O. G. Critchett.

Eyeleting Machine.

No. 36191 Patented Aug. 12, 1862.

Fig. 6.

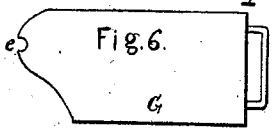


Fig. 1.

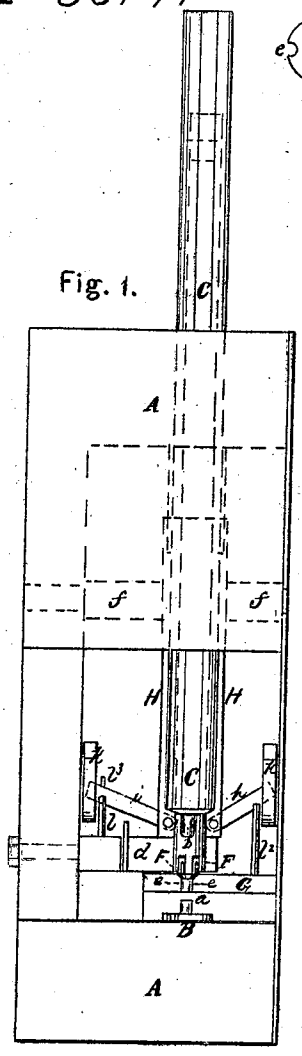


Fig. 2.

Fig. 4.



Fig. 3.

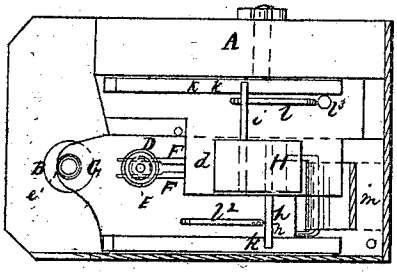


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

OLIVER G. CRITCHETT, OF STONEHAM, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND CHARLES C. DIKE, OF SAME PLACE.

IMPROVEMENT IN EYELET-MACHINES.

Specification forming part of Letters Patent No. **36,191**, dated August 12, 1862.

To all whom it may concern:

Be it known that I, OLIVER G. CRITCHETT, a citizen of the United States of America, and a resident of Stoneham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machines for Eyeleting Shoes or other Articles; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and Fig. 2 a longitudinal section, of my invention. Fig. 3 is a transverse and horizontal section of it.

The object of my invention is to save labor in the introduction of eyelets into a shoe or article preparatory to their being fixed therein by a punch; and the nature of such invention consists, first, of a combination consisting not only of mechanism for holding eyelets and feeding them successively forward upon its anvil or its equivalent, but of mechanism for retaining each eyelet on the anvil and subsequently punching, setting, or compressing the eyelet, so as to fix it in an article when placed on the anvil; also, of a combination of an eyelet magazine or holder, a separator, and a carrier arranged and made to operate together and with an eyelet fixing or punching mechanism, substantially as hereinafter described; also, of a combination and arrangement of an eyelet and work receiver or pin with an anvil and an eyelet feeding and setting mechanism; also, of a combination and arrangement of a guide-rod with the tube or magazine for holding the eyelets.

In the drawings, A denotes the frame of the machine, which is provided with a small anvil, B, from the upper surface of which there extends a stud or pin, *a*, which I term the eyelet and work receiver, because it is around this pin that the work is placed, and on such pin each eyelet is deposited by the feeding mechanism preparatory to each depression of a punch, C, arranged directly over the anvil, as shown in the drawings. The punch should be applied to the frame so as to be capable of being moved vertically therein. The lower part of the punch contains a slider or pin, *b*, which rests against a spring, *c*, which enables the slider to be forced upward into the punch during the depression of the latter upon an eyelet, in order to compress it on the anvil and into a shoe or article having an eyelet-hole placed on the receiver *a*.

In rear of the punch and parallel to it there is a tube or eyelet magazine, D, front and rear views of the lower end of such magazine being exhibited in Figs. 4 and 5. While the machine is in operation the eyelets are arranged in such magazine, as shown in red lines in Fig. 2—that is, one over the other and each with its flange uppermost. A rod, E, extends down through the eyelets and is supported on the top of the magazine by a slider or button, *x*. This rod serves to maintain the axis of each eyelet in conjunction or parallelism with that of the magazine—a matter of much importance to the proper descent of the collection of eyelets, as circumstances may require. In connection with such machine I employ an eyelet-separator, F, and an eyelet-carrier, G, they being arranged with respect to it as shown in the drawings. The said separator is a curved bifurcation or fork projecting from a slider, *d*, and into the lower part of the magazine, and so as to span on its opposite sides the lowermost eyelet but one of the series of eyelets and raise and hold up the whole series, while the lowermost eyelet, resting on the carrier G or a notch, *e*, thereof, (see Fig. 6, which is a top view of the carrier,) is in the act of being moved away from the series and deposited on the anvil. During each depression of the punch the said carrier G should be moved forward toward and over the anvil, the pin *b* in the mean time going down into the eyelet and holding it on the work-receiver *a*, in order that during the retreat of the carrier the eyelet may be separated from such carrier.

A lever, H, is placed over the slider *d*, turns on a fulcrum, *f*, and is connected with the punch by a connecting-rod, *g*, which is jointed both to the lever and the punch. The lower end of the lever (see Fig. 7, which is a rear view of it and the parts immediately about it) has two arms, *h i*, hinged to it and projecting from its opposite sides. Each of these arms not only rests on one of two stationary inclined planes or cams, *k k*, but bears against one of two standards, *l l'*, one of which extends upward from the carrier G, while the other projects from the slide of the separator F. There

is also a third standard, l^3, directly in rear of the standard l. Furthermore, a spring, m, is applied to the rear of the carrier G and to the frame of the machine, the purpose of the said spring being to effect the retraction of the carrier at the proper time.

In the operation of the above-described machine the punch is to be driven downward. While passing down it will set the lever H in motion on its fulcrum and cause the arm i to press against the standard l and force the separator F forward into the magazine, and until the arm is lifted above the standard by the action of the inclined plane in which the arm may rest and move. This forward motion of the separator will elevate from the lowermost eyelet all those above it and support them while the said lowermost eyelet may be moved forward to the anvil by the carrier G, which will next be forced forward by the action of the arm h against the standard l^2. The arm h will continue its action on the standard l^2 until it may be elevated above the same by the inclined plane on which such arm may rest, which having taken place, the spring m will be free to retract the carrier. While the eyelet is passing toward and over the anvil the pin b will enter such eyelet and retain it in place over the anvil or on its stud or eyelet-receiver a until the punch may compress the eyelet or set it into the material which may be on the anvil. During the upward movement of the punch the arm i will be forced against the standard l^3, and will produce such a retraction of the separator F from the magazine as will cause the mass or pile of eyelets to drop downward far enough to cause the lowest eyelet to rest on the notch of the carrier.

I claim as my invention—

1. A combination consisting of the mechanism for holding eyelets and feeding them successively forward upon an anvil or its equivalent, and the mechanism for retaining each eyelet on the anvil and separating it from its feeding mechanism and subsequently compressing it and setting it into an article when placed on such anvil, the whole being substantially as hereinbefore described.

2. The combination of the eyelet-magazine D, a separator, F, and a carrier, G, arranged and made to operate together substantially in manner and under circumstances as described.

3. The combination of the eyelet and work receiver or pin a with the anvil B and the eyelet feeding and setting machinery.

4. The combination and arrangement of the eyelet guide-rod E with the eyelet-magazine.

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Witnesses:
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GILMAN A. BEANE.