March 28, 1939. B. T. LEVEQUE 2,151,980

LASTING MACHINE

Filed Oct. 22, 1937 4 Sheets-Sheet 1

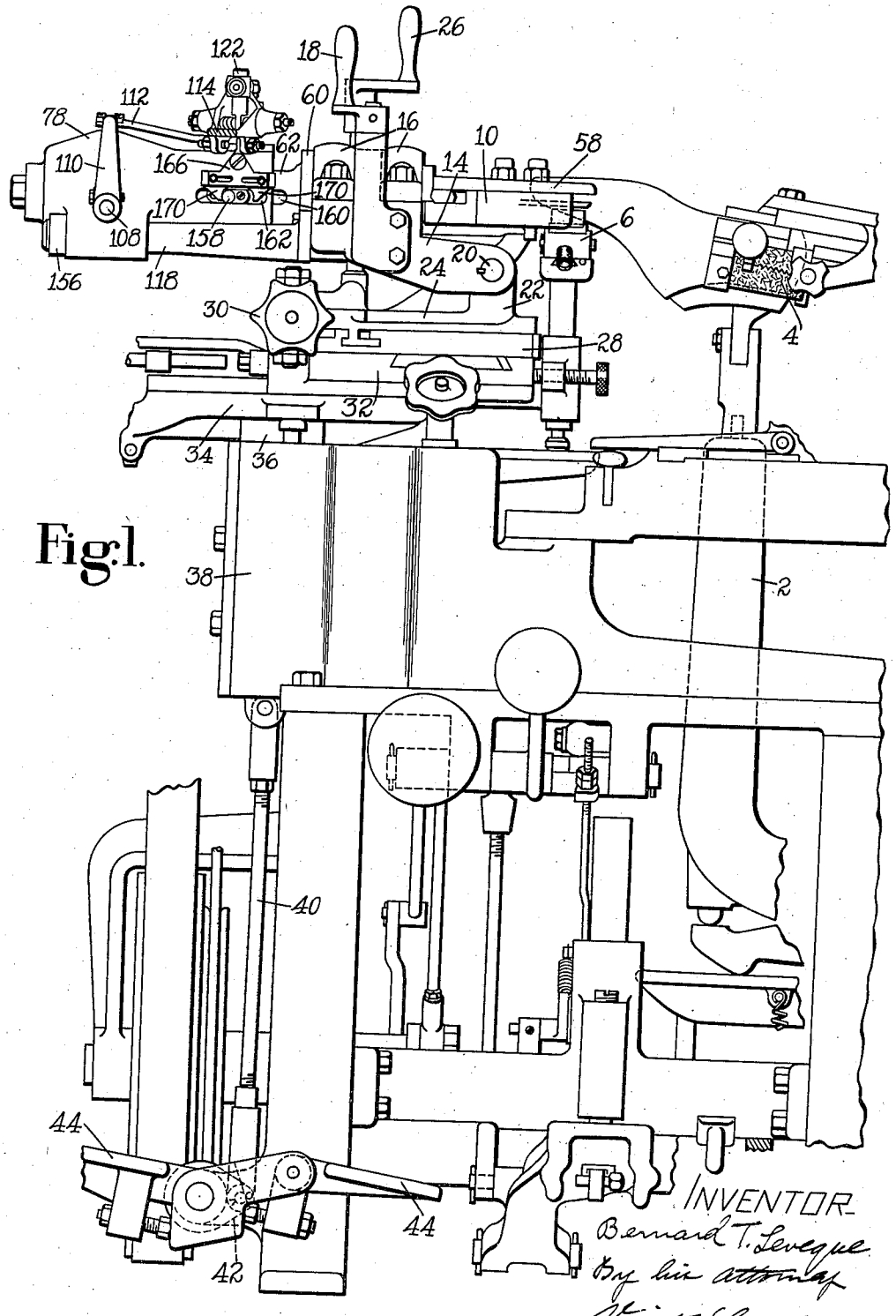


Fig. 1.

