

E. E. WINKLEY.
JACK FOR SHOE MACHINES.
APPLICATION FILED JAN. 17, 1901.

961,747.

Patented June 14, 1910.

Fig. 1.

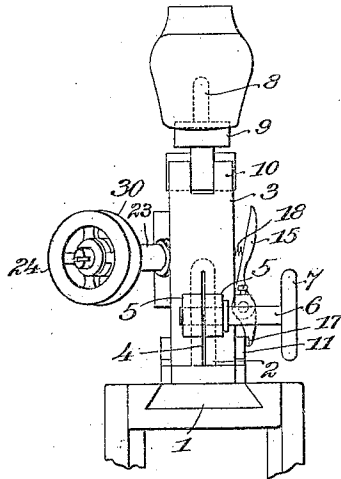


Fig. 2.

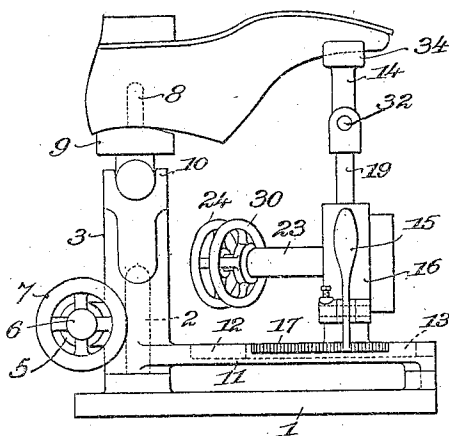
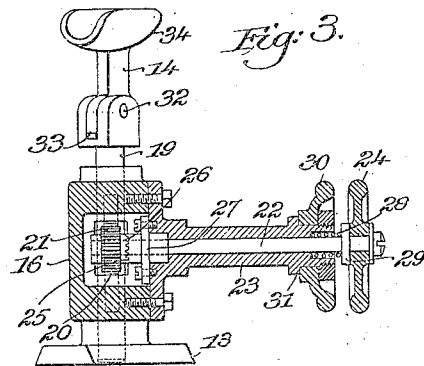


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

ERASTUS E. WINKLEY, OF LYNN, MASSACHUSETTS.

JACK FOR SHOE-MACHINES.

961,747.

Specification of Letters Patent. Patented June 14, 1910.

Original application filed October 8, 1896, Serial No. 608,215. Divided and this application filed January 17, 1901. Serial No. 43,592.

To all whom it may concern:

Be it known that I, ERASTUS E. WINKLEY, a 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 Jacks for Shoe-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 jacks for shoe machines.

The object of the present invention is to construct a jack for shoe machines which may be adjusted for rights and lefts and for various sizes of shoes in order to support the same in proper position to be operated upon.

To the above end the present invention consists in the jack hereinafter to be described and claimed.

The present application is a divisional one, the improved jack herein described and claimed being described but not claimed in my pending application for U. S. Letters Patent for improvement in heel nailing machines, Serial No. 608,215, filed Oct. 8, 1896.

In the accompanying drawings which illustrate the preferred form of my invention Figure 1 is an end elevation of my improved jack, Fig. 2 is a side elevation, and Fig. 3 is a sectional view of the mechanism for actuating the toe support.

In the illustrated embodiment of my invention, 1 represents the jack plate provided with the spindle 2 (shown in dotted outline in Figs. 1 and 2) upon which is fitted the hollow heel standard 3 of the jack. This standard is split as shown at 4 and is provided with the ears 5 in which is mounted the clamping screw 6 carrying the hand wheel 7.

The above arrangement permits the jack to be swung in the arc of a circle about the spindle 2 to position the shoe relatively to the devices arranged to operate thereon according as said shoe is a right or left, when the jack may be clamped by the hand wheel 7. It is to be noted in this connection that in the preferred form of my invention illustrated in the drawings the spindle 2 about which the jack is swung is substantially in alignment with the center of curvature of

the heel of a shoe placed on the jack so that when the jack is swung to the right or left the displacement of the heel is reduced to a minimum.

To the upper end of the heel standard 3 is secured the last pin or spindle 8 which is preferably provided with a head 9 upon which the last is supported, and in order to permit longitudinal tilting of the last I have mounted the last spindle in the rounded bearings 10. My improved jack is also provided, as is customary in such devices, with suitable means for supporting the toe of the last, and mechanism is provided whereby the toe support may be moved toward or from the heel standard to accommodate various sizes of shoes and also may be raised or lowered to tilt the last longitudinally in any desired manner. Projected from the base of the heel standard 3 is the plate 11 having in its upper surface the groove 12 in which the slide 13 carrying the toe support 14 is arranged to have longitudinal movement to adjust the toe support nearer to or farther from the heel standard. The slide is held in its adjusted position by means of the pawl or latch 15 pivoted upon the toe supporting standard 16 and normally held in engagement with the rack or series of notches 17 on the side of the plate 11 by means of the spring 18.

