

No. 736,163.

PATENTED AUG. 11, 1903.

E. B. STIMPSON.
EYELETING MACHINE.
APPLICATION FILED FEB. 25, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

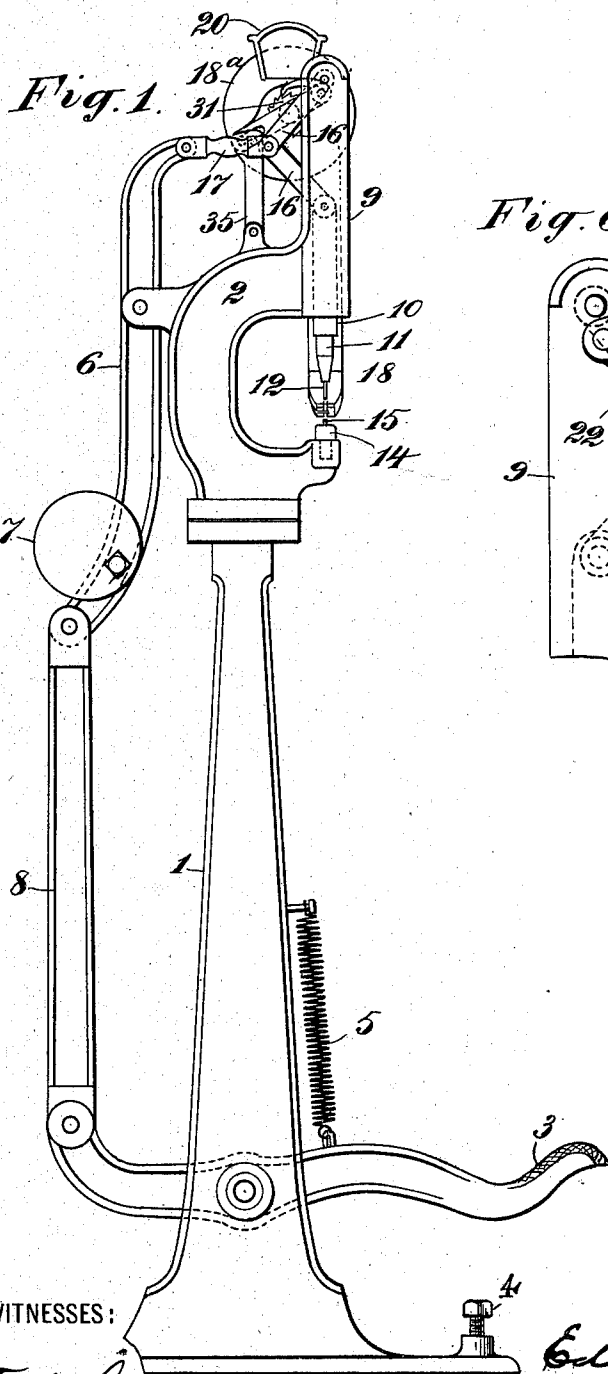
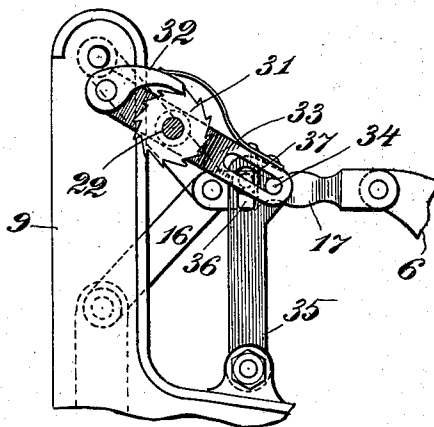


Fig. 6.



