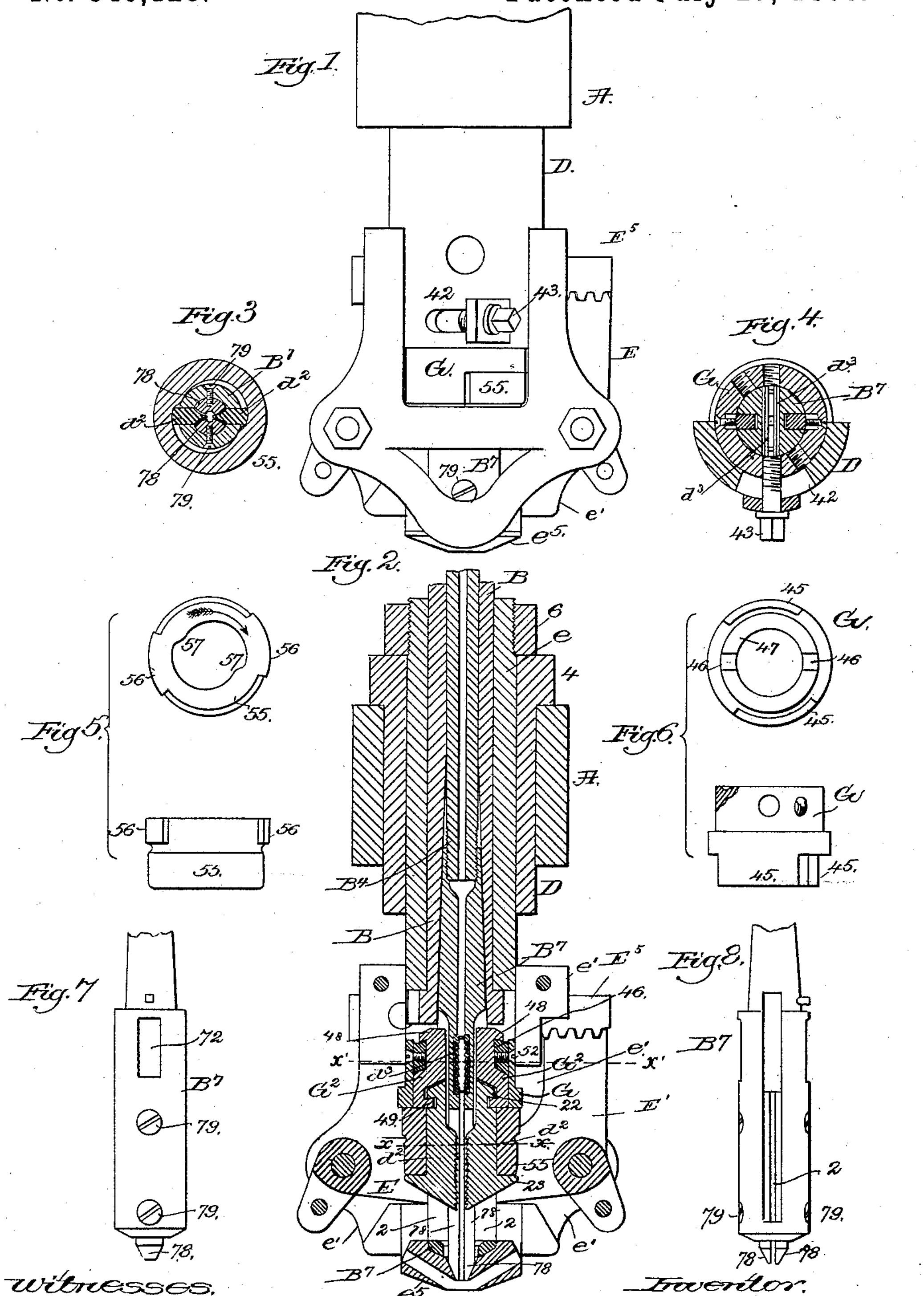
(No Model.)

S. W. ROBINSON.

MACHINE FOR UNITING SOLES TO UPPERS.

No. 346,128. Patented July 27, 1886.



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UNITED STATES PATENT OFFICE.

STILLMAN W. ROBINSON, OF COLUMBUS, OHIO.

MACHINE FOR UNITING SOLES TO UPPERS.

SPECIFICATION forming part of Letters Patent No. 346,128, dated July 27, 1886.

Application filed January 12, 1885. Serial No. 152,571. (No model.)

To all whom it may concern:

Be it known that I, STILLMAN W. ROBINSON, of Columbus, county of Franklin, State of Ohio, have invented an Improvement in Machines for Uniting Soles to Uppers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is intended as an improvement on the machine represented in United States Patent No. 297,718, granted to me, dated April 29, 1883, to which reference may be had, the object of my present invention being to provide simple and positive mechanism, by which to operate the lowermost pair of grippers or those which feed the wire.

The patent referred to contains a uniformly-reciprocating working-head, a sleeve, and a slotted spindle within them, in the slots of which are placed the wire-feeding grippers, the backs of the said grippers in the partial rotation of the spindle striking against the points of screws carried by the sleeve, which thus causes the grippers to be forced in toward the center of the spindle to grasp the wire which is fed longitudinally through the spindle as the working-head in its descent causes the grippers to travel longitudially in the slots of the spindle.

