

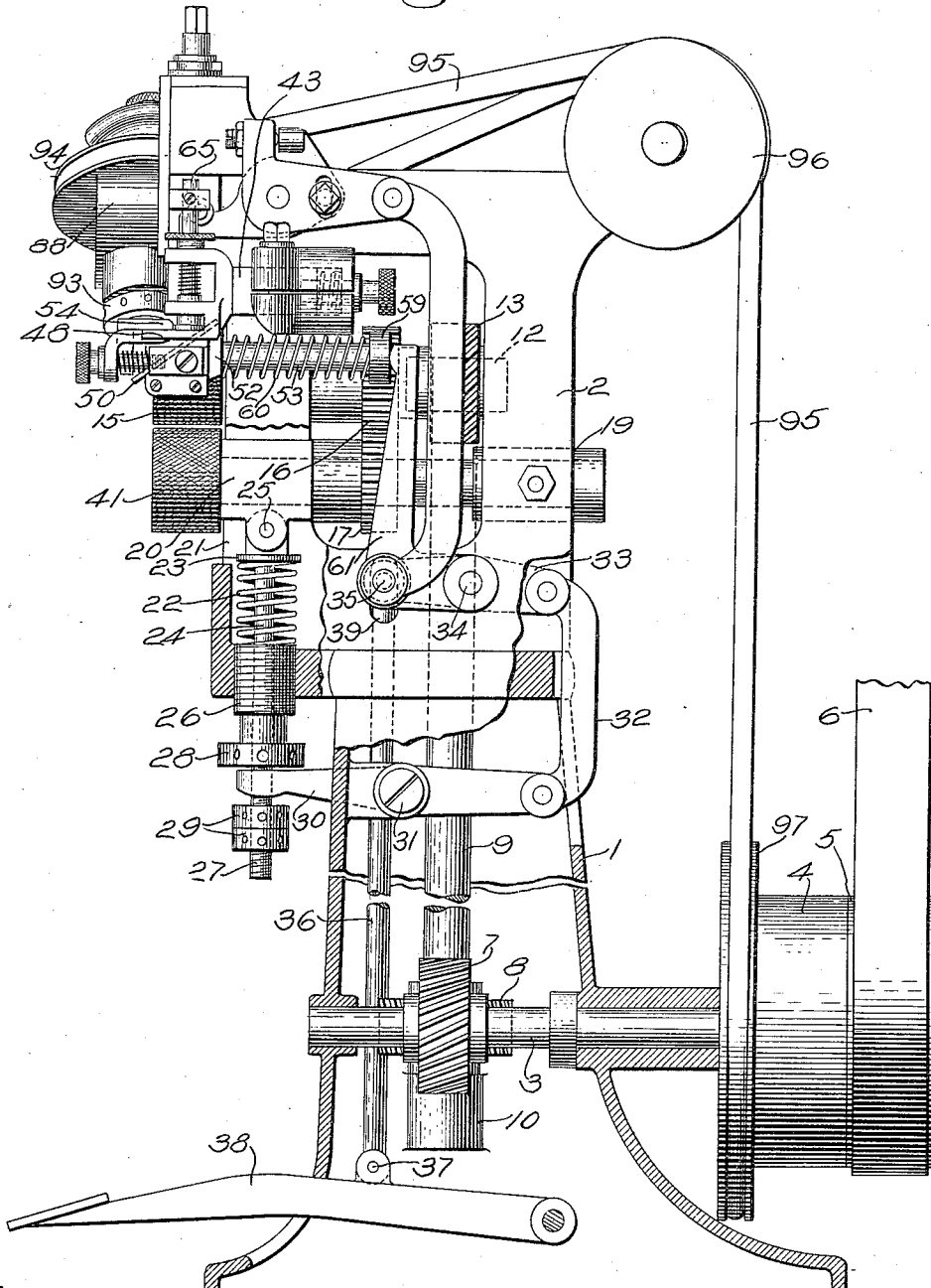
C. P. STANBON.
WELT PREPARING MACHINE.
APPLICATION FILED AUG. 16, 1911.

