



#### Our List of Patent Claims.

At the time we went to press, our list of Patent Claims had not arrived from the Patent Office, and no word sent us of the reason of the delay. This makes it very inconvenient for us, and will disappoint many of our readers.

#### Decision in the Great Patent Case.

We are informed that Judge Nelson has recently decided the case in Equity of the Troy Iron and Nail Factory, against Erastus Corning and others, involving the right to use the machinery by which the present improved form of hook-headed spikes are made for use on railroads. The case presents some points of interest to the public, from the large amount of property involved, and the exclusive right claimed by the plaintiffs to manufacture these spikes, which are now used on almost every railroad in the United States. The cause was argued last summer upon the merits on the pleadings and proofs. The decision of the Court was, that the plaintiff's bill be dismissed with costs. S. Stevens for plaintiff; S. Blatchford, D. L. Seymour and William H. Seward, for defendants.—[Troy Budget.

It would be a particular favor to know when the above decision was made, and where. We are doubtful about its correctness.

#### A Bill Giving Further Remedies to Patentees.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That if any person or corporation shall import, or have in possession, for the purpose of traffic or sale, any articles imported into the United States from Canada or any British Province, and manufactured in whole or in any part in Canada, &c., by any process or machine, or by any substantial modification of any process or machine, for which there may be at the time a subsisting patent owned by any citizen of the United States, such person or corporation shall, upon due proof thereof, before any court of competent jurisdiction, be deemed to have infringed said patent, and be liable for all damages, in the same manner, and to the same extent, as in other cases; and the articles so manufactured and imported shall be forfeited to the use of the owner of said patent.

Sec. 2. And be it further enacted, That whenever a patentee, or any person holding under him, shall file a bill in equity, verified by oath or affirmation, in the circuit or district court of the United States, complaining that any person or corporation has imported, or has in possession, for sale or traffic, any of the articles described in the preceding section, and shall make it appear, to the satisfaction of the judge, that the facts alleged are probably true, the said judge shall issue an order to the marshal, directing him to take said articles into his custody, and hold the same, subject to the final order of court, and may further by injunction restrain the sale of, and traffic in said articles; and after due notice to all parties may, upon a final hearing of the cause, decree said articles to be forfeited to the use of the complainant, provided, however, that from all judgments and decrees of said courts, a writ of error or appeal shall lie in the same manner as is now provided by law in relation to other judgments or decrees.

#### Patent Office Report.

A long and ably written article has appeared in the Herald, criticising the Report of the Commissioner of Patents. Its vein is full of irony, and it bears unmistakable traits of having been penned by some one acquainted in the Patent Office.

#### Petition for Renewal of A Patent.

Geo. Griggs, of Roxbury, Mass., has petitioned the Commissioner of Patents for a renewal of his patent for Railroad Frogs. Persons opposed to this petition will be heard on the first Monday of next June, at 12 M., before the Commissioner.

#### Completion of the Britannia Tubular Bridge.

The opening of this magnificent structure, looked forward to with so much interest, took place on March 5.

At 6½ o'clock in the morning, three powerful engines, (the Cambria, the St. David, and the Pegasus,) of from 50 to 60-horse power each decorated with flags of all nations and union jacks, steamed up, and harnessed together, started from the Bangor station. At 7 o'clock the adventurous convoy, progressing at a speed of seven miles an hour, were lost sight of in the recess of the vast iron corridor. Instead of being driven through with a dispatch indicative of a desire on the part of those who manned it to get in and out with the utmost expedition, the locomotives were propelled to a slow and stately pace, with a view of boldly proving, by means of a dead weight, the calibre of the bridge at every hazard. The total weight of the locomotives was 90 tons. The appearance of the interior of the tube during the interesting experiment was of a novel and remarkable character. The pauses that occurred during the progress of the transit, furnished an imposing view of the interior of the gigantic structure, which, as contrasted with that of a tunnel of similar length, was rendered comparatively cheerful by the recurrence at intervals of loopholes of light, which serve the three useful purposes of ventilating, and lighting, and divesting the tube of steam from the passing engines. The locomotives were brought to a standstill in the centre of each of the great spans, without causing the slightest strain or deflection. The first process—that of going through the tube and returning—occupied altogether ten minutes.

