

New Inventions.

Trial of Steam Fire Engines.

On the 6th inst. a trial of steam fire engines took place in the Park, this city, to compete for three prizes, of \$500, \$300, and \$200, for the first, second, and third best. Only two engines appeared really as competitors—that of Lee & Larned, with Carey's pump, (noticed by us a few weeks since,) and a new one by Messrs. Burnham,—all of this city. Another, constructed by J. Smith, was on the ground, but this is all the notice it requires—it was a mere toy. The contest was between the engines of Lee & Larned and Messrs. Burnham. In 12 minutes after lighting the fires, the engine of the former party was at work, while that of the latter took 20 minutes. Both of these engines threw good streams of water,—but the rotary pump the best. Burnham's is constructed with two vertical steam cylinders and pumps; its workmanship was coarse, as if the whole engine was too hastily constructed. It contains some good features, and might be made to operate better. The engine of Lee & Larned leaked a great deal of water and steam. To us the experiment was not so satisfactory, as far as it relates to the condition of the engines.

The prize Committee of the Common Council, we understand, have decided that the first prize should be awarded to J. Smith, exhibitor of the working model; the second to Lee & Larned, and the third to Messrs. Burnham. This is a contemptible decision. We are not only surprised that the first prize was awarded to the small, incomplete fire engine, but that it should have been awarded a prize at all. Its owner, we think, must feel as surprised as ourselves, for we think he never expected any such award. The Committee of the Common Council evidently were unfit to decide such a question. It should have been left to a committee of practical machinists and engineers.

American Wagon Boat in France.

Mr. Francis, of this city, inventor of the life boat which bears his name, has been experimenting before Louis Napoleon on the river Seine, with his Army Wagon Boat. The wagon was launched in the water, where it floated like a boat. The men on board, to the number of sixteen, went on the sides without being able, in spite of all their efforts, to make the gunwale touch the surface of the water. The wagon, after that, was directed into the current of the river, to show that a heavy load could be by that means transported from one bank to another without its being necessary to take off the wheels, so that a train of these wagons could continue to follow their route without the least hindrance. Afterwards the train being detached, they manœuvred the tumbril separately, like a row boat. The body of the Army Wagon is made on the life-boat principle, and is very strong. The Emperor was highly pleased with the experiment.

Steamboat Fire Engines.

On Friday, last week, a public exhibition of a No. 5 Worthington steam force pump was made on board the ferry boat *Nassau*, at the Wall Street Ferry. The pump is to be used in cases of great leakage, fire on the boat, and also for fires along the docks, and ships in the harbor—thus assisting the Fire Department. The cylinder of the pump is ten inches and a quarter in diameter, and the stroke 10 inches. The pump threw a seven-eighths inch stream of water through 700 feet of hose, up the Brooklyn Heights, and over the top of the highest houses. The experiments were very satisfactory. All our city ferry boats should be compelled to employ powerful steam pumps, so that they can be used as huge floating fire engines, in cases of fires among our shipping, which, at present, is very indifferently provided for. One such pump would have prevented the great conflagration of shipping which took place two years ago, when the *Great Republic* was nearly burned down at her dock, and had to be scuttled to save her hull and cargo.

We also recommend that the Board of Underwriters pay the expense of these pumps, or reduce their rates of insurance.

Belting Farms with Trees.

All our farmers on the broad prairies of the West, or in any part of our country exposed to bleak north-west winds, should have their farms belted on the north and west with trees. Such forest beltings should be about half an acre wide, and the trees should be planted with a view to beauty and usefulness. They would offer a partial resistance to the fury of the cold winds, would afford shelter to crops of winter wheat, and to houses and live stock. Forest fringes of this character would render our western prairies more warm and beautiful.

