



## New Inventions.

### New Screw Wrench and Hammer.

Mr. Geo. W. Lee, of McWilliamstown, Pa. has invented a new combination of a screw wrench, hammer and driver. The hammer is permanent and does not form part of the jaw, but is as it were, the butt of the handle. The handle is divided through the middle, the upper part forming the jaws, which are opened and closed by set screws. The driver is made to fit into a groove in the jaw, and when not needed, it is taken out and placed securely in the lower slit between the jaws. It is a good wrench and hammer, and performs the same office as Mr. Lewis's, of Worcester, Mass.—No person would have supposed that two tools to do the same work, could be constructed so entirely different, and both good. This is the age of improvement—and good tools are most requisite simple machines, that, beneficially for the community, can exercise the genius of our inventors. Measures have been taken to secure a patent.

### Improvement in Steam Engines.

The Boston Times says that a new engine built by Messrs. Corliss & Nightingale, of Providence, R. I. embraces improvements by Mr. Corliss, by which the firmness and durability of the machine is increased, and the amount of fuel greatly reduced. All steam flouring mills used heretofore, we understand, have been subject to the difficulty of an unsteady motion, which renders them almost worthless for flouring purposes. But the engine here used, having had a complete and careful trial, fully overcomes this difficulty, and produces a motion entirely perfect. It is the first that has ever been able to accomplish this thing in a flouring mill.

There is surely some mistake in the above. There are many steam flouring mills in this State that are anything but worthless for flouring purposes. Our engineers will certainly be surprised to hear that no engine heretofore built has been able to run with steadiness.

### New Grain Sower and Planter.

Mr. P. Seymour, of East Bloomfield, N. Y. has invented a machine for drilling land and for sowing corn and other seeds in drills. This machine drills and plants or sows quite a number of drills at once. The grain is conveyed down through tubes through the drill teeth which are hollow. The seed or grain is kept in a seed box above, which communicates with the drill tubes and is allowed to pass down and be shut off by a plate that covers the conduits of the grain, the said plate, having a reciprocating motion imparted to it as the machine is moved forward, so as to shut off and open the grain passages and let down the seed into the drills. The drill teeth can all be lifted up from the ground again by a windlass and lever, and as the body of the machine is like a wagon, moving on wheels, it forms a very convenient and excellent apparatus for the intended purpose especially as the drill is now held to be far superior to other modes of planting. Measures have been taken to secure a patent.

### A New Gold Washer.

There have been quite a number of gold washers brought before the public since the discovery of California gold. We have seen not a few of them—some very good and others totally worthless. We have examined one invented by Mr. W. H. Danforth of Salem, Mass. (an engraving of which we will try and publish in a few weeks,) which appears to possess many excellent qualities. It provides for the scooping of deposits from the golden streams, and the lifting of the water by very suitable pumps, and washing the deposits upon a corrugated apron, which is generally esteemed the best mode of washing.

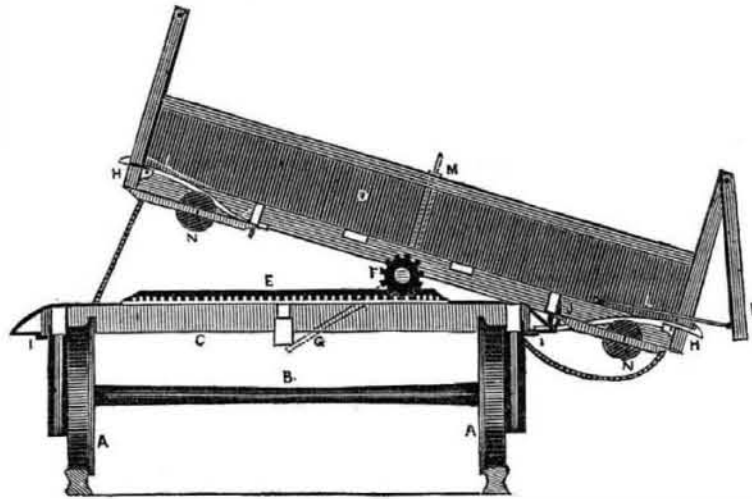
### Gun Cotton as a Locomotive Power.

