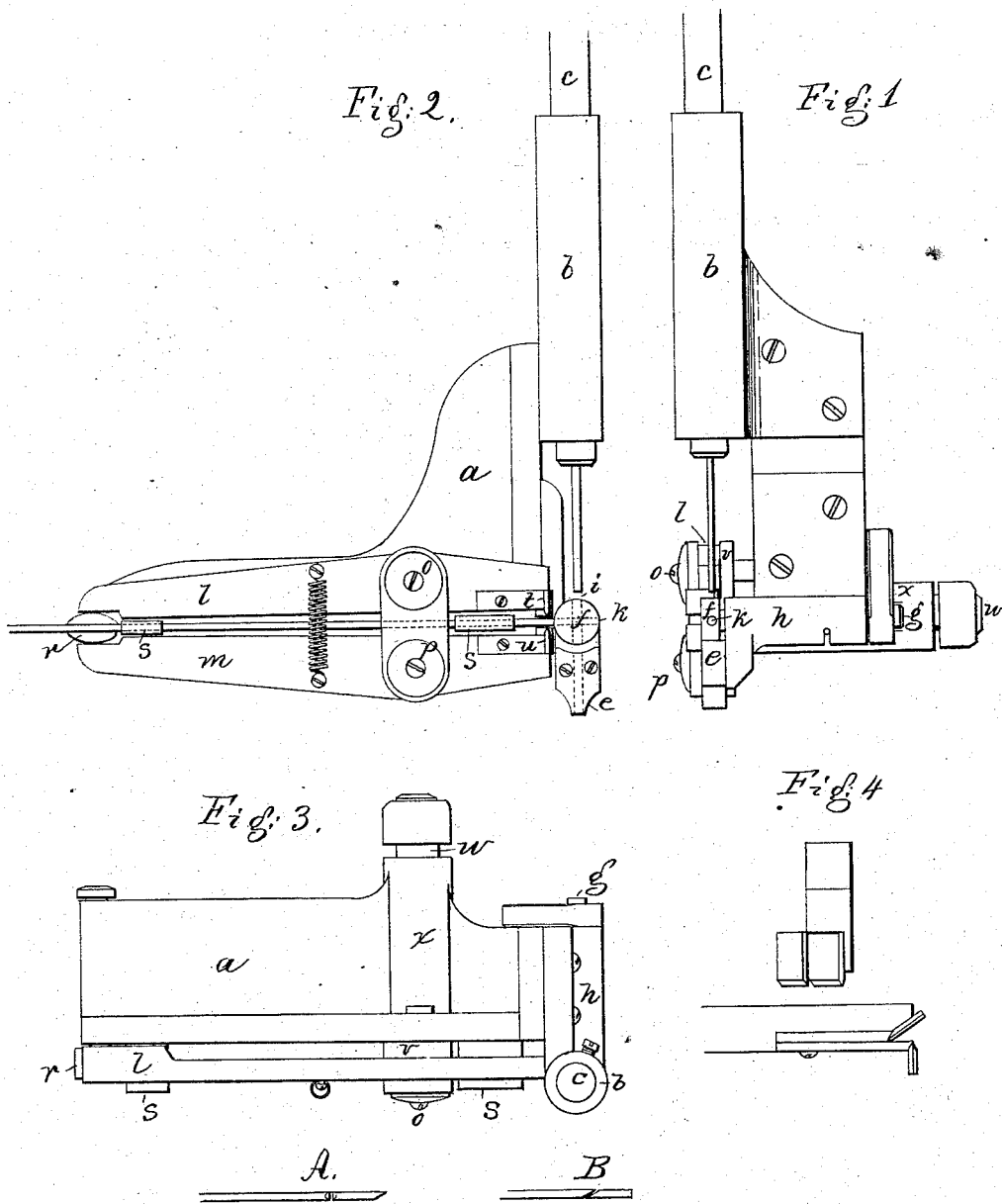


Pegging-Machines.

No. 157,929.

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Witnesses.
Edwin J. McLean.
Jos C. Wildman

Inventor
Everett P. Richardson
per John J. Walsted
Atty.

UNITED STATES PATENT OFFICE.

EVERETT P. RICHARDSON, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN PEGGING-MACHINES.

Specification forming part of Letters Patent No. **157,929**, dated December 22, 1874; application filed June 9, 1874.

To all whom it may concern:

Be it known that I, EVERETT P. RICHARDSON, of Lawrence, in the county of Essex and State of Massachusetts, have invented an Improvement in Machines for Uniting the Soles and Uppers of Boots and Shoes; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention has particular reference to that class of machines organized to cut from wire nail-forming lengths, and to drive the nails to unite parts of leather-work—such, for instance, as the soles and uppers of boots and shoes; the present improvement relating to the method of, and mechanism for, presenting the wire to the cutter and nail-tube, and to the construction, arrangement, and method of operating the nail-carrier, by which the nail to be driven is brought under the driver and over the tube or foot, through which the nails are successively driven.

