

FEB 5 1892
5-29 X 2

PRICE 15 CENTS.

FEBRUARY 6, 1892.

THE AMERICAN ARCHITECT
AND BUILDING NEWS

VOL. XXXV.

* REGULAR EDITION *

NO. 841.



ARCHITECTURE

ENGINEERING

DECORATION

TICKNOR & COMPANY

CONSTRUCTION

BOSTON MASS.

CONTENTS.

EDITORIAL SUMMARY.
ARCHITECT, OWNER AND BUILDER BEFORE THE LAW.—XVIII.
THE SEVENTH LEAGUE EXHIBITION.
EQUESTRIAN MONUMENTS.—XLVII.
OBITUARY: A. J. DAVIS, ARCHITECT.
INCANDESCENT GAS.
BOOKS AND PAPERS.
NOTES AND CLIPPINGS.
TRADE SURVEYS.

ILLUSTRATIONS.

THE BERKELEY SCHOOL, FORTY-FOURTH ST., NEW YORK.
[Gelatin Print issued with the International and Imperial Editions only.]
ACCEPTED DESIGN FOR ST. PAUL'S CHURCH, PATERSON, N. J.
HOUSE AT SAN FRANCISCO, CAL.
"CARLETON PLACE," WOODLAND PARK, WASH.

THE ROYAL PALACE, CARLOTTENBERG, PRUSSIA.
THE RHODE ISLAND STATE BUILDING FOR THE WORLD'S FAIR.

Additional Illustrations in the International Edition.

DOORWAY TO HOUSE OF W. K. VANDERBILT, ESQ., FIFTH AVE., NEW YORK. [Photogravure.]
THE NATIONAL GALLERY, BERLIN. [Gelatin Print.]
MAIN ENTRANCE TO THE HOTEL DE VILLE, BRUSSELS, BELGIUM. [Gelatin Print.]
A STREET IN SCHAFFHAUSEN.
HANOVER CHAPEL, REGENT ST., LONDON, W.
MEASURED DETAILS OF THE SAME.

THE SANITAS CLOSET

Is the quietest in action of any made, and is practically noiseless. The closet trap is exposed, and cannot become clogged or lose its water seal, while in form it is extremely simple, combined with attractiveness of design. Its form is also a protection against freezing.

The Sanitas Basin does away with the troublesome plug and chain by having a recessed outlet fitted with the Sanitas Waste and Lift. The discharge from this fills the pipes full bore, always keeping them clean.

The Sanitas Trap is the ideal protection against Syphonage, Back Pressure or Evaporation. This trap is used on Wash Basins, Sinks, Bath Tubs, etc. It requires no venting, and its certainty and safety have led to its adoption by the leading Sanitariums, Architects and Plumbers throughout the country.

The Sanitas Appliances embody *Science, Simplicity and Safety*, combined with the best material and workmanship, and are in accord with the most advanced professional opinions. SEND FOR SPECIAL SANITAS CATALOGUE.



SMITH & ANTHONY STOVE CO.,
Manufacturers and Proprietors of **SANITAS Appliances,**
48 to 54 Union St., BOSTON 54 Gold St., cor. Fulton St., NEW YORK. 219 Lake St., CHICAGO.

For a majority of the Architects in the United States and Canada we have executed important commissions, and they know that when the lighting of a Church, Hall or Public Building is placed in our hands no further thought or worry is necessary, as the work is always finished on time and the result satisfactory. To those from whom we have received no orders we ask that for the next building of that nature you have to light, you will allow us to submit an estimate for lighting the same.

Respectfully yours,

I. P. FRINK,
551 Pearl St., New York.

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXXV.

Copyright, 1892, by TICKNOR & COMPANY, Boston, Mass.

No. 841.

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

FEBRUARY 6, 1892.



SUMMARY:—

Electricity not to be taxed as a Manufactured Substance.—	
Death of A. N. Bailly, Architect.—The Peabody Expedition	
to explore Copan, Honduras.—Electric-lighting Here and	
Abroad.—Provisional Acceptance of Executed Work.—	
Responsibility of the Architect for Defective Work.—Obliga-	
tion to recover first from the Responsible Builder.—An	
Opportunity for a Bicycle Trip Abroad.	81
ARCHITECT, OWNER AND BUILDER BEFORE THE LAW.—XVIII.	83
THE SEVENTH LEAGUE EXHIBITION.	85
EQUESTRIAN MONUMENTS.—XLVII.	87
OBITUARY: A. J. DAVIS, ARCHITECT.	92
INCANDESCENT GAS.	93
BOOKS AND PAPERS.	94

ILLUSTRATIONS:—

The Berkeley School, West Forty-fourth St., New York, N. Y.	
—Accepted Design for St. Paul's Church, Paterson, N. J.—	
House at San Francisco, Cal.—"Carleton Place": House,	
Woodland Park, Wash.—The Royal Palace, Charlottenberg,	
Prussia.—The Rhode Island State Building for the World's	
Fair.	
Additional: Doorway to House of W. K. Vanderbilt, Esq.,	
Fifth Ave., New York, N. Y.—The National Gallery, Berlin.	
—Main Entrance to the Hôtel de Ville, Brussels, Belgium.—	
A Street in Schaffhausen.—Hanover Chapel, Regent St.,	
London.—Measured Details of the Same.	95
NOTES AND CLIPPINGS.	96
TRADE SURVEYS.	96

A CASE involving a curious technical point was decided by the New York Court of Appeals a few days ago. The Brush Electric Illuminating Company was, after a long struggle, lately compelled by the Controller to pay about ten thousand dollars for State taxes and penalties, which have been accumulating against it for several years. By statute, manufacturing companies are exempt from State taxation, and the Brush Company resisted payment on the ground that it was a manufacturing corporation. The question was decided by the lower courts, and by the Controller, adversely to the company, on the ground that it was not engaged in manufacturing any material thing, and was therefore not a manufacturing corporation within the meaning of the statute. The Court of Appeals, to which the case was finally carried, has now reversed the decision of the court below, and ordered judgment for the company, with costs in all courts, holding that the statute covers the manufacture of electricity, as well as that of more tangible objects, and that the corporation is therefore exempt from State taxation.

IN the death of the distinguished architect Antoine Nicolas Bailly, the profession in France loses one of its brightest ornaments. Fifty years ago, Bailly was one of the most brilliant young architects in Paris. He had been a pupil of Duban, and was extensively employed in constructing private houses, many of which still remain to attest his skill in planning and his taste in design. Among public buildings of note, his principal works are the Fontaine Molière, the Lycée Saint-Louis, the Tribunal of Commerce, and several religious edifices. He was a man of most amiable character, proud of his profession, as his profession was proud of him. He was for many years the President of the Société Centrale, and assiduous in attention to the duties of his position; and, among public marks of distinction, he held the rank of Officer of the Legion of Honor, and was a Member of the Institute of France.

THE New York Times gives an interesting account of the ruined city of Copan, on which the exploring expedition sent out from Harvard University is now at work. It seems that Copan is thought to be the oldest city in America. In 1576, at the time of the Spanish conquest, it was a lonely ruin, whose history was unknown, and whose inhabitants belonged to a race which had vanished so long before that not even a tradition remained in regard to them. Nevertheless, the richly wrought stones which lie in profusion over the site are covered with almost innumerable inscriptions, and some American Rawlinson or Champollion will probably, before long, read to us the detailed and exact account of at least one portion of the history of the mysterious race which carved them. There is something very fascinating about the archæ-

ology of Central America. We know that the people who lived there at some remote age were rich, prosperous, ingenious, and to a certain degree, cultivated; but of their character, religion, and relationships we know nothing whatever. The races who occupied the territory at the time of the Spanish conquest were probably totally different in language, habits, and ethnological character from the earlier inhabitants, of whom, indeed, they knew hardly more than we do; but what were the successive invasions which swept away the Aztecs and the earlier races, we cannot conjecture. The work of deciphering the inscriptions and comparing results will, of course, be rendered much more difficult by the fact that we have no traditions or history whatever as a basis on which to build theories. The translator of the cuneiform inscriptions had the help of the Biblical references to Assyria, and of various Greek lists of Assyrian kings, and other documents, but the person who undertakes to decipher the Honduras hieroglyphics must dive at once into the unknown, unless, indeed, the similarity which Dr. Le Plongeon is said to have discovered between inscriptions found in Yucatan and the ancient Chinese writing may give, indirectly, a clue to what appear to be the much older inscriptions of Honduras. So far as the officers of the Peabody Museum and the University are concerned, we may be sure that no pains will be spared to collect information first, and analyze it scientifically afterwards, and a successful result would bring great credit to American learning and skill.

BEFORE the Peabody expedition leaves the scene of its labors we hope it will be able to make us better acquainted than we are with the dwarf races of Central America. It is said that there exist, on an island on the coast, the remains of a considerable city of the dwarfs, built with cut stone, and showing a high degree of civilization in those who inhabited it. Among other things, it is said that one of the streets is spanned by what appears to have been a triumphal arch, but of such tiny dimensions that it could not have been used by men more than four feet high. Moreover, individuals of this tiny race are said by the Indians to exist still in the deepest recesses of the forest, but to be so timid that they are rarely seen. It ought not to be difficult to explore at least the little city, and it could hardly fail to furnish materials for a very pretty bit of fairy archæology. It is curious that the most interesting investigations remaining to be made in ethnology concern dwarfs. Quite recently, the members of what we believe was a French military expedition in North Africa were told of the existence of a tribe of little people, who lived in the almost inaccessible mountain valleys near the desert. The small men occasionally descended to the lowland, where they were treated with superstitious reverence by the natives. Who these pygmies may be, and what are their relationships with other tribes, how they live, and why the savage Africans should regard them with superstitious awe, are problems of great interest.

THE system of incandescent electric-lighting by means of high-tension alternating currents in the street pipes, which, by means of "transformers," produce in the house circuit an induced current of low tension, suitable for feeding incandescent lamps, is now the subject of a good deal of discussion in England. The system is very popular here, as the high-tension main currents may be conveyed by much smaller wires than the low-tension currents of the Edison system, for example, and the installation is, therefore, cheaper; and the light from the lamps is generally brighter, and often much steadier, than that from a direct system. By a recent judicial decision in London, however, transformers and high-tension currents are held to be dangerous nuisances, which are liable to be abated on the appeal of any one who conceives himself to be in peril from them; and an electrical engineer publishes a statement in the newspapers to the effect that the light from lamps fed by alternating currents and transformers is more trying to the eyes than that from direct-current lamps. It may be that direct-current lamps are better managed in England than in this country; but, although we have no great fancy for electric lighting, our own experience is that the lights from lamps installed on the transformer system is usually, though, of course, not necessarily, pleasanter to the eyes than that of

the direct-current lamps, and, so far as danger is concerned, it is very doubtful whether high-tension currents exhibit any more of the "highly inflammatory and combustible nature" which the London judge attributed to them than low-tension currents. We understand that there has been a material change in the opinion of experts within a few years as to the relative capacity for incendiarism of high-tension and low-tension currents, and it would be of interest and value to architects to have the latest information on the subject imparted to them.

A QUESTION of the legal rights of architects in France is answered in *La Construction Moderne*. A correspondent tells a story about a building which he has just superintended, beginning with some observations about his practice which are interesting. It seems that, in general, his first step, after the completion of a building, is to go through the form of a provisional acceptance in the presence of the owner and contractor. In this provisional acceptance the executed work is carefully compared with the drawings and specifications, and, perhaps, the notes made by the architect during the progress of the building, and a statement made of all variations and defects, divided into three categories. In the first category are comprised the defects and variations which diminish the solidity of the construction or of any of its parts. These the architect requires the contractor to make good within a certain limit of time. The second category comprises defects or variations which do not compromise the solidity of the building, and which, if the owner consents, but not otherwise, may be allowed to remain unrectified; but this is only on condition that the contractor shall submit to a deduction from his contract price of whatever the architect shall decide to be a proper allowance for them; and, if the builder does not wish to agree to these deductions, he must put the work in the exact condition required by the contract. The third category comprises defects not affecting the solidity of the building, which, in the opinion of the architect, the owner ought not to require the builder to change, but for which the builder must allow such a deduction from the contract price as the architect may determine, with the alternative of bringing them into conformity with the contract if he does not wish to accept the architect's deductions. Most architects of experience will agree that this is a very judicious proceeding—one which, by the way, is well worth remembering and imitating in this country—and it is not surprising that the inventor of it finds, as he says, that it has always obviated all disagreements, and that his clients have invariably accepted such allowances for errors and deviations as he advised.

IN one case, however, it seems that, having, as he says, too great confidence in the contractor, and the owner having taken possession of the house without waiting for the architect's acceptance, he simply examined and certified the accounts, without dreaming that any defective work had been done, for which a deduction should be made. The bills were paid, including that of the architect himself; and it was not until some time afterwards that the owner discovered serious defects. As usual in such cases, he attacked the architect with fury, threatening him with legal proceedings for having allowed him to pay the contractor's bill in full, without deduction for the less important defects, as well as for negligence in not having ordered the more serious ones to be rectified. The architect therefore asks the law editor of *La Construction Moderne* how far he can be held responsible for the owner's losses. The contractor, he says, is able to pay for having the worst defects remedied, with damages for the others; but he fears that the owner will say to himself that, the architect having been the one through whom his part of the transaction was carried out, he is entitled to recover indemnity from the architect for all the damage he has suffered, leaving the architect to get it back from the builder who committed the faults, if he can; and he wishes to know whether the law will sustain the owner in this position.

WITH us, the decisions on this point vary. It has been held in some courts that an owner, in such a case, is entitled to collect his damages either from the architect or the builder, at his pleasure, and this is the opinion which has been given us by a lawyer, as a general principle; but in some late and important cases the doctrine has been clearly laid down that the architect and builder have distinct prop-

erties and responsibilities, and that the architect cannot be held responsible for the builder's faults, but only for his own. If, through his fault in neglecting the supervision which he was bound to give, the owner should suffer loss, he can be required to make the loss good; but the fault of the architect cannot be legally inferred from the existence of defects in the building, and, to make him responsible for such defects, it must be shown that he did not use in his work the ordinary care and skill of architects, and that, if he had done so, he would be reasonably likely to have observed the defects in question, and could have had them remedied. There is an important difference between the two interpretations of the law, and it is needless to say that the efforts of the profession should be directed toward the general acceptance of the more modern and intelligent one; and these efforts may be assisted by reference to the French law, which is fixed and clear. According to this, as explained by M. Ravon, the Secretary of the Jurisprudence Committee of *La Construction Moderne*, "If the contractor has not executed his work according to the rules of his art, he must be sued by the proprietor before the civil tribunal to compel him to make his work good; if the case is urgent, a reference should be demanded, with the appointment of an expert, charged with the examination of the defective work, and the consideration of the means of making it good, and all damages, if any, caused by it: the architect may be sued, but his responsibility would not arise unless the contractor should be insolvent, so that a judgment against him would have no effect." Again, he says, "The responsibility of the architect is not engaged, in matters of bad workmanship, or the furnishing of defective materials, except so far as the proprietor is unable to obtain from the contractor indemnity for the injury which the bad workmanship and defective materials cause him. In matters of construction the architect is really and solely responsible only for his own work, that is, for the plans and specifications; if the plans are defective, or bad, the architect is responsible, to the exclusion of the contractor; but, in the same way that the architect is solely responsible for his own work, the contractor is solely responsible for his, and he alone answers for bad workmanship and defective materials. The architect cannot be attacked unless the contractor is unable to make the damage good." It will be observed that the principle of requiring the owner to attack the contractor first, and to exhaust his resources before making any claims on those of the architect, is quite unknown in our courts, so far as the relation of architects and builders is concerned, but there seems to be no reason why they should not be regarded, in respect to damages for bad work which might, with due diligence on the part of the architect, have been discovered and corrected, in the same way as the successive endorsers of a note. It is quite enough of a penalty to inflict upon an architect for negligence in superintending to hold that, if he fails to use reasonable care and skill in observing and correcting the builder's faults, he shall be compelled to pay for damage caused by them if the builder, on being first applied to, is unable to do so; and such a view of the law would enlist the influence of architects in favor of the employment of contractors known to be responsible and honest, who, under the present system, by which the owner is at liberty to enter into a contract with any irresponsible cheat, and force the architect to make good all the cheat's stealings, find themselves badly handicapped in the competition for business.

MR. JOHN CALVIN STEVENS, of Portland, Me., is engaged in promoting what should be an extremely enjoyable excursion for any architect who can stand a couple of months in the bicycle saddle. The excursion is to leave this side toward the end of July and, as the party is limited to twenty, any one desirous of joining it should apply at once. In order that the members may be free to sketch, sight-see and photograph, the services of an experienced conductor of European bicycle tours have been engaged, and Mr. Stevens expects to be able to make such terms for the bicycles needed by the party that they can be disposed of at the end of the trip at cost. The route is not absolutely determined, but with Boulogne-sur-mer for a point of departure the suggested line of travel lies through Abbeville, Amiens, Beauvais, Paris, Fontainebleau, Orleans, Blois, Amboise and its neighborhood, Tours and then back to Brittany—Bayeux, St. Malo, Havre. The time will not exceed three months, and the cost may be as little as \$300, or as much more as one chooses. For our part, we envy those who may make the trip.

