

E. L. KEYES.
LASTING MACHINE.
APPLICATION FILED FEB. 13, 1911.

1,029,197.

Patented June 11, 1912.
2 SHEETS-SHEET 1.

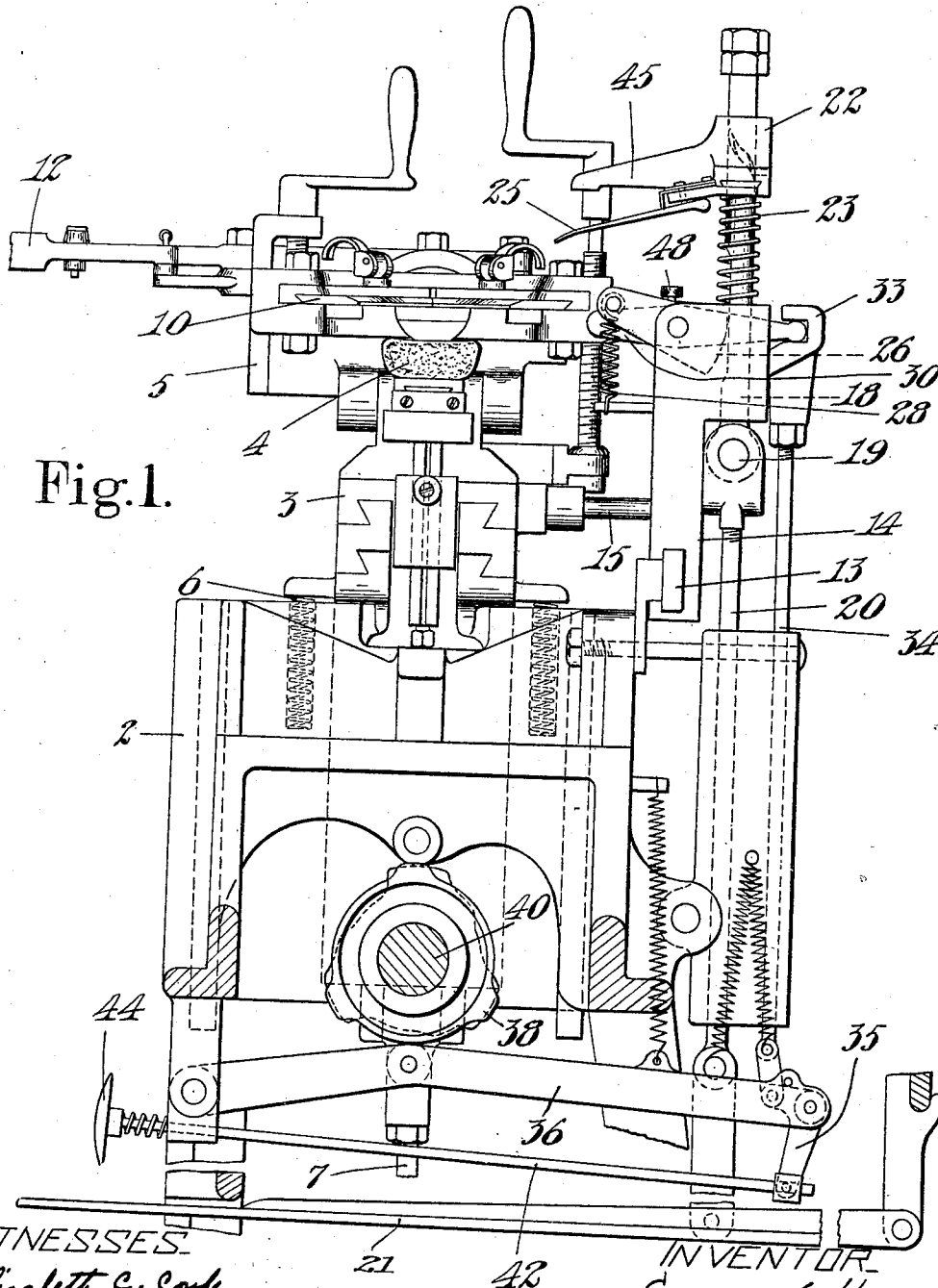


Fig. 1.