In my invention I use, in combination with the vertically-reciprocating nail-driver, a nail-carrier or wheel at the end of a horizontal rock-shaft turning in suitable bearings, the wheel being in the vertical plane of the nail-driver and the nail-tube foot. Through this wheel extend two diametric passages, (preferably crossing at right angles,) there being a suitable stop, by which the wheel, in turning in either direction, is arrested in position to bring one or the other of its diametric passages into vertical line with the driver above and the tube of the foot beneath. Upon one side of this wheel is the wire-cutting or nail-forming mechanism, preferably composed of shear-blades, with horizontal or approximately horizontal cutting-edges. The wire is fed horizontally between these cutters, a nail-length passing between them and entering one of the carrier-tubes, the wheel being turned after the nail is cut, and thereby bringing the tube and the nail therein into upright position, (from horizontal position,) in which upright position it is in line with the driver and driver-tube, and ready to be driven, the movement that brings it to vertical position carrying the other tube into horizontal position, ready to receive

the end of the wire to be next severed. After the driving and severing, the wheel is turned back, bringing the emptied tube into horizontal line with the cutters, and the charged tube into vertical line with the driver. Two pairs of cutters are or may be used, one pair having edges standing at right angles to the wire, and the edges of the other pair standing at an angle that will sever the wire, so as to leave on the end of the nail severed, and also on the end of the wire, an acute-angled point, the other cutters cutting squarely through the wire. Thus one pair of cutters forms the heads for two adjacent nails, and the other pair the points for two nails; and when the wheel is in position for the severed nail to enter it point first, the wheel is turned so as to leave the nail in vertical position point down, the wheel being then in position so that the next nail enters it head first, and the wheel being then turned back so that such nail is brought to position with its point down.

The invention consists primarily in the organization and details of organization thus generally described.

The drawing represents enough of the mechanism of a nailing-machine to enable my invention to be readily understood.

Figure 1 shows the parts in front elevation. Fig. 2 is a side elevation of them. Fig. 3 is a plan. Fig. 4 shows the cutters in end view and plan.

a denotes the frame-work; *b*, the bearing or guide, through which the stock *c* of the driver reciprocates vertically. Under, or in vertical line with, this driver is the foot-piece *e*, through which extends the nail-tube, the work to be nailed being presented against the bottom of this foot. Between the driver-stock and nail-tube foot is the carrier-wheel *f*, the wheel being immediately over the foot *e*. This wheel is shown as placed at the end of a shaft, *g*, turning in a stationary bearing, *h*, and having two diametric passages, *i k*, crossing, as before described, the wheel, by suitable mechanism, being alternately turned forward and back, to bring each tube in succession under and for the action of the driver, to drive the nail through the wheel into and through the nail-tube and into the work beneath.

The nail-supplying mechanism is shown as

arranged as follows: lm denote the horizontal cutter-levers, pivoted at op , carrying at their inner ends a pair of cutters, the edges of which are horizontal, or approximately so. The levers being operated by a cam, r , the cutting-edges are brought together in the horizontal plane of the center of the carrier-wheel, the cutters being separated when released by a suitable spring. The wire passes horizontally through guides s , and between the cutters into the horizontal passage of the wheel, (being fed forward to the proper distance for the required length of nail,) and when thus presented the cutters close upon and sever the nail, leaving it in the carrier-wheel; then the wheel turns and brings the nail into position to be driven, as before described. Two pairs of cutters are shown, the edges of one pair, $t u$, being respectively shaped like common wire-nippers, or so as to cut squarely across the wire, leaving the two ends formed by the cut square, or substantially so, the edges of the other cutters being inclined in a horizontal plane, and forming two inclined points.

The first cutters form the heads for two adjacent nails, as seen at A, and the other cutters the points for two adjacent nails, as seen at B, and each nail is brought to proper position for driving as follows: The wire having been severed, as seen at B, (the end of the wire being thrust into the wheel, and the severed ends being pointed,) the wheel is turned so as to bring the nail to vertical position with its pointed end down, the upper end of the nail being square, and the nail being in proper position to be driven. By this movement of the wheel it is brought to position to receive the end of the wire to be severed for the next nail, the square cutters forming the two heads, as seen at A. The pointed end of the wire is

now in advance, and the wheel is turned in the opposite direction to bring the point of the nail downward. Thus, by alternately turning the wheel in opposite directions, the heads for two adjacent nails may be formed by one cut, and the points for two adjacent nails by the next cut. To bring the respective heading-cutters and pointing-cutters into position at proper times, the cutter-levers are made movable horizontally, they being pivoted to a block, v , fixed to the end of a shaft, w , which slides in its bearing x .

I claim—

1. In combination with the driver and nail-tube foot, a horizontal shaft carrying a nail-carrier, located between the driver-stock and foot, the carrier having diametric passages or pockets for alternately receiving the nails and successively presenting them in line with the driver and the nail-tube foot.

2. The reciprocating nail-carrier on a horizontal shaft, and the cutting mechanism, relatively arranged and co-operating and combined with the driving mechanism, substantially as shown and described.

3. The two pairs of cutters for alternately heading and pointing the nails, substantially as described.

4. The process of forming and presenting the nails, consisting in severing the wire to form two heads, and next to form two points, and turning the successive nails in opposite directions from horizontal to vertical position, so as to bring each nail into position to be driven with its point downward, substantially as described.

Executed this 3d day of June, A. D. 1874.

EVERETT P. RICHARDSON.

Witnesses:

M. W. FROTHINGHAM,
S. B. KIDDER.