

## New Inventions.

### Malleable Iron.

Among the various improvements in the working of iron which have been patented within the last few years, more particularly with a view to obtain a strong, tough, and elastic material for railway axles, wheel tires, and other parts of machinery where great shocks are unavoidable, we observe a patent has been taken out in England by Mr. Withereil of this State, for a machine for manufacturing iron under various forms, and imparting to a twist, by which the fibre is laid in a spiral direction instead of longitudinally, as hitherto has been done. By this means the iron is rendered more available for resisting abrasion, and all other such forces as are destructive to the fibre. Hitherto, iron has been made to pass through rollers, in reference to the destruction of the fibre, parallel. In this operation, the patentee gives the iron the necessary twist, and afterwards hammers, rolls, or otherwise works it into form by heat, in the usual manner. The machine consists of a powerful bed-plate, with proper standard-bearers, for carrying the working gear. This consists of a pair of common rollers, through which the bar to be twisted first passes. Directly opposite these are another pair of rollers of the same dimensions, and with the grooves through which the bar passes of precisely the same size. These last mentioned rollers not only rotate on their own axis, but they, with the frame and gearing in which they work, revolve in a vertical direction; and as the bar of iron is forced or drawn through both pair of rollers, the latter by their joint-vertical motion, in addition to their own rotation, twist the rope into a form precisely similar to that of a wire-rope, after which it may be worked up into any form in the usual manner. Its fibre and texture will be found similar to a twisted gun barrel, and its tenacity and toughness greatly increased.

In the northern parts of this State there are as fine iron ores as there are in the world and abundance of the best timber to make charcoal. With all these advantages over coke manufactured iron, a superior article is not produced. We believe that as good iron as the Swedish, might be manufactured here, were the processes conducted by skilful practical men.

### Escape Fire Ladder.

Mr. James Cox, of Pennsylvania, has invented an escape fire ladder, which is represented to us as being very effective for the purpose intended. The ladder is in five sections or slides, is mounted upon wheels, and when the slides are drawn down or fitted in their beds, occupies no more space than the body of a vehicle proportioned to the size of the wheels. The tongue of the carriage is so constructed that it may be used as an elevator to give any degree of inclination to the ladder. The ladder itself is moved by a rope and pulleys. The rope is attached at the bottom of the first slide to an axle worked by a crank, and passing over a pulley is again fastened to the bottom rung of the second section or slide. When the crank is turned the rope is wound around the axle, and as its length is shortened, it of course raises the second section, to which it is fastened, from its bed to the top of the first section. The other sections are raised in the same manner. The ladder may be elevated in a second or two to its full length, and be made of any height by increasing the length of its sections. Wire rope may be used as a protection against fire.

### Cannon Primer.

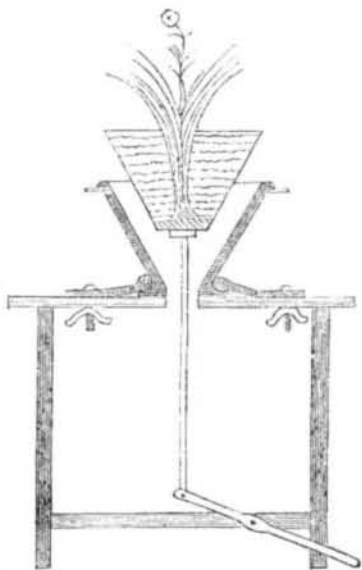
Mr. William K Ashard, of this city, has submitted to the Naval Bureau at Washington, a Lock and Primer, for cannon and other ordnance. The Primer is a straight stem of paper, loaded with powder, and has a shoulder

which rests on the side of the touch hole.—The lock is a simple lever, which is brought down with force upon the shoulder of the primer, by means of a small rope attached, and the primer is ignited and the gun discharged. This will do away with the match and the government will probably secure it.—The expense of the lock and primer is but trifling. The latter can be furnished for \$3 per thousand.

### New Lever Press.

We have seen a drawing of a new lever press, invented by Mr. B Newbury of this State, and hope before long, to present an engraving of it. In place of the common upright screw, he inserts an iron column, with niches or cogs upon two of its sides. Knuckle joints fit into these cogs, and are operated by a lever. By every movement of the lever, up or down, the column is forced down with immense force to the distance of one cog. The column is drawn up by means of a rack and pinion. Mr. Newbury has constructed a working model.

