A. L. BLACK.

MACHINE FOR PREPARING WELTING.

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1,158,433.

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Fig. 3.

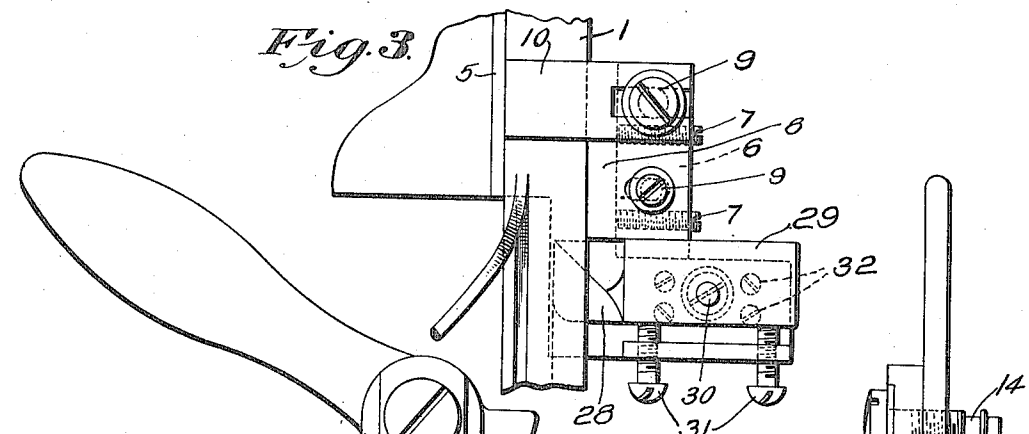



Fig. 1.

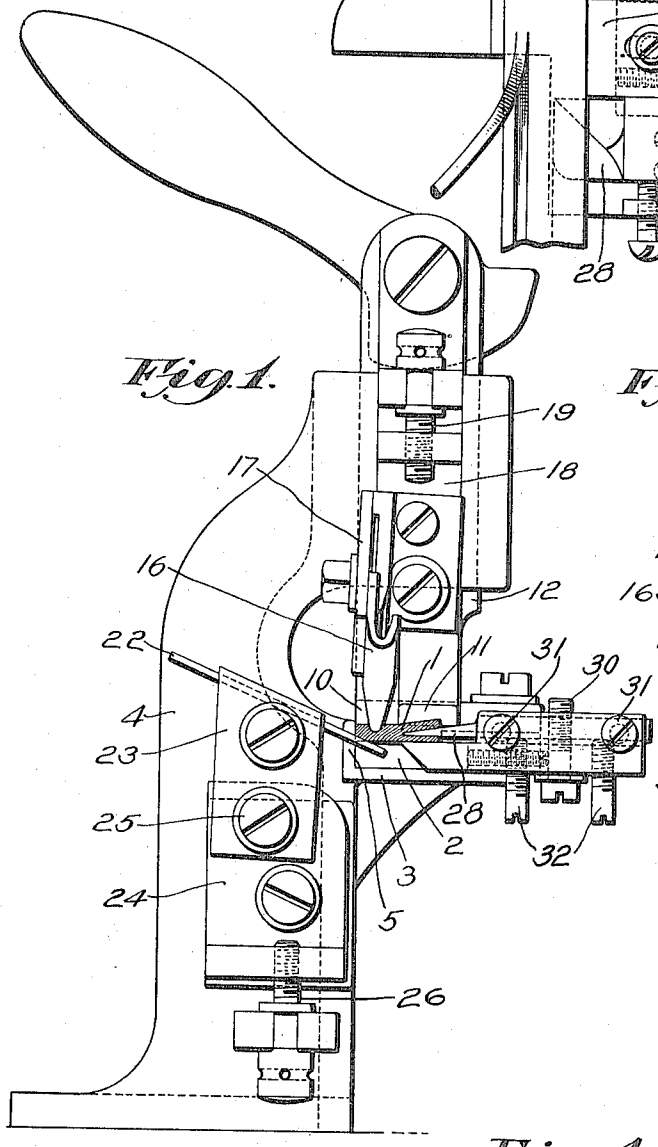



Fig. 2.

