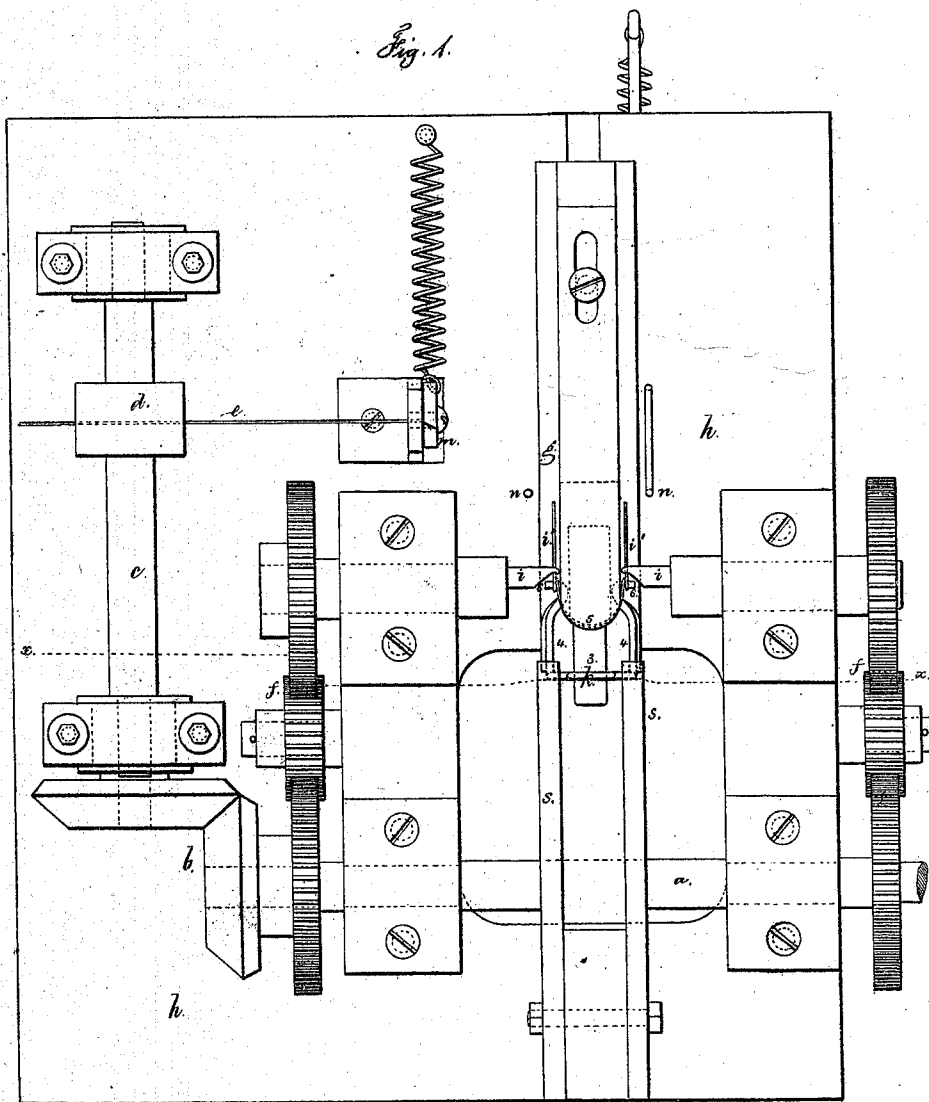


HENRY M. PUTNAM.

Improvement in Machines for Forming Wire Bottle Stopper Fastenings.

No. 115,354.

Patented May 30, 1871.