### Improvement in Flower Pots.



In the culture of flowers it is of much importance that the earth in which they are placed, should be occasionally changed and renovated. It is also an advantage to place them in the garden during the warm months. The above is the drawing of an improvement intended chiefly for the sake of convenience in removing plants. The pots are made with rims around the bottom, so that by having two sliding springs attached to the potting bench, the rims being placed under in the manner seen above the pots are thus held firmly to the bench. The foot moves the lever, which raises the plant, the pots having moveable bottoms. Both hands are thus at liberty to receive the plant, which is a great convenience. These springs can be easily moved to suit any sized pot, as the screws will hold on any rim. Another improvement consists in placing a moveable zinc rim on the top edge of the pot for protecting plants from slugs, because the insect will not pass over the rims, as the galvanic action of the zinc causes them to retreat as soon as their horns or feelers come in contact with the metal.

### Improvements in the Manufacture of Iron.

The attention of men of science has of late been much devoted to improvements in the mode of manufacturing iron, both as regards economy in the smelting department, and also in producing the finished material, at the least possible cost. Among the improvements which have lately taken place, that of Mr. Low, an English gentleman, will most decidedly rank as one of the first in importance. By Mr. Low's process, pig iron can be puddled and made into very superior finished iron without the process of refining, with equal facility, and the loss in making a ton of finished bars from pig iron will be less than one half that made in the ordinary manner. His process is a simple one, and consists in giving the raw material in its process of manufacture, a much less degree of carbonization or oxydation, for this purpose he uses black oxide of manganese, plumbago, or graphitic, charcoal and nitrate of either potash, soda or lime, usually employing saltpetre

These ingredients are mixed together in the proportions specified by the patent; and to every charge of ore in the blast furnace likely to produce 480 lbs. weight of metal, he uses 66 lbs. of this mixture. In the puddling furnace he applies it to the metal in a fused state, by throwing upon the surface two or three pounds at a time, and gradually incorporating the requisite quantity. His patent extends to the application of this mixture to the manufacture of cast steel, from malleable iron, adding two or three pounds to every 30 lbs. of steel when in the melting pots.

### A New Water Cement.

Major Gen. Pasley of the British Army, has discovered a new method of making a water cement, which from its cheapness and the abundance of material as well as the ease with which any person can make it, must prove to be exceedingly valuable to the people of every nation. The composition is: Four parts by weight of chalk and five parts by weight of blue clay mixed well together.—The manner of testing the strength of this cement was as follows. An experimental pier was commenced horizontally from a wall by means of the cement only as a support. A small rectangular portion of the supporting wall, sufficient for receiving the first brick, was scraped clean, the mortar being removed from its joints to the depth of half an inch, the space being filled with pure or net cement, the first brick being attached to it by fresh cement applied before that in the joints had set. When a fresh brick was added, it was immersed for half a minute in a bucket of water, the face to which it was attached being also wetted; after which the cement was added to both surfaces, first in a thin coat to the wall, or fixed brick, and then in a thicker layer to the new brick. After the setting of each brick, it was held up by hand five or ten minutes, in order to allow of the setting of the cement. In this manner, one brick was applied daily, until the pier attained such a length as to break with its own overhanging weight. The number of bricks sustained by this cement was 31, amounting to a length of six feet eleven and a half inches, and weighing 186 lbs. A composition of three parts chalk and four parts of blue clay, supported twenty eight bricks, weighing 171 lbs.

