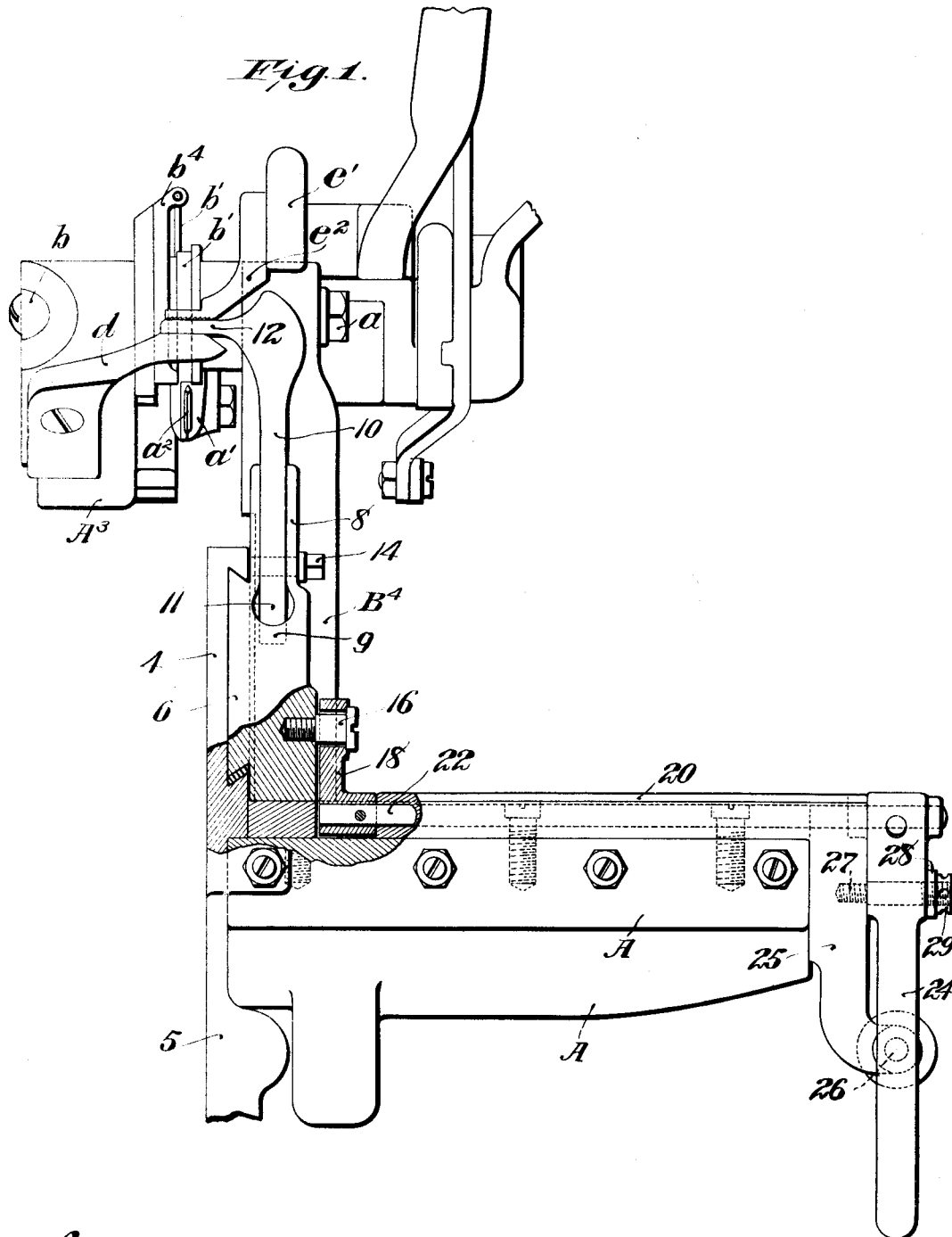


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GAGE MECHANISM FOR SHOE SEWING MACHINES.
APPLICATION FILED JULY 13, 1910.

1,034,822.

Patented Aug. 6, 1912.

