

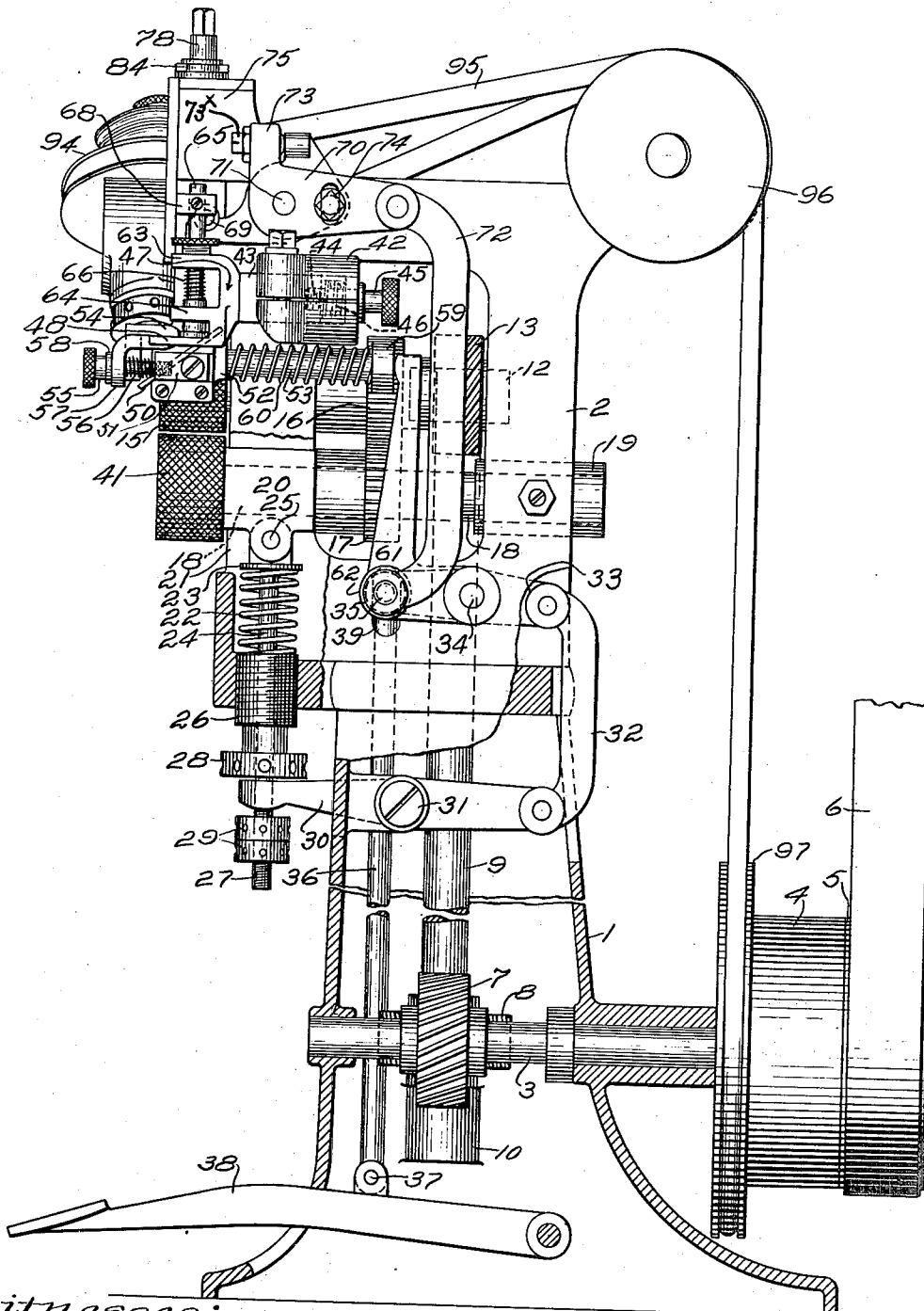
C. P. STANBON.
WELT PREPARING MACHINE.
APPLICATION FILED NOV. 2, 1908.

