

L. M. BROWN.
 HOLDDOWN FOR LASTING MACHINES.
 APPLICATION FILED MAY 11, 1915.

1,188,403.

Patented June 27, 1916.

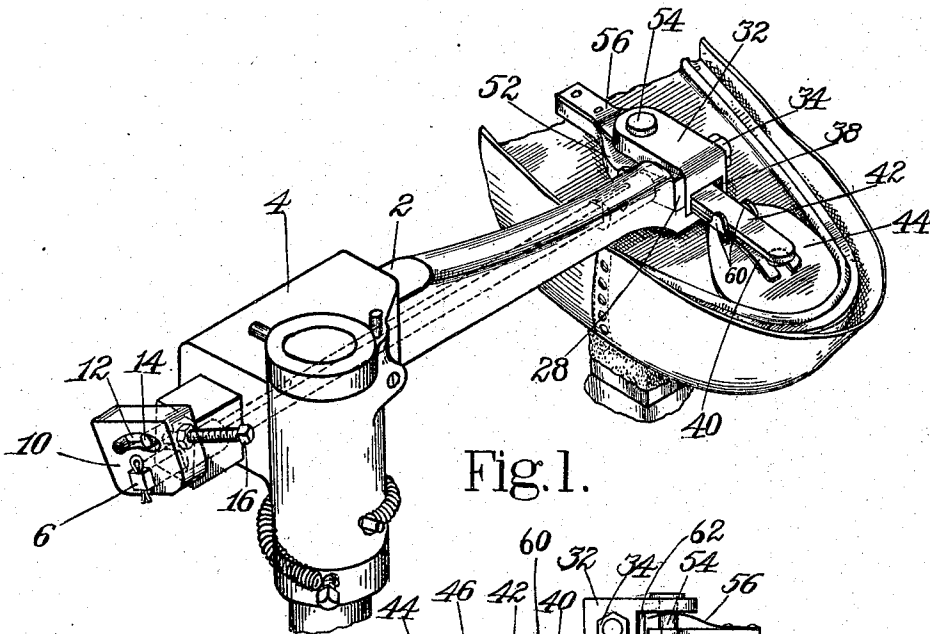


Fig. 1.

Fig. 2.

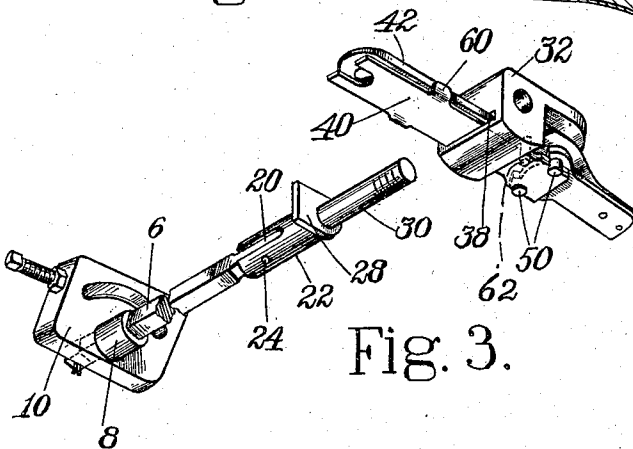
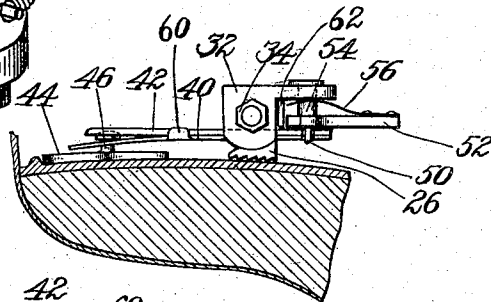


Fig. 3.

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HOLDDOWN FOR LASTING-MACHINES.

1,188,403.

Specification of Letters Patent. Patented June 27, 1916.

Application filed May 11, 1915. Serial No. 27,326.

To all whom it may concern:

Be it known that I, LOUIS M. BROWN, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Holddowns for 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 hold-downs for lasting machines and particularly to an improved hold-down finger for such machines.

In United States Letters Patent No. 1,047,387, granted December 17, 1912, on application of Miller Cook, a finger is shown which comprises a resilient arm carrying a plate removably attached thereto. The function of the plate is to engage behind the lip of an innersole and support it during the action of the lasting wipers, and for this purpose the plate is given a contour similar to the shape inside the lip of a right or a left innersole. The plate is arranged to be removed, turned over, and replaced, whereby it is adapted for use upon both right and left toes.

An object of the present invention is to provide a hold-down finger similar in function to the finger of the Cook patent but which may be reversed for use upon a shoe for the opposite foot without removing it from its holding mechanism, and one which is simple and inexpensive to manufacture.

A feature of the invention consists in the combination with a hold-down plate having two pressing or rib supporting faces, of means for mounting the plate so that it may revolve in its mounting to bring either of the pressing faces into operative relation to the shoe which is being lasted. In the construction shown, the plate may revolve in the plane in which it lies, which plane normally is substantially horizontal.