The second experiment convoy that went through consisted of twenty-four heavily-laden wagons, filled with huge blocks of Brymbo coal, in all, engines included, an aggregate weight of 300 tons. This was drawn deliberately through, at the rate of from eight to ten miles an hour, the steam working at quarter power. During the passage of this experimental train through the tube, a breathless silence prevailed that was almost solemn until the train rushed out exultingly, and with colors flying, on the other side of the tube, when loud acclamations arose, followed at intervals by the rattle of artillery down the straits. Upon the return, which occupied about seven minutes, similar demonstrations ensued, and during the progress of the train, those who stood upon its top to ascertain any possible vibration, reported they could detect no sensible deflection.

An ordeal stronger still was then resorted to; a train of 200 tons of coal was allowed to rest, with all its weight, for two hours in the centre of the Carnarvonshire tube, and at the end of the time, on the load being removed, it was found to have caused a deflection of only four-tenths of an inch. It is remarkable that this amount of deflection is not so much as one-half hour of sunshine would produce upon the structure, it being moreover calculated with confidence that the whole bridge might with safety and without injury to itself be deflected to the extent of thirteen inches. These loads, it is most material to remember, are immensely more than the bridge will ever be called upon to bear in the ordinary run of traffic, though engineers are of opinion that it would support with ease, and without much show of deflection, a dead weight on its centre of 1,000 tons. Twelve miles an hour is the limit of speed at which Mr. Stephenson intends that trains shall at first go through, more particularly as there are sharp curves at the termini of the tube.

About 12 o'clock another testing train was prepared to be taken through the tube. It consisted of the three engines, 200 tons of coal, and from 36 to 40 railway carriages, containing between 600 and 700 passengers, packed together as closely as figs in a basket, all so clamorous and eager to "go through the tube," that it became impossible to accommodate them.

At length obediently to a long wild whistle, which was almost long enough to cover the extent of tube, they glided slowly into the interior, saluted by a loud burst of "Rule Britannia" from any array of Liverpool seamen up aloft in the towers at the entrance, on the

front of which, cut deeply in the stone, were the words: "Erected Anno Domini, 1850; Robert Stephenson, Engineer." As the huge train trailed slowly through the tube, successive salvos of artillery were fired at each end.

It may be interesting to know, that the general opinion of the numerous engineers present appears to be that the Britannia tube bridge is as trustworthy as any tunnel on *terra firma*.

#### The Gulf Stream.

At the meeting of Scientific Association, at Charleston, Lieut. Maury read a very interesting paper on the "Gulf Stream." In it he described the difference between New York harbor, and that of Charleston, in a commercial point of view, to be owing to discovery made by Dr. Franklin, of the increased temperature of the Gulf Stream, over the adjacent waters.

Formerly, before the influence of the Gulf Stream was known, vessels leaving England were accustomed to go far South to take the trade winds on the coast of Africa, so as to bring them direct to Charleston on the route home. In fact, at that time, Charleston was the half-way-house between Liverpool and New York. Vessels in the winter, attempting to enter New York, frequently became covered with ice, and put back to Charleston or the West Indies, to thaw, and remain until Spring. Now, when such a case occurs, the vessel, instead of retreating to a Southern latitude, puts back into the Gulf Stream, where the increased temperature of the water so far loosens her icy covering, as to permit a safe and comfortable continuation of the voyage to New York. From the examination of numerous log-books, kept by vessels sailing between New York and the West Indies one hundred years ago, Lieut. Maury had ascertained that the average rate of sailing with a good breeze did not exceed one mile per hour, since action of the currents were so powerful and so little known, that the vessels were considerably carried backwards.

At the period referred to, shipmasters never knew their longitude within five or ten degrees, and after the discovery of the Gulf Stream, it was proposed to ascertain, in part, the position of the vessel from the temperature of the water. In 1818, the first regular line of packets between the United States and England, was established by Jeremiah Thompson of New York. It was proposed to start regularly from both sides of the Atlantic once a month, and vessels of 300 tons were built for the service.

The success of this plan was regarded by many as extremely problematical, yet the undertaking so far succeeded that, at the expiration of three years, a ship of 500 ton was added to the line. The trade was, however, insufficient to support so large a tonnage, and the vessel was withdrawn. Now, said Lieut. Maury, we are building vessels of 2000 tons.