ARCHITECT, OWNER & BUILDER BEFORE THE LAW.¹—XVIII.THE AUTHORITY OF THE ARCHITECT OVER THE BUILDER.—
AUTHORITY OF ARCHITECT DERIVED FROM CONTRACT.

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

It will have been observed that nearly all the controversies in regard to building contracts in which the architect is engaged turn upon the matter of the final certificate, and it is usually not until this is given that the builder and the architect come into collision. The reason for this is that the accounting for extra work, which involves the validity of orders, the reckoning of deductions for omissions, which the builder might have made good at any time during the progress of the building, but has failed to rectify, and the adjustment of claims for imperfect or unsatisfactory work, are commonly postponed until this time, and it is only then that questions begin to be raised as to the authority of the architect over the builder.

It is, perhaps, necessary to repeat that this authority is derived entirely from the contract between the builder and the owner, and is strictly limited by its terms, and that architects, as such, are far from being endowed with any inborn authority over builders, or any one else. It not unfrequently happens that an owner who has already made a contract with a builder, in which nothing was said about any architect, concludes that it would be better to have an architect look after the work, and engages one, in the expectation that he will be able to exercise something like the same control over it as one who had been appointed in the usual way, before the signing of the contract, and agreed to by both the parties to it.

The results of this misapprehension are sometimes annoying. Although the architect may be of service, if the contractor chooses to admit him into the building, in watching for defective workmanship, and pointing it out to the owner, he has no authority over the contractor unless the latter makes a supplementary agreement giving it to him, and his directions, except so far as he may give them in the owner's name, and by special authority from him, are no more to be regarded than those of any bystander.

If, however, the owner and the builder have agreed that a certain architect shall be empowered to do certain things, he is thereby authorized to do those things, but nothing more. For example, it is common for building contracts to provide, that the architect shall have power to order extras; but, if it does not so provide, he does not possess that right unless in the case of emergencies of construction, such as have been previously spoken of.

In a Connecticut case,² the contract between an owner and a builder provided that the contractor should build a house according to plans and specifications made by a certain architect named Easton, and under his superintendence and to his acceptance. The owner, Goodman, reserved the right to order extras or alterations, but the contract did not say that Easton

EXTRAS ORDERED BY ARCHITECT.

should be entitled to do so. During the progress of the work Easton ordered various alterations and additions, which the builder, Smith, carried out. The building was delayed by these extra works beyond the contract time of completion. Smith, the contractor, at Goodman's request, showed him, before the house was done, a bill of extras to date. Goodman did not say that he had not ordered them, and more extras were ordered before the house was done.

Smith failed, and his assignee claimed payment for the extra work on the house. Goodman paid for some extra work that he had himself ordered, but refused to pay for the rest, saying that it was ordered without his knowledge or consent, and demanded forfeiture, according to the contract, for the delay in the completion of the house beyond the agreed time, although the delay was rendered necessary by reason of the extra work which Easton had ordered. The controversy was brought to the Supreme Court, which decided that Easton was not authorized to order extra work, and that, when Smith did it at his order, he assumed the risk of the ratification of the order by Goodman. The court said that the fact that Goodman received in silence a statement of extra work did not prevent him from insisting on the contract, for at that time the extra work had been done, and could not be removed, so that Smith was no worse off through Goodman's failure to object than he would have been otherwise.

In England, where a contractor varied from the plans and specifications by order of the architect, and was sued for damages by the owner for having varied from the contract, the defence was set up that, as the orders were given by the plaintiff's architect, the builder was not liable for damages for following them. The Court of Exchequer³ held that this defence was bad, as the architect was not shown to have been the owner's agent to bind him by any deviation from the drawings.

Even where the architect is authorized by the contract to give orders, they must be given in the manner that the contract requires, and, if the contractor follows any directions given by the architect in any other manner, he does so at the risk of having them repudiated by the person who is to pay for the work. It is sometimes held that the owner, where the contract provides that orders for extras shall only be given in writing, may give oral orders, and that he shall be held to have waived, by an implied supplementary agreement, the provisions of the contract, and shall be bound to pay for the work done in pursuance of such oral orders, on the ground, as stated by the New York Supreme Court in a particular case,⁴ that "it was competent for him (the owner) to waive the provision requiring a written order, and the waiver might be oral"; but the architect, not being a party to the contract, has no power to waive, or agree to waive, anything in it. On the same principle, the architect has no authority to vary the contract, or to give any orders inconsistent with it, and a builder who executes such orders does so at his own risk.

Naturally, where a builder finds, at the completion of the work, that some of the items which he has charged as extra will not be allowed, for the reason that they were not ordered in the way provided by the contract, he endeavors to show that he had received in some way such instructions as would be equivalent to the kind of order required by the agreement, or that the informal order had been so ratified subsequently as to have acquired the same force as if it had been given properly in the first place.

In cases where the irregular order was given by the owner, this may sometimes be done, as will be shown later by several examples; but it is much more difficult to persuade a court that an informal order from the architect should be regarded as having the force of one issued in accordance with the contract. The contractors for an iron building in England,⁵ who had agreed to do all the work, in accordance with the drawings and specification, for a fixed sum, went to the engineer who designed the building, and told him that it would be impossible to cast the "trough" or box girders so light as the drawings showed them. They were told that they might cast them much heavier, and, in the certificates for interim payments, the engineer allowed for the extra weight of iron so used. On adjusting the accounts at the completion of the building, the value of the extra iron was added to the amount of the contract. The contract provided that no additions or alterations should be made without the written order of the engineer; but the contractors claimed that the written certificates of the engineer, given after the extra work was done, but approving the charges made from time to time for it, were equivalent to the orders contemplated by the agreement. The court held that the certificates were not written orders, and that the claim of the contractors was therefore excluded by the terms of their agreement.

¹ Continued from No. 839, page 55.² Starkweather vs. Goodman, 48 Conn. 101.³ Cooper vs. Langdon, 9 M. & W. 60.⁴ Smith vs. Gugerty, 4 Barb. 614.⁵ Tharsis Sulphur Co. vs. McElroy, 3 L. R. App. 1040.

VARIATION BETWEEN DETAIL AND GENERAL DRAWINGS.

It often happens that, as the work progresses, and the design becomes developed into detail, working-drawings are sent which differ somewhat from the plans at a smaller scale which have served for estimating, and have been accepted as forming part of the contract. In such cases, if the work shown on the new detail drawings is more complicated or expensive than that which was contemplated by the contract drawings, a question frequently arises, particularly at the completion of the work, when the builder counts up his profits, whether an extra price cannot be recovered for executing the work in accordance with these more elaborate designs, instead of according to the simpler ones shown in the contract drawings.

The answer to this question is given differently under varying circumstances, and by different courts.

DRAWINGS AS WRITTEN ORDERS.

It has been held in England, that where the contract provided that orders for variations from the contract might be given by the architect, but should not be valid unless given in writing, detail drawings, varying from the contract plans, were not to be regarded as written orders unless they were signed by the architect.

In our courts, the law appears to be rather uncertain. A contractor in New Jersey² built a house from plans furnished by an architect, and under a contract and specifications. The architect furnished working-drawings for the vestibule doors, which varied from the specification, and the contractor made them according to the working-drawings. When they were brought to the house, the owner saw them, and objected to them, saying that they were not in accordance with the specification, and refused to accept or pay for them, and required that doors should be made according to the plans and specification. The contractor changed the doors, in accordance with the original agreement, and they were accepted and paid for under the contract, but the owner refused to pay anything for the doors which had been made from the architect's detail drawings, or for having them altered. The builder sued, and the judge of the District Court held that the architect was the agent of the defendant for the purpose of directing the work which was done by the plaintiff, and that the plans given by the architect to the plaintiff being erroneous, and causing him additional expense in making the doors, the defendant became liable to the plaintiff for the charge for alterations necessary to make the doors correspond to the requirements of the contract and specifications.

The case was appealed to the Supreme Court, which confirmed this view, saying, "Both the plaintiff and defendant are 'innocent, but the defendant has put his agent in a position to 'injure the plaintiff, and he must pay for it.'"

It does not appear, in this case, whether the contract provided that no changes from the contract should be made by the architect unless ordered in writing; and it would not be safe to presume too far upon the application of this doctrine.

In another New Jersey case,³ decided some years later, a contractor named Condon had agreed to build a police-station-house for a certain sum. At the completion of the building, Condon claimed \$700 for extra work, partly for additions and alterations, and partly for work done on account of mistakes of the architect. The contract provided that all alterations and additions should be specified in writing, and approved by the committee on public buildings. There appeared to have been a plan or drawing of the principal addition and alteration; but the court held that this was "not a compliance with the provision of the contract." The extra work rendered necessary by the mistakes of the architect was done in one of the alterations. The court said that "none of the additions or alterations 'were specified in writing within the meaning of the contract.'"

In actual practice, as it is impossible to show, at the small scale of the contract drawings, all the detail which would appear on the working-drawings, persons familiar with architects' plans always infer, on examining the general drawings, that a certain amount of further detail will be shown later at a larger scale, and it would be quite unfair for the builder, at the completion of the work, to be allowed to exhibit the detail drawings which had been made by the architect, and, as he supposed, accepted by the builder as simply the natural development of the design shown at a smaller scale on the contract

drawings, to a jury, and recover whatever they might think fit to allow him for what they considered to be the discrepancy between the two representations of the same thing. This point has also been recognized by the courts. In an Illinois case,⁴ it was held that, "if the detail drawings, when received, 'show work differing from the contract, or unusual, the contractor should make objection before doing the work.'"

A Massachusetts decision carries the same doctrine very far, and may, perhaps, best be here given at length, although it involves other questions as well as this.

A contractor named Stuart⁵ agreed in writing with the City of Cambridge, for a given sum "to provide all materials and perform all labor required in the erection of a public building on a certain parcel of land, according to plans, drawings and accompanying mason's specifications, prepared by a certain architect, and such other drawings and detail explanations as might be considered necessary for the progress and completion of the building, according to the true intent and meaning thereof." The agreement also provided that "in case any particulars should be deficient or not clearly shown by the plans, or expressed in the specifications, the contractor should carry out the general design, as directed by a certain committee and the architect, in as thorough manner as if the same were shown and fully expressed; that it should be lawful for the committee or architect to direct in writing any additions to or deviations from the plans and specifications, and in such case such sums of money should be added to or deducted from the agreed price, as the parties to the agreement should judge the increase or diminution to be worth; that no alterations or additions should be paid for unless so directed in writing."

The specifications provided that the contractor should "remove the earth from the area of the lot to be covered by the building to the requisite length, breadth and depth for the basement, walls, foundations, etc.; that the exterior basement foundation walls should be constructed of large, flat blue-stone, to be faced upon both sides, and laid solid in and pointed on both sides with mortar; that the earth beneath the walls should be thoroughly tamped and puddled, and the bottom course firmly bedded upon it; that all the basement walls should commence fourteen inches, at least, below the basement floor, and as much deeper as necessary, to guarantee a firm and solid foundation, the walls to be of the thickness and construction indicated by the drawings; that the contractor should do any and all other masonry necessary to fully finish and complete all parts of the building, according to the true intent and meaning of the plans, drawings and specifications, whether particularly therein described or not."

PILING NOT SHOWN ON PLANS.

The plans showed a section of the foundation walls fourteen inches below the basement floor, and no more, and did not indicate any piles, nor were any mentioned in the specifications. In excavating for the foundations, the soil was found to be of such a character as to require, in the opinion of the architect, piles to be driven in order to secure a firm foundation for a part of the walls. The architect accordingly furnished piling plans, directed the contractor to do the work, and orally promised him that he should be paid for it. "Stuart drove the piles, cut them off, placed coping (capping) stones on them, and rubble-stones on the coping-stones up to the line of the foundation walls, as shown on the plans."

On the completion of the building, the city refused to pay for the piling and the extra stonework, and Stuart brought suit, but was defeated. The judge in the court where the case was first tried ruled that, by the contract and specifications, Stuart was bound to insure a safe foundation for the proposed building; that the defendant (the city of Cambridge) might require him to go to any depth necessary for that purpose; that, if it were necessary to drive piles to secure such a result, then the plaintiff was bound to drive piles as part of his contract, and was not entitled to recover any extra compensation therefore.

Stuart offered parol evidence that he made his estimate for the cost of the work, based on the showing of a section which required a depth for the foundation walls of only fourteen inches below the basement floor, and that other persons in the same business were accustomed to make estimates in a similar manner. This evidence was ruled out as incompetent.

The Supreme Court sustained the decision of the court below

¹ Myers vs. Sarl, 30 L. J. Q. B. 9.

² Guerin vs. Rodwell, 8 Vr. 71.

³ Condon vs. Jersey City, 14 Vr. 452.

⁴ Trustees vs. Platt, 5 Bradw. 567.

⁵ Stuart vs. Cambridge, 125 Mass. 102.

in all these points. It said that "by a fair construction of this contract, the plaintiffs agreed to do all the work necessary to secure a solid foundation. They took the risk of its being necessary to drive piles in order to secure such foundation. The ruling of the Superior Court as to the construction of the contract was therefore correct."

As to the architect's parol order and promise, the court said, referring to the clause in the contract which provided that no alterations or additions should be paid for unless so directed in writing, "No evidence was offered of any waiver of this provision by the defendant, or of any authority in the architect to waive it." "This clause was intended to protect the defendant against claims for extra work under alleged oral directions or contracts. If the evidence offered can be construed to show an oral promise by the architect, founded upon a sufficient consideration, to pay for the work sued for as extra work, it was made without authority, and is not binding upon the defendant."

There was a clause in the contract which said, "And it shall be lawful for the said committee or architect at all times to direct in writing any additions to or deviations from the plans and specifications aforesaid," etc.

Stuart's counsel does not appear to have brought up the point directly whether the piling-plan was not equivalent to an order in writing, and none of the judges mentioned it, but it is clear that they considered the order to be an oral one. This

DRAWINGS NOT EQUIVALENT TO WRITTEN ORDER IN MASSACHUSETTS.

decision does not appear to have been overruled or questioned, so that drawings may be definitely regarded as not being equivalent to written orders in Massachusetts.

Where, as occasionally happens, there is a discrepancy between the drawings and specifications, or between the drawings themselves, there are some differences of opinion among

SPECIFICATION CONTROLS DRAWINGS.

the courts as to which should be held to be of the greater authority. In general, however, it seems to be the rule that the specification controls the drawings, and that a detail drawing is of more authority than a small scale drawing of the same thing, while the contract takes precedence of them all. Where exceptions have been made to the rule, they seem to have depended upon special circumstances.

To take first an example¹ illustrating the rule:

A specification for an armory in Massachusetts called for "vaulted walls," "to be bound across by turning headers"; and another clause required the mason-work to be completed "in a good and workmanlike manner." Under the contract, the work was to be done "in all respects according to the plans and specifications furnished by the architects."

The plan furnished showed the walls in horizontal section, shaded uniformly in red, sixteen inches thick, with no indication of any vault or hollow space in them. The contractor soon abandoned his job, but not until after sub-contracts had been made for a part of the work, and in a suit concerning one of these sub-contracts a court was called upon to decide what the plans and specifications meant. The defendant in the case offered the testimony of an architect and builder, who said that in his opinion the contract called for a wall of sixteen inches, exclusive of the vault, which would be two inches, so that the whole thickness of the wall would be eighteen inches; and that it would be impracticable and unsafe to build a sixteen-inch wall with a vault. The court rejected this evidence, and ruled that by the contract the walls were to be only sixteen inches thick, including the vault.

The case was appealed to the Supreme Court, which approved this ruling, and said, "The party for whom the work is done is to determine as to the character of the work he requires, and, if done according to contract, he must take the risk of its being practicable and safe." As to the discrepancy between the plan and the specification, the court said:

"But as between the positive requirement of a written clause in the contract, and a plan referred to, which, though perfect in other respects, shows an omission to indicate thereon this single matter of detail, there can be no doubt that the written clause must control the mere implication derived from the omission in the plan. This is in analogy to the rule by which, when there is discrepancy between the written and

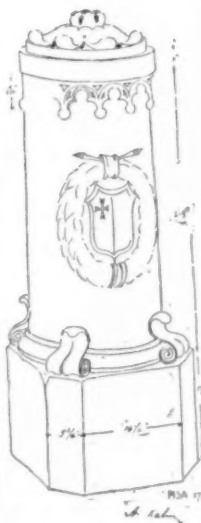
"printed portions of a contract, the former will prevail over the latter."

