A BOMB FROM BROOKLYN.

Fearful Financial Condition Requiring Care, Caution, Courage and Economy.

FORTY-TWO MILLIONS OF DOLLARS IN DEBT

What Will Happen Unless a Strong Hand Uses the Knife.

THE BRIDGE TO BE FREE WITH A "BUT."

The unhappy predicament of Brooklyn, with all the expenses and none of the income of a first class city, has for years attracted the attention of curious financiers and clear-headed publicists. That sooner or later bankruptcy, a union with New York or a miracle must come to her relief has long been believed. At present the condition of our sister city is most pitiable, and that of her property holders and taxpayers is even more touching. Vague rumors of impending bankruptcy and inexplicit charges of items omitted from the tax levy have been current for some weeks, and, for the purpose of ascertaining reliable data in the premises, the editor of the Brooklyn *Eagle* was sought as one most likely to know the inner facts. Mr. Thomas Kinsella represents the largest property holders in Kings county and has held such confidential relations with officials and taxpayers as enable him to speak *ex cathedra* with no uncertain sound. It will be found that the alarmists have ample ground on which to base their apprehensions, and it would be impossible to exaggerate the importance and significance of the following exposé. Mr. Kinsella was found in his office hard at work, but willing in the interest of the city to make a clean breast of a very discouraging state of things. In answer to a question put for the HERALD, he said, "Yes; there is danger, and again there is not, in the present condition of Brooklyn's financial affairs. There is danger in the constantly increasing tax arrearages and in the amount of temporary bonds the city has been endeavoring to carry for many years. The danger can be averted if Brooklyn will now make a resolute effort to enforce the payment of taxes in arrears and to close up the local improvement accounts for which these temporary bonds were issued. The financial situation is such as will require care, courage and economy to get down to hard pan and to put the finances of the city in a permanently satisfactory shape. Above all things, the action required must not be delayed, and if your visit is an indication that the HERALD is going to give us its help in this direction I am glad to see you, and I will cheerfully give you any information in my possession."

A FEW HOME FACTS.

"What is the amount of taxes in arrears? How did this account come to be an element of danger, and what is the especial danger feared?"

"The amount of taxes in arrears is, I should judge, between three millions and a half and four millions. I have not the official figures at hand. Those I give you are accurate enough for your present purpose. The city having, of course, no capital to start with, must make good in some way the taxes it fails to collect. The money is borrowed on "tax certificates" of indebtedness, and of such certificates there are now outstanding about the amount I have stated. This indebtedness is not decreasing. If it should go on increasing the credit of the city would be impaired, we might be unable to borrow any more money, and this would bring us to a standstill. You ask how did this indebtedness come to be so large as to be a source of danger. There is more than one cause for it. The depression which followed the panic of 1873 left very many property owners unable to pay their taxes, and it was not possible for owners carrying a large amount of real estate to sell part of it so as to keep what they held clear of encumbrances except at a ruinous sacrifice. The more unproductive real estate a man owned the poorer he seemed to be during the years when real estate was a drug upon the market. Even the owners of productive real estate found their incomes suddenly reduced by the decline in rents, and I suppose these people experienced the usual difficulty men have in reducing their style of living so as to meet a decreasing income. The large real estate owners, who naturally have most influence in local affairs, having suffered their taxes to remain in arrears then devised a plan for securing relief through legislative interference—the prolific source of trouble to Brooklyn. Up to this time one per cent a month default was charged upon taxes in arrears. A bill was prepared under which all taxpayers in arrears to the city were given the right to pay such taxes with the simple addition of seven per cent interest from the date the taxes became due. The advocates of this bill argued that if it passed those who were in debt to the city would make haste to take advantage of the law. The city, it was said, would be able to collect nearly all the taxes outstanding and with seven per cent interest, and so the city would be made whole, for it never had to pay more than seven per cent for the money it had to borrow. Why, it was asked, should the city be so unreasonable as to exact twelve per cent from owners of property within its limits, when it could itself borrow any amount of money at six or even five per cent interest? In order to show that all that was asked was an opportunity of paying the back taxes at the legal rate of interest the act expired by its own terms within one year. This argument was at least plausible, and it prevailed with the Legislature. The law augmented the evils it was perhaps intended to remedy. The taxpayers in arrears did not rush to the tax office to pay up. On the contrary, builders and others, who would gladly borrow money at seven per cent interest, used the money they owed the city for taxes in their business, since the city virtually loaned them money on as favorable terms as the banks would. The law created a still greater evil. When the Legislature interferes at all between the city and its debtors a continued and an enlarged interference is hoped for, and doubtless many taxpayers, in the hope of further relief, held back. At the most the money they retained in their hands was worth seven per cent interest to them, and this was all the city charged for it. The law failed in its purpose, and, as was anticipated by those who opposed it, among whom was Mr. Schroeder, then Mayor. When it was about to expire by its own terms more influence than before was brought to bear to have the law re-enacted for another year. This, too, was accomplished. The passage of the law for one year doubled the difficulty and its re-enactment increased it manifold. The law was suffered to lapse, but then the situation had got to be such that the local authorities found greater difficulty than ever in enforcing it. To sum up the payment of taxes has not been enforced in Brooklyn by the sale of property on which the taxes are liens for five or six years past, and the result is there are now nearly four millions of taxes in arrears in this city and no sale of property in arrears for taxes has as yet been provided for. Of course, the difficulty of making sales increases with the quantity of property liable to be sold for nonpayment of taxes."

"Has the Legislature created other difficulties?"

OTHER LEGISLATIVE EMBARRASSMENTS.