Another feature of the invention consists in improved means for detachably holding the hold-down plate on its support so that the plate may readily be removed and another plate applied.

Another feature of the invention consists in the combination of a finger carrying arm arranged for longitudinal adjustment transversely of the shoe bottom, a finger mounted for movement about a horizontal axis ex-

tending transversely of the shoe bottom, and a spring co-axial with the axis of the finger movement to resist such movement in one direction. As shown, the spring comprises a torsion bar extending longitudinally through the carrier arm. The finger is mounted on a member journaled in the end of the carrier arm and the torsion bar is connected at one end to the member and at the other end is secured to the arm and operates to resist upward movement of the finger. Means is provided for adjusting the tension of the torsion bar to vary the resistance of the finger to movement in a direction away from the shoe bottom.

These and other features of the invention will appear more fully from the following detailed description when read in connection with the accompanying drawings and will be pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of the hold-down arm and hold-down finger in operative position upon a shoe bottom; Fig. 2 is a side view of the hold-down finger in position upon a shoe shown in longitudinal section; and Fig. 3 is a perspective view of the hold-down finger and the mechanism by which it is secured to the hold-down arm.

The arm 2 is arranged to slide laterally of the shoe in a block 4 which is mounted upon a vertical post for rotation in a horizontal plane, the post being operated vertically to force the hold-down into holding relation to a shoe bottom by mechanism shown in United States Letters Patent No. 1,120,822, granted December 15, 1914, on application of Eugene L. Keyes. The hold-down arm 2 is bored longitudinally to receive a torsion spring in the form of a resilient bar 6. The spring 6 is preferably square and at its rear end enters a square hole in a boss 8 formed on a block 10, the boss 8 being rotatably mounted in the rear end of the bore of the arm 2. The block 10 is provided with a slot 12 which receives a pin 14 seated in the end of the arm 2. A screw 16 passes through the block 10 into the slot 12 into position to engage the pin 14 and by adjusting the screw 16 the plate and square spring 6 may be rotated to adjust the tension of the spring. The forward end of the spring is reduced to form a tongue 20 which engages a slot formed in a member 22 which is rotatably seated in

the forward end of the arm 2. The tongue 20 is secured in the slot by means of a pin 24. This construction enables the member 22 and block 10 to be made from a different grade of material from the spring 6. The forward end of the arm 2 is provided with a projection 26 which bears upon the shoe bottom approximately at the ball, and the member 22 is provided with a projection 28 which comes in contact with the projection 26 to prevent movement of the member 22 by the spring 6 in that direction and to permit the torsion spring 6 to be placed under tension by moving the screw 16 against the pin 14, which prevents rotation of that end of the spring 6 in the opposite direction.

The member 22 is provided with a spindle 30 upon which is mounted a finger carrying block 32. The block 32 may be adjusted about the spindle 30 in a vertical plane and is maintained in any position of adjustment by means of a nut 34 by which it is firmly clamped against the projection 28. The block 32 is provided with a slot 38 through which pass members or plates 40, 42 which constitute the hold-down finger for supporting a hold-down plate 44. The plates 40, 42 are relatively resilient, the lower one 40 being preferably more yielding than the other, 42, which covers and protects the lower plate 40. The hold-down plate 44 is provided with an upstanding headed stud 46 which has a hemispherical head adapted to be seated in a correspondingly shaped recess in the lower face of the finger member 42. The finger member 40 is forked at its forward end to engage under the head of the stud 46 and serves by its resiliency to maintain the head of the stud in operative relation to the recess in the member 42. This construction obviously permits ready detachment of the plate, so that a plate suited to the particular class of work being done may be selected, and also permits the plate to be rotated to bring either end thereof into position to support the rib at the toe of the innersole. Preferably one end of the hold-down plate 44 is shaped to correspond to the contour of the inner face of the rib of a right innersole, and the other end is shaped to the contour of the inner face of the rib of a left innersole of the same style.

The members 40, 42 of the finger extend through the slot 38 and are held therein by means of pins 50 which engage suitable notches in the opposite sides of the members 40, 42. The pins 50 are supported on a plate 52 mounted on a headed stud 54 which passes loosely through a rearward projection on the block 32. The plate 52 is depressed to maintain the pins 50 in holding relation to the notches in the members 40, 42 by a leaf spring 56. By pressing upward against the plate 52 the spring 56 yields to permit the pins 50 to be lifted out

of the notches for removal of the members 40, 42. The slot 38 is wider than the width of the members 40, 42 so as to permit lateral adjustment of the hold-down plate 44 about the stud 54 as a center. Ears 60 are preferably provided on the member 40 to prevent relative lateral movement of the members 40, 42. Excessive rotation of the plate 52 is prevented by a pin 62 on the block 32 which is positioned in a curved notch in the forward end of the plate 52.

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

1. A hold-down for lasting machines, comprising an arm extending transversely across a shoe bottom, a finger secured to the arm and having a concavity in the end opposite the arm, a hold-down plate having a projection adapted to engage the concavity, and means arranged to hold the projection in the concavity.

