(No Model.)

E. B. STIMPSON.

RIVET SETTING MACHINE.

No. 540,033. Patented May 28, 1895.

FIG:1.

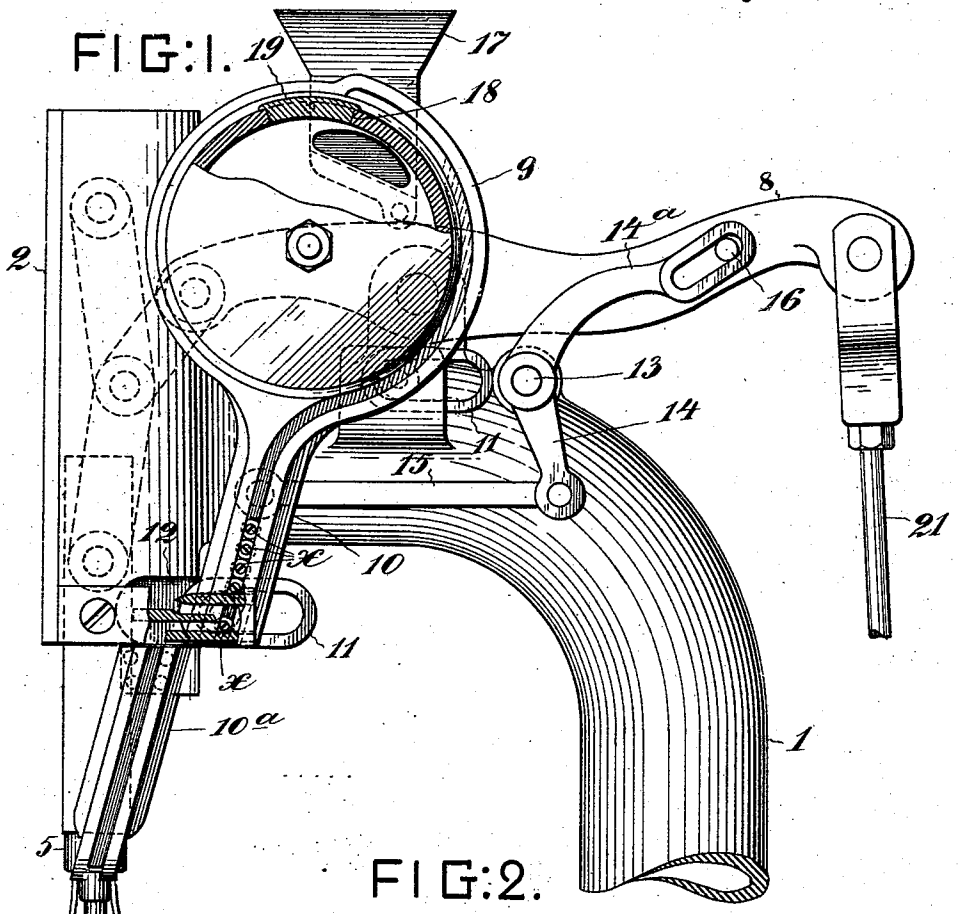

FIG:2.

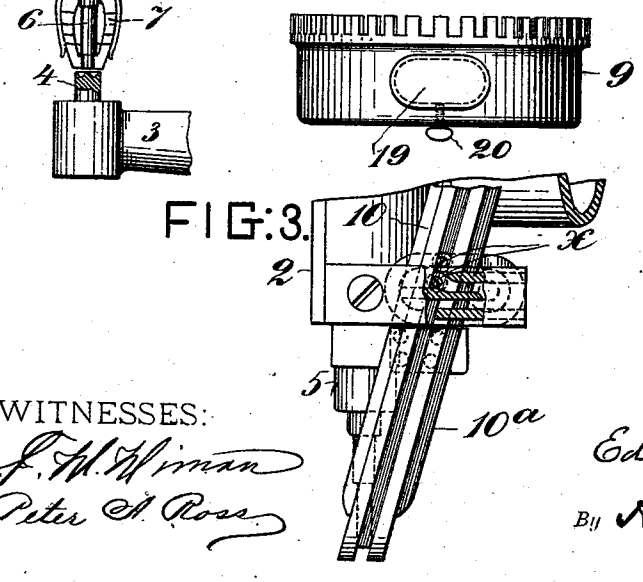

FIG:3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWIN B. STIMPSON, OF BROOKLYN, NEW YORK.

RIVET-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 540,033, dated May 28, 1895.

Application filed November 17, 1894. Serial No. 529,103. (No model.)

To all whom it may concern:

Be it known that I, EDWIN B. STIMPSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Rivet-Setting Machines, of which the following is a specification.

My present invention, which relates to the class of machines for setting and clinching hollow and split rivets, &c., comprises certain improvements on the machine illustrated and described in the United States Patent No. 509,699, granted to me November 28, 1893, and reference may be had to that patent for such features of the construction and operation of the machine as are not illustrated and described herein.

The object of the present invention is to simplify and improve the construction of the feeder for supplying and feeding the rivets, one by one, to the rivet-pocket, and to simplify and improve the means for imparting the lateral movement to the feeder.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a side elevation of that part of the rivet-setting machine embodying my invention, a part of the rivet-box and the stationary escapement being broken away to better illustrate the construction. Fig. 2 is a plan or edge view of the rivet-box detached. Fig. 3 is a fragmentary side elevation showing the parts in a different position from that seen in Fig. 1.

