

NEW INVENTIONS.

A new Lathe for Turning Hollow Ware.

From the peculiar kind of cut required to turn hollow ware, no self-acting lathe has heretofore been successfully used for this kind of turning. It is commonly performed in a common lathe with a hand tool, and is very laborious, especially in turning ware of an oval form, where the hand of the workman must accommodate itself to the deviations of the surface, and be subjected to a constant jerking motion. The turning of hollow ware differs from most other kinds of turning, as the principle object to be attained is a clear bright surface; the ware is always made thin to save the weight of metal, and the portion turned off should be taken from all sides equally, even though the interior surface should be an irregular curve, the object being to remove the crust on the surface of the casting, so as to prepare it for the process of tinning.

The improvements made in these lathes are the invention of Peter Teal and Charles Tyler, of Philadelphia, Pa. The important features of their invention are in the manner of holding and operating the cutting tool, and in the chuck which secures the ware in the lathe. The cutter is self-feeding and self-adjusting, and is held in its place by an arm from a slide frame, upon the lathe. It is made yielding to accommodate itself to the inequalities of the surface of the ware by means of a coiled spring upon the frame, the depth of the cut being regulated by a guide roller following the cutter. The ware to be turned is held in a chuck of a peculiar construction. It is so arranged that the ware may be moved first with a circular motion for the purpose of turning the centre and bottom of the ware, and then gradually taking an oval or elliptical motion as the cutter proceeds toward the edge or top of the article to be turned. The motion may be kept circular when the ware is circular, and in both instances is self-adjusting, no attention by the workman being requisite but to set the lathe for the kind of turning required.

Many parts of this lathe are too complex to describe without the aid of engravings, consequently we can here give but a limited idea of the invention, and its operation. Further information may be obtained of the assignees of the inventor, W. P. Cresson & Co., Philadelphia, Pa.

Anti-Friction Washer for Journal Boxes.

David A. Morris, of Pittsburg, Pa., has taken measures to secure a patent for an improved mode of constructing washers for reducing the friction between the shoulder of the journal and the boxes of the wheel. The invention is more particularly applicable to railroad cars, to prevent the excessive friction in turning curves; but it may be also applied to any kind of axle or shaft when it is required to avoid friction at the face of the box, upon the shoulder of the journal. The improvement consists in a washer fitting loosely to the journal between the shoulder and box furnished with a number of radial pivots, on which are placed friction rollers. When the axle is running free from pressure in a straight direction, this washer is left quite free, but when there is a tendency to press upon the shoulder, the rollers in the washer run between the surfaces of the shoulder and box, and tend to prevent the friction. By this method nearly all the friction is avoided.

A New Mode of Manufacturing Paint Brushes.

A very simple and effectual mode of manufacturing paint brushes, without involving the necessity of driving the handle through the centre of the brush, has been invented by Adonijah Randel, of Williamsburgh, N. Y. The nature of his invention consists in placing the hair of which the brush is to be made, in a metal ring, and securing it therein by cementing or sizing the roots, so as to prevent the escape of the hairs, and then uniting the back end of the ring by riveting or otherwise, with a back plate, which receives the handle. The hair is most effectually secured in this manner, and it forms a solid brush; it is easily constructed, durable, and more convenient than those in use. Measures have been taken to secure a patent.

APPARATUS FOR LASTING BOOTS AND SHOES.

The apparatus for lasting boots and shoes, represented by the annexed engraving, is the invention of R. P. Leland, of Grafton, Mass., who has taken measures to secure a patent for his improvement. Fig. 1 is an outside view of one edge of the laster. Figure 2 is a vertical central section of the same, the claw levers or holders being closed; and fig. 3 is also a vertical section through the box containing the claw, lever, spring, and screw. In this

view said levers are shown open, as they appear when in operation.

A A represents the claw levers, which have the claws, *a a*, on their lower ends to take into the "uppers" in the manner shown in fig. 3. The upper part of these levers are made of the shape represented in figs. 2 and 3, so that when they have been forced out and opened, as shown in fig. 3, they will, when again drawn in, close and come together, as

Figure 1.

