

March 20, 1945.

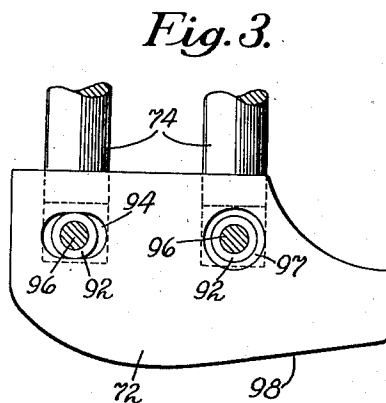
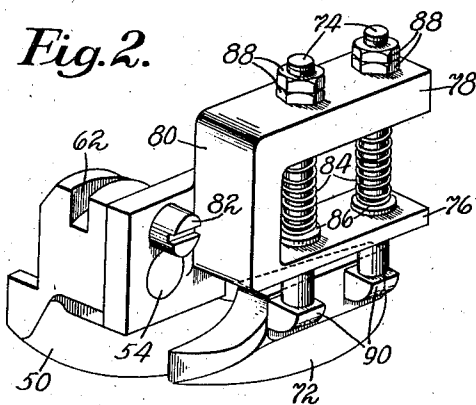
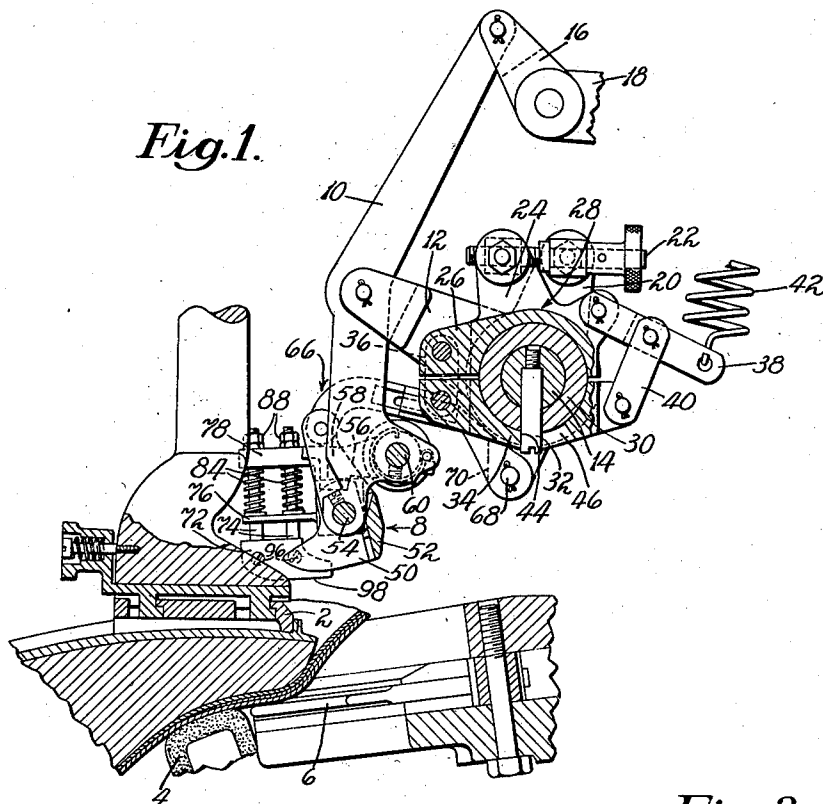
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2,371,612

LASTING MACHINE

Filed March 14, 1944

2 Sheets-Sheet 1



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Fig. 4.

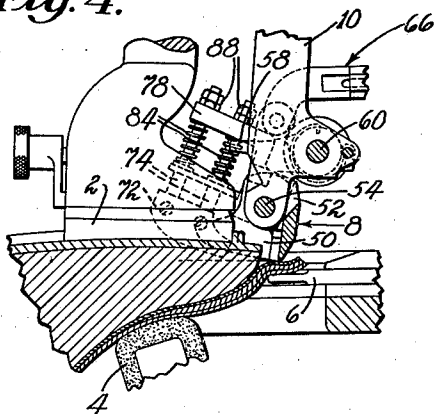


Fig. 5.