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LASTING MACHINE

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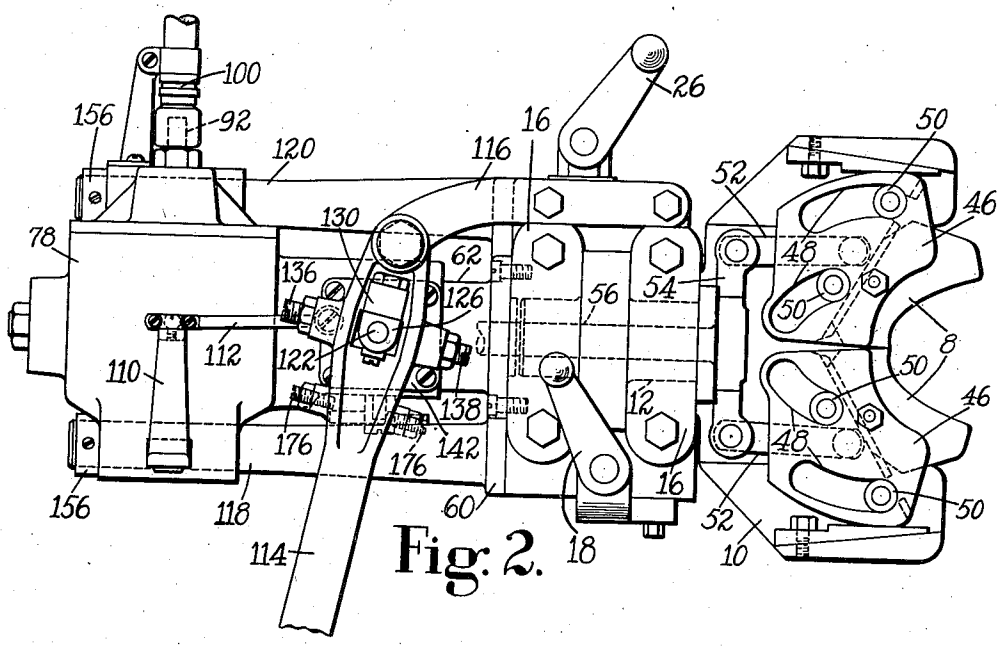


Fig. 2.

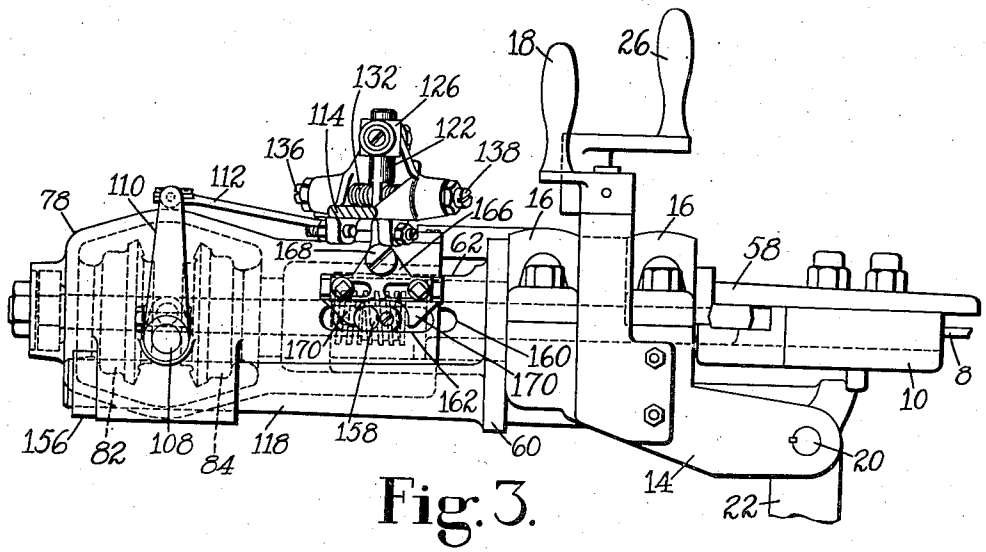


Fig. 3.

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LASTING MACHINE

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Fig. 4.

