

E. L. KEYES.
LASTING MACHINE.
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1,004,659.

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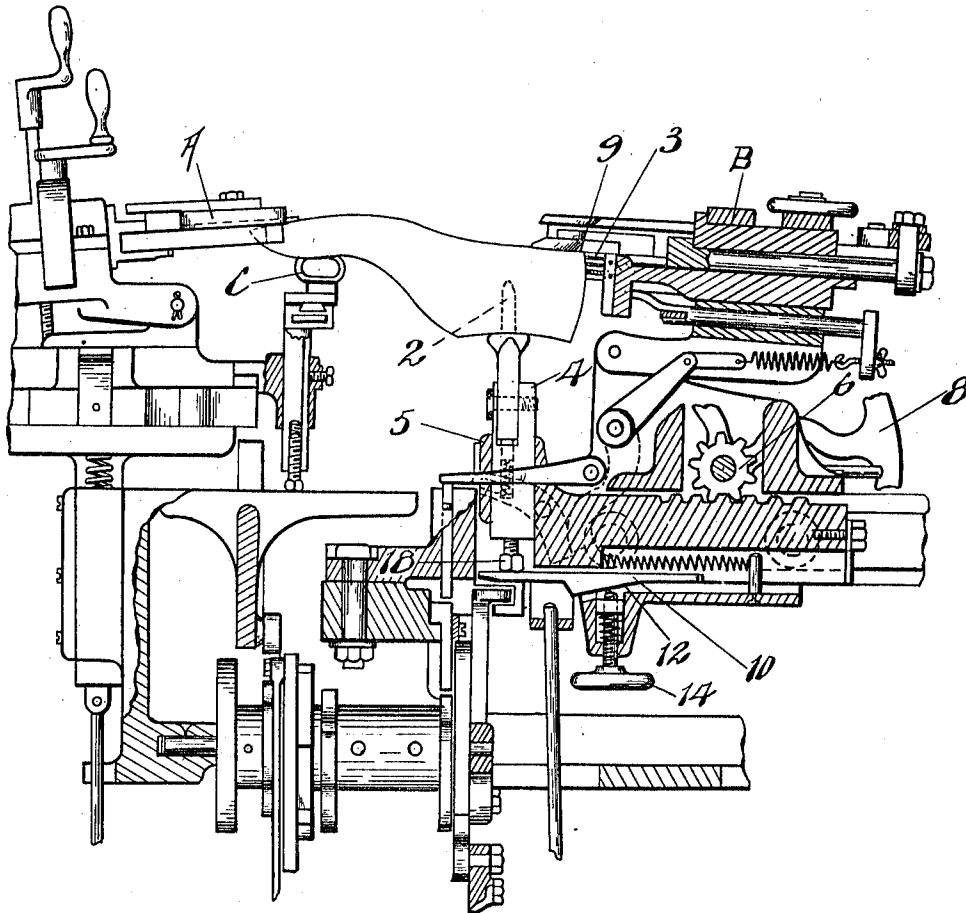


Fig. 1.

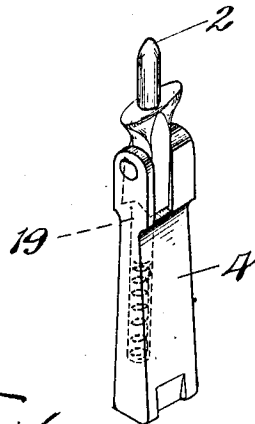


FIG. 2.

WITNESSES.

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EUGENE LINCOLN KEYES, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

LASTING-MACHINE.

1,004,659.

