



NEW YORK, APRIL 7, 1849.

Facts and Fallacies.

Plausible fallacies are being brought constantly before the public as things wonderful, important and new. Exploded theories are continually re-resolving into fanciful or promising speculations. Submerged projects are frequently thrown upon the surface of the tide to float awhile on its bosom, to allure and deceive. At the present moment at no great distance from this city, a perpetual motion has been discovered—a self-moving machine that is to astonish this before bedarkened planet. The castings are now in the machine shop finishing up for the final triumph of man's genius, over the sneers and doubts and fears of all unbelievers. A small machine of about five horse power is to be built and five hundred dollars to be expended—sacrificed—all for the lack of reading the "Principia," and studying the "laws of motion." If people would just bear in mind, that "action must be equal and contrary to re-action, that every body must persevere in a state of rest or of uniform motion in a straight line, unless compelled to change that state by forces impressed upon it, and that every change of motion must be proportioned to the impressed force," we would not hear of so many ingenious mistakes committed by many men who otherwise possess mechanical genius and skill.

Within the past year France has boasted of two new engines moved by a power that is to supersede steam and astonish us Yankees.—One is an Ether-propelled Engine, and the other a Steam and Chloroform Engine. Now if these engines can be propelled at less expense than our steam engines, this is just the country for them—we are just the people that like things cheap and good, because the majority reap the benefits, and as soon as it can be fairly demonstrated to us, that ether, chloroform, gas, gunpowder, or gun cotton, will propel an engine at less expense than the vapor of water, it will not be long till we pitch our steam pokers among the wrecks of "rusty iron caps and jingling jackets." But until this is done, our judgment leads us to say, "guess we'll wait a little longer, till we see what comes out." In 1822 Brown invented a gas vapor engine, and in 1826, Howard invented an alcohol and ether engine, and in the same year, M. de Montgery of Paris, invented an engine to be propelled by bituminous vapour, and Cheverton about the same time, after rejecting gunpowder fixed on oil gas as the grand panacea for all the evils complained of in the steam engine. In 1840 Col. Torrens constructed an engine to be propelled either by condensed sulphuretted hydrogen or by nitrous oxide liquor, which was to obviate all the difficulties experienced by Brunel in constructing vessels to propel machinery by carbonic acid gas. In 1827 Messrs. Stirling, of Glasgow, invented a hot air engine, and two others have been invented since to be propelled by the same power. Stirling's engine is yet in operation which says not a little for the merits of the invention, but all the others mentioned are numbered with the things that were. Although alcohol and ether will become vapor with less than one half the degree of heat required to raise water to vapor, yet owing to their difference in gravity, a pound of water will evaporate to 4 times the bulk of a pound of ether. Those who would construct new engines should be acquainted with the laws that govern the materials which they design to employ, and the relative action produced by the application and combination of those materials. If men would study the simple properties of the lever, and the laws of motion (which embrace friction,) we would hear no more of self moving machines. And if men would study the chemical properties of fluids capable of expansion by heat, there would be fewer revamped gas engines; and if we would have no more facts than we now have, we would assuredly have less fallacies.

Railroads and Locomotives.

The first Railways that we have any satisfactory account of, were employed about the middle of the 17th century, in the neighborhood of Newcastle, England. They were made of timber, laid down on transverse sleepers, which were placed at right angles to the track, at about 30 inches apart. The space between the two rails was a horse path. The rails were fastened with wooden spikes, which were planed off smooth. The wagons drawn on these roads were made with flange wheels, like those now in general use. These first rails were named "the edge rails." Another kind was introduced into Wales and some parts of England in 1770. It was named "the tram rail." These rails had flanges or shoulders, and the carriages used on them had none. For drawing heavy loads, such as in the mining districts, they were preferred to the edge rail, as the speed was no great object, but the loading and unloading, hence the wagons were built with but small wheels, and therefore had low bodies.

The first malleable iron railway that was constructed, so far as we have been able to discover, was one constructed at the Hurlet, near Glasgow, Scotland. Cast iron rails, however, had been used previously in England.—This malleable iron railroad was a very solid structure, and the wagons used on it carried very heavy loads. It only wanted the steam engine then to perfect the system.

