Scientific American

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Great Fair of the American Institute. No. 2.

During the past week, the Fair has been unusually attractive and visited by quite a number of distinguished personages, among whom was Millard Fillmore, Vice President of the United States Republic, N. A. On Friday evening, the Hon. Levi Woodburry delivered the Annual Address in the Tabernacle. He alluded to the boast England made (which we believe never was made) that America had once to come to her *for a mouse-trap*, and he pointed exultingly to the machines and works of art displayed, as a proof of the advancement of America in Manufactures, and works of art. He endeavored to combat the opinion held by many, that, "improvements in machinery, by lessening labor, was an injury to the working classes." He said that "the great improvements which had been made in machinery, instead of destroying labor, had multiplied it." This is true, but the grand object of improvement in machinery, is to relieve mankind from the drudgery of severe and unhealthy toil, and place his occupation in a more intellectual position, viz., to superintend, instead of being the machine.

On last Saturday evening, George Gifford Esq., N. Y., delivered an address on Patent Laws. The audience was small, but select. A copy of it was requested by the Institute for publication. We will notice it when it is published. In one notice (headed New Ball Axle), in our last article on the Fair, we would make a correction, and state that Mr. Alfred E. Smith of 93 Maiden Lane, N. Y., is one of the proprietors to whom orders may be addressed. We would again state that the wheel can be shipped and unshipped in an instant by this invention, without the aid of hammer or wrench. And lest any one should mistake its nature from the title then given it, we would say, as is there explained, that no ball is used to couple, as in the case of Chinnock's, the swell on the axle as stated, is conical.

STILLMAN'S STEAM ENGINE INSTRUMENTS.

There is a case of Steam Engine Instruments, by Mr. Paul Stillman, of the Novelty Works, N. Y., which are of undoubted merit, and which we can confidently commend to all those who require such things. There is a Steam Guage of the usual form, Patent Manometer Steam Guage, Patent Manometer Vacuum Guage, Patent Register, Engine Indicators, &c. For beauty of finish, and correctness of workmanship, no instruments of the kind surpass Mr. Stillman's.

SMITH'S VERTICAL PARALLEL GATE.

The Vertical Gate, about which so much was said, and regarding the operation of which we were decidedly in the dark, from the accounts we had of it, *and as seeing is believing*, so we must say of this *gate*, that it is a very simple and good invention. The inventor is Mr. Lorenzo Smith, of Easton, Mass., and his Agent is Mr. D. Keith of 133 Fulton street, N. Y. The gate is made like two parallel rulers, of four bars, secured to two upright side bars, and by swinging each side leaf of bars upon their axis, they are raised up at the sides, vertically and closely parallel.

LOCKS.

A beautiful and capital lock is exhibited as the invention of Mr. Lewis Lillie, of Ida st., Troy, and sold by Mr. Starbuck, of No. 69 Nassau st., N. Y. This lock is recommended by a great number of bankers and men well qualified to judge of its merits.

SOLAR LAMPS.

A very beautiful kind of miniature solar lamp, for those who have much writing at night, was exhibited by Messrs. Endicott & Sumner. The light of one is equal to that of six sperm candles, and it can burn either oil or lard. A pound of lard lasts about twenty hours. The air is admitted to the flame all around it, inside and out, thus supplying it with plenty of oxygen, consequently there is no part of the flame blue, but all is a bright white light. These lamps range in price from $2 to $2,25.

HYDRO-CARBON GAS.

For some evenings past the machine shop was lighted up with gas made on the premises, by White's invention, which was noticed in our last volume. It was a beautiful light, and was an evidence of the great advancements made in science within the past ten years, as it may be said, it was water burning. The gas is made by decomposing water, by dropping it into a red hot retort, in which there is a chain or pieces of iron, which absorb the oxygen of the water, and the hydrogen escapes into another retort, in which is some resin submitted to fire. There the two gases combine, forming the hydro-carbon gas. From this retort, the gas passes through cooling pipes, and then away to the reservoir. At first, Mr. White did not pass the hydrogen into the resin retort, but mixed them in a separate chamber, but by mixing them in the retort a saving is effected.

ALCOHOLIC VAPOR ENGINE.

A very neat apparatus for heating rooms, &c., was exhibited by Mr. Farewell, as applied to the generating of steam, by the vapor of alcohol. The object of showing it, as thus applied, was to exhibit its nature and the extensiveness of the application, either for generating heat, to boil water, roast meat, to the blow-pipe, or to a lamp for illumination.