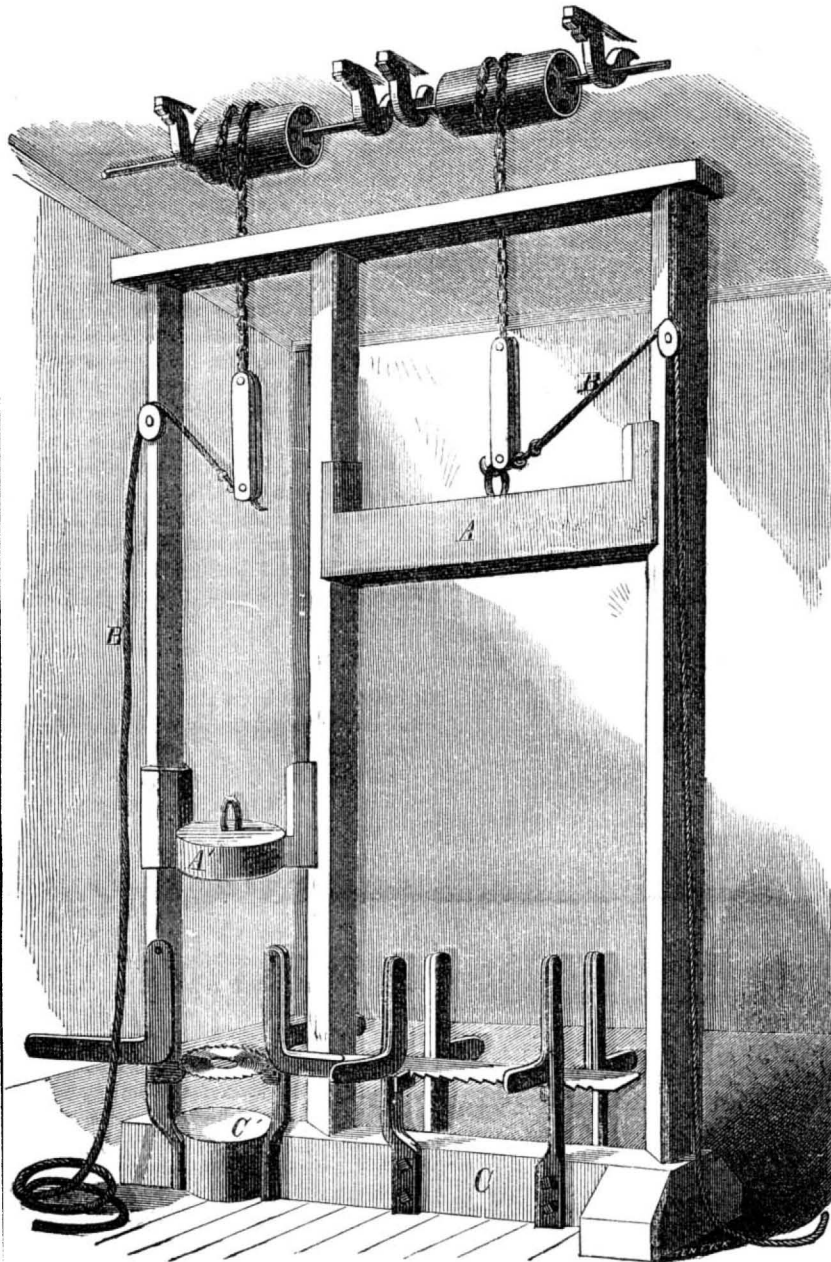
Explosion of a Steamer.

The boiler of the *Washington Hunt* steamer exploded at Albany on the 8th inst., and three persons were seriously injured. The boiler was under the main deck, but the explosion was so great as to raise it from the hull about six inches, and tear away all the fixtures above it. This was a tug boat, and not subject to inspection under the New Law.

Factory Fire.

The Kent Mill, at Pawtucket, R. I., was burned down on the evening of the 8th inst.

IMPROVEMENT IN TEMPERING AND STRAIGHTENING SAWS.



Improvement in the Manufacture of Saws.

The usual method of tempering saws is to heat and then dip them in oil. This process is slow, laborious, and costly; it is also disadvantageous, because the saws become warped, and require to be hammered up straight again by hand.

The present improvement consists in tempering and straightening the saws at one operation. This is done by heating the saws to the proper degree and then pressing them with a sudden and powerful stroke, between two surfaces of cold iron. Drop presses are employed for the purpose.

Our engraving shows a pair of presses conjoined, one for long the other for circular saws. After being heated the saws are supported in mid air, on buttons attached to the framing at the base of the machine. The heavy drop weights, A A' are now liberated by pulling the cords, B B', and the weights fall upon their respective saws, drive them down, and press them upon the solid iron base, C, with tremendous force. The sudden blow hardens the metal by rendering it more dense, and also straightens the saw.

