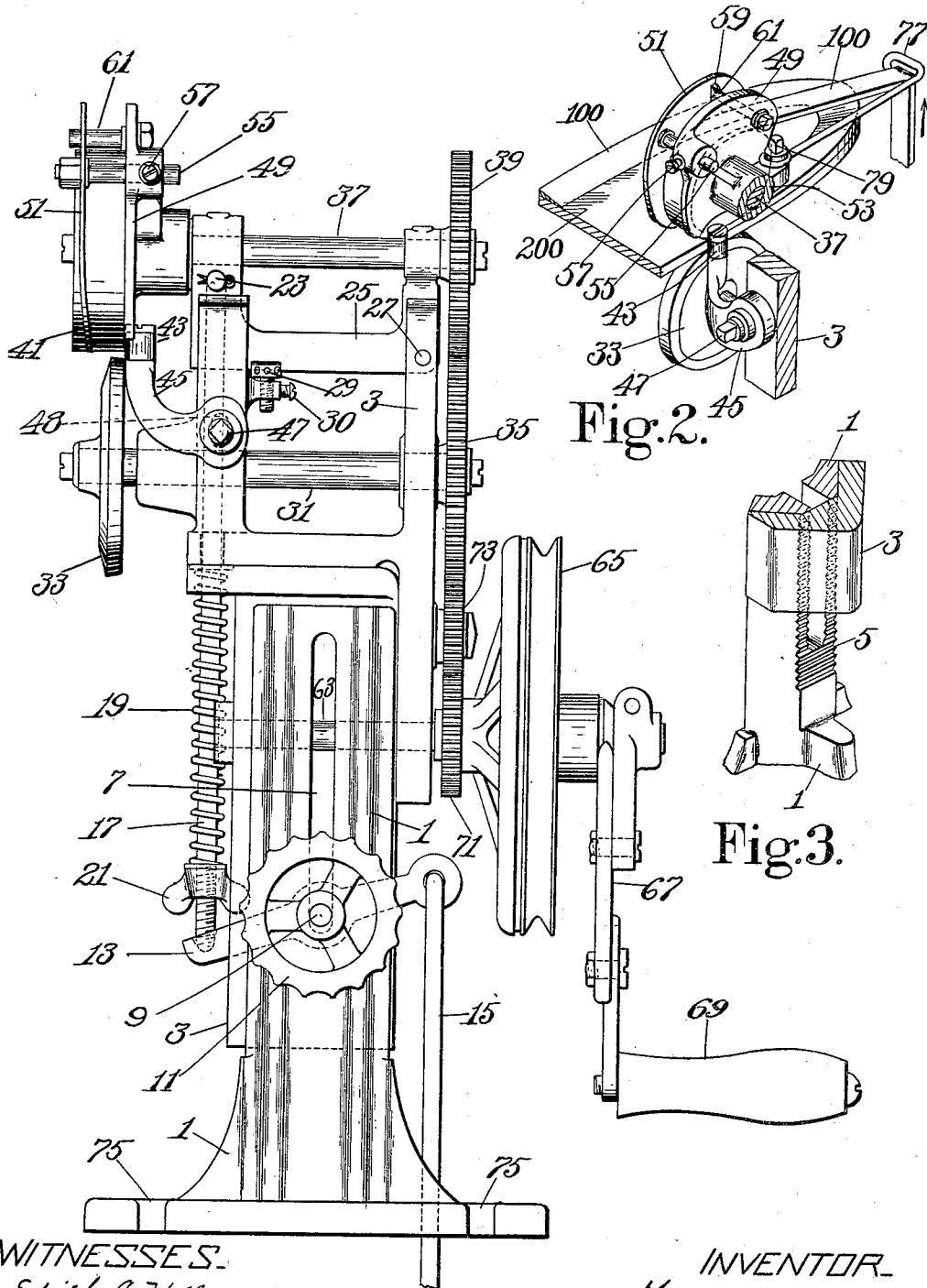


H. W. WINTER.
WELT LAYING MACHINE.
APPLICATION FILED JULY 5, 1910.

1,005,394.

Patented Oct. 10, 1911.



WITNESSES.

Edith C. Hollbrook

Elizabeth C. Coupe

Fig. 1.

INVENTOR.

Henry W. Winter

By his Attorney

Nelson W. Howard

UNITED STATES PATENT OFFICE.

HENRY W. WINTER, OF METHUEN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

WELT-LAYING MACHINE.

1,005,394.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed July 5, 1910. Serial No. 570,434.