A late English paper announces that experiments had been made to test the value of gun cotton as a propelling power, and with considerable success. It appears that this explosive material, when twisted or matted burns slowly as wished, depending on the

the tightness of the twist, or the extent of compression. Thus consumed, the product is made to pass into a vulcanized globe, 1½ inch thick, which expands considerable, and thence acting on pistons, drives the wheel of a small phaeton or a Bath chair.

It will never set the Hudson River on fire.

## NETTLETON AND BARTLETT'S DUMPING CAR.

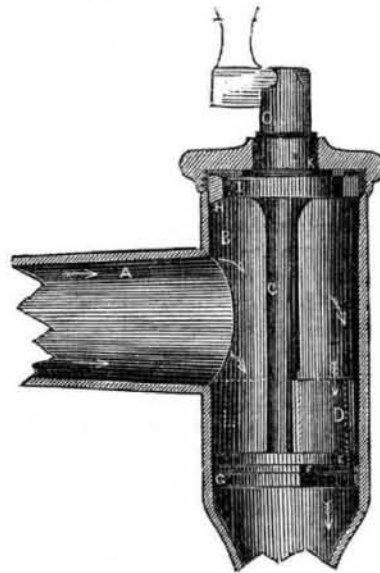


This is a Railroad Dumping Car, recently secured by patent to Messrs. Nettleton & Bartlett, Car Manufacturers, Springfield Mass. This engraving is a transverse section and it will at once be understood, as it exhibits clearly the principle of its construction and operation.

A A, are the wheels represented on the rails of the track. B, is the axle. C, is the end timber of the truck. E, is an iron rack bolted to the timber C. It has a flange on the outside and the rack is only seen inside. D, is the wagon. This wagon has a longitudinal axle running from end to end, firmly secured to the bottom of the wagon, and allowed to work in proper bearings. F, is a strong pinion on the end of the axle, and E a rack on the truck. The pinion F, meshes into the rack and on one end of the axle is a crank lever G, seen by the section lines on the other side, which operates the pinion F, and moves the wagon to either side of the track to dump its load. N N, are two friction pulleys secured on the under side of the wagon, and on the central cross sleeper of the truck, is a rail I, which runs along and projects at an inclination over the side of the truck, so that it will be observed that every thing is planned to operate the loaded wagon with the least expense of power. For greater security, the wagon is attached to the truck by chains that allow it to go to the tilting point and no further. On the bottom of the wagon are lever catches H H, which catch into vertical latches on the doors while the wagon is receiving its load or moving on the track, but when the wagon is sliding over the incline rail at the side, the inside end of the lever catch is thrown out by cams projecting from the truck, and the door K is thrown open as represented above. L L, are two arms attached to the doors, not essential to its general operation, but are convenient. M, is a lever catch on the end of the wagon to retain the lever G, and keep the pinion F immoveable on the rack. This car is intended for coal, brick or any other freight carried in open cars. It is far superior to the kind heretofore in use, called the arc or rocker car which received its tonnage wholly upon two points of the arc, which is attached to the body and suspended upon side timbers attached to the trucks. The arc requires to be of so large a radius that the body must necessarily be elevated to an unsafe height, and by having its tonnage on the two points only, it has to be elevated upon as clumsy a principle as the lifting of a table by putting the hands under the bottom of the legs. The rocker car when in motion has a bad oscillating action, which has been often attended with accidents to those who worked on them, indeed so many casualties have resulted from their faulty operation that they are usually called by honest Irishmen, "Paddy Killers." It was on account of their want of safety and adaptation to the right purposes, that a number of managers of Railroads in Massachusetts made personal application to Messrs. Nettleton and Bart-

lett to try and invent a safe and convenient Dumping Car. The above car is the result of that request. It has been tried for more than half a year, with great satisfaction, and the patent and its expense have been given to the inventors. The car can either be placed upon four or eight wheels with two bodies—each separate and taking its tonnage upon the top of the truck. It is no higher than the common car, and it will discharge its lading two feet further from the track, and from its general construction, it will no doubt last much longer. These are certainly great and important advantages and the different railroads think so, as more orders have been given for them than can be supplied at present. There is a pinion on each end of the axle and a rack on each end of the truck.

