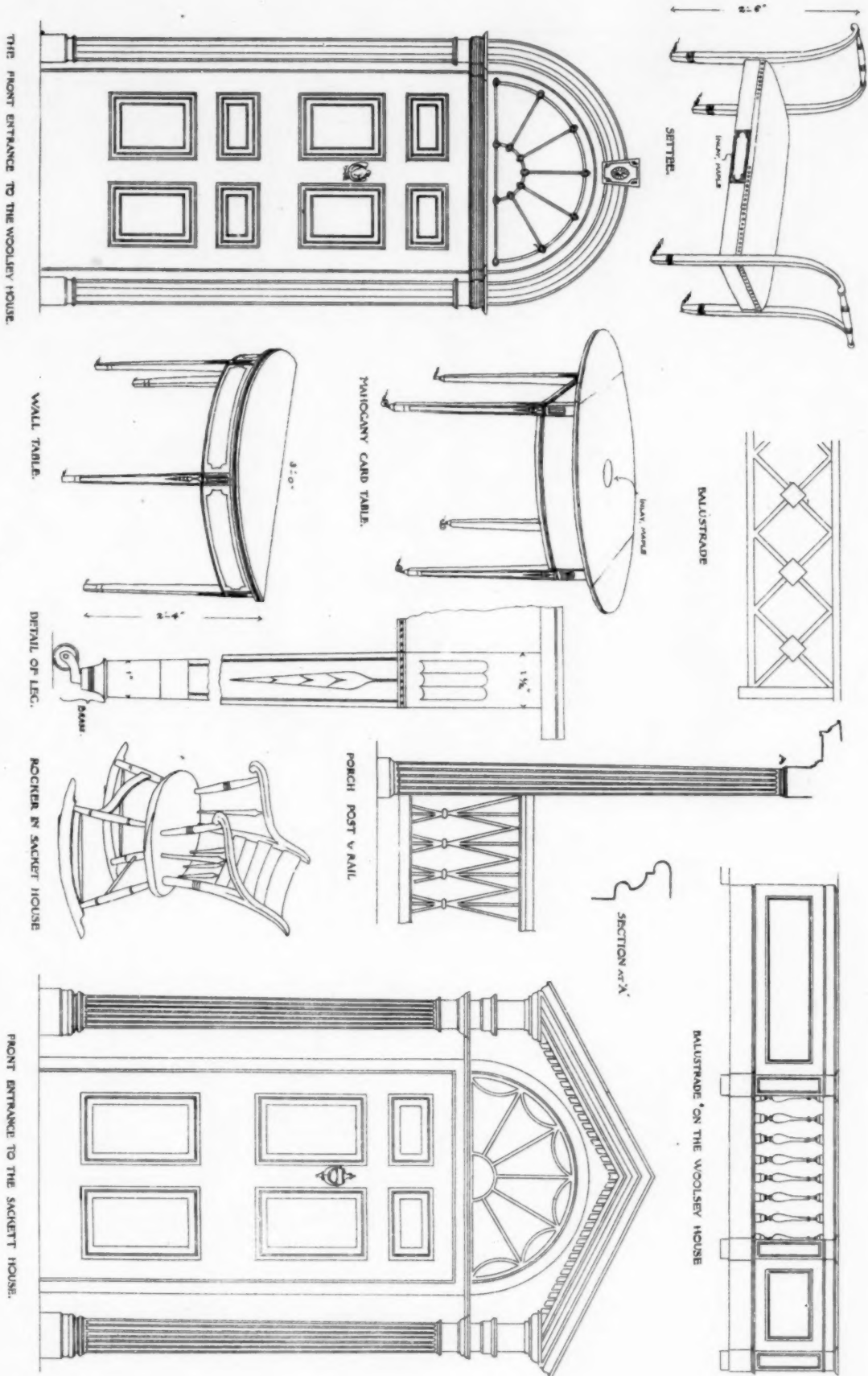
PROJECT ELEVATION OF THE KINGSLEY HOUSE
 1/2" = 1'-0"

THE "HILTON" - NORTHUP PLACE, PORTLAND, OR.
J. HODGESON JR. ARCHT.