"Yes, it has. The old rule of default for non-payment was one per cent a month, or twelve per cent a year. The Legislature reduced it to nine per cent. Property liable to be sold for non-payment of taxes is not, as you know, sold outright. It is sold to whomsoever will pay the city's claims upon it and take possession of the property for the shortest term of years, subject to the right of redemption by its owner. The business of buying such property is more or less risky, is troublesome and, perhaps, to an extent odious. We found from experience that fifteen per cent default to the purchaser of such property—when its owner chose to redeem it—was no more than sufficient to induce people to engage in the business of purchasing property at our tax sales. The rate was reduced to twelve per cent by the Legislature, and the city was obliged to buy in property when nobody else would. The result was that at the first tax sale under the twelve per cent law no private purchaser appeared, and so, in effect, no sales were made and not a penny was received by the city. On the contrary, it had to bear the cost of the advertisement, which was quite an item in the aggregate. The advertising presents another difficulty. When not more than 600 or 800 parcels of property were offered for sale, and when purchasers were to be found, the advertising cost the city nothing; it was a charge against the delinquent, who sought to pay up before the day of sale, as he often did, or against the purchaser. But when there are 40,000 parcels of property in arrears, as at present, with far less chance of purchasers, advertising through the Corporation papers, as the charter provides, is costly; and, if the city has to bear the cost, a sale with no purchasers would leave the city worse than it found it. I have tried to explain one main cause of the difficulty that confronts Brooklyn. But this is not all."

"Well, what else is there?"

"The difficulty which will grow out of collecting taxes on property which is also burdened by assessments levied to pay for local improvements."

"Can you explain it!"

INTERESTING TO SECRETARY EVARTS.

"I will try, in this way. Suppose I am the owner of a piece of unimproved property on the line of the Sackett street boulevard improvement, or we will take a case which actually exists. Mr. William M. Evarts, the United States Secretary of State, seeking an investment for money he had to spare, bought several lots at auction on the line of this improvement several years ago, and when, under the influence of a depreciated currency, property seemed to be of great value. He paid, we will say, $1,000 a lot for this property. The assessment for his improvement is, say, $500 a lot, and this is more than the property would now sell for. Mr. Evarts regards his property as lost; he has, I am assured, virtually abandoned it. Of course he has not paid and does not pay the taxes on it. The city goes on year after year levying taxes on Mr. Evarts' property, and, of course, the taxes are never paid, nor are they, indeed, collectable, for the property is bankrupt—that is, the assessment and taxes together come to more than the property would sell for. How much of the tax arrearages is represented by taxes of this kind, which never can be collected, can never be determined until the city makes a resolute effort to collect both the taxes and assessments due. When the city determines, by all the power the law can give, how much of its debts it can collect, then, and not before, we will find out how much of the city's outstanding claims must be borne by the city at large. When this is done, and not before, Brooklyn will be able to tell just how she does stand financially. A part of the tax in arrears and a considerable portion of the assessments now outstanding will have to be added to the present debt of the city and will have to be paid by the city at large."

THE REMEDIES PROPOSED.

"What remedy do you suggest?"

"The old one, a sale of property, when possible. The restoration of the former penalties in default of non-payment, when taxes become due and remain unpaid. A city must pay the obligations it incurs or the Sheriff seizes its property. A city must collect the claims it has on property owners, or it must 'shut up shop.'"

"What is the amount of temporary local improvement bonds outstanding?"

"Between nine and ten millions of dollars; nearer ten than nine."

"What are the improvements for which these bonds were issued?"

"Opening, grading and paving streets, constructing sewers, making improvements under the direction of the Legislature, &c., &c. These obligations are legacies of 'the flush times' of inflated currency during and immediately following the war. There was a large speculative demand for unimproved property. Everybody who owned property seemed at one time to be [illegible] with a panic lest he could not put it [illegible] market soon enough. Streets were ope[illegible] paved, sewered and lighted long in advance of any possible necessity for them through an increase of population or actual settlement. These improvements were eagerly solicited. There was no existing necessity for them. The improvements were made. Wild speculation in real estate ceased. The owners of vacant lots are not able or not willing to pay for improvements which will be needed only when the streets are built upon. At the direct instance of property owners, speculators and contractors a score or more of costly local improvements were forced upon Brooklyn by the Legislature. The city had no option but to issue its bonds to pay for such improvements, and it has to look to the collection of assessments for the return of its money. The speculations these improvements were intended to forward failed in most cases and the property liable is not now worth the amount of the assessments, with the taxes, water rates, &c., which have since accumulated. The local improvements, for the most part, were initiated in the Legislature and were carried out not by the local authorities but by agents selected by the Legislature itself."

SUGGESTIVE ILLUSTRATIONS.

"We will take, for instance, the Sackett street boulevard scheme already referred to. The city has paid out, I presume, a million dollars for that improvement. It was clamored for by the property owners, who were relied on to pay for it. It was assumed that it would bring their property into the market and make it very valuable. With difficulty the grand scheme devised by the property owners on Sackett street was kept within the narrower scope on which it was finally carried out. The improvement was authorized by an act of the Legislature. The owners desired that it should be carried out under the direction of the Park Commissioners, who were, at that time, virtually State agents. The 'bottom fell out' of the real estate market before the improvement was completed. The property assessed for its payment is not able to respond. The city has paid out the money it raised upon its bonds and it cannot get it back, and to add to the trouble, as I have said, this class of property, which is virtually bankrupt, is included in the tax levy year after year and no taxes are paid upon it. The history of the Sackett street boulevard is the history of the Fifth avenue improvement, the Third street and Union street improvements and half a dozen others I could name, all carried out under the direction of that devilish legislative device known as 'the special commission system.'"

"Has any remedy been suggested for this state of things?"

"My remedy is, first of all, to force a sale under the old time penalties and ascertain just how much of our outstanding claims we can collect. New York city had, or has, to confront the same sort of difficulties. In that city, if I mistake not, a board made up of its chief officials was created by the Legislature with power to compromise with property owners where their property was not worth the claims the city held against it. Mayor Howell, of this city, favors a compromise scheme on what may be termed 'general principles'—that is, nothing is left to the discretion or judgment of her officials in effecting the compromise. Under Mr. Howell's scheme, a piece of property on which the liens held by the city are found to be in excess of its assessed value would be held to be bankrupt property. In such cases, and only in such cases, the owner was given the option of paying the full assessed value, which is ordinarily much less than the real value, and in return the city released such property from the liens it held upon it. In case the owner desired to take the option of paying three-fourths of the total lien, that option was given. A bill providing for this scheme of compromise was before the last Legislature, but, as there were no politics in it, it was found impossible to secure much attention for it. Some such scheme will have to be resorted to. Of course, it embraces only unimproved property, for I assume there is no case where improved property is not good, as an asset, for the city's claims. In all such cases payment of the full claim can be enforced and this must be done. A continuance of the present policy, which leaves the taxpayer the option of paying his taxes or not and in not enforcing their payment, would very soon bankrupt improved property if a total collapse of the local public credit did not anticipate the consummation of such folly."

