



NEW YORK, JANUARY 6, 1849.

A Retrospective Glance.

The year 1848 has closed and it will never return. Its days, weeks and months are now with the eternity of the past. But although its three hundred and sixty-five days will no more come back again, yet the events which have transpired during that period are still with us—they are not wrapped in oblivion, but like dim *talbotypes* they are painted on the mind with the pencil of memory, and but await a touch from the photographer "remembrance" to pass in panoramic review before our mental vision.

Since the first of January 1848, the civilized world has been startled by strange and wonderful convulsions. The land of the Gaul has dashed to pieces the crown of her Citizen King and the banner of a free Republic floats now from the battlements of the Palais Royal. In other countries despotism has ruled with a high hand and freedom has been crushed by the iron hand of power—but the end of these things is not yet.

During the past year, the boundaries of science have been extended and many new facts stored up in her treasury. Chemistry, that old and yet youngest of all the sciences, has added some new and important discoveries.—Chloroform and the Electric Light are both interesting discoveries, but especially the latter. Whatever may be its practical results, time alone will tell; we only hope that for purposes of general illumination it will prove itself to be as superior to gas, as gas is to candles, but we are afraid that its economical advantages have been exaggerated.

Astronomy has poured some of her treasures around the footsteps of American female genius, in the discovery made by Miss Mitchell, who has received distinguished tokens of admiration from eminent men of many nations.

In Steam Navigation, the distance between this city and Liverpool has been shortened by new and improved steamships nearly one fourth of the time previously occupied in the passage. Some valuable facts have recently been added to the science of marine propulsion, by Thomas Ewbanks of this city, whose experiments we shall notice more at length at some other time. It has been announced that a celebrated French engineer has discovered a new mode of increasing the expansive power of steam tenfold, and yet controlling it with as much ease as under a low pressure.—Time will prove the correctness of these statements—statements made to us with positive assurances of success, but which are very much opposed to our philosophy. It has been hinted in some of our foreign exchanges that Professor Faraday has discovered a new power as superior to steam in the propulsion of machinery as steam is to animal power.

A great number of new machines for different purposes have been invented and many valuable improvements added to the old.—A greater variety of these are to be found in the Scientific American than in any other paper or magazine whatever. Any one of our readers will be convinced of this, by taking a retrospective glance through their back numbers. Every man should do this sometimes.

It is not possible for us to notice now all the inventions which we have introduced to the public through our columns during the past year—we can but skim along the broad expanse and dip our *wing* here and there into its bosom. We therefore leave this subject at present with a hope that our many readers have enjoyed "a happy new year," and that during 1849 our inventors and men of science will make new discoveries in science and art, which will be of more benefit to our country than the golden sands of California and which will confer honors upon them and our common country, that will shine with undiminished lustre when "the most fine gold becomes dim."

Postage Reform.

The following are the reforms proposed to be made by the Post Office Reform Association in this city:—

1. A uniform rate of Two Cents postage on letters weighing half an ounce, and two cents for every additional half ounce, prepaid, and double that rate if not prepaid.

2. Newspapers, periodicals, and all printed matter, one cent per sheet; but newspapers of the smaller size half a cent, to be prepaid, except newspapers and periodicals sent from the office of publication.

3. To reduce the postage on letters and newspapers by mail packets and steamers, to a rate which will bring it within the means of every class of citizens to maintain frequent intercourse with their friends in other countries, without feeling the postage to be a burdensome tax.

4. To adopt measures that in all large towns and cities there shall be a free delivery of letters and newspapers, and also for the reception and conveyance of letters to the post office for the mails free of any expense.

5. To abolish the franking privilege entirely, that postage may be paid on every thing sent by the mails. Postage of members of Congress to be paid as their other expenses, and postmasters to be remunerated for the loss of the franking privilege and the temporary diminution of their income, by an increase of their commissions.

We hope that all our cities and vilages will adopt measures to carry out this great and beneficial reform.

The Post Office letter delivery has been radically reformed in this city. Letters are now charged 1 cent for city delivery instead of 2, as heretofore.

Application of the Telegraph for a Fire Alarm.

On the evening of the 21st ult. according to a recommendation of Mayor Quincy of Boston to adopt a system of *Signals* communicating with the fire engine houses of that city, so that from some central point, information might be communicated by the electric wires, to every station at one and the same time; and so that again, information might be transmitted, at one and the same time, from any one engine house to all the others, as well as to such central point; and thus make known on the instant, and all over the city, the moment when, and the place where, a fire breaks out.

The recommendation having been carried out and the wires all connected, at a meeting of the Common Council on the night mentioned above the members took a recess for a few minutes, and repaired to the telegraphic office to examine this new apparatus—which excited their surprise and admiration.—It was put in operation, and while they were present, a communication was had with New York; the wires of this city, so many miles distant, being connected with this fire alarm apparatus in Boston,—the correspondent in New York immediately sent on his reply by the same wires, the electrical action upon which instantly caused the deep-toned bell connected with the apparatus near the City Hall, to be rung; this great fire alarm bell being thus sounded in that city by the operator at the telegraphic office in New York! Directly after, and while the New York operator was ringing the bell, the other bells there were rung by persons ignorant of what was going on, and, supposing there was in reality a fire in that city, the whole fire department at once turned out.

Chamberlain's Drawing Board.

We have now in our possession one of Mr. Wm. Chamberlain's continuous-scale drawing boards, which was published and illustrated in No. 2, vol. 3 Scientific American. The board is a very neat one and exceedingly useful and convenient to any draftsman, as all the angles and degrees are laid out on the frame so that the draftsman will be enabled, especially for isometrical drafting, to execute drawings in one half the time usually occupied for that purpose.