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To all whom it may concern:

Be it known that I, EUGENE L. KEYES, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Lasting-Machines, 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 lasting machines of the type known as bed lasting machines which comprise end lasting mechanisms and sometimes also side-lasting mechanisms. In a commercial form of such lasting machines shown in application Serial No. 399,313, the shoe is supported at the forepart upon a toe rest and at the heel upon a last pin which enters the usual pin hole of the last. The heel lasting mechanism including the heel embracing band and the heel wipers or lasting plates is mounted upon a carriage in which the last pin carrier is also mounted for simultaneous backward and upward movement to position the shoe relatively to the band and plates and then to free the shoe for removal from the machine. These movements of the last pin are effected by mechanism which retracts the last pin carrier and simultaneously actuates a cam or wedge to lift the pin and the pitch of the cam is appropriate for raising the shoe up to the level of the lasting plates during the length of movement required to draw the last backwardly into the heel band with the requisite force to cause the band snugly to embrace the heel portions of the shoe. Although there is some yielding quality in the lifting force exerted by the cam and also in the closing force exerted by the heel band mountings there should be for the best results an approximately constant relation between the length of backward movement and the length of the lifting movement. In practice however it is found that a substantially uniform thickness of last prevails, measured from the sole face to the opposite face, in different sizes while the distance from the pin hole to the heel end face varies with the size of the shoe. It therefore follows that as the size of the last diminishes a longer backward movement is required in order to cause the heel band firmly to embrace the shoe properly. There comes a

limit beyond which the yielding element in the lifting means will not adequately take care of this variation.

It has been necessary prior to this invention to equip machines with a plurality of heel pin holders in which the heel pins were mounted in different positions considered lengthwise of the machine, the pin being formed farther back on the holder for small lasts than for large ones so that excessive retracting movement would not be required.

It is an object of this invention to obviate the necessity for furnishing a plurality of holders by providing a holder capable of adjustment of the last pin lengthwise of the machine relatively to its actuating mechanism. In addition to the economy in the equipment of the machine there is an advantage to the operator in having a single pin holder which is always in place in the machine. Strength and rigidity of construction are important considerations in this and associated parts of a lasting machine and for this and other reasons the preferred embodiment of the invention comprises a pin holder in which the pin is eccentrically mounted and which is reversible in its carrier, or relatively to its actuating mechanism. As shown the holder is a rectangular post contained in a socket in its carrier and upon which the pin is secured nearer to one edge than to the other edge so that in one position the last pin is spaced farther from the heel band than in the reversed position, the first position being adapted for large sizes of last or for men's lasts and the other position being suitable for small sizes or for women's and children's lasts.

A further feature of the invention is found in the mounting of the pin in the holder by means which permits a limited lateral movement of the pin and automatically returns the pin to normal position after such movement.

The invention will be more particularly explained in connection with the following description of the illustrated embodiment thereof and will then be pointed out in the claims.

Figure 1 is a side elevation partly in section of so much of a lasting machine equipped with the present improvements as is necessary to present for explaining this invention; Fig. 2 is a perspective view of the heel pin and its holder.

The machine comprises toe lasting mechanism A and heel lasting mechanism B in operative relation to which the shoe is sustained by a toe rest C and a heel pin 2. The heel lasting mechanism may correspond in its construction and mode of operation with that shown in said application which is embodied in a well known commercial form of lasting machine and is not necessary to describe here further than to explain that it comprises the heel embracing band 3 into which the shoe is drawn rearwardly by the engagement of the heel pin with the last. To this end the heel pin holder 4 is mounted in a slide 5, the toothed face of which meshes with a pinion 6 on a shaft that carries a hand wheel 8. The shoe is also raised yieldingly by means acting through the pin holder 4 to present the bottom face of the shoe in the plane of the wipers, this position being determined by a height gage 9 that projects forwardly over the heel end of the shoe from one of the heel wipers. This vertical movement of the holder is effected by a lever 10 which is pivoted at its rear end to the slide 5 and upholds the holder 4 by its front end. This lever has an inclined face 12 which rests upon a yieldingly sustained screw 14 and produces an upward tilting of the front end of the lever as the slide is retracted, whereby the shoe is simultaneously forced backwardly into its heel embracing band and uplifted against the gage 9.