BROOKLYN'S PROBLEM.

"What is the total debt of the city of Brooklyn?"

"The total debt of this city, including temporary bonds, tax certificates and everything else, is $42,257,000. Against this we have in our sinking fund—our own bonds mainly—$4,781,978; so that the net indebtedness of the city, according to the last official statement, is $37,475,531. Brooklyn is responsible for its share of the county debt also, which would bring up the net indebtedness of the city to nearly $40,000,000. In other words, if we were not able to collect a dollar of what is due the city we would then owe $40,000,000."

"Then of tax certificates and of temporary bonds there are outstanding about $14,000,000. How much of this amount do you think can be collected?"

"This is not an easy question to answer. Opinions differ about it, and until we resolve to try what we can collect and what we must compromise the question cannot be settled. If we can collect two-thirds of the taxes in arrears and one-half of the assessments this would reduce our aggregate debt to $33,000,000, and this Brooklyn could carry, providing no new enterprises were undertaken."

"Is your local debt increasing?"

"The local debt proper is not, nor has it been for some years. Our subscription to the East River Bridge, however, is made a permanent addition to our debt. The local improvement business has been stopped by a change in the law which compelled the city to issue its bonds to pay for such improvements."

"Can you tell me, in general terms, what your local debt has been contracted for?"

"Prospect Park has cost us, in round numbers, $10,000,000; our water works over $11,000,000; we have advanced toward the construction of the bridge about $7,000,000. These three items make up about all our permanent debt, and together foot up $28,000,000. Add the temporary debt, so called, we have been considering, and the $4,000,000 of tax arrearage certificates and our local indebtedness is about all accounted for."

"Are you obliged to raise by direct taxes interest on about $40,000,000 of debt?"

"Oh, no; not so much. The Park debt must be raised by taxation; the interest on the water debt is met from the revenues of that department—which is also providing for the principal through the sinking fund; the interest on the temporary debt and tax certificates is payable from these accounts respectively. The interest on the bridge loan is charged to the bridge—that is, it has been retained by the city in paying over the principal to the bridge trustees. The total annual interest on our public debt, raised by taxation, is within $1,000,000. The chief item is the Prospect Park debt."

THE CHARGE OF SUPPRESSION.

"By the way, is it not charged that Mayor Howell, in his efforts to reduce the tax rate, or to make it appear that he had reduced local expenditure, failed to include in the tax levy of this year the item of interest on the bridge bonds?"

"During the late campaign this charge was made, but, substantially, with 'intent to deceive.' If the charge were true it would follow that this item was included last year or some previous year and that it was omitted this year. No such thing has been done. As I have said, the interest on the bridge bonds as it accrues is withheld from the principal as it is paid over to the bridge trustees, under the requirements of the act of the Legislature under which the bridge is being constructed. This is the way this question came to be raised this year. All the money the bridge trustees are entitled to receive under the existing laws will be paid over by the two cities in the early part of the ensuing year. Of course, if there were no more money to be paid over there would be no principal from which to deduct the interest fully due on the bridge bonds in June next. It is not to be assumed that the Legislature will not authorize the raising of the money now needed to complete the bridge, which amounts, by the way, to almost the amount of the interest withheld. If authority to raise the balance required to complete the work is given then the Comptroller will deduct the interest from the principal, as he has hitherto. It would simply crush Brooklyn if this work were left uncompleted, while the interest on the money now spent upon it had to be met by taxation, as, in that event, it must be."

"But will not Brooklyn have to meet the interest on the bridge debt after more money is expended and when the bridge is finished?"

"Brooklyn will then have, as an offset, the indirect advantage the completion of the bridge will give her. When I was in the Bridge Board I kept constantly in mind the necessity of providing for securing a direct revenue from the bridge. I believe the bridge will be a complete success; but it will not be unless it returns a direct revenue which will, in a short time, pay the interest on its cost. The bridge will be substantially free to those who choose to walk over it or provide their own conveyances; but a revenue must be obtained from the railroad companies which will use the bridge and from the means of transportation provided by the bridge trustees themselves."

"It would seem, then, that Brooklyn is not in very much danger, after all, financially?"

"There is no danger that cannot be offset by vigilance, prudence and courage on the part of those intrusted with her affairs. But from a continuance of her present system of dealing with her property owners and taxpayers there is danger, and a danger which could end only in the ruin of the city's financial credit, and if a crash came then, it would carry down with it all our individual interest."

A LOCAL PUFF.

"What is your opinion of your local government, Mr. Kinsella? Is it getting better, or worse?"

"It is getting better. The tax rate was $3 17 two years ago: it is now $2 53. We suffer in one way by being so close to our wealthier New York neighbor. Formerly we paid our policemen $700 a year. Brooklyn was brought within the old metropolitan police system and the policemen's pay was raised to $1,000, and later on to $1,100 a year: the pay of other employés was "levelled up" in proportion. Two years ago Mayor Howell and his associates caused a reduction of the pay of the policemen to $1,000 and that of firemen to $800. One of the officials who was held responsible for this reduction was a candidate for Comptroller last fall, and the policemen, firemen, &c., took credit for defeating him. The politicians on both sides got frightened. The last Legislature increased the pay of the firemen to the old rates; advanced the salaries of police captains and roundsmen, and then provided that the local authorities should not in the future interfere with them. This year the taxpayers and self-supporting citizens kept their own interests in view, and while Mr. Howell's former associate in the Board of Estimate was defeated last year, Howell himself was elected by a large majority this year. By comparison with New York, Brooklyn is a cheaply governed city. For instance, this year our total city tax levy is within four million dollars, while that of New York is twenty-eight millions. Of course we have not New York's resources and we cannot pay such salaries as she does. We want more policemen, but we cannot afford to employ them and pay anything like the pay New York can afford. If the Legislature would let us alone and give to the people of Brooklyn under some general law the power to manage their own local affairs Brooklyn would be well able to take care of itself—no city better."