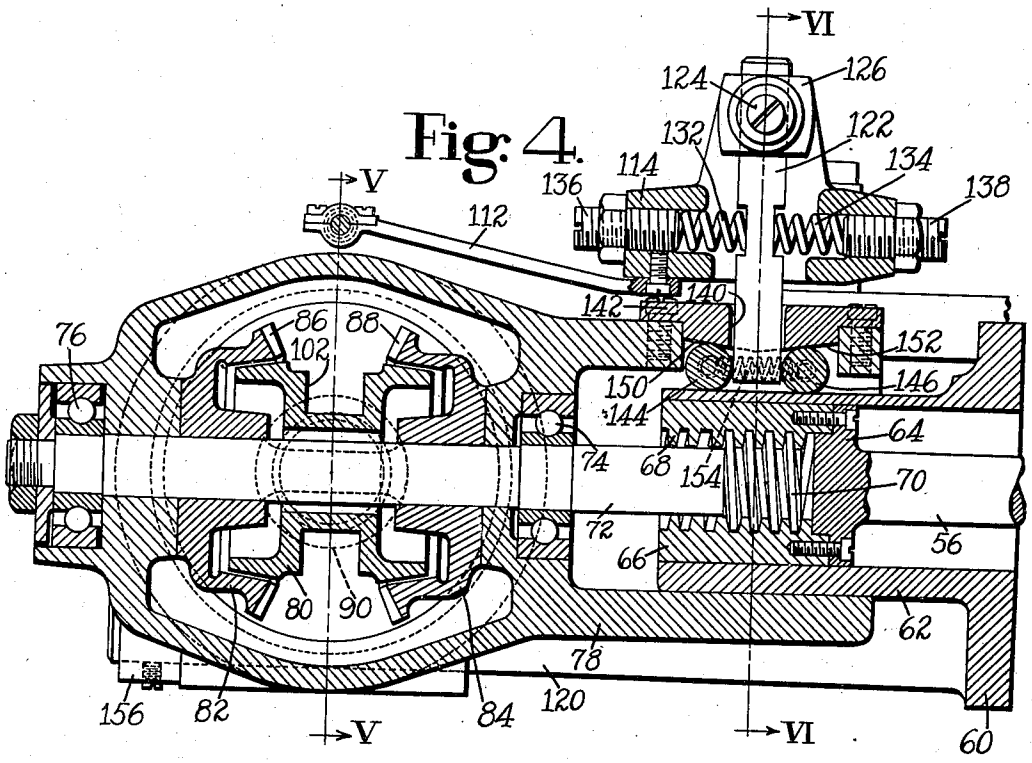
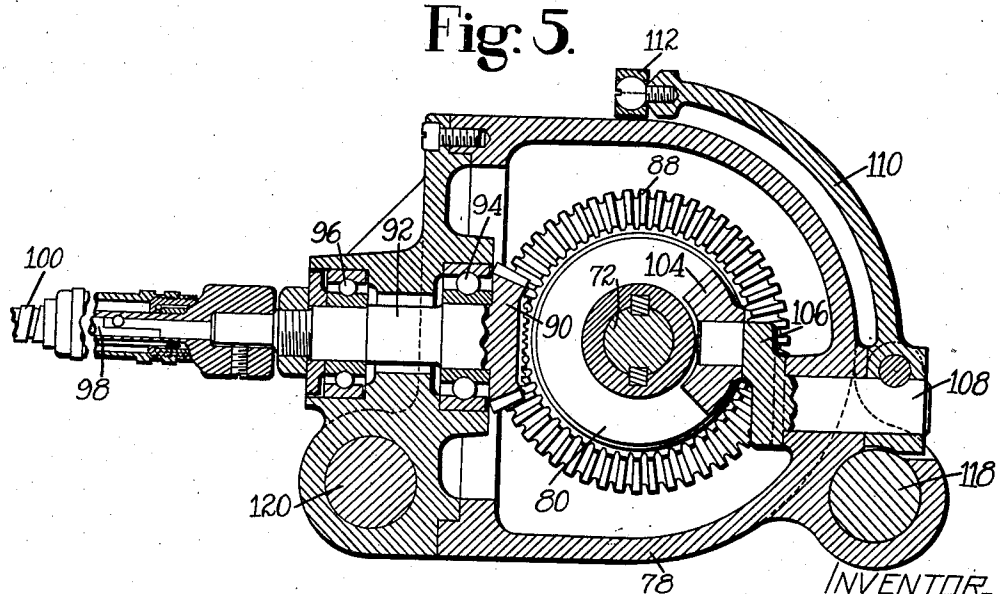


Fig. 5.