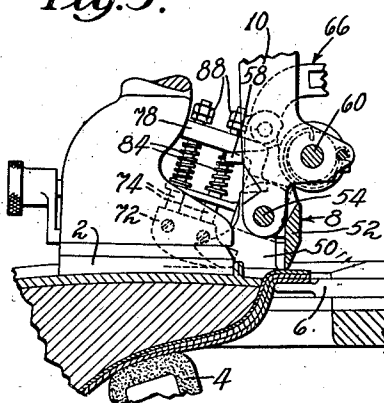


Fig. 6.

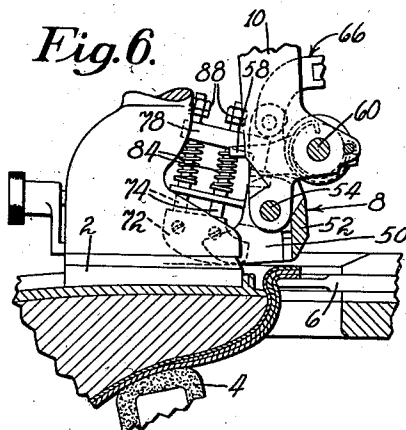
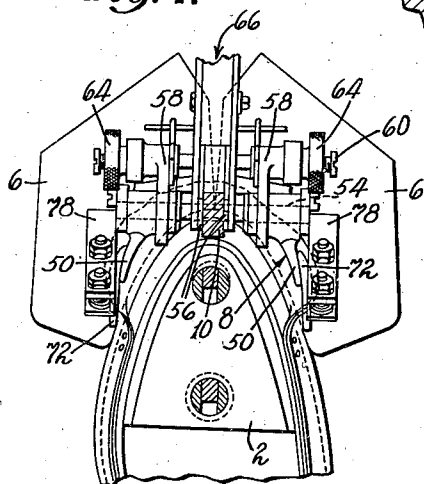


Fig. 7.



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UNITED STATES PATENT OFFICE

2,371,612

LASTING MACHINE

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Application March 14, 1944, Serial No. 526,378

13 Claims. (Cl. 12-14)

This invention relates to lasting machines, and is herein illustrated as applied to a power-operated toe-lasting machine constructed generally as disclosed in United States Letters Patent No. 2,160,846, granted on June 6, 1939, on an application of F. C. Eastman's and A. F. Pym's, but modified in certain respects as further disclosed in Letters Patent No. 2,371,146, granted on March 13, 1945, on an application of P. E. Burby's. It is to be understood, however, that the invention is not limited to machines of that particular character.

The machine shown in the above-mentioned Letters Patent No. 2,160,846 is provided with wipers movable to wipe the toe-end portion of an upper on a last heightwise of the last and then to wipe the marginal portion of the upper inwardly over an insole on the last, and also with grippers which apply a pull to the toe end of the upper and control it during the greater portion of the wiping operations of the wipers. In accordance with the disclosure of Letters Patent No. 2,371,146, there was substituted for these grippers a device having the function of what is commonly known as a retarder, this device being arranged to clamp the marginal portion of the upper outspread on the wipers at the end and the sides of the toe and to cooperate with them in applying a pull to the upper while preventing the formation therein of any objectionable wrinkles in the course of the toe-lasting operation. Since a shoe is commonly lasted at the sides of the forepart beyond its toe portion prior to the toe-lasting operation, and since the margin of the upper may, therefore, be more readily outspread and clamped on the toe wipers around the end of the toe than near the previously lasted portions at the sides of the toe when the wipers are in positions to begin the wiping of the upper heightwise of the last, the last-mentioned Letters Patent further discloses means for tipping the retarder about an axis extending widthwise of the last into position to clamp the upper on the wipers first at the end of the toe, and for thereafter tipping it reversely as the upper is wiped heightwise of the last to cause it to clamp and control the upper also at the sides of the toe when the wipers are near the edge of the insole. Further reverse tipping movement of the retarder thereafter causes it to release the margin of the upper from pressure first at the end of the toe just after the wipers begin to wipe the upper inwardly over the insole, followed by release of the upper also at the sides of the toe as the retarder is moved bodily heightwise of the last away from the wipers.