The heel pin 2 is mounted in accordance with this invention, nearer to one edge of the holder, as its front edge, than to the opposite edge and the holder is reversibly mounted in the slide 5. This construction permits the holder and pin, which are arranged in Fig. 1 of the drawings to receive a large shoe, to be lifted out of the slide 5 and turned around and to be reinserted with the pin at the rear of the center of the holder and nearer to the heel band for small lasts. By this provision for adjustment of the heel pin toward and from the heel band a wide range of sizes of shoes including men's, women's and children's may be supported in proper relation to the heel lasting instrumentalities of this machine by a single equipment, whereas a plurality of heel pins and holders have heretofore been required.

Provision is made for vertical adjustment of the heel pin by the screw 18 adjustably carried by the lower portion of the holder 4 and resting upon the lever 10. The heel pin is mounted in the holder by a longitudinal pivot pin that permits lateral tipping of the pin for unsymmetrical lasts, or lasts in which the pin hole is unsymmetrically located so that there is need to equalize the strain as the last is forced backwardly into

the band. The pin has oppositely inclined faces on its lower end which are engaged by a yielding centering plunger 19 which maintains the pin in a normal lateral position.

Having explained the nature of this invention and described a preferred construction embodying the same, I claim as new and desire to secure by Letters Patent of the United States:—

1. A lasting machine, having in combination with a heel embracing band, last supporting means comprising a heel pin and a holder therefor, a carrier for the pin and holder by which the pin is positioned longitudinally of the machine, said holder having provision for effecting permanent adjustment of the heel pin in said carrier longitudinally of the machine from and toward the heel band.

2. A lasting machine having in combination with a heel embracing band, last supporting means comprising a heel pin and a holder for the pin, and means for actuating the pin to force the last backwardly into the band, said machine having provision for making permanent adjustments of the pin lengthwise of the machine with relation to its actuating means.

3. A lasting machine having in combination with a heel embracing band, means for supporting a last to be embraced by the band, said means comprising a heel pin and a reversibly mounted holder in which the pin is mounted nearer to one edge of the holder than to its opposite edge whereby the pin may be adjusted into different positions with relation to the band by reversing the holder.

4. A lasting machine having in combination with a heel embracing band, last supporting means comprising a heel pin and a holder for the pin, means for actuating the holder and pin to draw the last backwardly into the heel embracing band, said pin being pivotally mounted in its holder to permit lateral tipping movements for equalizing the pressure on the two sides of the last as the last is forced into the band, and means for automatically returning the pin to normal lateral position in its holder.

5. A lasting machine having in combination a heel band, heel lasting plates, a last pin, means for effecting operative movements of the pin to position the last vertically and horizontally relatively to said plates and band, said machine having additional provision for adjustment of the pin horizontally relatively to said other parts for lasts of different sizes.

6. A lasting machine having in combination a heel band, heel lasting plates, a last pin, means for effecting operative movements of the pin to position the last vertically and horizontally relatively to said

plates and band, and a holder in which said pin is mounted nearer to one edge than to the other, said holder being reversible to change the horizontal relation of the pin to said associated parts of the machine.

7. A lasting machine having in combination a heel band, heel lasting plates, a last pin, a carrier in which the pin may be held in different positions, means for actuating the carrier to pull the pin into the band, and means to lift the pin during said movement of the carrier, said machine having provision for changing the position of the pin to vary its initial horizontal relation to the band and plates.

8. A lasting machine having in combina-

tion the heel band 3 the last pin holder 4, the carrier 5 in which the holder is reversibly mounted, and the last pin 2 adapted to sustain the last within the band and supported by the holder nearer to one edge than to the other whereby its relation to the carrier and to the heel band is shifted for large and small lasts by reversing the holder in the carrier, substantially as described.

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

EUGENE LINCOLN KEYES.

Witnesses:

RALPH ROBERTS,

ARTHUR L. RUSSELL.

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