966,484.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
Russell F. Hatch.
Redfield Allen

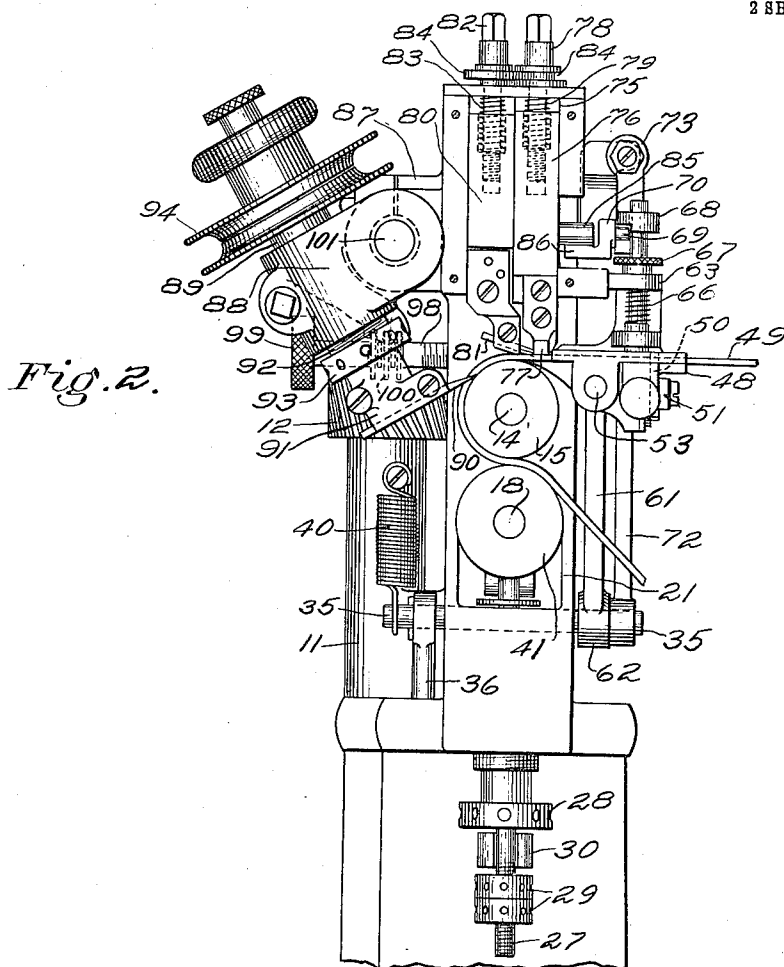
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Att'y.

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UNITED STATES PATENT OFFICE.

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WELT-PREPARING MACHINE.

966,484.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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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 numerals on the drawings representing like parts.

The invention to be hereinafter described relates to machines for preparing the welt strip for attachment to the insole and upper in the manufacture of welted boots and shoes.

The object of the present invention is to improve machines of the above general character to the end that the desired product may be expeditiously, accurately and economically secured, as will hereinafter more fully appear from the described and illustrated apparatus disclosing one embodiment of the present invention.

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.

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. 2, 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 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 a sleeved bearing 19 at one end, and in a vertically movable bearing block 20, near its opposite end portion. The bearing block 20 is movable vertically in

slide bearing 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 or 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 a spring 40, 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 the feed wheel 41 between which and the welt supporting wheel 15, the welt passes, as indicated in Fig. 2.

Formed upon the head frame is the split sleeve 42 provided with an internal bearing to receive the welt table supporting arm 43, said arm at its end within said sleeve being provided with screw thread connection 44 with an adjusting screw 45, a spring 46 being interposed between the end of the arm 43 and a seat near the end of the sleeve 42, as indicated in Fig. 1, whereby, by adjustment of the screw 45, the arm 43 and the parts carried thereby may be moved toward and from the front of the machine.

The arm 43 has projecting therefrom a bracket 47 having at its lower portion a table 48 over which the welt 49 passes, as shown. This table 48 is preferably formed of a broad flat piece extending, Fig. 2, well toward the welt supporting roll 15, and projecting upward through the table surface is the welt beveling knife 50, said knife being mounted in a slide block 51 mounted to slide in a way beneath the welt supporting table 48, and adjustable transversely of said

table by means of an adjusting screw 55 having a collar 58 bearing against a bracket 57 secured to the welt supporting table and a spring 56 surrounding the adjusting screw 5 and interposed between the bracket 57 and slide block 51, as clearly shown in Fig. 1.

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 table 48, the gage portion 54 being preferably movable transversely over the table surface, as indicated.

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 guide 54 pressed inward against the edge of the welt.

Mounted upon the support or stud shaft 34 on the machine head is the bell-crank lever 61, the elbow 62 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.

Mounted in suitable bearings 63, 64 on the arm 43 is the rod 65 carrying at its lower end a bearing plate to rest upon the upper surface of the welt which is for the time being supported upon the table 48. In order to maintain the bearing plate upon the welt, the rod 65 is surrounded by a spring 66, the downward movement of the rod being governed by the set screw 67 thereon. The upper portion of the rod 65 is provided with a collar 68 having a seat, Fig. 2, to receive a pin 69 carried by a lever 70 pivoted at 71, the opposite end of said lever being jointed to a link 72 which is itself connected to the shaft or stud 35 connected to the treadle rod 36. The lever 70 is preferably formed of two parts, as indicated in Fig. 1, said parts being connected together by the lugs 73 and screw 73* for adjustment purposes. A screw 74 permits relative adjustment of the parts of the lever, as will be readily understood.

