

Scientific American.

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The Woodworth Patent Again.

It will be fresh in the remembrance of our readers that an attempt was made during the session of Congress for 1851-2 to procure the extension of the Woodworth Patent from Dec. 4, 1856, to Dec. 4, 1870. This attempt, like the one made at a previous session, was unsuccessful.

The Committee on Patents in the House of Representatives, made an able report on the 17th July, 1852, and, if we mistake not, it was unanimously accepted. It scorched this monster so thoroughly that not a pin feather was left on its carcase, and it was confidently believed that no attempts would again be made to foist it upon the forbearance of Congress.—The public, sensible of the monstrous injustice that would be done if this patent should be prolonged, besieged Congress with remonstrances, and the august legislatures of several States formally protested, through their representatives, against it. Another instance of the kind does not exist in the whole history of patented inventions, where legislative bodies and the public have so unanimously opposed to prevent the extension of a patent. This is enough, in itself, to satisfy any reasonable mind that scarcely a shadow of reason can be found for a prolongation of this patent, which has already existed nearly 27 years. We have lately been informed, from a source that leaves but little doubt of its truth, that efforts are in progress on the part of the owners of the patent to procure its extension at the next session of Congress. "Now or never?" is the motto under which they advance with their schemes, because when the patent expires, as it will in December, 1856, all hopes of future success will be blown into oblivion.

It does seem to us that this new attempt on the part of the assignees of this patent is marked with an audacity without parallel, and it would be a meritorious act if, when the application is presented, Congress should kick it out, and bid the schemers to be off at once with their unwarrantable intrusions. No Member of Congress who values his reputation as worth one straw, would lend his aid in perpetuating a monopoly which has been, and is now, not only severe, but outrageously oppressive upon a great number of honest and worthy patentees and manufacturers in our country. We are now told, with unblushing effrontery, that the facts embodied in the Committee's report are all gammon, and that the special opponents of the last extension, those who labored hardest to collect the strong array of facts that abound in the Committee's report, are now clamorous in its favor. Patentees of planing machines who have smarted under the galling yoke of litigation with the Woodworth assignees, are now converted, and are ready to swear that the further extension of this patent would confer untold advantages upon the country. We can believe this, in fact we know it, but it does not add much to their reputation as honorable men. If they have been crushed out or bought over to the enemy's interests, we shall not shrink from our duty in exposing their machinations, and the schemes they are assisting to carry forward to swell the calendar of litigation, and break down every inventor who shall dare to invent and operate a machine that may interfere with their interests.

We shall continue to ply the lash of opposition to this scheme until all hope of its success are "clean gone for ever," and if it fails during the next session, the public will have no occasion, we think, to be re-warned to resist it. To accomplish this result, however, strong efforts must be made throughout the whole country to procure remonstrances against it, and to aid those who have an honest desire to oppose, for the last time, a scheme so monstrous, we shall print, in our next number, a suitable remonstrance that will embody important general facts, and we request that it may be copied and circulated for signatures from one end of the country to the other, and sent in to Congress as early as possible. Let the sovereign seal of public indignation be felt

once more upon this subject, and its end will be glory enough for one day at least.

Reminiscences of the Paris Industrial Exhibition. No. 4.

GENERATING STEAM BY FRICTION—It is well known that heat can be generated by friction as well as by chemical action—the combustion of coal or wood. And as the combination of heat with water produces steam, it follows that the heat of friction will generate steam as well as the heat of a fire. Acting, we suppose, upon the principle that the heat of friction costs nothing, because no fuel is consumed in the process, two French inventors, MM. Beaumont and Major, exhibited a "thermogenic apparatus," for raising steam by the friction of rubbing surfaces. It consisted of a cylindrical boiler six and a half feet long and about nineteen and a half inches in diameter. Through its whole length was placed, centrally, a large conical tube surrounded with water, and into this was fitted a long cone of wood covered with a braid of hemp rolled on it spirally. The wooden cone received a rapid rotary motion, which made it rub constantly on the inner walls of the tube, thereby generating considerable heat, which was taken up by the water, converting the latter into steam. When the cone was set in motion the heat of the boiler gradually increased until it attained to 212 degs. Fah., when steam began to form, without fire, and a sufficient quantity was produced to drive an engine of one-horse power. The pressure of steam was kept at 45 lbs on the square inch; oil was conveyed by a channel to the cone for lubrication, and the amount of water contained in the boiler was about fifteen cubic feet. The machinery to revolve the piston cone was driven by water amounting to two-horse power, and the boiler generated steam of only one-horse power; yet it appeared to us that the inventors could not be made to understand that, although they used no fire, their friction steam apparatus was decidedly an expensive machine in comparison with a genuine *fire raiser*. The plan is just as sensible as would be the employment of a steam engine to pump water to an elevation for the purpose of driving a water wheel. Those French inventors might have seen that by throwing away their friction boiler and engine they could have derived more power to propel useful machinery direct from the water they used, than from the steam generated by friction. We remember some experiments of a similar nature that were tried in New York some years since, and it is not a little amusing to see them repeated in another part of the world, with the same result.—It is evident that if a saving could be effected by generating steam from friction, perpetual motion would no longer be a problem, as the re-action would thus be greater than the action. The reason why steam is an economical power is simply because it is produced by chemical decomposition, and not mechanical labor. We were informed that the Emperor had assisted these inventors, out of his private purse, in bringing their apparatus to its present state of perfection. He is known to be a friend to inventors, but in this case his better feelings were not guided by a knowledge of mechanical philosophy.