"Your city charter is now to your liking, is it not?"

"No; in some respects the government of our city is the clumsiest of that of any city in the State. We have, for instance, three tax receiving departments, occupying different offices. New York has one Finance Department and one City Works Commissioner—we have three Commissioners. Just think of a city maintaining a "Department of Audit," as we do. Brooklyn has never wholly got rid of its village system of government. When the "Department of Audit" meant simply an officer to examine bills against the city it did not make much difference whether the auditor was an independent officer or a clerk in the Comptroller's office; but an auditor with a department and a whole staff of employés is, I think, a novelty under a city government. A Comptroller is an auditor, and an auditor audits the Comptroller."

"Then, in a word, the financial situation of Brooklyn is such as to cause grave apprehension, but it is also so far this side of actual bankruptcy that its salvation is possible with care, caution, courage and economy?"

"That is it, precisely."

STEAM PILOT BOATS.

THE PILOTS OF THE HERCULES OBTAIN A WRIT OF TEMPORARY PROHIBITION AGAINST THE PILOT COMMISSIONERS.

The question whether pilots shall be allowed to use steam vessels in the prosecution of their business as pilots has been brought before the court for adjudication and the result will be looked forward to with great interest by the contesting pilots. It is hardly necessary to state that the recent introduction of the steamboat Hercules as a pilot boat in New York Harbor is the basis of the controversy. Mr. George H. Sisco, one of the five pilots in charge of the Hercules, had been served by the Pilot Commissioners with an order to show cause, at noon to-day, why he should not be suspended or his license revoked for boarding vessels from the Hercules, on the ground that the Board has not officially recognized it as a pilot boat. Instead, however, of obeying this order, Mr. Sisco deemed it best to invoke the power of the Supreme Court, and accordingly application was made by Mr. Thomas Bracken, his counsel, to Judge Lawrence, in Supreme Court, Chambers, for a writ of prohibition against the Pilot Commissioners. Judge Lawrence granted a temporary writ, and set the case down for argument on the third Monday of next month as to making the same permanent.

The affidavit of Mr. Sisco, on which the temporary writ was granted, recites in detail the controversy between himself and his associate pilots of the Hercules and the Pilot Commissioners and pilots objecting to the employment of the Hercules as a pilot boat, which facts have already been fully published in the HERALD. Particular mention is made of the bylaw passed by the Pilot Commissions at its meeting on the 7th inst., declaring that a pilot or pilots using steamboats shall be punished either by suspension or revocation of their license. It is claimed that this is an ex post facto law and not applicable to the present case.

THE TRADE MARK DECISION.

A special meeting of the United States Trade Mark Association was held yesterday afternoon at the rooms of the Stationers' Board of Trade, in Nassau street. Mr. Orestes Cleveland, the president, occupied the chair, and among those present were Bowles Colgate, Wright Duryea, Robert Dunlap, E. Faber and representatives of P. Lorillard & Co., W. H. Schieffelin & Co., J. Dwight & Co. and the Singer Sewing Machine Company. Mr. Cleveland said it had been announced that the recent Supreme Court decision destroyed all property in trade marks. He claimed that the common law afforded ample protection to owners of trade marks, with the exception of not providing that the infringing parties might be punished criminally. The latter, however, could be sued and forced to show their books. The great difficulty was that the decision takes away the registry office, which was the proof of priority. A suggestion was made by Mr. Francis Forbes that the association should open a registry office on their own account, but it was claimed by others present that, although such registration would be useful to manufacturers and owners of trade marks, still it would not be valid to show priority before a court unless the manufacturers had put their goods on the market. Mr. Duryea offered a resolution, which was subsequently withdrawn, that a committee of three be appointed to draft a law to be presented to Congress for the protection of American trade marks now existing under treaties, and to draft one to be presented to the Legislature of this State making the registration of trade marks compulsory. A resolution was finally adopted that a committee of five, with the chairman, be appointed to consider the question of the effect of the "trade mark" decision, and that they be instructed to report at an adjourned meeting to be called by the Chair.

A number of importers of French merchandise have appealed to the French Minister at Washington to protect their interests under this decision. "We do not hesitate," the petitioners say, "to call upon Your Excellency to use your influence for the protection of the French interests thus endangered, and to pray your intervention with the Department of State in order that the President of the United States may in his message to Congress, which meets on the first Monday of December, 1879, be induced to urge upon that body the immediate passage of a law to carry into effect the treaty with France."

AN EX-SHERIFF'S PURCHASE.

Ex-Sheriff F. M. Clemmens, of New London, Conn., came to the city a few days ago with some horses he wanted to dispose of. He was on the eve of going home when he saw the following advertisement:—

For sale, regardless of cost, the well known trotting and road mare Champlin Girl, with a record of 2:30; time shown; none but purchasers need apply. For further information apply to groom, Charles, at private stables No. 217 East Thirtieth street, between Second and Third avenues.

Mr. Clemmens called at the stables, where the colored groom, Charles, pointed out the perfect animal in a stall. The next moment a person stepped in and announced himself as J. Whelan, the owner of the trotter. The newcomer was a talkative mortal and evinced an affection for the nag that was quite pathetic. While he was conversing with Mr. Whelan another man entered, whom he accosted as Thompson, and who at once announced his intention of purchasing the steed. But Whelan turned away indignantly and walked out. To Mr. Clemmens the would-be owner of Champlin Girl next addressed himself, and, after a confidential chat, the latter accompanied him to Wall street, where he cashed a bond with Vermilye & Co. and came back with $350 to buy Champlin Girl. It was agreed that as soon as the ex-Sheriff closed the purchase with Whelan he should lead the animal around the corner, where Thompson was to await him with $400 in ready money, which he was to turn over to him. Clemmens saw the owner of the mare, bought her, took her around the corner, but found no Thompson there. The police arrested Thompson and Groom Charles, but could not find Whelan. In the Yorkville Police Court yesterday both of the prisoners were committed till Whelan could be produced. Thompson said his right name was Sommers.

