



NEW YORK, FEBRUARY 17, 1849.

**National Railroad to the Pacific.**

Since our government took possession of California and came to know something of the general value of that beautiful and rich country, the necessity of opening up a channel of easy communication between it and the old States, has become obvious to all—both rulers and people. At first a line of steamships was only suggested as the most possible and probable means of keeping up the quickest and most regular communication. But as soon as the golden news reached us, the swift winged steambot appeared as a too tedious messenger to carry mails or hardy emigrants through the Straits of Magellan or around Cape Horn. Within a few months various schemes to construct Railroads from the Atlantic to the Pacific have been proposed to our government.—Last year the proposition of Whitney to construct a Railroad to Oregon, commencing at Chicago or some other port on the Lakes, occupied considerable attention of the U. S. Senate, but in this session of Congress it is lost sight of amid the tumultuous schemes presented to construct Railroads through the Isthmus of Panama, the Isthmus of Tehuantepec, and a great National Railroad from St. Louis to San Francisco. The Isthmus of Panama belongs to the government of New Grenada, but the right of way through it to the Pacific, has been granted to the United States. The Isthmus of Tehuantepec belongs to Mexico, but we believe that government is willing to grant the right of way to the United States for half a century, with the right of our citizens to settle and occupy lands on each side of a railroad, if constructed through it. The route of the proposed National Railroad is through territory belonging to the United States. The Isthmus of Tehuantepec is allowed to be by far the best route, but the objection to that route is, "it is in an enemy's country." Our opinion is, that the route through Tehuantepec should be secured by our government, if easily acquired, at once, and that a plank road like an old Roman highway be immediately commenced likewise through the territory of Missouri to San Francisco. By having a Railroad through Tehuantepec to the Pacific, we may expect that without any more war, a State would be formed in the heart of Mexico that would in twenty years petition to be admitted into the Union. The nature of our race is to spread out like a fan—it has an all conquering colonizing energy and the most politic means that are adopted to facilitate the spread of our race in a peaceable manner, are surely the wisest. The principle of colonizing should be, to let the people go up like the patriarchs of old "and possess the land," and if possible without strife between those who have a right to cultivate the soil for their daily bread. It will indeed be a beautiful scene to behold our Great Republic standing with one foot upon the Atlantic on the east, and the other on the Pacific on the west, and stretching out her hands to the north and south to come and take shelter under her peaceful banner, when all her citizens shall live 'mid "peace and plenty, each under his own vine and fig tree none daring to molest or make him afraid."—Is this a state of civilization too high to be attained by any people or nation? Surely not. It is a state at least not too high to aim at.—One grand means to bring it about, is a ready means of communication between all parts of our country and all parts of the world. No one, we believe, will doubt this. Let us therefore, commence without loss of time, a National Railroad to the Pacific, and one through the Isthmus of Tehuantepec as soon as the preliminaries are arranged, which we hope will be at no distant date from this.

It is proposed to tunnel the Blue Ridge, in Augusta county, Va., to allow a Railroad to pass through it.

**Reform in the Patent Laws.**

Ex-Governor Seward, in a very able letter to the Hon. W. B. Maclay recommends the following new Patent Bill which would effect a complete revision in the Patent Laws.

The first provision is, that any person interested may, on proper notice, at any time, in a proper tribunal, prosecute an action for repeal of any patent, and that such repeal shall render the patent absolutely void.

The second is, that after a patent has been sustained by one verdict and judgement in an action at law, it shall be deemed conclusive in all such actions brought afterward, until the patent shall have been repealed.

The first provision will enable us to sweep away, by a single trial, any patent which has been improvidently granted. The second will enable an inventor whose patent has been justly granted and judicially established, to enjoy its benefits, subject to the rights of all parties interested to impeach it in an action of repeal, but not elsewhere.