MAGNETIC BOILER GAUGE—A common safety alarm used in steam boilers, consists of a float attached by a rod to a safety valve, which, when the float falls below the water line, opens the valve and lets out the steam, to act as a whistle. M. Lethuillier Pinel exhibited such a gauge, with a magnetic attachment, which indicated the height of the water in the boiler at all times. The copper float or hollow spheroid in the boiler was connected to an iron rod, in which was secured a powerful magnet; another rod—which had a knob on its lower end—was connected above to the safety valve. The float rod was guided by a fork on the valve rod to rise nearly to the top of the boiler, but when the float sunk below the water line its rod caught the knob on the end of the valve rod, and drew it down, thereby opening the valve and allowing the steam to escape. The chamber containing the rod and valve consisted of a small brass cylinder, situated on the top of the boiler, divided vertically into two compartments by a brass plate, and the front compartment was provided with a glass

window marked with figures, to indicate the depth of water in the boiler. The back compartment contained the magnet before-mentioned, and the front compartment the pointer, which consisted of a small armature having no mechanical support, but held to the surface of the brass partition plate by the attraction of the magnet acting through the brass, and sliding up and down on the plate behind the graduated window as the magnet rose and fell with the float. The magnet was therefore an indicator of the quantity of water in the boiler, while the float, as usual, operated the safety valve. We thought this invention a very neat and scientific one, although the same ends are obtained by a pointer on the float rod, when a stuffing box is used. We were assured that the heat of the steam did not destroy the power of the magnet, and that the one exhibited had been in use for three years without having its attracting force injured.

JEWELS—One of the greatest objects of attraction in the French Exhibition were the diamonds belonging to the crown. They were arranged in the center of the Panorama building, upon an elevated dias, and so eager were the people to see them that it was found necessary to have a strong body of police stationed to compel the visitors to pass around them in regular file, and only half a minute could be allowed to take an observation at these sparkling gems. It may be interesting to some of our readers to know something of the value of these crown appendages, and from it they can approximate to some idea of the vast expense attending an imperial government. The finest of the crown jewels is the diamond known by the name of "Regent;" it was purchased in 1718 by Philippe II. Duke of Orleans, during the minority of Louis XV.; it weighs 136 carats, and is valued at about one million dollars. According to the last inventory, made out in 1832, the precious stones of the French empire numbered about sixty-five thousand, weighing over seventeen thousand carats, and were estimated to be worth six millions of dollars. The richest article in this inventory is a crown which has not less than 5206 brilliants, 146 rose-diamonds, and 59 sappires, the whole valued at three million dollars.

Next comes two swords, with 1500 rose diamonds each, valued at one hundred thousand dollars. A clasp with 217 brilliants, valued at fifty-four thousand dollars. A clasp for a cloak ornamented with an opal, valued at eight thousand dollars, and 197 brilliants, worth six thousand dollars; and a button for the hat worth sixty thousand dollars. Among the articles for ladies were four head dresses, estimated in value at three million seven hundred thousand dollars; and some wheat ears valued at forty thousand dollars.

There were several valuable pearl necklaces, besides minor objects of *bijouterie* that appeared insignificant alongside the grander ones. In the grand transept there was on exhibition a Brazilian diamond, valued at about two million dollars.

The whole amount of precious stones on exhibition could not have been valued at less than twelve millions of dollars, to say nothing of the immense display of costly jewelry—all to adorn the person and tickle the vanity of the vain.

