Scientific American

NEW YORK, OCTOBER 12, 1850.

City Railroads.

Some time ago a special committee was appointed by the Common Council "to report a general plan of railroads for city uses." This committee, consisting of Aldermen Britton, Chapman and Dodge, have reported, and their report is printed; the document recommends the laying of a track through College Place, West Broadway, Varick street, and Sixth avenue, to 40th street. This city railroad is recommended as a useful auxiliary to city travel. The reasons given for constructing such a road, are ample and good. They state the only exceptions to the general favor with which this proposition is received, proceeds from those who are opposed to all city railroads on account of danger, &c., and those who are interested in stage lines. The first class of objectors are honest in their views, and the second are interested, (and who will say wrongfully?) in a peculiar business, which would, in their opinion, be injured if the project was carried out. A correspondent in the Tribune, of last week Thursday, attacks this report with bad argument and strong feelings. He abuses Alderman Shaw personally, because he offered a resolution to lay down a system of city railroads. He also threats him politically, a thing which we condemn as being illiberal and unjust: if a magistrate, or legislator, offers a motion, or advocates a resolution, which is esteemed to be wrong by any citizen, it is the duty of that citizen, as an enlightened and useful member of the city or commonwealth, to expose the error of the magistrate or legislator; but to threaten politically, is to betray an anti-republican spirit.

The strongest argument urged against city railroads, is the great expense, as the writer alluded to says: an expense probably equal to the Croton Water Works," and he states that "he is not prepared for that." Well, this is tantamount to saying the Croton Water Works found an opponent in him, the very same as city railroads,—if this exhibits an intelligent and liberal spirit, we do not know what such a spirit is.

We are advocates of city railroads, but we would not advocate going into their construction with red hot haste. First, let the city lay down one track—say the one up West Broadway and Sixth Avenue, and give this a fair trial before another one is laid. Experience is the best teacher, and as one line could be constructed for no very great amount, it is nothing more than the suggestion of prudence, to try one first, and be satisfied whether it works well or ill, before another one is made. If it works well, and we have no doubt but it would, another line could be constructed, and so on, year after year, until the whole system is completed.

Water versus Steam Power.

Two communications have appeared in our columns relating to this subject. The one which was published last week was furnished by a gentleman of great experience as a manufacturing engineer and manufacturer, consequently his opinions are of great importance. Some time ago we received a pamphlet containing a report upon this very subject, which was presented to a number of the citizens of Utica, by a committee appointed by said citizens, consisting of Spencer Kellogg, Andrew S. Pond and Edmund Graham. The report describes the investigations of the committee during a visit to Newport, R. I., and it is in favor of steam as an economical motive power, and since that period (1845) a splendid new cotton factory has been erected in Utica —the consequent of that report. Whether that factory will be successful or not, time alone will truly tell. It has not been long enough in operation to prove or disprove the deductions of the committee, but our opinion is, that it will disprove them, and we will give a few reasons for this opinion. The committee overlooked two very important points, in respect to economic results,—they are, the price of fuel and land carriage. They stated that they had a long conversation with Gen. James, of the James Mill, Providence, R. I., "who gave it as his opinion that steam power, all things considered, was as cheap as water power," but, they say, "they did not obtain from him all the information sought, which was the relative difference between water and steam, as a motive power." In comparing the expense of a steam mill (the Bartlett Mill, No. 1, Newport, R. I., of 11,000 spindles) with a water mill of the same capacity at Lowell, they make the difference in favor of the steam mill $216,51 per month, or $2,598,12 per year. By what rule is this accomplished? Why, because they say that the cloth made in the steam mill is better by a quarter of a cent per yard than that made by water power. They make out the difference in the price of motive power to be in favor of the water at $2,677,08 per year, but to overtop this, Mr. Fisher, of the Providence Steam Mill, told them that the same goods made in a steam mill of like material, with those made in a water mill sold for about one-eighth to ¼ cent per yard more in market, hence the profits mentioned were in favor of steam.—We don't believe that there is any correct data for such conclusions. In England and Scotland, the largest cotton manufacturing countries in the world, a reverse opinion has prevailed, but this is wrong also: if the motive power is regular, and the temperature of the mill regular, there can be no possible difference in the quality of goods made by water or steam-power. Steam-power may be profitable in Providence or Newburyport, and unprofitable in Utica. The price of fuel, the import and export expenses of stock and goods, are unequal in the two places. Utica has an inland carriage of 250 miles from New York, and if wood is cheaper in Utica than coal, let it not be forgotten that 2,100 lbs. of coal will raise as much steam as 6 cords of pine wood. At the North, New York is the grand mart for goods, and all the cotton has to be imported from Charleston, Savannah or New Orleans. It may be profitable, therefore, to use steam-power near New York, and unprofitable to use water-power or steam-power in Utica. It would be more profitable to erect a steam cotton factory near New York than any where else, except near coal mines, or in the Southern States. In Manchester and Glasgow, steam cotton factories are abundant, because fuel is cheap, and these two cities are cotton marts. As stated in the communication on this subject last week, we believe that steam power is more profitable at the South, near the cotton field, where the cotton wool can be purchased cheaper than at the North, as one sequence; and another is, cheaper fuel than in most of the situations near the great selling mart at the North.

