



NEW YORK, FEBRUARY 19, 1848.

The Cast Iron Plough.

We have received a great number of communications from respectable farmers and plough makers respecting a Bill which has recently passed the United States Senate and is now before the House of Representatives, to extend the patent of Jethro Wood for seven years. The bill is a proposition to grant to the heirs of Jethro Wood the privilege of exacting fifty cents from the manufacturer of every cast iron plough made in the United States after the passage of the bill.

Mr. N. Moore, a plough manufacturer at Champlain, N. Y., informs us that it has already been extended fourteen years, in all twenty-eight years last August, "and that contributions have been levied to an immense extent upon plough manufacturers." He himself paid two hundred and fifty dollars last winter under "a threat of proceedings being instituted against him in the United States District Court."

We have been informed that an immense influence has been brought to bear to get the bill passed, and as our law makers are extremely ignorant regarding all that relates to Patents, it is to be feared that the bill will be pressed through the House of Representatives and become a law, as recklessly as it has been crowded through the Senate Chamber of the Republic. On another page will be found a letter from the pen of A. B. Allen, Esq., of this city, giving a history of the cast iron plough and examining the merits of Wood's case. It was published in the New York Tribune of the 10th inst., and is worthy of a careful perusal.

Congressmen and the Patent Laws.

In relation to business connected with Patents and Mechanical operations, it is to be feared that the majority of our Congressmen are not fully acquainted with the wants of those interested in the Patent Laws.

Last week a bill from the Senate to appoint an examining officer to the Patent Office at a salary of \$2500, with assistants at \$1400, was taken up. A motion was made to refer to the Committee of Ways and Means.

Mr. Pettit, of Indiana, opposed the reference. He said that at present six months time is lost before the patentee can have his claims considered. He was in favor of adequate salaries, to men of talent, in a department of the government so intimately connected with the progress of science and art, and the development of the resources of the whole Union.

At present, he said, there is a surplus of \$20,000 a year paid into the National Treasury from the Patent Office. All this money comes out of the pockets of the inventors or patentees. One dollar of the proposed additional expense need not come out of the Treasury. It will be paid by inventors for whose benefit the increase of officers is required.

Mr. Hill, of Tenn., while he concurred in the measure wanted to know who was to have the appointment of the proposed officers—was it the Commissioner of Patents? Also, he wanted to know how the revenue of the Patent Office was appropriated?

Mr. Pettit's idea was certainly a queer one. Talent, talent, what is it? It is too commonly considered that a man who is what is called smart, is fit for any situation. Talent in the Patent Office is not worth much without practical experience and plodding habits.

We hope that some reform will be made and that quickly.

Steam Boiler Guage.

Since our last number was issued we have examined the Report of a Board of Examiners appointed by Congress in 1844, to make experimental trials of inventions and plans for preventing explosions on steam boilers.

The Board reported that they had come to the conclusion, from abundant testimony, that

there were but two causes for explosions, viz. want of water in the boilers and by incrustation from salt. The latter cause, is no cause at all, but the first is certainly one cause of explosions. The Board reported in favor of Mr. Barnum's Steam Boiler Guage, an engraving and description of which appeared in No. 3, vol. 2, of the Scientific American.

Believing from the tone of that report that Barnum's Guage must have been extensively adopted by this time, we have made many enquiries on the subject and have been not a little chagrined to find that only two or three fair trials have been made with it. It was used on the experimental trip of that failure, the Water Witch, and it was certainly unfortunate for Mr. Barnum's Guage to have been connected with it. But although the engines and vessel behaved so badly, S. S. Bartholomew, 1st Assistant Engineer and W. F. Mercier, 3d Assistant Engineer, pronounced a high eulogy upon the Guage, stating in their letter of the 1st Nov. 1845, to Mr. Bancroft, Secretary of the Navy, that "it always gave sure indications of the height of the water in the boilers under every circumstance." The letter further states that they "invariably found the indications given by the apparatus to have been correct."

We suppose that the only possible reason why this guage has not been more generally adopted, is because it creates a primary expense in the construction and application to steam boilers. It will be well to see to it, that penurious steamboat companies should no longer be allowed to endanger valuable human life for the sake of filthy lucre.

