

W. TRABUE.

Machines for Swaging and Trimming Needle-Blanks.

No. 158,225.

Patented Dec. 29, 1874.

Fig. 1.

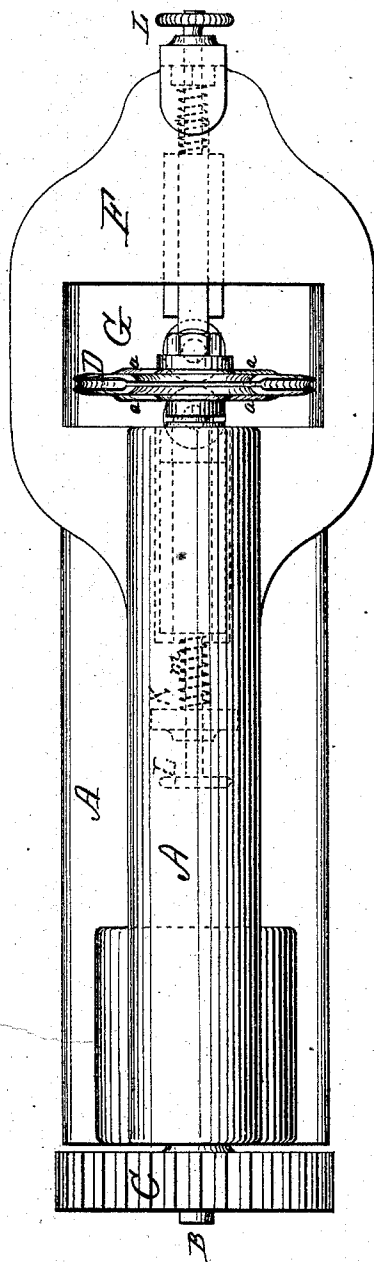
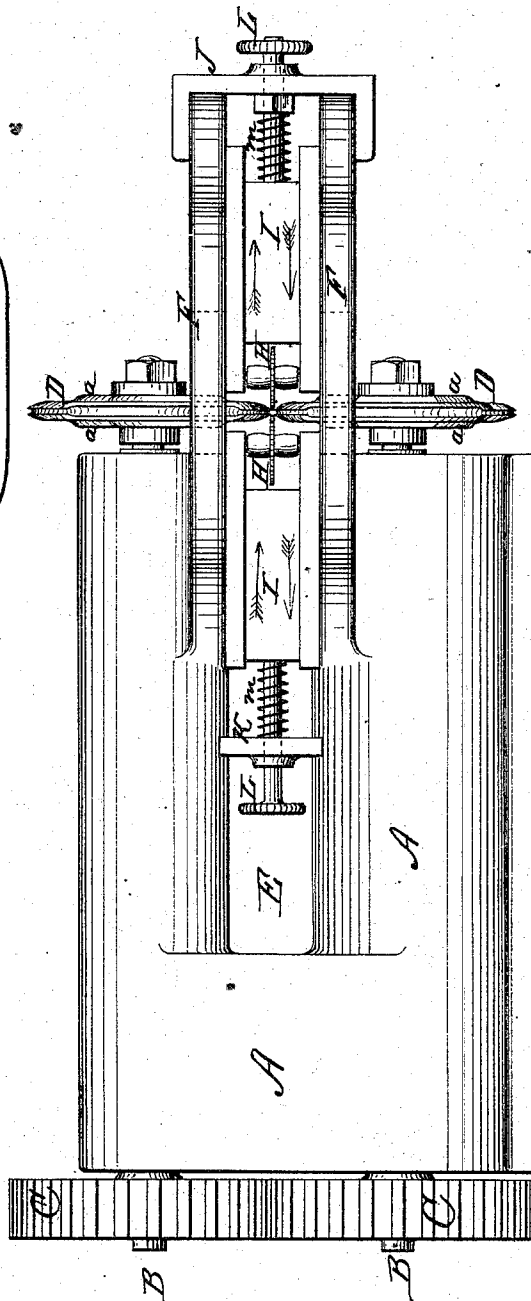


Fig. 2.



Witnesses:

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Fig. 3.

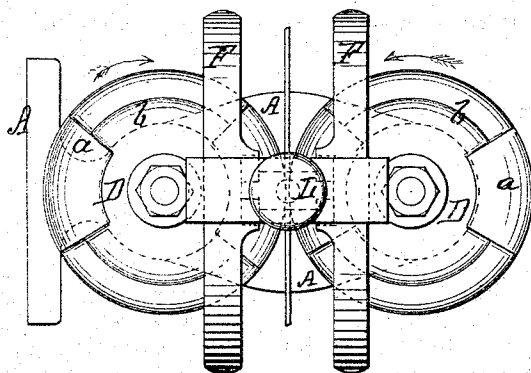


Fig. 4.

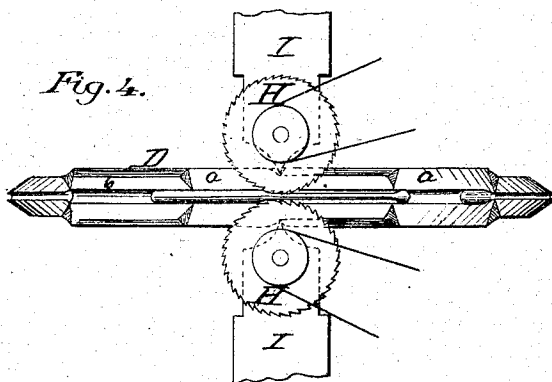


Fig. 5.

