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Paine's Light.

In our last week's number we published an illustrated description of the invention of H. M. Paine, of Worcester, Mass. The engravings and description were derived from the English patent, as published in the Repertory of Inventions, of which the agent who took out the English patent is one of the proprietors. We stated that the specification was presumed to be full and explicit, as a very small flaw—ambiguity, defect &c., destroys an English patent; and as an English patent is twenty times more expensive than an American one, it is reasonable to suppose that according to the amount expended so would care be exercised in guarding against all contingencies.

Our opinion about the invention, as derived from the specification, and we have examined it in three different London periodicals, is not a favorable one. It has confirmed us more and more in the opinion we have expressed and entertained, "that water cannot be decomposed by electricity generated by mechanical force, so cheaply as by direct chemical action," and the idea held out by Mr. Paine, that a far greater force was obtained than the mechanical force exerted, is no where touched upon in the specification—all is dark and will remain dark, according to our mode of reasoning, until the laws—the unalterable laws—of physics are changed, and that cannot be by human powers.

The machine used by Mr. Paine, with the exception of the tubular coils, was invented by an ingenious American who has long resided in England, Mr. Saxton. Dr. Wallaston decomposed water by the electric spark, more than fifty years ago, but he always found it resolved into the two elementary gases, oxygen and hydrogen, and there is nothing in the specification referred to, that would lead us to think otherwise; indeed we are perfectly positive that water cannot *all* be resolved into hydrogen, or all into oxygen, nor is there a single word said in the specification about how this can be accomplished. Whenever we see an apparatus which we can handle and use at pleasure, whereby we can by one pole alone resolve water entirely into hydrogen, or entirely into oxygen by the other pole, then we will believe, and frankly and publicly confess that we were in error. We have no selfish motive in expressing our opinions, but it is our custom not to express one opinion, and entertain a different one.

Light and Heavy Locomotives.

Mr. England, of Hatcham, England, forwarded a light locomotive on the 3rd of August, 1850, to the Edinburgh and Glasgow Railway, Scotland, under the guarantee that it was to work the express trains between Edinburgh and Glasgow, consisting of seven carriages, to keep good time, per time bill, and not consume more than 10 lbs. of coke per mile, and if it did that to the satisfaction of the company's engineer, Mr. Adie, £1,200 (\$5,820) should be paid for it. If the work was not done satisfactorily, the engine was to be taken back entirely at Mr. England's expense.

Mr. Adie has made a report on the working of this locomotive, and it is one of great interest. One of the best engines of the company was appointed to run from the opposite end of the track at the same hours, and with a similar train. These two engines worked a week in this manner, the "Little England," starting on the morning trip from Glasgow, and the large engine, the "Sirious," from Edinburgh; the result was, the little engine kept better time than the large one, and consumed only 8 lbs. 3 oz. of coke per mile, while the large engine consumed 29 lbs. 1 oz. The little engine frequently ran a mile in sixty seconds. She started with less slipping, and could be brought to stand at a much less distance than the large one. This little engine ran up an incline of 1 in 72 feet, for three miles, at the rate of 30 miles per hour, with 8 heavy carriages. She is now running the

express trains between Glasgow and Liverpool, with 5 carriages, and consuming only 6½ lbs. of coke per mile. This engine is 16 tons, and it does better work than the engines of 32 and 36 tons. There can be no doubt but the English have run to extremes in building heavy engines, and that against reason and common sense. The reform in light engines has commenced, and it is to be hoped that extremes will be avoided in this.

Reform of the English Patent Laws.

Lord Brougham has introduced a Bill into the House of Lords, which provides for a complete reform in the procuring of a patent. All the old forms and multiplicity of offices are to be pitched to *gingle de cootch*. The Lord Chancellor, the Master of Rolls, the Solicitor General of England, Scotland, and Ireland, are to act as Commissioners of Patents. These Commissioners are to make their own rules and regulations and appoint their own clerks, as is done in Washington. The petition for a patent is to be left at the Great Seal Office. The petition is to be examined by a proper person or persons, and upon a report of said Examiner, the Commissioners may cause a warrant to be prepared for the signature of the sovereign, after which the Lord Chancellor shall seal the letters patent, which shall be in force throughout the three Kingdoms, the Colonies, and the Isles. The patent fee is to be reduced to £130, or less than one half of what it now is for the United Kingdom. A large meeting has been held in Manchester, Mr. Fairbairn presiding, at which resolutions were passed recommending £10 as a high enough patent fee. The whole fee is not to be paid at once: £18, by Lord Brougham's Bill, will secure a patent for three years, after which £40 is to be paid for 4 years, then £70 for the next seven years. This is a sweeping reform, but £10 or £20 is a high enough fee, we think.

