

C. L. EATON.
SEAM TRIMMING AND WELT BEATING MACHINE.
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1,018,039.

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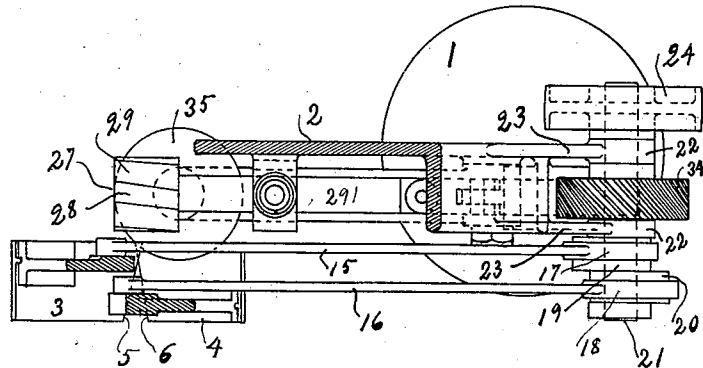


Fig. 3

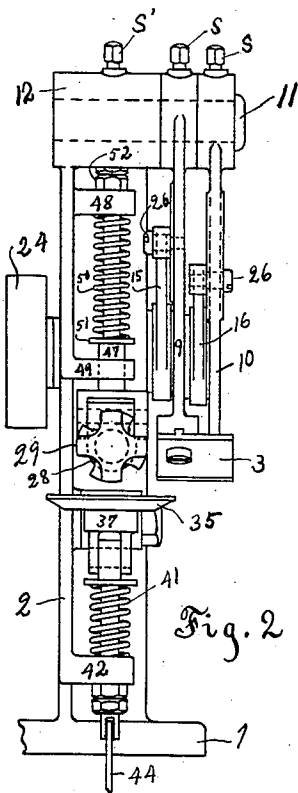


Fig. 2

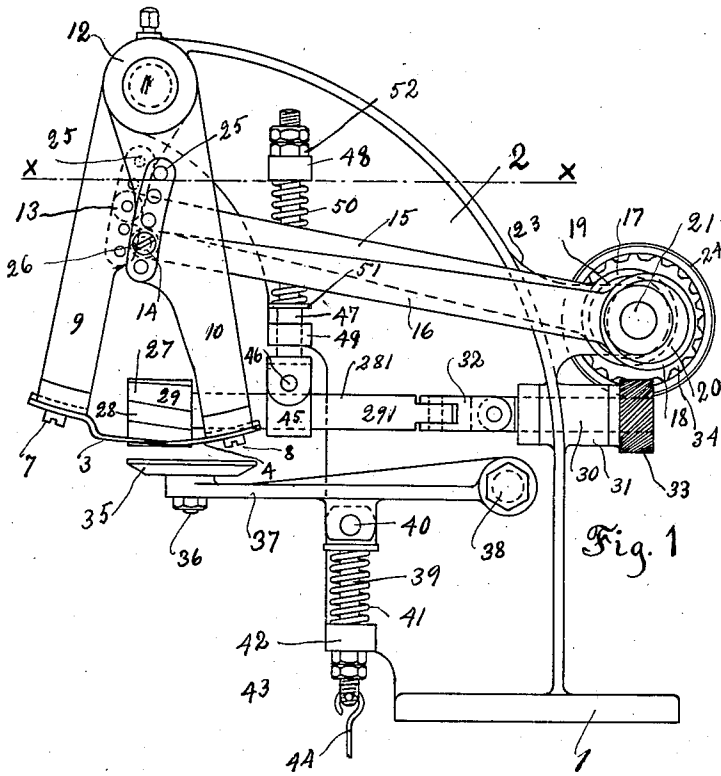


Fig. 1

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UNITED STATES PATENT OFFICE.

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SEAM-TRIMMING AND WELT-BEATING MACHINE.

1,018,039.

Specification of Letters Patent.

Patented Feb. 20, 1912.