1,060,716.

Patented May 6, 1913.

2 SHEETS-SHEET 1.

Fig. 1.



Witnesses:

Powell F. Hatch.
Sydney Subitz.

Inventor:

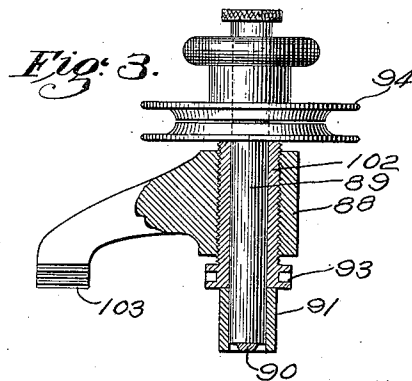
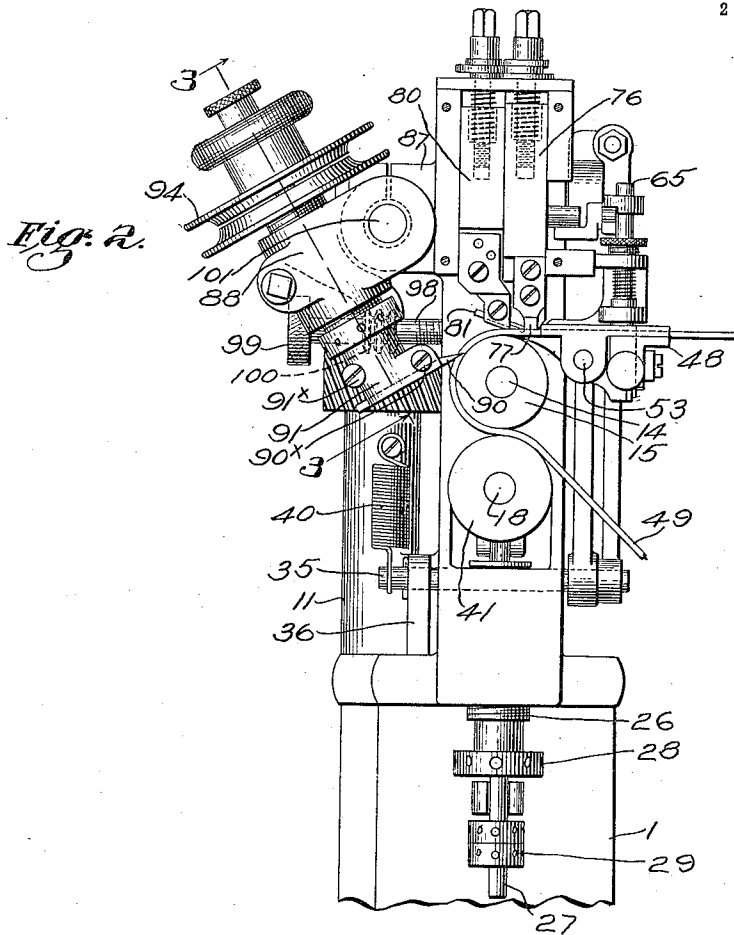
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

CHARLES P. STANBON, OF LYNN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

WELT-PREPARING MACHINE.

1,060,716.

Specification of Letters Patent.

Patented May 6, 1913.

Original application filed November 2, 1908, Serial No. 460,591. Divided and this application filed August 16, 1911. Serial No. 644,379.

To all whom it may concern:

Be it known that I, CHARLES P. STANBON, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Welt-Preparing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The invention hereinafter described relates to welt preparing machines and more particularly to such machines for treating the welt prior to its attachment to the shoe.

In order that the welt strip may be properly placed about and secured to those portions of the inner sole where the contour changes, as for instance about the toe portion, it is desirable to provide the welt strip with slashes extending transversely of the strip and partially through the same. For the best results these slashes should commence on the surface of the welt strip between the longitudinal edges and extend from this point with gradually increasing depth toward and through one of the longitudinal edges of the strip without at the same time passing entirely through the thickness of the welt.