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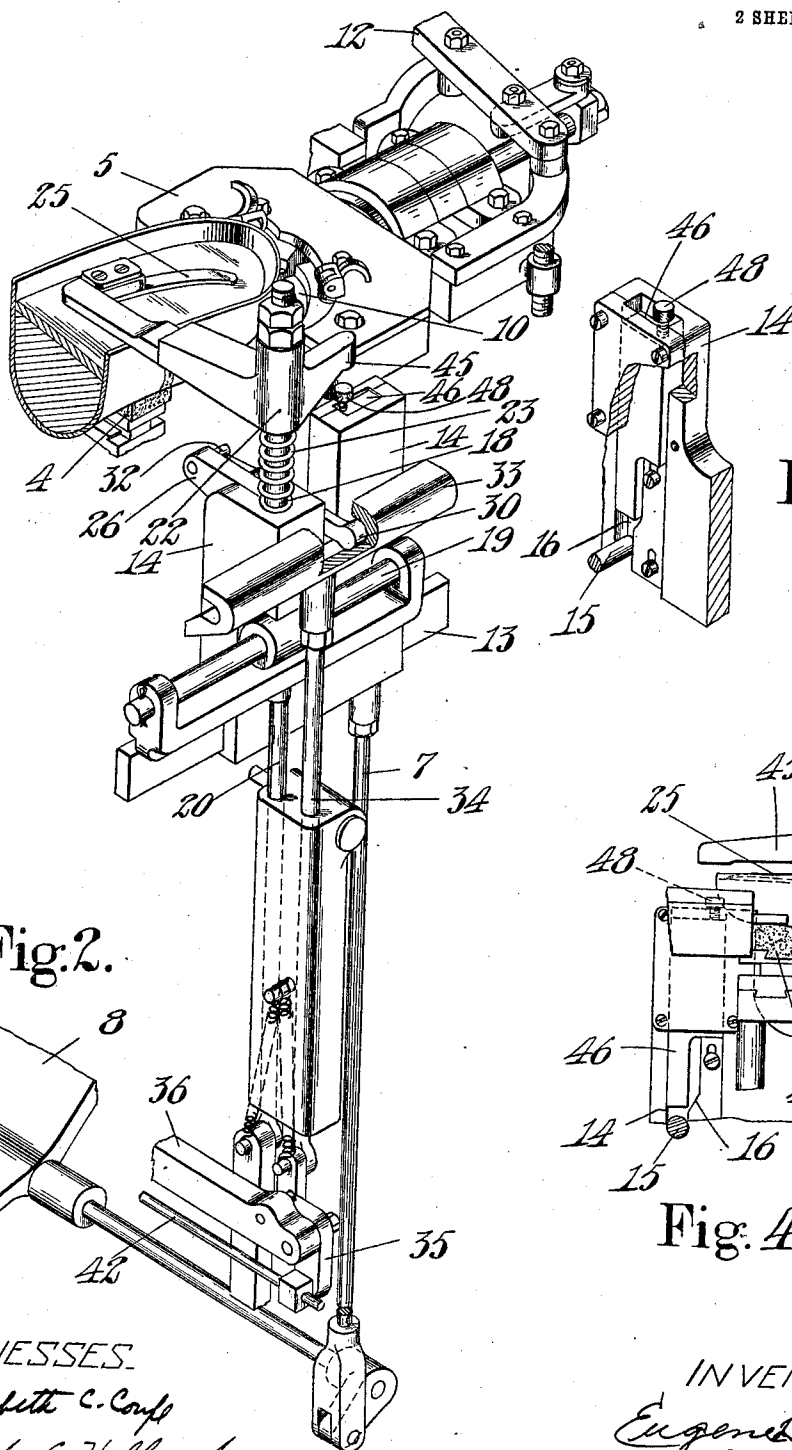


Fig. 2.