THE GREAT PYRAMID.

Its Purpose and Meaning Explained by Professor Proctor.

BUILT FOR ASTRONOMICAL OBSERVATIONS.

Concluding Lecture of the Course at Chickering Hall.

Professor Richard A. Proctor yesterday afternoon at Chickering Hall delivered the last lecture of the interesting course on astronomical topics with which he has been delighting and instructing New York audiences. The subject chosen was, "The Great Pyramid, Its Purpose and Meaning." The lecture was arranged, by request, for three o'clock, in order to accommodate schools and persons living in the suburban towns. Professor Proctor illustrated his remarks, as usual, with excellent stereopticon views, all of the pictures of the pyramids and obelisks being photographs taken on the spot. These greatly assisted the correct understanding of the lecture. A large audience was in attendance and frequently testified its admiration of the distinguished astronomer by applause. The occasion was Mr. Proctor's last appearance before a New York audience for some years. He leaves for Boston, and will make an extended tour through this country, returning to England by way of Australia. Like the revolving comets in their orbits, but with a much shorter period, the Professor expects again to visit America, year after next, attended by two beautiful satellites—his daughters.

THE LECTURE.

Professor Proctor said that the subject of the Great Pyramid was one to which a great deal of attention had been called in connection with some very fanciful theories. He proposed to treat of it in the light of astronomy and had no special theory on the subject, although he had a very clear opinion as to the object of the builders. Some thought the pyramids were in some way fortifications against the floods of the Nile; others a protection against the sands of the desert; others that they were intended as tombs. This latter the Professor thought likely enough, although he did not believe they were used for that purpose alone. Others believed that they were used as treasure houses, and it was this idea which led the Sultan Mahmoud to have them opened at great expense and labor, all of which was lost, as there was nothing found in them. Other theories were that they were used as astronomical observatories or as places of worship. Formerly on the top of the pyramids there was a square platform, which might have been used for either purpose. They had since been covered up so that at one time there was not a crack or a crevice in any of their four sloping sides, showing that the purpose for which they had been built had ceased to be of interest. Whatever might have been their ultimate use no astronomer could examine them without perceiving quite clearly that they were built by astronomers and for astronomical purposes. None but an astronomer could have given to the Great Pyramid the perfect astronomical form which it possessed. It would be safest to start with what was known clearly.

The lecturer proceeded to suppose himself an Egyptian king, with unlimited means in labor and in expense, who desired, without any telescope or any of the modern appliances of astronomy, to carefully observe the heavens. In the first place, a building exceedingly firm and stable would be required, then a firm and stable basis, and, finally, certain definite lines, not merely horizontal, but along which one could look in certain definite directions at the heavenly bodies. He would be supposed also to be without the table of logarithms, and could, therefore, only use large angles, such as the right angle or its half or third to avoid complications. He would search for a latitude in which to place his building so that the altitude of the pole star should be equal to one of these angles, say thirty degrees north latitude, as that is the only latitude in Egypt which had these characteristics. This was the very latitude in which the Great Pyramid of Cheops had been placed, so that the altitude of the pole was one-third of the way to the zenith and of the sun at the time of the spring equinox, two-thirds of the way. It was clear that the builders of the pyramid had dealt with the problem in that way. The rays of the sun, however, in coming through the atmosphere would be bent, so that if the position were taken by this means the sun would appear higher in the heavens and the place indicated would be too far north. In the same way the pole star would appear too high, and the place would be located too far south. The mean between these two observations, placing, however more reliance on the stellar one, had been taken so that it was only the question of a few yards relative to the exact position. Then to get its four sides to run north, south, east and west was not so easy a matter. By taking the shadow of a post at its shortest height it would not give the exact north, as the sun at noon changes its position very slowly, so that the observation could not be made correct within a minute or two. A stellar observation had therefore been taken.

HOW THE PYRAMIDS WERE BUILT.

To get the base of the pyramid—762 feet on each edge—perfectly level Professor Proctor thought that they must have adopted the method of cutting out from the rock a place for the foundation of the pyramid, and then pouring in water, marking the height to which it rose on the sides. To obtain a due north and south line it would have been necessary to bore into the solid rock in such a direction that from the shaft thus made the north pole star could have been observed at its lowest point in the small circle it makes around the pole. Then by boring another small perpendicular hole to meet the shaft, and dropping a plumb line and connecting the orifice at the surface with the orifice of the shaft at its corresponding point, there was formed a true north and south line. According to Herodotus a fresh set of 100,000 men was employed in building the pyramids every three months, so that there was plenty of labor to conduct all these experiments. After getting the base stones laid the other layers of stone could be put on carrying up the shaft that had been sunk. This would terminate at one of the faces, and to continue it higher it would have to turn or branch out in another direction. A reflected ray of light would give them the means of turning the shaft at right angles. Thus was completed an instrument for the measuring of the exact time, and its large gallery into which the interior passage widened out would be useful for observing the stars passing over it, and, being very deep, the stars could be seen in the daytime and observed not only by one observer but by many, who could take the time of the stars southing at the same moment and get rid of what is called "personal equation" or differences in the readiness of different observers.

VIEWS OF THE PYRAMID.

The hall was then darkened and the stereopticon views were thrown on the screen. The first three pictures showed the position of the pyramid on the earth with reference to several theories. It was situated at almost exactly 30 deg. north latitude. Views of the surrounding region, showing the level nature of the country, were next exhibited. This level ground was the best possible surface for an observatory. Observations taken on high peaks were often found to be less accurate than those at lower points. Several views of the Pyramid of Cheops, showing all its faces, and the other smaller pyramids were next thrown on the screen. The Professor inclined to the idea that they had been constructed about the same period. The sides of the Great Pyramid sloped back about ten parts for every nine parts of its rise. The height bore to the circuit of the base about the same ratio that the circle bears to the circumference. The side of the pyramid was 762 feet, or 9,180 inches. The number of sacred cubits, according to some, on each edge was 365.242, or exactly the number of days in a year. Taking the diagonals from the base to the sides they measured 29,900 inches, or the period of the gyratory motion of the earth's axis. Now, taking the base as it was, the diagonals must come out at that number. Then at least one of the two suppositions as to the significance of the cubits or of the inches must be merely a curious coincidence. One writer had shown the argument to be absurd by taking measurements from a piano in his parlor and finding in them quite as remarkable coincidences. Other pictures followed in quick succession, showing the place whence the corner stone of the pyramid had been removed, and several of the great tombs near by. One of these was so arranged that at noon the side walls would cast no shadow, the sun being just half way between them.

