

W. CHICK.
LASTING MACHINE.
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1,022,402.

Patented Apr. 9, 1912.

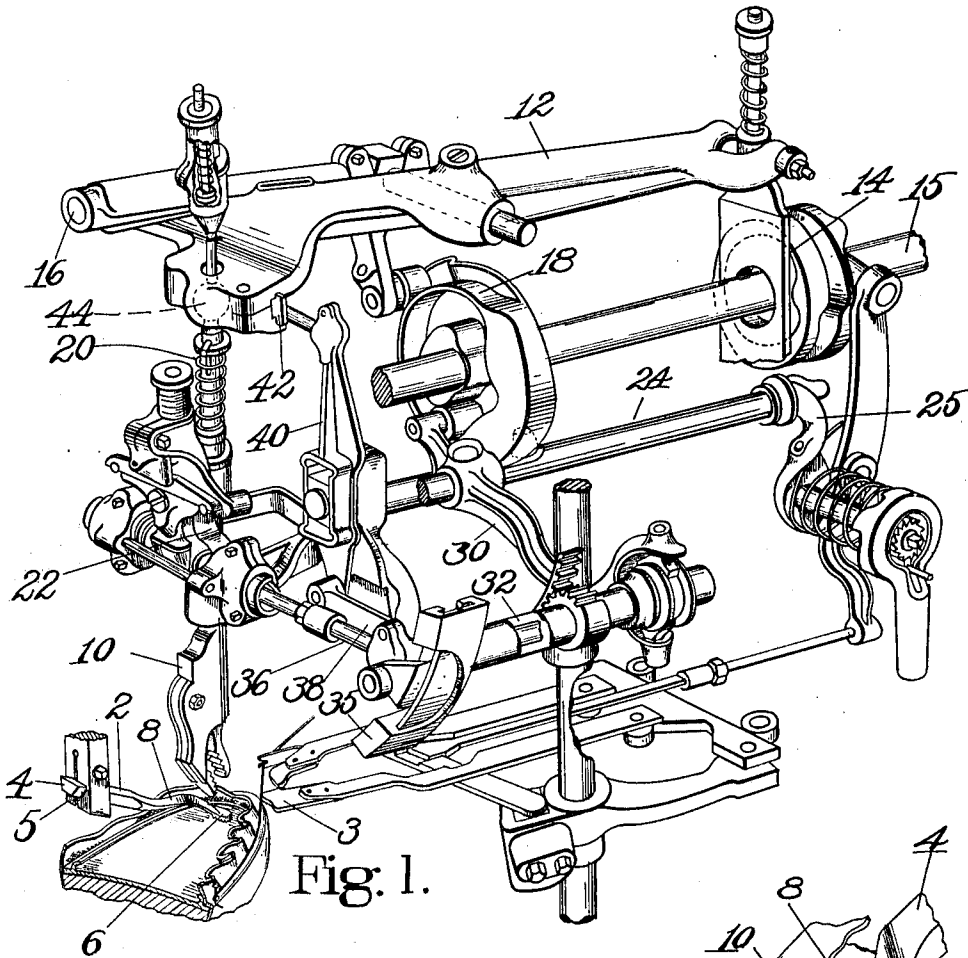


Fig. 1.

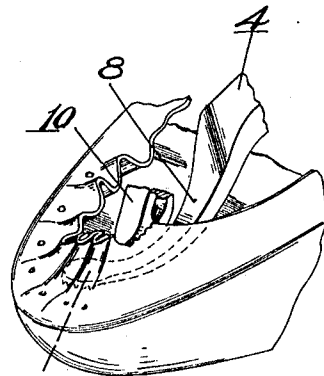


Fig. 3.

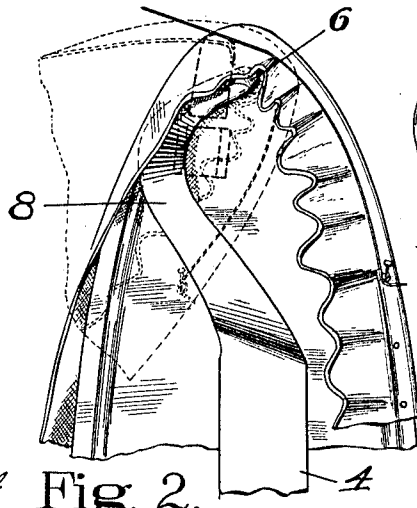


Fig. 2.