Disposed in suitable bearings 75 in the machine head is the slide 76 carrying a presser 77 for resting upon the welt near the left end of the table 48, see Fig. 2. The slide 76 has screw thread connection with an adjusting stem 78, a spring 79 preferably acting upon the upper portion of the slide 76 to normally depress the same. Also disposed in the portion 75 of the head is a slide 80, carrying at its lower portion a grooving knife 81, said slide 80 being likewise connected to an adjusting stem 82 similarly

screw-threaded into the slide 80, a spring 83 normally acting to depress the slide 80 and the grooving knife 81 into operative relation with the welt. Surrounding the stems 78 and 82 are the collars 84, one of which has a recess to receive a complementary flange on the adjoining collar, whereby upward movement of one of these stems will cause a corresponding upward movement to the other.

Projecting from the slide 76 is a pin 85, Fig. 2, disposed immediately above the lifting toe 86 of the lever 70, whereby upward movement of the toe 86 lifts the slide 76 and with it the tools 77 and 81, in the manner as hereinbefore explained.

From the construction thus far described, it will be apparent that upon depression of the treadle 38, the bell-crank lever 61 acting upon the rod 53 will slide the edge gage 54 outward to unclamp and free the edge of the welt, and simultaneously therewith the upper gage or presser rod 65 will be lifted by the lever 70 and through this same lever the presser or clamp 77 and grooving knife 81 will be raised from the welt, and the lower or feed roll 41 will be depressed to free the welt from the nip between the upper and lower rolls 15 and 41, these entire operations being formed by a single depression of the treadle 38 without further attention on the part of the operator.

In order to provide transverse slits in the welt, as it passes over the welt supporting roll 15, there is provided a rotatable slitting knife or cutter, similar in general character to that of Patent No. 300,812 of 1884. Such mechanism will now be described.

Mounted in suitable lugs 87 projecting from the machine head, Fig. 2, is the bearing 88, preferably formed as a split sleeve and carrying the shaft 89 for the supporting knife or cutter 90. Said knife or cutter is preferably mounted in a carrier 91 and secured thereto by suitable screw connections, as indicated in Fig. 2, and said carrier 91 is made longitudinally adjustable with respect to the knife carrying shaft 89 by means of screw thread connection 92, the capstan or collar 93 rotatably mounted on the carrier 91 preferably engaging said screw threads, as indicated in Fig. 2. Obviously, any other form of connection might be employed.

Mounted on the knife carrying shaft 89 is the pulley 94 driven by a belt 95 which passes around suitable idle pulleys 96 and receives 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 similar to that in the patent hereinbefore referred to, 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, the knife carrying shaft bearing 88 is mounted to turn in a vertical plane with respect to the projections or studs 87 supporting it, as indicated in Fig. 2. In order 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 in a portion attached to the bearing 88, whereby, 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.

It will be apparent from the construction thus far described that upon unclamping the welt table supporting arm 43 from its bearing 42, the entire table, beveling knife, edge guide, and top guide or presser may bodily be removed from the machine for purposes of cleaning, substitution or repairs; and it is likewise apparent that by a single depression of the treadle 38 the various gages, pressers and other parts normally in contact with the welt or acting to hold it upon the table are removed from said contact.

Claim.

1. In a welt preparing machine, the combination of a welt supporting table, means for supporting said table, a presser plate for bearing upon the surface of the welt, an edge gage for acting on the edge of said welt while on the table, said presser plate and edge gage being carried by said table, and means for simultaneously moving the edge gage and presser from contact with the welt on the table.
2. In a welt preparing machine, the combination of a welt supporting table, means for supporting said table, a presser plate for bearing upon the surface of the welt, an edge gage for acting on the edge of said welt while on the table, said presser plate and edge gage being carried by said table, means for adjusting the table and with it the presser plate and edge gage, and a single means for moving the edge gage and presser relative to the table.
3. In a welt preparing machine, the combination of a welt supporting table, a presser plate and edge gage for acting on the welt while passing over said table, and a single means for removing the presser plate and edge gage with reference to the table.
4. In a welt preparing machine, the combination of a main frame, a welt supporting table removably connected therewith, and a presser plate and edge gage connected to the table and removable therewith.
5. In a welt preparing machine, the combination of a main frame, a welt supporting table removably connected therewith, a welt beveling knife mounted on the table, and a

presser plate and edge gage connected to the table and removable therewith.