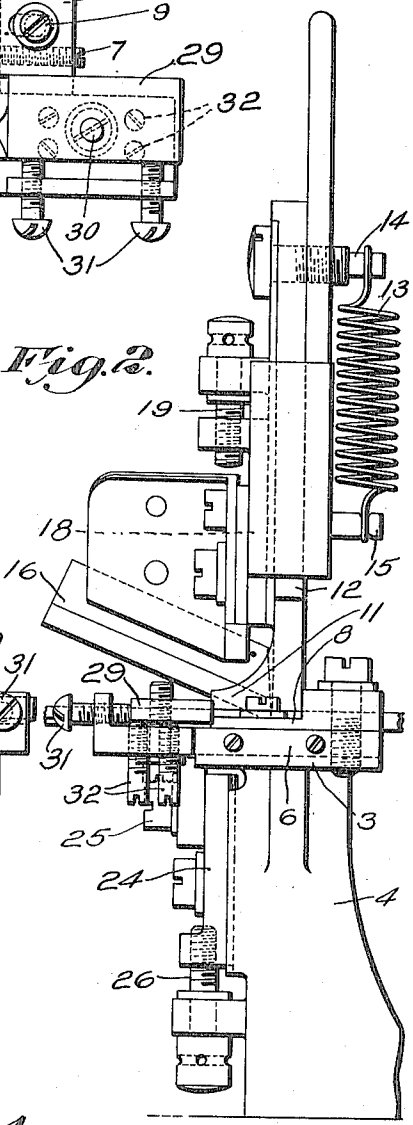
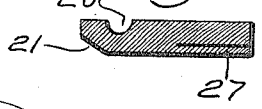



Fig. 4.




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# UNITED STATES PATENT OFFICE.

ALBERT L. BLACK, OF WHITMAN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## MACHINE FOR PREPARING WELTING.

1,158,433. Specification of Letters Patent. Patented Nov. 2, 1915.

Application filed February 5, 1915. Serial No. 6,246.

*To all whom it may concern:*

Be it known that I, ALBERT L. BLACK, a citizen of the United States, residing at Whitman, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Machines for Preparing Welting; 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.

The present invention relates to machines for preparing welting for use in the manufacture of Goodyear welt shoes.

The object of the invention is to provide a machine by which a strip of leather may be grooved and beveled at one edge and split partially across from the opposite edge to form a grooved and beveled Goodyear welting having a thin flap on its grain face or the face opposite that on which the groove is located, which may be turned back during the operation of stitching the outsole of the shoe to the welt and which may be laid down and cemented after the outsole stitching operation to hide the stitches of the seam.

With this object in view the present invention consists in a machine for preparing welting provided with suitable means for guiding a welt strip and having welt grooving, beveling and splitting knives constructed, arranged and supported as hereinafter described and claimed.

The present invention will be clearly understood from the following description when read in connection with the accompanying drawings in which;—

Figure 1 is a view in end elevation of a machine for preparing welting embodying the several features of the invention in their preferred form; Fig. 2 is a view in side elevation of the machine illustrated in Fig. 1; Fig. 3 is a detail plan view illustrating the manner in which the welt strip is supported and guided and also illustrating the manner in which the welt splitting knife is mounted, and its relation to the other parts of the machine; and Fig. 4 is a sectional view of the completed welting produced by the machine.

The machine illustrated in the drawings is adapted to operate upon a leather strip of indeterminate length and of a width corresponding to the width of the welting which is to be produced. The leading end of the leather strip is introduced into the machine by the operator and the strip is then pulled through the machine by the operator past the welt grooving, beveling and splitting knives.

The welt strip is indicated at 1 and as it passes through the machine it is supported on the upper surface of a block 2 seated on a table 3 projecting horizontally from and forming a part of the machine frame 4. This block 2 forms a portion of the splitting knife carrier hereinafter described and is held in the machine between the ledges or shoulders 5 and 6 by clamping screws 7 passing through the ledge 6 and bearing against the adjacent edge of the block. The ledge 5 extends above the block 2 and serves as a guide for one edge of the welt strip. The other edge of the welt strip is engaged by a guide plate 8 which is secured on top of the ledge 6 by means of screws 9 passing down through slots in the plate, the provision of these slots permitting the guide plate to be adjusted toward and from the ledge 5 to accommodate welt strips of different widths. A lateral projection 10 from the guide plate 8 extends over the welt strip so that this extension, together with the block 2, ledge 5 and plate 8, forms a guide completely surrounding the welt strip as it passes into the machine. The welt strip is held down against the upper surface of the block 2 by means of a presser foot 11 which is formed on the lower end of a slide 12 mounted in a vertical guideway in the overhanging head of the frame 4. A coil spring 13 connects a pin 14 at the upper end of the slide 12 with a pin 15 on the frame of the machine, the action of the spring being to force the presser foot yieldingly down against the welt strip.