Witnesses

Chas. H. Smith
Geo. D. Walker

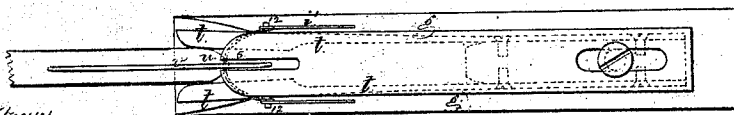
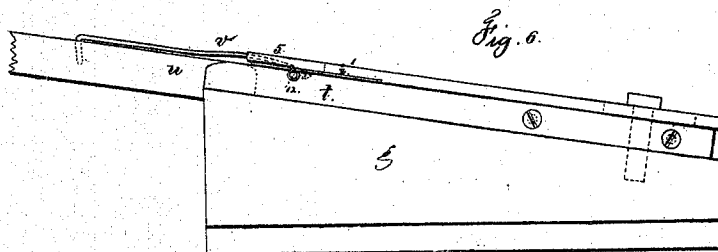
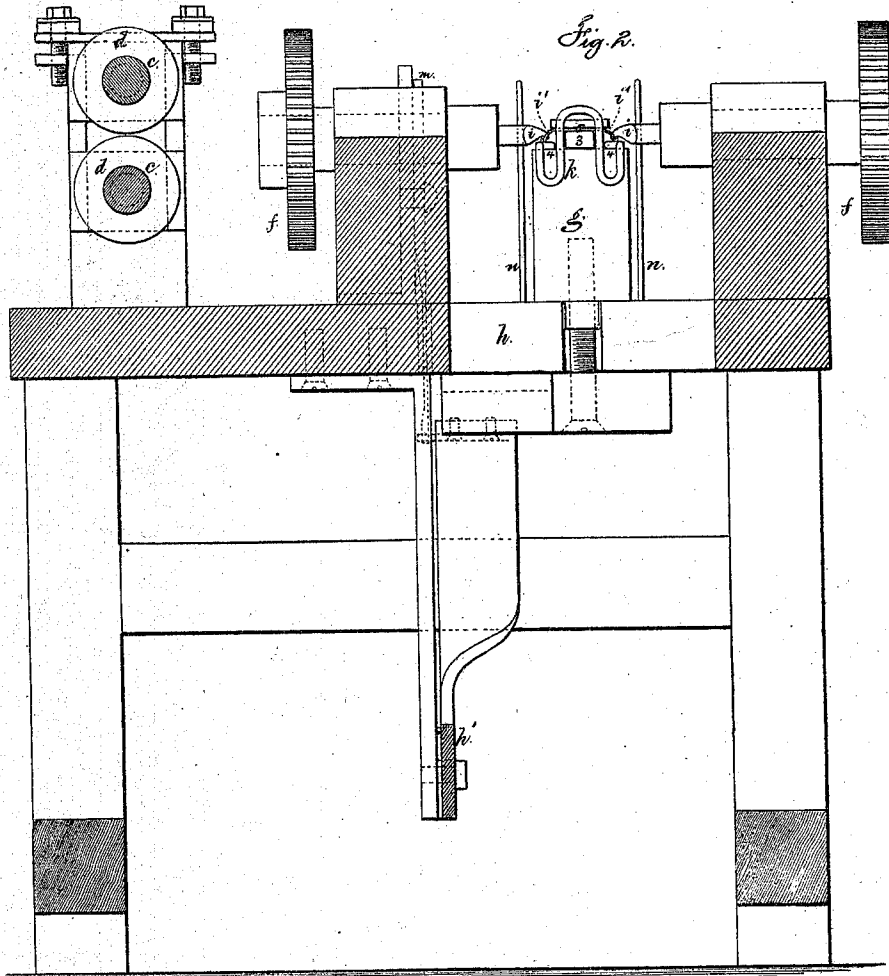
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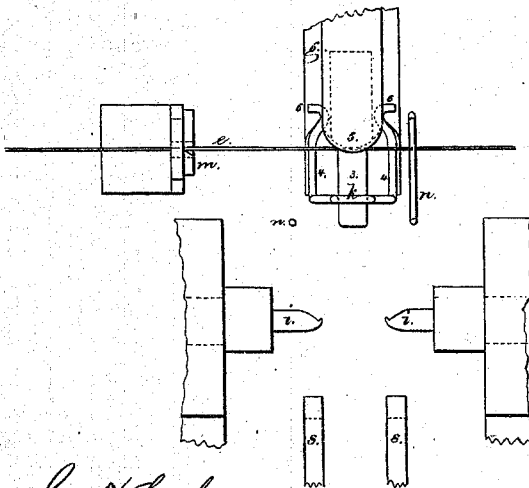
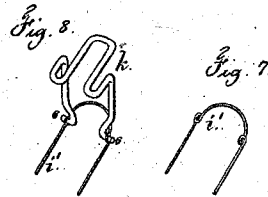
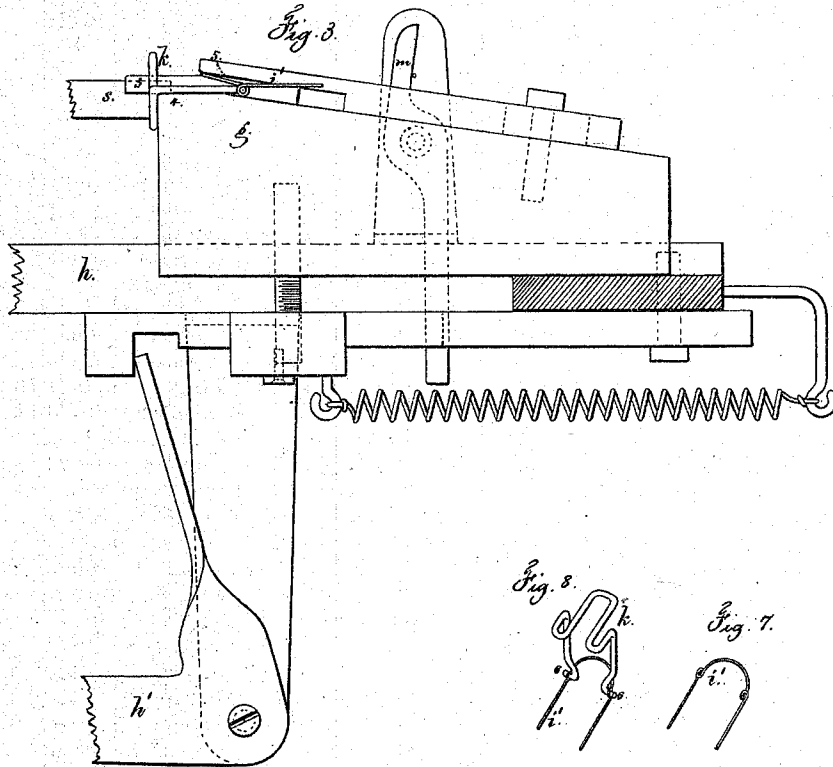
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Lemuel W. Lovell atty

UNITED STATES PATENT OFFICE

HENRY W. PUTNAM, OF BENNINGTON, VERMONT.