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March 28, 1939. B. T. LEVEQUE 2,151,980

LASTING MACHINE

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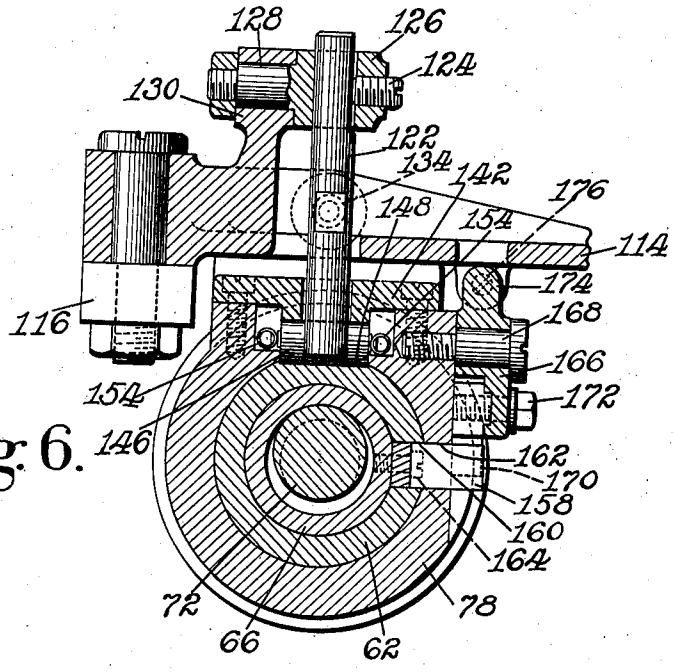


Fig. 6.

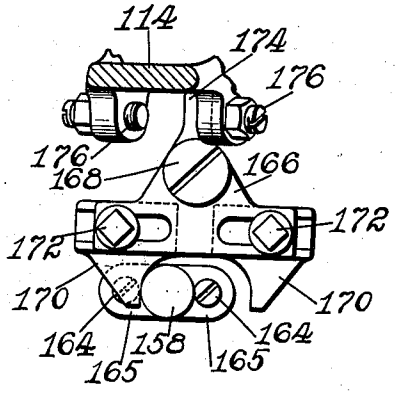


Fig. 7.

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Patented Mar. 28, 1939 2,151,980

UNITED STATES PATENT OFFICE

2,151,980

LASTING MACHINE

Bernard T. Leveque, Wenham, Mass., assignor to United Shoe Machinery Corporation, Paterson, N. J., a corporation of New Jersey

Application October 22, 1937, Serial No. 170,431

28 Claims. (Cl. 12—14)

This invention relates to lasting machines, and more particularly to machines of the bed type provided with wiping means for wiping the marginal portion of upper materials into lasted position. The invention is herein illustrated as applied to means for lasting the toe ends of shoes, but it is to be understood that in its more general aspects it is not limited to toe-lasting means.