Near Utica, at York Mills, there are a number of water-power factories; they will afford a good opportunity to test, by comparative results, the relative profits of steam and water-power as applied to the manufacturing of cotton goods. Our opinion is, that the steam factory will not show such a good column of profits as the water-power factories—time will prove whether we are mistaken or not.

Water-Proof Cloth.

The best water-proof cloth made, is that of india rubber; no other cloth can equal it; oil cloth comes next in order. Woollen and cotton cloth may be rendered nearly water-proof by dipping them in a solution of alum and the sulphate of copper. These two substances should be used in about equal quantities. The cloth should be dried in a warm room afterwards. If cotton cloth is dipped into a very weak solution of glue, and afterwards into a hot and strong solution of alum, and then dried at a high temperature, a very good water-proof cloth is the result, aye, and one that is nearly incombustible.

The bell of the steamer Rhode Island, which foundered at sea on her way to California, and some thirty or forty persons lost, has been picked up on the Azores or Western Islands, by a whaling bark. It is 200 pounds in weight, had the stamp of James S. P. Allaire, N. Y., 1836, upon it, and was attached to a broken beam.

Composition Roofs.

Within the past two weeks, we have received not a few communications about cheap roofing. One inquires about "the preparation of paper for roofs," and another about "a cheap composition for them." We will now present what we call a method of making cheap roofs.

Let the roof boards be fastened down as close as possible; then take cheap cotton cloth —say about 6d. per yard—and nail it down, taking particular care that no seam shall be over any board seam: then have ready a vessel with mineral tar, that is, the tar made at any coal gas works, and lay on with a large brush, or otherwise, a heavy coat of this, laying it smooth—then take a lot of clean sand, strew it thickly all over the tar; then take a roller, or something to roll over the sand, to press it thickly into the tar, after which sweep off the loose sand, give another coat of tar and sand in the same way, and the roof is complete. This makes a cheap and durable roof. Strong brown paper may be used as a substitute for the cotton cloth. A composition of one half pitch and one half of common tar, will answer as well as the coal tar; common tar can easily be made quite hard by pouring some of the oil of vitriol into it—this carbonizes and makes it into a charcoal. A roof may be made in sections as described, that is, one part finished before the other; its surface must be thickly covered with the sand. Some use fine gravel, but clean sharp sand is much better. A roof of this kind will last for a great number of years, and if it is well made, it is more incombustible, by far, than a shingle roof. Farmers would do well to use such kind of roofing for sheds and other kinds of outhouses.

Reform of the Patent Laws.