In the prior application filed by me November 2, 1908, Serial No. 460,591, now Patent No. 966,484, dated August 9, 1910, a welt preparing machine was disclosed which included means peculiarly fitted for making the character of transverse slashes above mentioned, and with respect to said means the present application is a division of said prior case.

In the drawings:—Figure 1 is a side elevation of a welt preparing machine embodying features of the present invention, some of the parts being broken away; Fig. 2 is a front elevation of the upper portion of the apparatus; and Fig. 3 is a section on the line 3—3, Fig. 2.

The supporting frame 1 has mounted upon the upper portion thereof the head frame 2 and near its lower portion carries the main driving shaft 3 provided with usual fast and loose pulleys 4, 5 by which the working parts may be power actuated from a suitable source of energy by a belt 6.

Secured to the driving shaft 3 is a worm

7 meshing with a worm wheel 8 secured to the upright shaft 9 sustained in suitable bearings 10, 11 on the main and head frames, said shaft at its upper end carrying a worm 12, Fig. 1, meshing with a complementary worm gear 13 connected to the roll shaft 14 carrying the welt supporting roll 15, Fig. 2, the construction being such that rotation of the main shaft 3 causes rotation of the roll shaft 14 and the roll 15, as will be clearly understood.

Secured so as to rotate with the roll shaft 14 is a gear 16 in operative relation to a gear 17 on the feed shaft 18, said shaft being supported in the sleeved bearing 19 at one end, and in a vertical bearing block 20 near its opposite end portion. The bearing block 20 is movable vertically in slide bearings 21 of usual character in the head frame 2, and is normally held in its raised position, as indicated in the drawings, by a spring 22, one end of which bears against a seat 23 carried by a rod 24 hinged at 25 to the bearing block 20 and the other end of which rests upon the adjusting screw 26 carried by the head frame whereby the active tension of the spring may be adjusted.

The rod 24 extends through the adjusting screw 26 and is provided with screw threads 27 on its lower portion, which are engaged by suitable capstans 28, 29, between which extends the bifurcated end of a depressing lever 30 pivoted at 31 and having a link connection 32 with another lever 33 pivotally mounted at 34 upon the machine head. The lever 33 is extended beyond its support 34 and is connected to the shaft of the stud 35 carried by a treadle rod 36 jointed at 37 to the treadle 38, the shaft or stud 35 being preferably guided in slots 39 formed in the head frame. The shaft or stud 35, the treadle rod 36, and the treadle 38 are normally held in their raised position by means of the spring 40, Fig. 2, one end of which is secured to the head frame and the other to the shaft or stud 35.

Beyond the bearing block 20 the shaft 18 carries a feed wheel 41, between which and the welt supporting wheel 15 the welt 49 passes as indicated in Fig. 2.

From the construction thus far described, it will be apparent that upon depression of the treadle 38 the feed wheel 41 will be

forced downward and away from the welt supporting roll 15 against the tension of the spring 22, and upon release of the treadle 38, the welt 49 will be clamped between the feed and supporting rolls 41 and 15. Likewise it will be apparent that upon rotation of the driving shaft 3, the welt supporting roll 15 and, perforce, the feed roll 41 will be continuously driven to feed the welt or pass it over the welt supporting roll 15.

The welt table supporting arm 43, the welt supporting table 48 from which the welt 49 passes, the welt beveling knife 50 and its mounting, and their adjunctive parts may be as pointed out in said prior patent, or of any other preferred construction.

Projecting through a guiding portion 52, Fig. 1, beneath the table 48 is a rod 53 carrying at its outer portion an edge gage or guide 54 for acting on the outer longitudinal edge of the welt as it passes over the welt supporting table 48, the gage portion 54 being preferably movable transversely over the table surface. The rod 53 at the end opposite the edge gage 54 is provided with a head 59 between which and the guiding portion 52 of the table is interposed the spring 60, the effect of said spring being to normally maintain the gage and the guide 54 pressed inward against the edge of the welt.