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To all whom it may concern:

Be it known that I, CLARENCE L. EATON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Seam-Trimming and Welt-Beating Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for manufacturing boots and shoes and more particularly to an improved machine for trimming the in seams of welted boots and shoes and beating out and rubbing down the seam and the welt.

In the manufacture of welted boots and shoes, the edge of the welt and the upper are united to the upturned lip of the insole by an in seam sewing machine, and therefore it is necessary to trim off the projecting edges of the welt, upper and lip of the insole above the stitching and to beat out and lay down the welt to cause it to assume a horizontal position or to lie in substantially the plane of the bottom of the sole, and to rub down the rib formed by the united edges of the welt, upper and lip, and it is for performing this rubbing, trimming and beating operation that I have produced the machine which will now be described and claimed.

To the above ends the present invention consists of the seam trimming and beating out machine which will be hereinafter described and claimed.

The present invention is shown in the accompanying drawing, in which:—

Figure 1 shows the machine in side elevation. Fig. 2 shows a front elevation of the machine. Fig. 3 shows a horizontal sectional view taken on the line $x-x$, of Fig. 1.

Similar reference characters will be employed throughout the specification and drawing to designate corresponding parts.

The machine comprises a suitable frame to support the operating parts, which frame,

as shown in the drawing, may consist of a stand 1 to rest upon a work-bench or table and a vertically extending overhanging standard 2, all preferably formed in a single integral casting.

The operating instrumentalities of the machine consist of seam trimming cutters operating to trim off the projecting edges of the upper and welt, and the lip of the insole, and a seam rubbing and welt beating device operating upon the seam and welt as it passes from the trimming cutters.

In the preferred form of my invention I employ two opposed shearing cutting blades 3 and 4, provided with the inclined cutting edges 5 and 6, (see Fig. 3) which cutters are adjustably secured by screws 7 and 8 to the lower ends of the rocking levers 9 and 10. The levers 9 and 10 are pivotally supported at their upper ends upon a shaft or stud 11 held in a bearing 12 at the extreme upper overhanging end of the standard 2. The levers 9 and 10 are designed to be rocked about their pivot 11 toward and from each other so as to cause the shearing edges 5 and 6 of the cutters to trim off the projecting edge of the seam with a shearing cut, and for this purpose each of the levers is pivotally connected at 13 and 14 to links 15 and 16, which links at their opposite ends carry eccentric straps 17 and 18 engaging the oppositely arranged eccentrics 19 and 20 carried by the shaft 21. The shaft 21 is mounted to rotate in bearings 22 supported by brackets 23, projecting from the standard 2, and is provided with a belt pulley 24, whereby it may be rotated by a belt driven from any suitable source of power. The rotation of the shaft 21 causes a simultaneous reciprocation of the links 15 and 16 in opposite directions and therefore a simultaneous rocking movement of the levers 9 and 10 in opposite directions, causing the knives 3 and 4 to be reciprocated toward and from each other in making the cut.

For the purpose of adjusting the cutting edges 5 and 6 with relation to each other and adjusting the stroke imparted to the levers 9 and 10, the links 15 and 16 are ar-

ranged to be adjustably connected with the levers 9 and 10 with relation to the pivotal point of such levers and for this purpose each of the levers is provided with apertures 25 arranged to receive the bolts 26 which connect the links 15 and 16 to said levers. Thus, by raising or lowering the connection between the links 15 and 16 with relation to the pivot 11 of the levers, the stroke of said levers will be made greater or less and the position of the point of operation of said cutters may be adjusted with relation to the seam-rubbing and welt-beating mechanism and the work-support as will be hereinafter described. At this point I desire to say that as so far described each of the levers 9 and 10 are movable and cause a reciprocating motion of the cutters toward and from each other and thus the cut is made by two moving cutters. It may be desired, however, to move only one of the cutters, leaving the other fixed, and therefore I have provided set screws *s* by means of which the levers 9 and 10, or either of them, may be readily secured to the shaft 11, the shaft 11 being held in its bearing 12 by a similar set screw *s'*. Thus by disconnecting, for instance, the link 15 from the lever 9 and from its eccentric 17 and securely holding said lever 9 to the shaft 11 by means of its set screw *s*, the said lever and its cutter will remain in a fixed position while the lever 10 will be reciprocated with relation thereto.

