

Scientific American

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An Under-ground Railroad in Broadway.

Many plans have, from time to time, been brought forward, to reat out the long train of omnibuses that so often block up the principal street in our city. Two elevated railways, and one laid down on the causeway, have been at different times brought forward to the notice of the public. These schemes have for some time disappeared from the public mind, and omnibuses are still going on under a greater crowd of canvass than ever. Our opinion was in favor of a track on terra firma, because we could see no good reason for travelling by railway at a greater elevation. Our streets are indeed somewhat thronged at different hours of the day, but we do not think that this evil would be remedied by another—the elevated railway—for in the light of an evil we look upon it. Our streets are not at all to be compared to London for a press of pedestrians, or carriages, nor will they for a long time to come, although that time will not be always distant, as New York bids fair, at present, to be at some day, the Metropolis of the civilized world. But leaving these things to the one side at present, let us look to another scheme now proposed, for a railway in Broadway.—“What is it?” some will ask. Nothing less than a railway underneath, instead of one above—railway life down stairs, instead of railway life up stairs. The idea is at least original, but any thing except feasible, that is so far as the expense is concerned, for there would be no difficulty in executing the work. The plan is to tunnel Broadway through the whole length, with openings and stairways at every corner. This subterranean passage is to be laid down with a double track, with a road for foot passengers on either side—the whole to be brilliantly lighted with gas. The cars, which are to be drawn by horses, will stop ten seconds at every corner—thus performing the trip up and down, including stoppages, in about an hour.

At the present moment we would be sincerely grateful for the extension of the Russ pavement throughout Broadway and our principal streets; and at best, we do not see why a rail road could not be built with a double track in the middle of the causeway. This would do away with so many stages, and there is not a single good objection that can be urged against it. The expense of building would be but small. The carriages might be magnificently built, and two or three trains might be going up on one side, and two or three coming down on the other—round about continually. Their motion along the streets would scarcely be heard, and they would be an ornament to it, in comparison with uncouth looking omnibuses. A double track in Broadway would only occupy 10 feet in breadth, and the rest of the street, on both sides, would be free for the carriages of our nabobs, to act as flanking corps, or the carts of our sturdy carmen, to rumble along with perfect ease and independence. This plan of the double track embraces economy and safety, and any part of the street may be excavated for sewers, &c., without stopping its operations in the least, as the track could always be supported underneath in such cases, and thus we would have a continual stream of locomotion, through Broadway, from January to December.

Wheeling Suspension Bridge.

The Wire Suspension Bridge, at Wheeling, Va., over the Ohio River, is completed, as we learn from the Wheeling papers, and the scientific and daring engineer, Charles Ellett, Jr., has added another laurel to his chaplet of honor, in thus having successfully erected the longest suspension bridge in the world, an honor to our country, and especially to the good folks of Wheeling; to one of her respected citizens, James Baker, Esq., we are indebted for a very neat pamphlet of Mr. Ellett's on the subject, from which we derive the following particulars, and perhaps we may say more about it at some other time.

The flooring is supported by 12 cables of iron

each cable 4 inches in diameter, composed of 550 strands of No. 10 wire, and is 1,380 feet long, and from centre to centre of the abutments, the flooring is 1,010 feet long, 24 feet wide, with two foot-ways, each 3½ feet, and an intermediate carriage-way 17 feet wide. The cables rest on iron rollers, placed on the summits of the towers, the movements of which will relieve the towers of the strain, and are anchored into the heavy masonry of the wing walls at each end of the bridge. The length of the wood-work which rests on the cables, is 960 feet; its weight 546 lbs. per lineal foot, or 524,160 pounds, of 262 tons in the whole. The weight of each lineal foot of the 12 cables, composed of 6,600 strands, is 330 pounds, making, with the weight of timber, bolts, castings, suspenders, &c., 920 lbs. per lineal foot, or 441 tons as the permanent weight of the bridge itself. Above its own weight the bridge is constructed to support the greatest transitory weight that is ever likely to be, or we may say, can possibly be brought upon it, such as two columns of teams and the sides loaded with men, so as to weigh, jointly, 297 tons, or the average weight of 4,000 men, and the strength of the bridge is calculated to support three times the amount of tension that ever can be brought to bear upon it. This bridge will no doubt last long as a monument of American skill and enterprise.