THEORY OF THE PYRAMID.

Professor Proctor inclined to think that the pyramid was built about 3370 before Christ, when the star Alpha of the constellation "Dragon" was the star nearest the Pole, and the bright star Alpha of the centaur lay in the line of vision of one of the pyramid passages. Pictures explanatory of these numerous passages were next shown. The idea in their building, he thought, was for the purpose not alone of viewing the stars and foretelling the future, but of ruling the future in a measure by guarding against calamities. The theory had been advanced that every year was represented in the pyramid by an inch. Thus the original descending shaft led to a chamber below the base of the pyramid, supposed to represent the bottomless pit, where all would go if not turned aside. At the change in the direction of the passage the Mosaic dispensation was supposed to have begun, lasting 1,500 inches, or years, when the passage enlarged and the Christian dispensation, represented by the enlarged gallery, began. This was 1,882 inches long and it was therefore supposed that something terrible would happen in 1882. But the figures did not correctly coincide with the actual dates of occurrences, and the Professor thought people might contemplate with confidence the end of the period. Several pictures of ancient zodiacs and modern astrologers' tables closed the series of illustrations.

In conclusion Professor Proctor said it was clear enough that the pyramids were built for astronomical purposes, and with this there might have been connected religious observances. There were two other theories about pyramids—one that they were used for purposes of sliding down hill or coasting, the other that they were built by divine inspiration. He had been accused of flippancy in treating of the latter theory. To support it would be to believe that admiration was due the Almighty for knowing the proportions of the universe He had created, and that not perfectly, but almost exactly. Such a theory, if regarded seriously, was an insult and a mockery to the Almighty. In view of this massive building of the great pyramid of Cheops the astronomers of to-day could look back and find themselves associated with those of antiquity. In the words of Oliver Wendell Holmes he could say:—

I am as old as Egypt, of myself
Brother to them that squared the pyramids.

MR. PROCTOR AND MAN.

AN EARNEST PLEA FOR HUMAN SELF-ESTEEM AGAINST THE ASTRONOMER'S INFERENTIAL BELITTLEMENT OF MAN.

NOVEMBER 24, 1879.

TO THE EDITOR OF THE HERALD:—

I trust you will grant me a little space for a few remarks on Professor Proctor's beautiful lecture on Sunday evening. Although not a scientific man myself, I may say science is in my blood, my grandfather having been professor of mathematics to the Royal Military Academy at Woolwich, author of strength and material, discoverer of the means of connecting the local attraction of the compass and also learned in astronomy. He was a great personal friend of Faraday. My father is also a well known engineer of scientific tastes.

While listening to the Professor's concluding remarks I was forcibly reminded of the passage which is read over the dead, "There are also celestial bodies and bodies terrestrial; but the glory of the celestial is one and the glory of the terrestrial is another. There is one glory of the sun and another glory of the moon and another glory of the stars, for one star differs from another star in glory." So think I one man differs from another man in glory—there is the glory of the physical, the glory of the intellectual and the glory of the moral. Each glory will bring its own penalty. With regard to the Professor's lecture I was satisfied and I was not satisfied. I was satisfied in the completeness, the thoroughness, the mastery of the subject, the fearlessness and the honesty with which it was delivered. The man seemed to me to possess the patience and the continuity of celestial operations in his character, and his mind partook of the calm, clear qualities of the ether in which it continually bathed; his voice was beautiful and sounded like the far-off tones of the music of the spheres, and yet it seemed as if the man did not belong to his voice.

I was not satisfied with the Professor's lecture, in that he allowed the impression to remain with the audience that they were so feeble and puny as to be not of much account amid the mighty pieces of the universe. Man, thinks I to myself, is here degraded. He was told in so many words, "You think you are somebody; behold and find out you are nothing." I do not say that the Professor intentionally created this impression, but I say that he did create it.

Again, another criticism I have to offer is that the Professor might have carried his argument or his inference or his speculation further, and he did not. He might have gone on to point out that however great and however awful were these times, these spaces, or however massive these orbs, and however terrible and great the manifestations of these cosmic forces, they must of necessity be inferior by being subject to their laws; for being subject to those laws they are necessarily inferior, for subjection is the measure of inferiority. Again, their harmonious interchange of forces and the laws which govern the material universe are necessarily inferior to their originator or cause, whom we call the Almighty, the intelligence, the law maker of all things—the only possible approach to which we find in man—the image of God. The Professor should have pointed out that as per material bodies, however great and however vast—he, the Professor himself and every one of his audience, as being able to calculate and reckon and discover the main laws of their operation—was greater still, for the designer will still override and be greater than the design; and not only is the designer greater, but the appreciator is also greater.

Again, I did not at all agree with the Professor's remark, which was in the same vein, that man must not assume the Divine purpose. I agree that he cannot know by mathematical demonstration; but in duty to his Creator, by analogy from his own consciousness, I say he is bound to assume some purpose, and to put his interpretation upon it in accordance with the laws of his happiness and prosperity in this terrestrial condition; and I say furthermore, that by not assuming a Divine purpose he insults his Creator—so far do I differ from the Professor in this matter—and I believe that had Faraday been alive he would have agreed in my views. Man, sir, is bound to be proud and to hold up his head in the universe whether he has arrived to his pitch of perfection by evolution from the lowest forms of life, or however he has managed to acquire his present high estate matters not; here he is, the proudest and most complex triumph of physical and nervous force at present existing. The glory of the celestial is one and the glory of the terrestrial is another. Professor Proctor in one sense treats solely of the terrestrial spheres. In the sense that celestial means heavenly man combines in himself the wonders of the terrestrial and celestial combined.

