

L. A. CASGRAIN.
STITCH IMPRESSION MACHINE.
APPLICATION FILED MAY 6, 1910.

1,049,449.

Patented Jan. 7, 1913.

2 SHEETS-SHEET 1.

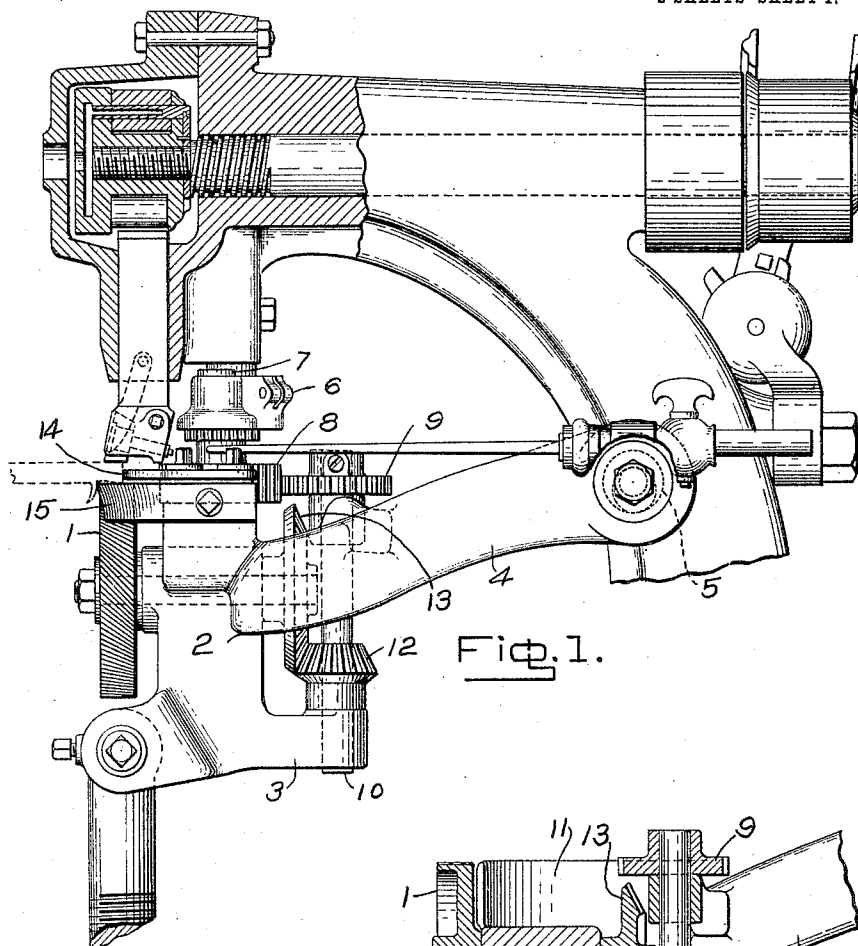


Fig. 1.

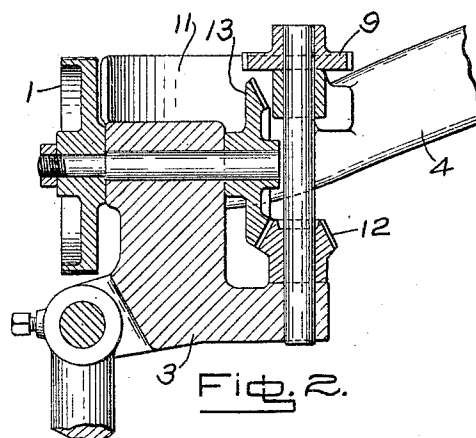


Fig. 2.

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Fig. 3.