Free Schools in New York.

The question of Free Schools in New York is to be decided at the coming election. At present, the schools in the greater portion of the State are supported in part by the public and in part by the scholars. This question will no doubt be carried triumphantly. We have conversed with thousands of our mechanics and yeomen, upon this subject, and in general they are in favor of it. It is the moral duty of the State to place the means of reading and writing within the possession of every child. No man can vote intelligently who cannot read, and no man can be a fit citizen of the Republic, unless he reads the opinions of our Statesmen upon different questions. There is some opposition to this measure, not of party, but bigoted ignorance. We go for educating the children, because we believe that those countries which are most enlightened will always be most distinguished, both for virtue and greatness. The only objection that has been advanced in the shape of an argument against Free Schools is, “that religion is not taught in them, consequently they must be ungodly;” and those who alledge this reason against free schools, say that the State is incompetent to teach religion. We can snuff out that argument, as easy as snuffing a penny rush light. Charity is a religious duty, consequently as the State is incompetent to teach religion, it must be incompetent to practice it (the best of all teachings,) therefore it has no right to provide by law for the maintenance of the poor. This argument is exactly on a par with that used by the objectors to the Free Schools. It is the interest of the man of property to see that the children of the poor are educated, for you may reason with an intelligent people, but the ignorant can be led to war against law, reason, and order, by appeals to their passions. We want all the boys and girls to learn to read, write and cypher, at least, so that when they grow up they will be able to read the Scientific American.

New Channel to New York Harbor.

Lieut. Woodhull, U. S. N., who has been examining the Hurl Gate and mouth of the Harlem River, says that the former is obstructed by a single rock and by three small areas of shoals, which might be removed for a sum less than \$10,000, the effect of which would be, that New York would yet have another channel to her harbor. It seems also, that an old stone bridge once connected New York and Ward's Island, the piers of which yet remain and materially obstruct navigation, but which for \$3000 could be, by a single blast, entirely extirpated.

Bridge to Brooklyn.

A project now occupying considerable attention in this city, is the erection of a suspension bridge across the East River to Brook-

lyn. If such a work is to be done, Charles Ellett, Jr., C. E., is the man for it, but first of all we must consult Uncle Sam, he holds the key of the project.

Late News from Europe.

The British army is recruiting in every town and city in the kingdom, and the utmost activity prevails in the dock yards. All the talk among the people is that there will be a war with England and Russia, and they expect the United States to join with England; but such an event cannot happen. The Mosquito question, between this country and Britain, can be easily settled by the American Company that has engaged to construct a canal across the isthmus, recognizing the Mosquitos right to a portion of the route. This is the tone of British feeling. Well, this can easily be done. It is all one to the Yankee, who owns the territory, if he owns the right of way. When he gets this wedge in South America, he will soon split rails to fence in a wide lot there, and this is the peculiarity of our government, that every new State is not a conquest, in that sense of the word, but a government as independent as it was before, only modified to be legally embraced in the marriage compact of our great confederacy.

An Inventor Dead.

By late accounts from Europe, we are informed that M. Maderspash, the inventor of the iron arched bridge in Hungary, put an end to his life, from despair, owing to the cruelties practised upon his family by the blood-thirsty soldiers of the Austrian army.

The Turkish government has demanded of Kossuth and the Hungarian Patriots, who found refuge in Turkey, to renounce their religion or submit to be delivered up to Austria. Kossuth, by letter, informs Lord Palmerston of this, and requests his interference.

Rich's Water Wheels.—Extraordinary Work.

MESSRS. MUNN & Co.—Dear Sirs: I enclose a notice cut from the “Columbus Enquirer, of the 16th inst., of the performance of a pair of Burr Stones, driven under 11 feet head, by one of Reuben Rich's Centre Vent Water Wheels, an invention of a resident of your State. Can it be beaten? In this part of the world it is called rapid work. Immediately after the trial spoken of by the editor, I saw the same stones grind out three bushels in 2 minutes and 21 seconds—and beautiful meal at that, and you know in this State we are judges of corn bread.

A SUBSCRIBER.

Columbus, Ga., Oct., 1849.

