

E. E. WINKLEY.
SOLE MACHINE.

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1,030,958.

Patented July 2, 1912.

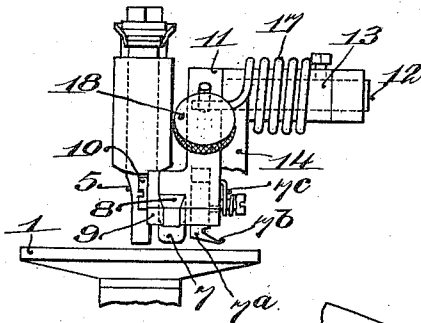
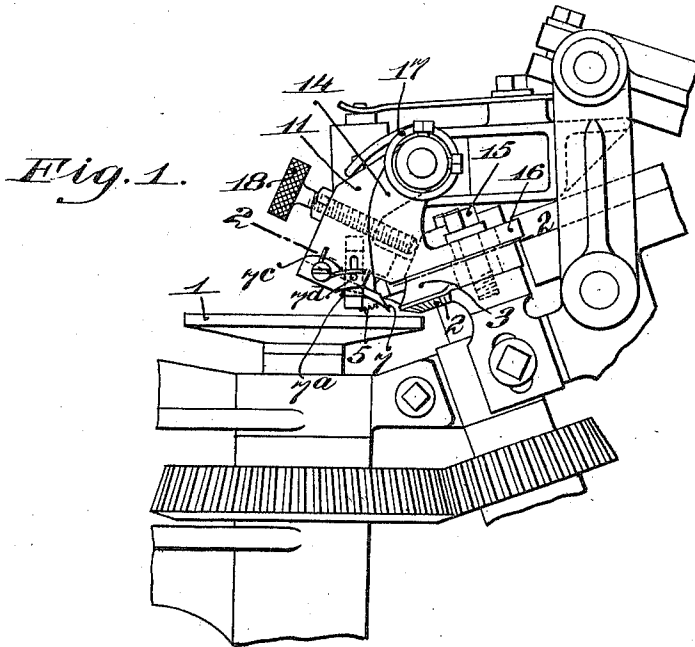


Fig. 3.

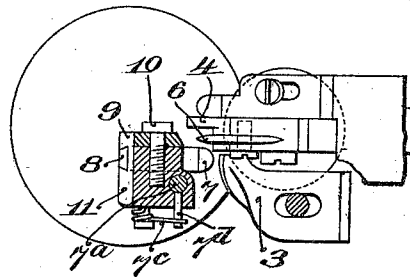


Fig. 2.

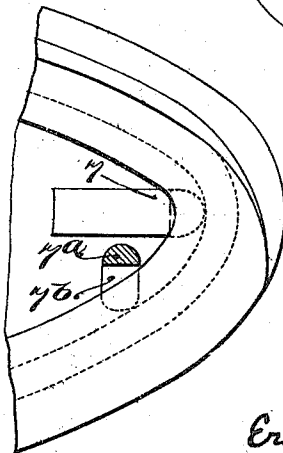


Fig. 4.

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UNITED STATES PATENT OFFICE.

ERASTUS E. WINKLEY, OF LYNN, MASSACHUSETTS.

SOLE-MACHINE.

1,030,958.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERASTUS E. WINKLEY, citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sole-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 invention relates to sole machines, and more especially to means for automatically guiding the work in machines adapted to operate upon a sole or insole blank which has been partially prepared for use by channeling or by other operations resulting in the formation of a marginal abutment on the blank. In an application filed May 24, 1906, Serial No. 318,530, I have described a sole machine of this character which is provided with a guide arranged to engage a marginal abutment on the blank in opposition to the devices operating upon the marginal portion of the blank, and to co-operate with the feeding means to automatically guide the blank and swing it at proper times in conformity with the curvature of its edge. In accordance with the present invention, I employ a guide such as is described in my said application, and also provide a supplementary guide which comes into action upon the same or upon another marginal abutment on the blank as the toe or other point where there is a sharp convex curvature in the outline of the blank is reached, and insures the proper swinging of the blank at this point, thus rendering the guiding more positive and certain at the points where there is greatest danger of inaccuracies occurring. The supplementary guide is arranged in advance of the other guide and in such relation thereto inside the abutment that it will be engaged with the abutment by the swing of the blank as the toe is passing the lip turning or other operating devices, and will act to insure the proper feeding and swinging of the blank in passing this point.

