

J. W. CARVER.
Tacking-Machine.

No. 163,456.

Patented May 18, 1875.

Fig. 1.

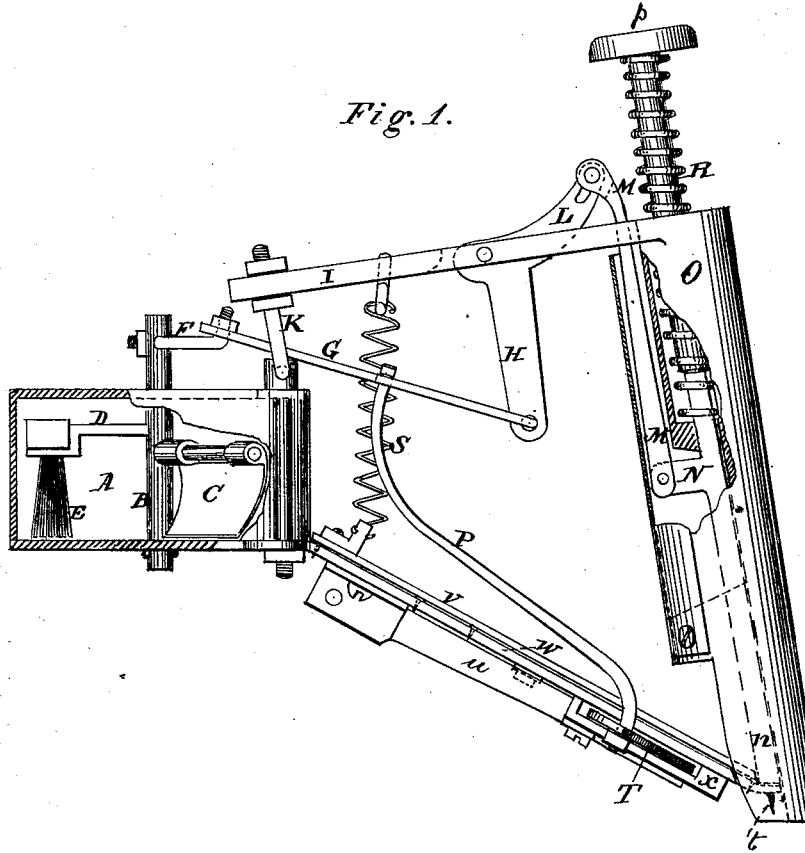
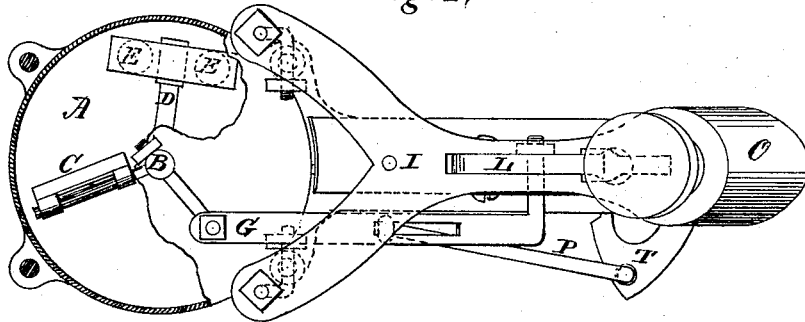


Fig. 2.



Witnesses.

J. H. Adams

George H. Morrison

Inventor.

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Fig. 3.

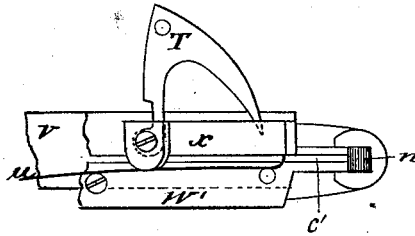
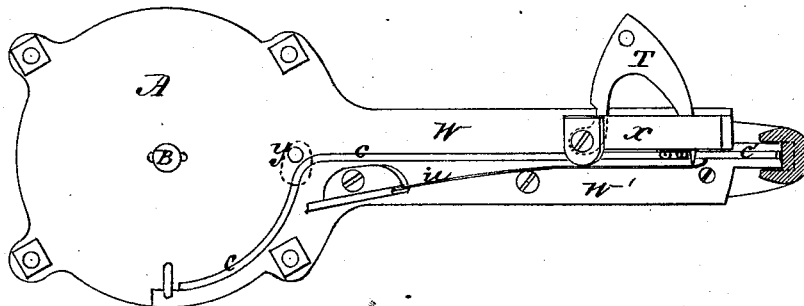


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES W. CARVER, OF EAST BOSTON, MASSACHUSETTS.

IMPROVEMENT IN TACKING-MACHINES.

Specification forming part of Letters Patent No. **163,456**, dated May 18, 1875; application filed April 24, 1875.

To all whom it may concern:

Be it known that I, JAMES W. CARVER, of East Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Tacking-Machine, of which the following is a specification:

The object of my invention is to produce a machine, to be used by hand or power, for tacking the uppers of boots or shoes to the inner soles. It may also be used for tacking carpets, and in upholsterer's work; and the invention consists in a combination of devices, whereby the tacks are conducted from a supply-box or receptacle along a channel or raceway to the point where they are to be driven in, the act of feeding, conducting, and separating the tacks, and also driving them, being performed by means of a blow upon the piston-rod, to which the hammer is attached.

