

B. F. STUBER.
LASTING APPARATUS.
APPLICATION FILED DEC. 5, 1910.

1,029,242.

Patented June 11, 1912.

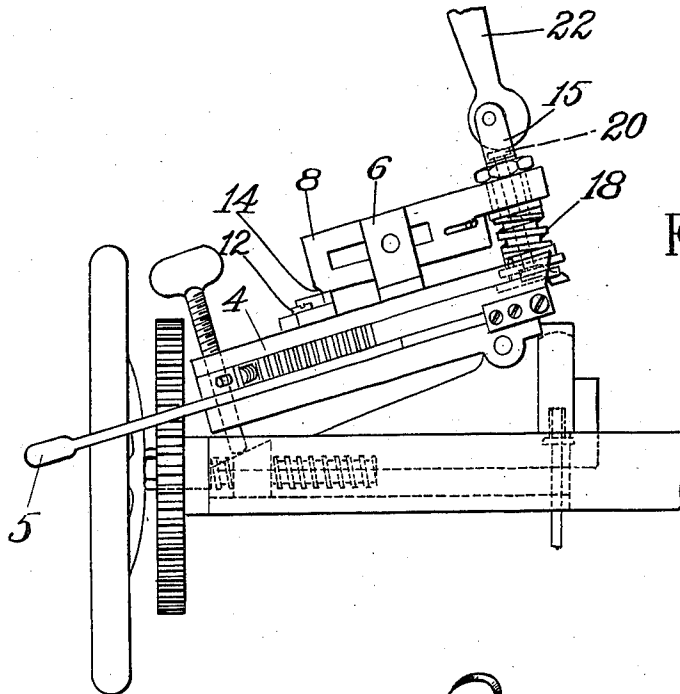


Fig. 1.

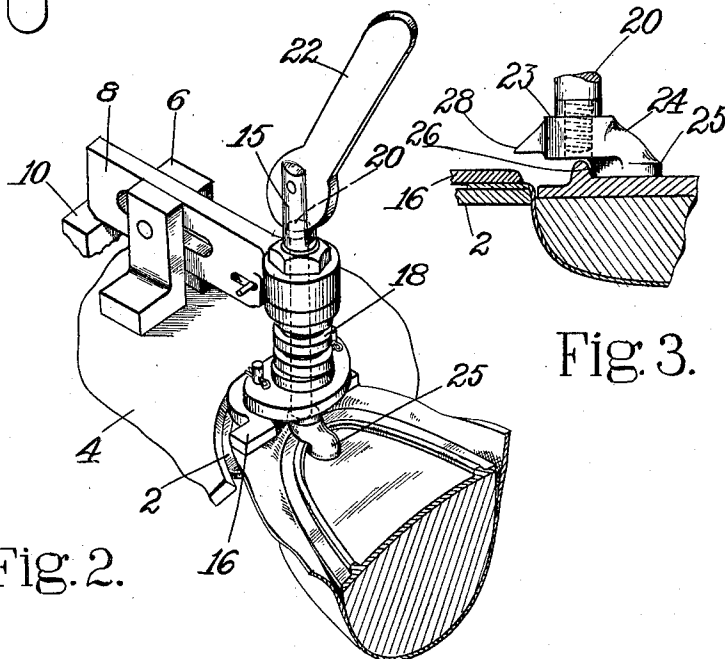


Fig. 3.

WITNESSES
O. Blanche Hargraves.
Elizabeth C. Coupe

INVENTOR.
Benjamin F. Stuber
By his Attorney,
Nelson L. Howard

UNITED STATES PATENT OFFICE.

BENJAMIN F. STUBER, OF GARDINER, MAINE, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

LASTING APPARATUS.

1,029,242.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed December 5, 1910. Serial No. 595,691.

To all whom it may concern:

