

1,139,267.

Fig.1.

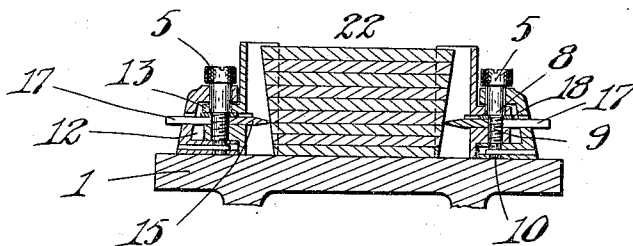


Fig. 2.

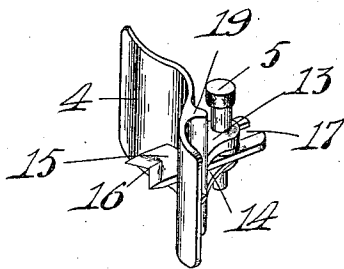


Fig.3.

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UNITED STATES PATENT OFFICE.

JOHN E. GLIDDEN, OF BEVERLY, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

HEEL GRIPPING AND CENTERING DEVICE.

1,139,267.

Specification of Letters Patent.

Patented May 11, 1915.

Application filed May 2, 1910. Serial No. 558,759.

To all whom it may concern:

Be it known that I, JOHN E. GLIDDEN, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Heel Gripping and Centering Devices, 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 use in boot and shoe manufacture and more particularly to those machines which operate upon heels.

The object of the invention is to provide an improved centering and gripping device for use in connection with the feeding mechanism of machines of this character.

My invention is particularly well adapted for use in connection with feeding mechanism of machines of the type illustrated in U. S. patent to C. L. Allen No. 776,823. But it should be understood that the application of my invention is by no means limited to any particular machine. It is customary to provide such machines with a pair of gripper arms provided with suitable means for clamping a heel blank which is to be fed to the machine.

In dealing with heels of certain shapes it is found that the clamping or gripping fingers of the feed mechanism in these machines do not always hold the heel securely. This is especially true when high heels, the sides of which have considerable pitch or inclination, are being handled. In handling such heels when the gripping fingers engage the heel and are pressed laterally toward each other there is a marked tendency to eject the heel from the upper side of the gripping device due to the inclination of the sides of the heel with relation to the gripping fingers.

An object of the present invention is to overcome this defect and to secure a perfect centering of the heel blank in position in the machine as well as to hold securely the blank in the feeding device until that point in the cycle of operation of the machine when it is desired to deposit the same within the mold, or other desired part of the machine. In a preferred embodiment of my invention this result is accomplished by providing each of the gripping fingers with a blade having a notched and sharpened end arranged to engage the side of the heel. These blades may

be adjustably secured in the fingers in such a manner that the same pair of fingers and blades may be properly adjusted for use with heels of different sizes, as well as of different contours. The sharp notched end of the blade is adjustable inwardly in the device so that it may engage the heel sufficiently to prevent the latter from being ejected during the gripping operation and by suitable adjustment of the two blades upon opposite fingers with relation to each other the heel is certain to be properly centered, and maintained and deposited in exactly the desired position in the machine which the device is feeding.

In the drawings which illustrate an embodiment of the present invention adapted to be applied to a machine of the type shown in the Allen patent, above referred to, Figure 1 is a perspective view of a pair of gripping arms mounted upon the feed carrier of a heel compressor and equipped with my invention; Fig. 2 is a vertical section on the line *a-a* of Fig. 1; and Fig. 3 is a perspective view of a gripping finger detached from the remainder of the device and having a notched blade.

Reference character 1 indicates a reciprocally movable carriage for feeding the heel to the mold in the machine in which it is to be compressed. Pivoted to said carriage at 2, 2 are a pair of gripping arms 3. Fingers 4, 4 are pivotally mounted on the arms 3 by means of screws 5 and are adapted to be readily removable from the arms.

6 indicates an adjustable breast gage mounted upon the carrier 1, by means of screws passing through slots in said gage, for engaging and determining the position of the breast of a heel blank held by the device.