The invention will be readily understood from an inspection of the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of an insole lip turning machine embodying the present invention; Fig. 2 is a sectional view on line 2—2, Fig. 1; Fig. 3 is an eleva-

tion of the guide carrying blank looking toward the right in Fig. 2; and Fig. 4 is a partial plan view indicating the action of the guides in feeding the toe of the blank past the lip turning devices.

The invention is illustrated as embodied in a machine for turning and setting the lip of an insole blank which has been previously channeled and slitted, and as the machine illustrated is the same in general construction and mode of operation as the machine shown and described in Patent No. 635,772, granted October 31, 1899, to John B. Hadaway, only so much of the machine is shown and will be described as is necessary to an understanding of the present invention.

The machine shown in the drawings is provided with a work support 1, a feed wheel 2, a lip turner 3, a lip setter 4, a presser foot 5, and a slitting knife 6, all of which are actuated and operated in the manner set forth in the patent above referred to. The machine is also provided with a guide 7 arranged to engage the channel of the insole blank adjacent and in opposition to the point at which the lip turning, setting and slitting devices are operated, serving to maintain the blank in proper position relative to the operating means as the blank is fed, and causing the blank to swing in conformity with the curvature of its edge. The guide 7 is provided with a dove-tail shank 8, and is adjustably secured to a carrier block 11 by a clamp plate 9 and securing screw 10. A second guide 7^a is also mounted in the carrier block 11, and is provided with a lip 7^b at its lower end adapted to engage the channel of the insole blank. The guide 7^a is provided with a vertical shank fitting within a hole in the carrier block 11, and is held yieldingly in position by a spring 7^c. The spring is secured to the block 11 and engages a pin 7^d which projects from the shank of the guide through a vertical slot in the guide block. The spring acts to hold the pin in the lower end of the slot, and to yieldingly hold the guide 7^a in position to ride along the upper surface of the blank as it is fed past the operating means.

The carrier 11 is fixed to a stem 12 which is journaled in a sleeve 13 formed integral with a bracket 14 mounted on the frame of the machine. The bracket is adjustably secured to the frame by means of the screw 15

by which the lip turner 3 is secured in place, this screw passing through a slot in the base 16 of the bracket. A spring 17, engaging at one end the guide carrier 11, and fixed at its other end to the sleeve 13, holds the carrier block 11 in proper position. The position of the carrier block and guides carried thereby is determined by a stop screw 18 which is threaded into the carrier block 11 and engages a fixed portion of the machine as shown in dotted lines in Fig. 1. The pivotal arrangement of the guide carrier and the spring are used for the purpose of permitting the carrier to be swung upward from the work support to facilitate the insertion and removal of insole blanks by the operator. During the operation of the machine upon the blank, the guides are held in operative position by the spring 17.

The extremity of the guide 7 is beveled so as to enter the bottom of the channel, and is rounded so as to present no sharp corners to catch in the leather. It is located somewhat in advance of the point at which the blank is fed, so that it coöperates with the feed to cause a swinging of the blank in the proper direction whenever, owing to the curvature of its contour, it tends to swing away from proper engagement with the operating instrumentalities. During the greater portion of the feed of the blank, and while the portion passing the operating means is of moderate curvature, the supplementary guide 7^a rides on the surface of the blank at some distance in advance of the guide 7 and at some distance inside of the channel. As the toe part of the blank comes to the operating means, the swing of the blank brings the lip 7^b of the guide 7^a into the channel, and while the toe is being fed past the operating means, this guide acts against the abutment formed by the bottom of the channel to guide the blank, and to resist any tendency of the blank to swing away from the operating means. Thus the work is automatically presented in proper position to the lip turning and setting devices throughout the operation upon the blank, and at those points where there is most likely to be imperfect or inaccurate guiding, the supplementary guiding device comes into action and insures the proper and accurate guiding and feeding of the blank.

