

UNITED STATES PATENT OFFICE.

STEPHEN SNOW, OF EVERETT, MASSACHUSETTS, ASSIGNOR TO PEERLESS MACHINERY COMPANY, OF CHARLESTON, WEST VIRGINIA, AND NEW YORK, N. Y.

LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 701,411, dated June 3, 1902.

Application filed May 7, 1900. Serial No. 15,897. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN SNOW, of Everett, county of Middlesex, State of Massachusetts, have invented an Improvement in Lasting-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention in lasting-machines relates more especially to the toe-wiping devices mounted on the jack, my invention being intended as an improvement on the class of machine represented in United States Patent No. 378,446, dated February 28, 1888. In the described patent the toe of the last was acted upon by a leather toe-wiper, the upper edge of which meets the upper of the shoe where it contacts with the top of the last at a point behind the end thereof, said toe-wiper being gradually moved forward in contact with the upper on the last, the toe-wiper stretching the upper, and finally passing the toe end of the last and wiping the upper upwardly above the bottom of the last and holding the upper impinged against the end of the last at and about the edge thereof.

In accordance with my invention I have added to the machine having a toe-wiper of the class described a toe-rest which contacts with the shoe to be lasted and presses the same upon the top of the last, the toe-rest moving longitudinally of the length of the last and following the toe-wiper. The toe-rest is adjustable in order that its position may be varied to determine the position of the upper edge of the toe-wiper with relation to the upper side of the inner sole laid on the bottom of the last, which during the lasting operation rests on the bottom of the last which is uppermost.

In practice I find that a shoe may be lasted more perfectly and the upper be made to bind the last more closely by the employment of a toe-rest which moves in the direction of the length of the last, it following the toe-wiper.

Figure 1, in side elevation, represents part of the standard of a lasting-machine, showing a jack containing a toe-wiper and toe-rest embodying my invention, the toe-wiper being in its inoperative position. Fig. 2 is a longitu-

dinal section of part of the devices shown in Fig. 1, the toe-wiper being in its operative position. Fig. 3 is a plan view looking into the toe-wiper and upon the toe-rest. Fig. 4 is a section in the line x , Fig. 1. Fig. 5 is a section in the line 5 5, Fig. 2. Fig. 6 is a section in the line 6 6, and Fig. 7 is a detailed view showing the toothed plate d^2 and devices cooperative therewith.

The column A, the lever A', the spring A² to hold up said lever, the spindle B, revolvably connected with said lever and having at its upper end a head B', on which is adjustably mounted a heel-carriage B² and a toe-carriage B³, the means shown for adjusting said toe-carriage on said head, the wiper-carrying levers C, upon the upper ends of which are pivoted the opposite ends of the toe-wiper carrier C', the spring C², connected with said carrier and to a projection C³ of the said carriage B³, are and may be all as common in this class of lasting-machine, and consequently the named parts are not to be herein claimed.

The central part of the toe-wiper carrier C' has jointed to it at c the upper end of a rod c^2 , having at its lower end a pivot c^3 , carried by an arm d , extended from a rocking sleeve d^{12} , Fig. 3, surrounding loosely a fixed stud d^x , said sleeve being provided with a handpiece d^4 , having a spring-controlled pawl d^3 . The stud d^x has fixed to one end of it a ratchet-toothed plate d^2 , which is engaged by the pawl carried by the handpiece, said sleeve, pawl, handpiece, and tooth-plate being common to said patent, the upward movement of the handpiece causing the rod c^2 to be lifted to turn the wiper from its inoperative position, Fig. 1, into its fully-operative position, Fig. 2.

Fig. 1 shows the toe-wiper in its inoperative position, the last at about the ball thereof having been put in contact with the toe-wiper near its extremities.

In the operation of the machine the toe-wiper by engagement of the handpiece d^4 is turned about the pivots at the upper end of the lever C, and the upper edge of the toe-wiper is made to contact with the upper lying on the last at a point behind the toe end of the last, and by a continued movement of the

lever the force is sufficient to cause the toe-wiper to travel bodily, the spring c^2 yielding until the toe-wiper arrives in its fully-operative position, Fig. 2, the toe-wiper thus stretching and pulling the upper and fitting it to the top of the last between the ball and the toe end of the last, finally holding the upper in contact with the last at and about the junction of the bottom of the last with the sides and toe end thereof.

In accordance with this invention I employ a toe-rest e' , which is located inside the toe-wiper, said rest sustaining the toe end of the last as the toe-wiper completes its stroke in wiping the upper over the toe end of the last. The toe-rest occupies a position between that part of the wiper embracing the toe end of the last and the pivotal point of the toe-wiper. The wiper meets the upper across the top of the last at a point between the toe-rest and the end of the last and is moved longitudinally over the last toward the toe end thereof. The toe-rest may contact with the upper on the last before or just as the toe-wiper arrives in its extreme position, Fig. 2, the upper edge of said toe-wiper in its extreme position standing in alinement with the bottom of the last. The toe-rest has a threaded shank e^2 , which enters a threaded socket of a suitable support e^3 , which in the form in which I have herein chosen to show my invention in Figs. 1 to 3 forms part of the movable rod c^3 , the said rest being adjustable to adapt it to the shape of the last and to determine the position to be occupied by the acting edge of the toe-wiper at the end of its stroke. This invention is not, however, limited to supporting said toe-rest on said rod, which is a preferred form, as said rest may be sustained in other ways and yet be within the scope of my invention.