2 SHEETS-SHEET 1



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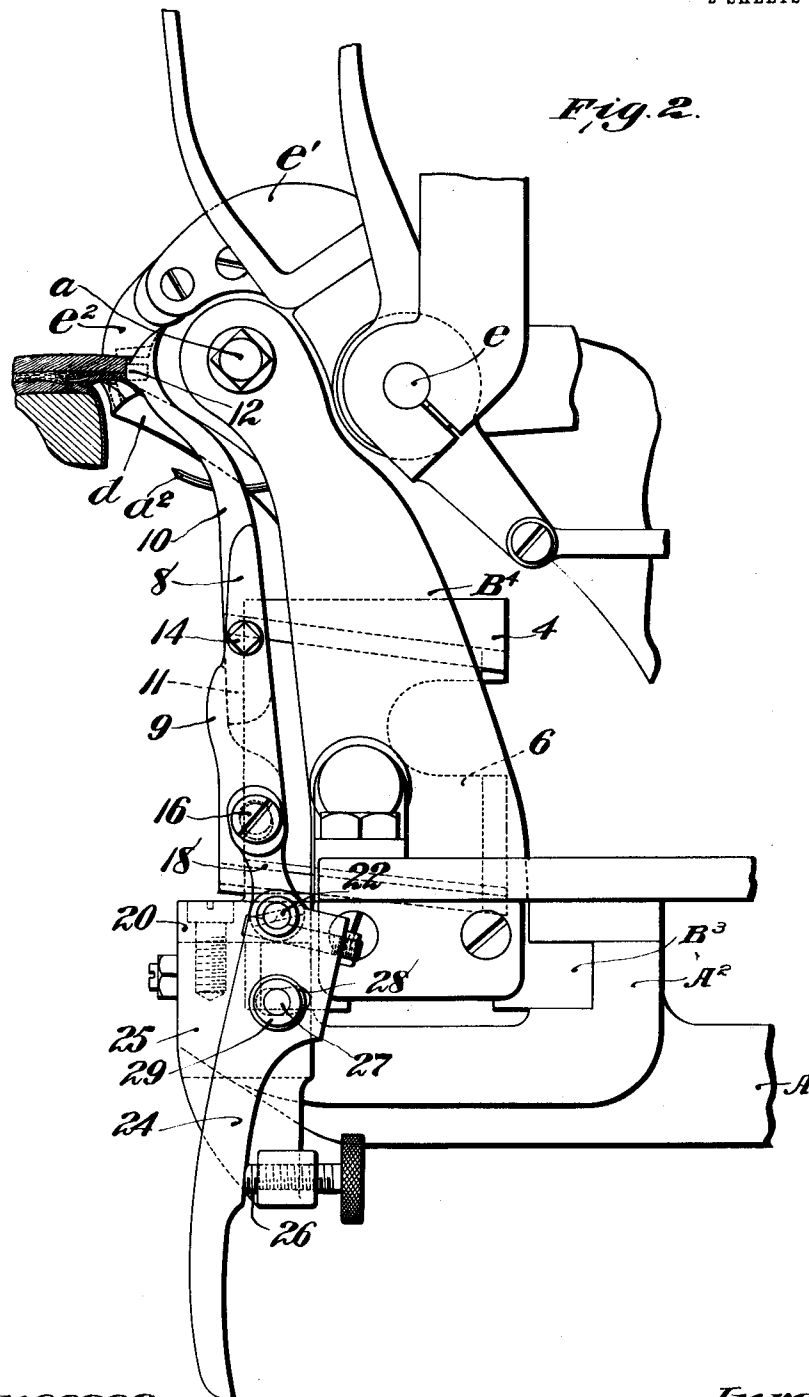
Edward E. Orr
by his Attorneys
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UNITED STATES PATENT OFFICE.

EDWARD E. ORR, OF WEYMOUTH, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

GAGE MECHANISM FOR SHOE-SEWING MACHINES.

1,034,822.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed July 13, 1910. Serial No. 571,694.

