E. ERICKSON.

SHOE HOLDING MECHANISM.

APPLICATION FILED OCT. 28, 1915.

1,258,400. Patented Mar. 5, 1918.

Fig. 1.

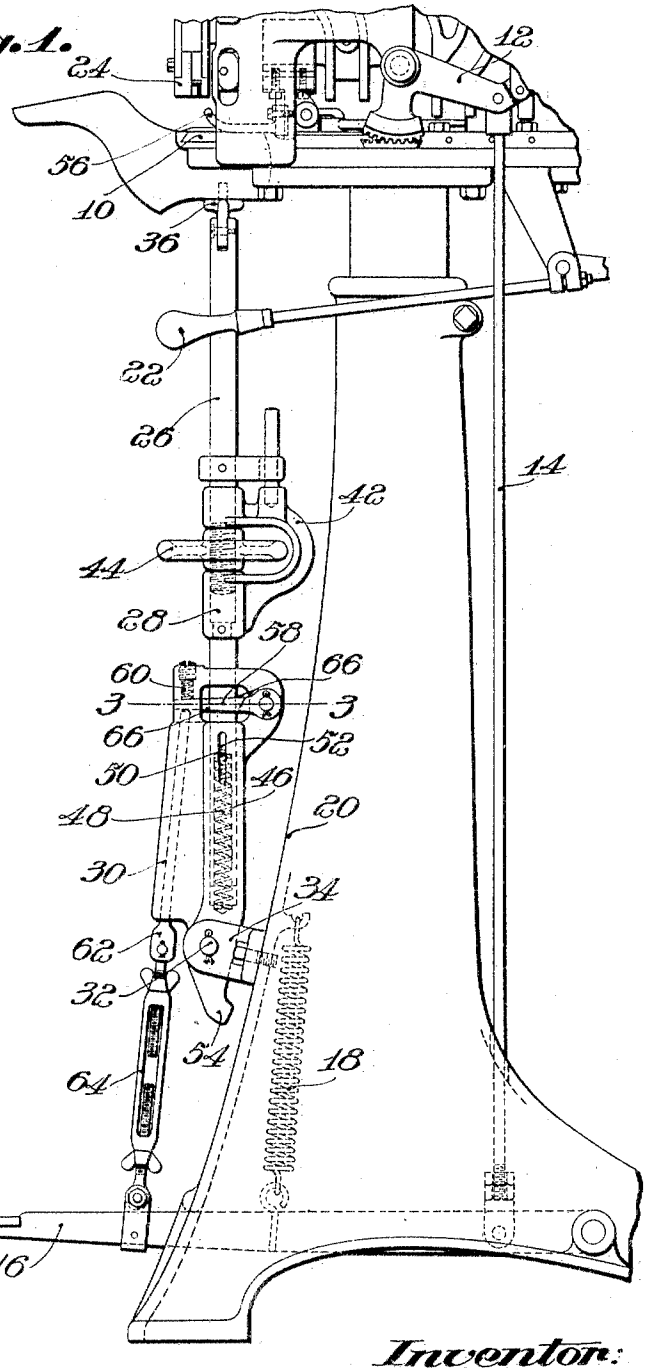
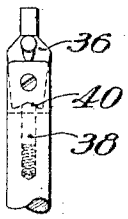


Fig. 2.



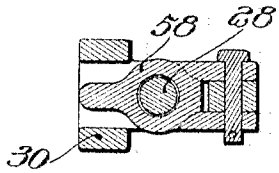


Fig. 3.

Witness:
Merton W. Willmore

Inventor:
Edward Erickson
by his attorneys
Phillips, Moorman & Welsh

UNITED STATES PATENT OFFICE.

EDWARD ERICKSON, OF BEVERLY, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHOE-HOLDING MECHANISM.

1,258,400. Specification of Letters Patent. Patented Mar. 5, 1918.

Application filed October 28, 1915. Serial No. 58,357.

To all whom it may concern:

Be it known that I, EDWARD ERICKSON, 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 Shoe-Holding Mechanism; 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 shoe holding mechanism and more particularly to shoe supporting jacks for use in machines for performing bottoming operations on shoes, such as welt butting and tacking machines.

The primary object of the present invention is to provide a shoe holding device for rigidly supporting a shoe while it is being operated upon which may be manipulated quickly and efficiently in conjunction with the different parts of the machine without retarding the operating speed.

In accordance with this object, one feature of the invention contemplates the provision of shoe holding mechanism comprising a jack for the shoe, supports for positioning the shoe, mechanism to actuate the supports to position the shoe, and means controlled by said mechanism to lock the jack in an impact supporting position.

The preferred, although not the only, use of the invention is in connection with welt butting and tacking machines. In welt butting and tacking machines a welted, unsoled shoe is placed in the machine and the free ends of the welt are beveled, or butted, at approximately the breast line and are then tacked to the insole. The shoe is held in position for the butting operation by a pair of supports which bear against the upper and project into the welt crease under the ends of the welt and across the heel seat. These supports do not always hold the shoe with sufficient rigidity to receive the impact of the tacker mechanism and often the welt ends are improperly tacked to the insole. The shoe supports are actuated by a foot treadle to last in the upper as well as position the shoe.

It is desirable to make the operation of the jack automatic with the operation of the machine and to avoid extra manipulations of the shoe when using a jack. Accordingly, another feature of the invention contemplates the provision in a machine of the character indicated having supports for positioning a shoe, of a jack, and means controlled by an actuation of the supports to lock the jack in a rigid supporting position.