Man, sir, is not to be shown these lumps of matter, these fires, these meteors, these catastrophes, these magnificent and terrible phenomena as if to degrade him in the presence of them. He is to straighten himself up and say, "*Homo sum,*" &c., and he is to have self-esteem enough to assume that the worlds were created for his domain, his being and his ultimate enjoyment, and by doing so he is working according to his lights, though feeble, and according to that mind which the Lord God Almighty has given him. But it is always thus man pays a penalty for his pre-eminence. All trades injure, all special occupations deteriorate—some the lungs with dust, others the heart, others the nerves—so the special application of the mind through a long life to material phenomena stamps its mark on the man. The long contemplation of the things which are seen unfits the mind for the imagination of those which are unseen, and after all the things which are unseen are greater than those which are seen. Physical science itself proves this, for these unseen forces are mightier than their effects.

Scientific men are not authorities on moral laws any more than the Bible is an authority on physical laws. The material bias of the mind prevents them being so.

I make these remarks because the opinions delivered by Professor Proctor and men of his great abilities have unusual weight and authority—have more weight, indeed, than they ought to have on any speculative subject or any matter of faith. The Bible does not profess to treat of science, neither ought they to deliver a dictum on faith. Far be it from me to accuse the Professor of arrogance, for a more gentlemanly demeanor of mind I never beheld, and yet it was his mind, his personal mind—the glory of the terrestrial was all there—and the pomp and pride and triumph of the terrestrial was there also, though in a modified form. I make these remarks because—although I do not accuse the Professor of arrogance—there are scientific men whom I would accuse of arrogance, and because there is a strong tendency in England at present to the formation of what I would term a scientific priesthood. All cannot occupy the splendid position of scientific investigators, and the others must take what they are told to a great extent as trust which is faith. Therefore in the masses of indifferently educated men a scientific bigotry is evolved. We know what is meant by the passage, "What profits it a man if he gain the whole world and lose his own soul?" So what does it profit a man if he attains a knowledge of all that is in heaven above, the earth beneath, or the waters under the earth, if by so doing he loses his self-esteem and comes to the conclusion that he is of no account? We know by old experience, by the teachings of history what all this results in—the corruption of the people, the decay of patriotism, the downfall of a nationality. This it is to be "men of no account." This it is to live without assuming that we are, after all, the greatest phenomena of the universe, and that the purpose of our God lies in us. "For in Him we live and move and have our being."

W. H. BARLOW.

CANADIAN SOLDIERS NOT COMING.

Colonel David E. Austen, of the Thirteenth regiment, N.G.S.N.Y., has received the following letter from Montreal in relation to the proposed visit of Canadian soldiers to Brooklyn on Decoration Day:—

HEADQUARTERS SIXTH FUSILEERS,
MONTREAL, Nov. 20, 1879.

MY DEAR COLONEL AUSTEN—I am afraid that our visit must be at least postponed. Our government has said "that in view of the order in Council of the 22d of June, 1879, it is not thought advisable to grant the permission applied for." This order in Council was brought about by the proposed trip of the Sixty-ninth to come here, and as it involves questions of party politics I can hardly hope to induce the government to change its decision at present, but I shall tell my men to quietly continue their preparations, although the visit cannot possibly come off before September next. I do not approve the idea advanced by the Montreal *Star* of a party of officers only accepting your invitation; it would be far better to wait until the way can be opened up for a fair representation of the Canadian militia to accept your hospitality. Faithfully yours,
JOHN MARTIN,
Lieutenant Colonel, commanding Sixth Fusileers.

In his reply to the above Colonel Austen says that the Thirteenth regiment would gladly receive the soldiers of Canada at any time and under all circumstances. He says further that without doubt the Sixty-ninth regiment would join them in extending a most hearty welcome.

HAYDEN IN THE WOODS.

FOLLOWING UP MINOR POINTS IN THE NEW HAVEN CAUSE CELEBRE—PHOTOGRAPHS IN COURT—EXPERIMENTS IN SCREAMING.

NEW HAVEN, Conn., Nov. 24, 1879.

The Hayden trial reached its eighth week to-day, and a beginning was made on Monday instead of Tuesday, as usual, for the reason that the Court will probably adjourn over Thanksgiving to the following week. Judge Harrison, of the counsel for the State, was absent, and it was reported that he was confined to his house in Guilford with a severe attack of malarial fever. The testimony of the day was somewhat interesting, although covering only minor points—a sort of filling in of little gaps in the State's case. It bore generally upon the movements of Hayden on the day of the tragedy.

THE CAMERA AS A WITNESS.

Abram De Silva, a New Haven photographer, recalled, exhibited additional photographs of scenes in Rockland, numbered 15, 16, 17, 18. The judges took the photographs and examined them long and carefully.

Mr. Jones—Why do you present these photographs?

Mr. Waller explained at length what the views showed respectively. Regarding the first, or No. 15, he said that it showed that a person standing where the camera was could see a person 150 paces distant on the road passing the spring.

The point of this is that the State has a witness who will swear that on the afternoon of the murder, when at the spot where the camera was placed in taking the view, she saw Hayden cross the road near the spring. At this point a pathway leads off through the woods to the scene of the murder. The object of the photograph was to show that she could plainly see a person crossing the road at the point indicated, and only 150 paces distant. This matter is of importance to the State, for Hayden claims that he was working in his wood lot at the hour this witness saw him crossing a road half a mile away.

Mr. Watrous cross-examined the witness for nearly an hour as to the locations of his camera for the different pictures. He said that on one or two occasions Judge Harrison, of the counsel for the defence, was present, but did not dictate the positions of the camera other than in a general way. Mr. De Silva was interrogated regarding view No. 18, and admitted that a bush near the window might have very slightly obstructed Mrs. Stevens' view of Hayden's barn. No. 15 was next inquired about and the admission was made that the camera was placed in a certain place and a man at the point where Hayden was seen, so as to portray as closely as possible what was seen on the afternoon of the murder by the State's witness.