This drawing board will afford an excellent opportunity for some man of capital to manufacture the same, as they would soon be introduced into all the public schools.

A cotton factory is about to be established at Washington, (D. C.) \$20,000 of the stock has already been taken.

Inventors' National Institute.

MESSRS. EDITORS.—I have just finished and enjoyed a long anticipated treat in looking over the last eight numbers of your paper, having just returned from a visit of some eight weeks to the city of Baltimore, Md., where, I am happy to say, the inventors of that city and neighborhood, having the assistance of some of their most benevolent capitalists, have formed an Inventor's National Institute for the ostensible purpose of assisting and sustaining that most valuable class of our citizens, the Inventors, in their praiseworthy efforts in the production of such appliances as multiply the means of production; better the condition and more perfectly supply the wants of the world. They are now preparing to hold a Convention of Inventors in that city, on Tuesday, the 6th of March, 1849. They have had several newly invented machines presented to them by inventors for the consideration, approval and assistance of the institution. Among them is a plan for Washing Gold, which embraces about as pretty a piece of philosophy as I have ever seen exhibited in any machine. It is calculated to separate the gold whether in large or small pieces, from all kinds of foreign matter, from fine dust or sand to three or five pound stones at one operation, and will do the work of twenty men at least.

This machine fully evinces how ready and prolific is that peculiar talent of the inventor. No sooner is a machine needed to accomplish a new object or purpose, than the inventor's intellect is able to bring it into existence. I have often thought what would we be as a nation without the advantages derived from their skill and ingenuity. Take from us at this time the Printing Press, as improved within the last ten years, the Power Loom, the Cotton Gin, the Steam Engine, Steamboats, Railroads and Locomotives, and what an awful state of affairs we should be reduced to. The truth is, we have not properly appreciated our inventors, but have suffered them to be insulted, robbed and abused; we have looked upon them with distrust and held their employments in low estimation, when in fact to us they are indispensable to our future progress.—But we hope this Institution will correct these abuses, as inventors may apply here for assistance, without the influence of wealth, power, or some great name, and he will be met with a cordial reception and respect. The merits of his invention will be his passport.

A SUBSCRIBER FROM THE BEGINNING.
Mount Holly, Dec. 26, 1848.

Patent Rights.

MESSRS. MUNN & CO.

Gentlemen.—In the Boston Daily Advertiser of Nov. 23, may be found a report of the case Adams vs. Edwards, which may be deemed a counterbalance to the alarming doctrines promulgated in the case of Wilson vs. Packard, formerly published in your paper.

The following extract relates to points of general interest:—

United States Circuit Court.—Woodbury J. ruled—

1. That if the patentee was the first to conceive the idea, and devised his plan, and had the whole in embryo, he was the *inventor* in the sense of the patent law, although an independent subsequent inventor should have first perfected a safe (the article in dispute,) and put it into use, provided that the patentee in the interval, was prosecuting his attempts with reasonable diligence, and finally proceeded with like diligence, to the completion of his Safe and to the necessary steps for obtaining a patent. That the jury in deciding upon the question of reasonable diligence, should consider the circumstances of the patentee, his poverty and the other duties in which he was necessarily or properly engaged.

2. That a public use or sale of the thing with the knowledge and consent of the inventor, is not a dedication under the patent act of 1839, sec. 7, unless such use or sale was more than two years before the application for a patent.

There are other points of interest decided in the case. I would take the liberty of making one remark. I have no doubt that the jury should consider the *poverty* of the patentee, upon the question of reasonable diligence, but I very much doubt whether an inventor should be allowed the right of prose-

cuting any business in which he may be "properly engaged," and in the meantime suffer his invention to lie dormant for more than two years. Further reflection might perhaps incline me to reconsider my opinion, but such are my present views. Yours, &c.

J. M. O'B.

Brunswick, Me. Dec. 18, 1848.

Extracts arranged from Leonard's Mechanical Principles.

What are the number of cubic feet of water, passing over a dam per second, the water being 16, 25, 40 and 60 inches deep and the length of the dam 40 feet.

For the 16 inches 5.24 cubic feet.

" 25 " 10.22 "

" 40 " 20.71 "

" 60 " 37.80 "

Let each of these be multiplied by 40 the length of the dam and it will give the number of cubic feet of water passing over the dam per second.

Let us take the first.—16 inches is 5.24X 40=209.60 cubic feet.

Required the number of horse power that 20 cubic feet of water per second will produce if applied to an overshot wheel 12 feet in diameter?

Answer 18.18 horse power.

The power of a breast wheel with a fall of 15 feet and a supply of 30 cubic feet of water per second, is 34.08 horse power.

We understand that the key to this valuable work will be published in a short time, and we are waiting for it, as there is some difference of opinion respecting the power of water.

Patent Office Report for 1847.

The full Report of the Patent Office for 1847 has but just been issued from the press of Wendell & Van Benthuyzen, the Government Printers. It was presented on the 1st of January, 1848, and since that time it has been travelling for nearly 365 days around the cases and presses of the imperial printing office. The Report has been printed in detachments, some of which we have noticed before, but not till now have the *Patent Claims* been issued. The Report is a very valuable one, especially the opinion of Justice Cranch on the Patent appeals. The matter is by far too good to be found in company with such miserable paper and typography. Over this the Patent Office has no control, for which we are not a little sorry.

The Report of the Commissioner for 1848, will soon be presented, and we hope that it will be printed sooner than the last.

Coal in Rhode Island

We have several times called attention to the interesting and important evidences of the existence of Coal in that State. Mr. Ridgway a geologist from Pennsylvania, who has been for some months examining various localities with the view of ascertaining the fact, in this case opened a thick bed of coal of very good quality in Cranston, last Friday. We have received a specimen of the Coal, which burns very freely in a close stove.

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