

## New Inventions.

### Archimedeal Water Wheel.

Mr. M. L. Davis, of Danville, Livingston county, this State, has made a valuable improvement on a water wheel, whereby he gets a wheel of great power to occupy a small diametrical space. It is called the Archimedeal Water Wheel, from the fact that the buckets are of a spiral form extending from the top to the bottom, and around an iron cylinder forming part of the same. It is constructed to extend nearly the height of the fall, so that no case is required, as it is both case and wheel of itself, therefore it need be of no great diameter, as the water exerts its power during the whole descent in the spiral buckets, inversely, on the principle of Whitlaw and Stirrat's.

### Improved Road Scraper.

Messrs. C. Schofield and G. J. Johns, of Alton, Illinois, have made a very useful improvement on a Scraper for making and repairing common roads, which should be adopted and employed by all our farmers in every township. It is especially useful for new settlements. The improvement consists in combining the *scoop* with a plough and having the scoop fixed to the standard by a swivel joint, so that by a catch lever connected with it, the scoop can be emptied with the greatest ease without tumbling over the scoop, which has to be done with the scrapers at present in use.

### Improvement in Wool Spinning.

The Maine Farmer states that Messrs. W. C. Bates & S. T. Tucker of that State have made a valuable improvement in the spinning of wool whereby the roping can be taken directly from the cards, drawn and twisted by one operation. The yarn is also smoother and more evenly drawn by the new machine, than by the "jacks."

The invention is called "the revolving draft wool spinner." It is attached to the carding machine and is a most beautiful combination saving both room and expense.

### Improvements on Windmills.

Mr. Charles B. Hutchinson of Waterloo, Seneca Co. N. Y., has recently made some valuable improvements on windmills both for self regulating and reefing the sails. A common governor is used for the regulating of the angle of the sails to the wind, but this is employed in a most judicious and novel manner, for retaining the ends of the booms in slot when necessary, at an angle reverse to the allowing of the sails to present the square of their surfaces to the blast. This mode of self regulation has been completely successful in practice during the most fitful windy days of this autumn.

### Patent Safety Bridle.

Mr. Henry Seitz of Marietta, Lancaster Co. Pa., is the inventor of a very ingenious Bridle for which letters patent were recently granted, whereby it is impossible for the most spirited horse to kick or run away, and perfectly safe for a lady to drive or ride. The principle on which it is constructed is to hold the horse by the application of a pulley around which the reins are made to pass at the side of the horse's mouth, which enables the rider to exert a great deal of lever power to control the mouth of the animal, to check him at any moment. We consider this a very useful improvement, as with some horses especially when they are young, the old curb when pulled makes them to rear and pitch to the great danger of the rider. This bridle effectually remedies this evil.

### Reaping Machines.

It is stated in the Prairie Farmer that Reaping Machines which were used on the prairies last fall, did their work much cleaner than by cradling.

## HUBBELL'S PATENT FIRE ARMS.

We present this week an engraving of the improved Fire Arms invented by William W. Hubbell, of the city of Philadelphia, in 1844, and secured to him by letters patent. There have been many enquiries made about these fire arms and their qualities, and the beauty of the invention is but too little known throughout our country—although they have carried terror to the foe on the banks of the Rio Grande, on the heights of Cherubusco and Chapultepec.

DESCRIPTION.—The nature of this invention consists in detaching so much of the breech end of the barrel as will contain the charge from the main part of the Barrel, by having it to flap over to one side of the barrel on a rod as its centre, which runs parallel with the Barrel, and thus expose itself to receive the charge, after receiving which, it is flapped back to discharge its load through the main part of the Barrel; and is for all kinds of Fire-Arms.

