

J. COOMBE.
Eyeletting-Machine,

No. 159,904.

Patented Feb. 16, 1875.

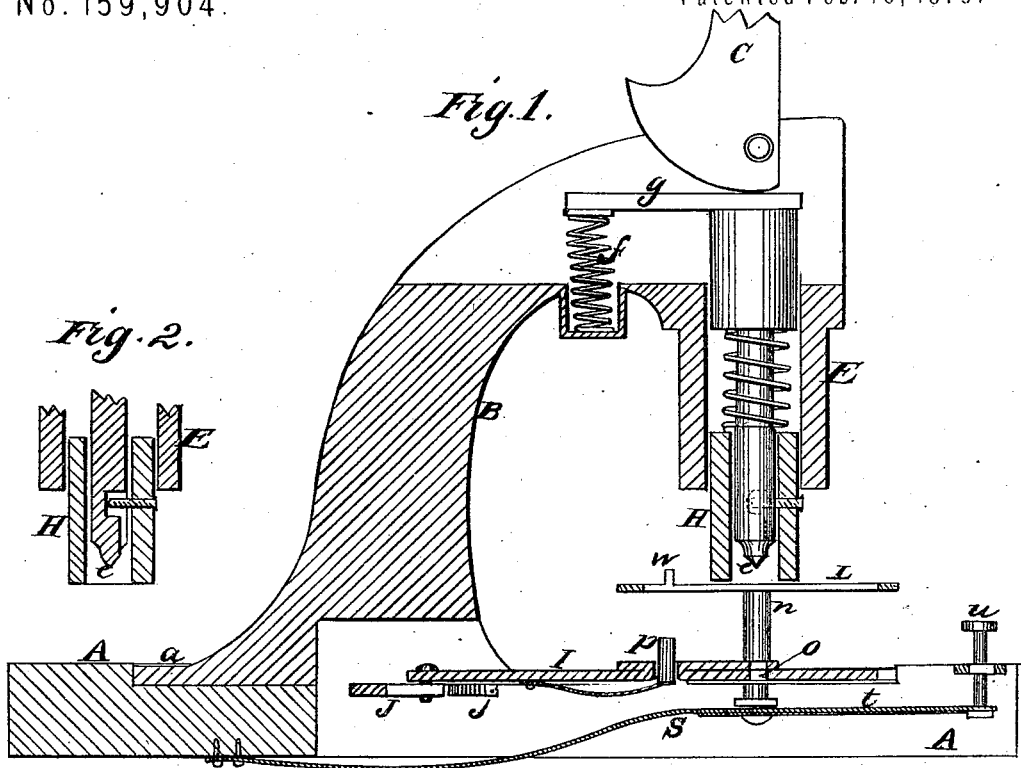


Fig. 2.

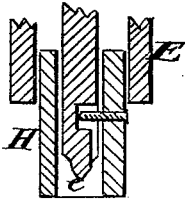


Fig. 3.

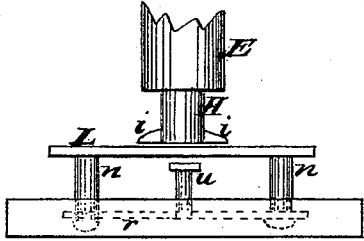


Fig. 4.

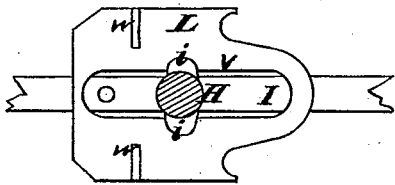
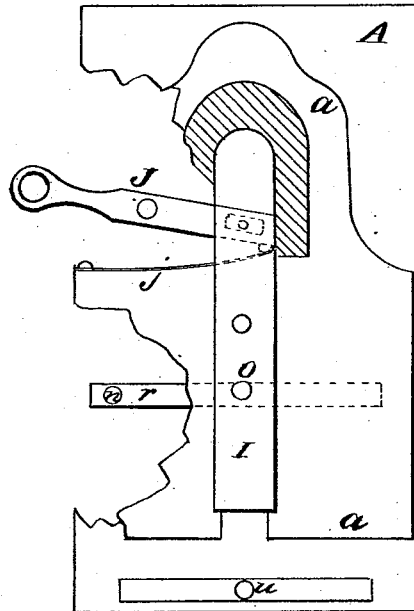


Fig. 5.



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JOHN COOMBE, OF SAN JOSÉ, CALIFORNIA.

IMPROVEMENT IN EYELETING-MACHINES.

Specification forming part of Letters Patent No. 159,904, dated February 16, 1875; application filed September 16, 1874.

To all whom it may concern:

Be it known that I, JOHN COOMBE, of San José, Santa Clara county, State of California, have invented an Improved Eyeletting-Machine; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

The object of my invention is to provide an eyeletting-machine which will punch the hole for the eyelet, and also fasten the eyelet in the hole after it is punched, by means of a single plunger, and without shifting the article in which the eyelet is to be fastened after it is once fixed for punching. To do this properly, I provide the machine with a clamp or holder, in which the article to be eyeleted is held while the eyelet-hole is being punched, and while the eyelet itself is being inserted and fastened. A sliding die, which is operated by a lever, has a hole for the punch to pass through in making the eyelet-hole, and also a short standard upon which the eyelet is set previous to punching the hole.