Here follows the notice:—

“THE PALACE MILLS.—We visited these splendid mills on Saturday last to witness their performances in the way of grinding. It is unnecessary for us to say it excelled any thing we ever saw. Several bushels were ground at the rate of one bushel to 58 seconds, which is equal to about sixty-five bushels an hour. The meal was good, cool, and uninjured by the almost frightful rapidity of the runner. Major Winter set out with the determination to have a set of mills equal if not superior to any in the Southern country, and from what we have seen there can be no reasonable doubt but he has, and will succeed, not only to his own wishes, but to the convenience and benefit of his fellow citizens.”

Descent of Washington.

A most beautiful letter, purporting to be from the Earl of Buchan, to Mrs. Washington, sympathizing with her in affliction, on the death of her husband, was published in the Washington Globe, of the 23d ult., and was published a short time before in the Republic. We intended to inquire of the Republic if it could tell whether that letter could be trusted or not, for in it the Earl calls Washington his “revered kinsman and friend.” Now the Earl was of an ancient noble Scottish house, and the general opinion, (the one we have always had,) is that Washington was of direct English descent. If Washington was any relation of Buchan, was it by the maternal side? Of what family was his venerated mother? An answer to these questions, as a matter of history, would be very interesting to tens of thousands, both at home and abroad.

Fair of the American Institute.

The Fair closed on Thursday evening last week. We understand that the amount collected is not small. Gen. Talmadge delivered the closing address. The complaint which he made last year can no longer be made—viz; no competitor for his medal for American Linen. The list of gold medals is on another page, and among them one for a piece of power loom American Linen. We have no other comments to make, except to say that we will yet publish engravings of many articles that were exhibited there.

The Fair and the Scientific American.

A correspondent writing from New York to the Utica Gazette, under date of Oct. 18th, in speaking of the Fair of the American Institute, thus alludes to the Sci. Am. :—

“One is particularly struck with the amount of scientific inventions, and noticing some that had a familiar look, I was induced to pay attention to the manner in which this business of granting patents is conducted. Finding one of the proprietors of the Scientific American, which by the way is one of the most valuable papers published in this city, I requested the information of him, and was shown over to his office, which contains a department exclusively devoted to the securing of patents. There were drawings of almost every invention on file, and with them a complete list of every patent that has been issued in this country. I found that did one but know where to apply for information, it was readily to be obtained: the scientific library of this establishment, amounting to over 200 of the most valuable works, taken in connection with the other departments, render it well worthy a visit from those in the city, or the remembrance of those in the country who desire reliable information.”

Claims of Patents.

Having been solicited, from many quarters, to publish the list of Patent Claims, the Scientific American being looked upon as the repository of patent knowledge, we will commence to do so next week. We would have done this long before, but in many cases, we honestly believed that it was not right, especially to those who wished to secure their patents in England; but we have used our influence to get the British laws modified in this respect, and there is now a fair prospect of this being accomplished; and at the present time there is a government commission sitting in London, for the purpose of gaining information towards a reform, of their patent system—something devoutly desired both by American and English inventors.

General Training Day.

Thursday last week was general training day in our city. These scenes are always foolish exhibitions to us. All the good they perform is negative, by delighting youngsters and making them play the truant from school. The affair was very showy but nothing American about it. Some of the companies were without breeks and wore the kilts, like the Scots Guard in the British Army. Some were in the red coat array of other British regiments. Some wore the Austrian uniform, some the French, some the German, some the Italian—and some were indescribable. Their appearance was harlequin enough.

Beautiful Sample of Cotton.

We have received a beautiful specimen of Cotton as it came from E. T. Taylor & Co's improved gin, Columbus, Ga. We have exhibited the sample to many gentlemen well qualified to pass an opinion upon its merits, and all spoke highly of it. Mr. Coffin, of Charleston, S. C., a gentleman of scientific taste and attainments, who has extensive property in S. C., and knows all about the qualities of Cotton, passed a high encomium on it.

Geo. Wadleigh, Esq., of the Dover Inquirer, will please accept our thanks for the favorable notices of us, which have recently appeared in his journal.

Subscriptions are raising for the construction of a handsome free church, with a lofty tower, as a monument to the memory of the late Dr. Chalmers, at Austruther, near Fife—the place of his nativity.