Of all the reforms which have been proposed for the Patent Laws, none seems to strike close enough at the root of the matter. The reform should commence at the Patent Office, for there is more injustice done to inventors there than anywhere else. Examiners of the Patent Office are a sort of "Privy Council," from whose decision no appeal can be taken, without a great deal of expense being entailed. When an Examiner makes an adverse decision, he does not like to recede from it, although it may be wrong—this is human nature; and there are some men of such dispositions, that they come to conclusions too hastily, and afterwards are too stubborn to recede from their positions. There are others, again, of a more noble nature, men who are cautious and candid in forming their opinions, and who, at the same time, have the right sort of manliness about them to recede from a wrong decision whenever they are convinced of their error. No man of the former class should be an umpire in any situation, for he has not the natural qualifications for the office. It has often happened that inventors have been put to great expense, simply by the whims of the Patent Office: many of them have had applications rejected without any good reason whatever, and have, by a journey to Washington, got all they asked for, and sometimes a little more. Some good and original inventors have been denied patents, while schemers, backed by good friends, have got patents for what was worthless and old. A patent was granted last May, for something which none of my Yankee cousins could guess, if they should try till thanksgiving. It was what? "An improvement on the 'Cotton Gin?'" No. "An improvement on the Steam Engine?" No. Well, don't guess any more, and I will tell you. It was for nothing less than a grindstone with a cord wrapped round its periphery to make the water fly out of the trough in which it revolved. Now, was not that a bright move? The applicant had some good friends, and this is the reason that a device, as old as the ruins of Nineveh, was awarded a patent by our enlightened and impartial Patent Office. As it will not be long before Congress assembles again, I hope inventors will get ready their petitions for a thorough reform.

One reform should be "the return of appeal money, and two-thirds of the Patent fee, to the inventor, if the decision of the District Judge, or a Circuit Court, is against the Patent Office." Another reform, is the return of models to rejected applicants. The Patent Office has no business to keep models for which patents have been refused. This reform would, no doubt, be agreeable to the Patent Office itself.

The great reform wanted, is an easy way to appeal from an *ex parte* decision, so as to have a fair examination of the claims of an applicant and the reasons of rejection. According to the law, as it now stands, this cannot be done. It would be a good plan for the Committee of Patents, to send for those who have got patents this year, and those who have been rejected, and take their evidence in relation to the trouble and expense they have been at, and the manner in which they have been treated; I know several who will pay all their own expenses in going to Washington, to give evidence before a Committee appointed by Congress. The great object of every reform should be "equal and exact justice."

JUNIUS REDIVIVUS.

New York, October, 1850.

Asphaltum Mining in New Brunswick.

We learn from a gentleman who has just completed a tour through the British Provinces, that extensive and very valuable mines of bitumen have been opened in the County of Albert, New Brunswick. The principal operations, at present, are upon an out-cropping, from ten to fourteen feet in thickness, situated about four miles from the wharves of the Petticodiac River, near its mouth. The deposit has been traced along the surface several miles, and the bituminous mineral appears at numerous points along a line of thickly wooded country sixty miles in length, and perhaps ten in breadth. A number of mining leases have been granted by the government. The opening of roads and the projection of a railroad are on the advance, and a general spirit of enterprise and competition by the inhabitants and persons from the United States, is exerting itself throughout that region. On the eastern side of the river, and above Belleveau village, settled by Acadian French, the asphaltum, or mineral pitch, occurs in a soft state, and resembles wax.

This bituminous district is described in Dr. Gesner's Geological Reports of the Province, published as long ago as 1840, and since he has successfully applied the material to the manufacture of gas, it will doubtless afford a new and valuable article of commerce. We recently published an analysis of this beautiful mineral in the Scientific American; we are happy in believing that its resources in New Brunswick are inexhaustible.

A few days ago the roof of a part of the coal mines of Pictou, Nova Scotia, fell in to the extent of thirteen acres; fortunately, at the time, the workmen were at the surface taking their breakfasts. A part of the railway, and a number of miners' tools were buried, and the company have sustained a heavy loss. It is stated that there is coal enough at the surface to meet the demand this season. As the mine is about 400 feet deep, the fall produced but little disturbance at the top of the ground, although the families of the miners abandoned their houses until the shock had subsided.

The Carleton Iron works, New Brunswick, which were destroyed by fire some months ago, have been re-built, and will soon commence smelting iron ore. The new buildings are of brick and stone.

Who will Accept the Offer?

"I will send a dollar bill to any person that will send the first number of the fourth volume of the Scientific American in good order, to me, by mail or otherwise, with this address, JOHN GARST, Dayton, Ohio.''

History of Propellers.

The work on Propellers and Steam Navigation, which we have in press, will not be ready for those entitled to it, until about the 20th instant; we shall then be able to fill orders to any extent.