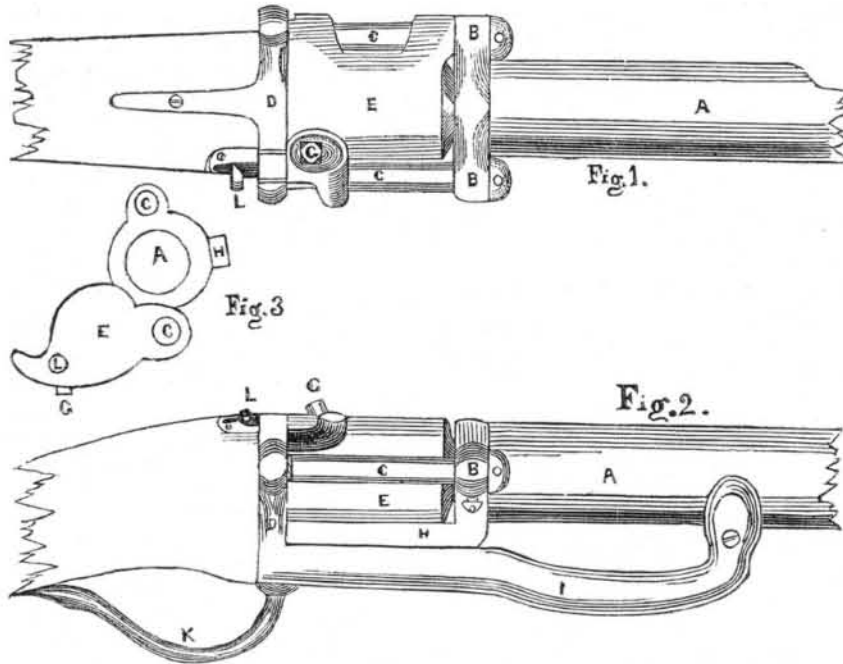


Fig. 1. is a perspective view of the upper part of the Breech. To the sides of the back part of the main barrel A, there are two ears B B, through which two rods C C, pass, and are secured to a breech plate D, which receives the recoil end of the breech E which contains the load, and which opens on the left hand rod as its centre—the right hand rod acting as its correspondent, both serving the purpose of bracing the main barrel to the breech plate, having the breech between them, there is a percussion tube G, on the back end of the breech to fire the charge from.

Fig. 2. is a perspective side view, similar letters referring to the same parts as in Fig. 1.

To regulate the calibre of the breech E properly with that of the main barrel A, there is to the lower part of the main barrel a tongue H, on which the breech rests, and which enters a square groove in the breech plate D, and it will now be observed that the lower part I, of the breech plate extends under the whole breech, and receives the main barrel in a prong, securely, and that the guard K screws to it; the stock and breech end are secured together by the usual breech tongue and the guard. The back action lock is deemed best to use. Variations of the same.—A Flint and Steel may be used to fire the charge, the pan

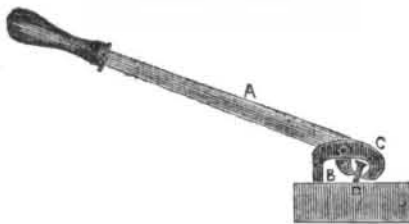
being where the percussion tube is. The rods C C, may screw into the ears and breech plate with right and left screws on each rod. The breech E, may have one or two chambers, a corresponding number always being in the main barrel, and when there are two a corresponding tube and lock must be on the opposite side. For other little peculiarities not explicitly described here, reference is given to the Gun. The breech E, may open either on the right or left hand rod, but the left hand deemed preferable, a pin L secures it down.

OPERATION.—The breech E is opened on its centre, charged, closed, primed, and fired, and so on successively.

Muskets, rifles, pistols and all kinds of fire arms may be constructed on this principle.—This improvement in fire arms has received the highest commendations from men of science and the most competent military judges. Mr. Hubbell has become famous as the inventor of this improvement in fire arms and the explosive concussion shell.

Next week we shall publish some remarks of the inventor in relation to the principles involved in the construction of fire arms, which will show that he is thoroughly acquainted with the subject in all its phases.

### The Spike Puller.



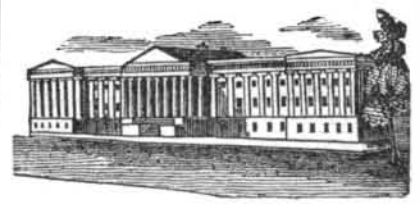
Reader, you have seen the tooth lever of the Dentist, and small though it be you have looked upon it with something akin to fear.—It is a little instrument, but mighty in power for pulling teeth out of their entrenched strong holds. But what will you say to see a tooth lever that can pull out spikes from our "leviathans of the deep" as easily—yea more so—than the dentist abstracts a refractory molar. Well, here is the instrument that can do it, but somewhat different from that of the dentist. The above engraving tells the whole story of its construction and application.

