H. L. SWARTWOUT.

Sewing Machine.

No. 89,357. Patented April 27, 1869.

Fig. 1.

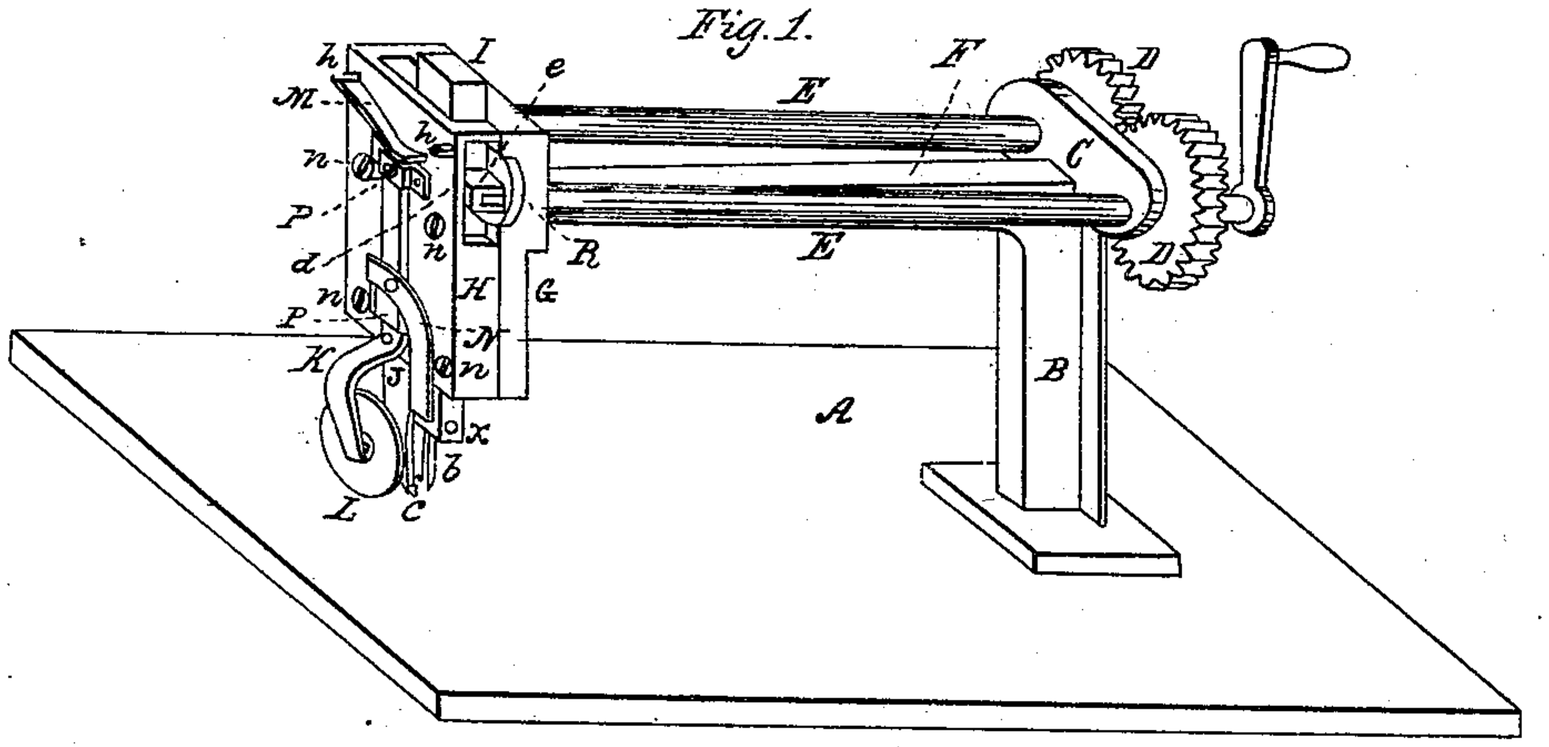


Fig. 2.

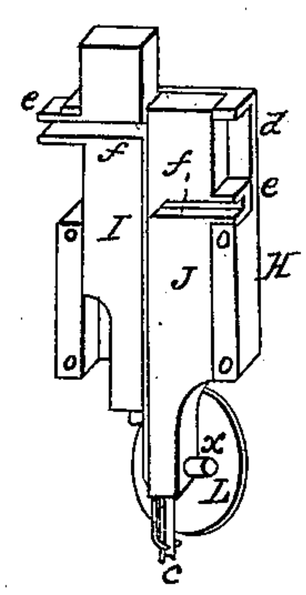


Fig. 3.

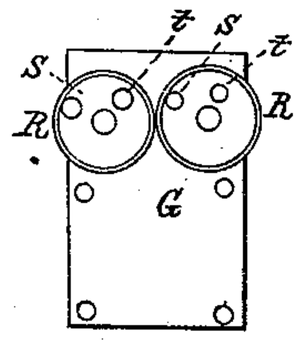


Fig. 4.

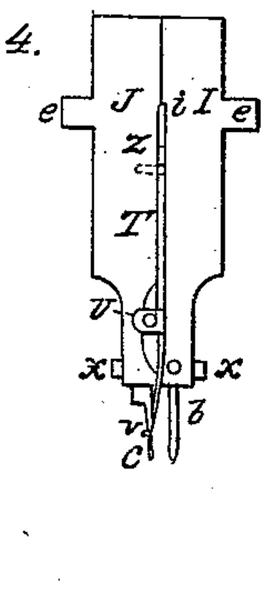


Fig. 5.