The arrangement of the hole and eyelet standard is such that, by operating the slide, either can be brought under the plunger, as required.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a side sectional elevation of my machine. Fig. 2 is a detached view of the punch. Fig. 3 is a front view of the holding device and table. Fig. 4 is a top view of the plate with section of the holder. Fig. 5 is a plan view of the base with a part of the plate removed.

A is the base of the machine, and B is the curved standard, in the upper end of which the lever C, with its operating cam, is secured in the ordinary manner of constructing this class of machines.

The standard B may be cast upon the base A, or it may have a base, *a*, of its own, as represented in the present instance. In the latter case, the upper face of the base A will

be recessed, so as to allow the base *a* to be fitted and secured in it.

Depending from the curved upper end of the standard B, and directly below the cam on the lever C, is a short barrel, E, which extends downward, so that its lower end will be about half-way between the end of the standard and upper face of the base *a*. The punch *e* has a rectangular-shaped casting or head, *g*, at its upper end. The punch is inserted into the barrel E through the upper slotted side of the standard, while its head remains in the slot above the barrel. A spring, *f*, is secured beneath the projecting portion of the casting or head at the upper end of the punch, so that the punch, when not depressed, will be drawn up by the spring into the barrel. The cam end of the lever C is secured in the groove in the standard directly above the casting *g*, so that by depressing the end of the lever the cam on its end will force the punch down and out at the lower end of the barrel. A short cylinder, H, which has one or more flanges, *i*, extending outward from its lower end, is slipped up into the lower end of the barrel E and secured by a short screw to the punch *e*. The screw passes through the barrel, and into a longitudinal slot in the punch, so that the punch will have a certain amount of vertical motion independent of the cylinder.

The flanged lower end of this cylinder serves as a presser-foot to keep the article to be eyeleted in place, as hereinafter more fully described.

I is a steel plate, which is arranged to slide in a groove in the upper face of the base *a*, directly below the punch. This plate can be operated by any suitable lever, J, which will move it in one direction, while a spring, *j*, Fig. 5, on the under side of the base A, will throw it back to its former position. This plate has a hole, *o*, through it, directly below the punch *e*, and between this hole and the standard B is another hole, through which a short stud or standard, *p*, projects upward, being secured to the end of a flat spring below, so that it can be depressed by pushing against its upper end.

This spring, stud, or stem *p* serves to hold the eyelet, and can be brought under the punch by operating the sliding plate by means

of lever J when it is desired to insert and clinch the eyelet.

L is a horizontal spring-plate, which is secured below the flanged end of the short cylinder or presser-foot H and above the sliding plate by means of two or more rods, *n*, which pass down through the base *a*, and have their opposite ends attached to a cross-bar, *r*, below the base. This cross-bar is held up against the under side of the base *a* by a spring, *s*, so that by pressing down upon the plate L it will be forced down against the upper face of the base *a*. For convenience, I have connected a bar, *t*, with the cross-bar *r*, and this bar extends toward the front end of the machine, in its under side. A push-pin, *u*, extends upward from the end of the bar *t* through the base, so that by pressing upon the push-pin the plate L will be lowered. The plate L has a slot, *v*, through it, which extends across below the end of the cylinder H. This slot is wide enough to permit the punch to operate freely through it, while the flanges *i* will rest upon the plate on each side of the slot. W W are stops or guides, which are secured upon the plate L, a short distance back of the cylinder H.

The operation of my machine is as follows: An eyelet is first dropped over the short pin or standard *p*. The horizontal plate L is then depressed by means of the push-pin *u*, and the papers or other articles to be eyeleted are slipped in between the plate L and the lower end of the cylinder H until their edges strike the stops or guides W. The push-pin is then released, so as to allow the spring *s* to force the plate L upward, and thus bind the articles between it and the lower end of the cylinder H. The lever C is then depressed, so as to force the punch *e* down through the papers or other article and make the eyelet-hole. The lever is then raised, so as to free the punch from the article, after which the operator, by means of the lever J, moves the sliding plate I until the pin or stud *p*, with its eyelet, is brought under the punch. The lever C is again operated, so as to force the short cylin-

der H downward over the stud *p*, thus entering the eyelet in the hole previously made, and upsetting its upper end. The punch *e* in the meantime follows and depresses the stud *p*. The lever is then raised, the sliding plate is freed, so that the spring *j* will force it back to its former position, and the papers or other articles are removed from between the plate L and cylinder H completely eyeleted. The particular manner of operating the sliding plate I is not material.

By the above arrangement I provide an eyeletting-machine which will be very convenient, as the papers or other articles do not require to be removed after being once secured between the plates until the eyeletting is completed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The cam-lever C, spring-punch *e*, adjustable presser-barrel H, in combination with the spring-plate L and sliding die-plate I, with its hole *o* and spring-stud *p*, all constructed and operated as set forth.
2. In combination with the punch *e*, having the inclosing-barrel H attached to its lower end by means of a pin and slot, the horizontal spring-plate L and sliding die-plate I, substantially as and for the purpose described.
3. The sliding plate I, with its die-hole *o* and spring stud or pin *p*, operated by a lever, J, in combination with the punch *e*, substantially as and for the purpose described.
4. The slotted horizontal plate L, with its stops W W, and having its supporting-rods *n* attached to the opposite ends of a cross-bar, *r*, below the base *a*, the cross-bar and plate L operated by a spring, *s*, in combination with the cylinder H, with its flanges *i*, and the punch *e*, substantially as and for the purpose above described.

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Witnesses:

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