Nothing can be more quick and perfect than this process. Its advantage over the common method is self-evident. The quality of work produced is said to be much superior to the old plan.

The weights are raised by means of chains

and pulleys above, to which power is applied. The hooks in the blocks at the ends of the chains are liberated at any instant from the weights by pulling the cords.

The mechanism required in this process, it will have been observed, is quite simple, and not expensive. Its use effects an important economy in the manufacture of nearly all kinds of saws, and also improves their quality.

Mr. Henry Waterman, at the foot of South Eighth st., Williamsburgh, N. Y., opposite New York, is the inventor, and will be happy to give further information. Patented.

Business of the Patent Office.

A long and interesting list of new patents were granted by our government last week, of which no less than *nineteen*, or more than one-third of the whole, were obtained through the Scientific American Patent Agency. Our great success in this branch of business is no doubt as generally pleasing to our numerous clients as to ourselves.

To give an idea of the value of patent property, we would mention an incident in respect to one of the grants included in the present list. It is a patent for a hydrant. We were written to only a few days since by the inventor, urging us to use special exertions in his behalf, for he said he had been offered the sum of *two hundred thousand dollars* for the in-

vention provided a patent was obtained. Our efforts were successful, and our client's fortune is doubtless made.

If inventors and capitalists will look around them and count up the many businesses which were originally started upon, and are now connected with patent rights, they cannot fail to discover that enterprises of this description yield larger profits and are more sure in their returns than almost any others of a speculative nature. The patent for any good and meritorious invention is in itself a precursor of wealth.

Whipping the Devil Around the Stump.

We stop our press to insert extracts from a Bill which has just been unanimously reported favorably upon by the Senate Committee on Patents, for alleged amendments of the Patent Laws.

The bill was drawn up and presented by Senator James, of Rhode Island, (Chairman of the Senate Committee on Patents); and while its ostensible purpose is—we quote the language of the bill—"to protect the public on the one hand against the oppressive use of invalid patents, and the really meritorious inventor from the piracies of dishonest infringers," we perceive other objects are at stake. We have time only to copy the leading features of the Bill for this week's paper; but enough we give to open the eyes of the public as to the nefarious scheme which the operators of this bill are endeavoring to hurry through Congress. The gist of the bill is as follows, which we copy from the *Tribune* of the 12th:

"1. All patents are to issue originally for a term of five years only, instead of fourteen years, as at present.

2. At or before the expiration of this term, any patentee may procure an extension for a further term of fifteen years—making twenty in all—instead of the present original issue of fourteen years, to which the Commissioner of Patents is now at liberty to add a further term of seven years if he thinks proper.

3. All existing patents are subjected to the provisions and entitled to the advantages of this act."

Read and re-read the last paragraph, and what conclusion can any one come to except that a new dodge is attempted, to get the extension of patents asked for by Congress this session, put through by fraud under the cloak of better protection to the inventor?

Will our Senators and Representatives in Congress allow themselves to be imposed upon in this manner? And while the majority are opposed to the extension of the Woodworth and other patents, will they vote for this bill, and thus grant the extension of the huge monopoly, which their State Legislatures have, in many instances, instructed them to vote against and take measures to prevent.

We do not believe, if the matter were understood, that the Bill of Senator James, with the obnoxious clause alluded to, would be entertained by our Congress for a moment; and it behooves every man in the country, who feels any interest in breaking up these huge monopolies, to write to their Members of Congress at once, and protest in the most forcible language against the further extension of these patents, whether the Bill comes up as a direct petition, or if cloaked under a Bill, for the ostensible better protection of inventors and patent property.

We shall next week publish the "Bill" as presented to Congress without curtailment, and express our views thereon at more length.

In the meantime, will all those who are opposed to the further extension of the Woodworth monopoly act at once, and act in the manner which, in their judgment, will be most effectual in putting a stop to the high-handed scheme which threatens to fasten the hydra-headed monster upon them for another term?

Government Shipbuilding.

The *Chicago Democratic Press* of the 3d inst. contains a long article by W. W. Bates, on defective government ships, in which he points out the causes why they are inferior to merchant vessels. The principle cause is set down to a want of practice on the part of those long in the employ of government as Naval Constructors.