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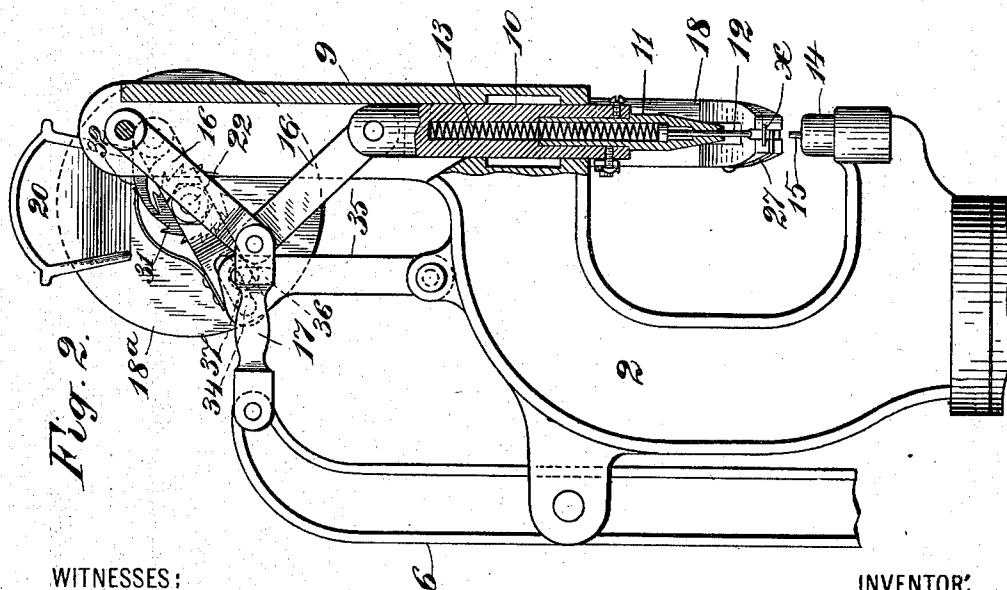
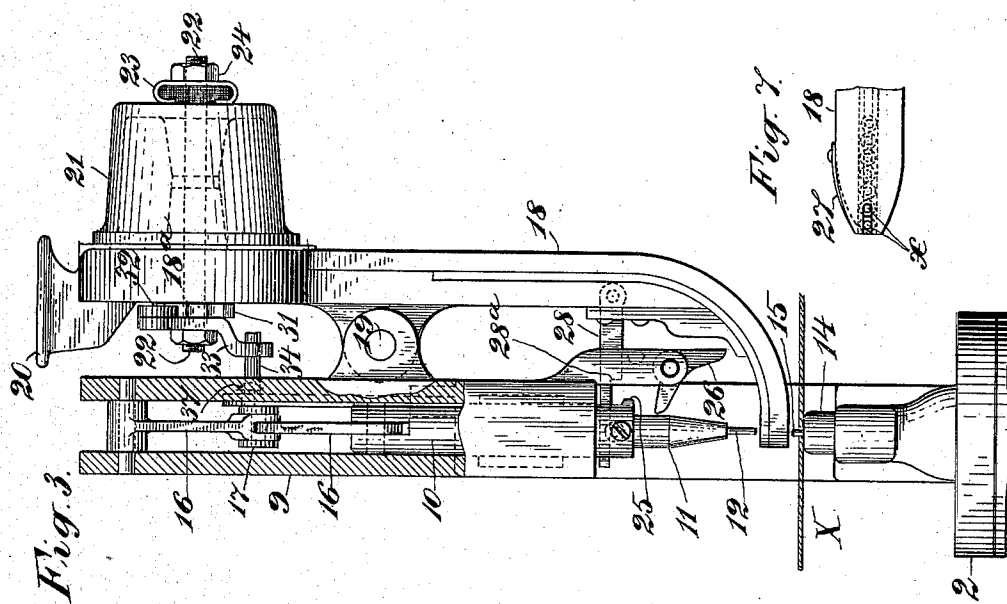
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

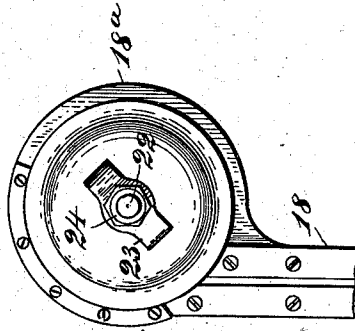
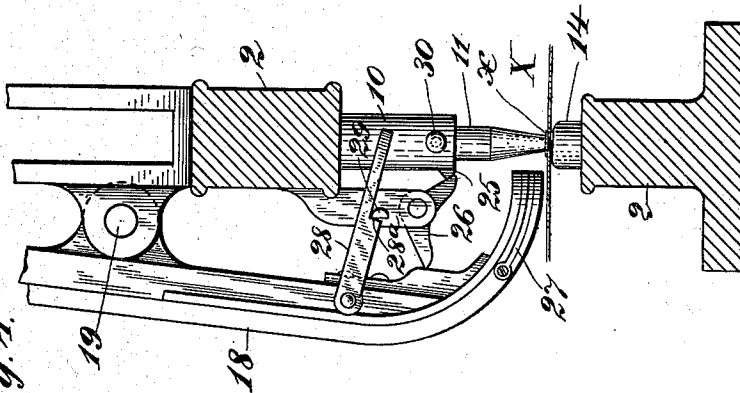


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWIN BALL STIMPSON, OF NEW YORK, N. Y.

EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 736,163, dated August 11, 1903.

Application filed February 25, 1902. Serial No. 95,620. (No model)

To all whom it may concern:

Be it known that I, EDWIN BALL STIMPSON, a citizen of the United States, residing in the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain Improvements in Eyeletting-Machines, of which the following is a specification.

This invention relates to the general class of machines for setting eyelets, gromets, and hollow rivets of all kinds; and the object is to improve the devices or means for supplying the eyelets to the plunger at the setting-point.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a side elevation of the machine on a relatively small scale. Fig. 2 is a sectional side elevation of the upper part of the machine on a larger scale than Fig. 1. Fig. 3 is a sectional front elevation of the upper part of the machine on the same scale as Fig. 2. These three views show the operative parts in their normal positions. Fig. 4 is a rear view of the mechanism seen in Fig. 3, showing the operative parts as they appear when the plunger is depressed. Fig. 5 is a face view of the eyelet box or magazine. Fig. 6 is a view of the ratchet mechanism for rotating the eyelet-box, showing the side opposite to that seen in Fig. 2. Fig. 7 is a plan view of the delivery end of the eyelet-track.

1 designates the pedestal of the machine; 2, the frame of the machine-head; 3, the lever-treadle; 4, the adjustable limiting-stop thereof; 5, a spring to assist in counterbalancing the parts; 6, the main operating-lever, which may have a removable counterweight 7, and 8 a connecting-rod between the rear arm of the lever-treadle and the lower arm of the operating-lever.

In a guide 9 on the head of the machine plays a slide 10, carrying at its end a setting-plunger 11, in which is yieldingly mounted an eyelet-pin 12, Fig. 2, backed by a spring 13, situated in a bore or hollow in the slide 10 and plunger 11. Directly alined with the plunger is a clenching-anvil 14, provided with a stud 15. The means for operating the slide and plunger comprises toggle-links 16 16, one coupled above to a fixed part and the other below to the slide. At the knuckle of the

toggle these links are coupled by a link 17 to the upper arm of the operating-lever 6.

18 is the eyelet-track, hinged or fulcrumed at 19, Fig. 3, on the side of the guide 9, so that its lower or delivery end, which is curved, as seen in Fig. 3, may swing toward and from the axis of the plunger laterally. At its upper end this track has a circular or enlarged hollow head 18^a, provided with a hopper 20 to receive the eyelets.

21 is the eyelet-box, which is rotatively mounted on a rotative shaft or arbor 22, which has bearings in both the head 18^a and the box 21. The latter is frictionally bound to the arbor 22 by a spring-brake 23, secured to the outer end of the arbor by a nut 24, and this brake while sufficient to cause the box to rotate with the arbor under ordinary conditions will permit the arbor to rotate without injury to the parts if the box should become jammed by an eyelet so that it cannot turn.

The material X in which the eyelet *x* is to be set is placed between the anvil 14 and the track 18, with the stud 15 engaging the hole in the material, if there is one. By means of the treadle 3 the plunger is driven down, the pin 12 passing through the terminal eyelet *x*, Fig. 7, in the track. As soon as the pin passes down through the eyelet a suitable projection or shoulder 25 on the slide or the plunger engages one arm of a rocker 26, pivoted on a fixed part, causing the other arm of said rocker to impinge upon and press back or outward the track 18, as seen in Fig. 4, so as to remove it from the path of the plunger. This motion of the track disengages the eyelet held by the eyelet-pin, the spring-detainer 27 on the track 18 yielding to allow the eyelet to pass and then springing back to keep the remaining eyelets in place. The pin 12 yields when it impinges on the stud 15 and, the plunger 11 drives the eyelet through the material over the stud 15 and clenches it on the anvil 14. As the plunger and the slide ascend or recede the track 18 is held back or withdrawn by means of a lock or latch 28. (Seen best in Fig. 4.) This latch is loosely pivoted to the track 18 at one end and has a shoulder at 28^a, which engages by gravity a stud 29 on a fixed part when the track is moved outward. The latch remains engaged, as shown in Fig. 4, until

