

# J. F. Sargent. Eyeletting Machine.

N<sup>o</sup> 41125

Patented Jan. 5, 1864.

Fig. 6.

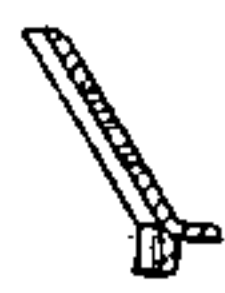


Fig. 5.



Fig. 4.



Fig. 3.

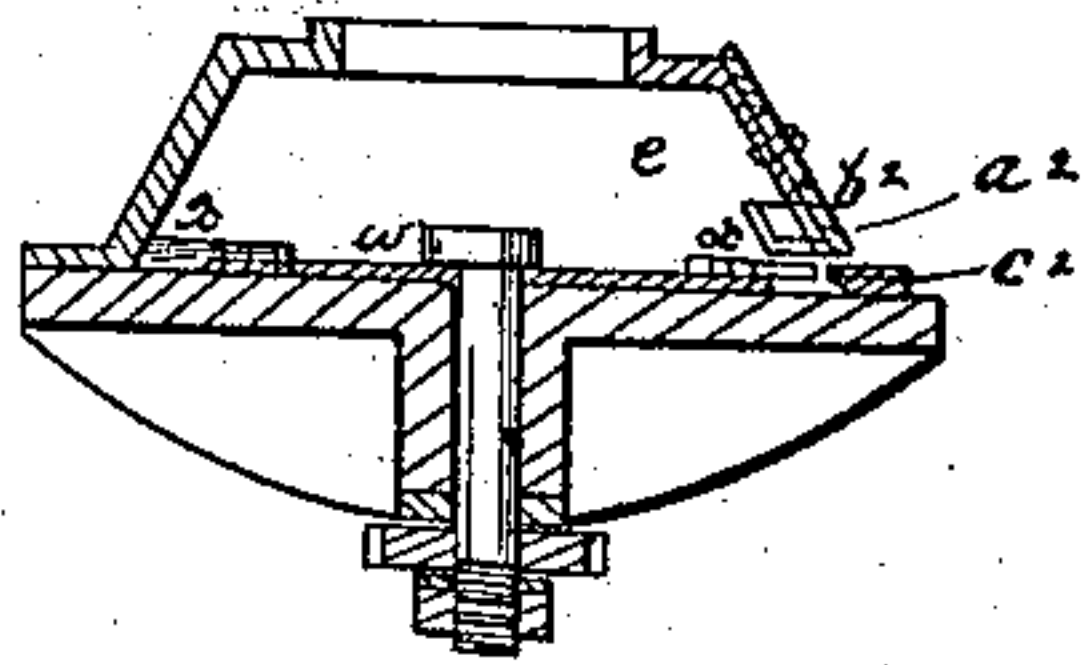


Fig. 8.

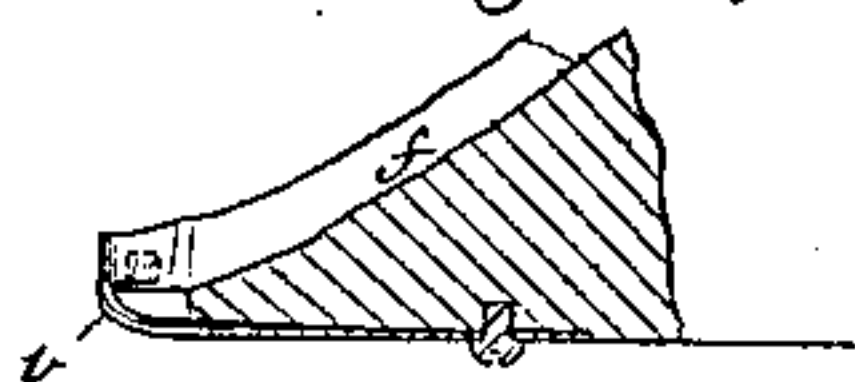


Fig. 7.

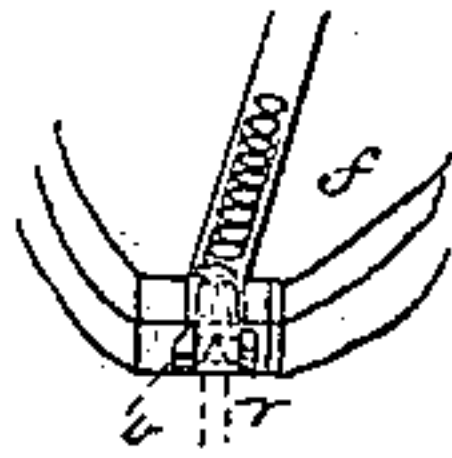


Fig. 1.