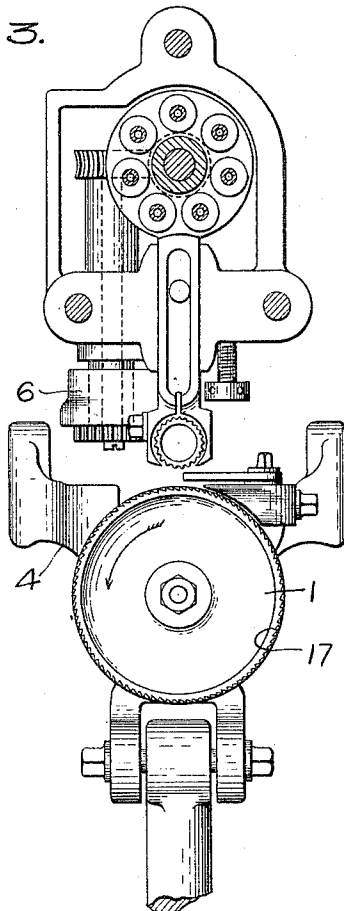
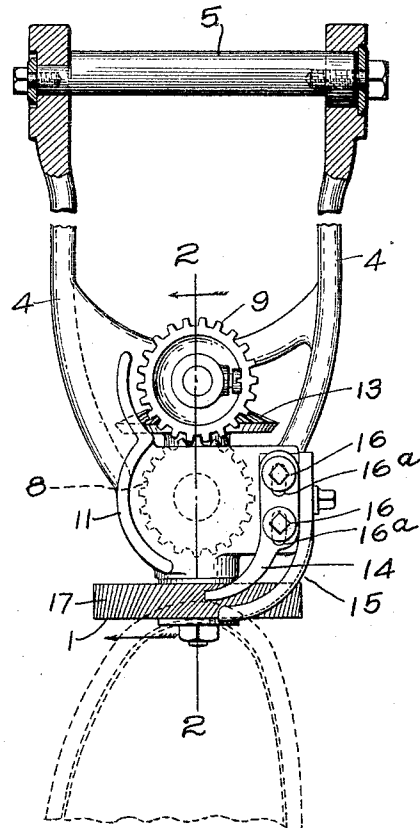


Fig. 4.



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UNITED STATES PATENT OFFICE.

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STITCH-IMPRESSION MACHINE.

1,049,449.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed May 6, 1910. Serial No. 559,803.

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Stitch-Impression 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.

This invention relates to impression stitch machines and more particularly to machines of this type used in the manufacture of McKay shoes.

In making McKay shoes manufacturers often desire to provide an outseam in the sole of the shoe which closely resembles in appearance the outseam of the Goodyear welt shoes. This outseam consists in some cases simply of a row of fair stitches along the margin of the outsole. In other cases the shoe is provided with a false welt which is attached to the outsole by the row of stitches comprising the outseam. When this outseam is sewed completely through the outsole from top to bottom, it is customary to channel the tread face of the outsole in order to properly seat the stitches. The margin of the upper surface of the sole is then formed with a series of stitch impressions which impart a finished appearance to the sole. It is desirable that these impressions should extend completely from the edge of the sole to the jointure of the sole and upper, but this cannot well be done after the upper is attached to the sole. As is well known to those skilled in the art, the stitch impressions can best be formed in the sole after the outseam has been applied but before the sole is attached to the upper. This cannot be done on the existing stitch impression machines without injuring the upturned channel flap upon the tread face of the sole.

One object of the present invention is to provide means whereby the stitch impressions may be formed in the sole prior to its attachment to the upper and without causing injury to the channel flap.

A further object of the invention is to provide means to vary the length of the impressions upon the margin of the sole.

Still further objects of the invention are to provide improved constructions and arrangements of parts whereby the margin of

the sole may be guided under the indenting tool with greater ease and accuracy.

With the above objects in view, one feature of the invention comprises a rotary, driven work support mounted upon a horizontal axis beneath the indenting tool.

Another feature of the invention comprises guides arranged between the work support and indenting tool adapted to guide the edge and channel flap of the sole respectively.