An object of the present invention is to control the upper still more effectively at the sides of the toe, and especially to afford better insurance, regardless of the character of the upper materials, against the formation of any objectionable

wrinkles in the upper in those locations, where the tendency of the wipers is to deflect its marginal portion in a heelward direction as they wipe it inwardly over the insole. For the purposes in view, there is herein shown a retarder constructed and controlled substantially as disclosed in Letters Patent No. 2,371,146, but including spring-controlled members for additionally clamping the margin of the upper on the wipers at the sides of the toe. As illustrated, these members are yieldable both bodily and angularly heightwise of the last relatively to the other upper-engaging portions of the retarder in response to pressure of the upper thereon, thus affording better insurance that portions of the margin at the upper at the sides of the toe near the previously side-lasted portions of the shoe will be evenly clamped on the wipers and controlled in the most satisfactory manner. These spring-controlled members, moreover, serve to prolong the clamping pressure on the upper at the sides of the toe as the retarder is tipped in the manner above described in releasing the upper from pressure prior to the completion of the inward wiping movements of the wipers.

The novel features of the invention will now be more particularly described with reference to the accompanying drawings and thereafter pointed out in the claims:

In the drawings,

Fig. 1 is a view partly in right-hand side elevation and partly in section of a portion of the machine in which the invention is herein illustrated as embodied, the parts being shown in the positions which they occupy prior to the beginning of the movements of the wipers and the retarder;

Fig. 2 is a perspective view of a portion of the retarder including one of the above-mentioned spring-controlled upper-clamping members;

Fig. 3 is a view in side elevation of one of these members, together with a portion of the means for controlling it, parts being shown in section;

Figs. 4, 5 and 6 are views similar to a portion of Fig. 1, showing the parts as they appear at different times in the course of the toe-lasting operation; and

Fig. 7 is mainly a plan view showing the same parts in the positions which they occupy at the same time in the operation of the machine as in Fig. 4.

In view of the disclosures in the above-mentioned Letters Patent, only such parts of the machine as it is necessary to refer to for an understanding of the invention will be herein particularly described. The shoe, herein shown as one of the welt type, is properly positioned for the toe-lasting operation by a member 2 which engages the bottom face of the toe end of the insole and also engages the inner face of the lip of the insole about the end and along the sides of the

toe. The shoe is clamped against the member 2 by a toe rest 4 which is moved upwardly into clamping position substantially at the beginning of the cycle of operations of the machine. For lasting the toe end of the shoe the machine is provided with a pair of wipers 6 which are advanced and closed lengthwise and widthwise of the shoe to embrace the upper about the toe end of the last first below the edge of the insole and are swung upwardly about an axis extending widthwise of the last to wipe the upper heightwise of the last. Thereafter the wipers are further advanced and closed to wipe the marginal portion of the upper inwardly over the feather and against the lip of the insole, the lip being supported against the inward pressure of the wipers by the member 2.

As in the machine shown in the above-mentioned Letters Patent No. 2,371,146, the grippers disclosed in Letters Patent No. 2,160,846 for applying a pull to the toe end of the upper and for controlling it in the course of the operative movements of the wipers are dispensed with, and instead there is provided a retarder which clamps the marginal portion of the upper outspread on the wipers about the end and along the sides of the toe in a location farther outward than the edge of the last bottom to control the upper in the toe-lasting operation. The retarder herein shown, which is constructed as hereinafter described, is designated generally by the reference character 8 and, like the retarder shown in Letters Patent No. 2,371,146, is supported on the lower end of a bar 10 controlled by mechanism constructed also substantially as therein disclosed. Briefly, the bar is pivotally mounted substantially midway between its lower and upper ends on an arm 12 arranged to swing about the axis of a rockshaft 14 extending widthwise of the last. By swinging movements of the arm 12 the bar 10 is moved downwardly to carry the retarder toward the wipers into upper-clamping position and is later moved upwardly to return the retarder to its initial position. In these movements the bar 10 is further guided and controlled by an arm 16 which is pivotally connected to its upper end and is mounted for swinging movements on a stationary member 18. Integral with the arm 12 is another arm 20 adjustably connected by a threaded spindle 22 to an arm 24 which is integral with the upper part 26 of a two-part clamp 28 embracing a friction ring 30 on the rockshaft 14, this ring being held in fixed relation to the rockshaft by a pin 32 threaded in the shaft and extending through a hole in the ring. The clamp 28 includes also a lower part 34 connected to the upper part by a link 36. Pivotaly mounted at one end on the upper part 26 is a lever 38 connected midway between its ends to the lower part 34 by a link 40. The other end of the lever 38 is connected to a spring 42 which is maintained under tension. The spring, therefore, acts through the lever 38 and the link 40 to hold the two-part clamp 28 in frictional engagement with the ring 30 and also tends to turn the clamp about the axis of the rockshaft 14 in the direction to impart downward movement to the bar 10 and the retarder 8. Initially, however, such turning of the clamp is prevented by engagement of the pin 32 with a shoulder 44 at one end of a slot 46 in the lower part 34 of the clamp through which the pin extends, as shown in Fig. 1, the bar 10 and the retarder being thus held by the pin in an upraised position. In operation the rockshaft 14, controlled by a cam (not