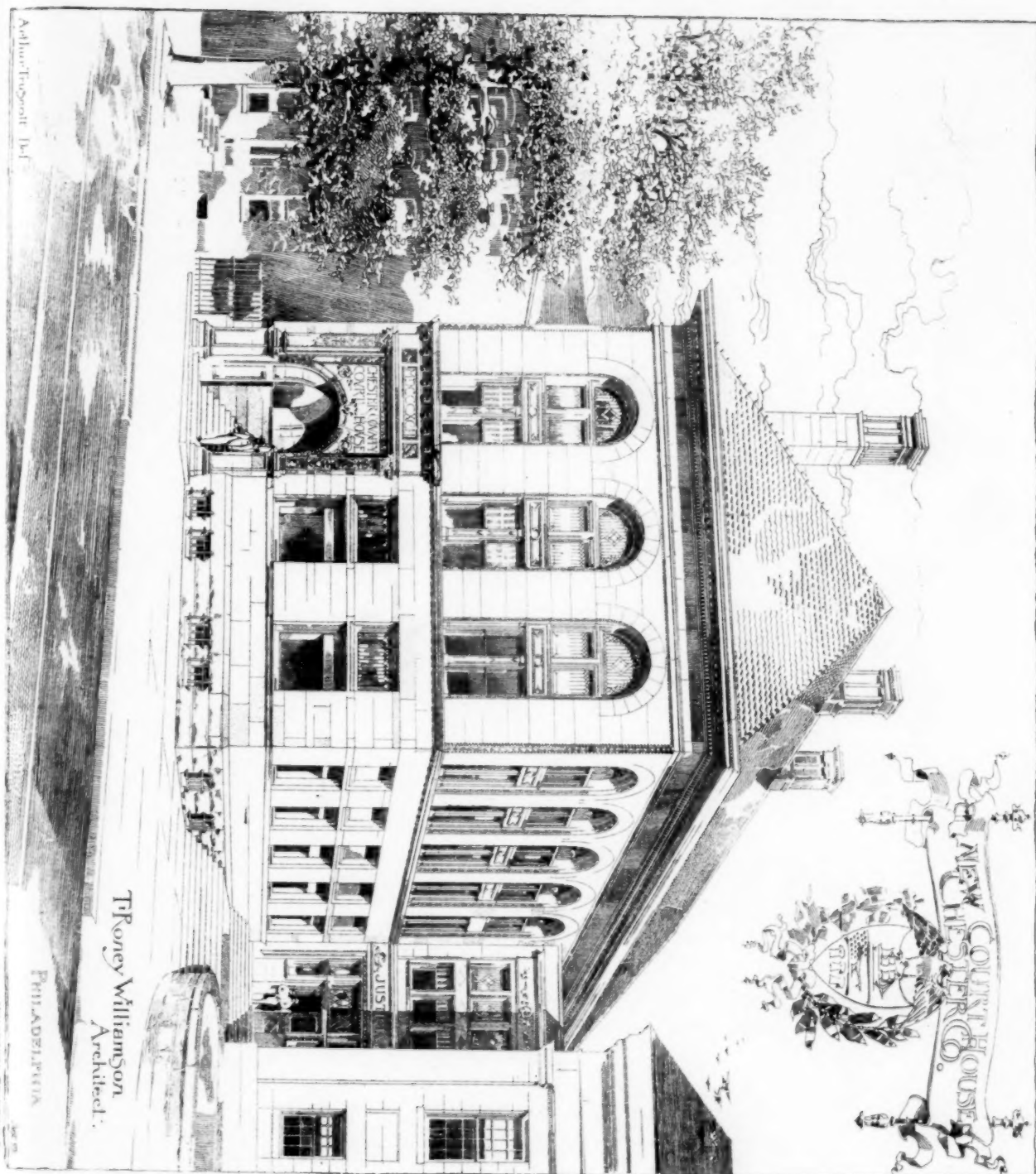




OLD COLONIAL WORK AT SACKET'S HARBOR.



OLD COLONIAL WORK AT SACKETT'S HARBOR.



No. 525

AMERICAN ARCHITECT AND BUILDING NEWS, Oct. 5, 1891.

COPYRIGHT 1891 BY TILGNER & CO.

OLD COLONIAL WORK AT SACKETT'S HARBOR.