The practice of defending suits which we now have, is the same which very properly obtained in England, because Patents are always granted there without previous examination by the Government. The law was the same in this country until the act of 1836 was passed. Since that time, all applications are regularly examined. Not less than three-fourths of all applications are rejected. The Patent is now a sanction by the Government itself, of the originality of the invention and of the sufficiency of the specification. It would be in harmony with the law, to make the patent thus solemnly awarded, conclusive until it should be repealed by a competent tribunal. But the bill submitted does not go so far. It proposes only that after a Patent has been established in one fair trial at law, brought by the Patentee, litigation shall cease except in the direct way of an action to repeal the patent.

We know one inventor in this city who has had a patent for a Cracker Cutting Machine, and has had it reissued corrected by an Examiner of the Patent Office. We believe him to be the real original inventor and yet his patent is infringed every day. It has been a great loss to him and it is a shame to see Patents thus so lightly trod upon. We believe that there is just as much necessity for a reform in taking evidence and in trying Patent cases before the Supreme and District U. S. Courts, as there is for a change of Law.—There are but precious few patentees who can pay the fee for such counsel as Seward or Webster. Now it would be far better to have infringement cases decided by Jury, just upon reading the evidence, without any spouting of counsel whatever.

**Patent Evasions.**

We understand that petitions to Congress are in circulation in Rochester, for protection against evasions of American inventions and patents by persons in Canada. There is no remedy for this but to carry out the suggestion of Mr. Burke in his Report for 1847, viz. to endeavor to get other governments to reduce their patent fees and make them about equal with the fee in the United States. In England every person, citizen and stranger pay the same price and are treated alike, but the price is too great for mechanics to pay.—We should like to see a good and mutual understanding between all governments to protect inventors in their rights, and certainly there is a necessity for such protection between the United States and Canada, especially for machines working in any manner in wood.

**The First Daily Newspaper in Upper Canada.**

We see by the Tribune of Friday last, that the first daily newspaper in Upper Canada has just been started by Dr. Barker. It is called the Daily British Whig. The Tribune states that in Scotland with a population of 3,000,000 there is not a daily newspaper. We have seen the same statement made in some other papers and by some correspondents to newspapers here, from London. This is different from what we know of the matter, as we sometimes get the North British Daily Mail, published in Glasgow by a brother of Allison the Historian.

**Remarks on the Archimedian Water Wheel.**

MR. EDITOR.—As there are great differences of opinion in reference to some kinds of water wheels I would desire to offer a few remarks on the Water Wheel noticed in No. 14 Scientific American, Page 108 "constructed on the screw principle, the height of the wheel being nearly equal to the fall of water and the spiral extending from top to bottom of the cylinder."