Be it known that I, BENJAMIN F. STUBER, a citizen of the United States, residing at Gardiner, in the county of Kennebec and State of Maine, have invented certain Improvements in Lasting Apparatus, 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 toe lasting apparatus and particularly to toe lasting mechanism of the type employed in the commercial Chase lasting machine. In this type of machine the toe portion of the upper is spread out upon the upper face of the toe embracing wipers and clamped down thereagainst by a device called a retarder which delays, restrains or retards the slipping of the upper relatively to the edge of the wipers as the wipers and the shoe are manipulated relatively for stretching the upper and laying it over the last bottom. There is employed in coöperation with the retarders and wipers in this type of machine a last depressor by which the last is forced downwardly relatively to the wipers and the gripped portion of the upper for effecting the initial stretching of the upper about the toe end of the last. This last depressor is operatively associated with the retarder for movement therewith over the shoe bottom into operative position and is depressed through the retarder carrier to force the last downwardly. In prior constructions such, for example, as one in general use and illustrated in the Chase Patent No. 364,088 the foot of the last depressor comprises a button or head concentric with its operating stem and arranged to engage the innersole substantially at its edge. This construction has the obvious advantage that it holds down the edge of the innersole and prevents said edge from being lifted or rubbed upwardly and crowded backwardly by the engagement of the stretching upper therewith. This apparatus is well adapted for lasting McKay shoes. In lasting welt shoes, however, in which the innersole is provided with an upstanding lip or rib near its edge against which the upper is to be lasted and to which the upper and the welt are to be sewed difficulties are encountered in the use of the patented construction. One impor-

tant objection to that construction is that the button or foot of the last depressor flattens down the lip or rib so that the upper cannot be so well lasted and bound against it at the end of the toe and particularly if the shoe has a narrow or pointed toe, and a further difficulty is experienced by the welt sewing-on machine operator in that he can not locate the inseam stitches so well in their proper position because of the mutilated condition of the rib and also the rib does not present its intended contour to guide the sewing machine operator in sewing around the toe and as a result the shoes sometimes have not so good an appearance as would be the case if this rib had not been injured.

The object of the present invention is to overcome these difficulties thereby facilitating the lasting and the welting and improving the quality of the shoes produced.

An important feature of this invention consists in providing a last depressor having a foot located eccentrically with relation to its operating stem and adapted to project rearwardly over and engage the shoe inside the lip or rib of the innersole. In the illustrated embodiment of the invention the object is accomplished with very slight alteration in the construction of the apparatus now in extensive use. This makes it possible to apply this invention at very little cost to the owners of the Chase lasting machines. In the illustrated embodiment of the invention the foot or button on the last depressor stem is replaced by a foot removably connected with the stem and having a neck projecting rearwardly from said stem to overlie the lip or rib of the innersole, and a depending portion formed to engage the innersole at the inside of the lip or rib. The foot will preferably have an upright face adjacent to the inner side of the insole rib adapted to engage the rib and form an abutment to prevent any displacement of the rib by the closing movement of the wipers. By making the foot readily detachable, feet having rib abutments of different forms may be provided for shoes differing in shape as, for example, having wide and narrow or pointed toes. Advantageously the last depressor may have a formation to engage the clamping plates of the retarder and effect additional clamping pressure upon the upper after the initial stretching of the upper during depression

of the last. This arrangement allows the upper, after it has been spread out between the wipers and the retarder to be clamped yieldingly with a pressure which will allow the upper to slip slightly at any points where it is being excessively strained and thus adjust itself to produce a uniform stretching throughout the clamped portion. The additional clamping pressure applied when the last depressor engages the retarder will cause the upper to be held more firmly during that portion of the stretching operation which occurs while the wipers are being advanced and closed over the shoe bottom.

The invention will now be described in connection with the accompanying drawings and will then be pointed out in the claims.

Figure 1 is a side elevation of so much of the toe lasting mechanism of a Chase lasting machine as is necessary to show in connection with this invention. Fig. 2 is a perspective view of the retarder and last depressor in operative relation to a shoe. Fig. 3 is a vertical longitudinal section through the shoe and through the wiper and retarder and shows the last depressor in side elevation.

The toe lasting mechanism comprises, in addition to a suitably adjustable support carried by the frame of the machine, toe embracing wipers 2 mounted for advancing and closing movement under a guide plate 4, such movement being effected by a hand lever 5. Reference may be had to the prior patent before mentioned for fuller description of these and associated parts. The plate 4 carries a guide 6 with which the retarder bar 8 has a pin and slot connection to permit positioning movement longitudinally of the shoe. The lever 10 pivoted at 12 is adapted for manipulation under the inclined end face 14 of the bar 8 to rock said bar about the pivotal connection with the carrier 6 and thereby clamp the retarder down upon the upper which has been spread out between it and the wipers, as shown in Fig. 2. The retarder comprises a tubular rod 15 having at its lower end the clamping plate 16, said rod and plate being arranged to be forced down upon the upper by the bar 8 acting yieldingly through a spring 18. Within the tubular rod 15 is movable the stem 20 of the last depressor, the upper end of the stem being arranged to be engaged by an eccentric head of a lever 22 pivoted in the forked end of the tubular rod. The stem has a reduced threaded lower end on which is removably secured the new last depressor foot of this invention. This foot comprises an attaching portion 23 which may be concentric with the stem, a horizontally extending neck 24 by which to reach backwardly over the lip or rib of the innersole and a depending portion 25