In this my present invention I have done away with the screws used to co-operate with the backs of the grippers and force them in against the wire, and instead of them I have provided a cam-ring, against which the backs of the grippers strike in the partial rotation of the slotted spindle.

My invention consists in the combination, with the working-head and slotted spindle, and grippers supported in the slots of the said spindle, of a cam-ring to force the grippers in toward the center of and to grip the wire when the same is to be forced into the stock.

Figure 1 is a partial front elevation of a machine to unite soles to uppers to enable my invention to be understood; Fig. 2, a longitudinal section of the parts of Fig. 1, the said figure showing, however, some of the parts broken off from the top of Fig. 1, the section being from side to side of Fig. 1 rather than from front to back; Fig. 3, a section in the line $x\,x$, Fig. 2; Fig. 4, a section in the line x' x', Fig. 2; Fig. 5, a top and side view of the cam-ring; Fig. 6, a top and side view of the tappet-ring; Fig. 7, a detail of the spindle-head removed; and Fig. 8, a view of the said spindle-head to show the slots in which the grippers move.

The part A of the stationary frame-work shown in the drawings supports the working-head D herein to be reciprocated uniformly, as in my said patent. In practice the flange 4 of the working-head D will be connected with a pitman, as described in my said patent. Inside the working-head is a sleeve, *e*, having an attached collar, 6, the latter resting upon the flange 4 when in its lowest position within the working-head D. The lower end of the sleeve *e* has attached to it rigidly the plate *e'*, to the lower end of which is attached the nose or presser e^5, which in practice will rest on the boot or shoe on the horn, but not shown. The spindle B, placed inside the sleeve *e* and working-head D, is substantially such as in my said patent, except that herein the said spindle is made in three parts to facilitate the easy dismemberment of the machine. The spindle B has a hollow center piece, B^4, which receives the wire from the usual spool, and the spindle-head B^7, attached to the lower end of the removable center B^4, is slotted at 2 for the reception of the grippers d^2, which are placed in the said slots. (See Figs. 2 and 3.) The spindle-head B^7 also has a slot, 72, at right angles to the slots 2, for the reception of the detaining-jaws d^3, which act upon and prevent any backward slipping of the wire as the feeding-grippers are raised by the working-head D. The front part of the sleeve-like working-head is extended downward below the top of the plate *e'*, (see Figs. 1 and 4,) and is slotted, as shown at 42, for the reception of a screw, 43, which, after being inserted through a washer and through the said slot 42, is screwed into one of the threaded holes in a tappet-ring, G, having tappets 45, and having near its upper end an inwardly-extended race or flange, 47, provided with two gaps, which are filled in with flush-blocks 46, attached by screws 52, the said race, with its flush-blocks, acting to hold the gripper-carriers G^2, the shanks 53 of which are placed in the slots 2 of the spindle-head B^7, the hooked upper ends, 48, of the

gripper-carriers being inserted or passed above the race when the flush-blocks are removed. The lower ends of the gripper-carriers have hooks 49, which receive and suspend the feeding-grippers d^2 in the slots of the spindle-head, the working-edges or toothed parts of the said grippers being extended through the said slots to act upon and grasp the wire between the long channel-blocks 78, attached to the spindle-head by the screws 79. The lower end of each gripper, as herein shown, has a shoulder, 23, against which rests the lower end of the cam-ring 55, having projections 56, the edges of which strike against the tappet-projections 45 of the tappet-ring, thus arresting the cam-ring, so that the backs of the grippers d^2, held in the slots of the spindle-head B^7, as the latter head is partialy rotated with the spindle B, are caused to travel over the cam-surfaces 57 of the said cam-ring, thus forcing the grippers in toward the center of the spindle-head to grasp and feed the wire, for as the said grippers are so forced in to grasp the wire the working-head D in its descent causes the grippers to be slid down in the slots 2 of the spindle-head in the direction to force the wire out of the spindle-head and beyond the presser e^5 into the stock. The wire having been inserted, the spindle-head is turned partially around in the opposite direction, and carries the cam-ring 55 with it until the projections 46 thereof strike the tappet-arms 45, when the further movement of the cam-ring is arrested, it being so arrested before the spindle-head completes its quarter-turn. After stopping the cam-ring 7 further rotation of the spindle-head in the same direction releases the pressure of the cam-ring on the grippers, and the latter releases the wire, so that the grippers can move upward over the wire and not lift the same in the spindle-head.

The rocking levers E E′, moved from the rack-bar E^5, actuate the cutters. (Not shown in the drawings, but common to other nailing-machines of my invention.)

All the parts herein shown are represented by like letters in United States Patent No. 325,274, the application for which was filed October 13, 1884, to which reference may be had, wherein the said parts are shown combined with devices to operate them.

I claim—

1. In a machine to unite soles to uppers, the working-head and slotted spindle-head, and wire-feeding grippers extended through slots in the said spindle-head, combined with a cam ring or collar to co-operate with and cause the said grippers to be forced against and so as to grasp the said wire, substantially as described.

2. In a machine to unite soles to uppers, the toothed grippers provided at their upper ends with hooks to enable the grippers to be suspended loosely, and the slotted spindle-head in which the said grippers are placed, combined with a cam-ring to co-operate with and cause the grippers to be moved radially in the slots of the spindle-head, substantially as described.

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

STILLMAN W. ROBINSON.

Witnesses:
CHAS. E. BURR,
W. T. MCCLURE.