Lieut. Maury considered that the opening of a ship canal across the Isthmus of Panama, would effect as great a revolution in commerce as the world had yet witnessed.

#### The Effect of Tides.

Lieut. Davis, U. S. Navy, delivered a course or lectures at the Smithsonian Institute, in which some singular and interesting information was brought forth. From observation and collected information he stated that changes were constantly going on along our coast of the utmost importance to the commerce and navigation of our country. At Sandy Hook, for example, where there is now dry land there was in 1836 forty feet of water; and this is the main ship channel. In 1867 there was an open ship channel from Barnstable bay to the ocean, and as late as the beginning of this century, in heavy storms, the sea occasionally made a breach over the same place; but the process of construction under the law of tidal action, has closed up this opening entirely, and the place is now an important part of Cape Cod.

Other well authenticated instances, derived from a comparison of the recent surveys with the earliest charts of our coast, were mentioned. For example, Monomy Point is constantly extending to the south. Under the operation of the tides, a number of harbors and inlets, particularly along Martha's Vineyard and Long

Island, have been gradually closed and converted into ponds. The remarkable fact was stated that the salt water of these ponds had given place, in the course of a few years, to fresh water. Another remarkable fact is, that the bottom of these ponds is frequently deeper than the bottom of the adjoining ocean.

This fact is interesting, since it is found that the inhabited parts of sandy deserts, such as the oases of the Desert of Sahara, present similar depressions, the bottom of the valley being, in some instances, below the present level of the sea. The lecturer also stated that these ponds, in the course of the change, become the home in succession of salt water, brackish water, and fresh water animals, and thus afford a beautiful demonstration of the geological formation of basins, such as those of London and Paris, in which the remains of successive races of animals are found in a fossil state.

Lieut. Davis has deduced from his numerous observations the law of tidal deposits—namely, that all deposits on the external coast are made by the incoming or flood tide, and that the increase of deposits is always in the line of the motion of the tidal current. Thus, if the tide moves to the north along any part of the coast, projecting points, which may serve as nuclei, are found to elongate in a north and south direction. This action is not confined to our coasts, but Lieut. Davis applies it to the explanation of phenomena noticed in the Llanes of France and Holland.

Another important deduction is, that the deposits at the mouth of the harbors and estuaries, (not rivers,) known by the name of bars, are formed from materials deposited by the ocean. The action of the tide is that of constant deposition. Degradation of the coast is the effect of the waves and storms of the ocean. The general action of the meteorological causes, is to diminish the height of continents and to transport their materials to the sea, while the action of the tide is just the reverse, and tends to keep up and preserve around the coast the materials which have been brought down in geological periods. In this way the belts or land which skirt our coast have been thrown up, and even Long Island itself has probably been formed in the same way.

#### Battin's Coal-Breaker.

The several suits brought against our Colliers some time ago, having resulted unfavorably to the Plaintiff, on the ground that his patent right was worthless—for that is the substance of Judge Kane's opinion—we had an idea that the matter was dropped altogether. But we find that Battin has since obtained from the Patent-office some change in the wording of his claim, upon which he thinks he can do something. He has therefore brought new suits against some parties. Having given patient investigation to the merits of this patent during the first trial, and having heard the views of the court, we feel well satisfied that no after-change in the mere words of the written document can prevail upon the bench to alter its strongly expressed opinion. The Patent-office cannot by any new instrument of writing, confer a right that the Plaintiff had not before the issue was made. In fact no right whatever attaches because of letters patent, which are, if we understand them, mere certificates of the opinion of the Commissioners.—[Pottsville Mining Register.]

[We understand that Mr. Battin's alleged invention consists merely in uniting two machines together—the breaker and screener.—The coals used to be broken in one machine and screened in the other, and Battin united them by a common arrangement. In this view of the case the remarks of the Register are perfectly just and correct.

North Carolina, it is said, is the only State in the Union that does not contain a medical college. This probably accounts for its being so healthy a State.

A bridge across one of the streets of Milwaukee, Wis., broke down recently, with thirty persons upon it, all of whom were thrown into the river. None were drowned.

The mummy is the strongest dead proof that "self-preservation is the first law of nature."