On the other hand, the District of Columbia,² through its officers, once made a proposal for finishing a sewer, saying, "the size and manner of construction to be the same as that of the portion of the same sewer" already constructed. The proposal was immediately accepted, and a few days later a written contract was entered into. Before the work was commenced, the engineer furnished a working-drawing, showing construction similar to that of the existing portion; and 680 feet had been built, without objection, when the form of the District Government was changed, and a new engineer appointed. The new engineer examined the work, and found that the skewbacks, like those of the existing portion, and like the drawing, were being built of rubble, while the written contract required them to be of large cut blocks of granite. He was told that to make them of cut granite would cause considerable delay, and he said he would consent to having them built of brick, but should make a deduction in the price; but named no sum. When 4,000 feet or so had been completed, the contractors applied for a payment. The engineer, Lieutenant Hoxie, made a statement of the deviations from the specification, and recommended a deduction from the contract price of \$8.94 per lineal foot of the sewer, amounting to \$35,436.49, on account of them. The account was paid, with this deduction, and the contractors sued for the balance. The case was tried in the Supreme Court of the United States, which held that the contractors were entitled to recover it, saying that, "When, in the performance of a written contract, both parties put a practical construction upon it which is at variance with its literal meaning, that construction will prevail over the language of the contract."

It is worth remarking, although the point was not brought up, that, in the light of decisions previously quoted, Lieutenant Hoxie incurred a great risk in ordering the skewbacks built of brick. However it might be decided as to the relative authority of the drawings and specifications, there was no doubt that neither of them indicated the use of brick; and, unless Lieutenant Hoxie was clothed with the power of setting aside the contract altogether, he could not legally authorize, in so important a part of the construction, the use of a material which was not mentioned in any part of the specifications, or indicated on the drawings, as acceptable for that purpose.

[To be continued.]

THE SEVENTH LEAGUE EXHIBITION.



THE League Exhibition has come to be one of the most important events of the year to the profession, but it has not until this year shown much sign of being a matter of great interest to the public. As a rule, the rooms have hitherto been very sparsely occupied by architects and students, with here and there an amateur or a critic, and generally a few ladies, some of them artists or art-students, but more of them evidently interested in the exhibition only for the sake of their masculine relatives or friends. This year the case is quite different; actual groups of spectators may be observed moving from one part to another of the rooms, led, in some instances, by an interested and enthusiastic guide; while a lady, wonderful to say, may be seen, and heard, criticising the more important drawings with excellent judgment, so far as her remarks reach our ears, and followed by a cluster of nearly a dozen other ladies, all, apparently, eager to learn something about the once-neglected art.

At the time of our visit, which was an extended one, there were from fifty to sixty persons present nearly all the time, and of these the bric-a-brac room, which was, perhaps, more interesting this year than ever before, attracted no more than its proper proportion.

No doubt, this astonishing development of public taste for architectural drawing is to be attributed in part to the fact that the final drawings for the Cathedral were shown, as well as many of those for the Chicago Exhibition buildings, and the managers of the exhibition were business-like enough to make these attractions known by placards outside the door; but the visitors did not confine their attention by any means to these, and the moral may be drawn, for

¹ Smith vs. Flanders, 129 Mass. 322.

² Dist. Columbia vs. Gallaher, 124 U. S. 505.

the benefit of the directors of future exhibitions, that people who have been induced to come into them to see something of merely accidental interest are likely to stay to look at other work for its own sake, to the advantage both of the architects and the public.

Beginning at the beginning, as we generally do in these exhibitions, we find large drawings of the new Bloomingdale Asylum, by Mr. Lord, and some pretty, but rather slight sketches, by Mr. Thorp, Mr. Brooks, Mr. Aldrich and others, but nothing of special interest until we arrive at No. 11, which is a rather mediocre drawing of a pretty and picturesque design for a house on Long Island Sound, by Mr. Wilson Eyre, Jr., of Philadelphia. The sketch includes, as we wish all sketches might, a clever little plan. No. 13 is a nice drawing of a picturesque Colonial house by Mr. E. T. Hapgood, rather more successful than most designs of the sort; and then follow, interrupted only by a perspective of the Ames Building, which is too well known to need mention, a lot of sketches of very unequal merit. Mr. W. B. Chambers has a frame of what the catalogue calls "travelling sketches," as to which we find in our note-book the observation: "Principally satisfactory to the owner." Next to this comes a terribly dashy and empty colored sketch of what purports to be the tower of Macon Cathedral; a better one, of a scene in Valencia, by Mr. Aldrich, and a still better one of the Vicar's Close at Lichfield, by Mr. A. W. Lord. The best of all, however, is an interior of Christ Church Cathedral at Oxford, a very pleasing water-color, large, modest and careful, by Mr. Harry B. Herts of Columbia College. Near these is a gloomy picture by Mr. Hughson Hawley, of one of Mr. Haight's scholarly city churches; and some extremely interesting sketches of interior color-decoration by Messrs. Brunner & Tryon. Of late years these architects have apparently been turning their attention particularly toward interior effects of color, and their work, as shown in successive exhibitions, becomes constantly more successful. There is a great and almost unexplored field in this direction for architects who can design their buildings with the color-effect in their minds, and the profession will follow with great pleasure the advance of these accomplished architects in the path they have chosen.

Next to these is a curious design for a monument for the Soldiers' Field at Cambridge, by Mr. F. H. Bacon. Considering Mr. Bacon's training among the Greek remains of Asia Minor, it is not surprising to find that the design presents a strongly-marked Neo-grec character; but, though delicately drawn and evidently highly studied, it is thin and unattractive as a composition.

On leaving this work, the proportion of interesting objects rather increases. Mr. William A. Bates has representations of a house and stable in Connecticut, which appear to be bromide prints touched up with some rather raw colors. These are not the first of the kind that have been exhibited, but we have yet to see any which appeared to us even moderately successful. A pure bromide print of an architectural subject from a good negative is very pleasing, as was shown in the large prints of Messrs. Cabot & Chandler's Hastings Hall, exhibited a year or two ago; but the peculiar neutral tint of the bromide photograph unites very awkwardly with colors put on over it, and the effect is cheap and disagreeable. As an instructive contrast to these, Mr. Peabody's frame of beautiful little water-color drawings is placed close by. It would be monotonous to repeat what we have so often said in regard to Mr. Peabody's unrivalled rendering of the sentiment of quiet domestic architecture, so we will confine ourselves on this occasion to the medium through which he expresses that sentiment. Like those of Turner, his colors are mixed principally with brains, and owe to this ingredient most of their effect; but it is of a certain interest to know that they are spread upon what appears to be an uncalendered Manila paper. At least, if it is not this, we do not know what else it can be. We took it at first for *papier bulle*, which it somewhat resembles in texture; but *papier bulle* has a certain pinkish tinge, while Mr. Peabody's is a clear though not bright yellow. To the Harding, or Creswick, or other tinted water-color papers it bears no resemblance in texture, and not much in color. The wrong side of an egg-shell paper of the right tint would present very much the same appearance, but the colors do not seem to have soaked in as they do on egg-shell, and there are occasional bits of straw to be seen, such as are hardly to be found in egg-shell paper. Supposing, therefore, our conjecture to be correct, the subject is drawn free-hand with a black and rather coarse pencil, making, of course, allowance for the subsequent washes; and the color is then put on. Here, it will be observed, the brain element comes most into play. Working on the warm, strong ground, colors can be used boldly, and they are so used, although with very great skill, and with what probably is, to the artist, an unconscious, but most interesting application of the landscape effect to heightening the sentiment of the architectural subject. With most colored perspectives, as, we need not say, the converse is true; any effective piece of sky or foreground distracts attention from the building represented; but, although Mr. Peabody's skies and foregrounds are strongly colored, they serve only to set off the broad wall-surfaces with which they contrast.

No. 28 is an elevation of Messrs. Carrère & Hastings's Lakewood Hotel, a great stone edifice, very plain, but imposing. Next this is the sketch of the entrance to a music-hall, by Mr. Tuthill, which, like many other drawings shown, has already been exhibited or published, and lacks the interest of novelty. It is, however, a clever drawing in very sharp perspective, showing a dignified but rich design. A little way beyond is a group of designs for gas and

electric fixtures, designed by Mr. Caldwell, and exhibited by the Archer & Pancoast Company. As experiments in a new sort of design they are interesting, if not entirely praiseworthy. One, for example, represents a vase filled with flowers. The leaf-stalks and leaves are in bronze, apparently studied rather carefully from those of some water-plant; but the flower-stalks, instead of flowers, bear incandescent lamps. After the novelty of the idea had worn off, there would be something shocking in the substitution of glass bulbs among the foliage in the place where flowers ought to be; but there is a certain satisfaction to be derived from the evidence furnished by this and some of the other drawings that the designers of such things are not contented with copying the familiar old models, but propose to find a new treatment for their new problem. With perseverance and taste they will surely reach success, and the arts of common life will then be enriched with new and valuable acquisitions.

No. 35 shows a delicately picturesque Tuxedo house, in brick and stone, by Mr. Taft, prettily rendered in color by Mr. Bosworth. One is often tempted, in studying domestic architecture, to believe that the best of all styles for that sort of building is no particular style at all, and Mr. Taft's house will confirm that notion. It is a little Elizabethan in places where an Elizabethan treatment of mullioned bay-windows suits the view; a little Romanesque where a good, solid wall and a round-arched door are convenient; and a little Gothic in the irregularity of its outline; but, like Norman Shaw's houses, it is not especially anything except homelike, solid and picturesque.

Another Tuxedo cottage, No. 38, by Mr. Bruce Price, is not so interesting in design, and the drawing, being a one-point perspective, or an elevation made to look like a perspective, would not be noticeable were it not for the coloring of the sky and of the distant view visible beyond the building, both of which are little masterpieces of water-color effect. Near these colored drawings hangs a pen-and-ink sketch, which has, we think, been repeatedly published, of a rather convulsively picturesque house on Riverside Drive, by Messrs. Lamb & Rich; and two other drawings in black-and-white, one of a house by Mr. Gilbert, of New York, and the other of a church, by Mr. Briggs, which are very pleasing.

We come now to some of the Cathedral drawings. The first is a brilliant pen-and-ink drawing, by Mr. Clarence Luce, of Messrs. Huss & Buck's design, which is well known to our readers, and has not been materially altered from the first sketches. Next comes Messrs. Potter & Robertson's design, which, in the second edition, with its four equal towers around the centre of the building, suggests a "head-on" collision of two cathedrals of the ordinary sort. All, or nearly all, of the sets of drawings in the final competition comprised a colored interior perspective, and several of these are exhibited. Messrs. Potter & Robertson show a design of no great interest, rendered in a disagreeable brown-madder tone and, owing to the use of a very oblique perspective, having a jumbled-together look. Messrs. Huss & Buck's, which hangs near Mr. Luce's pen-and-ink perspective, and is rendered by the same hand, is drawn from a better point, but is not happy in coloring. The decoration of the spandrels and other surfaces in the lower part of the building, as shown, is vigorous, but rather "loud"; while the vaulted ceiling, on which we would naturally expect to see the richest color, is of a uniform dirty white, as if the paint had given out just as the vaulting was reached. There may be some precedent for such a treatment in the present aspect of those French and English churches in which the "warden's whitewash" has only been cleaned off the lower part of the interior; but these are hardly artistic models.

An interval here occurs in the series of cathedral drawings, which is occupied by some interesting works. Among these is a beautiful colored drawing of a solid old farmhouse-like interior, with a big brick fireplace, executed for the Philadelphia Country Club; and a faded-looking drawing, of a good design, in the true colonial character, for a house at Morristown, N. J., by Mr. C. A. Gifford. Mr. Bruce Price has also a design for a stone house at Springfield, which is attractive, in spite of some rather queer detail. Mr. Robertson shows a pencil sketch of his Romanesque church on 141st Street, in New York, and Mr. F. L. V. Hoppin has a colored bird's-eye view of the roof of the Madison Square Garden, showing the town, and the city and harbor beyond. It is needless to say that the drawing is immensely clever, and being better drawn and finished than some of his work, it attracts great and deserved attention. Beside this brilliant piece of coloring hangs what we might call a suggestion of a thought of a design, such as Mr. Pecksniff used to feel coming to him in his sleep, only that in the present case, owing, no doubt, to the fact that two architects were concerned in evolving it, the conception has been seized and spread upon paper. The catalogue informs us that the drawing was "painted" by Mr. Ross. Why so big a word should be used to describe such ghostly coloration, we cannot imagine; but there is something ludicrous in the contrast between the thoughts of "impasto," glazings, scumblings and palette-knife work which it suggests, and the pale reality, for which a bit of pigment the size of the head of a pin would have sufficed, with a good deal to spare.

In No. 70 we find a gloomy drawing, by Mr. Hughson Hawley, of Mr. Stanford White's beautiful Washington Arch. As our readers know, the design, as studied for execution, is much more architectural than that of the temporary structure which it replaced, and Mr. Hawley, who seems to have been absorbed in his rendering of the

regiment of soldiers marching underneath, which is certainly a fine piece of work, has failed to do justice to it. A better drawing, so far as the architectural part is concerned, is one of Messrs. Le Brun & Son's Metropolitan Life Insurance Building, also done by Mr. Hawley, and Mr. Bruce Price has a pretty colored perspective of one of his Yale dormitories. A drawing which attracts much attention is No. 91, showing the new Waldorf Hotel, now building for Mr. Astor on the corner of Fifth Avenue and Thirty-third Street, from designs by Mr. Hardenbergh. The building is twelve stories in height, but the upper stories are frittered away in various irregularities and combinations of steep roofs, which, to our mind, detract greatly from the effect of the building, and must increase the cost of construction, besides diminishing the accommodation.

Of course, it is often desirable to break the monotony of city flat roofs by a more picturesque one; but the old German and Dutch towns give plenty of examples of quaint and rich gables and towers and bays, which are at the same time dignified, and, to a certain extent, symmetrical. Speaking of this hotel, we observed in passing that it was being built with a large interior court, having a carriage-entrance, like the "*cour d'honneur*" of the French hotels, and the work around the court seemed to be very rich, as it is usually made by the French architects around the principal court. It would be quite characteristic of Mr. Hardenbergh's originality and skill in planning to use such a feature, which, indeed, is more than suggested in his Dakota apartment-house; and we are inclined to think that his lead will be followed in future large hotels. Indeed, we have always wondered why private individuals, building city houses on the scale of those of the Vanderbilts and some others, should not, in New York, have allowed themselves the luxury of a carriage entrance into a quiet court-yard, where they could enter and leave their carriages, or mount and dismount from their horses, or take leave of an honored guest, without being exposed to the gaze of the whole street. Nothing is much more pitiable than to see, in a blustering, snowy December night, delicate ladies, in evening costume, stepping out of their carriages at the curbstone in front of a Fifth Avenue mansion, and wading across the sidewalk and up the high "stoop," to the front door. Where a temporary awning is built over the steps and sidewalk, the case is better, but the awning always attracts a crowd of roughs, who grin and jeer, at the openings left for the sidewalk, as the ladies pass between them. From these annoyances, which are serious ones, any one who is building a new house, and who has money enough to build it as he likes, can easily protect himself and his guests, by imitating the style of plan universally adopted for great houses in England, France, Italy and Spain, and in France and Spain for quite modest houses also, and interposing a *porte cochère*, guarded by a *concièrge*, between the street and the place of disembarkation of his family and their visitors. If the principal door, which opens on the court, has a "marquise" roof over it, a lady in a ball-dress can be inside the house in two steps from her carriage, without getting out from under cover, and with no risk of being frightened or insulted by a boorish mob. If the fashion should once be set for private houses, as Mr. Hardenbergh has set it for hotels, we should expect to see it extensively followed. Americans are too sincerely polite not to see how much more graceful it is to have one's friends drive into a pretty court-yard, and to receive them at the door, helping them, perhaps, out of their carriages, on arrival, and showing them, on their departure, the courtesies of which the old French nobles made the "*perrens*" of their castles the scene, than to allow them to climb painfully up the "stoop," and find their way subsequently somehow into the presence of their hosts, and to hire an African to bang the front door after them as they take their leave.

EQUESTRIAN MONUMENTS.¹—XLVII.

THE NEW GERMAN EMPIRE.



Horse-tamer, Naples. Baron Clodt, Sculptor.

found anywhere, groups whose modernness of treatment is foiled by the copies of the Dioscuri by Tieck which decorate the angles of the balustrade that crowns the central mass of the building.

A somewhat similar position is occupied by the most recent of the

equestrian subjects in this city, the stiff and uninteresting portrait-statue of Frederick William IV by Calandrelli, which, the central feature of a pretentious arrangement of flights of steps, balustrading and pedestals, stands in front of the National Gallery of Fine Arts.