A further feature of the invention contemplates an adjustment of the work support and guides bodily with relation to the indenting tool to provide a variation in the length of the impressions or indentations.

Still further features will be pointed out in the following description and more particularly in the appended claims.

In the accompanying drawings, illustrating the preferred embodiment of the invention, Figure 1 represents an elevation of a stitch impression machine with certain parts cut away and shown in section, and provided with the improvements of the present invention; Fig. 2 is a detail, in section, of the driving mechanism for the work support, taken upon the line 2—2, Fig. 4; Fig. 3 is a front elevation of the parts shown in Fig. 1; Fig. 4 is a plan of the work support and driving mechanism therefor detached from the machine.

For purposes of illustration the present invention is shown as applied to a machine of the type described in United States Letters Patent No. 768,560, dated August 23, 1904, and granted to applicant. This machine comprises a vertically reciprocated indenting tool which is actuated by a rotary head mounted upon the main driving shaft of the machine. An auxiliary shaft is mounted in the machine adjacent to the indenting tool and is also driven by the main driving shaft of the machine. The auxiliary shaft through a train of gearing is adapted to drive the work support as hereinafter more specifically described.

The improved work support which is employed enables the machine to operate upon the upper surface of the sole without having the upturned flap come into contact with the work support. In order to accomplish the above result a work support is employed in the form of a rotary roll 1 which is mounted to turn about a horizontal axis and

is journaled in the head 2 of the vertically movable yoke-shaped frame 3. In the preferred form of the machine the roll 1 operates as a feed roll but it is to be understood that the use of separate feed means is contemplated if so desired. The frame 3 for the work support comprises a pair of rearwardly extending arms 4 which are pivotally mounted upon the frame of the machine at their free ends. The work support 1 is positively driven through a train of gearing so arranged that it may be driven by the mechanism of the indenting machine, heretofore referred to, without substantial change. To this end an adjustable clamp block 6 is mounted upon the lower end of the hollow sleeve within which the auxiliary shaft of the indenting machine, described in the patent previously referred to, revolves. A stud shaft 7, driven by the auxiliary shaft through intermeshing gears on the two shafts, is journaled in the clamp block and has a gear 8 mounted upon the lower end thereof. The gear 8 is seated in a recessed portion 11 of the upper part of the head 2 and is adapted to mesh with and drive the gear 9 mounted upon the upper end of a shaft 10. The gear 9 rotates the work support 1 through a pair of suitably mounted beveled gears 12 and 13.

In order to properly guide the work under the indenting tool, a guide 14 is provided which engages the edge of the sole as it comes into position under the indenting tool. The edge guide 14 is preferably mounted at one end only upon the upper portion of the head 2 and is curved to extend in the direction of the line of feed between the work support and the indenting tool. The channel flap projecting from the tread surface of the sole is prevented from being caught between the sole and work support by a flap guard 15 which is mounted adjacent to the periphery of the work support and substantially flush with the outer face. The flap guard is supported at one end upon the frame and curved similarly to the edge guide 14. In order that the guard may better engage the channel flap, the outer face of the guard is provided with a concave surface and as the channel flap passes across the face of the guard, the upper edge of the guard will press against the base of the flap and the concave surface will work the flap out into its proper position without having any tendency to bend it between the sole and work support. As a further means tending to keep the sole in its proper operative position, the work support 1 is provided with a series of corrugations 17 which are inclined to the axis of the work support and which have a tendency to feed the sole in against the guides. In order to allow for variations in the spacing of the channel flap from the edge of the sole, the guide 14 is

fastened to the head 2 through the clamp bolts 16 and slots 16^a and is transversely adjustable relatively to the work support and flap guard 15.