Bed-lasting machines having toe-embracing wipers are commonly provided with a hand lever for advancing and closing the wipers to wipe the margin of the upper inwardly over the insole and with a treadle for raising the wipers to perform what is known as the upwiping operation prior to the wiping of the margin over the insole and for later lowering them to press the upper firmly down on the insole. This affords the operator such control of the wipers as to permit them to be operated in the manner best suited to the requirements of each particular shoe. A substantial amount of force, however, is required to operate the wipers through the hand lever, especially in the latter portion of the overwiping operation, and the force which the operator thus has to exert is, of course, greater in operating on comparatively heavy uppers than in operating on uppers made of light-weight stock. An object of the present invention, accordingly, is to lessen the amount of work which the operator must perform, while still affording him effective control of the operation of the wipers. For the purposes in view, the invention, in one aspect, provides a novel organization whereby power means is used to supplement the force applied by the operator to the wipers to wipe the margin of the upper inwardly, the construction shown comprising a clutch arranged to be actuated to connect a power-driven member to the wipers in response to resistance of the shoe to the movement of the wipers by the hand lever and under continuous control of the operator so that he may stop the power-effected movement of the wipers at any time. Preferably, as shown, the clutch is so mounted as to partake of the movements of the wipers heightwise of the shoe and of certain adjusting movements which they may receive to position them in proper relation to different shoes, so that it may be connected to the wipers in a direct manner through mechanism of simple construction operatively unaffected by such movements of the wipers. Advantageously this mechanism may, as illustrated, comprise a shaft rotatable through the clutch to operate the wipers by power and also movable lengthwise, together with the clutch and a casing which supports the shaft and the clutch, to operate the wipers by the hand lever.

The above and other features of the invention, including also novel means for automatically limiting the power-effected movement of the wipers, novel means for locking the wipers in positions to which they are moved and for releasing them, and various novel details of construction and combinations of parts 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 in front elevation of a portion of a machine in which the invention is embodied;

Fig. 2 is a plan view of the toe wipers and a portion of their operating mechanism, a cover plate over the wipers being removed;

Fig. 3 is a view in front elevation, on a larger scale than Fig. 1, of the parts shown in Fig. 2;

Fig. 4 is a vertical section on an enlarged scale through a portion of the wiper-operating mechanism;

Fig. 5 is a section on the line V—V of Fig. 4;

Fig. 6 is a section on the line VI—VI of Fig. 4, with the parts in the positions which they occupy after power operation of the wipers; and

Fig. 7 is a detail view in front elevation of certain mechanism, shown also on a smaller scale in Figs. 1 and 3, for variably limiting the power-effected movement of the wipers.

The invention is herein illustrated as applied to a machine of a well-known type, various characteristic features of which are shown and described in United States Letters Patent No. 1,284,870, granted on November 12, 1918 upon an application of Matthias Brock, and only such parts, therefore, as it is necessary to refer to for an understanding of the invention are hereinafter mentioned. The machine is provided with a work support 2 constructed as more particularly disclosed in Letters Patent No. 1,404,188, granted on January 24, 1922 upon an application of Matthias Brock, this work support having at its upper end a spindle (not shown) arranged to enter the usual spindle hole in the heel end of the last. In the lasting operation the shoe is embraced at its heel end by a heel band 4 and is supported at its toe end on a toe rest 6. For lasting the toe end of the shoe there are provided toe-embracing wipers 8 (Fig. 2) supported as hereinafter described on a wiper head 10 having a cylindrical stem 12 mounted to turn in a bearing formed partly in a supporting member 14 and partly in

cap plates 16 secured to this member. By turning movement of the stem 12 the wiper head 10 and the wipers may be tipped adjustably about an axis extending lengthwise of the shoe, such tipping movement being effected as heretofore by mechanism, not shown in detail, which is operated by a hand crank 18. The supporting member 14 is mounted on a rod 20 (Fig. 1) supported by upstanding lugs 22 on a plate 24 and is adjustable about the axis of this rod, which extends laterally of the shoe, by means of a hand crank 26, further to position the wipers in proper relation to the bottom of the toe end of the shoe. The plate 24 is supported on another plate 28 and is adjustable relatively to the latter about an axis (not indicated in the drawings) substantially in vertical alinement with the toe end of the shoe by means of a hand wheel 30, to position the wipers in accordance with the different contours of right and left shoes. The plate 28 is adjustable rectilinearly widthwise of the shoe relatively to a plate 32 on which it is mounted, the plate 32 being adjustable in directions lengthwise of the shoe by means of a hand wheel (not shown). The plate 32 is mounted on a support 34 having a depending portion 36 vertically movable in a guideway in the frame 38 of the machine and connected at its lower end by a link 40 to a crank arm 42 controlled by a double-acting treadle 44. By use of the treadle 44 the operator accordingly may raise the wipers to wipe the upper heightwise of the toe before they are operated to wipe the margin of the upper inwardly over the insole and may also lower them to press the upper firmly down on the insole after they have been advanced and closed more or less over the edge of the insole. The wipers are detachably secured to wiper carriers 46 (Fig. 2) which are provided with cam slots 48 arranged to cooperate with rolls 50 connected to the wiper head 10 to determine the paths of advancing and closing movements of the wipers. The wiper carriers 46 are connected by links 52 to a crossbar 54 provided with a rod 56 longitudinally movable in a bearing in the previously mentioned stem 12 to advance and close the wipers and to retract them. Mounted over the wiper carriers on the wiper head 10 is a cover plate 58.

