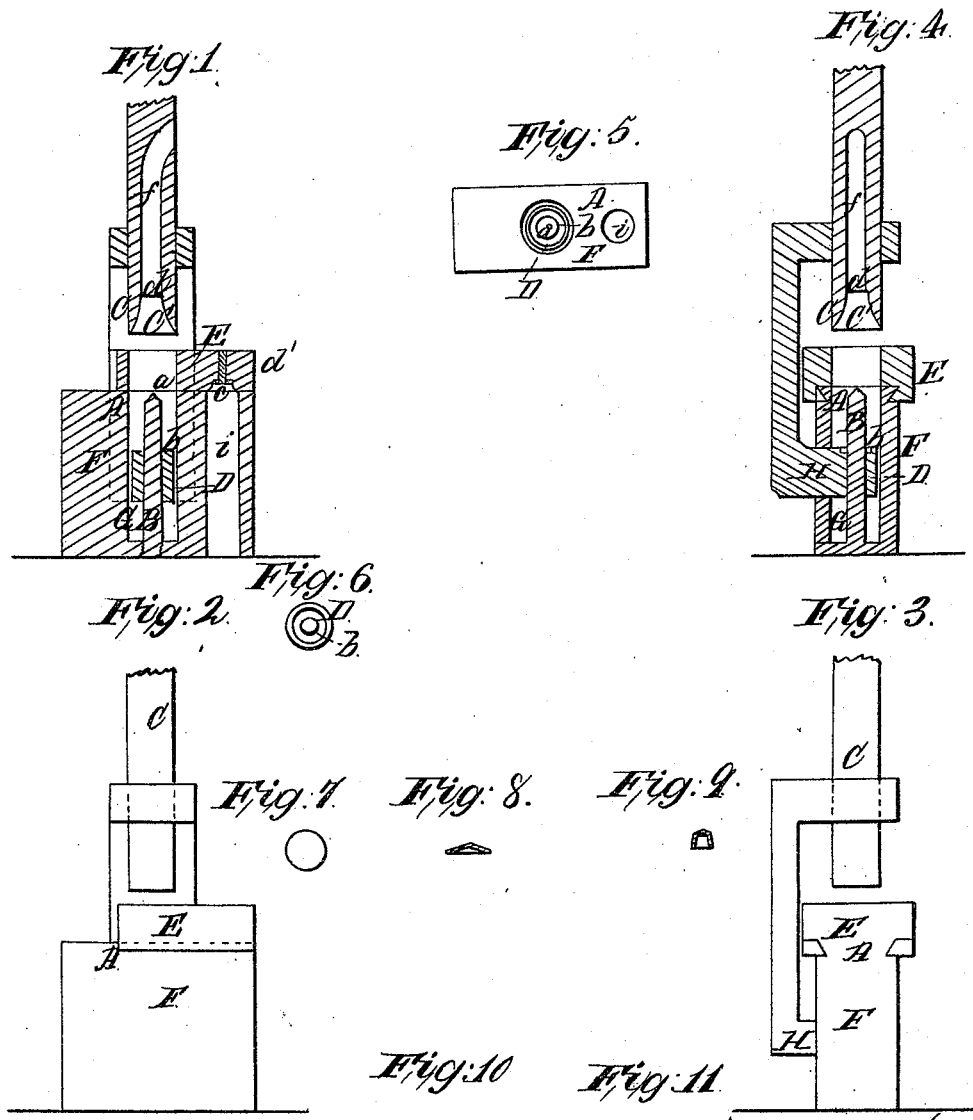


W. R. Landfear.

Making Eyelets.

Nº 53,080.

Patented Mar. 6, 1866.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM R. LANDFEAR, OF HARTFORD, CONN., ASSIGNOR TO HIMSELF
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IMPROVEMENT IN EYELET-MACHINES.

Specification forming part of Letters Patent No. 53,080, dated March 6, 1866; antedated October 9, 1865.

To all whom it may concern:

Be it known that I, WILLIAM R. LANDFEAR, of the city and county of Hartford and State of Connecticut, have invented a new and useful or Improved Mechanism for Making Metallic Eyelets; 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 vertical and longitudinal section, Fig. 2 a front elevation, Fig. 3 a side elevation, and Fig. 4 a transverse section, of the operative parts of such mechanism. Fig. 5 is a top view of the bed-die.