To all whom it may concern:

Be it known that I, EDWARD E. ORR, a citizen of the United States, residing at Weymouth, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Gage Mechanism for Shoe-Sewing 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.

The present invention relates to gage mechanism for shoe sewing machines and more particularly for that type of shoe sewing machines adapted to stitch the outsole to the lasted upper and welt of a welted shoe.

In some classes of boots and shoes, the sole projects beyond the upper a greater distance around the forepart than along the shank portion, such boots and shoes being frequently referred to as having a "Scotch edge." In other classes of boots and shoes the sole is made to project out farther from the upper at the outer side of the ball portion or is wider at this point than it is at the toe portion or at the inner side of the ball of the shoe, such an edge having become known as the "Baltimore edge." In sewing the soles of such boots and shoes, and particularly welted work, it is desirable that the stitches connecting the sole and welt shall pass through said parts at a certain distance from the edge of the sole all around the forepart of the boot or shoe regardless of the distance that the sole projects beyond the upper, while along the shank portions it is desirable that the stitches shall lie farther from the edge of the sole. To gain this end, outsole stitching machines have heretofore been provided with a table adapted to receive upon it the projecting edge of the welt of a lasted boot or shoe and the overlying sole, and the cooperating work-gage located adjacent to the table and adapted to engage the edge of the sole and externally guide the boot or shoe, said gage being freely movable during the stitching operation to control the position of the boot or shoe with relation to the stitch forming mechanism.

The objects of the present invention are

to reorganize and improve the construction and operation of the movable work-gage on shoe sewing machines of the class referred to, which is adapted to regulate the distance of the seam from the edge of the sole.

The features of the invention relate, therefore, to certain devices, combinations and arrangements of parts, hereinafter described and claimed, which possess advantages in simplicity of construction and ease of operation which will be apparent to those skilled in the art.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the improved gage and operating means therefor shown in connection with adjacent parts of an outsole stitching machine, having certain parts broken away to show details of construction; and Fig. 2 is an end elevation of the parts shown in Fig. 1.

The attachment herein to be described is intended as an improvement upon the machine illustrated and described in United States Letters Patent No. 473,870, dated April 26, 1892, issued to the Goodyear Shoe Machinery Company of Hartford, Conn., on application of Z. T. French and W. C. Meyer. The illustrated frame-work A having a guide box A² in which there is fitted to move longitudinally the feed slide B³ having at its inner end an upright B⁴ which receives a stud *a* upon which is mounted loosely the awl segment *a'* to which is attached the awl *a*²; the stud *b* carried by the rigid portion A³ of the frame-work A upon which is mounted loosely the needle carrying segment *b'* having attached to it the curved hook needle *b*² and needle guide segment *b*⁴; the stationary work support *d* mounted on the portion A⁵ of the frame work; the elbow-shaped lever *e'* mounted loosely upon the stud *e* and carrying the presser foot *e*², all may be and preferably are substantially the same as the similarly designated parts in the Patent No. 473,870, hereinbefore referred to. Said patent may be referred to for a further and more detailed description of the stitch forming mechanism.

In the embodiment of the invention illus-

trated in the drawings, the guide box A² has attached thereto at its left hand end by suitable screws, an upright 4 forming a part of the usual auxiliary take-up bracket 5.

5 In the upright 4 there is formed a stationary dove-tailed guideway for the reception of a sliding block 6 forming a support for the gage and provided with a forked upper front end 8. The shank 10 depending from

10 the movable work-gage 12 extends downward between the arms of the forked end 8 and is loosely pivoted in said fork by means of a stud 14 passed loosely through a hole in the shank 10 and threaded into the block

15 6. The shank 10 has an extension 11 below the pivot 14 of sufficient length to engage behind a shoulder 9 formed at the base of the arms of the fork 8. With this construction pressure by the sole of the shoe against

20 the gage 12, when the shoe is supported in working position as shown in Fig. 2, will be transmitted from the gage to the shoulder 9 and the position of the gage relative to the awl and needle will not be disturbed.