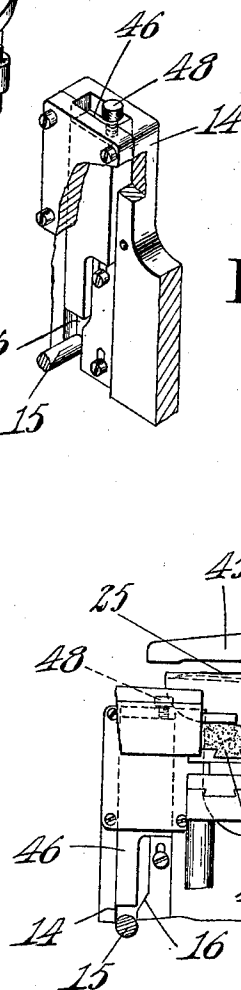


Fig. 3.

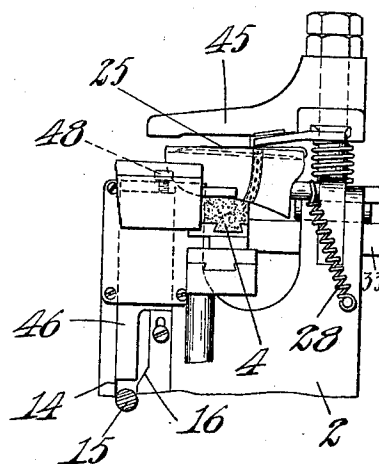


Fig. 4.

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UNITED STATES PATENT OFFICE.

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LASTING-MACHINE.

1,029,197.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed February 13, 1911. Serial No. 608,288.

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 and it is herein shown as embodied in an end lasting mechanism of the "bed" type of lasting machine.

The illustrated machine comprises a support for the last and end embracing wipers the edges of which are shaped to fit the contour of the last. These wipers are closed about an inverted last below its bottom and are raised in rubbing contact with the upper on the side faces of the last to wipe the upper up to the edge of the last. When the edge is reached the wipers are closed over the last bottom to wipe the upper inwardly over the margin of the innersole and lay it down thereon in position to be fastened.

A very important feature of this invention consists in the combination with a lasting instrumentality that has such an upward wiping and inwardly overlaying movement of means for limiting the upward movement and determining the plane of the inward movement.

A further feature consists in a feeler to find or determine the plane of the shoe bottom and which is arranged to determine, with relation to that plane, the plane in which the overwiping movement shall take place.

The utility of this invention will be recognized in the fact that the wipers after having rubbed or wiped the stock up the side face of the last to its edge are expected to force the surplus or fullness ahead of them into lasted position upon the shoe bottom where it may be fastened under tension or in smooth condition. Unless wipers are closed inwardly before they get too high they lose their grip on the upper and the fullness slacks back so that the upper is not smoothly overlaid under tension and the wipers have to be lowered and the upper wiped up again. By using a properly acting limiting stop the upward movement of the wipers can be

made with certainty that the grip on the upper will not be lost.

In the illustrated machine a hold-down is employed to clamp the last down upon the support and prevent it from being raised by the upward action of the wipers. This hold-down is herein utilized as a feeler to position a stop with relation to the plane of the bottom of the particular shoe that is in the machine and an abutment, preferably adjustable, is arranged to engage with the stop and determine the limit of the rising movement of the wipers and the plane of their inward movement.

The several features of the invention will appear in connection with the following description of the machine in which they have been embodied and will then be pointed out in the claims.

Figure 1 is an elevation of the toe lasting head partly in transverse section and looking from the rear toward the front; Fig. 2 is a perspective detail of the toe lasting mechanism showing the new devices; Fig. 3 is a perspective view showing the abutment which is moved by the rising wipers to engage the new stop for determining the plane on which the wiper closing movement shall take place; Fig. 4 is a side elevation illustrating the portion of the machine equipped with this invention.

The invention is shown in the drawings as applied to a well-known commercial lasting machine of the type illustrated in British Patent No. 22,630/08. Reference may be had to said patent for a general description of the machine thus rendering it unnecessary to describe in this specification mechanisms which are not particularly concerned with the present invention.