As thus far described, the machine herein shown is constructed substantially as heretofore. For purposes of the present invention there is secured to the left-hand end of the wiper support 14 a casting 60 having a cylindrical sleeve portion 62 (Fig. 4) the inner surface of which serves as a guideway for an enlarged head 64 formed on the left-hand end of the rod 56 and also for a hollow cylindrical member 66 which is secured to the head 64 and is provided interiorly with screw threads 68. In engagement with these screw threads are cooperating screw threads 70 formed on the right-hand end of a shaft 72 in alinement with the rod 56 and rotatably supported by ball bearings 74 and 76 in a casing 78 a cylindrical portion of which is slidingly mounted on the exterior of the sleeve 62. Splined on the shaft 72 is one member 80 of a double-acting friction clutch, and cooperating with the opposite end portions of this member are two clutch members 82 and 84 mounted to turn on the shaft 72 and held from relative separating movements by shoulders on the casing 78. Portions of the two clutch members 82 and 84 are formed as bevel-gears 86 and 88 connected together by a pinion 90 (Fig. 5) which is formed on a shaft 92 mounted on ball bearings 94 and 96 in the casing 78 at right angles to the shaft 72. Connected to the outer end of the shaft 92 is a flexible shaft 98 mounted in a flexible cable 100 and driven continuously by any suitable source of power which may be an electric motor. Mounted in an annular groove 102 in the clutch member 80 is a shoe 104 (Fig. 5) pivotally supported on a crank arm 106 which is formed on a shaft 108 mounted to turn in a bearing in the casing 78. It will thus be seen that when the crank arm 106 is swung in one direction the clutch member 80 is moved into clutching engagement with the member 82 and that when it is swung in the opposite direction the member 80 is moved into clutching engagement with the member 84. The members 82 and 84 are, of course, rotated respectively in opposite directions, the directions of their rotation being such that when the member 80 is in engagement with the member 84 the rod 56 is moved toward the right to advance and close the wipers by the action of the screw threads 70 on the threads 68, and when the member 80 is in engagement with the member 82, the rod 56 is moved reversely toward the left to retract the wipers.

Fast on the shaft 108 is an arm 110 which is connected by a link 112 to a forwardly extending hand lever 114 pivotally mounted at its rear end on a bracket 116 fast on the wiper support 14. It will thus be seen that the clutch member 80 may be connected to the member 84 to cause the advancing and closing of the wipers by movement of the hand lever 114 toward the right, and that by movement of this lever toward the left the member 80 may be connected to the member 82 to cause retractive movement of the wipers. The hand lever 114, however, is used not only to control the clutch, but also to operate the wipers manually by moving the casing 78 bodily along the sleeve 62, the casing being further guided in such movement by two bars 118 and 120 formed integral with or fast on the casting 60 and extending through bearings in the casing. It will be understood that in such movement of the casing 78 the rod 56 is operated by lengthwise movement of the shaft 72 which, together with the clutch, moves with the casing. In order to render the hand lever 114 effective thus to move the casing, there is provided a pin 122 (Figs. 4 and 6) fastened at its upper end by a set screw 124 to a block 126 provided with a stem 128 mounted to turn in a lug 130 formed on the hand lever. By reason of this provision for turning movement of the block 126 the pin 122 may tip at different inclinations, but it is normally held in a substantially vertical position by two springs 132 and 134 carried by the hand lever 114, the inner ends of these springs being mounted in opposed relation to each other in recesses formed in the pin and the springs being controlled at their outer ends by screws 136 and 138 in the hand lever by means of which they may be normally compressed more or less as desired. The pin 122 extends downwardly through an opening 140 of slightly greater diameter than the pin formed in a plate 142 which is fastened to the casing 78 over an opening in the casing. Two rolls 144 and 146 supported on a flat face 148 (Fig. 6) on the sleeve 62 are arranged respectively for wedging engagement with oppositely inclined faces 150 and 152 (Fig. 4) on the plate 142 to lock the casing 78 normally against movement in either direction and, through the casing, also to lock the wipers against inward or outward movements, these rolls being connected together by