To all whom it may concern:

Be it known that I, HENRY W. WINTER, a citizen of the United States, residing at Methuen, in the county of Essex and State of Massachusetts, have invented certain Improvements in Welt-Laying Machines, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to machines for laying welts, rands and similar strips and is herein illustrated as embodied in a machine for laying a mock welt along the margin of a sole.

In the manufacture of shoes, and particularly of those shoes known as McKay, it is sometimes the practice to provide a mock or imitation welt in order to give the shoe an appearance more desirable to the trade. These welts are ordinarily fastened in place by cement, and the general object of the present invention is to provide a machine whereby a welt, to which there has previously been applied a coat of adhesive material, may be accurately and firmly pressed into proper position along the margin of the desired portion of the sole.

In the illustrated embodiment of the invention there is provided a presser wheel, an applying wheel, a gage for the edge of the sole and welt, and means, which is preferably resilient, for maintaining the edge faces of the sole and welt in alinement.

In order to provide for welts of different thickness another feature of this invention consists in the provision with a machine of the class described of a guide or presser extending across the face of the welt and means whereby said guide may be adjusted to accommodate welts of different thickness.

These and other features of the invention including certain details of construction and combinations of parts will be described in connection with the accompanying drawing and pointed out in the appended claims.

Referring now to the accompanying drawing: Figure 1 is an elevation of the machine embodying the present invention; Fig. 2 is a detail perspective showing a welt in the process of being applied to a sole; Fig. 3 is a detail showing the engagement of the frame with the standard.

frame 3, said frame and standard being provided with interengaging teeth of which those on the standard are indicated at 5. The standard and frame are slotted as indicated at 7, and extending through the slots is a shaft 9 having one end mounted in the frame 3 and carrying at its opposite end a clamping wheel 11 by which the frame may be clamped in any adjusted position. Pivoted upon the shaft 9 is a lever 13, one end of which is in turn pivoted to the treadle rod 15 while the other end engages a push rod 17 surrounded by a spring 19, the tension of which may be varied by means of a wing-nut 21. This push rod is pivoted at 23 to a bearing member 25 which in turn has one end pivoted to the frame 3 at 27 and adjacent its opposite end engages an adjustable stop 29 which limits the downward movement caused by the spring 19. A shaft 31 rotatably mounted in uprights of the frame 3 carries a sole supporting wheel 33 at one end and a gear 35 at the other, while a second shaft 37 is similarly mounted in the swinging bearing member 25. This shaft 37 carries at one end a gear 39 and at the other an applying wheel 41 which in the operation of the machine contacts with the welt as shown in Fig. 2 wherein the welt is indicated at 100 and the sole at 200. Located close to one side of the adjacent faces of the wheels 33 and 41 is an edge gage comprising a roller 43 rotatably mounted on a bracket 45 which is fastened to the frame 3 by a bolt 47.

The present machine is designed to cause the welt to travel first toward the operator, then partially around the applying wheel and then away from the operator during the application of the welt to the sole. In order to guide the welt during its travel a plate 49 and a finger 51 are provided, the plate 49 being shown as integral with a collar 53 which is rigid with the frame 3. The finger 51 is fastened by means of a nut to a pin 55, said pin being held in a bore in the plate 49 by means of a set screw 57 so that said finger may be adjusted to accommodate welts of different widths. In the rear part of the finger 51 there is formed a slot 59, and a similar slot is formed in the plate 49, this last named slot being hidden beneath the nut of the pin 61. This pin 61 which is held rigid with the plate 49 by the nut referred to may therefore be adjusted toward and from the surface of the applying wheel

Slidably mounted upon a standard 1 is a

41 and serves as an adjustable presser or gage for holding welts of different thickness against said wheel. In order to hold the outer edge of the welt at all times against the edge gage roller 43, it is desirable that the finger 51 have a yielding engagement with the inner edge of the welt, and in the present case the finger is made of resilient material. This resiliency also provides for any inequalities that may exist in the width of any particular piece of welt and maintains the operative portion of the finger at all times in contact with the thinner edge of said piece. It should be noted, too, as shown in Fig. 1, that the lower end of the spring finger 51 is bent inwardly toward the edge gage, this construction together with the resiliency of the finger serving to facilitate the laying of welts which are not of a uniform width throughout their extent.

In order to actuate the shafts 31 and 37 a driving shaft 63 is provided with a fly wheel 65; and, connected to said shaft by a crank 67 which is adjustable as to length, is a handle 69. The shaft 63 also carries a gear 71 which meshes with an idle gear 73, said last named gear meshing in turn with the gear 35. The teeth of the gears 35 and 39 are of sufficient length so that when the bearing of the shaft 37 is rocked about the pivot 27 sufficiently to permit the sole and the piece of welt to be inserted between the wheels 41 and 33 the mesh of said gears 35 and 39 is not destroyed.