Counsel—If you had placed the man ten feet distant from where he is placed in your picture could you have seen him?

Witness—I might not if he was put ten feet to the westward.

The redirect examination developed no new facts other than the view of Hayden's barn from Mrs. Luzerne Stevens' window was clear, and any person going to it could be seen without difficulty. Again the witness was taken in hand by Hayden's counsel and interrogated as to the circumstances under which he prepared the above mentioned picture. The lawyer was endeavoring to wring from him a confession of an intent to do everything in the interest of the State. Witness finally replied, with the first evidence of annoyance which he had exhibited:—"I didn't sell my individuality, sir. I merely sold my services in the taking of certain views, strictly in a business way."

MEASURING THE DISTANCES.

At the afternoon session S. R. Crampton, of Madison, was called to testify to the time that would be required in traversing the distances between several of the notable places in the immediate vicinity of the place where the tragedy occurred. He walked the distances, accompanied by a surveyor, and timed himself. Of about the same stout physical build as Hayden, and apparently with a stride about of the same length, his speed would be about the same. His first measurement was from the place on the road where Hayden is said to have been seen on the fatal afternoon to the place where the body was found. This occupied fifteen minutes. Returning was the same. Then, continuing from the original starting point by paths protected from view, and by a route therefore necessarily somewhat circuitous, he came out into Hayden's potato patch (adjoining his house) at the point where Hayden was seen about four P. M. This route consumed nine minutes. Therefore, from the place of the murder to Hayden's house the aggregate time was twenty-four minutes. The distance traversed is, as shown by the map of the locality, two-thirds of the distance between the scene of the murder and the wood lot where Hayden claims to have been at work. To traverse the whole distance in a straight line would occupy something more than half an hour. Some further testimony was given as to what Mr. Crampton could see from the window of Hayden's house where Mrs. Hayden says she saw her husband driving past the spring. The evidence was intended to disprove her statement.

On cross-examination the defence pursued a line of inquiry calculated to show that this witness had sought employment in the case and was consequently apt to be prejudiced.

Counsel—Do you swear you never conversed with Judge Harrison as to making yourself useful to the State?

Witness—To the best of my knowledge and belief I never did.

Counsel—Haven't you proclaimed everywhere between your town and this that you believed Hayden was a guilty man?

Witness—I have never said so.

Mr. Waller—I must object to this line of inquiry. His personal opinions have nothing to do with the matter.

The Court ruled that the last question could be asked as throwing light on the possible bias of the witness. The latter repeated his denial more emphatically.

Continuing witness said he had investigated the possibility of hearing Mary Stannard's dying shriek by a person standing where stood Mrs. Mills, the State's witness on this point. Mr. Crampton had a comrade stand at the spot where the body was found and going himself to where Mrs. Mills had stood, distinctly heard the shout.

Counsel—Was it very hot weather, as it was on the day of the murder, when you made these expeditions?

Witness—Guess you were not there; it was hot (with a smile).

Counsel—Did you hurry any?

Witness—No, sir; Judge Harrison told me to walk the distances deliberately.

Charles B. Ball, a student of the Sheffield Scientific School, who had been an assistant to Surveyor Butler in making the measurements for the official map put in by the State, testified to traversing the same routes as Crampton traversed and testified to as above. The time he made was substantially the same as given by Crampton in each instance, and he also corroborated his statements as to the impossibility of Mrs. Hayden seeing her husband at a point near the spring *en route* home, as she testified at the preliminary trial. The witness was exhaustively cross-examined without developing anything further.

Seven witnesses testified as to their whereabouts on the day of the tragedy, thus further lessening the number of men living or residing in the vicinity who might have been mistaken for Hayden by the witness for the State, who saw him crossing the road as above mentioned.

A YOUTHFUL WITNESS.

The last witness of the day was George Stevens, a youngster of twelve years, with nut brown face, black eyes and a pleasant boyish voice. For his age he was remarkably self-possessed, and more accurate than the grown men who preceded him. For nearly an hour he was on the witness stand under a sharp examination, commanding the closest attention of the audience and many marks of approval. This youngster, at two o'clock on the afternoon of of the tragedy, said he saw old Benjamin Stevens. The old man was going home and a thunder shower was rising. The distance from the scene of the tragedy was over a mile, and if there was no mistake as to the time, it was good evidence that the suspicions against Stevens were unfounded. The boy was with his father in the hayfield at the time and remarked to him the passing of the old man. On cross-examination he said that this circumstance was brought to his recollection some three weeks later, when Hayden's preliminary trial began at Madison. The old man Stevens stopped at the house on returning from court and talked with the boy and his father about seeing him. This was after he was suspected. The boy held bravely to the main facts of his story, and on trifling details, by admitting that he didn't remember, saved himself from the pitfalls into which the shrewd lawyers for the defence had plunged many older witnesses.

The Court adjourned until nine o'clock to-morrow, when the boy will be recalled. It is reported to-day that old Stevens, whose death has been daily anticipated, is rallying rapidly and may yet be available to the State on the witness stand. His evidence is important, as he was at the Stannard house on the day of the tragedy, and was familiar with Mary Stannard's movements and also those of Hayden, when he stopped there on his way home, four hours before the murder.

The New Haven *Register* of this evening says that the defence is persistently following up the matter of the mysterious knife found near the scene of the tragedy two or three weeks after its occurrence. This knife, which has blood upon it, the State has refused to put into the case, but it was put in by the defence. Detectives for the latter have discovered that a dealer at Durham, four miles from Rockland, kept knives of the same pattern, and several had been sold from the package. The sales of these knives are now being followed up, and it is claimed that one was sold to a person long suspected by the defence to have knowledge of the murder, even if he did not commit it.

EVACUATION DAY.

To-day, being the anniversary of what is known in the history of New York as "Evacuation Day," will be duly celebrated by the Old Guard. The members of this organization will parade, wearing the familiar bearskin caps and white overcoats. At three o'clock P. M. the honor of a marching salute will be paid to Mayor Cooper and other officials at the City Hall. In the evening the veterans of the war of 1812 will partake of the annual dinner provided for them at the Sturtevant House.