The first locomotive patented, we believe, was that of Messrs. Trevethick and Vivian, in 1802. These engineers constructed a locomotive in 1804, and tried it on the Merthyr Tydvil railroad in Wales. This was the *alma mater* of locomotives, as it was a high pressure, using a horizontal boiler and had a tube and return flue. Trevethick was a very ingenious Welsh engineer and too little credit has been awarded him for his inventions, although the Trevethick Valve bears its name on its frontlet. The first locomotive was made with driving wheels which had rough surfaces it being the common belief then, that smooth wheels would only spin round on an iron rail when propelled by a force inside of its periphery.

In 1804 Oliver Evans submitted a plan to the "Lancaster Turnpike Company, Pa." to construct a steam carriage to draw wagons on that road at the rate of 50 miles in one day, and in 1805 he published a book describing the whole system. Evans in America, and Trevethick in England, invented and constructed high pressure engines about the same period. There could be no plagiarism in either case, both were original inventors—both were men of uncommon mechanical genius. In 1812 a Mr. Davis in Boston, endeavored to induce some Boston capitalists to build an iron railroad, for which he would construct a steam engine to propel carriages on it. They laughed at him then, but they know better now.—At that time, however, Oliver Evans, while residing at Ellicott's Mills, Md., offered to build an engine that would run 15 miles an hour on a railroad.

In 1814 Mr. George Stephenson the celebrated Mechanic, not long since deceased, constructed a locomotive which was worked by two cylinders, and the driving cranks were placed at right angles to one another. This engine was only used for drawing coals. Roads and locomotives made but little progress prior to 1826, although Mr. James invented an engine to ascend inclines in 1824, and to this engineer, a Manchester gentleman we believe, belongs the credit of proposing and planning the great railway between Manchester and Liverpool, where the first successful experiment of railway travelling was made. This was on the 8th of October 1829, a day never to be forgotten, when Mr. Robert Stephenson the son of George, started with his engine, the Rocket, and performed at the rate of 35 miles per hour on one trip. From the 8th day of October 1829, all doubts of the success of railway travelling disappeared, and during the years that have elapsed since then, the progress of railways "all the world over" has been so rapid and extensive, that the mind, when taking a retrospective glance, is almost bedazzled with the magnificence of the prospect spread out before it.

Ten years ago, the hoof of the iron courser

had not broken the silence of a glen in the Green Mountains, now its thunder rolls daily through their chisel cleft adamantine sides; and leaping over the Hudson the smoke of his nostrils may be seen streaming up the valley of the Mohawk—and away through the wilds and the woods of Illinois and Michigan—aye and in a few years more "the shepherd standing on some tall cliff of the rocky mountains, will see it beneath him

Like a silvery veil
Swept by the gale,"

careering and curling along to the verge of the boundless Pacific.

Controversy on Electro Magnetic Clocks.

The following letter has been addressed by Prof. Bond to the Boston Traveller.

"I noticed a statement in the Transcript of yesterday, copied from the Baltimore American, under the head of "Electro Magnetic Chronograph," that ten thousand dollars have been appropriated by Congress to Professor Locke, of Cincinnati, to pay him for the use of his late invention by the Government of the United States, (not, however, to make it free to individuals,) and for a clock upon his plan to be erected by him at the National Observatory."

Is there not some mistake in this matter? The brief history of this "Chronograph," is as follows:

Last summer I was engaged at the request of the Superintendent of the United States Coast Survey, in a course of Magneto-Telegraphic operations connecting the Observatory at Cambridge with New-York. It was thought our methods were susceptible of improvements; and I proposed to Dr. Bache to make the beats of our sidereal clock audible in New-York, Washington, Cincinnati, &c., by insulating certain parts of the machinery and making the escapement itself to break-circuit key of the Telegraph wires. I made a drawing of my plan, and Dr. Bache, the Superintendent of the Coast Survey, after satisfying himself of its practicability, engaged me to prepare a clock for the use of the Survey on this plan, to be ready when we should resume telegraphic operations about May or June, 1849. Mr. Sears C. Walker was present when this arrangement was made between Dr. Bache and myself. Mr. Walker, a month or two after, went to Cincinnati, and informed Dr. Locke of what I had done. Up to this moment it appears that the subject was new to Dr. Locke. He then suggested an alteration, by no means an improvement in the plan proposed by me, and under this form claimed the invention of the Magnetic Clock.