The pin a , holding the heel end of the last, is threaded at its lower end and screws into the threaded tipping post a' , adjustable by a worm a^2 , engaging a worm-toothed sector a^{3x} at the lower end of said post in usual manner. The pin is provided with one or more slits a^4 , which may be engaged by a locking device a^6 , which may be made to enter any slit and restrain the rotation of said pin.

In order that the spindle B may rise and fall in a straight line under the action of the treadle in positioning the last with relation to the usual lasting devices and also be rotated, I have provided said spindle with opposite grooves b , in which enters a guide-pin b' .

In the process of lasting the shoe and spindle have to be revolved, and to provide for this the guide-pin must be withdrawn from the groove. For this purpose I have mounted the pin b' on a carrier, herein represented as composed of a bar b^2 , connected with a plunger b^3 , with which coöperates a spring b^4 , which acts normally to keep the pin in the groove; but the operator may force his knee against the plunger and withdraw the pin whenever he may desire to turn the shoe and spindle,

the pin entering the groove automatically whenever the said groove arrives opposite said pin.

The levers C constitute a movable actuator for the toe-wiper carrier.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lasting-machine, a toe-wiper, and means to move the same when in contact with the upper on the top of the last back of the toe end thereof forwardly toward and to the toe end of the last, said wiper moving in the arc of a circle located between the toe and heel of the last, and a toe-rest movable in the direction of the length of the last during the operation of the toe-wiper, said toe-rest contacting with the upper on the top of the said last back of the toe end thereof.

2. In a lasting-machine, a pivotally-mounted toe-wiper, a toe-wiper actuator to move the wiper longitudinally of the last and turn the same that its upper edge may contact with the upper lying on the top of the last and sliding over said upper stretch the same and fit it to the last, and a toe-rest connected with the said toe-wiper actuator contacting with the upper on the top of the last at a point back of the end of the last and toe-wiper and movable longitudinally of the length of the last with and during the operation of the toe-wiper.

3. In a lasting-machine, a toe-wiper actuator, a toe-wiper carrier pivoted thereto at its ends, and a connected toe-wiper, combined with a toe-rest movable longitudinally of the length of the last during the operation of the toe-wiper, said toe-rest contacting with the upper on the top of the last between the end of the last and the pivotal point of the toe-wiper carrier.

4. In a lasting-machine, a toe-wiper having its edge adapted to meet the upper on the top of the last back of the toe end of the last, and a toe-rest to contact with the upper on the last as the toe-wiper completes its operative stroke and means to move the toe-rest and toe-wiper longitudinally of the last and to turn the toe-wiper when stretching and fitting the upper to the last.

5. In a lasting-machine, a toe-wiper actuator, a toe-wiper carrier pivoted thereto at its ends and a connected toe-wiper, combined with a toe-rest supported on the toe-wiper carrier, means to adjust the toe-rest with relation to the toe-wiper to cause the toe-rest to contact with the upper on the top of the last and determine the position of the upper edge of the toe-wiper when embracing the toe of the last.

6. In a lasting-machine, a grooved spindle, means carried thereby to jack and support a last, a spring to sustain said spindle, a movable carrier comprising a plunger and a bar having a guide-pin, a spring to move said carrier that the guide-pin may enter the groove of said spindle, said pin insuring the move-

ment of the spindle in a vertical line, the withdrawal of said pin in opposition to said spring permitting the spindle to be rotated.

7. In a lasting-machine, a toe-wiper actuator, a toe-wiper, a toe-wiper carrier pivotally mounted on said actuator at its ends, said pivots occupying normally a position between the toe and heel end of the last, a rod connected with said toe-wiper carrier between its ends, and means to move said rod in the direction of its length to thereby cause the upper end of the toe-wiper to meet the upper on the last, and a toe-rest connected with said rod.

8. In a lasting-machine, a toe-wiper actuator, a toe-wiper, a toe-wiper carrier pivotally mounted on said actuator at its ends, said pivots occupying normally a position between

the toe and heel end of the last, a rod connected with said toe-wiper carrier between its ends, and means to move said rod in the direction of its length to thereby cause the upper end of the toe-wiper to meet the upper on the last and a toe-rest connected with said rod, and means to adjust said toe-rest vertically to thereby adapt it to the thickness of the last back of the end of the toe.

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

STEPHEN SNOW.

Witnesses:

GEO. W. GREGORY,
MABEL PARTELOW.