to engage the face of the innersole at the inside of the rib. The depending portion preferably has a lateral face 26 shaped in accordance with the outline of the innersole lip and adapted to form a backing or support for the rib at the end of the toe. This is very useful in preventing the wipers from crowding the rib backwardly or breaking it down. The last depressor also may or may not have a formation 28 to overlie the retarder plate 16 and limit the depression of the last. Such engagement with the plate 16 serves two purposes. It determines, according to the adjustment of the foot on its stem, the plane of the last bottom relatively to the plane in which the wipers 2 close to overlie the upper. It also applies an additional pressure to the plate 16 to clamp the upper upon the wipers at the end of the initial upper stretching action which is effected by the depression of the last and before the final stretching which may be effected by the inward movement of the wipers in overlaying the upper. If the upper is clamped unevenly to any extent at first it may slip to adjust itself to an even tension at all points before the final clamping pressure and stretching is effected.

Having explained the nature of this invention and the manner in which it is to be performed I claim as new and desire to secure by Letters Patent of the United States:—

1. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder to clamp the upper upon the wipers; and a last depressor having a foot formed to extend rearwardly to overlie the rib of a welt shoe innersole and engage the innersole inside the rib.

2. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder comprising a clamping plate to grip the upper against the wipers and a carrier for said plate; and a last depressor movably mounted in said carrier and having a foot with a portion formed to extend rearwardly over and out of crushing engagement with the innersole rib and a portion to engage the innersole inside the rib for forcing the last downwardly.

3. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder comprising the curved clamping plate 16 arranged over the wipers, a tubular carrier 15 for the plate, and means 14, 8, 18 to actuate said carrier and plate; and a last depressor comprising a stem 20 movable endwise in the carrier 15, an eccentric 22 to operate the stem in the carrier, and a detachable foot at the lower end of the stem deflected rearwardly from the stem to overlie the rib of the shoe innersole and engage the shoe inside the rib for depressing the last.

4. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder to clamp the upper upon the wipers; and a last depressor having a foot formed eccentrically thereof to overlies the rib of a welt shoe innersole and engage the innersole inside the rib and having a face to form an abutment for the inner side of the rib at the end of the toe and support the rib against the closing pressure of the wipers.

5. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder to clamp the upper upon the wipers; and a last depressor having a foot formed to overlies the rib of a welt shoe innersole and engage the innersole inside the rib and having a face to form an abutment for the inner side of the rib, said foot being detachable to permit substitution of feet having rib-supporting faces formed according to the shape of the shoes to be lasted.

6. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder to clamp the upper upon the wipers; a last depressor having a foot formed to overlies the rib of a welt shoe innersole and engage the innersole inside the rib, and a formation to engage the retarder for limiting the depression of the last relatively to the plane of movement of the wipers.

7. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder to clamp the upper upon the wipers; a last depressor having a foot to engage the shoe bottom and a formation to limit the depression of the last relatively to the plane of movement of the wipers, said mechanism having provision for adjustment to vary the depression of the last relatively to said plane.

8. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder to clamp the upper upon

the wipers, a last depressor having a foot to engage the shoe bottom and being arranged to effect additional clamping pressure of the retarder plate on the upper after initial stretching of the upper produced by depression of the last.

9. A toe lasting mechanism for welt shoes having, in combination, toe embracing wipers, a retarder, means for actuating the retarder yieldingly to clamp the upper, and means to depress the last, said machine having provision for applying additional clamping pressure unyieldingly to the retarder after initial stretching of the upper during depression of the last.

10. A toe lasting mechanism for welt shoes having, in combination, actuating means to advance and close the wipers, toe embracing wipers, a retarder comprising the curved clamping plate 16 arranged over the wipers, a carrier and actuating means for the clamping plate, and a last depressor having a face to engage the clamping plate at the end of the last depressing movement to apply additional clamping pressure while the wipers are advancing and closing.

11. A toe lasting mechanism for welt shoes having, in combination, clamping members shaped to permit the toe end portion of the upper to be spread out between them, means for actuating them to clamp the upper, means for relatively actuating said members and the last to stretch the upper, and means for applying final pressure after the initial upper stretching during which the upper may have slipped to equalize the stretching strains of different portions held by the clamping members.

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

BENJAMIN F. STUBER.

Witnesses:

ARTHUR L. RUSSELL,

O. BLANCHE HARGRAVES.