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UNITED STATES PATENT OFFICE.

WALTER CHICK, OF DAYTON, KENTUCKY, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

LASTING-MACHINE.

1,022,402.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER CHICK, a citizen of the United States, residing at Dayton, in the county of Campbell and State of Kentucky, 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 by which a shoe upper is worked over a last progressively or step by step by repeated operations of the lasting devices upon successive portions of the marginal portions of the upper.

The invention has for an object to provide an improved construction and arrangement of the shoe bottom rest by which, especially on narrow toed lasts, the shoe can be positioned and rested against the strain of the lasting devices without liability of displacing the adjacent portion of upper just previously worked into lasted position.

To this end an important feature of this invention consists in the combination with shoe lasting devices, a shoe bottom rest which approaches its point of engagement with the shoe bottom from the direction of the unlasted portion of the shoe or in the direction of feed or advance of the work. A bottom rest so arranged is located adjacent to portions of upper not yet worked into lasted position and presents no obstacle to the lasted portions of the upper lying undisturbed in the position to which they have been manipulated. This overcomes the difficulty sometimes experienced in lasting shoes having pointed toes in which a shoe bottom rest of usual construction, as, for example, one which approaches the engaging point at right angles to the direction of feed, is compelled to overlie or else to underlie somewhat the portion of upper just previously overworked. The rest in either of such positions, over or under the overworked upper, tends to displace that portion of upper, particularly at the time when the shoe is being fed or turned. If the rest engages upon a lasted portion of upper its bottom face which is usually toothed or serrated is liable to thrust or twist the upper out of place and if the rest engages under the edge of the overworked portion of upper

it is liable to pry or push it from its right position. If it is a shoe having a tacked toe the tacks may be loosened but the most difficulty is found in lasting shoes the toes of which are fastened with wire or other continuous binding material. A bottom rest that approaches the engaging point at substantially right angles to the direction of feed tends to pry up or crowd back the previously lasted portion of upper while lasting around the toe of the shoe and loosen it from the position in which it is intended to be bound by the wire. The rest in which the invention is shown as embodied comprises an attaching portion and a foot connected by a single arm which is laterally bowed from the attaching portion outwardly against the direction of feed and then inwardly to the foot in the direction of feed. This construction permits the foot to extend laterally under an unlasted portion of the upper leaving the adjacent portion of the upper entirely free and undisturbed. The foot of the rest is or may be formed to extend substantially at right angles to the general median line of the rest. An advantageous characteristic of this invention is that the bowed connecting arm permits the grippers, in their well known lateral movements for plaiting the upper, to swing close to the plane of the shoe bottom for laying the upper into smooth folds or plaits. To this end the top face of the connecting arm is preferably beveled off or inclined downwardly and inwardly toward the center of its curvature.

These and other features of this invention together with certain combinations of parts and details of construction will appear in connection with the following description of the mechanism and will then be pointed out in the claims.

Figure 1 is a perspective view of so much of a lasting machine embodying this invention as is necessary to describe. Fig. 2 is a plan view showing in full and dotted lines different positions of a shoe with relation to the rest at different stages in the lasting operation. Fig. 3 is a perspective view showing the relation of the rest to a McKay shoe while the toe is being lasted.

The shoe bottom rest 2 coöperates with a wiper 3 for positioning the shoe and holding it against the strain which the grippers put upon the upper in pulling it and laying it

into lasted position. The bottom rest comprises an attaching portion 4 held in a fixed clamp 5 and a foot or shoe-engaging portion 6. The attaching portion and the foot are connected by a laterally bowed or curved arm 8 so formed and arranged that the rest approaches its point of engagement with the shoe from the direction of the unlasted upper in lasting the second or left-hand side of the shoe. This is the direction in which the shoe is fed as the lasting progresses and the foot and connecting arm 8, which extends approximately parallel with the plane usually occupied by the shoe bottom while the shoe is being lasted, may extend under the unlasted portion of the upper, as indicated in Figs. 2 and 3.