shown), is turned first in a counterclockwise direction with reference to Fig. 1, thus permitting the spring 42 to turn the clamp in that direction, assisted by the friction of the ring 30 on the clamp, and thereby to move the retarder downwardly toward the wipers. This downward movement of the retarder is completed before the wipers in their upward swinging movement arrive in position to cause the retarder to clamp the upper thereon, and after they have arrived in that position they cooperate with the retarder as they are moved farther upwardly to apply a pull to the upper as it is being wiped heightwise of the last, the margin of the upper slipping more or less inwardly toward the last between the wipers and the retarder. In this operation the retarder and the bar 10 are lifted by the wipers, causing the clamp 28 to turn in a clockwise direction about the friction ring 30 against the resistance of the spring 42, as permitted by the slot 46 in the clamp. As the clamp is thus turned the friction of the ring 30 thereon supplements the force of the spring 42 in resisting the upward movement of the retarder and therefore increases the force with which the upper is clamped on the wipers. When the wipers have nearly arrived at the limit of their upwiping movement the rockshaft 14 begins to turn reversely in a clockwise direction, thereby causing the ring 30 by its frictional engagement with the clamp partially to counteract the force of the spring 42 and thus to reduce the pressure of the retarder on the upper, the reduced pressure being continued as the wipers begin their movements to wipe the margin of the upper inwardly over the insole. Shortly after the beginning of the inward wiping movements of the wipers the pin 32 carried by the rockshaft arrives in position to engage the shoulder 44 and then begins to lift the bar 10 and thus to carry the retarder away from the upper. Continued movement of the rockshaft thereafter returns the retarder to its initial position.

The retarder 8, similarly to the construction disclosed in Letters Patent No. 2,371,146, includes a pair of upper-clamping members 50 each arranged to engage the upper along one side and part way around the end of the toe, and a central upper-clamping member 52 arranged to bridge any space between the two members 50 at the end of the toe. The members 50 and 52 thus form a substantially U-shaped upper-clamping device. The two members 50 are mounted on a rod 54 for adjustment toward or from each other in directions widthwise of the shoe, this rod being secured midway between its opposite ends to the bar 10. The central member 52 is provided at the opposite sides of the bar 10 with a pair of ears 56 (Fig. 7) whereby it also is mounted on the rod 54, and it is arranged to overlap and engage flat faces on the two members 50 so that all three members are held in fixed relation to one another for movement as a unit about the rod 54. For adjusting the two members 50 toward or from each other there are provided two latch members 58 mounted on a rod 60 secured to the bar 10, these latch members being arranged to extend into grooves 62 formed in hub portions of the members 50 (see Fig. 2). Threaded on the opposite end portions of the rod 60 are nuts 64 (Fig. 7) connected respectively to the latch members 58 in the manner disclosed in Letters Patent No. 2,371,146 for moving the latch members along the rod 60 to adjust the members 50. The latch members 58 may be swung upwardly out of the

grooves 62 to permit the members 50 to be removed from the rod 54 if desired.

Further in accordance with the disclosure of Letters Patent No. 2,371,146, the ears 56 of the central retarder member 52 are extended upwardly and are connected at their upper ends by a link 66 to a pin 68 mounted on an arm 70 which is in fixed relation to the arm 12 and swings with the latter about the axis of the rockshaft 14. This link is adjustable in length, as disclosed in the abovementioned Letters Patent. It will be evident that through the arm 70 and the link 66 the position of the retarder with respect to movement about the rod 54, for any position which the bar 10 assumes in its downward or upward movement, is definitely determined. As the bar 10 is moved downwardly by the arm 12 to carry the retarder from its initial position toward the wipers, the retarder is tipped by the arm 70 and the link 66 to a position inclined relatively to the toe end of the shoe bottom to cause it to clamp the upper on the wipers first at the end of the toe. As the retarder and the bar 10 are thereafter lifted by the wipers, the swinging of the arm 12 by the bar 10 causes the arm 70 to tip the retarder reversely about the rod 54, so that near the end of the upwiping operation of the wipers it clamps the upper on the wipers at the sides as well as at the end of the toe. Thereafter, when the bar 10 is lifted by the pin 32 in the manner hereinbefore described, further reverse tipping movement of the retarder is effected to cause it to release its pressure on the upper earlier at the end of the toe than at the sides of the toe in time relation to its bodily upward movement to initial position.