Other features of the invention relating to certain devices, combinations and arrangements of parts hereinafter described and claimed, which possess advantages of simplicity of construction and ease in manipulation, 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 side elevation showing the jack in its active position as applied to a welt butting and tacking machine; Fig. 2 is a detail showing the last pin at the upper end of the jack; and Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1.

The portions of the welt butting and tacking machine shown in Fig. 1 are in all respects the same as shown in the United States Patent to E. E. Winkley for a machine for operating on shoe bottoms, Serial No. 1,242,503, granted October 9, 1917. In this machine the shoe is positioned and lasted by means of a pair of supports or shank lasting plates 10 which are moved toward and from one another about a vertical axis by means of a bell-crank 12 connected by a treadle rod 14 with a foot treadle 16. The foot treadle is normally held in an elevated position by means of a spring 18 which is connected between the treadle and the machine column 20. The treadle is depressed by the operative to position the shoe for the welt butting and tacking operations, and upon releasing the treadle the spring 18 automatically raises the treadle rod and opens the supports to free the shoe. After the shoe has been positioned under the supports, a movement of the hand lever 22 will shift a clutch to operate the welt butting knives and the tacker mechanism 24.

To hold the shoe firmly and provide a

rigid, impact supporting position, the shoe is supported upon a jack and the jack is rigidly locked during the welt tacking or analogous operation.

The shoe supporting jack consists of a spindle section 26, an adjusting section 28, and a locking section 30. These sections are telescopically mounted in one another and all swing as one piece about a pivot 32 on a bracket 34 mounted near the base of the machine column. A last pin 36 (Fig. 2), is pivotally mounted at the top of section 26, and this pin is normally held in central position by means of a spring pressed pin 38 which engages a V-shaped notch 40 at the bottom of the pin. The lower end of the spindle section 26 is slidably mounted in a yoke 42 on the upper end of the adjusting section 28 and is threaded to receive a hand wheel 44. By this means the jack may be adjusted for different sizes of lasts and to vary the pressure exerted upon the supports. The lower end of the adjusting section is slidingly mounted in a bore 46 of the locking section 30, and a spring 48 is interposed between the end of the adjusting section and the bottom of the bore 46. The relative movement of the sections 28 and 30 is limited by means of a transverse pin 50 in the lower end of the section 28 which works in longitudinal slots 52 in the section 30. The lower end of the locking section is provided with a stop 54 which strikes against the machine column to limit the outward swinging movement of the jack about its pivot 32.

With this construction a lasted shoe may be placed on the last pin 36 and swung over under the supports 10 and a heel seat gage 56. The spring 48 presses the shoe up against the supports 10 and gage 56 to accurately locate it in position for the operation of the tools. The gage 56 vertically positions the shoe and acts to receive the pressure of the spring 48 so that only a slight pressure is exerted upon the supports 10.

After the shoe is positioned under the supports and gage by the pressure of the spring 48, the jack is rigidly locked in this position so that the shoe will not move under the impact of the tacker mechanism or other shoe bottoming tool. The lock for the jack consists of a plate 58 pivotally connected to the upper portion of the locking section 30 and surrounds the lower end of the adjusting section 28. The free end of the locking plate is engaged on its upper side by a spring 60 and on its under side by a plunger 62, the latter being slidably mounted in the locking section. The plunger 62 is connected by means of a turn buckle 64 with the treadle 16. By means of this construction the movement of the treadle to operate the supports and position the shoe will draw the plunger 62 down, which will permit the spring 60 to move the locking plate down about its pivot. The locking plate has a pair of gripping edges 66 (dotted lines in Fig. 1) which, when the plate is moved down, bite into the section 28 and lock it from vertical movement. When the treadle is released for the removal of the shoe, the spring 18 will force the plunger 62 up and move the locking plate into a position of release, as shown in Fig. 1. When the plate 58 is in this position, the jack may be drawn out from under the supports 10 and gage 56 by depressing it slightly against the spring 48. The locking and unlocking of the jack is thus automatically accomplished by the operation of the machine, and the use of such a jack for supporting the lasted shoe requires no extra time.

While the invention has been illustrated and described as applied to a welt butting and tacking machine, it should be distinctly understood that it is not limited in its application to this type of machine, but may be used in connection with other machines for operating on shoe bottoms.

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. Shoe holding mechanism comprising a shoe gage, a jack movable into and out of position under said gage, a yielding section in said jack, a locking plate surrounding the yielding section, and means for moving said plate to lock the jack in a rigid supporting position.

2. Shoe holding mechanism comprising supports for positioning a shoe, a jack for the shoe, means for actuating the supports, and mechanism controlled by said actuating means to lock the jack in active supporting position.

3. Shoe holding mechanism comprising supports for positioning a shoe, a jack for a shoe, mechanism to actuate the supports to position the shoe, means for locking the jack in active position, and means controlled by said mechanism to unlock the jack.

4. In a machine for operating on shoe bottoms provided with tools for delivering blows upon a shoe, supports for positioning the shoe, a jack for the shoe, means carried by the jack to clamp the shoe against the supports when it is placed in an operating position, mechanism to actuate the supports to position the shoe, and means for locking the jack in an impact supporting position controlled by said actuating mechanism.

5. Shoe holding mechanism comprising supports for positioning a shoe, treadle op-

erated means for actuating the supports, a jack for supporting the shoe having a last pin section, an adjusting section and a locking section all relatively movable, means for relatively adjusting said last pin and adjusting sections, a spring mounted between the adjusting and locking sections, a lock on the locking section for engaging the adjusting section, and means connected with the treadle for rigidly locking the adjusting section to the locking section upon an operation of the treadle to position the shoe.

EDWARD ERICKSON.

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