

## New Inventions.

## To Keep the Dust out of Railroad Cars.

We had lately the pleasure of inspecting an invention of Mr. N. Goodyear, the inventor of india rubber improvements, for preventing passengers from being annoyed with dust and smoke in railroad cars—two great evils. On the roof of the car a number of ventilators are arranged, so as to allow the air to pass freely into the car when it is in motion. The mouths of these ventilators are covered with a fine wire cloth, through which the air circulates freely, but which effectually stops all cinders and other dirt. In each window of the car is placed a sash of blinds, constructed of plates of glass four inches wide. These blinds are so arranged that they are all moved by a connecting rod, in the same manner as ordinary window slats are opened or shut. The air, coming through the ventilators, passes with a gentle current out of the blinds, or "car-dusters," as they are called, the outward current thus formed, effectually preventing a particle of dust entering the car, and the outside current, formed by the motion of the car, carrying the dust to the rear.

The course of the current is established on the philosophical principle of presenting the closed edges of the slats or blinds of glass, not the same as window blinds, but in the contrary direction—the slats vertical, so that the edges are presented like a layer of shingles, with the wide ends to the back of the cars. The current of the atmosphere, therefore, formed by the velocity of the car, impinges on these slats, forming a partial vacuum at their back edges outside, and this forms a current—fer every window—from the inside to the outside, consequently no dust rushes inside to soil the clothes and to stifle passengers.

## New Printing Machine.

The recent invention of Jephtha A. Wilkinson, of Providence, R. I., of a rotary printing machine, different from any other now in use, promises to work a great revolution in printing. The motions of the press are rotary, and the type being placed on cylinders, each print a separate side of the sheet. The paper is only cut as it comes from the press, being placed on the press for printing in large rolls as it comes from the mills, and as many thousand yards in length as may be desired. The paper being taken from the mill, and of the necessary degree of dampness, is printed, cut off into sheets, and folded by the press at the rate of 20,000 sheets an hour, requiring only one man to place the rolls upon the press and remove the papers as printed, cut and folded by the machine. Its cost is less than a double cylinder Napier press, and it is said to possess great advantages over any other press in its effect upon the type.

[We copy the above from an exchange, and we must say that it appears to be high boasting: 20,000 sheets per hour make 5-9 revolutions per second, or 333 3.9 per minute—pretty quick travelling for a printing press. Rotary presses, with curved forms of type, are not new, but there may be many important improvements made by Mr. Wilkinson.]

## Improved Mode of Fastening Scythes in the Snaths.

Mr. Oliver Clarke, of Medina, Medina Co., Ohio, has invented and taken measures to secure a patent for a very beautiful contrivance to fasten a scythe in its snath. By his plan the scythe can be set out and in with any proper curvature to the heel as may be desired; the point can also be set to any angle desired. The fastening and arranging the position of the scythe, is done very quickly, and is quite different from the common plans.

## A Patentable Subject.

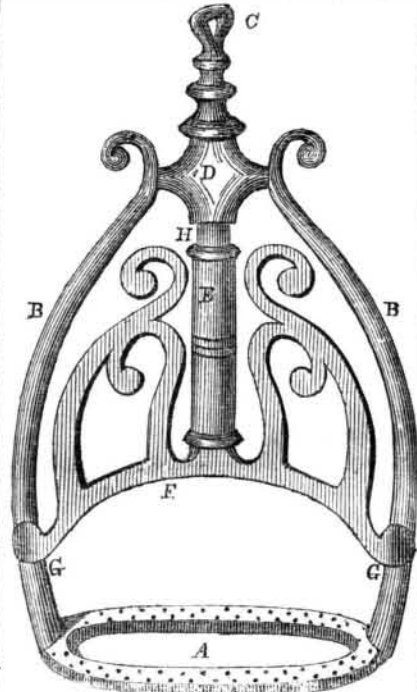
The question is often asked, "If A gets a patent for something which has long been in public use, can he prevent B from using that which has long been public property?" No. If any invention has been in public use for two years prior to making application for a patent, it becomes public property, and an after patent is of no consequence. To make a

patent valid it must be for an improvement that is new and useful,—"but no patent will be invalid by reason of the use or sale of the invention prior to the application for a patent, except on proof of abandonment of the invention to the public, or that such purchase, sale, or prior use, has been for more than two years prior to such application for a patent." This is law, as contained in Sec. 7, Act. 1839.