History would probably make more of Frederick William IV were it not that he seems in a large degree to have been a kind of John

the Baptist preparing the way for his greater brother and successor William, once so unpopular in Prussia that he was forced to leave the kingdom, but later almost deified by his subjects after he, by Bismarck's craft, had become the first German Emperor. The events of Frederick William IV's reign were largely political, the central feature being the great revolutionary movement of 1848 felt in Prussia as elsewhere. Still there was enough of military operation—the aiding of the German inhabitants of Schleswig-Holstein for instance, in which the Prussians came



Frederick William IV, Berlin. Calandrelli, Sculptor.

in conflict with Frederick VII of Denmark to warrant the sculptor in giving the king a military attire. But in spite of his uniform the king looks rather like a comfortably fed diplomat on parade than a warrior king, and because of this makes a great contrast to the equestrian statue of Frederick VII at Copenhagen, where the sculptor Bissen has succeeded in modelling a figure which shows unquestionably a soldierly, and presumably a kingly, man: if the sculptor had achieved as much success with the quadruped as with its rider this would be a fine statue: unfortunately, the horse selected for copying was one of those beasts, so uncomfortable to ride, who amble before and trot behind, so that, as shown, the fore and hind quarters of the horse do not seem to belong together. The group stands in front of the Palace of Christiansborg where it was erected in 1873, five years after the death of the sculptor, who had only the satisfaction of seeing his model made ready for casting—a state of preparedness in which it was forced to remain several years until money enough to pay for the cost could be gathered.

Perhaps as well known as the groups on the Museum steps at Berlin are the two groups of horse-tamers which flank the entrance to the palace of the Crown Prince of Prussia which fronts the Unter



The Horse-tamers, Berlin. Baron Clodt, Sculptor.

dem Linden. These groups were modelled by the Russian sculptor Baron Clodt, and were in 1842 presented to Frederick William IV by the Czar Nicholas I, who at about the same time presented duplicates of these groups to Ferdinand II of Naples—better known, perhaps, by his nickname "Bomba." The Naples groups are upon

¹ Continued from No. 835, page 197.

rather high pedestals at either side of the palace gateway, while the Berlin examples are placed on low ones, the surroundings in the two cases are so different that it is hard to tell which is the better.

Horse-tamers were a favorite subject with the able Russian sculptor: besides this pair he modelled two other and very different pairs for the Anichkoff Bridge at St. Petersburg and still others for the bridge over which one reaches the new and sumptuous grand-ducal palace at Schwerin.

One other group, and then all now extant equestrian subjects in Berlin will have been mentioned: in the Belle-Alliance Platz are ranged, somewhat as are the typifying figures of French cities about the Place de la Concorde in Paris, groups which symbolize certain German cities, and amongst others Hanover, which is represented by a classic group by Fischer (completed by J. Franz) of two figures, one wounded and one safe and sound, with, for a background, a couchant or wounded horse, the horse rampant being the symbol of the Hanoverian State. The recumbent attitude probably bears a symbolic reference to the time when Napoleon forced all Germany to sue for peace.

The existence of this war memorial recalls the fact that through the defeat of the French in the Franco-Prussian war art probably lost much. Had Napoleon won the game it is probable that French sculptors would have had busy hours to pass before they could do honor to

and the Chancellor, Prince Bismarck. The monument, which was erected in 1888, is in composition like many a school *projet* for a similar monument, and though good of its kind is not a very good kind, as it seeks in multiplicity of parts an excuse for lack of concentration and superlative excellence. For Americans, or rather for

Philadelphians, the one point of interest in this monument is the phenomenal similarity between the statue of Bismarck at the rear of the Leipsic monument and Calder's statue of General Meade in Fairmount Park, Philadelphia. Is it a case of dual and spontaneous celebration, or did Calder know of Siemering's group, perhaps work upon it as an assistant or student? or, as the Meade was actually set up before the Leipsic monument was finished, did Siemering obtain an inkling of the treatment Calder had

given to his group? If anything is wanting in this monument in the way of artistic feeling it is more than made up by the interest that will always be felt in the men whose portraits are here shown. When a monarch's hands are upborne by four such men as these, his own deserts must be small indeed in the eyes of the controlling deity who does not succeed in his aim and secure for himself a lasting place in some niche of the eternal temple of the world's history. It is doubtful whether history can point to two stronger and more masterful



Frederick VII, Copenhagen. Bissen, Sculptor.



Hanover in the Belle-Alliance Platz, Berlin. Fischer and Franz, Sculptors.



The War Monument, Leipsic. Siemering, Sculptor.

all the "*braves généraux*" whose deeds needed immortalizing. The less impulsive and less artistic Germans have not made as much use of the opportunity as their opponents would have made, and of the few war memorials that have been created there are, as yet, a very few where equestrian sculpture has been introduced. Amongst these is the War Monument at Leipsic by Siemering, where the seated figure of the Emperor William I is supported by the equestrian statues of his son, the Prince Imperial Frederick, and Prince Charles, the Red Prince, upon the left and right, while in corresponding positions at the rear are statues of Marshal Von Moltke

characters than Bismarck's and Von Moltke's, while the trying illness of Frederick III, which all the civilized world watched a few years ago with deepest interest, revealed a strength of character and a fortitude even greater than could have been expected of a man whose previous career had shown him to be possessed of a mental fibre of highest proof. This auxiliary statue on the Leipsic monument is the only equestrian statue yet created to the honoring of Frederick the Good—as the English, at least, have striven to dub him—and it will probably remain the only one so long as his son, the present emperor, lives, for that amusing young person seems seeking to

magnify his own greatness by doing all he can to belittle his father's meritorious, even great, deeds.

History has recorded the vagaries of many a youthful potentate whose head has been turned by ultimate accession to power, but never has there been a more spectacular instance of what in street

impulse given to such movements immediately after the death of the aged monarch. The adjoined sketches will show the generally grandiose character of the designs submitted for the great national



Marshal Van Moltke, Leipsic.

parlance is known as the "big head" and in scientific phrase "megalomania" than is offered by the career, up to this time, of William II, the third member of the newest European dynasty which has but just come of age. So conceited a man as the present emperor may be trusted to see to it that his people shall be provided with a sufficiency of portrait-statues of himself, seated, afoot and in the saddle. But the time of full fruition has not yet come, and the only bit of sculpture representing the present emperor on horseback is the statuette by the lately deceased sculptor, Kaffack.

The glory which William II is so assiduously seeking for himself will probably never be such that it can be creditably measured against that of Bismarck, the man whose mentality made so great a change in his own opportunities, and still less against that which, though also really Bismarck's, must be credited to William I, who will always stand the central figure of an eventful period of European history, and as such will be celebrated in sculpture through as many generations — unless republic succeed to monarchy — as will be George Washington in America. Thus far, however, in the way of equestrian memorials of William I little has actually been accomplished. A large



William II, a Statuette. Kaffack, Sculptor.

monument to be set up in Berlin, and incidentally one of these will serve to show how important an element of urban decoration equestrian sculpture has grown to be during the last half of the present



Prince Bismarck, Leipsic.

statue has been modelled for Metz by the sculptor Ferdinand von Miller, but it is not, we believe, yet ready for erection.

Not only during his lifetime and in honor largely of the victory over the French, were movements made to erect statues of William I, both pedestrian and equestrian, but more particularly was

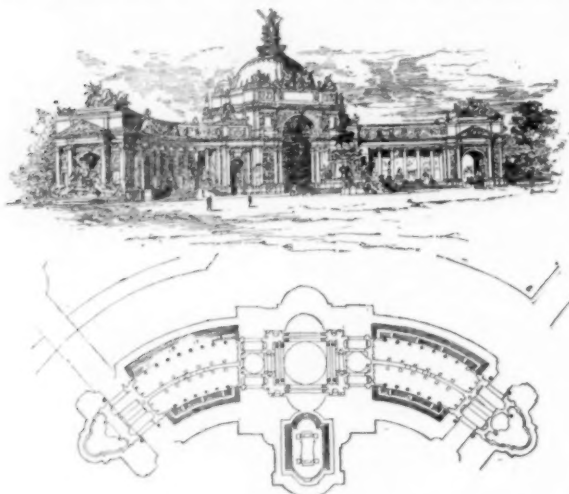


William I, for Metz a Model. F. Von Miller, Sculptor.

century. Bruno Schmitz, the architect who designed the Indianapolis Soldiers' and Sailors' Monument, is to carry into execution his

design for a monument to William I on the Kyffhäuser Mountains in Thuringia, and the great equestrian figure of the emperor, 26 feet high, which is to be one of the important features is to be modelled by E. Hundrieser of Charlottenberg.

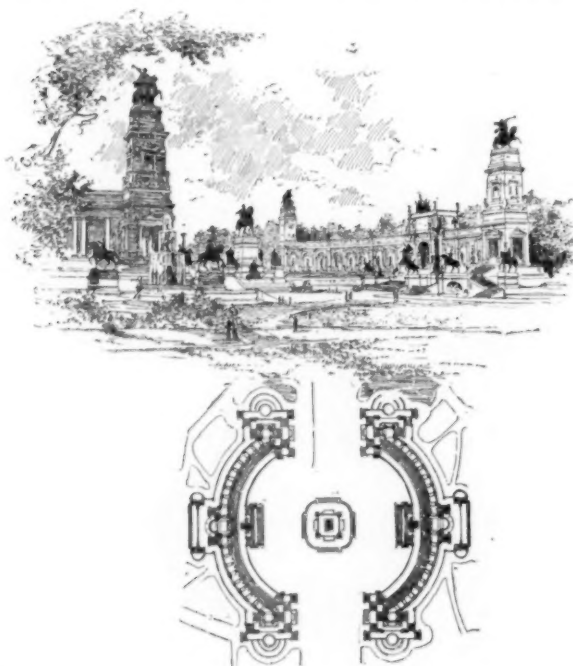
Besides this monument, which is to be erected by the Society of Veterans at a cost of \$150,000, a number of equestrian statues



Design for a National Monument to William I. Bernard Schade, Architect, Berlin.

of William I are already in the hands of sculptors. Thus there is to be one erected at Breslau from the design of the architect, Hugo Licht, the group being modelled by Christian Behrens, while others are to be placed in Karlsruhe, Mannheim, Stuttgart, Magdeburg, Königsberg and Cologne.

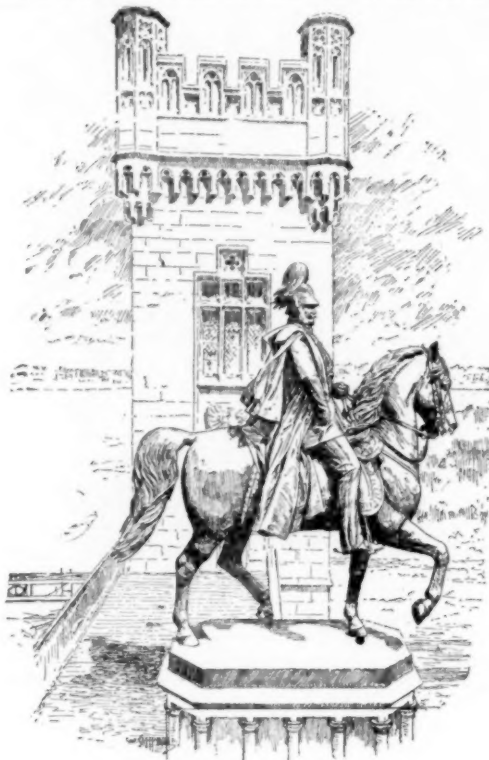
As yet but a single equestrian statue of the founder of the new dynasty of German emperors is in place and this one occupies a very unusual position. Bridge entrances flanked by equestrian groups of sculpture are not uncommon—in fact two instances have been mentioned in the present paper—but it is not common to have an equestrian statue mount guard positively over a bridge entrance, yet this is exactly what the statue of William I, by Drake, does do at Cologne, where, upon an ornamental pier between the two towers which flank the ends of the great iron bridge over the Rhine, it watches the approach to the city over this important thoroughfare. The corresponding pier at the city end of the bridge—which comes out directly behind the apse of the Cathedral—is occupied by Bläser's statue of Frederick William IV. Both of these statues were erected



Design for a National Monument to William I. Bruno Specht, Architect, Munich.

in 1867 and glorify simple kings of Prussia. It might be supposed that the effect of statues in this position would be rather good than bad. Unfortunately it is not at all good, and two fairly good pieces of German sculpture are rather wasted because, in the first place, the view from the floor of the bridge itself is so interrupted by lattice-work, cross-ties and wind-braces that one can only dimly see

that there is a mass of bronze-work of some kind or another up aloft, and so the observer must be content to regard the statues from the land sides. This being so, it is peculiarly unfortunate that the entrance from the Cologne side is in line with the axis of the Cathedral, which is close to it and so only a near and oblique view of the statue of Frederick William IV can be had; but it is still more



William I, Cologne. Drake, Sculptor.

unfortunate that the roadway at the opposite end of the bridge turns abruptly at right angles with the bridge descending a steepish hill toward the railroad station, so that the statue of William I can be seen at even less advantage than that of his brother.

Identified in some measure with this period of Prussia's greatest triumph is the career of John I, King of Saxony, who, though an ally of Austria in 1867, yet earnestly supported Prussia in her war with France and yielded ready adherence to the scheme to form a new German empire. John's claims to remembrance are based more upon peaceful than upon warlike performances, and Schilling's equestrian statue in the space in front of the court theatre at Dresden satisfactorily conveys the impression of a monarch who cared more for promoting the material welfare of the possessions he had



Entrance to the Iron Bridge from the Cologne Side.

inherited than for adding to them through the successes of military operations conducted against his neighbors.

As Frederick William IV and William I both had some slight personal connection in their early youth with the Napoleonic wars there can be mentioned here the equestrian statues of two Dukes of Brunswick which were, in 1874, erected in front of the Ducal Palace

at Brunswick. One of these, Duke Charles William Ferdinand, who died of wounds received at Auerstadt in 1806, is by Ponninger, and the other, Duke William his son, who was killed at Ligny in 1805, is by Hähnel. It has not been found possible to discover satisfactory illustrations of these statues, but as Hähnel's statue of General



Frederick William IV. Blaser, Sculptor.

Schwarzenberg at Vienna is extremely good, it is probable that the statue made by him at Brunswick is a work worthy of applause.

It is not fair to leave the neighborhood of Berlin without mentioning the two very modern interpretations of the hackneyed theme of the horse-tamers which Kiss has established at the entrance to the grounds of the royal palace at Charlottenburg. Here the naked



John I, Dresden. Schilling, Sculptor.

and graceful figures of the classic masterers of horses are replaced by the stiff, helmeted and booted figures of two of the royal bodyguards, who seem to be conducting rather than controlling rather tame and well-schooled horses, whose naked and uncaped bodies are in curious contrast with the fully uniformed figures of the troopers at their sides.

FREDERICK WILLIAM IV.—Frederick William IV, King of Prussia, was born October 15, 1795, and succeeded to the throne in June, 1840. Beginning his reign with moderation, he excited hopes of reform which were never realized. In March, 1848, the citizens of Berlin revolted, and, after several days of severe fighting, Frederick withdrew his troops from the city, made a change in his ministry and gave some concessions to the Liberal party. In December of the same year he granted a constitution, since modified or nullified. In 1858 he was rendered incompetent to reign by a serious malady, and his brother, afterwards William I, acted as regent. Frederick William IV died in January, 1861, without issue.

CALANDRELLI.—Alexander Calandrelli was born in Berlin in 1834 and studied under Drake and in Italy. He made the statue of Cornelius in the Old Museum, a relief on the Column of Victory in the Königsplatz, and the equestrian statue of Frederick William IV in front of the National Gallery. His statue entitled "Art Thought" is in the National Gallery at Berlin.

FREDERICK VII.—Frederick VII, King of Denmark, was born in 1808, and succeeded his father, Christian VIII, in 1848. The revolt of the German party in Holstein and Schleswig took place in March of that year, but, after some indecisive conflicts, the insurgents were defeated at Idsted in July, 1850, and the rebellion suppressed in January, 1851. Frederick VII died in November, 1863.

BISSEN.—Herman Wilhelm Bissen was born in Schleswig in 1798 and was a pupil of Thorwaldsen. His works include a frieze in the Palace of Christiansborg at Copenhagen, representing the triumphal procession of Bacchus and Ceres; a statue of Ohlenschläger in the same city; a monument to the Danish soldiers who fell in the war with Prussia, in the cemetery at Fredericia; and the equestrian statue of Frederick VII at Copenhagen. He also executed the following ideal works: "Paris," "Narcissus," "Orestes," "Apollo," "Minerva," "Love Sharpening an Arrow," a "Valkyrie," "Moses" and "Philoctetes," with others. Thorwaldsen at his death committed to Bissen the direction of his Museum at Copenhagen and the task of completing his unfinished works. Bissen finished from Thorwaldsen's designs three of the four colossal bronze figures on the Palace of Christiansborg, and the Victory in a quadriga on the top of the Thorwaldsen Museum. He was Professor at the Academy of Fine Arts in Copenhagen and later its President. He died in that city in 1868.

CLODT.—Baron Peter Clodt-Jurgensburg was born in Esthonia in 1805, and was at first intended for a military career. But after several years of service, he left the army and studied sculpture at the School of Fine Arts in St. Petersburg, devoting himself especially to the representation of horses. He died in 1867. His works include a statue of Peter the Great at Cronstadt, and statues of horse-tamers in St. Petersburg, Berlin and Naples.