There is another reform we should like to see carried out, viz., to abolish the huge wax seal which is attached to an English patent. Let there be an embossed parchment seal used in its stead. It is one of the most foolish things imaginable to see a lump of wax weighing 7 lbs. attached to every English patent. Let our friends across the water ask for relief from the *pumpkin seal*.

The London Well Waters—their Action on Lead.

In a lecture recently delivered before the London Chemical Society, by M. Noad, so well known in America by his book on "Chemical Analysis," he described the results of investigations made by him on the waters of various London wells. In one well (Highgate) he got 12.57 grains of saline contents in the water: silica, 0.1120; sulphate of potash, 2.1306; sulphate of soda, 1.1894; chloride of sodium, 1.2040; chloride of lime, 0.7390; nitrate of lime, 5.0150; nitrate of magnesia, 2.1331—12.5231. This water exerted a powerful action upon a leaden cistern in which it was kept; this was attributed to the extraordinary amount of nitrates in the water, the well not being far distant from an old churchyard. M. Noad stated that although the nitrates were not unwholesome in water, their powerful action upon lead should be strictly guarded against, and he emphatically warned the public against the practice of allowing any water intended for domestic use to remain stored up in leaden vessels. He had analyzed the waters from a spring in Clapham which exerted a powerful action on lead, and this water contained an abundance of those salts which chemists termed "preservative salts;" not a nitrate among them. They were, silica, 0.24; carbonate of lime, 15.09; carbonate of magnesia, 13.97; sulphate of lime, 15.32; sulphate of potash, 6.79; sulphate of soda, 10.77; chloride of sodium, 11.46; organic matter, 4.10—77.74. This water corroded lead with such remarkable energy that a thin cistern, in which it was retained, was eaten into holes in six months; the oxide of lead could be skimmed from the surface of the water. The corrosion took place in the summer months, and was attributed to the organic matter in the water. The artesian well waters of London also act with energy on lead.

This is not attributable to organic matter in them, as they are very pure, but to the alkaline qualities of the water. We must say that people cannot be too careful of the waters they use. Some are more sensitive to lead poisons than others, but they are dangerous to all, and therefore should be guarded against with untiring vigilance.

Quick Passages. Lieut. Maury's Charts.

Quite a large document of 126 pages, and well printed, has been issued by the authority of the secretary of the navy, Honorable William Graham, and the Chief of the Bureau of the Ordnance Department, Commodore Warrington. The document is a very important one, as it contains the investigations of Lieut. Maury, of "the winds and currents of the sea." It states that of all the vessels which arrived at San Francisco from Atlantic ports, in 1850, the six American vessels which made the shortest passages had "wind and current charts" on board, and the six without these charts, which made the next shortest, averaged 14 days longer.

The wind and current charts of Lieut. Maury embody the results of the experience of officers in both public and private vessels, and numberless voyages through a long course of years. In regard to winds and currents in all parts of the ocean, they afford certain aids for shortening the average time of vessels in their passage to foreign ports, and even along our coast. The track of vessels and the character of winds, in a series of years and months, are given without confusion, by means of varied colors, symbols, and characters. Lieutenant Maury's charts are receiving increased attention from foreign ship-owners, more especially the British, who see in the aids they furnish, and a practical application of the principles they have evolved, a sure means of increasing their knowledge and making rapid passages.

The winds and currents of the sea may be said to be a new and perfectly original branch of nautical science, of which Lieut. Maury is the founder, the enthusiastic and learned investigator.

On the 16th inst., Lieut. Maury sent Commodore Warrington a very singular and important paper, as a "Notice to Whalers." It was derived from investigations carried on at the National Observatory, "with regard to the migratory habits and places of resort of the whale—sperm and right." He believes that the right whale of the Southern Ocean is quite a different animal from the whale of the North, and that the two are separated by an impassable barrier. The whale found on the east and the one on the west, in the Northern ocean, is the same,—showing that there is communication by sea around the North Pole. This interesting piece of information was called to the notice of Lieut. De Haven, when he left on his expedition in search of Sir John Franklin; and he was so much impressed with the information that he was going to observe the whales in the northern seas, and follow them as pilots. We hope the American expedition will come out at the west and discover the North-west Passage. Lieut. Maury believes the temperature of the sea to have much to do with the whale—the right whale delighting in the cold, and the sperm whale in warm water.