the plunger shall have risen high enough for a stud 30 thereon to take under the free end of the latch and lift the latter out of engagement with the retaining-stud 29, when the track will again by gravity assume the position seen in Fig. 3. The movements of the parts in operating the machine rotate the arbor 22, and through it the eyelet-box 21. The mechanism to effect this comprises a ratchet-wheel 31, fixed on the arbor 22, with the teeth of which engages a spring-pawl 32, carried by a pawl arm or lever 33, which is fulcrumed on the arbor 22 and has in it a slot engaged by a relatively long stud 34 in an upright rocker-arm 35, mounted on the head of the machine. This rocker-arm has in it a slot 36, engaged by a stud or pin 37 in the link 17. As the link 17 moves to and fro the stud 37 rocks the arm 35, and the engagement of the stud 34 thereon with the slot in the pawl-lever 33 serves to rock said lever and cause the pawl to impart intermittent rotative impulses to the ratchet-wheel and its arbor. The long pin or stud 34 remains in engagement with the slot in the pawl-lever at all times notwithstanding the lateral movements of the eyelet-track.

The present invention is not, of course, limited to the specific details of construction herein shown, as these may be varied without departing from the invention to any extent. For example, the slide 10 and plunger 11 need not be put together, as herein shown. Indeed they are only constructed separately for convenience in assembling the parts. They may be considered, taken together, as the plunger. The shoulder 25 may be any form of projecting part on either the slide 10 or plunger 11.

My machine having my improvements may be employed with slight change in the parts at the setting-point and the track for setting buttons and the like, and I do not limit myself to any special use to which it may be put.

Having thus described my invention, I claim—

1. A machine for setting eyelets and the like, having a reservoir or box for the eyelets mounted rotatably on the upper end of a track, the said track pivotally hinged to the side of the frame below said box and provided with a curved lower end at the delivery-point, the axis about which said box turns being substantially at right angles to the pivotal axis about which said track rocks, the vibrating link, mechanism between said link and box whereby the said link rotates said box irrespective of the position of the track, the plunger, and means, actuated by the latter in its downward movement for displacing said track laterally.

2. A machine for setting eyelets and the like, having a reciprocating plunger, a rotating reservoir or box for the eyelets mounted on the upper end of and carried wholly by an eyelet-track, the said track, hinged to the

side of the machine-frame below said box and provided with means operated by the plunger in its movements for displacing the track laterally, means operating independently of the plunger for locking the track in position when displaced, and means operated by the plunger for unlocking said track.

3. A machine for setting eyelets and the like, having a reciprocating plunger, an eyelet-track, a rotating reservoir or box for the eyelets mounted on and carried by the said track, the latter being hinged to the side of the machine-frame, means, actuated by the plunger in its movements, for displacing said track, and means mounted on the track for locking said track in its displaced position, said means being actuated by the plunger for unlocking.

4. In a machine for the purpose specified, the combination with the reciprocating plunger, of a track 18, pivoted or hinged at 19 on the side of the machine, and a box 21 for the eyelets mounted on the upper end of said track, of the rocker 26, mounted on the frame and adapted to be actuated for displacing said track, by a shoulder on the plunger, the locking-latch 28 pivoted to the track, the locking-stud 29, and the stud 30 on the plunger for unlocking said latch, substantially as set forth.

5. In a machine for the purpose specified, the combination with the track, the eyelet-box on the said track, and the arbor which rotates said box, of the ratchet-wheel on said arbor, the slotted pawl-lever fulcrumed on said arbor, the pawl on said lever engaging the teeth of said ratchet-wheel, the rocking arm 35 having a pin engaging the slot in said lever, and the vibrating link 17, having a stud 37 engaging a slot in said rocking arm.

6. A machine for setting eyelets and the like, having an eyelet-track hinged to the side of the frame, said track having an incurved delivery end and being so balanced that the delivery end tends by gravity to move inward under the plunger, the said plunger, means for operating the same, and means, actuated by the plunger in its downward movement for displacing said track laterally.

7. A machine for the purpose specified, having a reciprocating plunger, a laterally-displaceable eyelet-track, means whereby the plunger in its downward movement displaces the delivery end of the track laterally, a locking-latch and stud which lock the track in its displaced position, and means, carried by the plunger which operates the latch to set free the track when the plunger shall have risen to a predetermined elevation.

In witness whereof I have hereunto signed my name, this 21st day of February, 1902, in the presence of two subscribing witnesses.

EDWIN BALL STIMPSON.

Witnesses:

HENRY CONNETT,
PETER A. ROSS.