Mounted upon the support or stud shaft 34 of the machine head is a bell crank lever 61, the elbow whereof embraces the shaft 35, Figs. 1 and 2, and the upper end whereof bears against the head 59 of the rod 53, the construction being such that upon depression of the treadle 38 the bell crank 61 will be moved about its support 34 and push the edge gage 54 outward away from the welt.

The rod 65, Fig. 1, for carrying the presser to act upon the welt as it passes from the welt supporting table 48, the presser 77 and its carrying slide 76, the grooving knife 81 and its carrying slide 80, and the means for simultaneously lifting the said pressers and grooving knife may all be substantially as in said Patent 966,484 or otherwise, as desired, said features not being essentials of the invention herein claimed and for which reason further description thereof and their specific constructions need not be given.

As hereinbefore indicated, it is desirable to provide the welt strip prior to its attachment to the shoe with a series of transverse slits or slashes which preferably extend from the surface near to or adjacent one longitudinal edge of the welt strip downward into and partially through the welt strip and through the other longitudinal edge of the welt. It is desirable also for economy of production that these slashes shall be made expeditiously and that they

may be formed at varying inclinations with respect to the surface of the welt. The present invention contemplates means to these ends, and as one embodiment thereof it comprises the following general characteristics: Mounted in suitable lugs 87 projecting from the machine head, Fig. 2, is the bearing 88 preferably formed as a split sleeve and carrying a shaft 89 for supporting the knife or cutter 90, Figs. 2 and 3. Said knife or cutter 90 may be secured to the rotary shaft 89 in any suitable manner in order to partake of the rotary movement thereof, and is preferably mounted in a carrier 91 which may be clamped to said shaft by means of the set screw 91*, the knife or cutter 90 itself being secured to the carrier by suitable screw connections 90* as indicated in Fig. 2. From the construction thus far described, it will be apparent that upon longitudinal movement of the shaft 89 in its bearing 88, the knife 90 will be moved toward or from the surface of the welt supporting roll 15, and that the depth of the cut made by the knife may be thereby varied. As one appropriate means for effecting this longitudinal adjustment of the shaft 89, the latter is carried by a sleeve 102 which is screw threaded into the bearing 80 as indicated by the sectional detail, Fig. 3, and a capstan or collar 93 is provided for rotating said sleeve 102 and thereby moving it and, perforce, the shaft 89 longitudinally.

Obviously, any appropriate means may be employed for imparting rotating movement to the shaft 89, and as one convenient form of such means there is mounted on the knife carrying shaft 89 a pulley 94 which may be driven by a belt 95 passing around an idle pulley 96, Fig. 1, and receiving motion from a pulley 97 on the main driving shaft 3. Obviously, upon rotation of the shaft 89, the knife 90 will be carried in a circular path and will slit the welt transversely as it passes over the welt supporting roll 15. In order, however, to vary the angle of this transverse slit—that is, to change its inclination to the surface of the welt—the knife carrying shaft bearing 88 is mounted to turn in the vertical plane with respect to the projections 87 supporting it, as indicated in Fig. 2. As a convenient means to effect this characteristic adjustment of the knife carrying shaft bearing 88 and its attached parts, there is screw threaded into the head frame the adjusting screw 98, Fig. 2, having the head 99 and annular ribs 100 which engage suitable recesses 103 in a portion attached to the bearing 88, the construction being such that upon rotation of the screw 98, the bearing 88 and its associated parts will be turned around its supporting axis 101, as will be clearly understood.

From the construction hereinbefore described as one convenient and practical form

of the present invention, it will be noted that the welt strip 49 will be drawn continuously about the welt supporting roll 15, and that as it is so drawn it will be treated by the rotary knife 90 in a manner to provide transverse slashes in the welt, and that these transverse slashes may be inclined more or less obliquely to the surface of the welt by adjustment of the knife operating shaft 89, and further that said slashes may be formed in the welt from a point near one longitudinal edge and extend downward with progressively increasing depth into the welt without passing entirely therethrough and emerge from the other longitudinal edge of the welt.