6. In a welt preparing machine, the combination of a welt supporting surface, a presser plate for acting on the welt, an edge gage movable transversely of the table, tools for acting on the welt as it passes over said table, and treadle operated means for moving the presser plate, edge gage and tools away from the welt.

7. In a welt preparing machine, the combination of a welt supporting table, tools for acting upon the welt as it passes along said table, a welt supporting roll over which the welt passes from said table, a feed roll between which and the welt supporting roll the welt passes, a knife for slitting the welt as it passes over the welt supporting roll, and a single means to move said tools and feed roll to free the welt.

8. In a welt preparing machine, a welt supporting table, a presser plate and edge gage for acting upon the welt on said table, a grooving tool and adjacent presser for acting on the welt as it passes along the table, welt feeding means, and a single means to move the presser plate, edge gage, grooving tool, adjacent presser and feeding means to permit removal and positioning of the welt.

9. In a welt preparing machine, the combination of a stationary table, a presser plate for acting upon the welt as it passes over and while on said table, a grooving tool and adjacent presser for treating the welt on the table, and a single means for moving the presser plate, the grooving tool and adjacent presser from the table.

10. In a welt preparing machine, a welt supporting table, a beveling knife disposed near one edge thereof, a presser plate for holding the welt upon the table adjacent the beveling knife, a grooving knife and adjacent presser, and treadle means for lifting the presser plate, grooving knife and presser away from the table.

11. In a welt preparing machine, the combination of a table over which the welt is passed, an edge gage, a welt edge beveling knife projecting upward through said table, a presser to act upon the welt and hold it on the table adjacent the said beveling knife, a welt grooving knife for cutting a groove along the edge of the welt, a presser acting upon the welt adjacent said groove cutting knife, and means for simultaneously lifting the said pressers, the grooving knife and edge gage from the welt.

12. In a welt preparing machine, the combination of a table over which the welt is passed, a welt edge beveling knife projecting upward through the table, a presser to act upon the welt adjacent the welt edge beveling knife, a welt grooving knife for cutting a groove along the edge of the welt, a sec-

ond presser acting on the welt adjacent the grooving knife, connecting means between the grooving knife and second presser to cause them to move together, and treadle means for simultaneously lifting the pressers and grooving knife from the welt.

13. In a welt preparing machine, the combination of a table over which the welt is passed, a welt edge beveling knife projecting upward through the table, a presser to act upon the welt adjacent the welt edge beveling knife, a welt grooving knife for cutting a groove along the edge of the welt, a second presser acting on the welt adjacent the grooving knife, a spring normally acting to depress the pressers, connecting means between the grooving knife and second presser to cause them to move together, and treadle means for simultaneously lifting the pressers and grooving knife from the welt.

14. In a welt preparing machine, the combination of a table over which the welt is passed, a table supporting arm carrying said table, clamping means on the machine frame for sustaining the arm in position, adjusting means for said arm, a welt edge gage extending over the top of the table, a rod carrying said gage independent of the table, means for moving the edge gage independent of table movement, and tools for acting on the welt as it passes over said table.

15. In a welt preparing machine, the combination of a welt supporting table, a presser plate for acting on the welt as it passes over said table, an edge gage acting on the edge of the welt as it passes over said table, tools for treating the welt while on said table, a welt supporting roll over the top and about which the welt is passed, a feeding roll disposed below the supporting roll and between which and said supporting roll the welt is passed, a knife for slitting the welt while supported on the supporting roll beyond the table, and a single means for moving the presser plate and the edge gage from

said welt and for separating the supporting and feeding rolls.

16. In a welt preparing machine, the combination of a welt supporting table, a presser plate carried by said table, a supporting arm carrying said table and presser plate, and means for adjusting said arm and with it the table and presser plate in a direction transversely of the table.

17. In a welt preparing machine, the combination of a table, an arm supporting said table, a presser plate, a rod carrying said presser plate, a spring normally acting to depress the presser plate into contact with the welt on said table, an edge gage for acting on the edge of the welt as it passes over said table, and treadle operated means for moving said presser plate and edge gage relative to the table.

18. In a welt preparing machine, the combination of a welt supporting table, a presser plate and edge gage acting on the welt while on said table, a grooving tool and adjacent presser for acting on the welt as it passes along the table, welt feeding rolls, and treadle operated means to move the presser plate, edge gage, grooving tool and adjacent presser and then separate the feeding rolls to permit removal and positioning of the welt.

19. In a welt preparing machine, the combination of a welt supporting table along which the welt is fed, feeding means for the welt, tools for acting on the welt as it passes over said table, two pressers for holding the welt on the table, and a single means for raising both pressers to free the welt.

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

CHARLES P. STANBON.

Witnesses:

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REDFIELD H. ALLEN.