For purposes of this invention the retarder herein shown is provided with a pair of spring-controlled members 72 adjacent to the upper-clamping members 50 for additionally clamping the margin of the upper on the wipers at the sides of the toe. Each of the members 72 is supported on the lower ends of two rods 74 which are spaced apart lengthwise of the shoe and extend upwardly through bearings formed in lower and upper spaced bars 76 and 78 of a holder 80, this holder being mounted on the rod 54 and secured in fixed relation to the hub of the adjacent upper-clamping member 50 by a screw 82. Mounted on the rods 74 are springs 84 the upper ends of which abut against the bar 78 and the lower ends of which are seated on collars 86 resting on enlarged lower end portions of the rods. Threaded on the upper ends of the rods are nuts 88 which prevent the rods from moving downwardly beyond positions determined by engagement of the collars 86 with the bar 76. On the lower ends of the rods 74 are formed heads 90 having laterally extending circular bosses 92 (Fig. 3) one of which lies in a circular opening of the same diameter in the member 72 and the other in a slot 94 in this member, the slot permitting relative tipping movement of the member and the holder 80. Screws 96 threaded in the bosses 92 with their heads in overlapping relation to portions of the member 72 hold the member in place on the rods 74, the head of one of the screws lying in a counter-bore 97 in the member. It will thus be seen that each member 72 may yield bodily or angularly heightwise of the last relatively to the member 50 adjacent thereto in response to pressure of the upper thereon. Each member 72 overlaps to some extent the outer side of the heelward end of the member 50 associated therewith and extends beyond the latter in a heelward direction,

that end of the member 50 having an upwardly curved lower edge to permit the member 72 to assume, for the most part, control of the margin of the upper in that location. Adjacent to the member 50 the member 72 has a substantially or nearly straight lower upper-engaging edge 98 (Fig. 3), while farther heelwardly the lower edge of the member is curved in an upward direction. Preferably the initial relation of the members 72 to the members 50 is substantially as shown in Fig. 1, that end portion of each member 72 which overlaps the member 50 projecting a little below the latter in angular relation thereto, so that when pressure is applied to the margin of the upper at the sides of the toe each member 72 will tip yieldingly to a position where its substantially straight edge portion 98 is substantially in the same plane as the lower upper-clamping edge of the member 50 adjacent thereto. It will be understood that the members 72 always partake of the tipping movements of the members 50 and 52 about the rod 54 except as the members 72 are influenced by the pressure of the upper thereon.

In the operation of the machine, in so far as it is of interest with reference to the present invention, the rockshaft 14 begins to turn in a counterclockwise direction (Fig. 1) shortly after the beginning of the cycle of operations to cause the retarder 8 to be moved downwardly toward the wipers in the manner hereinbefore described. Simultaneously the arm 70 acts through the link 66 to tip the retarder about the rod 54 into position for thereafter clamping the outspread margin of the upper on the wipers first at the end of the toe, the parts of the retarder at the sides of the toe being thus positioned high enough to prevent them from unduly deflecting in a downward direction the portions of the margin of the upper which are adjacent to the previously side-lasted portions of the shoe beyond the toe. In time relation to the downward movement of the retarder the wipers 6 are advanced and closed to embrace the upper about the toe end of the last below the edge of the insole and are swung upwardly to wipe the upper heightwise of the last. Shortly after the completion of the downward movement of the retarder the wipers in their upward movement arrive in positions to cause the retarder to clamp the margin of the upper upon them at the end of the toe, as illustrated in Fig. 4. Thereafter, as the wipers continue their upward movement, they cooperate with the retarder to apply a pull to the upper, the retarder and the bar 10 being lifted by the wipers, and in response to such upward movement of the bar 10 the arm 70 acts through the link 66 to tip the retarder reversely about the rod 54 into position to clamp the upper on the wipers at the sides as well as at the end of the toe near the end of the upwiping operation (Fig. 5). As the upper is thus clamped at the sides of the toe the members 72 are pressed yieldingly on the upper through the springs 84, these members tipping to positions such that their substantially straight lower edge portions 98 assume positions in substantially the same plane as the upper-engaging edges of the members 50, as illustrated in Fig. 5. During the short further upward movement of the wipers the retarder maintains substantially the same relation thereto, the corresponding movement of the arm 70 not being great enough materially to alter that relation. Substantially at this time, however, the rockshaft 14 reverses the direction of its movement, and accordingly the frictional action of the ring 30 on the clamp 28 serves to