Referring to the drawings, Figure 1 represents a side elevation of my machine, with a portion of the parts cut away to show the interior mechanism. Fig. 2 is a top view with a portion of the receptacle broken away. Figs. 3 and 4 are views of the under side of the machine, showing the different positions of the tack-separating device and the hammer.

A represents a box or receptacle, in which the tacks are first placed. Through the center of the box A passes a spindle, B, to which is attached an arm, D, that carries two brushes, extending to the bottom of the receptacle A. To the shaft or spindle B is also attached an arm, on which is hung, so as to play loosely, a scoop, C. To the upper portion of the spindle B, projecting above the box A, is secured an arm, F, which holds one end of an arm or bar, G, the other end of the said bar being attached to an arm, H, of the bell-crank lever. The bar G is provided with a slot, as shown in Fig. 2. The bell-crank lever H L is pivoted at its angle in a slot in the upper bifurcated frame I, which is attached at one end to the case or cylinder O. The two ends of the bifurcated frame I are secured by means of swivel-bolts to the box A. To the upper arm L of the bell-crank lever is connected one end of a rod, M, the other end of the said rod being attached to a stud or projection on the piston-rod N, to which the hammer *n* is attached. The piston-rod N is held in proper

bearings in the case or cylinder O, and is maintained in an elevated position by means of a spiral spring, R. The lower end of the cylinder O is contracted, and the lower part of the piston forms a hammer, *n*, which is fitted to slide freely in the same.

In the bottom of the box A is a slot, *c*, through which the points of the tacks project, and forms a raceway or channel, a continuation of which is formed by the plates W W', to the point where the tacks are to be driven by the hammer. Plate W forms a part of the bottom of the box A, and plate W' is attached to an upper plate, V, in such a manner as to leave the slot *c* between the plate, and so as to admit of the slot being wider or narrower, for the accommodation of tacks of larger or smaller sizes. The plate V may also be adjusted to suit tack-heads of larger or smaller size. The extreme ends of the plates W W' form two points, as seen at *c'*, which project within the lower part of the cylinder O, and, curving slightly, as shown in Fig. 1, serve to hold a tack in position previous to being driven down by the hammer *n*. On the under side of the plate W is secured a frame, *x*, in which is pivoted a curved and pointed hook, T, as shown in Figs. 3 and 4. The hook T is connected to the bar G by means of the curved rod P, the upper end of which is so attached as to move freely in a slot in the bar G, as seen in Fig. 2. On the under side of the plate W' is secured a spring, *u*, which, in its normal condition, bears, near its free end, against the point of the curved hook T, as seen in Fig. 4, so as to prevent the tacks in the raceway *c* from passing beyond the pointed end of the hook T. S, in Fig. 1, represents a spring, which connects the upper plate I with the parts that compose the raceway, and serves to retain the end of the raceway within the recess in the lower end of the cylinder O.

On the inside of the bottom of the box A, at the curve where the raceway leaves the box, is attached a plate or guard, *y*, as shown in dotted lines in Fig. 4. The object of this guard is to prevent the tacks from clogging the raceway, and when not in proper position to enter the raceway, the tacks are swept round by the brushes, so as to allow the tacks which are

in proper position to pass freely along the raceway.

The operation of my machine is as follows: The box A being supplied with tacks, the end of the cylinder O is placed over the part of the shoe to be tacked, and the instrument may be grasped by the hand around the cylinder O, or held at the box A. A pressure or blow being applied to the piston-head *p* will cause a partial rotation of the spindle B, through the medium of the rod M, bell-crank lever L H, and bar G. The scoop C, moving with the spindle, serves to feed the tacks to the raceway, the brushes at the same time removing the tacks that do not properly enter the raceway. The tacks fill the raceway until stopped by the hook T, bearing against the end of spring *u*. The continued downward movement of the piston-rod causes the retraction of the hook T away from the spring *u*, thus allowing a tack to pass along toward the end of the raceway between the points *c*, where it is held directly under the hammer *n*, the downward movement of the hammer serving to force outward and downward from the recess in the end of the cylinder O the end of the raceway, causing the face of the hammer to bear fully on the head of the tack, and thus drive it home. The upward movement of the hammer, caused by the retraction of the spring R, allows the end of the raceway, by means of the spring S, to return to its position in the recess for the reception of another tack.

It will thus be seen that at each successive blow on the piston-head the tacks will be fed to the raceway, and passed singly to the end of the raceway, and successively driven by the action of the hammer.

The instrument may be adapted to be operated by power, if desirable.

I claim as my invention—

1. The combination of the box A and spindle B, provided with the scoops C and brushes E, substantially as and for the purpose set forth.
2. The combination of the spindle B, provided with the brushes E and scoops C, with the piston-rod and hammer *n*, and the intermediate system of rods and levers, as shown, when arranged for joint operation, substantially as and for the purpose described.
3. In combination with the box A, the frame I, and its swivel-connections K, the cylinder O and the raceway V W W', substantially as and for the purpose set forth.
4. The combination of the raceway *c*, the spring *u*, and the pivoted hook T, as and for the purpose specified.
5. The combination of the hook T, the rod P, and the slotted bar G with the spindle B, provided with brushes and scoops, substantially as set forth.
6. The adjustable plates W W', forming the raceway, and having the curved ends *c'*, in combination with the recessed end of the cylinder O, whereby the tack is brought to a position under the hammer, and then driven in, substantially as and for the purpose set forth.
7. The combination of the adjustable plates V W W', for adaptation to tacks of different sizes, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES W. CARVER.

Witnesses:

GEORGE H. MORRISON,
RICHARD DOWNING.