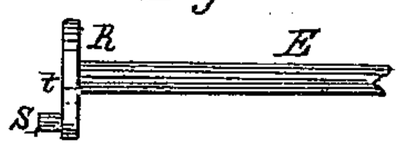
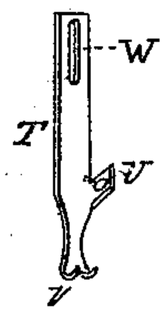


Fig. 6.



Witnesses.

G. D. Chapin

E. O. Gibson

Inventor:

H. L. Swartwout

UNITED STATES PATENT OFFICE.

H. L. SWARTWOUT, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SEWING-MACHINE.

Specification forming part of Letters Patent No. **89,357**, dated April 27, 1869.

To all whom it may concern:

Be it known that I, H. L. SWARTWOUT, of Chicago, in the county of Cook and State of Illinois, have invented an Improved Machine for Fastening the Soles of Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, making a part of this description, in which—

Figure 1 is a perspective representation of my improved machine; Fig. 2, a perspective view of the inside of the bars which support the awl and punch, as arranged to operate in the guide; Fig. 3, an elevation of the inside of the frame which supports the guide; Fig. 4, an elevation of the bars which support the awl and punch, removed from the guide; Fig. 5, an elevation of one of the crank-wheels, and the end of the journal to which it is attached; Fig. 6, a perspective view of the thread-bar, removed from the punch-bar.

The nature of the present invention consists in the novel construction of the awl-bar and punch-bar, they being so arranged as to have alternate reciprocating motions, by means of transverse grooves cut through them and through their extended arms, and by crank-wheels, which have adjustable wrists, whereby any desired length of stroke of the bars may be made, and, in combination with these, an adjustable friction-roller, which is arranged to travel on the sole of the boot, and hold it in position when the stitches are being made, and a peculiarly-arranged thread-bar, as hereinafter fully described.

A represents a table, which supports an ordinary standard, B, and arm F, Fig. 1, in the usual manner. The mechanism for holding the boot and turning it on the table being no part of the present invention, is therefore not shown. A metal frame, G, Figs. 1 and 3, is rigidly attached to the end of the arm F, and has bearings made horizontally through it to support the ends of the journals E, and recesses in its face to receive crank-wheels R, same figures, and bring their faces even with the face of the frame. The opposite ends of the journals have bearings in a cross-tree, C, permanently fixed to the standard B, and each is made to have the same motion by means of cog-wheels D D fixed to it, and driven by any power most convenient. A guide-frame, H, is made to fasten to the frame G by means of screws *n n*, Fig. 1, and it has a vertical recess made in its inner side, of sufficient size to receive an awl-bar, I, and a punch-bar, J; and it also has slots *d* made in its edges, to allow the projecting arms *e e* of the bars to have such length of stroke as will correspond to those which the punch *c* and awl *b* are to have. In the faces of these bars I J are made grooves *f*, Fig. 2, which extend through the arms *e*, and into which the wrists *s*, Figs. 3 and 5, project, and operate the aforesaid bars. One or more holes, *r*, Fig. 3, are made in each of the faces of the crank-wheels R, nearer their centers, in order that the position of the wrists *s* may be so changed as to give such length of stroke to the bars I J as will correspond with the thickness of sole to be sewed. *b* represents the awl, and *c* the punch used to make the holes in the sole and force the thread into them. They possessing no novelty, and being fastened in in the bars I J in the usual manner, require no particular description. The thread-bar T, however, has a peculiar construction and position, as follows: Its upper end has a slot, W, made through it, as shown at Fig. 6, through which a pin, Z, (shown by dotted lines, Fig. 4,) projecting outward from the bar J passes and holds it in place. The lower end of the bar has the ordinary foot, V, to bear on the sole, and its middle part supports an eye, U, to hold the thread in place, very much in the same manner as in the ordinary sewing-machine. The bar, however, is operated very differently, inasmuch as the slot W permits it to slide upon the pin Z when the punch *c* is forcing in a thread, and a projection, *i*, on the bar I, Fig. 4, carries it back, when the awl *b* is forced into the sole, thus always keeping its foot V, through whose forked end the thread passes, closely to the leather when a stitch is being made. The device for holding the sole in place relative to the punch and awl, consists in a friction-roller, L, Figs. 1 and 2, which is supported by a curved arm, K, Fig. 1, having bearings in loops P, which are attached to the outside of the guide-frame H, and being so arranged, by means of a spring, M, placed above it, as to allow the roller L to yield when passing over the inequalities or curves of a sole.

It will be seen, from this description, that the machine herein described is designed for putting a looped stitch through the sole from the outside of the boot, and that all the parts necessary to accomplish this have been fully shown, except the device for delivering the thread to the bar T; but as that part is well understood, I have not deemed it essential that it be shown.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of the journals E E, frame G, guide-frame H, crank-wheels R R, and bars I J, as described.

2. The combination of the frame G, guide-frame H, bars I J, crank-wheels R R, journals E E, curved arm K, roller L, and spring M, arranged to operate as and for the purpose specified.

H. L. SWARTWOUT.

Witnesses:
G. L. CHAPIN,
E. E. GEBSON.