A, is the lever formed with an under parrot jaw which passes through and works in a slot in the jaw C, and secured to it by a strong pivot. The two jaws of the lever are now represented as drawing a spike from the block D, the back part of C, being so formed as to

be a fulcrum B. The jaws are made of steel and with a very small instrument we have pulled out with great ease cut nails that were driven so far in a plank as to be considered impossible to draw at all. In repairing the hulls of vessels, it is well known that the planking has to be cut away to take out the old spikes,—a labor of no ordinary kind and distasteful to every ship carpenter. This instrument is made to pull out these spikes and obviate the necessity of cutting through the planking, only as much as to let the jaws catch the spike head. It can be made large with a lever purchase of any power, and its construction every mechanic will admit is the best adapted for the purpose set forth. It should be in all ship yards, and every house carpenter too, should have a small one.

The inventor is Mr. Patrick Bryant, of Chesterfield, Mass., a very ingenious mechanic, who has made some very valuable improvements lately on a machine for slitting hoops, veneers, &c. Measures have been taken to secure a patent.

By way of the Isthmus, it costs about \$300 for a passage to the new El Dorado, but what of that to get where the gold grows like huckleberries.



## LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Dec. 12, 1848.

To James Cole, of Cincinnati, Ohio, for improvement in Breaking and Kneading Dough. Patented Dec. 12, 1848.

To H. B. Masser, of Sunbury, Pa. for improvement in Cream Freezers. Patented Dec. 12, 1848.

To Daniel R. Pratt, of Worcester, Mass., for improvement in Car Couplings. Patented Dec. 12, 1848.

To Felix A. Finn, of New York City, for improvement in Chimney Caps. Patented Dec. 12, 1848.

To Victor Geroud, of New York City, for improvement in Scapements for Chronometers. Patented Dec. 12, 1848.

To Wendell Wright, of Cincinnati, Ohio, for improvement in Drawing Heads for Spinners. Patented Dec. 12, 1848.

To Nathaniel Credit, of Ripley, Ohio, for improvement in Franklin Stoves. Patented Dec. 12, 1848.

To Ephraim Morris, of New York City, for improved Scoop and Elevator. Patented Dec. 12, 1848.

To Darius Buck, of Albany, N. Y. for improvement in Cooking Stoves. Patented Dec. 12, 1848.

To George E. Waring, of Stamford, Conn., for improvement in Parlor Stoves. Patented Dec. 12, 1848.

### RE-ISSUE.

To Merwin Smith, of Meriden, Conn., for improved Table Cutlery. Patented Oct. 3, 1848—Reissued Dec. 12, 1848.

### The Electric Light.

Those of our subscribers to vol 3, who remember the description of Staite's Electric Light, on page 219, and the first notice of this light published in America, will be pleased to know that the discoverer has secured an English patent for the same and introduced it in London. It was exhibited last month in Hanover Square Concert Room, and examined by the most eminent scientific men in that city. The room where it was exhibited is very large, but it was most brilliantly lighted by a single white light which exhibited all the colors and shades of the paintings which adorned the room. This is a quality not possessed by any artificial light now used for illumination—all being too yellow—and that is the reason why we cannot distinguish between a blue and a green color by gas or candle light. The patentees of this light, Messrs. Staite and Petrie, were in attendance explaining their invention. Mr. S. stated that he had rendered his electric light permanent, self regulating and economical. It possesses the remarkable property of being without heat, not combustible, and not hurtful to the eyes, and that it could be conveyed by wires like bell wires. These are indeed remarkable properties, and we are almost sceptical upon the subject.—Were it not for the authority we would be apt to disbelieve it, but there is no doubt regarding its beauty and purity. Many will think it impossible for light and heat to be separated as too many believe that heat and light are synonymous, but they are entirely different.—Mr. Paine will find that Mr. Staite has succeeded in producing results altogether different from those which can be produced by the combustion of gases. This new electrical light, it seems, is not the result of combustion, for no air is admitted to the light. All that is seen is the light in a close vase, and the wire that conveys the fluid from the voltaic battery, the circuit of which can be broken and closed at pleasure. The light of one hundred wax candles, it is said, can be furnished for two cents per hour. This is rather too loose a statement we think, but is certainly a most wonderful discovery.