The lasting operation is effected by the grippers 10 which are suspended from a lever 12 that is yieldingly connected to a cam 14 on the cam shaft 15. The closing and opening of the grippers is effected by a rockshaft 16 actuated from an edge cam 18 and by a spring 20. The gripper bars extend downwardly through a block 22 movable laterally in a yoke on the front end of a slide bar 24. The slide bar is moved in one direction by the engagement of a cam face on the rear side of the cam 18 with a stud on the bar and in the other direction by a spring-actuated arm 25. In lasting the toe the grippers also receive movements for forming and laying plaits in the upper. These movements are obtained from a cam groove in the front side of the cam block 18 which receives a roll on the inner end of a lever 30 having a toothed front end in engagement with a pinion on the rocker shaft 32. A rocker 35 on the rockshaft has operative connection through a pitman 36 with the block 22 through which the gripper bars extend for swinging the grippers laterally. A second pitman 38 and a lever 40 form an operative connection between the rocker and a rack bar 42 which engages a toothed head 44 on the upper end of the outer gripper bar for turning the grippers.

In the use of the machine the shoe may be positioned as indicated in Figs. 1 and 2 and the grippers are actuated to seize the upper, uplift, and then swing and turn laterally to lay the plait, which in welt shoes is held by a binder of wire as indicated. As the shoe is turned as indicated in dotted lines in Fig. 2 and fed along toward the right while the operation progresses around the toe, the laterally bowed formation of the shank or connecting arm of the rest prevents the engagement of that arm with the lasted portions of upper or prevents such engagement of the arm with the lasted upper as would tend to crowd the upper away from the position in which the wire binds it. When the upper is fastened with tacks instead of wire, as indicated in Fig. 3, the

laterally bowed formation of the shank of the rest prevents the upper from being pried up or crowded outwardly in a way to loosen the securing tacks. The shank or connecting arm of the rest is beveled or inclined downwardly and inwardly, as indicated in the drawings to permit the grippers in their swinging movement to approach closer to the last bottom or the innersole for laying the upper in position to be secured.

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 of the class described, having in combination, devices for working successive portions of an upper over a last progressively by repeated operations, and a shoe bottom rest arranged to position the shoe for the action of said devices having an attaching portion, and a shoe engaging foot both located in a plane parallel with the median vertical plane of the machine and a single supporting arm curved laterally and connecting the attaching portion to the foot.

2. A lasting machine of the class described, having in combination, devices for working successive portions of an upper over a last progressively by repeated operations, and a shoe bottom rest arranged to position the shoe for the action of said devices having an attaching portion, a shoe engaging foot and a single laterally curved connecting arm having a transversely inclined upper face.

3. In a machine of the class described, a shoe bottom rest comprising an attaching portion, a foot and a laterally curved connecting arm, the upper face of which is beveled toward the inner edge.

4. A machine of the class described, having in combination grippers, means for actuating the grippers upwardly and outwardly to stretch an upper over a last, means for swinging the grippers laterally to plait the upper and a shoe bottom rest arranged to position the shoe for the action of said devices bowed laterally and having an inwardly beveled top face to permit the grippers to swing laterally and downwardly close to the shoe bottom.

5. A step by step lasting machine having devices for working an upper over a last, a support located in the median vertical plane of the machine and a rest for the bottom of the shoe extending outwardly from the support and laterally toward one side of the said plane and then laterally back toward said plane and having a shoe bottom engaging foot substantially in said plane, as and for the purpose described.

6. A step by step lasting machine having devices for working an upper over a last and

a rest for the bottom of the shoe extending
downwardly to the plane of the shoe bottom
and then laterally approximately parallel
with that plane and having a shoe bottom
5 engaging foot in approximately the median
plane of the machine, as and for the purpose
described.

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

WALTER CHICK.

Witnesses:

W. T. HARMON,
ALFRED KRAEMER.

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