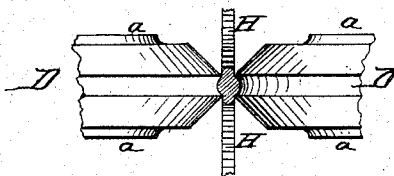
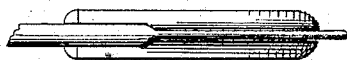


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM TRABUE, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN MACHINES FOR SWAGING AND TRIMMING NEEDLE-BLANKS.

Specification forming part of Letters Patent No. **158,225**, dated December 29, 1874; application filed November 2, 1874.

To all whom it may concern:

Be it known that I, WILLIAM TRABUE, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Needle-Making; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings making a part of this application.

My invention has for its object to cheapen the cost of the production of needles by facilitating the manufacture thereof.

My invention consists in the combination of devices whereby the needle-wire is pressed into shape and the excess of metal cut away, as will be hereinafter more fully set forth.

To enable those skilled to fully understand my invention, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a top view of a machine embodying my invention; Fig. 2, a side elevation of the same; Fig. 3, an end view; Fig. 4, a detail view, exposing to view the face of one of the rotary dies and the cutters for cutting away the excess of metal in the formation of the needle. Fig. 5 is a detail view of the same at right angles to the above, showing the needle blank or wire in section; and Fig. 6 is a detail plan view of one of the rotary dies, with the needle in position as formed.

Similar letters indicate like parts in the several figures.

A represents a suitable casting, adapted to receive two horizontal shafts, B B, which are provided at one end with meshing gears C C, and at the other with rotary dies D D, which may be secured in position and removed at will. The casting A is bifurcated from a suitable distance from the gear end, as seen at E, and near its forward or cutting end is flattened or spread out, as seen at F, and cut away at G, to allow the free rotation of the revolving dies D D. H H are revolving cutters, whose axes are transverse or at right angles to the shafts of the dies D D, and mounted in the bifurcated ends of blocks I I, adapted to slide horizontally in the direction of axes of the die-shafts, as shown by the arrows, in suitable

ways within the bifurcated casting A. A head-piece, J, at the end of the machine, and a block, K, opposite thereto, serve as bearings for spring screw-rods L, which carry springs *m m*, that bear against the rear ends of the bifurcated blocks I I, and, through them, tend to keep the cutters H H in close proximity to the disk-faces of the rotary dies D, the springs *m m* yielding and permitting the recoil of the blocks when necessary, as will be presently explained. The screw-rods L may be "set up" to compensate for any weakness in the springs, or to make the contact of the cutters with the expressed metal more forcible. The periphery or face of the rotary dies have formed therein (or countersunk) the exact form of the needle to be made, so that by a complete revolution of the two dies in reverse directions, as shown by the arrows in Fig. 3, a wire passed between them is formed into two complete needles, with the exception of the eyes, which are subsequently punched, or which may be punched by an addition which I contemplate making to the machine. Of course the number of needles made by a complete revolution of the dies will depend upon the extent of their circumference. The disk-faces of the dies are provided with suitable inclines *a* and depressions *b*, which travel in contact with the slightly-pointed ends of the bifurcated blocks I I, so that by the rotation of the dies D the cutters H are brought near to or forced away from the dies; the object of which is, that, when the thick or stout part of the needle is being formed, and consequently little of the wire of which the needle is being made expressed, the cutters will be forced back to compensate for the increased proportions of the needle, while, when the point or "penetration" of the needle is being formed, and its diameter necessarily less, and a larger proportion swaged out, the cutters are required to approach nearer to each other, the springs *m m* permitting this yielding of the blocks I I.

The rotary movement of the dies is effected by any suitable power applied to either of the shafts, and the cutters are rotated through the medium of any ordinary system of gears or belts.

The needle blank or wire is fed into the bite of the rotating dies, and passed out on the opposite side completely formed.

Different forms of needles may be produced by simply changing the rotary dies.

Having described the construction and operation of my improved machine, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for making needles, the combination, with the rotating dies D D, of the revolving cutters H H, hung in movable bearings, substantially as and for the purposes described.

2. The sliding blocks I I, provided with revolving cutters H H, in combination with the rotatory dies D D, having cam-surfaces *a b*, whereby the cutters are automatically brought

toward or forced from the blank, substantially in the manner and for the purpose set forth.

3. In combination with the cam-faced dies and sliding blocks, the screw-bolts L, springs *m*, and block K or head J, substantially as and for the purposes set forth.

4. The frame A, bifurcated and otherwise constructed as described, to form bearings for the die and cutter shafts, as hereinbefore set forth.

In testimony whereof I have hereunto set my hand and seal this 29th day of October, 1874.

W. TRABUE. [L. S.]

Witnesses:

WM. A. DRANE,
EDW. WARREN.