While in the embodiment of the invention shown in the drawings the guiding devices are formed to engage a channel, it will be understood that they may be modified in form to engage abutments of other forms previously formed in the blank, such, for instance, as grooves or shoulders, which are sometimes used in the place of a channel to receive the seam, and it will be also understood that the invention may be embodied in machines for performing other operations than that of turning up and

setting the lip, such operations including, for example, the preparation of the edge of the blank for the stitches in other manners, as by shouldering, or by the application of reinforcing material thereto. It will also be understood that in cases where two marginal abutments are formed upon the sole, it is not essential that the two guiding devices should engage the same marginal abutment.

Having set forth the nature and object of the invention, and specifically described one form of machine in which it may be embodied, what I claim is:—

1. A machine for operating on a partly finished sole blank provided with a marginal abutment, having, in combination, means for supporting, feeding and operating on the marginal portion of the blank, including a guide engaging the abutment in opposition to the operating means to maintain the blank in engagement therewith, and a supplementary guiding device operating when the toe of the blank is reached to insure the swinging of the blank, substantially as described.

2. A machine for operating on an insole blank, having, in combination, means for supporting, feeding and operating on the marginal portion of the blank, a blank swinging guide normally resting on the surface of the blank and having an extremity shaped to engage a marginal abutment on the blank, and a guide located at one side of and projecting beyond the blank swinging guide so as to engage the abutment and guide the blank during the operation thereon, the said guides being so located that when the toe is reached the blank swinging guide will engage the abutment and insure the swinging of the blank, substantially as described.

3. An insole lip setting machine, having, in combination, means for supporting and feeding an insole blank, means for turning up and setting the lip thereof, and two guides for directing and swinging the blank, one guide normally engaging a marginal abutment on the blank opposite to the lip setting devices, and the other arranged in advance of the first guide and inside of the abutment and arranged to engage the abutment at the toe of the blank in advance of the other guide to insure the swinging of the blank, substantially as described.

4. A machine for operating on insole blanks provided with a marginal abutment, having, in combination, means for supporting, feeding and operating on the marginal portion of the blank, two guides at one side in the direction of feed of the point of operation of the feeding means for directing and swinging the blank, one of said guides being arranged to constantly engage the abutment and normally guide the blank, and

the other guide being arranged to guide the blank when the toe is reached, substantially as described.

- 5 5. A machine for operating on a partly finished sole blank, having, in combination, means for supporting, feeding and operating on the marginal portion of the blank, and two guides for engaging the blank in opposition to the operating means but in advance of the feeding means, to swing the blank toward the operating means when its curvature is such that it tends to swing away from the operating means, substantially as described.
- 10 6. A machine for operating on a partly finished sole blank having a marginal abutment, having, in combination, means for supporting and feeding the blank, means for operating on the marginal portion of the blank, a guide arranged to engage the abutment in advance of the operating means and acting to swing the blank toward the operating means into working position relative to said means, and a second guide also engaging the abutment in advance of the first guide for assisting the operation of the first guide when the toe is reached, substantially as described.
- 15 7. A machine for operating on a partly finished sole blank having a marginal abutment, having, in combination, means for

supporting and feeding the blank, means for operating on the marginal portion of the blank, and two guides for engaging the base of the abutment in opposition to the operating means and assisting in presenting the blank to the operating means, substantially as described.

8. A machine for operating on a partly finished sole blank having a marginal abutment, having, in combination, means at one side of the abutment for operating on the marginal portion of the blank, and two guides at the other side of the abutment cooperating to maintain the blank in engagement with the means for operating thereon, substantially as described.

9. An insole lip setting machine, having, in combination, means for supporting and feeding a lipped insole blank, lip turning and setting means at one side of the lip, and two guides at the other side of the lip for engaging the lip and swinging the blank toward the lip turning and setting means, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

ERASTUS E. WINKLEY.

Witnesses:

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