If, then, there be no mistake in the article copied by the Transcript from the Baltimore American, must I ask leave of Dr. Locke to use my own invention, to enable me to fulfil a contract made long before he, Dr. L., had turned his attention to the subject?

W. C. BOND.

Observatory at Cambridge, March 16.

Mr. Walker's report of the Electro Magnetic Clock, is published in the last number of Silliman's Journal. We corrected an erroneous part of that report before, viz. his crediting Prof. Wheatstone with the first discovery of the clock. The inventor of the Electro Magnetic Clock is Mr. A. Bain. He has a patent for it in England, but it is public property here. This is one benefit which that man has conferred upon our country. A full description and drawings of this clock was published in 1842, but patented in 1841. To those who may be doubtful of what we say, we refer them to page 55, Vol. 3 of the Practical Mechanic and Engineers Magazine. We allude to this at present because some people may be led astray from the real facts of the case, as Silliman's Journal has a justly solid character. It does not endorse Mr. Walker's statements, but some people think that everything which appears in a journal or paper, is fully endorsed by the editor.

We express no opinion about this controversy. Probably Mr. Locke can throw a different version on the affair. Mr. Bain's Clock did not register, we believe, only signalled time to a number of places. Its application to astronomy is new, as combined with the registering fillet, which makes it a very important invention.

American Inventions in England.

We perceive that the patent of Mr. Bentz's Unbranning Machine, and West & Thompson's Clasp Coupling Joint, have been enrolled in the London Patent Office. The Coupling Joint has been at once introduced into the engineering establishments of London and those in other parts of England. This is an invention which from all appearances, will soon enrich its inventors.

Scientific Memoranda.—Vocal Phenomenon.

A vocal phenomenon has just been announced in London. A Mr. Richmond, it is stated, possesses the wonderful power of producing two vocal sounds at a time—a modulated bass tone and almost instantly a treble accompaniment, and in perfect harmony. The treble tones are of the sweetest and most melodious character, far surpassing in softness any known musical instrument, or even "vocal organ of the bird!"

Scientific Request.

The Paris papers announce the decease of Mr. Moreton, an American, and it is stated that he has made a bequest, to the effect that two hundred thousand dollars shall be given to any person who shall succeed in constructing a machine capable of throwing off ten thousand copies of a newspaper in an hour!

[A press to do this must print 166 2-3 in a minute. We do not know but Hoe's press will take this legacy.]

Southern Products.

The Savannah Georgian says:—The quantity of Upland Cotton shipped from the port of Savannah in the month of February 1849, exceeds the amount shipped in the corresponding month of 1848, by 6,321,563, lbs., of Sea Island 232,755 lbs., and of Rice 672 casks, and the aggregate value of exports of February, 1849, exceeds that of same time 1848, by \$362,054. With such development before us, who is there that calls himself a Georgian and can refuse all the aid in his power to render the only seaport in his State, what she is destined to be, the greatest commercial city in the South.

Manufactures.

The steamer Columbus carried to Philadelphia, on her last passage, 280 bales of osnaburgs and yarn, manufactured in South Carolina.

On the 13th ult. meeting was held in Rutherford, North Carolina, for the purpose of taking some preliminary steps for the establishment of a Cotton Manufactory, at which the following resolutions were adopted:

Resolved, That it is expedient that a manufacturing company, with a capital of at least \$10,000 be established in this county.

Resolved, That a committee of twelve persons be appointed to open books, at different places in the county of Rutherford, and to receive subscriptions to the stock of the company, at fifty dollars the share; which committee shall report the result of their labors to the meeting to be held on the 2d Monday in April.

Silver and Gold Mine.

There has been discovered in Benton county, Tenn., near Wyatt's Mill, a gold and silver mine. It is said that large amounts of silver and gold ore are found, unusually rich—yielding some 75 or 80 per cent. Considerable excitement prevails in that region—the owner of the land having it guarded day and night.

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