SPLENDID CASH PRIZES!

The proprietors of the SCIENTIFIC AMERICAN will pay in cash the following splendid prizes for the fourteen largest list of subscribers sent in between the present time and the 1st of January, 1856; to wit:

For the largest List	\$100
For the 2d largest List	75
For the 3d largest List	65
For the 4th largest List	55
For the 5th largest List	50
For the 6th largest List	45
For the 7th largest List	40
For the 8th largest List	35
For the 9th largest List	30
For the 10th largest List	25
For the 11th largest List	20
For the 12th largest List	15
For the 13th largest List	10
For the 14th largest List	5

Names can be sent in at different times, and from different Post Offices. The cash will be paid to the order of the successful competitor immediately after the 1st of January, 1856.—

MUNN & CO., 128 Fulton st., New York.

See prospectus on the last page.

GREAT FAIR OF THE AMERICAN INSTITUTE Third Week.

Public interest in this excellent Exhibition continues, we are happy to say, unabated. The attendance of visitors has been large during the past week,—the average number of persons admitted averaging, we understand, ten thousand per diem.

The Fair will not close, we are informed, till about the second week in November.

The Mechanical Department.—[Continued.]

The various Committees paid special visits, last week, to examine the operating machines prior to rendering their awards. If we mistake not, there will be a pretty general sprinkling of high prizes, for there are but very few similar or mediocre inventions. The prizes will consist, as usual, of gold medals, silver medals, and diplomas.

The Gas Engine.

We regret to say that Dr. Drake has not yet succeeded in putting his new gas engine into successful operation. We saw it make some twenty or thirty revolutions the other day, and then come to a halt. Something is wrong, and every fresh attempt to start it seems to reveal some new defect. Unless the inventor succeeds in setting it a-going pretty soon, we fear he will lose a prize. Why does not our friend Secretary Meigs step in and help brother Drake? In this connection we are reminded that we have received a communication asking for light on the gas propeller, here it is:

Messrs. Editors—I see in your issue of the 20th a description of a Gas Engine, invented by a Mr. Drake,—but evidently described by a *duck*. It is stated that the ignition of the gaseous compound is effected by means of a hot iron. Now, any one that ever heard of Davy's Safety Lamp ought to know that hot iron is no more capable of igniting a gaseous mixture than cold iron. Will any one give me a correct account of how it is fired?

C. W. McCord.

Hackensack, N. J., Oct. 24, 1855.

[It will be a long time, we reckon, before the services of the above writer will be required to correct any errors of statement in the SCIENTIFIC AMERICAN. No one but a *goose* would have penned such remarks as the above. If he will take a poker, heat one end in his stove to a cherry-red, and apply it to the burner of an open gas pipe, his understanding will be suddenly illuminated. Sir Davy's lamp appears to have obscured rather than assisted his vision—the first bad result from that useful invention which has come under our notice.]

The Cloud Engine.

From some unexplained reason this machine has come to a stand still. It has been operated but very little during the week past, and has not been tested as we were informed it would be. We hope to give a better account of it next week.

Sewing Machines.

Four different kinds are on exhibition, and their operations attract much attention—from the ladies, especially.

Howe's Machine—the original of the shuttle sewing machines, is exhibited by J. B. Nichols & Co., No. 411 Broadway, N. Y. This invention is well known. It does good strong work; sews leather equally as well as cloth, with or without waxed threads. Price, \$125.

Wheeler, Wilson & Co's. Machines—Office 343 Broadway, N. Y., is more especially adapted to fine work. In stitching shirt bosoms and the like it has no equal. The rapidity of its movement surprises everybody. Illustrations of this machine will be found in Vol. 6 of the SCIENTIFIC AMERICAN.

Musical Sewing Machines—Messrs. Wheeler & Wilson also exhibit some samples of a new article of furniture, in which their sewing machines are combined with a melodeon. The apparatus has the appearance, externally, of a small parlor side-board or *eseritoir*. You lift the front and find a handsome set of piano keys. Close it, and turn back a hood on the top, and you have a complete sewing machine, conveniently arranged; concealed below, within side doors, are two pedals, one for the music, the other for the sewing machine. When the lady becomes tired of playing at sewing, she may change her foot to the other pedal, open the melodeon part, and discourse sweet music. The price of these contrivances is \$200. They form very ornamental articles of furniture. Now exhibited for the first time. This combi-