The standard 1 may be fastened to a table or other suitable support by bolts which may pass through holes 75 in the standard.

The welting is commonly supplied in long rolls and it is customary to mount a roll on a reel of some sort and to cut off each welt after it has been laid on the sole. Accordingly, there is provided a guide 77 (Fig. 2) in the form of a bent wire which is held in place by a screw bolt 79, this guide being so located and of such form that the welting is properly fed between the presser pin 61 and the periphery of the applying wheel 41.

It sometimes happens that soles are to be operated upon in which the edge does not form a right angle with the faces, and in order to provide for properly laying welts upon such soles as well as to permit a general adjustment of the edge gage, the hole through which the bolt 47 passes is made comparatively large as indicated at 48 and a washer 50 is provided between the head of said bolt and the frame.

The frame 3 which carries all the driving and operating mechanism is raised and clamped in any desired position. The handle 67 is adjusted as to length and the stop 29 adjusted so that the wheels 41 and 33 are properly spaced.

The operation of the machine is then as follows:—A piece of welt is drawn over the

applying wheel beneath the presser 61 and between the plate 49 and the finger 51 and is carried around to the lower side of the wheel 41. The treadle is then depressed, a sole placed in position, the treadle released and the handle 69 turned, the sole being guided by the operator.

Although the invention has been set forth in connection with a particular machine, it should be understood that the invention is not limited in the scope of its invention to the particular machine shown and described.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A machine of the class described having, in combination, resilient means for applying a welt to a sole, means for maintaining the edge of the welt in line with the edge of the sole said resilient means being adjustable to accommodate welts of different widths, and means for holding said resilient means in adjusted position.

2. A machine of the class described having, in combination, means for applying a welt to a sole, and means including a yielding finger and a gage for maintaining the edge of the welt in line with the edge of the sole, said gage and finger being relatively adjustable to accommodate welts of different widths.

3. A machine of the class described having, in combination, means for applying a welt to a sole guiding means for said welt, said guiding means comprising a presser for engaging the face of said welt said presser being adjustable to accommodate welts of different thickness, and means for holding said presser in adjusted position.

4. A machine of the class described having, in combination, means for applying a welt to a sole and guiding means for said welt, said guiding means comprising a presser for engaging the face of said welt and a finger for engaging the edge of the welt, said presser and finger being adjustable to accommodate welts of different dimensions, and means for holding said presser and finger in adjusted positions.

5. A welt laying machine having, in combination, a feed wheel, an applying wheel, means for rotating said wheels, an edge gage arranged to contact with the edge of a sole, and yielding guiding means arranged to force the welt against the edge gage during the application of the welt to the sole.

6. A welt laying machine having, in combination, means for applying a welt to a sole, means for guiding the welt forwardly into position to be applied and then rearwardly during the application.

7. A welt laying machine having, in combination, means for applying a welt to a sole, means for guiding the welt forwardly

into position to be applied and then rearwardly during the application, and a presser arranged to engage the face of the welt.

5 8. A welt laying machine having, in combination, means for applying a welt to a sole, means for guiding the welt forwardly into position to be applied and then rearwardly during the application, and a finger
10 arranged to engage the thinner edge of the welt.

9. A welt laying machine having, in combination, means for applying a welt to a sole, means for guiding the welt forwardly
15 into position to be applied and then rearwardly during the application, a presser arranged to engage the face of the welt and a finger arranged to engage the thinner edge of the welt.

20 10. A machine for laying a welt upon a sole having, in combination, an applying wheel, a supporting wheel, means for guiding a welt around a portion of said applying wheel, said means including a spring
25 tending to press the welt toward the edge of the sole, and means for rotating said wheels.

11. A welt laying machine having, in combination, a sole-supporting wheel, a

welt-applying wheel, means for rotating
said wheels, an edge gage for the sole and
welt, a plate arranged at that side of the
applying wheel adjacent the edge gage, a
resilient plate operating to maintain the
welt in contact with the edge gage, and
35 means for adjusting said resilient plate to provide for welts of different widths.

12. A machine of the class described having, in combination, means for applying a welt to a sole, and an edge gage arranged
40 to contact with the edge of the sole during the application of the welt, said gage being capable of angular adjustment, and means for holding said gage in adjusted position.

13. A machine of the class described having, in combination, a supporting wheel,
45 an applying wheel over which the welt passes, a presser for maintaining the welt in contact with the applying wheel, and means for guiding the welt to the presser.
50

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

HENRY W. WINTER.

Witnesses:

CHESTER E. ROGERS,
LAURA M. GOODRIDGE.