IMPROVEMENT IN MACHINES FOR FORMING WIRE BOTTLE-STOPPER FASTENINGS.

Specification forming part of Letters Patent No. 115,354, dated May 30, 1871.

To all whom it may concern:

Be it known that I, HENRY W. PUTNAM, of Bennington, in the county of Bennington and State of Vermont, have invented and made an Improvement in Machines for Bending Wire Loops for Bottle-Stopper Fastenings; and the following is declared to be a correct description thereof.

This invention is for bending up the wire loops that form the neck-bands for securing the stopper-fastenings to bottles, such as shown in Letters Patent granted to me March 15, 1859. The wire is fed into the machine, bent up into a half-circle, and then twisted to form two eyes for the hinge-pins or projections of the fastening; and such eyes are bent around the fastenings themselves, or around movable pins, so that the loop is in a condition to be applied to the fastening and subsequently to the bottle; thereby the loops can be made upon the fastening, or separately for application in place of neck-bands that may be injured or broken in use, the fastening still remaining in a condition for use with a new neck-band; for these fastenings that go over the bottle-corks are of much heavier and stronger wire than the neck-bands, to the bending of which neck-bands this present improvement relates.

In the drawing, Figure 1 is a plan of the machine. Fig. 2 is a vertical section at the line *x x*. Fig. 3 is a side view of the loop and holding mechanism. Fig. 4 is a plan of the parts in the position which they occupy as the wire to be bent is introduced. Fig. 5 is a plan, and Fig. 6 a side view of the means for bending the loops separately from the fastenings. Fig. 7 is a perspective view of the loop separately, and Fig. 8 is a perspective view of the bottle-fastenings and neck-band or loop complete.

The driving-shaft *a* is actuated periodically by hand or otherwise, and acts, through the gearing *b*, shafts *c*, and rollers *d*, to feed in the proper amount of wire *e*, and also, through the gearing *f*, to revolve the twisting-fingers *i i*. The carrier *g* is made to slide in the bed *h* by the action of the treadle *h'*, or lever; and at the end of said carrier *g* is a projection, 3, over

which the fastening *k* is placed and rests upon the side supports 4 4. The wire *e*, as it is fed in, passes above the fastening *k* and across the semicircular form 5, beneath an overhanging flange. The shear *m* is operated by the movement of the carrier *g* and cuts off the wire, and the stationary guide-rods *n n* bend the wire back to form a loop around the form 5 and above the projecting hinge ends 6 of the fastener *k*. This form 5 is made movable, so as to vary the length of the neck-band wire in the semicircular loop between the hinge ends 6. The slide *g* is constructed and moved in such a manner that when the parts are in the position shown in Fig. 1, the hinge ends 6 are on line, or nearly so, with the axis of the fingers *m*; and hence when the said fingers *i* are rotated, the ends of the wire loop *i'* are swept around the said hinge ends 6 to form eyes, as seen in said Figs. 1 and 8. The slide *g*, as it is brought into the position shown in Fig. 1, confines the fastening *k* between itself and the stationary gage *s*, and on the return movement of the slide *g* the fastening is drawn off and drops through a hole in the bed *h*.

The devices shown in Figs. 5 and 6 are for making the same neck-band loops separately from the fastening. In this case the pins 12, that project from the sides of the spring-jaws *t*, serve as punches, around which the eyes are bent in the wire loop *i'*. The stationary cam *u* causes these spring-jaws *t* to spread apart as the slide *g* is moved to the position of Figs. 1 and 4, and in this position the wire is bent by the revolution of the fingers *i*; and as the slide *g* is drawn back the jaws *t* close, drawing the pins 12 out of the eyes, and allowing the hook *v* to draw the neck-band off the former 5, so that it may drop.

It is to be understood that when the parts are employed for making the separate loops *i'*, Fig. 7, the machine is automatic, and may be driven by power; but when the loops are bent around the hinges of the fastenings, said fastenings have to be properly inserted in the machine, which may be done by hand or otherwise, and the machine driven by hand or power.

I claim as my invention—

1. The fingers *i*, revolved around the pins or

hinges 6 or 12, in combination with the form 5 and the apparatus for supplying the wire to be bent, substantially as set forth.

2. The spring-jaws *t* and cam *u*, in combination with the fingers *i* and form 5, as and for the purposes set forth.

3. The fingers *i i*, applied substantially as shown, for bending the two eyes of the neck-band of a bottle-fastening simultaneously, as set forth.

4. The form 5, made adjustable to vary the length of the neck-band between the eyes 6, as and for the purposes set forth.

Signed by me this 30th day of March, A. D. 1871.

HENRY W. PUTNAM.

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.