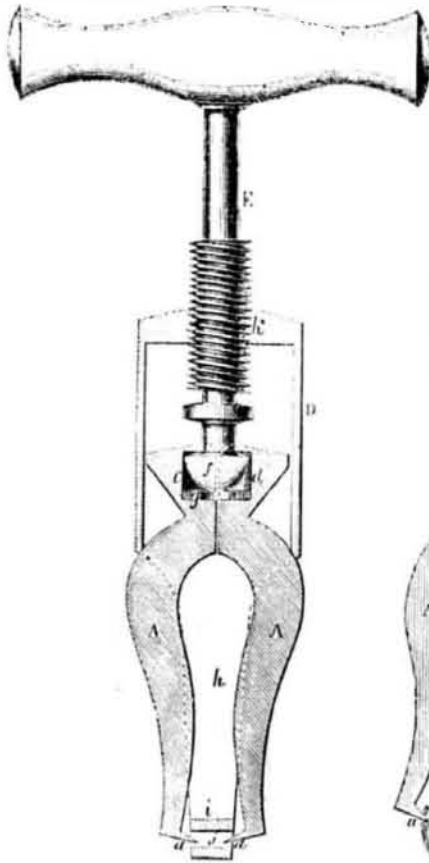


Figure 2.

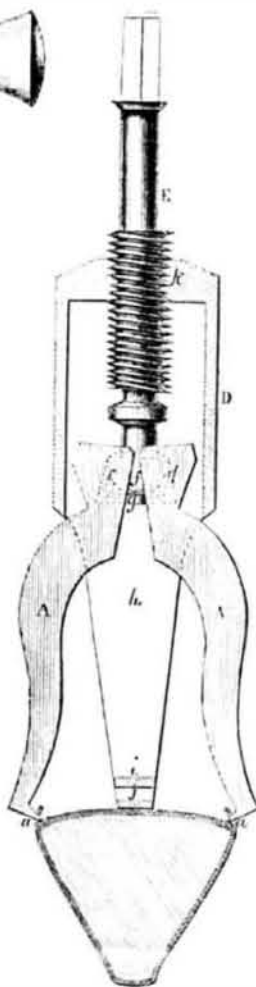
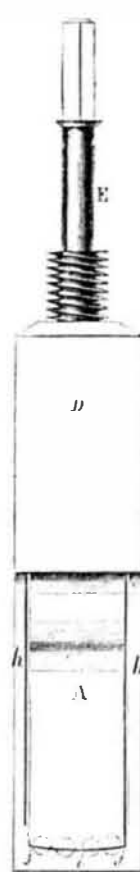


Figure 3.



shown in fig. 2, and thereby stretch the leather and draw it over the last; these levers have mortices or recesses, *c d*, cut in their top portions, which form a box for the collar, *f*, (on the end of the screw) to fit in; also for a spring, *g*, as seen in fig. 2, by which they may be suddenly opened. The said collar and spring being retained in said mortices, by means of the box, *D*, which couples the screw and two levers together, in the manner shown in the drawings, it being impossible for them to separate so long as the box retains its proper place. This box, *D*, has two legs, *h h*, braced at their bottom by the brace, *i*, which has a number of holes, *j*, cut through it for

the claws to work in, as seen in fig. 2; this trace rests on the sole, as seen in fig. 3, and keeps it down, the levers passing in and out between the legs, *h h*, as seen in figs. 1 and 3. *E* is the left-hand screw for moving the levers in and out; this screw working in the thread, *k*, cut in the top of the box, *D*. It is attached to the levers in the manner shown in fig. 2. This forms a very useful as well as effectual instrument for shoemakers; it is one of those labor-saving machines which is required by good workmen.

Further information may be obtained by letter addressed to Safford, Brooks & Co., Boston, Mass.

SELF-LOADING CART.—Fig 1.

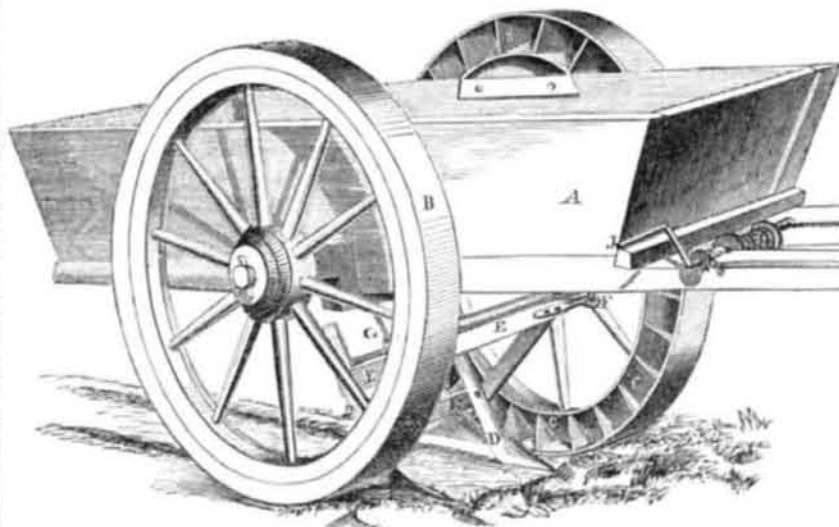


Figure 1, in the annexed engraving, is a perspective view, and figure 2 is a transverse vertical section of the loading apparatus, for a new and improved self-loading cart, invented by Samuel Parks, and Francis C. Rue, of Warren, Illinois.