The grooving knife is indicated at 16 and is secured by means of a split clamp 17 upon a knife block 18. This knife block is secured to the vertical slide 12 so as to be capable of vertical adjustment thereon, the vertical adjustment being secured by means of an adjusting screw 19 engaging a lug on the slide 12 and screwing into a lug on the block 18. The grooving knife is thus rigidly mounted with relation to the presser foot 11 so that after being adjusted to pro-

duce the desired depth of groove it will cut a groove of uniform depth throughout the length of the welt strip regardless of inequalities in the thickness of the strip.

The beveling knife is arranged to act at the same edge of the welt strip as the grooving knife, but is mounted upon the machine frame so that a uniform bevel will be cut on the strip. The relative positions of the groove and bevel are clearly shown in Fig. 4 in which 20 indicates the groove cut in the flush side near one edge of the welt strip, and 21 indicates the bevel cut on the welt strip at the same edge as the groove, but on the grain side of the strip. The beveling knife indicated at 22 is held in a split clamp 23 in such a position that the cutting edge extends across the edge of the welt strip just back of the point where the welt is firmly supported by a portion of the block 2 and presser foot 11. The clamp 23 is secured to a block 24 by means of a clamping screw 25 which permits an angular adjustment of the clamp and beveling knife. The block 24 is secured to the frame of the machine so as to be capable of vertical adjustment, the means for producing this adjustment consisting of the adjusting screw 26 which engages a lug on the frame of the machine and screws into a lug at the lower end of the block 24.

In addition to the groove 20 and bevel 21 the machine illustrated in the drawings is constructed to form on the grain side of the welt strip a comparatively thin flap indicated at 27 in Fig. 4. This flap is designed to cover the outseam stitches in the completed shoe, the flap being turned back during the outseaming operation and then being turned down and cemented so as to cover the stitches of the seam. To produce this flap the machine illustrated in the drawings is provided with a welt splitting knife 28 so located with relation to the grooving and beveling knives that the welt strip will be split partially across from the edge opposite to that acted upon by the grooving and beveling knives. The splitting knife 28 is mounted on a portion of the block 2 which extends in the direction of the feed of the welt beyond the presser foot and which extends laterally outward beyond the guiding flange 6 of the machine frame. A portion of the block 2 extends beneath the cutting edge of the splitting knife 28 and the edge of the knife is arranged to act on the welt strip close to the point where it is gripped between the block 2 and the presser foot. Consequently the splitting blade 28 cuts a flap at the grain side of the welt strip which is of uniform thickness throughout the length of the strip. To enable the knife to be secured firmly to the block 2 and yet be capable of angular adjustment so as to bring the cutting edge in the desired position with relation to the strip supporting surface of the block 2, the knife is provided with a shank 29 which is engaged by a bolt 30 passing upwardly through the block 2 and screwing into the shank of the knife. Two clamping screws 31 coöperate with the bolt 30 to hold the shank 29 of the knife in position, these screws 31 having a screw threaded engagement with a flange projecting upwardly from the block 2 and bearing against the shank 29 on opposite sides of the bolt 30. The angular position of the knife 28 is determined by supporting and adjusting screws 32 which have a screw threaded engagement with the block 2 and pass upwardly through the block to engage the lower surface of the shank 29 on opposite sides of the bolt 30.

The nature and object of the present invention having been indicated, and a machine embodying the invention in its preferred form having been specifically described, what is claimed is:—

1. A welt grooving and beveling machine, having in combination, grooving and beveling knives, means for guiding a welt strip past the knives and for holding it in position to be acted upon at one edge by the knives, and a welt splitting knife arranged with relation to the grooving and beveling knives to split the strip partially across from the opposite edge to form a flap to cover the outseam stitches in the completed shoe.

2. A welt grooving and beveling machine, having in combination, grooving and beveling knives, means for guiding a welt strip past the knives in position to be acted upon at one edge by the knives, a welt splitting knife arranged with relation to the grooving and beveling knives to split the strip partially across from the opposite edge to form a flap to cover the outseam stitches in the completed shoe, and a yieldingly mounted presser foot engaging the strip and carrying the grooving knife.

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