FISCHER.—August Ferdinand Fischer was born at Berlin in 1805 and studied painting there, afterwards turning his attention to sculpture. In 1842 he received a commission to make four marble groups for the Belle-Alliance-Platz in Berlin. The subjects were England, Hanover, the Netherlands and Prussia, and they were carried out long afterwards from Fischer's designs by Walger and Franz. Fischer made many decorative works for public buildings. He died in 1866.

MOLTKE.—Helmuth Carl Bernhard, Count Von Moltke, Chief Marshal of the German Empire, was born at Parchim, October 26, 1800. He entered the Prussian service as a lieutenant in 1822. Steadily rising in rank, becoming Lieutenant-General in 1859, he performed many important deeds, the plans of the Danish campaign of 1864 and the Austrian one of 1866 being due to him. This was also the case with the Franco-Prussian War of 1870, during which he was practically Commander-in-chief. He was made Marshal in September, 1871, and created a Count in 1872. He retired from active service in August, 1888, and died April 24, 1891.

BISMARCK.—Karl Otto, Prince von Bismarck-Schönhausen and Duke of Lauenburg, was born at Schönhausen, April 1, 1815, and at first entered the army. Later, he became a member of the General Diet. In 1851 he entered the diplomatic service, being afterwards ambassador at St. Petersburg and Paris. He was made Minister of Foreign Affairs in 1862. In 1867, Bismarck, who had been created a Count in 1865, organized the North German Confederation. The same year he was made Chancellor of the Confederation. In January, 1871, he became Chancellor of the German Empire, and in the following March was raised to the rank of Prince. He retired into private life in March, 1890.

PRINCE FREDERICK CHARLES.—Prince Frederick Charles, a Prince of Prussia, and nephew of William I of Germany, was born in 1828, and was educated for the army. He served during the Danish War of 1864 and in the Austrian campaign of 1866, where the victory of Sadowa was mainly due to his efforts. In the Franco-Prussian War he commanded the second army, which won the battles of Thionville, Gravelotte and St. Privat, and besieged Bazaine in Metz until his surrender. He was created a field-marshal in October, 1870. He died in 1885.

FREDERICK III.—Frederick William, German Emperor, was born in Potsdam, October 18, 1831. He entered the army at an early age, and when, in 1866, the war with Austria broke out, he commanded an army, and afterwards contributed materially to the victory of Sadowa. His high reputation as a military commander, gained in this campaign, was augmented by his successes in the Franco-Prussian War of 1870 (where he commanded the third army), especially at Worth. He succeeded his father, William I, as German Emperor in March, 1888, but he did not long enjoy his high position, as he died on the 15th of June following.

WILLIAM II.—William II, German Emperor, was born at Berlin, January 27, 1859, and educated at Cassel and at the University of Bonn. In 1881 he married Augusta Victoria, Duchess of Schleswig-Holstein-Sonderburg-Augustenburg. He succeeded his father, Frederick III, in June, 1888.

KAFFSACK.—Joseph Kaffsack was born at Ratisbon in 1850, and became a pupil of Hähnel in Dresden. His chief works are the monument to the two Emperors, William I and Frederick III, at Giebichenstein, and six colossal allegorical figures for the Leipzig post-office. He also made a bust of William II, in the town-hall of Leipzig; and an equestrian statuette of the same monarch, and many decorative sculptures for public and private buildings. Among his ideal subjects are "Young Love" and "The First Prayer." Kaffsack was drowned in September, 1890, while boating on the Wannsee.

WILLIAM I.—William I, King of Prussia and German Emperor, was born in Berlin, March 22, 1797. He took part in the campaigns of 1813 and 1815 against France, but retired to England during the revolution of 1848. Ascending the throne on the death of his brother, Frederick William IV, in 1861, he soon made Count von Bismarck Minister of Foreign Affairs. In 1864 he joined the Emperor of Austria in a war against Denmark, which was compelled to relinquish Schleswig-Holstein to the invaders. William declared war against Austria in June, 1866, and the Prussians, under General Moltke, defeated the enemy at the decisive battle of Sadowa in the following July. By this victory Prussia gained considerable territory. Peace was concluded in 1866, and 1867 saw William at the head of the powerful North German Confederation. In July, 1870, Napoleon III declared war against Prussia, but, after sustaining several defeats, was finally vanquished at the battle of Sedan, and surrendered with his army of 100,000 men on September 2. The Prussians then besieged Paris, which finally capitulated. Alsace and Lorraine were given up to Prussia and a large indemnity paid. William was crowned as German Emperor at Versailles on January 18, 1871. He died March 9, 1888.

MILLER.—Ferdinand von Miller, sculptor and bronze founder, was born in Munich in 1842 and studied under Kiss, Widmann and Hähnel. His works in sculpture are mostly to be seen in the United States, where are his Shakespeare, Columbus and Humboldt, at St. Louis; and several figures for a fountain in Cincinnati. He made also the equestrian statue of William I for Metz. He has cast many important pieces in his foundry at Munich.

DRAKE.—Friedrich Johann Heinrich Drake was born at Pyrmont in 1805 and studied under Rauch. He has produced the following works: an equestrian statue of King William IV of Prussia on the bridge at Cologne, a statue of Frederick William III at Stettin, and one of that monarch in the Berlin Thiergarten, one of Mooser at Osnabrück, one of Rauch in the Museum at Berlin, and the Schinkel monument in that city, with many portrait busts and statuettes. He has also executed a "Madonna and Child," which was purchased by the Empress of Russia, a "Warrior Crowned by Victory," the colossal statue on the "Column of Victory" in Berlin, and "The Eight Provinces of Prussia," in the palace at Berlin. His "Vine-Dresser" is in the National Gallery there. Drake died in 1882.

JOHN OF SAXONY.—John I, King of Saxony, was born in 1801. In the war between Prussia and Austria he sided with the latter, but afterwards joined the North German Confederation, and zealously coöperated with Prussia during the Franco-Prussian War. He was "an admirable specimen of a constitutional monarch" and an accomplished scholar, having published translations of Dante's "Divine Comedy" and of Shakespeare. He died in 1873.

SCHILLING.—Johann Schilling was born at Mittweida in 1828, and studied under Rietschel, Drake and Hähnel. He has made the great national monument in the Niederwald, the equestrian statue of King John of Saxony at Dresden, the Semper monument in that city, the monument to Schiller at Vienna, and the figure representing the city of Spire for the Luther monument at Worms. His other works include groups of "Evening" and "Night" on the Brühl Terrace in Dresden, an "Allegory of Music" for the palace of Prince George of Saxony, a frieze of German and Flemish painters in the vestibule of the Dresden Museum, and a "Cupid and Psyche."

[To be continued.]

OBITUARY.

ALEXANDER JACKSON DAVIS, ARCHITECT.



ALLEXANDER JACKSON DAVIS one of the foremost architects of this country, a founder of the American Institute of Architects, Secretary of the American Academy of the Fine Arts, now the National Academy of Design, and designer of the [former] State capitols of Connecticut, Indiana and North Carolina and many prominent public and private buildings in various parts of the country,

died on Thursday, January 14, at his residence near Llewellyn Park, West Orange, N. J., after a short illness.

Mr. Davis was born in New York City, July 24, 1803, and was the son of Cornelius Davis and Julia Jackson. Cornelius Davis was conspicuous as a theologian, editor and publisher of the first religious periodical ever issued in the United States, styled the "New York Theological Magazine" and devoted chiefly to doctrinal discussion and to the support of the Hopkinsian Creed. It numbered among its contributors, the eminent Samuel Hopkins, D. D., of Newport, R. I., together with Jonathan Edwards, the younger, West Williston and other founders of the church in America. The family was an old one in this country, being prominent in the early settlement of Connecticut and Bloomfield, N. J.

Alexander early showed an inclination toward the profession he afterward adopted, and his earliest recollection was that of trading his toys for a box of paints, and hours spent in puzzling over the plan of some ancient castle of romance, arranging the trap-doors, subterranean passages and draw-bridges, as pictorial embellishments; some of these made at the age of twelve years before any study of perspective, yet perfect in this and proportion, are preserved by his family.

Mr. Davis's serious preparation for his profession commenced in 1823, when he entered the Antique School then organized and meeting in the apartments of the Philosophical Society and out of which sprang the National Academy of Design. He afterwards applied himself to the study of perspective, the grammar of his art, made drawings for Mr. A. T. Goodrich a bookseller and publisher of guide-books; and plans, with perspective views for J. R. Brady, a practical builder and ingenious draughtsman, who supplied carpenters and others with contracts and specifications. He passed some time in the study of practical architecture and classical antiquities under instruction of Jonathan Trumbull, the celebrated artist. Trumbull had studied architecture in London and his drawings made there were given to his pupil, and held among his greatest treasures.

In the spring of 1826 he opened an office in Wall Street as an architectural draughtsman, and furnished proprietors and builders with plans, elevations and perspective views for public and private edifices both in town and country. Some of the embellishments of the *New York Mirror* proceeded from his pencil, also of Hinton's "History of the United States," Edward William's "Register" and other works.

Yet a tyro in his profession, in the winter of 1827 he went to Boston, and made many views of the principal edifices in that city for publication. A large view of the Boston State-House, a building by no means remarkable for its beauty, but distinguished by its character and location was the first to engage his attention. This view was drawn from actual measurements and is to this day the finest specimen of lithography in this class of architecture yet produced on this side of the Atlantic. Harvard University, Quincy-Hall Market, Hancock House, Bunker Hill Monument, also furnished subjects and he made of each an excellent view. Mr. Davis had not been long in Boston before he attracted the attention of Doctor Parkman and Doctor Bigelow, author of the "Technology," both noted virtuosi, whose beautiful models in architecture and private collections were opened to him, and who invited him to study at the library and galleries of the Athenæum. Availing himself of the advantages

so liberally afforded him at this noble library, then the only respectable one on the fine arts in the Western Hemisphere, he continued in reading, extracting and study two winters.

In New York he published a large folio on the architecture of that city, lithographs and etchings both of Classic and Gothic models, Attic and English. But few impressions were taken and the work has become rare.

In February, 1829, proposals were made to him by Ithiel Town, bridge engineer, then recently from the East, and an association was formed under the firm name of Ithiel Town and A. J. Davis, Architects, and an office was opened in the Merchants' Exchange for the transaction of business.

Messrs. Town & Davis were the first to use the pilaster, with its regular proportioned column, Doric, Ionic, or Corinthian, for city door-pieces; thitherto an elliptical arch, springing from a rusticated pier and impost, with quoins and key-stone, had been used.

Mr. Arthur Tappan's store in Pearl Street, New York, was the first in which granite piers were introduced, and Jones's Court, Wall Street.

The door was enlarged, its panels glazed and defended by open iron-work; the steps enclosed by iron railings and pedestals, tripods, candelabri or vases, and thus an improved change was made in street fronts.

Mr. Davis first introduced the bay and oriel window, inventing expedients for attaching blinds to the jamb so as to admit of curtains, architraves, moulded lintels and sills, balustrades, balconies, and connected grouped windows, which last serve to take off the meanness of low stories and multiplied apertures.

In 1834, while at Washington, Mr. Davis made designs for the Executive Department, and for the Patent Office, since executed, and for the Smithsonian Institute; the last were not carried out.

Important designs were made for the University of Michigan at Ann Arbor, which place Mr. Davis visited at the request of Governor Mason, where with the Governor and Chancellor Farnsworth, the University Park of forty acres was laid out for college buildings, professors' houses, and for a botanic garden and arboretum.

In 1850 Mr. Davis made the acquaintance of Llewellyn S. Haskell, a wealthy chemist, and in 1853 suggested to him the first conception of what in 1857 was incorporated as Llewellyn Park, familiar to all visitors to the Oranges. Mr. Davis designed many of the residences, and directed much of the landscape gardening. The friendship with Haskell terminated only with the latter's death in 1872.

Designs were made and executed for additions to the University of North Carolina and college buildings at Davidson. The Virginia Military Institute was the product of Mr. Davis's invention. The great pauper Lunatic Asylum upon Blackwell's Island, in part executed, led to an improved one for the State of North Carolina at Raleigh also.

Since 1874 Mr. Davis had done but little in the line of his profession, and with the exception of an occasional paper before some one or another of the scientific societies of which he was a member, lived a quiet life amid such surroundings as a man of his taste and cultivation would naturally gather around him, varying it only by visits to the rooms of the Historical or Geographical societies, where he was an old and prominent member, or to the libraries.

In 1884 Mr. Davis moved a large portion of his library to his country-seat upon the Orange mountains in anticipation of a permanent change of residence, where a few months afterwards the house and its entire contents were destroyed by a fire whose origin has never been discovered, and the collections of years, comprising many valuable books and engravings and priceless original drawings were destroyed.

Nearly two years ago the encroachments of an unprincipled quarryman, and the subsequent legal proceedings which followed, compelled the removal to a temporary residence upon the same ground. Here he has divided his time between the contemplation of nature as seen from those delightful surroundings from which, the guide-books tell us, we look down on one-fourth of the population of the country, and his books, which up to within comparatively few days he continued to study with the same zest as when in 1826 he entered upon his long and illustrious career.

His widow, a daughter and one son survive him.

Mr. Davis was intimate with most of the prominent literary and scientific men of his time, and whom his deep classical and scientific learning attracted to him. His recollections of Hillhouse, Cooper, Irving, Paulding, Tuckerman, Verplanck, Halleck, Willis, Payne and Bryant, of Trumbull, Allison, Page, Durand, Cole, of Silliman, Morse and others, was marked by anecdote and incident, and he possessed many autographic and other mementos of great interest to those whose privilege it was to know him. His influence upon the architecture of his own and subsequent time can never be measured. The first professional American architect, he was naturally widely copied by many whose ability was not sufficient to originate or create. His contributions to Downing's and other publications first showed Americans there existed a world beyond the stereotyped and contracted building. Among his pupils were James H. Dakin, J. C. Cady, Col. Richard Lathers and Owen G. Warren.

While following Classical and Palladian lines, his work bears the stamp of marked originality and genius, and never fails to arrest the attention by the exactness of its proportion and beauty. *

INCANDESCENT GAS.¹

It is now about seven years ago that the Austrian Doctor of Chemistry, Dr. Auer von Welsbach, completed his experiments in utilizing some of the rare earths for lighting purposes, and about five years ago his invention was first introduced in this country. No doubt some of you know of what his invention consists. It has long been doubted whether the ordinary method of using gas directly as an illuminant is either the best or the most economical, and a long time back those best acquainted with gas-lighting came to the conclusion that

the gas should not be used as a direct illuminating flame, but that the proper form of utilizing it should be through its heat; the great objection, however, to this course was the difficulty in finding materials which could be brought to incandescence by ordinary pressure with very small heat, and the production of such a lamp as would carry out this idea. There are various inventors who, from 1820 to the present time, have been employing their brains on finding out means for solving this most difficult question, but I do not hesitate to say that all these systems brought out failed very soon, and none of all the incandescent gas-light systems have stood the test of time so well as the invention of Doctor Auer's. In giving you the outline of his invention, I may mention that Doctor Auer was a pupil of Professor Bunsen in Heidelberg, and it is under that eminent savant that Doctor Auer studied the rare earths, and learned how to treat them and extract them, and the spectroscope is almost the only and the surest guide in the test of the purity of these rare earths. Doctor Auer made zircon and lanthan his special studies, and he was the first who discovered that yttrium was not an element, but was split into brassidium and neodidium. He soon found out that the heat-resisting property of all these earths was enormous, and he worked out a combination by which several of these rare earths, used in a hood of cotton, produced with a small Bunsen flame a brilliant light, and it was in this form that the incandescent light was introduced into this country.

When, in 1887, the Incandescent Gas Company was started, there was an enormous rush for the light, which proves that an improved gaslight was at that time a greatly-felt want. Business went on in a very satisfactory way for about three months, and then the troubles of this company began. When first supplying the English public with a mantle or hood, this mantle was saturated with a fluid made out of the above-mentioned rare earths in such a proportion that these mantles gave a brilliant white light for about 800 hours without any decrease of light; but there was one of the chemicals used at that time which could only be obtained in small quantities, and in supplying lamps in England for about three months Doctor Auer had run out completely the stock of the material that is the most heat-resisting, and the company had to fall back upon a combination of these rare earths, which would give a perfectly good light for two hundred to three hundred hours; but then the decrease in the light was so great that after that time the light decreased, and turned into a reddish sort of color, which was only very little better than ordinary Argand burners. In consequence of this fact the system got a very bad name, which, with the bad management of the company at that time, was the reason that instead of making a steady advance the incandescent light became less and less a favorite with the public. In the meantime, researches after the material we use for this fluid have proved that there is plenty of it, and that the metals we require are so plentiful that any amount can be obtained; and having procured a good supply of each of them, the company about two years ago began to make the fluid according to the original receipt of Doctor Auer, and we must state that from that date the incandescent gaslight has made a steady but sure advance, and the fact that from September to December last year we sold nearly 20,000 lamps proves that the system has many friends now. These mantles we have supplied for the last two years have a capacity of twenty-five to twenty-eight candle-power, and they would burn without much decrease in light for about eight hundred hours.