The St. Louis Association of Steamboat Engineers, have reported that the cause of the explosion of the Planter was owing to imprudence, negligence or ignorance in the engineer. This is too general a decision. Any body of men, though not engineers, could have made the same report. We want a scrutinizing examination, one that will explain all the circumstances connected with explosions. We know that it is not very easy to get this.

A letter appeared in the National Intelligencer, on the 31st of last month, ascribing the causes of explosions principally to carelessness and bad metal in the boilers,—"that they sometimes stop half an hour at a place and the steam all the while accumulating." This is true, but the engines of many of our Western boats are so geared as to work the pumps while the boat is standing, so that if there is not too much weight on the safety valve, there is no danger from standing still. Carelessness, however, is the main cause.

American Hemp.

A short time ago a sample of American water rotted 1 3-4 inch rope was tried at Louisville, Kentucky, by John Smith, Esq., United States Hemp Agent, and bore the most astonishing weight of 5470 pounds. It was made out of a promiscuous selection from five different bales, and of 100 pounds of hemp it yielded 84 pounds of clean hemp, 10 per cent of tow and 5 per cent of waste. The rope was made of out of the clean article that stood the above test and was hand-spun by Mr. Robbins, an able spinner of that place.

The Government standard for a rope of the above size is that it shall not lose more than sixteen per cent of tow and waste and that it shall bear 4200 pounds. This is regulated by the best Russian hemp. Our hemp therefore is a far superior article to the best Russian hemp. On the 28th of last month some cured unrotted hemp by J. T. Crooks & Co. of Maysville, Ky., was sent to Mr. James Munroe, manager of Mr. Arthur's rope-walks, with a request that he would make two ropes, one of cured hemp and one of a good quality of dew rotted hemp, with a view to a test of strength. Although he endeavored to make them of one size, the dew-rotted proved one-tenth of an inch larger in circumference, being 1 3-10 inches while the cured was 1 2-10 inches. Pieces of 12 feet in length were cut from each and each piece weighed 8 ounces. The rope of cured unrotted hemp parted at 1,550 pounds, the dew-rotted parted at 1652 pounds; the cured unrotted stretched 9 inches, the dew-rotted stretched 14 inches.

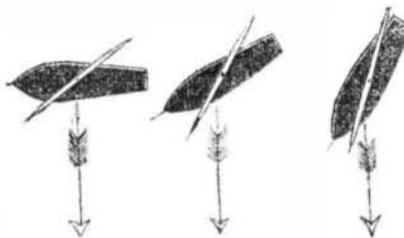
These ropes were superior to the experiments made at the Government Hemp Agency in 1844 on the water-rot, Russia, or steam

hemp. This is encouraging and cheering to our Western growers and manufacturers of Hemp.

Indirect Action of Wind.

These three diagrams represent three vessels sailing in different directions and the positions of the sails are represented by the cross spar on the deck of each—the arrows indica-

FIG. 1. FIG. 2. FIG. 3.



ting the direction of the wind. In Fig. 1, the position of the vessel is at right angles with the direction of the wind, while the sail is at angle of 45 degrees. It will not be difficult to perceive that by the composition and resolution of forces the form of the vessel is such as to move forward in the direction of its keel with considerable velocity. The position of the vessel Fig. 2, is at an angle of 60 degrees with the wind, while that of the sail is only 30 degrees, and therefore its tendency is also at angles with the vessel's direction of 60 degrees, and as the vessel cannot sail against the direction if its keel, (leeway always excepted) the vessel in this case moves forward more readily than it could backwards. In Fig. 3, the effect of the indirect action of the wind on the sail is illustrated by an extreme case. The position of the vessel being at an angle of only 30 degrees, while that of the sail is only 15 degrees with the direction of the wind. In this case the tendency of the sail is at an angle of 75 degrees with the direction of the vessel, yet with a variation for propulsion, (although the edge of the sail is nearly in a direct line with the wind) to propel a vessel with considerable velocity if she is well trimmed. The force exerted by a moving fluid on a stationary object, is precisely the same as its resistance to a moving object. The above diagrams represent merely the propulsion of vessels in different directions through fluids by a force in a given direction, not the nautical science of trimming the sails to ensure the greatest velocity, as the spars are trimmed per contra to the known practice.

