(No Model.)

F. P. BULLARD & W. S. HAMM.

LASTING MACHINE.

No. 590,639. Patented Sept. 28, 1897.

FIG. 1.

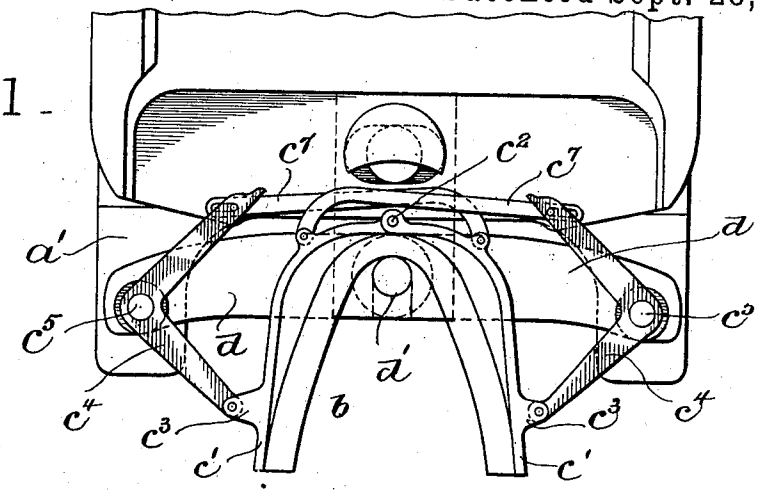
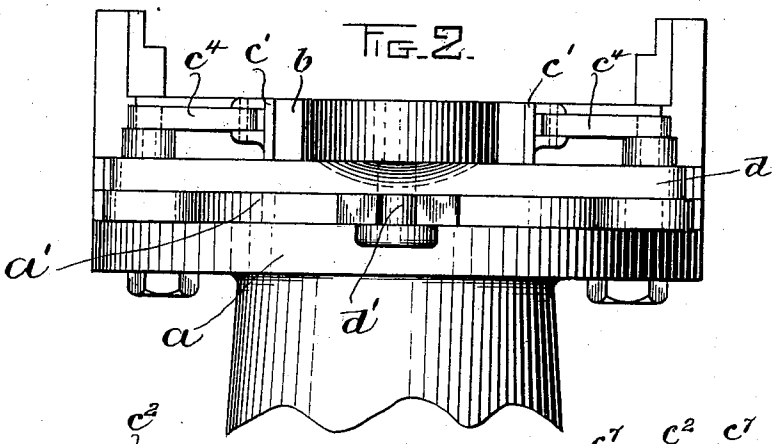


FIG. 2.



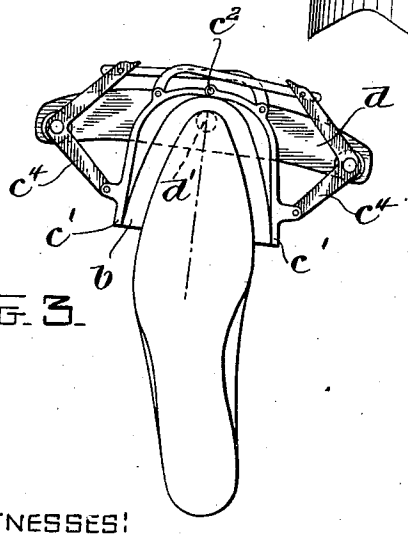


FIG. 3.

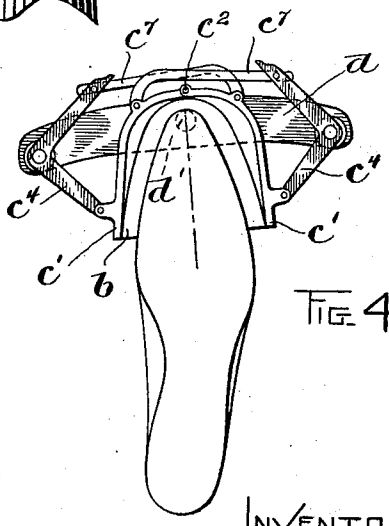


FIG. 4.

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UNITED STATES PATENT OFFICE.