Woodworth Patent Case.

U. S. Circuit Court, Phila. Before Judge Grier, April 23d: Sloat vs. Spring. The jury in this case brought in a verdict for the plaintiff establishing the following points:

1. That William Woodworth was the original inventor of the planing machine patented Dec. 25, 1828.
  2. That the re-issue patent for July 8th, 1845, embraces the same principles as the patent of 1828.
  3. That the machine of defendants does infringe on the amended patent of July 1845.
- The Judge said that he entirely concurred in the finding of the jury. He hoped that there never would again be found persons willing to come into court and swear that Wm. Woodworth was not the inventor of the planing machine for which he had received a patent. The title had been tried in nearly every Circuit

Court in the United States, and after twenty-three years' litigation, all of which had terminated the same way, it was time to put an end to these suits. He would hold hereafter that the man who would come into court and swear that Wm. Woodworth was not the inventor of the planing machine was *prima facie* guilty of perjury. He hoped that counsel would not encourage any more opposition to the Woodworth patent, and would not permit persons to come into court and under oath testify to a matter which was manifestly different from the testimony they gave.

SHOWER BATHS.—In the United States Circuit Court at Baltimore, Monday the 21st, before Judges Tanney and Heath, as we learn from the Americans of that city, the case of Ephraim Larrabee vs. Cortlan & Co., an action to recover damages for an alleged infringement of a patent right for the manufacture of shower-baths, was concluded by a verdict for the defendants. The plaintiff's counsel declined going before the jury, and a verdict was taken for the defendants under the instructions of the court. The case will be carried up to the Supreme Court by the plaintiff.

American Iron Houses.

It is well known that Mr. Bogardus, of this city, one of the most ingenious men that ever lived, is the inventor of the first iron house erected in America. This building is situated on the corner of Centre and Duane streets, this city, and is used by Mr. Bogardus as a manufactory. The last number of the Illustrated London News, has a beautiful wood engraving of this building, and it speaks in flattering terms of its beauty and construction. Although iron houses were first built in England, it generously admits that the said iron house is more ingenious and is superior to any ever built in England. Quite a number of these houses have been erected in this city; and a fine new building, about being finished in Baltimore, by Mr. Bogardus, has been highly praised for its architectural beauty and strength of construction. We take pleasure in recording our countrymen's efforts in ingenuity, taste, and skill.

Death of Commodore Barron.

The death of this distinguished officer took place at his residence in this city, yesterday afternoon about 5 o'clock, when he breathed his last sigh without pain and in full possession of the faculties of his mind. Commodore B. was in the 83d year of his age, fifty-three of which had been spent in the naval service of the United States, having entered the Navy on the 9th of March 1798.—[Norfolk, Va., Daily News, April 21.]

[Commodore Barron was a very ingenious man and patented several very meritorious inventions. He took out a patent about 1830, we believe, for a fan moved by clock work to ventilate chambers and vessels. This invention we have seen revamped a dozen times since then by others, but he was the original inventor. He has lived to a good old age, and his life has been chequered with much of "weal and woe."

We hope our friend Fitzgerald, of the Philadelphia "City Item," will not omit to assign a proper place to us in the Great Pedestrian Tour of Editors. The programme seems so admirably arranged that we should dislike much to be among the missing. Could we not be yoked in with Mr. Scott or Mr. McMakin, in consequence of the corresponding attitude which exists between us.

Removals at Washington.

We see it stated that De Witt C. Lawrence, Chief Clerk of the Patent Office, has tendered his resignation, to take effect on the 1st July, also that Robert Mills, superintendent of buildings, is to be removed and W. P. Elliott appointed in his place. The person who is stated to be appointed in the place of Mr. Lawrence, is Gen. Roger Weightman. We see it stated, also, that the Secretary of the Interior has appointed Mr. Stansbury, (who kicked up the dust lately) to take drawings of, and make a report of the exhibition buildings. This is a job for which the patent fund we hope will not have to pay; we will keep a look out and watch this affair.