25 When the gage is moved forward a sufficient distance to cause it to clear the front edge of the work support *d*, by means to be presently described, the gage will fall forward and downward about the pivot 14

30 owing to the location of the center of gravity above said pivot. A construction and arrangement of parts is in this manner provided whereby the gage may be readily removed from its operative position to enable

35 the operative to obtain access to parts behind the gage which, when in working position, it covers. When the gage is in its working position it is supported by the work support *d* which prevents it from falling

40 forward.

To enable the gage 12 to be moved in and out, or toward and from the point at which the awl and needle pass through the work, the slide 6 is provided with a stud 16 which

45 passes through the upper slotted end of a crank arm 18, the hub of which enters a recess in a block 20 forming the forward or outer gib for the guide box A² of the feed slide B². The crank arm is held in this

50 recess by being pinned to the inner end of a rock shaft 22 extending at right angles to the guideway in the upright 4 and having a bearing within said gib 20. The outer end of the rock shaft 22 has pinned thereto a

55 depending handle 24 adapted to engage, intermediate its ends, with an adjustable stop 26 mounted in a carrier 25 conveniently formed as a depending lug on the outer end of the gib 20. The handle 24 is provided

60 with a curved slot, the sides of which are formed of arcs struck from the axis of the rock shaft 22, as a center, and a screw 27 is passed through this slot and threaded into the carrier 25. The screw 27, outside the

65 handle 24, carries a washer 28 of leather or

other suitable frictional material, which washer is held in place by an adjustable nut 29 on the outer end of the screw. To enable the slide 6 to be moved forward to a position where the work-gage will tip forward about its pivot 14, it is necessary merely to remove the stud 16 as this leaves the slide free to be moved forward any desired distance.

If the welt is in temper there is a tendency for it to crowd into the space between the lower face of the gage and the top of the work support. It has been found in using extension edge attachments as heretofore designed, for instance, such as is

80 shown in United States Letters Patent No. 563,471 to French and Meyer, wherein the path of movement of the gage is parallel to the plane of the surface of the work support, that when the welt has been crowded

85 in in the manner referred to the feed of the shoe is interfered with as the gage moves forward because such forward movement tends to pinch and jam the welt tighter between the gage and work support.

90 An important feature of the present invention resides in a movement of the gage which will relieve pressure on the welt if it has crowded beneath the gage and permit at all times a free movement of the work in

95 feeding. To this end in the illustrated embodiment of the invention (see Fig. 2), the guideway which receives the sliding gage supporting block 6 is formed at an angle to the plane of the surface of the work support, the guide slanting from front to rear.

100 As thus constructed, as the gage moves forward it moves in a path at an angle to the plane of the surface of the work support, in other words it is raised slightly and if the

105 welt has crowded beneath it the pressure is relieved and a free feed permitted.

In some styles of shoes, particularly in shoes designed for the Southern trade, the shanks are exceptionally narrow and the

110 forepart of the shoe must be swung to a considerable extent to properly stitch the shank. With the type of extension edge attachment shown in the patent to French and Meyer, No. 563,471, the shank of the

115 gage projects so far forward that a swing of the shoe to the necessary extent is obstructed. To remedy this defect the gage shank 10 is curved inward (see Fig. 2) below the gage sufficiently to permit the fore-

120 part to be swung inward as far as may be necessary on the narrowest shanks. As the upright B⁴ forms the stop to control the backward movement of the gage in order

125 that it may receive the gage shank, this also is designed to correspond to the curvature given to the gage shank.

The simplicity and ease of operation of this attachment will be apparent at a glance to those skilled in the art. The stop 26 is

130

preliminarily adjusted to a position which, when the handle 24 is in engagement with it, places the work-gage 12 in the proper predetermined relation to the path of movement of the awl and needle to provide for a line of stitching at the desired distance from the edge of the sole. The gage, as is usual, remains in this forward position during the stitching around the forepart.