## Post's Patent Stirrup Iron.

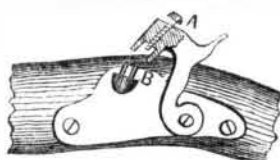
This improvement is the invention of Mr. Nathan Post, of East Cleveland, Ohio, and was patented on the 18th of last June. A silver medal was awarded to it at the late State Agricultural Fair, held in Albany, and a gold medal by the American Institute, but not until its merits had been hammered into the heads of the Committee, by a well-merited rebuke for their first decision, in reference to its importance.

This figure is a semi-perspective view. The improvement consists in a spring guard, F, suspended between the two sides, B B, which allows the foot to go into the opening only a



certain distance, and to rest firmly on the base, A. The guard, F, has a centre tube, E. This screws on to another tube, H, and can be thus elevated and lowered to increase or diminish the space between A and F. In the inside of the tube, H, there is a flat spring secured inside to the shoulder, D, and this acts upon the tube, E, to bring the guard back to a vertical position, when it is drawn out from the sides. C is the eye. The shoulder, D, has bearings in the sides, B B, to allow the guard to oscillate. G G are two guides of the guard abutting against the sides, B B; it cannot therefore be drawn but towards the rider, the side of which is now exposed towards him. In riding, if the equestrian is thrown off his horse, it is impossible for his foot to stick in this stirrup, for the action of the guard is, to throw the foot out of the stirrup also. This invention has been admired by every person who has seen it, and cannot fail to come into universal use. More information may be obtained by letters addressed to Mr. Post, as above directed.

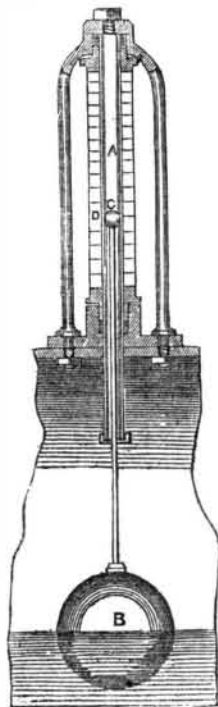
## Safety Gun Hammer



The accompanying engraving represents a new safety percussion gun hammer. Its construction is very simple and easily understood. The figure will convey at a glance a just idea of its nature and construction. The whole difference between it and the common hammer and nipple, consists in making the hammer cap a little wider than the common one, so as to cover the percussion cap on the nipple without touching it, and to strike and rest on a small shoulder of the nipple. In the hammer cap there is a set screw, A, running through it. This screw has its lower

face smooth, and is the hammer to strike the percussion cap on the nipple, B. By raising this screw, turning it to the left, if the hammer should fall on the nipple, the percussion cap will not explode, while by a single turn of the screw, or more, according as it is made, the screw will then strike the cap and explode it. This hammer can be carried through bush and brake, down close around the nipple, when the screw, A, is up, and no danger need be anticipated. Yet for all this we must say that the safety depends on the care of the person carrying the gun, for he may be too reckless to fix his screw hammer. There are some people who cannot carry a gun for thirty minutes without jeopardy to themselves or others; while there are other persons who can carry and use firearms continually, with the utmost safety, so far as accidents by carelessness are concerned. This improvement was lately registered in the London Patent Office, but is free property here.

## Boiler Water Gauge.



This is a very convenient gauge for a steam boiler encased in brick work, when the ordinary gauge cannot well be applied.

A, is a glass tube fixed in the usual way, the top being supported by the junction of a couple of pillars bolted to the top of the boiler, and the copper ball, B, carries a rod with a small knob, C, at the top, which, passing up the interior of the tube, indicates the height of water on the index, D, graduated in inches.

When a feed-regulating apparatus is required, the float and balance-weight is of course desirable; but when this is not wanted, the enclosed plan might be adopted with advantage.

This gauge is common property, and can be used by any person. It is so simple that further description would only serve to "darken counsel with words."