Suppose the spiral wound ten times around the shaft; then, if the water acted equally through the whole length of the spiral, the power would in effect be divided into ten equal parts, operating throughout the length of an inclined plane, equal to the length and inclination of the spiral, and, with only one tenth part of the force upon each circumference of spiral, now if the spiral only wound once around the bottom of the shaft; or a little more, with the inclination so varied as to give the issue a funnel shape, such as to conform with the contraction of the vein of water; and also to cause the water to issue out of the wheel in a direction parallel with the inclination of the spiral: then the whole head of water would be brought to bear upon the one circumference of spiral, and with ten times the intensity that it would if it were equally supported upon ten circumferences of spiral plane, consequently by the principles of the lever and inclined plane, the power would be equal in both cases. Suppose again a ball of ten pounds rolled down an inclined plane;—would it not produce as much reaction upon the plane as ten balls of one pound each? Or if ten levers were, with central fulcrums, attached at one end to the ten pound ball,—would not that ball balance the ten one pound balls, if suspended one upon the opposite end of each of the ten levers, the same as it would if suspended upon one lever, with the ten small balls upon the opposite end? The principle seems plain. Then it is no improvement over many wheels now in use; nor do I consider it as good as many; for the friction caused by running through so long a conduit, and that of the spiral form, causing the water continually to rush against the sides of the surrounding cylinder, the revolutions of which by virtue of centrifugal force, cause the water to press outwards against the cylinder; and, consequently, diminishing the pressure on the inferior side of the spiral, as well as to create more friction on the interior of the cylinder, thereby creating a clog to the water. As to the cost of construction, it must be more than many excellent wheels now in use, for a cylindrical revolving case, and spiral of such a length, must cost much more than a short wheel with a stationary case; in either case there would have to be a circle for the wheel to revolve in. As for the diameter of the wheel, in proportion to the power, it would have to be as great, if not greater, than many wheels now in use. Now, I have not written the above with any ill will or desire to injure any one, much less the inventor of the application; but have merely written some of my views on the subject, which I think I would be borne out in by an experimental test, and further, I would say that I am a searcher after truth, and consider it but an act of simple justice to myself as well as others, to express my views on such subjects, for it is a matter of great importance to many that Millwrights should understand and see these things in their true light. If any man thinks my arguments are incorrect, or founded in error, I would thank him to refute them through the medium of your excellent paper, and if he will maintain the position assumed in the article referred to viz. that there is an increased power obtained by extending the length of the screw, from the bottom nearly to the top of the fall, in all cases; I will, by the same rule of argument, prove the practicability of obtaining a perpetual motion; or, in other words show how a water wheel can be made to pump back all the water it uses, and still have a power left to drive machinery, which would be out of the question.

Yours truly,  
A PRACTICAL MAN.  
Penn. Jan. 29, 1849.

Ladies who appear in society in mourning or half mourning in England, now adopt the plan of decorating it with scarlet.

**Apprentices and Factory Operatives.**

The following "Act to Protect Apprentices and Operatives in Manufactories," is now before our Legislature:

The People of the State of New-York, represented in Senate and Assembly, do enact as follows:

SECTION 1. It shall be the duty of every employer having apprentices in his service, to cause them to be instructed in reading and writing.

SEC. 2. Any apprentice over thirteen years of age, who shall be unable to read and write, after having served as such apprentice for two years, shall be free from his indentures.

SEC. 3. No child shall be employed in any cotton, woolen or other manufactory or workshop within this State who shall not have attained the full age of ten years, and be able to read and write.

SEC. 4. It shall not be lawful for any child who shall not have attained the full age of thirteen years to labor in any manufactory or work shop, more than five hours in any one day, provided such child be employed throughout the whole year.

SEC. 5. When such employment shall not continue more than eight months in any one year, the provisions of the preceding section shall not apply, but no child shall under any circumstances labor more than ten hours in any one day.

SEC. 6. It shall not be lawful to employ any child under sixteen years of age in any manufacturing labor during the night, that is to say, between the hours of eight o'clock in the evening and five o'clock in the morning.

SEC. 7. The penalty for a violation of any of the provisions of this enactment, shall be ten times the usual wages for every day during which any child may be wrongfully caused or permitted to labor, to be recovered from the employer or employers, by the parent or next friend of such child on due proof before a justice of the peace.

SEC. 8. This act shall take effect on the first day of July, one thousand eight hundred and forty-nine.

**Telegraph to Liverpool.**

Dr. Jones, the telegraphic reporter in this city, has come out with an elaborate plan for constructing a telegraph between New York and Liverpool, along the bottom of the Atlantic Ocean. We noticed in our last that an appropriation had been asked of the Senate to try experiments. Some chaps will be asking for an appropriation by and bye to construct a floating railroad to Liverpool, Cork or some such place.

**Another Good Move by Congress.**

The House of Congress, having abolished flogging in the Navy, have followed up the good movement by abolishing the grog ration, which is two gills a day. In place of this the sailor is to receive four cents. Mr. John A. Rockwell, of Connecticut, has the credit of this act, and Mr. Sawyer, of Ohio, the credit of the former. If the Senate confirm these proceedings, we shall soon see a desirable improvement in the character of the Navy.

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