2. A hold-down for lasting machines, comprising an arm arranged to extend transversely across a shoe bottom, a finger arranged to extend longitudinally of the shoe bottom, a hold-down plate adapted to engage the toe portion of the shoe bottom and to fit behind the innersole rib, cooperating spherically formed surfaces on the finger and on the plate respectively, whereby a universal movement of adjustment between the plate and the finger is permitted, and means for holding the cooperating spherical surfaces in operative relation and adapted to yield to permit their separation for detachment of the plate.

3. A hold-down for lasting machines, comprising a plate having one end contoured to fit against the inner face of the rib of a right innersole and the opposite end contoured to fit in a similar manner a left innersole of the same style, a stud on the upper face of said plate having a head, a fork adapted to engage the stud below said head, and a member overlying said head having a formation arranged relatively to the head to prevent disengagement of the stud from the fork while permitting rotation of the plate in a horizontal plane.

4. A hold-down finger for lasting machines, comprising a plate, a stud on the upper face of said plate having a head, a forked member adapted to engage the stud below said head, and a member overlying said head having a formation arranged relatively to the head normally to prevent its disengagement from the fork, said members being relatively resilient to permit removal of the stud from the fork by springing the members apart.

5. A hold-down finger for lasting machines, comprising a resilient plate having a forked end and upturned flanges, a relatively unyielding cover plate overlying the

resilient plate between the flanges, and a hold-down plate having two pressing faces adapted to fit behind the innersole rib of a right shoe and behind the innersole rib of a left shoe respectively and having an upstanding headed stud on its upper face adapted to engage the forked end of the resilient plate, the cover plate being constructed and arranged for engaging the head of the stud for normally retaining the head of the stud in the fork but permitting its removal when the fork is sprung.

6. A hold-down for lasting machines comprising an arm extending laterally of the shoe bottom and having a longitudinal bore and a torsional bar extending substantially through said bore, means for applying torsional strain to the bar, and a hold-down finger mounted on the bar, the parts being constructed and arranged to permit the finger to move to accommodate itself to the spring of the last by reason of the torsional yield of the bar.

7. A hold-down for lasting machines comprising an arm extending laterally of the shoe bottom and having a longitudinal bore, a torsion bar extending through said bore, means at one end of the bar for preventing its rotation in one direction, means at the other end of the bar for preventing its rotation in the other direction, and a hold-down finger rigidly connected to the bar and adapted for movement by reason of the torsional resiliency of the bar to accommodate itself to the spring of the last.

8. A hold-down for lasting machines comprising an arm extending laterally of the shoe bottom, a torsion bar arranged longitudinally of said arm, a block non-rotatably secured to one end of the bar, means on the arm engaging the block to prevent rotation of the bar, and a hold-down finger adjustably mounted on the other end of the torsion bar but rigidly held thereto in any position of adjustment and arranged to move about the axis of said bar against the torsional resistance of the bar.

9. A hold-down for lasting machines comprising an arm extending laterally of the shoe bottom, a torsion bar extending longitudinally of said arm, a block non-rotatably secured to one end of the bar and having a slot therein, a pin on the arm extending into said slot, adjustable means in the slot to abut against said pin, and a hold-down finger rigidly mounted on the other end of the bar and arranged to move about

the axis of said bar against the torsional resistance of the bar.

10. A lasting machine hold-down having, in combination, a carrier mounted for adjustment transversely of a shoe bottom, a finger mounted on said carrier for movement about a horizontal axis extending transversely of the shoe, and a spring co-axial with said axis to resist movement of the finger in one direction about said axis.

11. A lasting machine hold-down having, in combination, an arm adapted to extend transversely of a shoe bottom, a finger carrier mounted on the arm for movement about a horizontal axis, a hold-down finger mounted on the carrier in position to extend forwardly over the toe of a shoe, and a resilient member arranged with its longitudinal axis coincident with the axis of the carrier and adapted to resist movement of the finger about said axis in one direction.

12. A lasting machine hold-down having, in combination, a vertically movable block, an arm mounted in said block for endwise adjustment transversely of the shoe bottom, a member mounted for rotation on said arm, a finger mounted on said member in position to extend forwardly over the toe of a shoe, and a torsion spring for resisting rotation of the member in one direction.

13. A lasting machine hold-down having, in combination, a block arranged for vertical movement, an arm mounted in the block for longitudinal adjustment transversely of the shoe bottom, a member mounted on the arm for rotation about a horizontal axis, a finger mounted on said member in position to extend forwardly over the toe of a shoe, and a spring arranged with its longitudinal axis co-axial with the member to resist movement of the finger in a direction away from the toe of the shoe.

14. In a hold-down for lasting machines, the combination with a hold-down finger, of a carrier therefor, connection between the carrier and the finger permitting rotation of the finger in a vertical plane, means normally holding the finger against rotation but permitting the finger to turn when it is subjected to unusual strains, and means for effecting adjustment of the means for normally holding the finger to permit the finger to turn under greater or less strain.

In testimony whereof I have signed my name to this specification.

LOUIS M. BROWN.