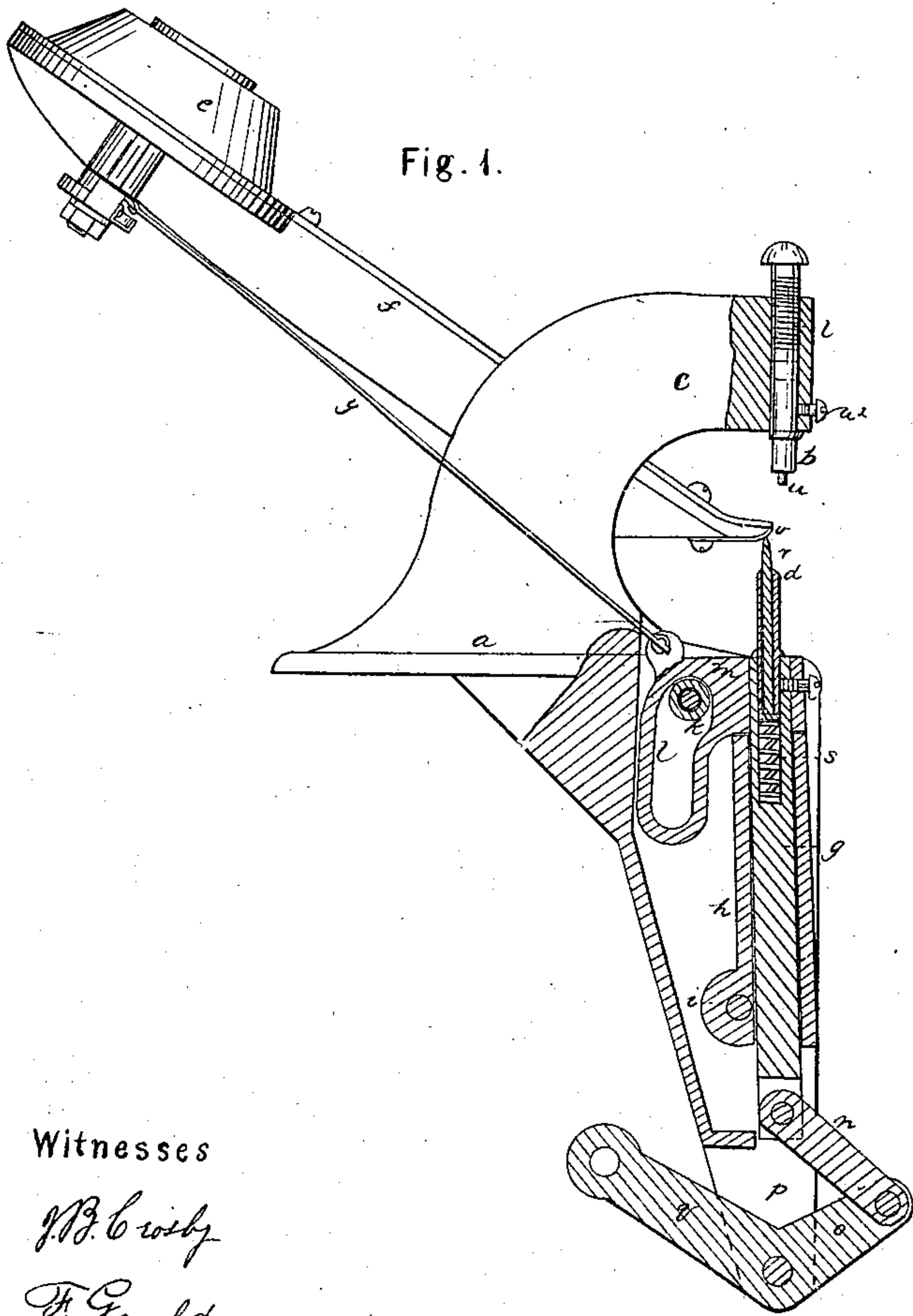
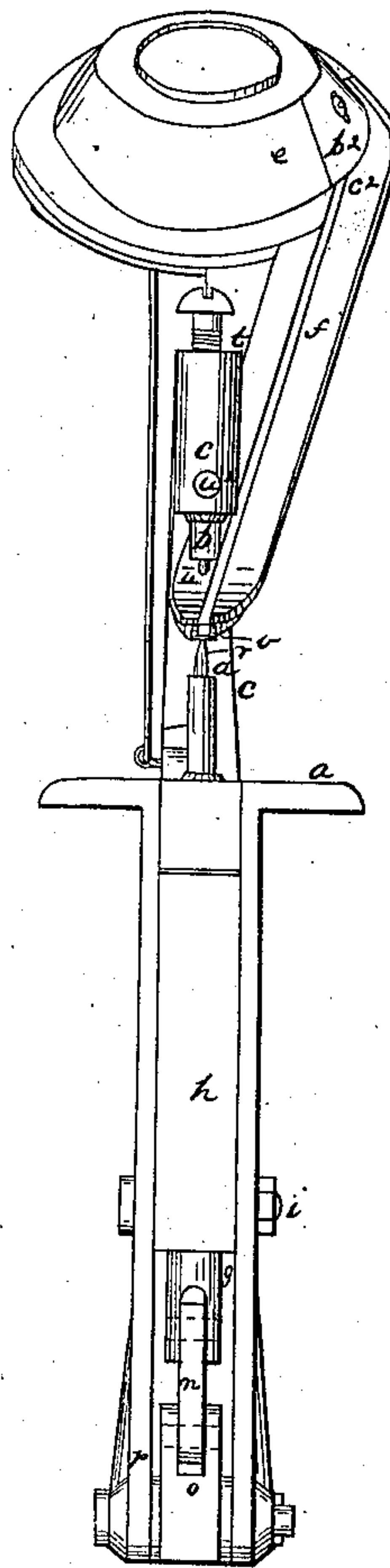