## Improved Brick Making Machine.

Mr. Joseph Grant, of Providence, R. I., has made some valuable improvements in "Rotary Brick Machines," for which he has taken measures to secure a patent. The clay in the moulds is acted on by rotary die pistons, which are so constructed that they impress the face of the moulded clay with a true and even surface. This has always been considered a great desideratum, for rotary brick machines have not heretofore been constructed to squeeze the clay into the moulds with projecting dies, so as to leave an even face on the moulded material, owing to the unequal action of the pressers, while revolving. There are some other good combinations in this machine, which could not well be explained without engravings.

Power's Statue of Eve has been purchased by Prince Demidoff, of Russia, at the price of £700, which is one hundred pounds more than was to have been paid for it by Mr. Robb, of New Orleans, for whom it was originally made.

## Stewart's Rotary Engine.

As mentioned by us last week, we will state a few particulars relative to Mr. Stewart's engine, communicated to us by himself.

Mr. Stewart received a patent on the 1st of October, 1841, for improvements on Mr. Murdock's Engine, patented in 1799. The improvements consist of two parts, first—confining the steam to the wheels by a cap and two cheek pieces, so formed as to embrace but a small portion of each wheel, thereby preventing the wheels from jamming when in any way thrown from their true position. Second, The method of using high pressure steam on it, to get what is termed "double action," as mentioned in our last number in describing the engraving. He states that he generally gets more work out of one of his engines used in a saw mill, with the same quantity of steam, than can be got out of a cylinder engine. A saw mill, with his engine, near Gallatin, Tennessee, has a boiler only 32 inches in diameter, 23 feet long, without flues, makes all its steam with green saw-dust and slabs, and feeds itself. Messrs. Clark, Renfrew & Co., of the Eagle Foundry, St. Louis, are manufacturing these engines, and Mr. Stewart is superintending their construction. He promises the public to make the greatest engine ever produced.

Communications should be addressed J. A. Stewart, St. Louis.

## Maryland Institute of Mechanic Arts.

As the Third Annual Fair of this Institute is now closed, I for one cannot but feel gratified and proud at its success, and the general satisfaction evinced by exhibitors, in regard to the manner in which it was conducted. It is not for me to say how well and how justly the prizes were awarded, or to enter into details respecting the nature of the articles, machines, &c., which were exhibited. I can only say, that the members of the Institute feel satisfied, because they have endeavored to do their duty, and have met with nothing calculated to make them believe that any exhibitor was dissatisfied or neglected.

Of all the machines exhibited, none attracted so much attention as the "Sewing Machine," the one, if I remember aright—illustrated on the first page of Vol. 5, Scientific American. When it was in operation, a crowd of ladies and gentlemen was always around it. I wish that the women folks had as perfect a machine for washing as this one is for sewing.

The only scales exhibited were the "patent scales" of Mr. Jesse Marden, of Baltimore, who appeared to have driven off all competition. Among a number which he exhibited, the "Dial Platform Scale," which indicated the weight by a pointer on the dial plate, dispensing with weights, appeared to be a meritorious invention. This scale is made of different sizes to suit stores, &c. A rod passes up the hollow column which supports the dial, which at one end is connected with the platform and at the other with a rack and pinion, to which the hand in the dial is fastened; the slightest pressure on the platform will move the hand instantly, indicating precisely the weight. It was awarded a gold medal. Mr. M. is a first rate scale maker.

I might fill sheet after sheet with descriptions of machinery, &c., but it is no easy matter, without diagrams, to convey a just idea of such things.

Only one thing occurred to mar the enjoyments of the Fair, and that was a most afflicting accident, viz., the death of a young man named Jas. McLanahan, who was killed by the falling of machinery at the beginning of the Fair. No blame is attached to any person.

I send you a printed copy of the able Address delivered by Campbell Morfitt, Esq., at the opening of the Fair.

A MEMBER.

Baltimore, Nov. 9th, 1850.

The English population of Madrid, Spain, increases in a remarkable degree. The Aranjuez railroad, the gas-works, the mines of Guadalajara, and various other industrial enterprises, afford employment to many of them.