FRED P. BULLARD, OF BROCKTON, AND WILLIAM S. HAMM, OF NEWTON, MASSACHUSETTS, ASSIGNORS TO AUGUSTUS SEAVER, OF BOSTON, MASSACHUSETTS.

LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 590,639, dated September 28, 1897.

Application filed October 19, 1896. Serial No. 609,268. (No model.)

To all whom it may concern:

Be it known that we, FRED P. BULLARD, of Brockton, in the county of Plymouth, and WILLIAM S. HAMM, of Newton, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Lasting-Machines, of which the following is a specification.

This invention relates to flexible pressure devices for pressing the toe portion of the upper of a boot or shoe against the corresponding portion of a last by yielding pressure which extends from the toe backwardly along the sides of the fore part of the last.

The invention has for its object to provide a pressure device of this character which shall automatically conform in position to the shape or contour of the last on which it operates and shall conform automatically to the differences that exist between right and left lasts, the median line of a sole of a right last being inclined in one direction, while the median line of the sole of a left last has an opposite inclination.

The invention consists in the improvements which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of a portion of a lasting-machine provided with our improvement. Fig. 2 represents a front elevation of the same. Figs. 3 and 4 represent views showing our improvement applied to a right last and a left last.

The same letters of reference indicate the same parts in all the figures.

In the drawings, a represents a fixed part of the frame of a lasting-machine, and a' a bed on which is supported a suitable toe-lasting mechanism, comprising a flexible strap b, adapted to press the upper of a boot or shoe against the toe and sides of the fore part of a last, and toe-wipers which are movable back and forth above the strap b to wipe the edges of the upper over upon the bottom of the last. Our improvement relating entirely to the flexible strap and the means for supporting and automatically adjusting it, we do not show the toe-wiping devices, the latter being of any suitable construction. The strap b is composed of leather or other suitable flexible material and is backed by inflexible curved arms or yoke-sections c' c', which are pivotally connected together at c^2, and are provided with ears c^3 c^3, with which are connected bell-crank levers c^4 c^4, which are pivoted at c^5 to a rocking bar d, hereinafter described. The inner ends of the levers c^4 are connected by links c^7 c^7 with the arms c', the links crossing each other, as shown in Fig. 1. The links c^7 c^7 and levers c^4 c^4 constitute equalizing connections between the arms c' c', which prevent unequal motion of said arms and cause an equal pressure of the end portions of the strap c against both sides of the last. Without said equalizing connections there is liability of loose movement of the arms, resulting in the displacement of the center of the strap to one side or the other of the median line of the fore part of the last.

The rocking bar d is of rigid construction and supports the pivots of both levers c^4, as shown in Figs. 1, 3, and 4. Said bar is provided at its central portion with a stud or fulcrum d', which is fitted to turn on a seat or bearing formed for its reception on the bed a', the stud d' and its bearing constituting a pivotal connection which is located under the central portion of the strap and enables the bar d to rock and assume the different positions shown in Figs. 3 and 4, the bar being thus adapted to stand in a position substantially at right angles with the median line of the bottom of the last presented to it, whether the last be a left, as shown in Fig. 3, or a right, as shown in Fig. 4. It will be seen, therefore, that the strap b automatically adjusts itself to the character of the last to which it is presented.

We claim—

1. A lasting-machine having a flexible upper-pressing strap, arms supporting said strap, equalizing connections between said arms, and a rocking bar supporting said strap, arms, and equalizing connections, said bar having a central pivotal support located under the central portion of the strap.

2. A lasting-machine having a flexible upper-pressing strap, arms supporting said strap, levers pivoted to the outer portions of the arms and to a suitable support, and links connecting the outer portions of said levers and the inner portions of the arms.

3. A lasting-machine having a flexible upper-pressing strap, two strap-supporting arms on the outer sides of the strap, levers pivoted to the outer portions of the arms, links connecting the levers with the arms, and a rocking bar to the ends of which said levers are pivoted, said bar having a central pivotal support.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 10th day of October, A. D. 1896.

F. P. BULLARD.
WILLIAM S. HAMM.

Witnesses:
A. D. HARRISON,
C. C. STECHER.