lessen somewhat the pressure of the retarder members 50 and 52 on the upper. Continued movement of the rockshaft brings the pin 32 into position to engage the shoulder 44 and to act on the clamp 28, and shortly after the wipers have begun their movements to wipe the margin of the upper inwardly over the insole the turning of the clamp by the pin causes the arm 70 to tip the retarder far enough to release the upper at the end of the toe (Fig. 6) as the arm 10 begins its movement to withdraw the retarder from the wipers. It will be observed that as the members 50 and 52 of the retarder are thus tipped about the rod 54 to release the upper at the end of the toe, the spring-controlled members 72 are still maintained in effective clamping engagement with the upper along the sides of the toe near the previously side-lasted portions of the shoe. The springs 84 controlling the members 72 may further yield somewhat at this time by reason of the tipping of the members 50 and 52 relatively to the members 72. Control of the margin of the upper extending substantial distances along the sides of the toe near the previously side-lasted portions of the shoe is, therefore, prolonged, and better insurance is thus afforded against the formation of any objectionable wrinkles at the sides of the toe due to the tendency of the wipers to deflect the upper in those locations lengthwise of the shoe. Continued upward movement of the bar 10 serves to withdraw the retarder from the margin of the upper also at the sides of the toe and to return it to the initial position in which it is shown in Fig. 1.

It should be understood that the timing of the movements of the retarder relatively to the movements of the wipers need not be precisely as above described as far as the present invention is concerned, and that in some aspects the invention is not limited to a construction in which the retarder is tipped relatively to the wipers in the manner disclosed.

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

1. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers in a location farther outward than the edge of the last bottom to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe with all its upper-engaging portions in fixed relation to one another in the lasting operation and including also at the opposite ends of said device spring-controlled members arranged to clamp the upper on the wipers at the sides only of the toe and yieldable heightwise of the last relatively to said device in response to pressure of the upper thereon.

2. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers in a location farther outward than the edge of the last bottom to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe with all its upper-engaging portions in fixed relation to one

another in the lasting operation and including also at the opposite ends of said device spring-controlled members arranged to clamp the upper on the wipers at the sides only of the toe and yieldable heightwise of the last relatively to said device in response to pressure of the upper thereon, said members overlapping the end portions of said device lengthwise of the last and also extending beyond said end portions in heelward directions.

3. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe with all its upper-engaging portions in fixed relation to one another in the lasting operation and including also at the opposite ends of said device members arranged to clamp the upper additionally on the wipers at the sides of the toe, and springs supported by said U-shaped device and associated respectively with said different members for pressing them individually on the upper.

4. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe and including also at the opposite ends of said device spring-controlled members arranged to clamp the upper additionally on the wipers at the sides of the toe and yieldable heightwise of the last relatively to said device in response to pressure of the upper thereon, and a support common to said device and members for moving them as a unit heightwise of the last toward the wipers.

5. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers to control the upper in the lasting operation, said retarder including a pair of members adjustable toward and from each other widthwise of the last and each arranged to engage the upper part way around the end and along one side of the toe and including also additional members arranged to engage the upper at the sides of the toe and yieldable heightwise of the last relatively to said first-named members in response to pressure of the upper thereon, said additional members being adjustable widthwise of the last with said first-named members.

6. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers in a location farther outward than the edge of the last bottom to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe with all its upper-engaging portions in fixed relation to one another in the lasting operation and including also at the opposite ends of said device spring-controlled members arranged to clamp the upper additionally on the wipers at the sides of the toe,

said members being yieldable both bodily and angularly heightwise of the last relatively to said device in response to pressure of the upper thereon.

7. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe and including also at the opposite ends of said device members arranged to clamp the upper additionally on the wipers at the sides of the toe, holders for said members mounted in fixed relation to the upper-engaging portions of said device, and spring means on said holders against the resistance of which said members are yieldable heightwise of the last relatively to said device in response to pressure of the upper thereon.

8. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last into lasted position, of a retarder for clamping the marginal portion of the upper outspread on the wipers to control the upper in the lasting operation, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe and including also at the opposite ends of said device members arranged to clamp the upper additionally on the wipers at the sides of the toe, holders for said members mounted on said device, a pair of rods connected to each of said members in locations spaced apart lengthwise of the last and arranged to extend heightwise of the last in bearings in the corresponding holder, and springs arranged to act through said rods to press the members on the upper while permitting the members to yield bodily and angularly heightwise of the last relatively to the holders.

9. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last heightwise of the last and then inwardly over an insole on the last, of a retarder for clamping the marginal portion of the upper outspread on the wipers about the end and along the sides of the toe to control the upper in the lasting operation, said retarder being mounted for tipping movement about an axis extending widthwise of the last into position to clamp the upper on the wipers first at the end of the toe and being reversely movable about said axis in the course of the wiping of the upper heightwise of the last into position to clamp the upper on the wipers also at the sides of the toe, the retarder including spring-controlled members arranged to clamp the upper on the wipers at the sides only of the toe and yieldable heightwise of the last relatively to its other upper-engaging portions in response to pressure of the upper thereon.

10. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last heightwise of the last and then inwardly over an insole on the last, of a retarder for clamping the marginal portion of the upper outspread on the wipers about the end and along the sides of the toe to control the upper in the lasting operation, and mechanism connected to said retarder for positioning it in such relation to the wipers as to clamp the upper thereon first at the end of

the toe and for tipping it about an axis extending widthwise of the last in the course of the wiping of the upper heightwise of the last to bring it into position to clamp the upper on the wipers also at the sides of the toe, the retarder including spring-controlled members arranged to clamp the upper on the wipers at the sides only of the toe and yieldable heightwise of the last relatively to its other upper-engaging portions in response to pressure of the upper thereon.

11. In a lasting machine, the combination with wipers for wiping an upper about the toe end of a last heightwise of the last and then inwardly over an insole on the last, of a retarder for clamping the marginal portion of the upper outspread on the wipers about the end and along the sides of the toe to control the upper in the lasting operation, and mechanism connected to said retarder for positioning it in such relation to the wipers as to clamp the upper thereon first at the end of the toe and for tipping it about an axis extending widthwise of the last in the course of the wiping of the upper heightwise of the last to bring it into position to clamp the upper on the wipers also at the sides of the toe, said retarder including a substantially U-shaped upper-clamping device arranged to engage the upper about the end and along the sides of the toe and including also at the opposite ends of said device spring-controlled members arranged to clamp the upper additionally on the wipers at the sides of the toe and yieldable heightwise of the last relatively to said U-shaped device in response to pressure of the upper thereon.

12. In a lasting machine, the combination with wipers movable lengthwise and widthwise of a last to wipe the marginal portion of the toe end of an upper inwardly over an insole on the last, of a substantially U-shaped device arranged to clamp the marginal portion of the upper outspread on the wipers about the end and along the sides of the toe to control the upper as it is thus wiped inwardly, means for tipping said device about an axis extending widthwise of the last to cause it to release the upper from pressure first at the end of the toe prior to the completion of the inward wiping movements of the wipers, and spring-controlled members supported by said U-shaped device for additionally clamping the upper on the wipers at the sides of the toe and relatively to which the device is thus tipped.

13. In a lasting machine, the combination with wipers movable lengthwise and widthwise of a last to wipe the marginal portion of the toe end of an upper inwardly over an insole on the last, of a substantially U-shaped device arranged to clamp the marginal portion of the upper outspread on the wipers about the end and along the sides of the toe to control the upper as it is thus wiped inwardly, a support for said device, means for moving said support heightwise of the last to withdraw the device from the upper and for simultaneously tipping the device about an axis extending widthwise of the last to cause it to release the upper first at the end of the toe prior to the completion of the inward wiping movements of the wipers, and spring-controlled members supported by said device for additionally clamping the upper on the wipers at the sides of the toe and for prolonging the pressure on the upper in those locations when the device is thus tipped.

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