The invention is patented by Mr. Thos. K, Anderson, and is owned by Anderson, Farewell & Erwin, of Painted Post, Steuben, Co.. N. Y. The nature of the apparatus is, by its own heat, to generate the substance for combustion sufficient to become a self-feeder. We will publish an engraving of the lamp next week, and say some more about it then.

NEW, OLD, HYRO-STEAM WHEEL.

A gentleman exhibited a wheel contained in a tin case, at the one end of which was ejected a jet of steam, which boiled the water in the tin case, and set the wheel a galloping at no small speed. It is a machine well qualified to wash and boil potatoes at one operation.

OLD FASHIONED BUCKET WHEEL.

On the Bridge there stood for some days (but is now stowed in a corner) one of the old fashioned revolving bucket wheels, which dates back to the days of Cyrus. When we first saw it, a son of Africa was descanting upon its merits with an eloquence which was quite amusing, as it was a subject to which he did ample justice, owing to the dark ages in which it originated.

PIANOS.

Among the many splendid Pianos on exhibition at the Fair we notice one from the manufactory of Messrs. Boardman & Grey, of Albany which has an attachment of a new and peculiar kind, invented by themselves and for which they have secured letters patent. It is called the Dolce Compana Attachment, and gives to the Piano a sweetness of tone, of which we did not think it capable under any circumstances. It can be applied to any Piano, being so constructed as to be attached or detached at pleasure. It is operated by the pedal, and at the will of the performer swells the tones of the instrument loud and full, like the organ, or modulates to the soft and melodious tones of the Æolian. We shall no longer look upon the Piano as a harsh and unmelodeous parlor ornament, as with this attachment of Messrs. Broadman & Grey's it is capable of discoursing most eloquent music. The ladies we know will endorse our sentiments in this matter from the manner in which they flocked around the instrument at the Fair.

Patent Suits.

This month seems to be rife with patent suits. The Case of Blanchard vs. Kimball was to come up before the C. Court in Boston, last week, likewise that of Wilson vs. Barnum, about planing machines at Philadelphia, and that of Morse vs. Bain, before Judge Munroe. An injunction has been applied for by Morse. According to the custom of the Courts of Equity, this cannot be granted, until the validity of the plaintiffs patent has been established at a Court of Law, which has not yet been done.

Scientific Memoranda.

DISCOVERY OF VENTILATION

The London Literary Gazette says that a Dr. Chown of London has enrolled a patent Improvement in Ventilating Rooms and Apartments, for the perfect efficacy of which, we believe, there cannot be a doubt, and on a principle at once most simple and unexpected —the improvements are based upon an action in the syphon which had not previously attracted the notice of an experimenter, viz., that if fixed with legs of unequal length, the air rushes into the shorter leg, and circulates up, and discharges itself from the longer leg. It is easy to see how readily this can be applied to any chamber, in order to purify its atmosphere. Let the orifice of the shorter leg be disposed where it can receive the current, and lead it into the chimney (in mines, into the shafts,) so as to convert that chimney or shaft into the longer leg, and you have at once the circulation complete. A similar air-syphon can be employed in ships, and the lowest holds where disease is generated in the close births of the crowded seamen, be rendered as fresh as the upper decks. The curiosity of this discovery is that air in a syphon reverses the action of water, or other liquid, which enters and descends or moves down in the longer leg, and rises up in the shorter leg! This is now a a demonstrable fact; but how is the principle to be accounted for? It puzzles our philosophy. That air in the bent tube is not to the surrounding atmosphere as water, or any heavier body, is evident; and it must be from this relation that the updraft in the longer leg is caused, and the constant circulation and withdrawal of poluted gases carried on. This action is not prevented by making the shorter leg hot while the longer leg remains cold, and no artificial heat is necessary to the longer leg of the air syphon to cause this action to take place. Extraordinary as this may appear, says the editor, we have witnessed the experiments made in various ways, with tubes from less than an inch to nearly a foot in diameter, and we can vouch for the fact being perfectly demonstrated.

It will take an experiment or two, to demonstrate the correctness of the above, but we point it out in order that some of our readers, (and there are many of them,) who have time to spare, may try a few experiments to test the truth or falsity of this alledged discovery.

ANOTHER GREAT LONDON DISCOVERY.

