

UNITED STATES PATENT OFFICE.

EDWIN HAMM, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THEODORE H. CONDERMAN, TRUSTEE FOR PRENTICE P. GUSTINE, ROBERT BISHOP, FRANCIS HUTH, BENJAMIN CRABTREE, AND JAMES M. DALTON, ALL OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR SEWING BOOTS AND SHOES.

Specification forming part of Letters Patent No. 219,578, dated September 16, 1879; application filed April 4, 1879.

To all whom it may concern:

Be it known that I, EDWIN HAMM, of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Sewing Boots and Shoes, of which the following is a specification.

My invention relates to certain improvements in sewing-machines for which Letters Patent of the United States No. 188,360 were granted to Samuel Henshall on the 13th day of March, 1877, which invention is principally adapted for sewing the soles to the uppers of boots and shoes.

The object of my improvement is to furnish the said machine with an automatic operating clamp or jaws that will guide and hold the work while the needle is passing through the work and drawing tight the stitch.

This invention consists in the combination of a clamp comprising two jaws with mechanism for operating the same, as will be herein-after more fully described.

Referring to the annexed drawings, making a part of this specification, Figure 1 is a side elevation, showing parts of a sewing-machine with my improvement. Fig. 2 is a front view of the same. Fig. 3 is a view of a grooved cam to be used in place of the cam M.

Similar letters of reference in the drawings indicate like parts.

The construction of my improvement is as follows: A is the frame-work of the machine; B, the needle-bar; F, the driving-shaft, the latter carrying the cam M and disk E. This disk E, by means of the connecting-rod D, operates the needle-bar B and needle N in the usual manner.

H is a metal bar, fitted to slide vertically in the frame A. To this bar is cast a rest, R, in which is drilled a hole for the needle, (see dotted lines,) and also cut a V-shaped notch, Y.

K is a lever, pivoted on a pin, *k*, fastened in a stand fixed to frame A. (See Fig. 1.) The right-hand end of lever K is constructed with a jaw, in which works a pin fastened to the bar H. To the opposite end of lever K is pivoted an upright, L, and in this upright L is a pin, *a*, against which presses the elliptic spring

c, (see dotted lines in Fig. 2,) which spring keeps the upright L against the cam M.

J is a metal bar, the lower part of which is made flat, and in which is a slot, *h*, (see Fig. 2,) and a downwardly-projecting point, G, which, with the rest R, forms the clamp. The upper part of the bar J is made round, and upon that part is placed an open spiral spring, as is usual on the presser-bars of sewing-machines. The bar J is also provided with a cam-lever, P, and is fitted to slide vertically in the frame A. At the lower part of bar J is a small jaw, *g*, in which fits one end of the small lever *d*. Its opposite end is pivoted to the end of arm *e*, fastened to the slide-bar H. The middle of lever *d* is constructed with a small slot, S, in which fits a small pin fastened in a stand fixed to the frame A.

The operation is as follows: The shoe to be sewed having been properly lasted, the edge of the shoe-sole is rested in the notch Y of the rest R, when the cam-lever P is turned to the position shown in the drawings, and as the shaft F and cam M move, the lever K will be acted upon by the upright L, and cause the bar H and rest R to rise, and the raising of the arm *e* will cause the end of lever *d* in jaw *g* to drop. This will allow the spiral spring on bar J to force it down, and the point G will enter the channel of the sole just before the needle enters, and the sole will be firmly held between the rest R and point G, guide the needle into the channel, and hold the shoe while the needle perforates the sole and upper of the shoe and forms the stitch. When the movements of the cam M (which is made eccentric on its edge, a portion being cut away) will allow the upright L to rise by the action of spring *c*, lever K will force down the bar H and rest R, and, by the action of the lever *d* on bar J, the point G will be raised as the rest R is depressed, and just as the sole or shoe is fed forward for another stitch, when the rest R and point G are closed, as before described.

The clamp, consisting of the parts R and G, is only opened just at the time when the feed moves the shoe forward for a stitch.

It should be understood that the work is fed

toward the needle from the right-hand side of the needle, and the feed-jaws (such as shown and described in Patent No. 188,360) must be on that side, for the reasons, the thread forming the stitch being waxed, if the jaws act upon the stitches the wax would cause them to stick; but by having the jaws on the right-hand side of the needle this is avoided.

Fig. 3 shows a grooved cam, which in practice I prefer to use, as by its use the spring *c* may be dispensed with, and the bar *H* will be operated both ways positively.

The parts, as shown and described, separately, I do not claim; but

As my invention I claim—

In sewing-machines, a clamp for holding the work, composed of point *G* and perforated rest *R*, in combination with the mechanism for operating the same, as shown and described, and for the purpose specified.

EDWIN HAMM.

Witnesses:

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