The vertical adjustment of the toe support 14 is obtained in the following manner:—The rod 19, carrying said toe support, is arranged to have vertical movement in the standard 16 and is provided with a rack 20. A pinion 21 engaging the rack 20 is fixedly mounted upon one end of the shaft 22 which is rotatably and slidingly mounted in the bearing 23 secured to the toe supporting standard 16. This shaft 22 may be rotated by means of the hand wheel 24 secured to the outer end thereof, thus raising or lowering the toe support. The mechanism for locking said support in its adjusted position comprises a series of clutch teeth 25 upon the pinion 21 arranged to engage a series of similar clutch teeth 26 upon a plate 27 fixed to the end of the bearing 23. A spring 28 mounted in a recess in the outer end of said bearing engages the collar 29 on the shaft 22, and acts normally to move said shaft longitudinally in its bearing, carrying the

clutch teeth 25 into engagement with the clutch teeth 26 and thus locking the toe support in its adjusted position.

The clutch teeth may be disengaged in order to permit vertical adjustment of the toe support by moving the shaft inwardly against the tension of the spring 28, and in order to assist the operator in doing this I have provided in juxtaposition to the hand wheel 24 a hand wheel 30 rotatably mounted upon a bearing 31 but held from longitudinal movement. This hand wheel 30 serves as a fulcrum or abutment, so that by grasping both wheels the operator may easily move the shaft longitudinally to disengage the clutch teeth and thereafter rotate said shaft to raise or lower the toe support as desired, hand wheel 30 turning with hand wheel 24. The toe support 14 is preferably pivotally mounted upon the rod 19, as at 32, in order that it may have a swinging movement toward and from the heel support, and in order to limit this movement and prevent the toe support from tipping over or falling down I have provided the stop 33. A concave bearing or rest plate 34 adapted to receive the forward end of the last is also provided as is usual in these devices.

The operation of my improved jack is as follows:—The last having been placed upon the last supporting head 9, the last spindle 8 entering the socket in the last, the latch 15 is thrown out of engagement with the rack 16 and the toe support adjusted nearer to or farther from the heel standard 3 according to the length of the last. The hand wheels 24 and 30 are then grasped by the operator and the former moved toward the latter, sliding the shaft 22 longitudinally in its bearing 23 and disengaging the clutch teeth. Both wheels are then rotated to raise or lower the toe support, the last spindle 8 swinging in its bearings 10 as the last is tilted. The hand wheels are then released when the spring 28 moves the shaft 22 outwardly in its bearing 23 and the clutch teeth 25 on the pinion 21 engage the clutch teeth 26 on the plate 27, locking the toe support in its adjusted position. The jack is now turned about the spindle 2 on the jack plate 1 into position to be operated upon according to whether the shoe is a

right or a left, and securely clamped in such position by the hand wheel 7 mounted upon the clamping screw 6.

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

1. A shoe supporting jack, having, in combination, a vertically movable toe support means to actuate the same comprising a rack and a pinion engaging said rack mounted upon, and rotating with, a longitudinally sliding shaft, and means actuated by the longitudinal movement of the shaft for locking the pinion from rotation, substantially as described.

2. A shoe supporting jack, having, in combination, a vertically movable toe support, means to actuate the toe support comprising a rack and a pinion, and a clutch for locking the pinion from rotation to prevent vertical movement of the toe support, substantially as described.

3. A shoe supporting jack, having, in combination, a vertically movable toe support, a rack and pinion for actuating said toe support, a clutch for controlling the rotation of said pinion, and means acting normally to actuate said clutch to hold the pinion from rotation and prevent vertical movement of the toe support, substantially as described.

4. A shoe supporting jack, having, in combination, a vertically movable toe support, means to actuate the toe support comprising a rack and pinion, means for locking the toe support in adjusted position, and means for unlocking the toe support and for rotating the pinion, substantially as described.

5. A shoe supporting jack, having in combination, a vertically movable toe support, means to actuate the toe support comprising a rack and pinion, a device for locking the pinion and a common actuating means for actuating said device to unlock the pinion and for rotating the pinion, substantially as described.

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

ERASTUS E. WINKLEY.

Witnesses:

BENJAMIN PHILLIPS,
ALFRED H. HILDRETH.