7 indicates springs secured to the arms 3 and acting on the clamping fingers 4 to turn them toward the breast gage 6. The spring-pressed fingers 4 and the breast gage 6 constitute a clamp for embracing and holding a heel blank, as shown in Fig. 1, while it is being fed into the desired position. The clamp thus formed is adapted to hold heels varying somewhat in size and it may be adapted to other sizes of heels by removing the fingers 4 and substituting others of the size required. The pivot screws 5 are each formed with a cylindrical shoulder 8, a threaded portion 9 and a small cylindrical tip 10. Cut through each arm 3 is a slot 11

which opens into a recess 12 formed in the inner face of the arm. Upon the finger 4 is formed a lug 13 which enters the recess 12 and is also provided with a slot 14 registering with the slot 11 in the arm. A knife blade 15 having a notch 16 in its front end and a slot 17 in its rear end is inserted through the slots 11 and 14, the slotted rear end of the knife blade embracing the threaded portion 9 of the screw 5 which is threaded into the lug 13 as shown. A washer 18 is placed above the knife 15 and the cylindrical shoulder 8, when the screw 5 is turned into place firmly bears upon the washer, thus holding the knife securely in the finger 4. The cylindrical portion 8 is rotatable within a bearing in the arm 3 above the recess 12 and the cylindrical reduced tip 10 of the screw rotates in a bearing in the arm 3 below the said recess 12. Thus, it is seen that the fingers 4 are pivotally mounted upon the arms 3 and that the knives 15 are securely held within slots formed in said fingers. An abutment 19 upon the rear face of the finger strikes the arm 3 thus determining the limit of pivotal movement.

By reason of the slot 17 the knives may be easily adjusted inwardly and outwardly with respect to the clamp. The dotted lines in Fig. 1 indicate the position occupied by a heel in the device and Fig. 2 shows in cross-section a heel 22 held between the gripping fingers. In the forms of gripping devices heretofore used much difficulty has been experienced in holding high heels of the Cuban type owing to the tendency of the clamp to eject them upwardly. With the improved construction, however, which is the subject of my invention, the blades 15 may be independently adjusted inwardly of the gripping arms until they enter the edges of the heel sufficiently to hold the same firmly against the action of the clamp tending to eject them. The independent adjustment of which the holding knives are also capable, together with the adjustable breast gage 6, allow accurate centering and positioning of the heel in the gripping device so that it shall be accurately deposited in exactly the position required. The arms 3 are each provided with an inwardly projecting portion 20, the two portions 20 being geared together so as to produce simultaneous action of the said arms. One of said arms is provided with a forwardly projecting portion 21 which may be actuated to open and close the clamp in any desired manner, such for instance, as by the mechanism shown in the patent to Allen, above mentioned.

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

1. In a machine of the character described, the combination of means for gripping and holding the edges of a heel blank, an additional means engaging the edge surface of said blank for preventing it from being ejected in a direction perpendicular to the tread surface thereof.

2. In a heel feeding carriage, the combination of a breast gage, movable members for engaging and holding the edges of a heel and additional adjustable means provided with sharp points for penetrating the edge surfaces of said heel and preventing movement in the direction of its height.

3. In a device of the character described, a carrier, gripper arms pivoted upon said carrier, a gripper finger mounted upon each of said arms and movable relatively thereto, and an adjustable blade carried by each of said fingers to engage the edges of a heel held between said fingers.

4. In a heel compressing machine, the combination, with a reciprocatory heel carriage, of a heel clamp mounted upon said carriage comprising a pair of gripper arms pivotally mounted upon said carriage, gripper fingers pivotally mounted upon said arms, and a blade having a notched and sharpened end adjustably mounted in each of said gripper fingers, said notched and sharpened ends projecting inwardly of the heel clamp.

5. In a machine of the character described, the combination with a support, of means mounted upon said support for clamping and holding a heel blank, the edges of which are inclined with respect to the tread surface thereof, said means comprising oppositely movable means for engaging the inclined edges of said heel blank and additional means movable with said last mentioned means adapted to penetrate said inclined edges sufficiently to prevent movement of the blank in a direction perpendicular to the surface thereof.

6. In a machine of the character described, a heel holder comprising, in combination, movable means for engaging the inclined edges of a heel blank at a wide portion of the blank and means, movable with said first mentioned means, adapted to penetrate said inclined edges at a narrower portion of the blank sufficiently to prevent movement of the blank in a direction perpendicular to the tread surface thereof.

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

JOHN E. GLIDDEN.

Witnesses:

ARTHUR L. RUSSELL,
JAMES O. WRIGHT.