To-day I have to draw your attention to an invention which has been made by Doctor Auer, which will make our system one of the most economical and efficient amongst the various ways of illumination. Doctor Auer has succeeded in finding a rare earth, whose fire-resisting power is so great that no known heat is able to melt it, and this material, in connection with our hood, produces an incandes-

cence that is absolutely startling. To give you a fair idea of the lighting capacity of this new mantle I will compare this new light with some of the best-known other systems in the market, and to show you that I do not mean to put figures as to candle-power before you which I cannot substantiate, I have all these burners on the ramp before me, and you may compare them for yourself if you like. We have in the testing-room of the laboratory a photometer, and those of you gentlemen who would like to make photometrical tests of our light and the others I show you are invited to let me know, and I will put the photometer at their disposal with the assistance of our chemist, Mr. Mackean. To begin with, I have an ordinary Bray's burner, No. 6, and with a pressure of one inch this burner passes per hour seven and five-tenths feet of gas, and with our London gas this would give no more than fourteen candle-power of light. The next burner I have here is a large Argand burner. This gives at one-inch pressure, with seven and five-tenths feet of gas per hour twenty-six candle-power, so you see that the consumer gains already twelve candles from the same amount of gas if he uses an Argand instead of a Bray's burner. A third burner is our Welsbach burner as sold up to the present moment. This burner passes three feet of gas, and with this three feet of gas gives about twenty-five candle-power of light, and the durability of the mantle I would average at 800 hours. Here you find already that with our lamp you get an equal amount of light as with the Argand burner, with the difference that we use only three feet of gas where the ordinary Argand burner uses nearly eight feet.

The next lamp is our new light, which we are able to introduce to the public. This burner passes three feet of gas, like our old Welsbach burner, and the candle-power obtained on the photometer is equal to sixty candles with one-inch pressure. If the pressure is always six-tenths to nine-tenths, we do not get the same amount of light, but still we are able to get with the six-tenth pressure of gas about thirty-five to forty candle-power. The mantle that is on this burner will give this light for from 2,000 to 3,000 hours. After having burned 2,000 hours, then the light begins to diminish, and between 2,000 and 3,000 hours the light would vary from sixty to fifty candle-power; but for practical purposes even forty candle-power would be called a brilliant light, and fifty candle-power can certainly not be termed otherwise than splendid. I have compared up to now our light only as regards illuminating power, and if you consider the cost of the same, you will find that though at first the expense for putting up our lights is rather considerably more than, for instance, Argand or Bray's burners, or any other gas-burners in the market, the saving of gas with our light is so enormous that the first outlay pays itself in a very short time indeed; and we have found that all those who have studied our light carefully, and who had a sufficiently large installation, are in every way satisfied with the light. If you take it that our burners consume only half the amount of gas against other burners, the saving would be about fifty per cent in the gas bill; against this must be reckoned the expense of the lamp and the mantles, and on an average each burner costs a householder about 1*l.* a year, so that there is a saving with our light to the amount of about 10*s.* per burner, less one or two mantles. But I beg to point out to you that there is an actual saving to a large amount in the gas bill, where for the same amount of money you get a better light, a purer light and a steadier light.

No doubt you will say that with the enormous strides electricity has made for the last few years this invention comes a little late in the day, but here, again, I myself am very hopeful, and I do not doubt that electricity will find in this light a most serious competitor. The electric incandescent lamps give on the average eighteen candle-power, and although it is very difficult indeed to obtain an estimate for the actual working expenses of an electric installation, we have found out, partly through our own customers, and partly through information from electric engineers themselves, that the cost of electricity against our light stands about ten to one. If a place with 500 lamps had to be installed with electric light it would cost about ten times as much to put the lights in and to keep them going as our own lights would. We would give with our own lights on an average of sixty candle-power a total lighting-power of 30,000 candle-power, whereas an electric incandescent lamp at an average of eighteen candle-power in the same rooms would only give an illuminating power of 9,000, which would mean that we give about three times the amount of light that electric light would be able to give. Our lamp, as it stands before you, is constructed in such a way that anybody can fix it up, and there is no trouble whatsoever in keeping the light in order. The burner is simply screwed on to an ordinary gas-fitting, the mantle is fixed on, after which the mantle is burnt off to free it from certain chemicals, which render it more resisting against breakage in travelling; after this the chimney is put on, and the mantle will begin its duty as a light. I may mention that at the present moment we have sufficient material on hand to manufacture these lights in any quantities, and failing or breaking down of the system as in 1888 is at the present moment impossible, and we look forward, though we know perfectly well that we have to overcome enormous difficulties, to convert the prejudice that still clings to our old incandescent system. We are certain that in the long run we will succeed in introducing our system not only into the better houses and places, but ultimately into every household where a cheap pure light is desired. It need only be known amongst the general public that the advantages of our system are to the extent stated to you before, when they will surely come to use the light, and we on our part

¹ A lecture delivered by Mr. Moeller, and printed in the *Architect*.

shall do everything to study the wants of the public, and we shall try to satisfy them as far as we can.

I come now to another matter which it is not very pleasant to touch, that is, gas companies. We find out that gas companies in general are dead against our light, because the consumption of gas with it is reduced to such an extent that if our light was generally adopted to-day all over England, it would certainly lead to an enormous falling off in the revenues of the gas-companies: but this fear is quite unjustified, because we have found the demand for light increase, and for this reason gas-companies would have very little to fear.

BOOKS AND PAPERS

DECEMBER, the month of Noel and exchange of gifts, causes publishers to pour fourth a multitude of fine books, bound in enticing covers and bearing titles of great attractiveness. It is a pleasure merely to see these fine works and to turn over their leaves, especially when we are talking about art; a pleasure that I would gladly share with the readers of the *American Architect*, so far as my means allow, and in spite of the distance which separates us. Among the novelties of the year are some volumes of which we had a glimpse last year, but the charm of the newness of some must not cause us to forget the real merits of others, which, coming a little earlier in the season have not for that reason altogether lost their value. There is one book¹ of which I would have liked to speak to you sooner, and it is with this one that I will begin this book review. It is the "*Salon Carré au Louvre*." In his work under the title of "*Les Maîtres d'Autrefois*," the artist Fromentin said: "Some one could do us a substantial service by writing an account of a voyage about the Salon Carré." M. Gruyer, member of the Institute, has brought to pass this aspiration of the artist, in spite of the difficulties of the route. "It is risky," he modestly says "to undertake this voyage without *parti pris*, without system, often throwing one's pen to the winds, abandoning one's self to men and things which crowd about him, borne along by the history of art, which is the golden chapter of the history of peoples, looking particularly at the works and endeavoring to penetrate the author's real meanings, turning often to the life of the painter for information as to the manners and customs of the times."

It is in this way that we have secured one more fine book, a precious document, upon all these *chef-d'œuvre* of the most noble epochs of painting, which, spite of the differences of their schools, neither hurt nor are hurt by their neighbors in the room in which they are gathered together. M. Gruyer, moreover, makes this trip as a tourist who has an enthusiasm for art. To convince ourselves of this, let us listen to what he says as to the different manners of looking at pictures. "In the first place there is the simple pleasure to the eye, the naive enjoyment of mere sensation. Next, there is the pleasure of the soul, that kind of intoxication in which we altogether lose ourselves, when our eyes are filled by an image which we have a long time gazed upon. . . . And finally there is the intellectual pleasure, the scientific examination, learning and history, and it is at this stage we must pass from country to country, from school to school."

It is this last method of journeying which M. Gruyer has followed by commencing with Italy, because in his opinion one must know this country in order to be able to understand the others. And he causes us to visit, without leaving the precincts of the Louvre, which naturally saves a great deal of fatigue, Florence and the Florentine State, Rome and the States of the Church, the two Sicilies, Venice and the Venetian State, Milan, Parma and Bologna. From Italy we pass into Germany, and then into Flanders, where we see "at the dawning of modern times a Renaissance which exceeded all others in the matter of naturalism, but which, deprived of the innate sentiment of beauty, and deprived of the benefits of Classic tradition, very quickly used up its means of expression." In Holland we learn "what charm the painter can throw about the vulgar occurrences of daily life when incomparable genius comes to his aid, when this too is served on either side by talent." We finish the circular voyage with the French artists of the seventeenth century. "Why," asks M. Gruyer, "do we close the Salon Carré with the end of the seventeenth century? Because a world terminates at that moment and another begins. Painting at that time became anecdotic, sentimental and sensual. The masters of other days are known no more. . . . Our painters of the eighteenth century speak another language. . . . An attempt was made to place in the Salon Carré the most beautiful of the Watteaus in the Museum of the Louvre, but it could not hold its place there. Nevertheless, this painting is the very *chef-d'œuvre* of its kind. But, really, Watteau has nothing in common with the masters of the seventeenth century, for a stronger reason none with those of the sixteenth and the fifteenth centuries."

These few extracts from the preface show that the "*Salon Carré*" by M. Gruyer is the work of a man who is not only learned but an artist. He causes us, while analyzing the æsthetic side of each painting, to comprehend the sentiments, the emotions, the very life of

the artist and his model. The history of each painting is cleverly told and the whole is enlivened with anecdotes or legends, either ratified or disproved by incontestable proofs according to circumstances.

Everybody knows the magnificent portrait of the woman at her toilet, by Titian! With uncovered throat, holding in her right hand her unbound hair, she with a certain amount of self-appreciation, gazes upon her image reflected from two mirrors opposite held by a gentleman standing quite obscure in the background, but whose face as he leans forward expresses the liveliest curiosity. Early in the seventeenth century we saw in this painting the mistress of Titian in company with the artist, and it is under this title that it is generally known. "It is thus named that this painting passed in England in the gallery of Charles I, later in France in the collection of Louis XIV." But if it is plain that the two figures in this painting are portraits, people are now far from agreed as to the personality of the models. "Portraits of Titian are well known, and cannot be confounded with the portrait of the man introduced as a secondary character in this painting." Here, then, is another legend destroyed. It is just the same with the celebrated painting by Leonardo da Vinci designated under the name of "*La Belle Féronière*." This portrait, having belonged to Francis I, people were wont to see in it the mistress of the King, who was called *La Féronière* after her husband, whose name was Féron. Now, as M. Gruyer remarks, Féron's wife had died before Da Vinci reached France. It is in this fashion that, thanks to this precious guide, we can study all the masterpieces of the Salon Carré.

In Italy we have Leonardo da Vinci with "*La Belle Féronière*," the "*Virgin on the rocks*," "*St. John the Baptist*," the "*Virgin, the infant Christ and St. Anne*," and his *chef-d'œuvre*, the portrait of Mona Lisa (*La Joconde*), likewise other artists like Dominico Ghirlandajo, Fra Bartolommeo and Andrea del Sarto.

Pietro Perugino and Raphael carry us to Rome. In the two Sicilies we came upon Antonello of Messina, Michael Angelo Caravaggio; in Venice and in the Venetian States we encounter Andrea Mantegna, Giovanni Bellini, Giorgione, Titian, Sebastiano Luciani, Paris Bordone and Paolo Veronese, who, if he was not really the first of the great masters, was the greatest decorator of his time and perhaps of all time. No other proof of this is necessary than this gigantic painting of the "*Marriage of Cana*," which measures 9.90 metres long by 6.66 metres high. "According to the contract preserved in the archives of the Convent of San Giorgio, contract made June 6, 1562, Paolo Veronese bound himself to execute this immense painting within fifteen months. The price was fixed at 824 silver ducats, besides his living expenses and a butt of wine. September 8, 1563, everything was finished. At that time the silver ducat was worth six Venetian pounds and four sous, or about three francs of our money. The artist therefore received 972 francs. Paolo Veronese, besides being a great painter, was a gallant man and very disinterested in a time when cupidity was great."

Many names have been given to the numerous personages represented in the "*Marriage of Cana*." Thus, all the musicians who occupy the foreground of the painting are the least open to dispute. The aged Titian plays the bass-viol, Paolo Veronese faces him playing the viola, as also does Tintoretto. Il Bassanio is represented as a flute-player. Benedetto Caliarì, standing near them, holds in his hand a glass of wine.

Among the other leading painters of Italy, we learn to recognize Andrea Solario, Bernardino Luini, Antonio Allegri, Annibal Carracci, Guido Reni, etc.

Next, Spain is illustrated for us by Velasquez and Murillo, with his blooming vision of the "*Annunciation*." The following anecdote is told apropos of this subject: "When this painting was brought into the gallery of Marshal Soult, the Virgin's hair was a more prominent feature than it is to-day. The painting having suffered a certain amount of damage, the Duke of Dalmatia, shocked by what he considered the excessive amount of hair instructed the restorer to conceal part of it under the halo which now surrounds the head of the Virgin Mary." This painting made a triumphal entry to the Louvre May 19, 1852. The purchase price at the sale of Marshal Soult's effects being 615,300 francs, it at once took the place of honor in the Salon Carré.

Germany is represented in the Salon Carré by Martin Schongauer, Albert Dürer, and Hans Holbein with his two celebrated portraits of Erasmus and Ann of Cleves. Flanders is credited with Jan Vandyck, Roger Vander Weyden, Memling, Rubens, Vandyke. Holland collects here amongst others the names of Van Ostade, Terburg, Gerard, Don Ruysdael and Rembrandt, of whose work the Louvre possesses eight portraits, four of them representing himself and one only, a woman, in the Salon Carré.

M. Gruyer finally comes to France and makes a very interesting study of the paintings of the fifteenth and sixteenth centuries, and with much wisdom analyzes the works of François Clouet, who alone represents the French Renaissance of the times of the Valois, with his two portraits of Charles IX and of Elizabeth of Austria. Next, he recounts for us the needy life of Poussin, the greatest of the artists of the seventeenth century, and after him studies Le Sueur Philippe de Champaigne, Jouvénet Rigaud and Claude le Lorrain, who stands by himself in a domain where he is unique and incomparable.

But the thing that I cannot give you any idea of is the perfection of the heliogravures which, forty in number, have been reproduced

¹"*Le Salon Carré au Louvre*." By M. Gruyer, Membre de l'Institut, Paris, Firmin Didot, publisher.

by Braun from the original paintings. The sentiment and the emotion of the work are found in them; they even evoke the remembrance of a coloring.

This voyage amongst the paintings being finished, we are now going to undertake a second midst architectural surroundings, this time under the guidance of MM. Charles Garnier and A. Ammann, during which we are going to travel through the whole world, stopping now and then before each type of human habitation. You will recall that M. Garnier built for the Exhibition of 1889 a series of buildings along the borders of the Seine, which constituted a history of the dwelling-house. These little architectural models were by some taken seriously and criticised by grave men and archaeologists, who treated the little houses on the banks of the Seine as if playthings. I cannot free myself from the idea that these criticisms were sensibly felt by M. Garnier, and that his book to-day is a plea filled with proofs in favor of his works at the Exhibition of 1889. He himself, moreover, in the preface to his book¹ allows this impression to declare itself. He defends his little buildings against the disdain which they excited in grave personages. "They were spruce and gay and original, and, then, consider they were created almost at a single movement. They were brought into the world in a week. They hardly had any space to stretch themselves in. There was a lack of money for building them." And then answering to the detailed criticisms of them that were made, M. Garnier adds, "When it becomes a question of indicating the general type of an infinity of things more or less dissimilar, the real representation of one of those things, however exact it may be, will certainly give less of an idea of the general type than a sort of condensation of dissimilar elements picked up here and there. Thus one might say without being too paradoxical that that which apes truth is more truthful than truth itself." M. Garnier, independently of the reproduction of different authentic habitations, introduces into his book the reproductions of the buildings on the Champ de Mars, for no other purpose than to allow us, after having read the text, to measure the probability of his compositions, at least so far as they concern the general aspect.

"*L'Habitation Humaine*" is not a mere architectural book; it is a work popularizing history and archaeology, methodically gathering together all the documents of every epoch, a book which would be, as it were, complete even without illustration. But architects of America who, as we at Paris, probably prefer illustrations to text, may take heart of grace. M. Garnier's book contains 335 illustrations, besides 24 maps. The historical transformation of the dwelling is divided into two periods: First, the prehistoric, which includes, naturally, all primitive shelters, whether in open air or caves; the dwelling built over the water (lacustrine hut); or over the ground (huts and menhirs—the epoch of the reindeer, the age of brass and the age of iron). The second period, the historic, is likewise divided into three parts: first, the primitive civilizations—Egyptian, Assyrian, Phœnician, Hebrew, Pelasgian and Etruscan; second, civilizations owing their birth to the Aryan invasions, established first upon the plateaus included between the Himalayas—the Hindoo, Persian, German, Gallic, Greek and Roman. The Roman Empire, at the commencement of the fifth century, was divided into two portions, which from that time had distinct developments in the East and in the West. In the West, at the end of the tumults caused by the several invasions of the Huns, Franks and Scandinavians, special types of architecture appeared and gradually suffered transformation, especially in France, England, Italy and Germany. This is the time of Romanesque, of mediæval, of the Renaissance architecture. In the East, architecture underwent the Byzantine and Mussulman influences. Then, in modern times, the character of civilized peoples becomes more and more uniform.