### For the Scientific American.

### The French Sewing Machine.

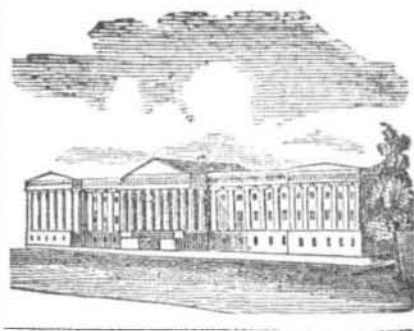
The inventor of this machine is a humble artisan who has a great mechanical genius, and who has been engaged for thirty years in the perfection of his invention. He received a patent for it in France a few years ago, and it is said that for more than twenty five years he sought in vain to make it work, and that the thought flashed all at once upon his mind regarding its true and perfect principle. The machine was introduced into London some time last year and has attracted much attention in that city. It is very cheap. Some are sold for twenty dollars and the price varies from that to thirty. They are sold by a Mr. Schmidt, No. 28 Sutton street, London. The machine is fixed on a table, and is a very small box. It is worked by a treadle, and every movement of the foot produces a corresponding action in the needle; so that 300 stitches can easily be made in a minute. The hands are merely used to guide the material being sewn, and by turning a screw the size of the stitch is instantly varied. The machine will sew, stitch and form cords and plaits.—The stitch is the tambour or crotchet stitch. The whole value of the invention consists in making machinery do what was hitherto done by the fingers, and thus resolving a problem supposed impracticable.

The beauty of this machine is that it can work button holes and embroider. M. Magnin who exhibited it in London wore an entire suit worked by it, consisting of coat, vest, pants and all their appurtenances. To France belongs the credit of this invention. M. Thimonnier is the name of the inventor, and his fame will go down to posterity with that of Jacquard.

D. C. L.

### New Engines.

Messrs. Joice, of Deptford, England, have invented a combination pendulum with one of Woolfe's condensers, which is said to work most beautifully.



### LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending May 23, 1848.

To Edward Warren, of New York City, for improvement in Threshing Machines. Patented May 23, 1848.

To Henry Bewley, of Dublin, Ireland, for improvement in making Flexible Syringes, Tubes, &c. of Gutta Percha. Patented May 23, 1848. In England, September 4, 1845.

To Charles Hancock, of Grosvenor Place, England, for improvement in making Bands or Belts of Gutta Percha. Patented May 23, 1848. In England, May 15, 1846.

To Amariah H. Fitch, of Cuylersville, N. Y., for improvement in Pumps for raising water. Patented May 23, 1848.

To Richard Archibald Brooman, of London, England, for improvement in making articles of Gutta Percha by moulding, stamping and embossing. Patented May 23, 1848. In England, March 11, 1848.

To Charles Keene, of Sussex Place, Regent's Park, England, for improvement in making Boots, Shoes, &c. of Gutta Percha combined with other fabrics. Patented May 23, 1848. In England, May 29, 1845.

To Jacob Haerter, of Pottsville, Penn., for improvement in Threshing Machines. Patented May 23, 1848.

To William Wilmington, of South Bend, Indiana, for improvement in Grain Separators. Patented May 23, 1848.

To Alonzo D. Perry, of New York City, for improvement in Fastening Mail Bags. Patented May 23, 1848.

To Moses D. Check, of Memphis, Tenn., for improvement in Presses. Patented May 23, 1848.

To William Mix, of Prospect, Conn., for improvement in the manufacture of Spoons. Patented May 23, 1848.

To James Birdsall, of Hamorton, Penn., for improvement in Clover Hullers. Patented May 23, 1848.

To Jehiel Bates, of Charleston, S. C., for improvement in Threshing Machines. Patented May 23, 1848.

### RE-ISSUE.

To Daniel Clow, of Port Byron, N. Y., for improvements in Wheat Fans, (two patents.) Patented June 16, 1846. Re-issued May 23, 1848.

To Samuel Loveland, of Oswego, N. Y., for improvement in Floating Dry Docks. Patented November 7, 1846. Re-issued May 23, 1848.

### INVENTOR'S CLAIMS.

#### Paddle Wheels.

By E. J. McCarthy, of Saugerties, N. Y. Improvement in Paddle Wheels. Patented December 28, 1847. Having thus fully described my improvement, I wish it to be understood that I do not claim moveable paddle wheels, as they have been before made and worked in many different ways; but what I do claim as my invention and desire to secure by letters patent is the construction and arrangement of the apparatus for moving the paddles, substantially as described, consisting of a sliding bar, moved by an eccentric that is connected by means of a stud, with a slit in jointed brace, to which the paddle is affixed so as to cause the paddles to enter the water radially and thus remain to the centre of their action, and then to fall back into an inclined position and leave the water freely, the action of the paddle wheel aiding the change.

By the process of drying sixteen and a half pounds of water have been expelled from one barrel of flour—a saving to the farmer in the expense of transportation.