Fig. 2.



Witnesses

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## IMPROVEMENT IN EYELETING-MACHINES.

Specification forming part of Letters Patent No. 41,125, dated January 5, 1864.

*To all whom it may concern:*

Be it known that I, JOSEPH F. SARGENT, of Suffolk county, and State of Massachusetts, have invented certain Improvements in Eyeletting-Machines; 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.

This invention relates to certain improvements in the eyeletting-machines patented by me January 6 and August 25, 1863, numbered, respectively, 37,306 and 39,705, said improvements being also applicable to other eyeletting-machines.

The improvements consist in a new manner of feeding the eyelet to the operation of the clinching or setting tools, and in the mechanism of operating the lower set; also, in a new construction or operation of the "hopper;" also, in a method of adjusting the upper set, so as to adapt the setting devices to the use of varying stock and eyelets.

The accompanying drawings show a machine embodying my improvements.

Figure 1 represents the machine partly in section and partly in side elevation. Fig. 2 is a front elevation of it; Fig. 3, a central cross-section of the hopper; Fig. 4, a view of the "gate" to the hopper. Figs. 5 and 6 respectively show an elevation and section of a modification of said gate. Figs. 7 and 8 represent, on an enlarged scale, front and sectional views of the bottom of the eyelet-chute.

In the drawings, *a* denotes the base-plate of the machine; *b*, the upper or stationary set, fixed in the front end of an arm, *c*, rising from the plate *a*; *d*, the lower or movable set; *e*, the eyelet-hopper, and *f* the inclined chute leading therefrom to the lower set, *d*. The lower set is fixed in the top of a piston or rod, *g*, which slides vertically in a rocking arm or cylinder, *h*, hung upon a pivot, *i*, as seen in Fig. 1. In an extension, *m*, from the top of the rod *g*, a cam, *l*, is formed, said cam working on a pin or friction-roller, *k*, and guiding the movements of said rod *g*. To the lower end of the rod *g* the upper end of one arm, *n*, of a toggle-joint is applied, the lower end of said arm being jointed to the upper end of the other arm, *o*, of said toggle, whose lower end