Obviously, variations in details of structure may be made in the form and character of the device herein described as one convenient embodiment of the invention without departing from the true scope of the invention which is definitely pointed out by the claims.

What is claimed is:

1. In a machine for preparing welts before they are attached to shoes, the combination of means for feeding the welt, and rotary means for forming in the welt a series of oblique slits extending partially across the welt and partially through the thickness of the same.

2. In a machine for preparing welts before they are attached to shoes, the combination of means for supporting and feeding the welt, and rotary slitting means for forming in the welt while supported by said means a series of oblique slits extending crosswise of the welt and partially through the thickness of the welt.

3. In a machine for preparing welts before they are attached to shoes, the combination of a rotary welt slitting knife constructed and arranged to move in a curved path widthwise of the welt to cut slits obliquely disposed to the surface of the welt and extending partially through the welt, and means to space the slits made by the knife.

4. In a machine for preparing welts, the combination of means for supporting and feeding the welt, and rotary slitting means movable in a curved path widthwise of the welt for forming a series of slits extending partially across the welt, and partially through the thickness of the same and obliquely disposed to the surface of the welt.

5. A machine for preparing welts having in combination a rotary welt supporting and feeding roll, and a rotary welt slitting knife for forming transverse slits in the welt extending partially through the welt while the welt is supported on the roll.

6. A machine for preparing welts having in combination welt supporting means, a rotary knife for making transverse slits ex-

tending partially through the welt, and means for relatively adjusting the knife and supporting means to change the angle of the slits.

7. In a machine for preparing welts, the combination of welt supporting means, and means acting progressively from a point between the edges of the welt widthwise thereof toward and through one edge to form slits therein extending partially through the welt.

8. In a machine for preparing welts, the combination of welt supporting means, and means acting progressively from a point between the edges of the welt transversely widthwise of the welt to form slits extending partially through the welt and of increasing depth toward the edge of the welt.

9. In a machine for preparing welts, the combination of a curved support about which the welt is curved longitudinally, and welt slashing means movable widthwise of the welt for making slashes extending partially through the welt while on said support.

10. In a machine for preparing welts, the combination of a rotary support about which the welt is passed, and welt slashing means movable transversely widthwise of the welt for making slashes extending partially through the welt as it passes about said support.

11. A welt preparing machine, comprising a slitting tool, means for operating said tool in a direction of the width of the welt from a point between the edges toward one edge to form slits extending partially through the thickness of the welt, a feeding wheel, and means permitting automatic adjustment of the feeding wheel to adapt it to welts of different thickness.

12. In a welt preparing machine, the combination of a welt support, a slitting tool, and means for moving the slitting tool in a curved path widthwise of the welt to form slits extending partially through the welt and in a plane inclined to the surface of the welt.

13. In a welt preparing machine, the combination of a welt slitting tool, a moving welt support for moving the welt continuously during the action of the tool, and means for moving the slitting tool in a curved path extending in the direction of the width of the welt to form slits extending partially through the welt while on said moving support.

14. In a welt preparing machine, a welt support comprising stationary and moving portions, and a rotary welt slitting knife for forming transverse slits in the welt extending partially through the welt while the welt is supported on the moving portion of the welt support.

15. In a welt preparing machine for preparing welt strips before they are attached

to the shoe, the combination of welt strip feeding means for reeding and supporting the strips, and a rotary slitting knife for forming in the welt strip a series of slits
5 extending partially across the width of the strip and partially through the thickness thereof.

16. In a welt preparing machine, the combination of welt supporting and feeding
10 means, and a rotary cutter having its cutting

stroke extending from a point between the edges of the welt toward one edge thereof and partially through the welt.

In testimony whereof, I have signed my name to this specification, in the presence of 15 two subscribing witnesses.

CHARLES P. STANBON.

Witnesses:

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A. LARSONE.

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