In the third part of the historical period, MM. Garnier and Ammann study contemporaneous civilizations of the primitive races which do not enter into communication with the other, or exercise any influence upon the general march of human improvement—Chinese, Egyptian, Esquimaux, Laplander, redskin, Aztec, Inca, and the tribes of equatorial Africa and Australia. These, then, are the ground-lines of the work of MM. Garnier and Ammann, which, besides its own interest, still has a charm as an amusing souvenir of the Exhibition at the Champ de Mars.

In another way, more practical from the point-of-view especially of the teaching of decorative arts, I will mention a new "collection" published by Charles Delagrave.² Of late years, everything which relates to the art of furnishing has taken on considerable importance in the eyes of fashionable people as well as with artists. M. Delagrave has undertaken to publish a little library of the arts of furnishing. He has thought it would be worth while "to give an account to the lovers of fine furniture, and at the same time do people of means a real service by allowing them to penetrate into the practical difficulties and exigencies which the handling of different cabinet-making materials used in the different arts actually occasion. He has desired to define, for the sake of schools of decorative art, the various conditions of construction, equilibrium and stability to which the different articles of furniture must conform in order to comply with the rules of convenience, elegance and indispensable solidity. For this purpose he addressed himself to a writer of incontestable authority on the subject; namely, M. Henry Havard,

author of the "*Dictionnaire de l'Ameublement et de la Decoration*." Three volumes have already appeared, "*La Menuiserie*," "*L'Orfèverie*" and "*La Decoration*." These volumes, only 160 to 170 pages each, contain from 100 to 120 engravings. The one which treats of decoration is especially interesting, and, with the aid of numerous examples, reviews the general principles of decorative art. These principles are established in 100 propositions stated in a few words.

As to the other two volumes, "*La Menuiserie*" and "*L'Orfèverie*," they treat respectively of the practical and historical sides of these arts. These are the beginnings of a series of works of great use to young artists, the modest price of which makes them still more attractive for purposes of instruction in the schools. I should like to have finished this notice with a mention of a fine book on Paris and its environs, in which are to be found several monuments, palaces and interesting châteaux. But I could only speak briefly of it, for this article is already too long. I will defer it, therefore, to another paper.



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

THE BERKELEY SCHOOL, WEST FORTY-FOURTH ST., NEW YORK, N. Y. MESSRS. LAMB & RICH, ARCHITECTS, NEW YORK, N. Y.

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

THIS building measures 100 feet on the street, the main portion having a depth of 47 feet. The remainder of the plot of land is covered, on the ground-floor, by an armory one and a half stories high. A span of glass 55 feet wide covers a portion of the armory, which, however, also occupies the ground-floor of the main building nearly to the street, making a large hall for commencement and other exercises. The main school-building is finished in white, with wainscoting, about four feet high, of American marble of a bluish tint. On the first floor there is a reception-room, graduates' room and library, the school-rooms of the preparatory department, and the offices of Dr. White and the Registrar. Upon the second and third floors are eight large school-rooms, each provided with a separate recitation-room. Above these are dormitories for boarders, two masters and the lady resident. The dining-rooms for teachers and boarders and a luncheon-room for day-scholars are on the first dormitory floor, where, also, is the physical laboratory. The fifth floor covers only half of the building. The other half is turned into a roof-garden covered with a grating of wire-netting, and intended for a cage for baseball practice. The construction is fireproof, and is modern in respect to plumbing and ventilation. The seats of the class-rooms are all upholstered in soft leather. Over the entrance, outside, is a frieze in terra-cotta, which is an exact copy of a portion of the frieze of the Parthenon. The front of the building is of Indiana limestone, yellow brick and terra-cotta.

ACCEPTED DESIGN FOR ST. PAUL'S CHURCH, PATERSON, N. J. MR. WM. HALSEY WOOD, ARCHITECT, NEWARK, N. J.

HOUSE OF A. N. TOWNE, ESQ., SAN FRANCISCO, CAL. MR. A. PAGE BROWN, ARCHITECT, SAN FRANCISCO, CAL.

FIRST story is built of light Roman brick; the portico and vestibule in California marble. The second story is of wood painted yellow, with cream-colored trimmings. Interior finished in quartered oak and curly red-wood.

"CARLETON PLACE": HOUSE OF GUY C. PHINNEY, ESQ., WOODLAND PARK, WASH. MR. JOHN PARKINSON, ARCHITECT, SEATTLE, WASH.

THE ROYAL PALACE, CHARLOTTENBERG, PRUSSIA.

THE RHODE ISLAND STATE BUILDING FOR THE WORLD'S FAIR. MESSRS. STONE, CARPENTER & WILLSON, ARCHITECTS, PROVIDENCE, R. I.

[Additional Illustrations in the International Edition.]

DOORWAY TO HOUSE OF W. K. VANDERBILT, ESQ., FIFTH AVE., NEW YORK, N. Y. MR. R. M. HUNT, ARCHITECT, NEW YORK, N. Y.

[Photogravure.]

THIS building is too well known to require description and the character of the print is not such that any particular feature of the fragment here shown need be dilated on. It is, however, advisable to point out that in one respect the print is misleading: the steps do not consist only of treads as the print seems to indicate but have risers as well, the depth of the mouldings upon which is in some way magnified in the negative until the depth of shadow quite takes on the character of a void.

¹"*L'Habitation humaine*" par Ch. Garnier et A. Ammann published by Hachette et Cie, Paris.

²"*Les Arts de l'Ameublement*," par Henry Havard. Ch. Delagrave, Paris, 1891.

THE NATIONAL GALLERY, BERLIN. F. A. STÜLER & J. H. STRACK,
ARCHITECTS.
(Gelatine Print.)

THIS building stands to the east of the new museum, was designed by Stüler in accordance with a plan of Frederick William IV, and built by Strack in 1866-76. It is in the form of a Corinthian temple, 200 feet long and 105 feet wide, and is elevated on a basement 39 feet high. At the north end of the building is a portico of eight columns, and at the south end a semicircular apse. The sculptures are by Schulz, Calandrelli and Moser. The edifice contains a permanent collection of modern paintings and sculpture, and is also used for loan and special exhibitions of works of art.

MAIN ENTRANCE TO THE HOTEL DE VILLE, BRUSSELS, BELGIUM.
(Gelatine Print.)

A STREET IN SCHAFFHAUSEN.

IN his voyage after the picturesque Prout could hardly avoid becoming acquainted with Schaffhausen, which, long before the oldest building in the town was erected, to boatmen was known as a safe landing-place after struggles with the "tobenden, schäumenden Rhein." It is one of the few places which seem to have been built by artists for artists, and although it is far smaller it will bear comparison with Nuremberg itself as a relic of old-world designing power and arrangement. It would be safer to speak in the past tense of Schaffhausen, for many changes have taken place in its streets since Prout's time, just as if the inhabitants were eager to uphold Montaigne's reputation, who declared that he could observe nothing that was rare in the town.

Schaffhausen was a place well fitted to be the home of one of the robber lords of the Rhine. It was therefore fortunate that in the eleventh century Count Eberhard founded a large monastery on the spot. The abbot could claim ownership of a wide territory, but he could not keep the burghers in a state of dependence. The town prospered, for it was of importance as a resting-place on account of the neighboring rapids, and the traffic of the river could not be carried on without landing goods. In the thirteenth century it was fortified, indeed, Viollet-le-Duc says the fortress is superior to French works of the same period, and the inhabitants were able to purchase the privileges of an Imperial city for Schaffhausen. The wealth of the town made it a desirable prize, and it had many masters, but the people knew how to take advantage of the difficulties of princes, and in the fifteenth century Schaffhausen was so far emancipated as to be admissible into the Helvetic Confederation. It possessed a constitution which was respected until 1798.

Schaffhausen was more fortunate than many other towns. There might be changes of masters, but it had not to undergo the periodical ruin which was known elsewhere. The general history of Schaffhausen is suggested by that "Song of the Bell" which Schiller was inspired to write by the inscription on the cathedral bell. The sounds are mixed up with human troubles; there are fires and deaths described, and they were familiar in Schaffhausen; but when the bell becomes a tocsin the reader is carried away by the poet to Paris and its revolutionary scenes. It cannot be imagined that during the troubles raised by Anabaptists and Pietists, the streets of Schaffhausen witnessed the terrors which Schiller brings together within twenty rhymed lines.

There would have been fewer relics for Prout to represent, as seen in a circumscribed space, if wars or broils were common in the town. Some other parts exist which he might also have drawn with advantage, if he were not afraid of exhausting the picturesqueness of his favorite resorts.

HANOVER CHAPEL, REGENT STREET, LONDON. C. R. COCKERELL,
R. A.

MEASURED DETAILS OF THE SAME. BY FRANCIS EDWARD WARD,
AWARDED ROYAL ACADEMY SILVER MEDAL, 1891.



ANOTHER COLUMBIAN BELL.—The little colored church at Haleyville, in Cumberland County, N. J., will make a notable loan to the Chicago Exhibition. It will be a bell that was once the property of Christopher Columbus. Early in the fifteenth century it hung in a chapel connected with the famed Alhambra. The Spanish captured it in the conquest and presented it as a trophy to Ferdinand and Isabella. When Columbus was about to start on his fourth and last trip to this continent it was presented to him, and he in turn gave it to a congregation of monks in New Granada. It was afterward captured and fell to the share of a crew of pirates. The piratical vessel was wrecked, and the bell was the only thing rescued. It was carried into one of the South American countries. There it was found some years ago by a New Jersey sea-captain, who, on reaching home, gave it to the colored church at Haleyville. — *New York Times*.

THE TEAK SUPPLY OF SIAM.—The use of teak wood in this country has largely increased of late years, and now when builders and architects have had experience of its durability for the stairs of public buildings, rafters, beams, and such like work, there are fears of a diminution in the supply of the wood. The teak tree extends through

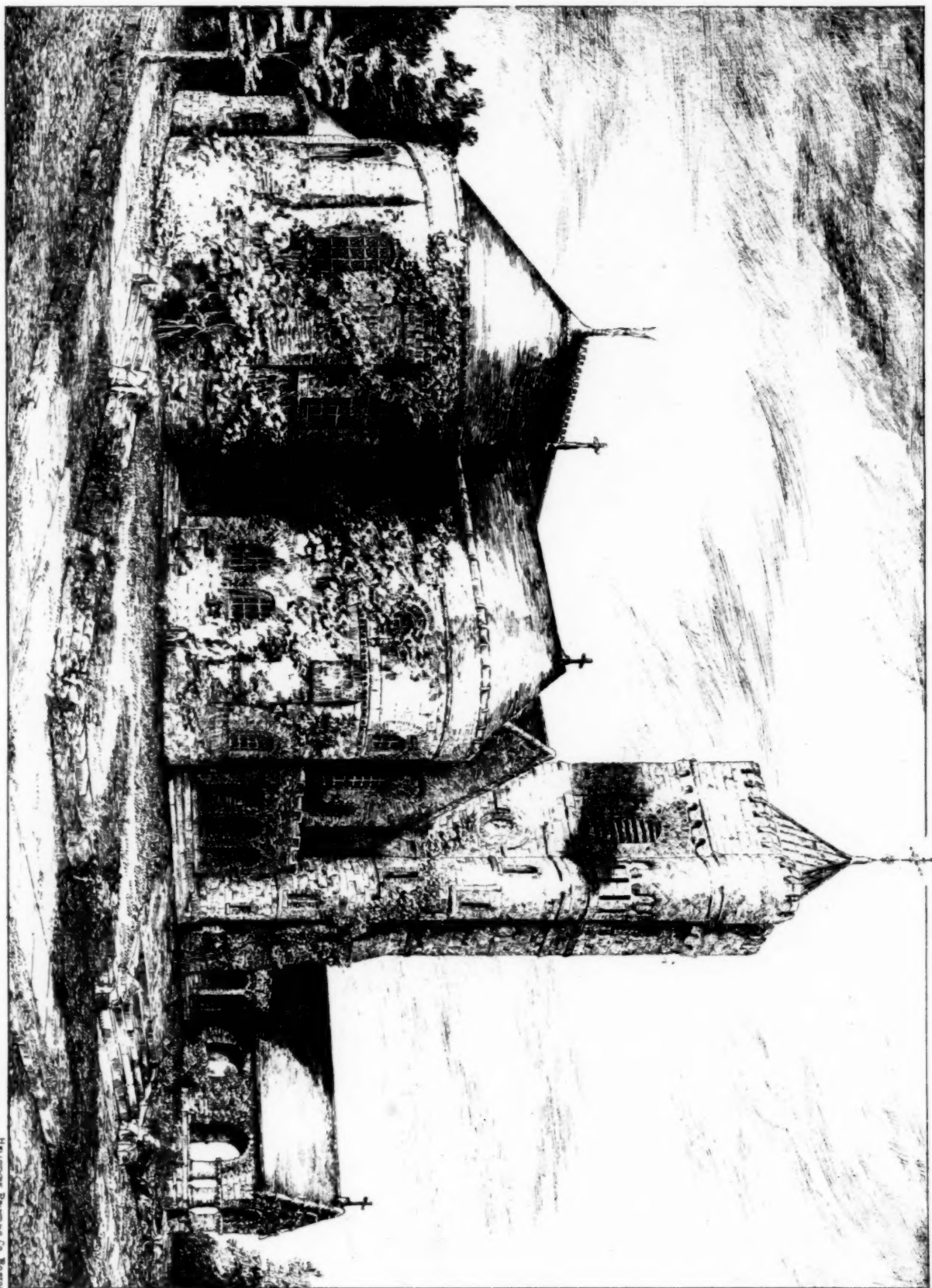
Central and South India, Burma, and Siam, and though in the former country the plantations are placed under the careful supervision of the well organized Indian Forest Conservancy, it appears from a report on the trade of Siam, recently furnished to the Foreign Office, that the "number of years which will elapse before the teak forests in the districts become exhausted is variously estimated by the foresters and teak merchants, but twenty years appears to be the longest time allowed, and under present conditions it appears doubtful whether the supply will last so long. In ten years it may not pay to work teak unless prices rise and the method of working is improved upon, as all the timber near the streams will have been felled and dragged, and only those trees will remain which are far removed from the water, or which are near streams from which timber cannot easily be got out." Further than this, it seems that very little is done by the authorities in the way of conservancy of the forests. No young trees are planted, the natural growth of the saplings being relied upon to keep up the supply of teak; but no measures even are taken to protect the saplings from fire or to ensure their growth. Many trees are felled in a green condition, instead of being left girdled for three years until the bark falls off as in Burma. With these conditions working adversely to the cultivation, or even to the ordinary growth of the tree, the future prospect of the teak in Siam is a gloomy one. — *Journal of the Society of Arts*.

SOLID FOG.—The deleterious influence of fogs may be estimated from some results obtained from examination and analysis last month at Kew Gardens. The director speaks of the leaves as being covered with a substance like brown paint — "tarry hydrocarbon" — which can only be scraped off with a knife. On analysis this shows over 51 per cent of carbon and hydrocarbon, with 41 per cent of metallic iron, magnetic oxide of iron, and mineral water. Any one at all acquainted with the physiology of plants and animals can apprehend in a moment how such a mixture must affect both the lungs of men and the leaves — which are the lungs — of plants, as regards respiration. Strangely enough, the deposit appeared to be more marked at Kew than at Chelsea. — *The Young Man*.