is jointed to a stationary projection or extension, *p*, from the base plate *a*. A continuation, *q*, of the arm *o*, upon the opposite side of its pivot or fulcrum, serves, through a connecting-rod from a treadle or otherwise, to operate the toggle and raise or depress the rod *g*, as will be readily understood. When the rod *g* is in its lowest position, the tip or point *r* of the lower set is just under the advanced or outer eyelet in the chute, as seen in Fig. 7. As the toggle-levers raise the rod and set *d*, the cam *l* allows the said tip to rise vertically until its point has entered the eyelet, after which the cam forces the top of rod *g* outward, drawing the eyelet over or through the prongs of the stop-spring *v*, (the eyelet slipping down upon the clinching-surface of the set, until the set *d* and its eyelet comes immediately under the set *b*,) when the rod and lower set, continuing their upward movement, force the lower set, with its impaled eyelet, against the upper set in such manner as to clinch the eyelet between the two sets and in the work or stock. The lower set is made tubular, and the point or tip *r* forms the top of a pin, sliding in such tube, and kept in position by a spring, *s*, as seen in Fig. 1. When the tip *r* in its ascent strikes the point *u* or the bottom of the set *b*, it is held stationary thereby, while the set *d* continues to rise and clinches the eyelet against the set *b*, the spring *s* forcing the pin back into position as soon as the set *d* descends. When the rod *g* is depressed, the cam returns the point of the lower set to its position under the front end of the chute, into which the next eyelet has slid so as to come directly over the point *r*. Thus the lower set or the point thereof is made both the feeding device and, in connection with the other set, the clinching device of the machine.

As the extent of the vertical movement of the lower set, by the action of the rod *g* and toggle-levers *n o*, is invariable, in order to accommodate the action of the machine to different thicknesses of stock, I make the set *b* capable of being moved toward the set *d* by a screw, *t*, a set-screw, *u*<sup>2</sup>, serving to confine it in position as such distance from the lower set as is necessary.

The general construction of the chute *f* is the same as in my Patent No. 39,705. Its



mouth or lower end, however, is provided with a forked spring, *v*, fastened under the chute, and having its outer points or prongs turned up, as seen in Figs. 7 and 8. The lower eyelet at the front of its flange rests against the rear side of the prongs, as seen in Fig. 8, and as the point *r* carries the eyelet forward its flange is carried over the tops of the prongs, and between them and the lower corners of the chute, the impingement of the springs being upon the flange of the eyelet, and not upon its sides, the purpose being to prevent bending or indentation of the sides of the eyelet, and the application of the spring as described secures it from contact with the goods being eyeleted.

The hopper *e* is made stationary, and is provided with a revolving bottom plate, *w*, upon which the eyelets rest, said plate being fixed upon a rotating spindle, to which movement is imparted by a ratchet and pawl on its lower end, actuated by a connecting-rod, *y*, extending from the cam-plate *m*, or by any other suitable means. The inclination of the hopper keeping the body of the eyelets at the lower part thereof, the rotation of the plate *w* and brushes *x*, fixed thereto, carries the eyelets against a lip, *a*<sup>2</sup>, of a gate, *b*<sup>2</sup>, until by coming into upright position against said gate they slip through into and slide down the chute.

The lip *a*<sup>2</sup> on the gate serves to keep back any eyelets which may come against it lying on their sides, the diameter of the eyelet flange exceeding the height thereof, while if they pass under said lip, lying on their top sides, the flange strikes against the top *c*<sup>2</sup> of the side of the chute, and are swept back by the brushes, until, coming right side up, they slide under the lip, and the flanges pass under the inclined edge *c*<sup>2</sup> of the chute, and thence slide down the chute, the flat, under

surface of the lip keeping the eyelet from turning until it has reached the point where it is guided by both sides of the inclined chute.

The gate *b*<sup>2</sup> is applied to the side of the chute by a set-screw, so as to be capable of being raised or lowered and fastened in position for different sizes of eyelets.

Instead of the gate *b*<sup>2</sup>, a modification thereof (seen in Figs. 5 and 6) may be used. In this modification gaged openings are employed for different sizes of eyelets, a lip on the outer surface thereof preventing the eyelets from turning, as described.

I claim—

1. The combination, in one instrument, of the set and feeding device, made to operate on the eyelet, substantially as above set forth.
2. Imparting the vertical movements to the movable set by means of the rod *g* and levers *n o*, arranged and operating together substantially as specified.
3. The manner of adjusting the upper set, *d*, with relation to the lower set and the stock to be eyeleted, as above set forth.
4. The manner of applying the stop-spring so that the flange of the eyelet is drawn against and over the same, for the purpose specified.
5. The combination of a stationary hopper with a rotating disk or plate and a chute, as above set forth.
6. Combining with the stationary hopper an adjustable or gaged gate, substantially in the manner as above specified.
7. In combination with the vibrating set *d*, the use of the spring-pin or sliding pin *r* to feed the eyelet from the stationary chute, substantially as described.

JOS. F. SARGENT.

Witnesses:

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