When the shank is being stitched, however, and it is desired to place the line of stitching nearer the upper, the variation in the position of the gage may be quickly and easily made by a single blow upon the rear side of the handle 24 pulling it away from the stop 26. This rocks the shaft 22, turns the arm 18 angularly to the rear and through pressure on the stud 16 moves the slide 6 rearwardly and with it the work-gage 12. The rearward movement of the slide 6 may be continued until the shank 10 of the work-gage engages the forward face of the upright B⁴ on the feed slide, the back of said shank, for this purpose, having a contour similar to the contour of said upright as heretofore explained. When the work-gage is in its rearward position, that is, when the work is placed upon the work support with the edge of the work support in the welt crease, there is no engagement between the edge of the sole and the work-gage. The gage is held in this rearward, or inoperative, position by reason of the friction exerted upon the handle 24 by the washer 28. When it is desired to again bring the gage into its operative position, this is accomplished readily and quickly by means of a single blow on the front of the handle 24, the friction exerted by the washer 28 being easily overcome.

The nature and scope of the present invention having been indicated and the preferred embodiment of the invention having been specifically described, what is claimed as new is:

1. In a shoe-sewing machine, the combination with stitch forming mechanism and a feed slide, of a work support, a cooperating work-gage mounted independent of the feed slide, a stationary guideway, a support for the gage movable in said guideway, a rock-shaft extending at right angles to said guideway having a handle at one end and a crank arm at the other, and a pivotal connection between said gage support and crank arm.
2. In a shoe-sewing machine, the combination with stitch forming mechanism and a feed slide, of a work support, a cooperating work-gage mounted independent of the feed slide, a stationary guideway, a support for the gage movable in said guideway, a rock-shaft extending at right angles to said guideway having a handle at one end and a crank arm at the other, a pivotal connection between said gage support and crank arm, and

an adjustable stop to limit the movement of the handle in one direction.

3. In a shoe-sewing machine, the combination with stitch forming mechanism and a feed slide, of a work support, a cooperating work-gage mounted independent of the feed slide, a rock-shaft to which said gage is connected, a handle on the rock-shaft to rock the shaft and move the gage in and out, and a friction washer acting on the handle for retarding the movement of the rock-shaft.

4. In a shoe-sewing machine, the combination with stitch forming mechanism, of a work support, a work-gage movable in and out over the work support and mounted to be swung downward in front of the work support.

5. In a shoe-sewing machine, the combination with stitch forming mechanism, of a work support, a slide below the work support having an upwardly projecting forked end, and a work-gage above the work support having a shank pivotally connected between the arms of said fork whereby the gage may be dropped downward in front of the work support when the slide is moved to a position to cause the gage to clear the work support.

6. In a shoe-sewing machine, the combination with stitch forming mechanism and a work support, of a cooperating work-gage above the support movable in and out during the operation of the machine, and means for increasing the distance between the lower face of the gage and surface of the work support as the gage moves out.

7. In a shoe-sewing machine, the combination with stitch forming mechanism and a work support, of a cooperating work-gage above the support movable in and out during the operation of the machine, means for moving said gage, and means controlling its movement to cause it to travel in a path at an angle to the plane of the surface of the work support.

8. In a shoe-sewing machine, the combination with stitch forming mechanism and a work support, of a cooperating work-gage above the support movable in and out during the operation of the machine, means for moving said gage, a guideway arranged at an angle to the plane of the surface of the work support, and a slide block on which the gage is supported arranged to travel in said guideway.

9. In a shoe-sewing machine, the combination with stitch forming mechanism, a feed slide and a work support, of a work-gage cooperating with the work support having a shank extending below the support and curved inwardly forming a space to receive the forepart of a shoe when stitching exceptionally narrow shanks, means to move the gage in and out, and an upright on the feed slide forming a stop to limit the inward

movement of the gage and having a surface to be engaged by the gage shank corresponding to the curvature thereof.

10. In a shoe-sewing machine, the combination with stitch forming mechanism, a feed slide and a work support, of a work-gage coöperating with the work support having a shank extending below the support, a

slide having a pivotal connection with the shank, and a handle independent of the feed slide for operating said gage slide to move the gage. 10

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