Copper Mines of Missouri.

Large discoveries of copper have recently been made in Franklin county, Missouri, and the mines are represented to be very rich in ore. The "Miner's Prospect" says that the ores are very easy of access and that two men can raise from five to ten thousand pounds a day, yielding about 85 per cent of pure copper. The first discovery is located on the Merrimac river, about twenty miles from Union, and is owned by Messrs. Bredell, Gamble & Co. of St. Louis. The second, more recently made, is about fourteen miles from Union, and owned by Messrs. Hearst, Philips & Co. Besides these, there are many smaller prospects owned by different individuals, and scattered throughout the scope of country lying between the Burbois and Merrimac rivers. Both of the above mentioned companies are erecting furnaces and making extensive arrangements suited to develop the mineral resources of that region.

A Floating Population.

In the Atlantic Dock Basin, opposite this city, there are now moored for the winter upwards of 500 canal boats. Many of these boats are occupied by families, and to accommodate their spiritual wants, the commodious passenger steam ferry boat Olive Branch, belonging to the Fulton Ferry Company, has been fitted up as a church.

The inhabitants of our canals are a singular race and in the course of one century from the present time, they will exist among us as a distinct and separate people in manners and customs. Our great inland navigation will necessarily classify those who follow after it as a profession. At present their morals are very lax, like all who lead a wandering life.

John Neilson, editor of the Quebec Gazette, and the oldest editor on this continent, is dead.

Manufacture of India Rubber Goods.

At Harlem, near this city, there is an India Rubber manufactory, where about 150 women and 50 males are employed, and where military equipments are made in no small quantities. The raw rubber is first cleanly washed, and after being dried is ground between two large cylinders under an immense pressure, heated by steam, heated so hot that the rubber looks as though it were burning. While it is grinding a preparation of turpentine is mixed with it to dissolve the rubber. The rubber comes from the roller a black mass, which is transferred to rollers of still heavier pressure where it is ground again under a strong heat; thence it goes to a third roller to be heated ready to be put upon the cloth; this is done by a powerful set of rollers. The rubber thus prepared, is put upon the rollers and distributes itself evenly, at any thickness desired; the cloth is then put upon another roller that passes under the rubber, which, under great pressure, is forced into and through the cloth, no matter whether silk or the stoutest sail duck, it goes through. A coat is put on the other side in the same way, and no power can separate the mass after that. The cloth is then taken to the room where it is made into an infinite variety of goods to which it is adapted. The goods are cut out by patterns, and after the edges are covered with rubber cement they are folded together and rubbed down closely, and soon become so closely fixed that any part will separate before the seams; there are in fact no seams, all is rubber without a particle of other fastening. After they are all fastened the whole article is covered with powdered sulphur, and taken to be cured: this is done by placing them upon an iron railroad that passes into a large cylinder, where they are subjected to the action of steam at a high temperature, which cures them and completes an article that is affected by no temperature, and which will outwear iron itself. The goods taken out of the heater are boiled in strong potash lye and then washed, which leaves them ready for sale. The sulphate of lead and sulphuric gases are also used to cure or vulcanize the rubber. The goods made by this machinery are elegant, and the operation of making them is very simple and yet complete.—The invention is Yankee, and no nation can approach us in this kind of work yet.

Mr. Robert Hoe, of this city, has made contracts to build two Printing Presses, similar to those of the New York Sun and Philadelphia Ledger's, for two Paris papers. Each is to print 12,000 copies per hour. They are to be made in this city and to cost \$24,000.

John Thomas, of this city, has petitioned Congress for an extension of his patent for improvement in Floating Dry Docks, from the 25th of next March.

Samuel Colt, of Hartford, Conn., has also petitioned Congress for an extension of his patent for improvement in Fire Arms, from the 25th of this month.

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