The frame 2 of the machine carries a rest 4 for the shoe and has a head 5 sustained in a normal depressed position upon springs 6 and capable of being elevated and also depressed by connection through a rod 7 with a treadle 8. The end embracing wipers 10 and their closing mechanism including the lever 12 may be like the wipers and their actuating mechanism shown in said British patent. These parts are so arranged that with a shoe upon the support 4 the wipers are closed to cause their appropriately shaped acting edges to embrace the shoe below its sole. The wiper carrying head is then raised while gripping pressure of

the wiping edges against the upper is maintained whereby the upper is wiped or rubbed up the side faces of the last to the edge of the last. When the wipers
 5 have been raised high enough to permit them to close over the last bottom they are closed and caused to wipe in and lay down the upper in lasted position upon the shoe innersole, this closing movement being
 10 effected by the hand lever 12.

Attached to the rear side of the frame of the machine as shown at the right hand in Fig. 1 is a bracket 13 upon which is mounted for horizontal sliding movement longitudinally of the machine a block 14. A rod
 15 15 projects laterally from the rising and falling wiper carrying head into a vertical slot 16 in said block. This arrangement allows the vertical movement of the wiper
 20 carrying head relatively to the block 14 and insures movement of the block 14 longitudinally of the machine with the wiper carrying head or with the wiper carrying plate 3 which is mounted on the head for adjust-
 25 ment lengthwise of the machine for long and short shoes as is customary in this type of machine. Through the head of the block 14 extends a hold-down post 18 that has a forward and backward sliding connection
 30 with a horizontal connecting pin 19 in the head of a hold-down rod 20 which extends downwardly to a hold-down depressing treadle 21, Fig. 1. The hold-down head 22 is mounted on the upper portion of the post
 35 and together with the post is normally upheld by a spring 23 which encircles the post between the block 14 and said head. The spring is preferably connected under torsional tension to the head and to the block
 40 in such manner that when it is free to do so it will turn the head in a direction to withdraw the hold-down from the shoe. The head has a laterally projecting arm upon which is mounted a forwardly extending
 45 hold-down finger 25. The operator turns the head 22 from the position shown in Fig. 1 to that shown in Fig. 2 and then depresses the treadle to force the hold-down to clamp the shoe upon the toe rest and hold
 50 the shoe down against the uplifting force of the rising wipers. A friction locking device 26 is pivoted in the block 14 to engage one side of the post 18 and automatically secure the hold-down in position to
 55 which it has been depressed. A spring 28 draws down on the free end of the locking device. To lift the locking device for releasing the hold-down a lever 30 is pivoted in the block 14 and is adapted to engage at
 60 one end under a laterally projecting stud 32 on the locking device. The other end of the lever 30 stands in a recess in the head 33 of a rod 34 which is connected by a link to a bell crank 35 fulcrumed on a lever 36 which
 65 extends transversely across the machine and

carries a roll that is in the path of a cam 38 on a cam shaft 40 which also carries other cams as shown and described in said patent for effecting the shoe jacking operation. By this arrangement the hold-down
 70 is automatically released from the shoe in time relation with the unjacking operations by which the shoe is freed preparatory to removing it from the machine. The bell crank 35 has also a connection with a push
 75 rod 42 the head 44 of which is in position to be engaged by the knee of the operator for releasing the hold-down at any time selected by him prior to the unjacking operation. The hold-down head 22 has a second arm
 80 45 which, when the hold-down is in operative position, projects forwardly over the slot 16. In the upper portion of this slot 16 is movable by the uplifting movement of the rod 15 a slide 46 in the upper end of
 85 which and projecting above the block 14 is an adjustable abutment screw 48 arranged to engage the arm 45 and stop the upward movement of the wiper carrying head and the wipers. This arrangement provides that the hold-down shall serve as a feeler to
 90 ascertain the plane in which the shoe bottom, that is, the upturned face of the shoe innersole, is located, it being understood that this plane will vary with the variations
 95 in the thickness of lasts and the thickness of materials. The arm 45 is positioned vertically in accordance with the plane of the shoe bottom ascertained by the feeler 25 and constitutes a stop for limiting through
 100 the connections 48, 46, 15 the upward movement of the wiper carrying head. By adjustment of the abutment screw 48 the head may be stopped immediately when the wipers have reached an elevation at which,
 105 while continuing their hold upon the upper, they can be forced inwardly over the margin of the innersole. This arrangement avoids the liability which has heretofore existed that the operator would raise the
 110 wipers too high before closing them and thus fail to wipe in all of the fullness in the stock which he has gathered in wiping up the side faces of the last.