In one of the late numbers of the London Illustrated News, there is an illustrated description of a wonderful machine to annihilate every conflagration that dares to raise its head. A certain Mr. Philips, it seems, is the inventor, and the Fire Annihilator consists of a small machine, charged with a composition of charcoal, nitre, and gypsum, moulded into the form of a *brick*. There is what is called an igniter, consisting of a glass tube enclosing two bottles, one containing a few drops of sulphuric acid, placed over another containing a mixture of the chlorate of potassa and sugar. This glass tube is placed in contact with the brick, and there is an outside water chamber in connection with the brick. (Who would have ever thought that a brick could knock out the eye of fire here, but London is the place.) Well this simple apparatus is carried to the fire, slung over some stout fellows' shoulders, we suppose, or borne in triumph on a Charley's baton, and no sooner is the fire approached, than by striking the glass containing the acid with a vertical iron pin, it is shivered to pieces, then the acid falls on the sugar and potassa, the brick burns, gases are evolved, and so is steam from the water chamber, and these whisk out the fire in less than no time. We can assure our friends, who have stock invested in building Fire Engines, that we have no fears of their shares falling on account of this invention.

New Dam at Hadley Falls.

This great work is nearly completed, as we learn from the Springfield Republican. We hope that it will stand the shock of the Connecticut, and brave for many years its angry waters, and that its fate may be more glorious than the last one.

Notice to Editors.

Our friends of the "Standard," Greenwich N. Y. inform us by letter that they have not received the Sci. Am. since they published the new prospectus. We thank them for it, and shall consider it a favor from all editors if they will do the same in case they do not receive the paper. We hope not to overlook a single instance. Within the past year a few complaints have appeared in print against us for not sending the paper. We hope not to hear any this year, and if publishers will only inform us of a non-fulfillment on our part, we will promptly forward the paper. We presume that no respectable editors will attempt to complain of us through the columns of their papers when they fail to receive ours in exchange. We have never known an instance.

Patent Office Report for 1848.

We have received another section of this Report. It contains very valuable matter and some good engravings of apparatus used in the sugar manufacture. The information contained in it is mostly agricultural. We like the matter well enough, but here we are nearly at the years's end, and the 5000 copies of the Report with the Patent claims, are not yet issued. This is scandalous, but we believe that it is all the fault of the miserable contract with the printers. The matter of this report is found in very bad company, viz., bad print and paper. We are much obliged to Commissioner Ewbank for this Report—the contents of which we value highly.

What Water can Do.

The Boston Bee says that Abby Hutchinson —that was—is at a water-cure establishment in that city; and is recovering very rapidly, having gained in weight three pounds during the past week. She has lived twenty-one days without taking a particle of food—swallowing nothing during the time, with the exception of cold water.

[If the above don't set a *bee* in some ears, we don't know what will. Just think of Mrs. Paton living 21 days without food. Why talk of miracles ceasing—not while Abby is alive.

New Discovery in Agriculture.

An extraordinary fact mentioned the other day at the sitting of the Academy of Sciences. One of the members stated that the agricultural society of Brest had, upon the proposition of a member of the committee, sown some wheat upon land without any preparation of plowing or digging, and in one of the worst soils possible, and after having merely walked over the ground to press the grain on the surface, had it covered with fresh straw to the thickness of two inches. The product was, it is asserted, more abundant and much superior in quality to wheat raised from the same seed in the ordinary way. Some ears of corn, the seed of which had been placed upon window-glass covered with straw, were also exhibited.

[The above is now fourteen years old, and has proved to be a fallacy. We take the article from a late exchange, to point out the moral.

Riots at Philadelphia.

There was a great riot at Philadelphia last week;—houses were burned, and a number of persons were shot dead, and others wounded. Why does the State of Pennsylvania not throw all the suburbs around Philadelphia, under the jurisdiction of the city proper. It is the most disgraceful place for riots in the wide world, and certainly there is little to boast of in the way of true liberty, where Franklin lived and died. Something should be done, and that quickly, by the State Legislature, for the prevention of such scenes in future.

Centre of Gyration.

We have received a communication on the "Centre of Gyration," which is unavoidably delayed for a week or two, from the number of long communications which we have received before it came to hand.

A Hard Lot.

A Scotch gentleman recently sold 700 shares of the United States Bank, at $2,50 per share the same having been purchased at $127 cash in 1836. His loss was $68,550, besides eigh years interest.