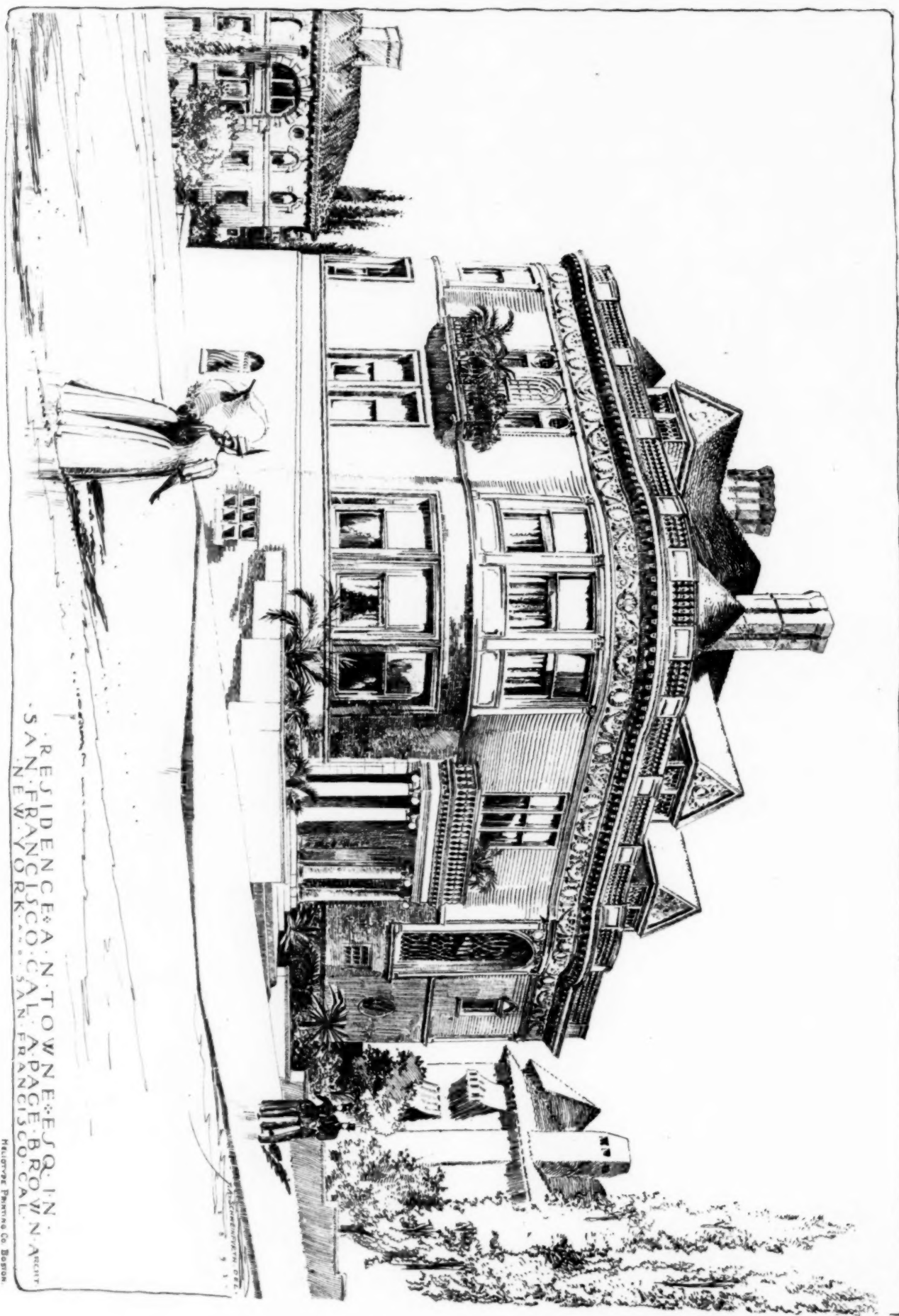


THE commercial warfare in progress throughout the world, the base of which is in Great Britain, is full of interest to observing Americans. The magnitude of the contest, and the nature of it, and the outcome of it, are not understood. The battle is being fought by merchants, financiers and statesmen, aided by manufacturers, railway managers and builders, and those who push trade into the four corners of the earth. The secret and basis of the present warfare is to be found in the decentralization of industries now in progress. Great Britain is no longer to be the workshop of the world, no more than New England is to be the manufacturing centre of the United States, in so many articles as it was for a long time. An illustration of the same decentralization has been shown in the course of the iron trade, the basis of which long ago departed from Pennsylvania. Manufacturing is springing up in all quarters of the globe. The tariff war in Europe is another illustration of the same tendency. New treaties are not being renewed with the same promptness and confidence that they were made last time. New conditions have arisen, and now more liberal terms are being made by the respective governments. Protective ideas are showing themselves where, ten years ago, they would have been regarded as heresy; whether it be for military or industrial purposes, or whether the movement can be traced to any well-defined purpose at all, the fact is that industries, big and little, are springing up in almost every civilized country in the world. Railway building is also occupying increased attention of engineers and capitalists. The islands comprehended under the general name of Japan are to be all connected by sub-marine cables. English railroad builders have again made favorable concessions with the Chinese Government for extensive railroad building. Manufacturing enterprise is being stimulated in India, China and Japan to a degree with which most American readers are not familiar. Railroad building is being projected in Africa in a manner, and by commercial interests in a way, that indicates a purpose to prosecute work with vigor, and quickly. Throughout Europe, manufacturing activity is showing itself vigorously where heretofore it has existed in a weak condition. In South American countries this is not the case, but changes and improvements are in progress there which show that the same upheaval that is stirring the entire European and Asiatic world is at work there. In our own country there is a temporary plethora of money, accompanied by low prices, which commercial and manufacturing interests do not quite understand. The situation is an accidental one, so to speak, due mainly to an immense crop on one side and a heavy market on the other. European financiers are determined to exhaust every device to retain what little advantage is left to them. Should they be compelled to depart from their policy of gold-hoarding, it is possible that something akin to a panic might occur, in the opinion of those who are closely watching European affairs. It is not at all probable that securities held by Europeans will be returned, very generally, because they are realizing high rates of interest. Still there is a commercial warfare in progress, but beneath the surface of events, and it is, as stated at the outset, impossible to predict the outcome. It is safe to say that, whoever and whatever else may suffer, the United States will hold what it has gained, and add to its advantages as a producer. That there will be an enormous stimulus imparted to trade and manufacturing is evident. That railroad building will also be greatly stimulated is a truth which very few would deny. That mining will be greatly increased during the next six months is also true. There is no probability of rushing into such an overproduction as would disorganize existing conditions. The reciprocity treaties which are being made will produce good fruits ultimately in a small way. The real prosperity of this country is to be found in the trade it will develop within its own borders, not outside. The industrial conditions continue favorable everywhere. Low prices will be the rule during the current year. Speculation will have very little opportunity. There will be an active demand for all available capital. The margin of profits will be narrow. Labor will be well employed. Building activity will be somewhat greater than last year. Land-values will remain about where they are. There will be a great increase in the taking up of new homesteads and in the purchase of land for agricultural purposes.

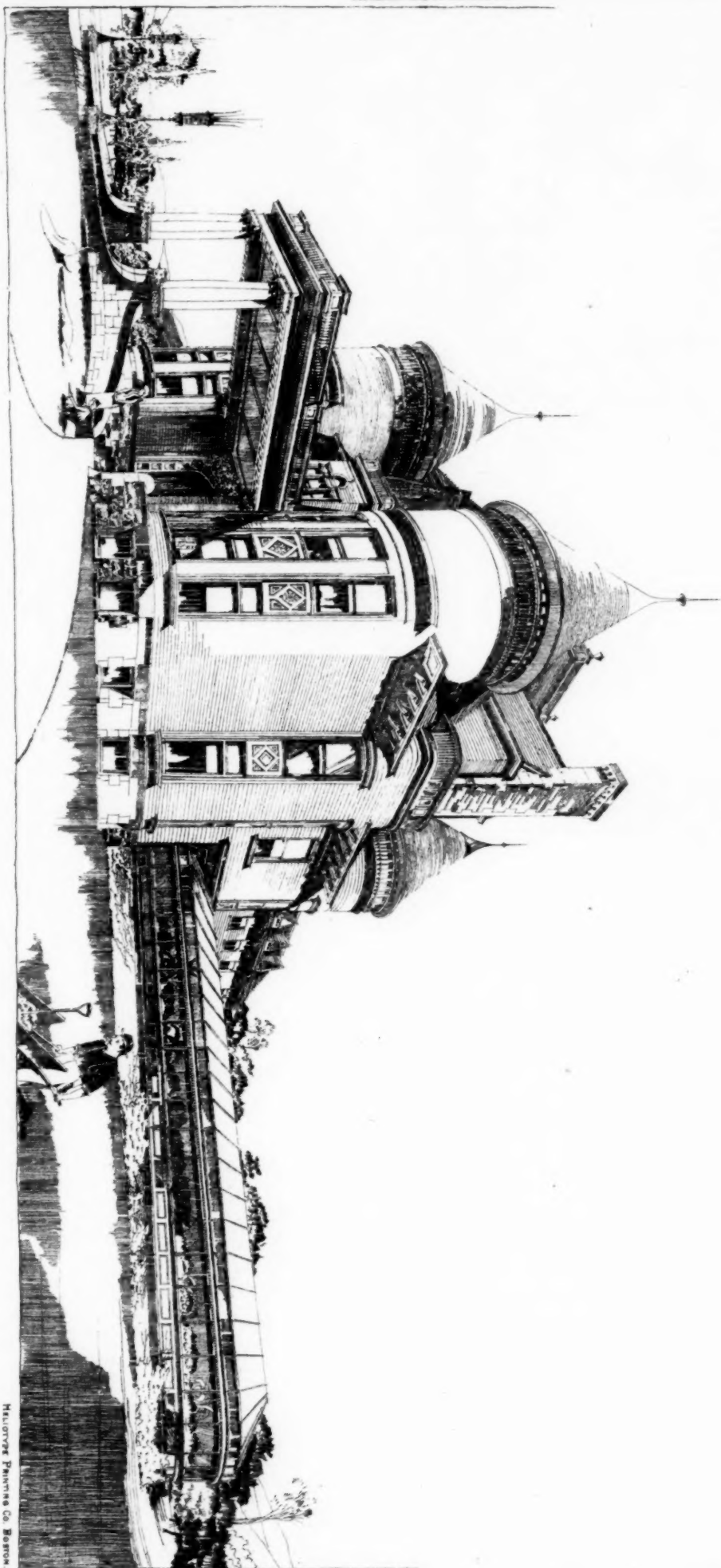
Accepted design for St. Paul's Church—Paterson, New Jersey—William Haley Wood, Architect.



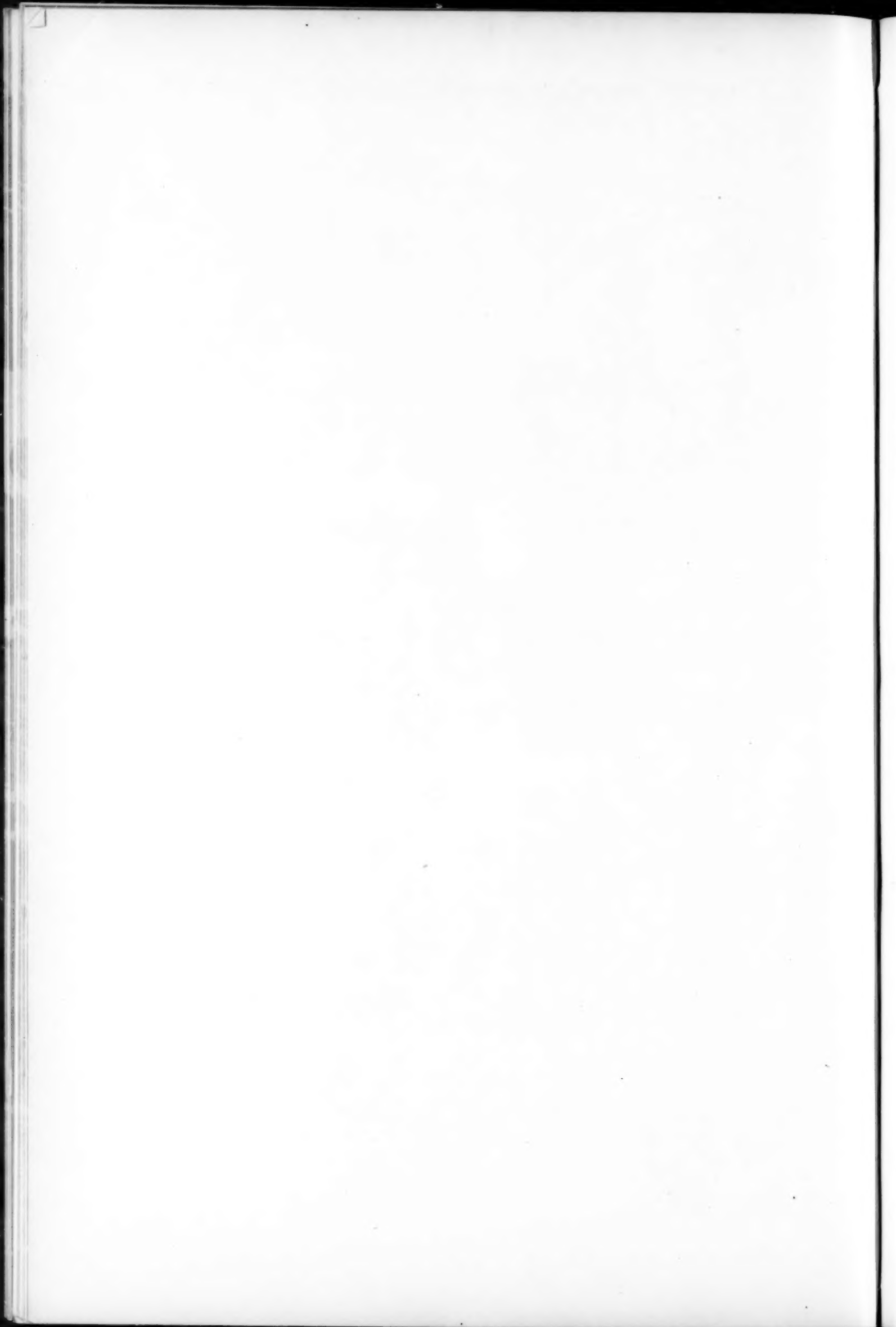
HALLWAY, PRINCE & CO. BOSTON



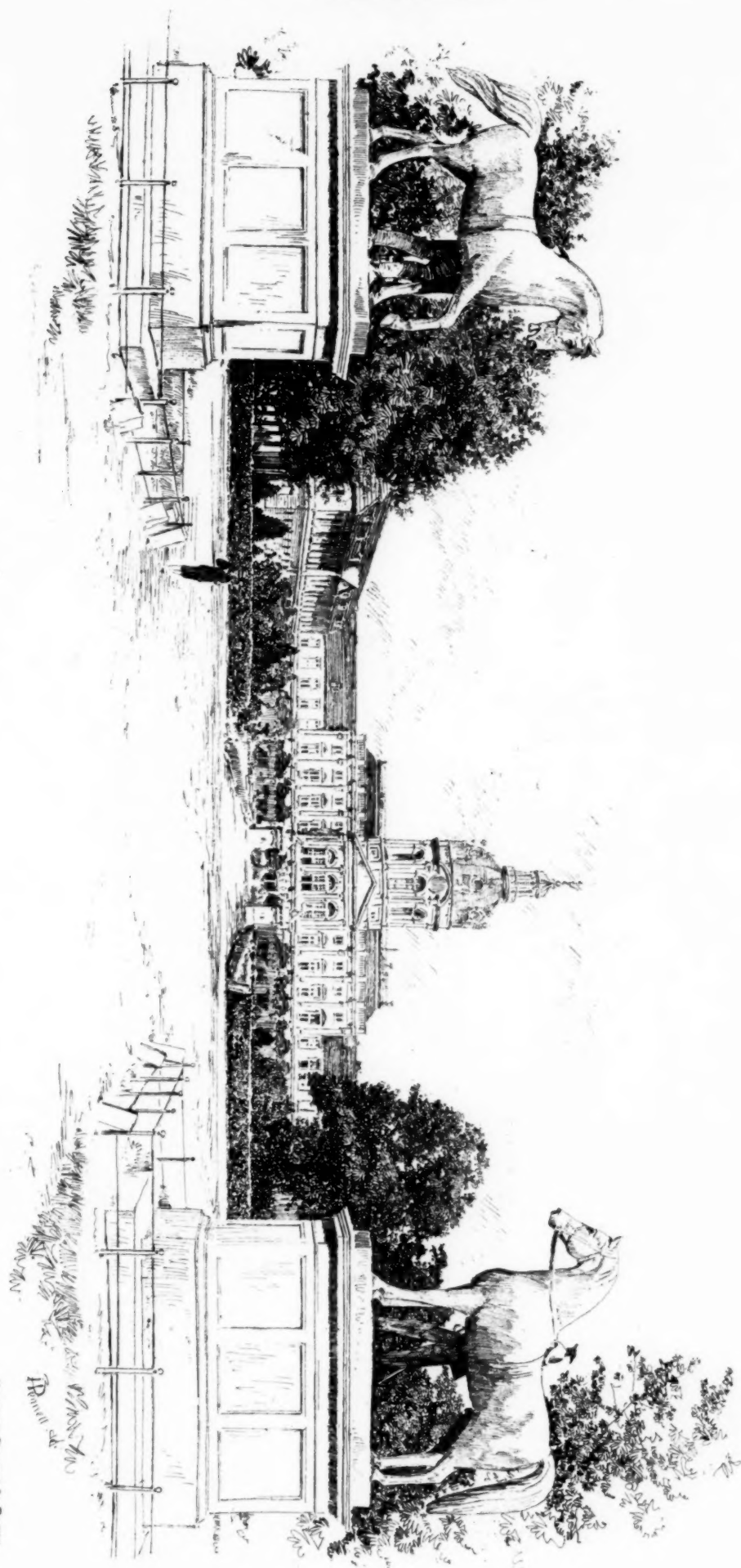
COPYRIGHT 1892 BY TICKNOR & CO



CARLETON PLACE, NARAYAN PARK
RESIDENCE OF GUY C. PHINNEY, ESQ.
JNO. PARINSON, ARCHITECT
SEATTLE, WASH.



COPYRIGHT 1892 BY TUCKER & CO.



• THE ROYAL PALACE • CHARLOTTEBERG • PRUSSIA •

HEUER & PETERS CO. BOSTON



State Building for Rhode Island



Island. Columbian Exposition