Having explained the nature of this invention, I claim as new and desire to secure by Letters Patent of the United States:

1. A lasting machine having, in combination, a lasting instrumentality constructed and arranged to wipe up the side and inwardly over the bottom of a shoe and a
 120 feeler to determine the plane of the bottom of the shoe and means associated with the feeler for limiting with relation to that plane the extent of the upward wipe.

2. A lasting machine having, in combination, a lasting instrumentality constructed and arranged to wipe up the side and inwardly over the bottom of a shoe and means
 125 including a feeler to engage the shoe bottom

and a cooperating abutment to determine the plane in which the lasting device can wipe inwardly relatively to the plane of the shoe bottom.

5 3. A lasting machine having, in combination, a lasting instrumentality constructed and arranged to wipe up the side and inwardly over the bottom of a shoe, a hold-down movable into and out of position to engage the bottom of the shoe, and means associated with the hold-down for limiting the extent of the upward wipe with relation to the hold-down.

15 4. A lasting machine having, in combination, a lasting instrumentality constructed and arranged to wipe up the side and inwardly over the bottom of a shoe and means including a hold-down and manual actuating means to cause it to engage the shoe bottom, and a cooperating abutment to determine the plane in which the lasting device can wipe inwardly relatively to the plane of the shoe bottom.

25 5. A lasting machine having, in combination, end lasting wipers, means to raise them in wiping contact with the upper on the sides of the last, means to close them to lay the upper over the edge and down upon the bottom of the shoe, a support for the last, a hold-down to clamp the last against the support, and a stop positioned by the hold-down to limit the rise of the wipers relatively to the plane of the shoe bottom as ascertained by the hold-down.

35 6. A lasting machine having, in combination, toe embracing wipers having an upwardly wiping and inwardly overlaying movement, and means for limiting the upward movement and determining the plane of the inward movement variably according to the plane which the bottom of each shoe occupies in the machine.

45 7. A lasting machine having, in combination, a toe lasting head having toe embracing wipers, means to raise the head, means to close the wipers, a toe rest, and a hold-down having an arm extending into position to limit the rise of the lasting head, as and for the purpose described.

50 8. A lasting machine having, in combination, end lasting wipers, means to raise the wipers, means for closing the wipers around the side faces of the last before they are raised and holding them closed during the rising movement whereby they are caused to wipe the upper up the side of the last to-

ward its edge, said closing means being adapted for further advancing the wipers to lay the upper over the shoe bottom, a feeler arranged to ascertain the plane of the shoe bottom, a stop positioned by the feeler, means for securing the stop and an abutment arranged to be moved into engagement with the stop during the rising of the wipers for limiting the upward movement of the wipers to ascertain the plane of the shoe bottom.

9. A lasting machine having, in combination with upwardly and inwardly wiping lasting devices, the hold-down 25, the stop 45 associated with the hold-down to be positioned thereby in accordance with the position of the last bottom and arranged to limit the upward wiping movement of the lasting devices for the purpose described.

10. A lasting machine having, in combination, a last support, a hold-down for clamping the shoe upon the support, means for locking the hold-down in clamping position, automatic means for releasing the hold-down and manual means adapted for operation to release the hold-down at the will of the operator prior to the operation of the automatic means.

11. A lasting machine having, in combination, a last support, a hold-down for clamping the shoe upon the support, means for locking the hold-down, a releasing lever 30, a rod 34, a bell crank 35 connected to said rod, a lever 36 upon which the bell crank is fulcrumed, a cam 38 for actuating the lever 36 to effect movement of the rod to release the hold-down, a push rod 42 arranged to actuate the bell crank to effect such release at the will of the operator prior to the operation of the cam.

12. Lasting apparatus having, in combination, toe lasting wipers, a toe rest, means to raise the wipers to rub the upper up the side faces of the shoe, a holddown to clamp the last down on the toe rest, and an abutment on the holddown arranged to overlie the wipers and limit their rising movement at the plane of the shoe bottom.

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

EUGENE L. KEYES.

Witnesses:

C. IRENE PARIS,
ARTHUR L. RUSSELL.