In such drawings, A denotes the bed-die, formed in a block of metal, F, and being circular in shape, and having a diameter sufficient to enable it to cut from a strip of metal a circular disk of the proper size for the manufacture of an eyelet. This die is placed at the upper part of a chamber, G, made within the block F, and opening through it transversely.

Within the said chamber, and standing vertically therein, is a male former, B, which is a round rod, formed frusto-conical at top, and with a small spur, *a*, extending upward from the center of its upper end, the object of the said spur being to enter the eyelet disk or blank and hold it from slipping out of place on the said former during descent of the female or fellow former and punch C. The latter, or punch C, is situated directly over the die A and contains a conical chamber, C', at the head of which is a circular die, *d*, from which a passage should lead upward, and subsequently runs laterally through the side of the punch. The purpose of the die *d* is to operate with the upper end of the male former B and cut off the head or closed end of the bell-shaped cone formed from the die by the action of the conical chamber C' and the former B, the part or disk so separated from the eyelet-blank being driven into the passage *f*, through and out of which it will eventually be forced by succeeding dies, which like it may be caused to enter the passage.

There is applied to the shank of the male former B an eyelet-elevator, D, which encompasses the said former, and has a small annular groove, *b*, arranged in its top, in manner

as shown in Figs. 1 and 6, the latter being a top view of the said eyelet-elevator. Such eyelet-elevator is supported on an arm or carrier, H, which extends into the chamber G, and serves to raise and depress the eyelet-elevator as circumstances may require. The purpose of the said eyelet-elevator is to remove the eyelet-blank from the former B, and subsequently hold such blank and force it upward into the flanging-die *c* constructed within a plate, E. The said flanging-die is bell-shaped, and is intended to form the eyelet with the usual flanch or flange. The die also contains a small plunger, *d'*, whose office is not only to expel the eyelet from the die, but to level down or even its upper edge, for the purpose of preventing the eyelet from splitting at such edge when the latter is turned down or over by an eyeletting-machine.

Each of the movable operative parts C, D, E, and *d* should have suitable mechanism applied to it for moving it in the order and manner required for it to perform its proper function or functions.

In the operation of the mechanism hereinbefore described the strip of metal from which the eyelets are to be made should be fed or moved forward over and on the die A and between it and the plate E with a suitable intermittent motion. During each interval of rest of the strip the punch C should be caused to descend and pass into the die A far enough not only to cause the teat or spur *a* to enter the disk or blank severed from the strip by the conjoined action of the punch and the die and upset the blank—or, in other words, so crowd it down upon the former B as to reduce the blank to the form of a hollow conic frustum—but separate from it the solid part of its head or upper end, the part so separated being a disk and being forced into the passage *f*. Next the punch C should be raised wholly out of the die A and far enough above the same to allow the plate E to be moved in a manner to carry the flanging-die *c* directly over the former B, which having taken place, the elevator D should be raised on the former B until it may not only have detached the eyelet-blank therefrom, but crowded such blank hard up into the flanging-die and caused the latter to impart to the blank a form nec-

essary to make on it the usual flange at its lower base. After the accomplishment of all this, the parts D and E are to assume their original positions and the plunger *d'* is to be forced downward, so as to expel the eyelet from the die *c*, the said eyelet dropping into and passing through a recess, *i*, made in the block F.

Fig. 7 denotes a top view, and Fig. 8 a transverse section, of the disk or eyelet-blank as it appears when first severed from the strip. Fig. 9 represents a vertical section of the eyelet-blank after its reduction to a cup shape by the action of the two formers. Fig. 10 exhibits a vertical section of the eyelet-blank in the form it has after the action of the former B and the die *d*. Fig. 11 is a vertical section of the blank as it appears after being acted on by the elevator D and the spreading-die *c*.

I claim as my invention the following—that is to say:

1. The combination and arrangement of the die A, the male former B, the punch C, the fe-

male former C', the elevator D, and the flanging-die *c*.

2. The combination of the die *d* and the expelling-passage *f* with the female former C', the punch C, the male former B, and the die A, all constructed and arranged substantially as described.

3. The combination of the die *d*, the expelling-passage *f*, the female former C', the punch C, the male former B, the elevator D, and the die *c*.

4. The combination and arrangement of the teat or spur *a* with the male former B, the die A, the punch C, and the female former C', all constructed and arranged as described.

5. The combination and arrangement of the annular groove *b* with the elevator D and the flanging-die *c*.

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Witnesses:

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