### Stebbins' Patent Faucet.



This is a molasses faucet, invented and manufactured by Mr. Erastus Stebbins of Chicopee, Mass. It is highly valued by those who have used it. A is the end that is inserted in the cask. (It is only seen in section to show the interior arrangement.) The arrows indicate the course of the liquor, when it is open. B is the valve chamber, G is a small plate cast with the faucet and extending across the chamber, leaving a sector opening F. C is the valve rod and E the valve, or it may be called a piston. This piston has its base made of the exact form of G, resting upon it screwed firmly down so as to allow no liquid to pass between them except when the opening of the piston and the opening of the plate G, as represented in the engraving, are exactly above one another. A strip or packing may be employed between the two plates, to make all tight. D is a flange cast on the piston making the exit a channel. C is the piston stem passing up and permanently secured to I, the top valve plate which is a sector form and can only turn round a certain distance, regulated by the side projection H. A strip of packing is placed around the shoulder K, and the cap is a screw

nut which is represented to screw all tight down. O is the handle. The screw tightens or loosens the faucet to any degree required, so that there is no fears of leakage.

### New Door Weather Strip.

Mr. H. W. Davis, of Groton, Conn. has invented a new strip for the lower part of doors to keep out rain, snow, dust, or cold air. It is not a flap hinge strip, but a vertical projecting one. It is contained in a recess of the bottom door strip, and is attached by springs to the upper part of the recess, and kept level with the bottom of the door when it is open, but when the door is closed, a side cam lever, projecting at the side of the door, is driven in by the door frame and presses down the weather strip close upon the sill. When the door is opened the strip immediately springs up in its recess. Mr. Davis has applied for a patent.

### Photography.

In speaking of a new invention in photography, by Belfield & Foucault, of Paris, our neighbor of the Philadelphia Sun says:

"It amuses us to chronicle this, for M. P. Simons, in Chesnut street, opposite the State House, used this very process years since, and has superseded it by a better one, which renders the plate so sensitive that only one to four seconds is necessary to produce an impression."

The fact is that in invention, as everything else the Americans are a little ahead.

### Self-acting Ferry Gate.

We hear that a self-acting Gate to spring across the passage when the ferry boat leaves the dock, is about to be applied in our city at the ferries. If it will operate well, it will be the means of preventing many accidents.

### Saw Mill.

Samuel Hopper of Lewistown, Penn., has constructed a sawmill on a small stream gushing out of a mountain, running under a head of water of 120 feet conducted in iron pipes 8 and 6 inches diameter making the pressure of the water in his wheel 55 lbs. to each square inch, the discharge from the percussion wheel only 2 1-4 inches diameter driving the saw 360 strokes per minute with 20 inches sweep. The mill is owned by Hopper & Hamilton of the above named place and in full operation, sawing lumber a little faster than any other mill known to them and perhaps under the highest head of water used in the United States.

### Music on the Telegraph Wires.

A person recently travelling on a highway, along which telegraph wires were mounted on posts, thus describes what he heard.

"I distinctly heard these musical sounds in the middle of the highway, at least thirty feet from the wires which skirt this road, when there was not a breath of air stirring; and, upon applying my ears to one of the posts supporting the telegraph wires, the vibrations perceptible were of such a character as could not by any possibility be supposed to be produced by atmospheric influence, and, from their analogy to those produced by the passage of electrical currents through conducting substances, I was still further confirmed in the opinion which I have already stated. If I am in error I should like to be set right, and I trust that the subject will attract the attention of some more accurate and philosophical observer.

Who will be the first inventor of an electrical piano forte?"

We cut the above from an exchange, but we know not who to give credit for it. The idea is a good one and we take notice of it to state that such an invention has already been produced. Mr. A. Bain took out a patent last year in London for playing musical instruments by Electro Magnetic apparatus. The London Patent Journal calls it an exceedingly ingenious invention. One part of the invention consists in arranging the apparatus, so that by playing on one instrument, another or several instruments will be actuated to produce similar sounds.

### Power Loom Match.

A match was lately tried in Glasgow, Scotland, for a considerable sum of money to decide the relative advantages of two patented improvements on the power loom. A certain number of looms constructed on the two different principles were worked side by side,