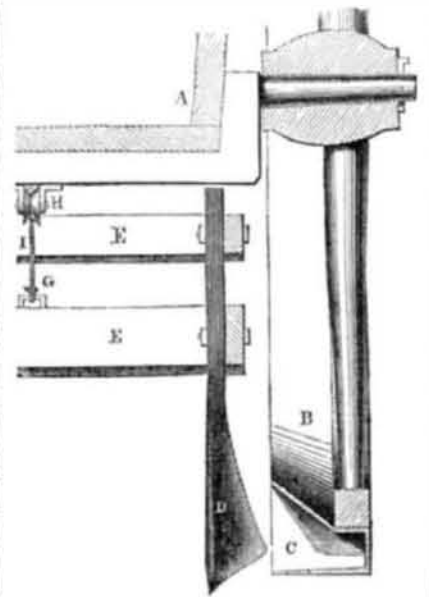
The cart is so constructed that two plows with mould-boards, turning in opposite directions, passing inside the wheel and near its

track, raise the earth and throw it into a series of buckets formed in the inside of each wheel near its periphery. The wheels by their revolution take the earth, thus thrown within them, upwards, by their revolution, to the top of the box, into which it falls, over an inclination of the bucket, and an inclined slide plate upon the top of the box.

A is the box; B the wheels; C the buck-

ets, and *E E* an adjustable frame to hold the plows, *D D*, and by which they may be raised and lowered at pleasure by means of a cord *I*, wound upon a pulley in front of the body of the cart, extending over a pulley, *H*, and attached to the frame, *E*, at *G*. This frame is moved up or down by turning the crank, *J*, upon the front pulley shaft. This shaft has a ratchet upon it, by means of which the plows may be adjusted to any desired depth of cut, being made secure to the adjustable frame by bolts. This frame is prevented from moving backward by a hook and staple, *F*, attached in any permanent manner to the under side of the body. One end of the buckets, *C*, is inclined to the external side of the periphery of the wheel, so that when the dirt is brought above the body of the cart, it slides down an inclined plane, upon an inclined plate fixed upon the top of the box, which is fitted up to the inner face of the wheel. From this plate the earth slides into the box. The axle, main parts of the wheels, body and tongue, or shafts are constructed in the usual manner. This is a very simple arrangement, and should be noticed by farmers and others interested.

FIG. 2.



Further information may be obtained by letters addressed to the inventor.

Saws without a Saw Sash.

An improvement in the mode of hanging saws without a saw sash, and by which any amount of strain may be given them, has been constructed and the requisite steps taken to secure a patent. This improvement is the invention of Charles Burleigh, of Fitchburg, Mass. The manner in which he accomplishes this object is by attaching to the upper saw head two straps or chains, passing over straining and stationary pulleys attached to the upper part of the bed frame. These straps or chains also passing under stationary pulleys beneath the saw, and are attached to the lower saw head or block. Levers may be substituted for the pulleys, and the cords or chains attached to the top of the upper, and bottom of the lower saw head, and to the ends of the levers; by this arrangement of the inventor the saw may be perfectly strained, and the weight and friction attending the working of the ordinary saw sash or frame avoided.

Improvement in Cultivators.

An improvement in these useful implements of husbandry has been made by Samuel Churchill, of West Henrietta, N. Y. The nature of the invention consists, in a peculiar manner, of elevating and depressing the frame which holds the shares, and the shares themselves, by means of which they may be made to penetrate the earth the required distance, and make deep or shallow furrows, as desired, or be raised, and kept entirely from the earth when the implement is being drawn from one locality to another. The mode adopted by Mr. C., to accomplish this object is by means of levers and connecting rods or stirrups attached to the frame, which are under the immediate control of the driver. Measures have been taken to secure a patent.

By the late news from Europe it is supposed that war is not far distant between Russia and Turkey.