Under certain conditions it is advisable to vary the length of the stitch impressions upon the margin of the sole and to accomplish this result the work support is provided with an adjustment across the feed of the sole. This may be accomplished by mounting the arms 4 at their free ends upon an eccentric bearing 5, journaled in the frame of the machine. A rotation of the eccentric forming the bearing 5 moves the work support in and out relatively to the indenting tool. When the work support and driving mechanism therefor are thus adjusted, the clamp block 6 may be loosened and the gear 8 adjusted to correspond with the adjustment of the work support and maintain a proper operative relation between the gears 8 and 9. It will be noted that the above adjustment does not change the relation between the edge guide and flap guard but adjusts the work support, guide and guard as a whole relatively to the indenting tool.

While the particulars described are well suited to one mechanical form of the invention, it is not to be understood that these particulars are essential since they may be variously modified within the skill of the artisan without departing from the true scope of the actual invention as defined by the claims.

I claim—

1. A stitch impression machine, having, in combination, an indenting tool, a work support arranged to engage the tread surface of a sole, and support the sole against the thrust of the tool, and a flap guard arranged to engage the channel flap projecting from the tread surface of the sole and prevent the flap from passing between the work support and indenting tool, substantially as described.

2. A stitch impression machine, having, in combination, a work support mounted to rotate about a horizontal axis, and a flap guard mounted adjacent the periphery of the work support and having its outer edge substantially flush with the outer face of the work support, substantially as described.

3. A stitch impression machine, having, in combination, a work support mounted to rotate about a horizontal axis, and a flap guard supported above the work support and adjacent the periphery thereof, the outer edge of the flap guard being substantially flush with the outer face of the work support, substantially as described.

4. A stitch impression machine, having, in combination, an indenting tool, a work support mounted to rotate about a horizontal axis, and a flap guard mounted adjacent the

periphery of the work support, the outer face of the flap guard having a concave surface, substantially as described.

5 5. A stitch impression machine, having, in combination, an indenting tool, a work support mounted to rotate about a horizontal axis, a flap guard, and an edge guide adjacent the periphery of the work support, substantially as described.

10 6. A stitch impression machine, having, in combination, an indenting tool, a work support mounted to rotate about a horizontal axis, a flap guard, and an edge guide mounted adjacent to the periphery of the work support, the edge guide being adjustable relatively to said flap guard, substantially as described.

20 7. A stitch impression machine, having, in combination, an indenting tool, a work support located beneath said indenting tool and mounted to rotate about a horizontal axis, a pivoted frame in which said work support is journaled, a flap guard, and an edge guide mounted above said work support and adapted to guide the edge of a sole under the indenting tool without injury to the channel flap, substantially as described.

30 8. A stitch impression machine, having, in combination, an indenting tool, a work support located beneath said indenting tool and mounted to rotate about a horizontal axis, a pivoted frame in which said work support is journaled, a flap guard support-

ed with its outer edge flush with the face of the work support, and an edge guide spaced inwardly from the flap guard, the guide and guard being supported above the work support and adjacent the periphery of the same, substantially as described.

40 9. A switch impression machine, having, in combination, an indenting tool, a work support mounted beneath said tool, a flap guard, and an edge guide supported between the work support and indenting tool, and means for adjusting the work support, guide and guard transversely with relation to the indenting tool, substantially as described.

50 10. A stitch impression machine, having, in combination, an indenting tool, a yoke-shaped frame, a work support journaled in the frame beneath the indenting tool, a flap guard, and an edge guide mounted upon the frame between the indenting tool and work support, and an eccentric bearing pivotally connecting the free ends of the yoke-shaped frame to the machine, whereby the work support, guide and guard may be adjusted transversely with relation to the indenting tool, substantially as described.

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Witnesses:

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It is hereby certified that in Letters Patent No. 1,049,449, granted January 7, 1913, upon the application of Louis A. Casgrain, of Beverly, Massachusetts, for an improvement in "Stitch-Impression Machines," errors appear in the printed specification requiring correction as follows: Page 3, line 41, for the word "switch" read *stitch*; same page, line 48, for the word "substantilly" read *substantially*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of February, A. D., 1913.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.