1 represents the supporting standard or frame of the machine. This frame arches over at the top and carries the head, 2, of the machine. An arm 3, on the standard carries and supports the anvil 4. In the head 2 plays the plunger-slide, 5, in which is fixed the plunger, 6, this latter being aligned with the anvil. An expanding rivet-pocket, 7, is carried by the head 2, and through this pocket the plunger passes in its descent. A reciprocating movement is imparted to the plunger by a lever, 8, fulcrumed on the frame, the shorter arm of said lever being coupled by a link to the knuckle of a toggle in the head 2, one end of which is coupled to the plunger-slide 5, and the other to the head 2. This mechanism is fully illustrated in my former patent and is indicated in dotted lines in Fig. 1. Indeed all of the above described mechanism is fully shown in my former patent.

The feeder for the rivets comprises a rivet-box, 9, mounted rotatively on a rivet-road, which latter is grooved in the ordinary way to form keeper-guides for the flanged heads of the rivets. This rivet-road is, in its general construction like that described in my former patent, but in the present case it comprises an upper, laterally movable section or part, 10, and a lower, fixed section or part, 10^a. On the upper section 10 are two slotted guides, 11, in which are situated two rollers, mounted on the frame. This construction permits the upper section carrying the rivet-box, to be moved laterally, to and fro, a limited distance. The object of this movement is to segregate the lowermost rivet in the section 10 from those above it, through the medium of an escapement device, 12, like that illustrated in my former patent. The lower section 10^a, of the rivet-road, is secured rigidly to the head 2, in position to deliver the rivet into the rivet-pocket 7, when the latter is elevated.

The upper section 10 of the rivet-road is moved to and fro laterally to effect the segregation of the rivets, by means of an elbow-lever pivoted or fulcrumed at 13, on the frame. The lower arm, 14, of this lever is coupled by a link, 15, with the section 10, and the upper arm, 14^a, has in it a slot which engages a stud, 16, on the lever 8. When the longer arm of the lever 8 is moved upward in order to drive down the plunger 6, the upper section 10 of the rivet-road is moved back toward the position indicated in Fig. 1, through the medium of the elbow-lever 14, 14^a, and link 15, and the escapement device segregates the lower rivet, *x*, and when the lever 8 is drawn down again, the section 10 is moved back again—to the position seen in Fig. 3—depositing the segregated rivet into the upper end of the stationary section 10^a of the road. The advantage of this construction over that in which the entire rivet-road moves to and fro laterally (as in my former patent) by the stationary escapement, arises from the fact that the lower, or delivery end of the road is always maintained in a rigid and unvarying relation to the delivery point, which I deem important

to good and rapid work. The mechanism for operating the upper section of the rivet-road is exposed so as to be easy of access for lubrication and repair, and it affords a more positive and equally speeded movement of the road than that described in my former patent. When the parts are in the position seen in Fig. 3, the two sections of the rivet-road will be accurately aligned.

The rivet-box 9 may be rotated, for the agitation of the contained rivets, by the means illustrated and described in my former patent, or in any other satisfactory manner. This feature forms no part of my present invention. The hopper, 17, through which rivets are supplied to the rivet-box, and the box itself, may also be constructed as described in my former patent; but in order to be able to remove any rivets that may remain in the rivet-box, in order to provide it with a fresh supply without removing the box, I provide the box with a discharging aperture, 18, in its rim, furnished with a closing cover, 19, held in place by a set-screw, 20, as seen in Fig. 2. This cover has a flange to rest on the outer surface of the box and it is of equal thickness with the wall of the box so as to leave no recess or hollow on the inner surface of the box-wall. To remove the rivets the cover 19 will be removed and the box rotated until the aperture is at the lower side.

I have not deemed it necessary to show in this application the base of the machine and the treadle by which the lever 8 is operated through the medium of the rod 21, as these are fully illustrated in my former patent. Indeed the particular means for operating the lever 8 is not essential to my present invention.

I am aware that it has been customary in machines for driving tacks and the like to employ a raceway having a slight lateral or sidewise movement at the segregating device to segregate the end tack, which latter is afterward moved along horizontally to the delivery or driving point by a pusher. This construction is entirely different from mine which employs no horizontal way and no pusher. My rivet-road is upright and the rivet moves by gravity throughout its entire length from the rivet-box to the delivery point.

Having thus described my invention, I claim—

1. A riveting machine having a stationary, rivet-segregating device, and an upright rivet-road consisting of two sections throughout which the rivet falls by gravity to the delivery point, the lower section being stationary and extending from the segregating device down to the delivery point, and the upper section having a laterally reciprocating movement and terminating below at the escapement, substantially as set forth.

2. In a riveting machine, the combination with the machine frame, the plunger, the lever for operating the plunger, and the stationary segregating device mounted on the frame, of the upright rivet-road throughout which the rivet falls by gravity, said road consisting of a lower, stationary section extending from the segregating device down to the delivery point, and an upper, laterally reciprocating section, which terminates at the segregating device, and the rivet-box, carried by the upper section of the rivet-road, substantially as set forth.

3. In a riveting machine, the combination with the frame, the plunger, and the lever 8, for operating the plunger, of the guides for the upper section of the rivet-road, the said road adapted for lateral reciprocation, the elbow-lever, fulcrumed on the machine-frame, a stud 16, in the lever 8, engaging a slot in the upper arm of the elbow-lever, and the link 13, coupled at one end to the lower arm of the elbow-lever and at the other end to the reciprocating section of the rivet-road, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWIN B. STIMPSON.

Witnesses:
JAS. KING DUFFY,
HENRY CONNETT.