It is of course obvious that instead of fixing the lever 9 and its cutter so as to remain stationary, the lever 10 and its cutter may be the stationary cutter.

The seam-rubbing and welt-beating device consists of a roll 27 provided upon its periphery with the spirally arranged grooves 28 and ribs 29 and the roll 27 is mounted upon a shaft 281 formed in two parts, a movable part 291 and a fixed part 30, mounted to rotate in a bearing 31 formed in the standard 2. Between the fixed part 30 and the movable part 291, there is provided a universal coupling 32 which permits not only a vertical movement of the movable part 291 of the shaft 281, but also a lateral movement. The shaft 281 is rotated by means of a worm wheel 33 fixed to the end of the part 30 of the shaft, and which meshes with a worm gear 34, mounted upon the shaft 21; thus the rotation of the shaft 21 will, through the worm wheel 34 and the worm 33, rotate the shaft 281 to rotate the seam rubbing wheel 27. The work is supported by a beveled edge circular work-support 35 mounted to turn upon a stud 36 at the outer end of a lever 37, which at its inner end is pivoted to a stud 38 mounted upon the side of the standard 2. This lever 37 is arranged to be movable up

and down so as to provide for the insertion and removal of the work, and to normally hold the work against the cutters and the rubbing wheel by yielding pressure, and for this purpose it is provided with a rod 39 pivoted to the under side of the levers at 40, and passing through a spiral spring 41 supported upon a boss 42, projecting from the side of the standard 2, and provided beneath the boss with the adjusting nuts 43, and for the purpose of depressing the work-support the rod 39 beneath the boss 42 may be connected as by means of a link or rod 44 with a foot treadle (not shown). The movable part 291 of the shaft 281 is mounted in a bearing 45 pivoted at 46 to the lower end of a rod 47 which rod is arranged to yield vertically in bearings 48 and 49 projecting from the side of the standard 2. Between the bearings 48 and 49 the rod 47 is surrounded by a spring 50, which bears at its lower end against a collar 51 on the rod 47 and at its upper end against the under side of the bearing 48, the arrangement being such that the welt beating roll is held down by spring pressure against the work and at its upper end the rod 47 is provided with adjusting stop nuts 52 for limiting the downward movement of the rod.

It is thought that the operation of my machine will be sufficiently understood from the foregoing description of its construction and that any further description of its mode of operation will be unnecessary.

Having described my invention I claim as new and desire to protect by Letters Patent of the United States.

1. In a seam trimming and welt beating machine, in combination, a work support, a pair of rocking levers above the work support, carrying at their lower ends horizontally arranged cutters with opposed shearing edges, means for reciprocating said levers in opposite directions to move both cutters and means whereby one of said levers may be fixed and adjusted in a stationary position with relation to the movement of the other of said levers and its cutter, substantially as described.

2. In a machine for trimming the in-seam and beating out the welt of a welted shoe in combination, a work support, means for trimming the in-seam of a shoe supported on the work support, and means acting on the shoe to rub the trimmed seam and beat out the welt, substantially as described.

3. In a machine for trimming the in-seam and beating out the welt of a welted shoe in combination, a work support, means for trimming the in-seam of a shoe supported on the work support, and a roll arranged to act upon the trimmed seam and welt to rub the seam and beat out the welt, substantially as described.

4. In a machine for trimming the inseam
and beating out the welt of a welted shoe in
combination, a work support, means for
trimming the inseam of a shoe supported on
5 the work support, a roll acting upon the
trimmed seam and welt to rub the seam
and beat out the welt, a vertically yielding
bearing for the roll, and means for posi-

tively rotating the roll, substantially as de-
scribed.

In testimony whereof I affix my signa-
ture, in presence of two witnesses.

CLARENCE L. EATON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."