two springs 154 which tend to pull them toward each other and thus maintain them normally in locking positions. These rolls also engage the lower end of the pin 122 and thereby hold the hand lever 114 normally in such a position that the pin 122 is spaced from the opposite sides of the opening 140 in the plate 142, as illustrated in Fig. 4. Accordingly, when the operator moves the hand lever 114 towards the right the pin 122 acts first on the roll 146 to move the roll out of locking position and thus to release the casing 78 for movement toward the right. The pin 122 then engages the plate 142 at the right-hand side of the opening 140 and, in response to further movement of the hand lever, acts to move the casing 78 to the right and thus to impart advancing and closing movements to the wipers. The wipers will thus be operated by the hand lever to advance and close them about the toe prior to the upwiping operation and thereafter to begin the wiping of the upper inwardly over the edge of the insole, whereupon the increasing resistance of the upper to the movement of the wipers will cause the spring 132 to yield, so that through the link 112 and the arm 110 the clutch member 80 will be moved into engagement with the member 84, the pin 122 assuming a somewhat inclined position as the clutch is thus actuated. The wipers will therefore be further advanced and closed by power through the rotation of the shaft 72 in addition to the force applied thereto by the hand lever as the operator continues to pull on the hand lever sufficiently to hold the clutch engaged. It will be understood that the clutch will be instantly disengaged to stop the movement of the wipers at any time when the operator ceases to pull on the hand lever with sufficient force to overcome the force of the spring 132, and that the wipers will be locked by the roll 144 against retractive movement from any position to which they are advanced and closed, this roll preventing any movement of the casing 78 toward the left. When it is desired to retract the wipers the operator swings the hand lever 114 toward the left, and as the lever is thus moved the pin 122 first operates on the roll 144 to release the casing 78 for movement toward the left and then engages the plate 142 at the left-hand side of the opening 140 in the plate. If the shoe offers sufficient resistance at this time to retractive movement of the wipers, the lever 114 will be moved against the resistance of the spring 134 to force the clutch member 80 into engagement with the member 82 and thus cause the wipers to be retracted at first by power, the roll 146 locking the casing 78 against any tendency of the power means to move it toward the right. This power operation, however, may not occur at the beginning of the retractive movement of the wipers, since by use of the treadle 44 the operator will preferably raise the wipers to relieve their downward pressure on the upper before they are retracted. Accordingly, the casing 78 may first be moved toward the left to effect a portion of the retractive movement of the wipers by the hand lever, by reason of engagement of the pin 122 with the plate 142. In order to render the power means effective thereafter to retract the wipers through the same distance that they were previously advanced and closed by power, as is nessessary to return the parts to starting positions, movement of the casing 78 toward the left is limited by collars 156 on the ends of the bars 118 and 120. When the movement of the casing is stopped by these collars the hand lever 114 will be further moved toward the left to connect the clutch member 80 with the member 82, so that the power means will act to retract the wipers.

The movement of the rod 56 relatively to the casing 78 to operate or to retract the wipers by power is limited automatically by stop mechanism shown best in Figs. 6 and 7. Fast on the member 66 which moves with the rod 56 is a pin 158 which extends outwardly through a longitudinal slot 160 in the sleeve 62 and through another longitudinal slot 162 (see also Figs. 1 and 3) in the casing 78, this pin being secured to the member 66 by screws 164 in engagement with flanges 165 formed on the pin. To cooperate with this pin there is provided a plate 166 mounted to turn on a stud 168 threaded in the casing 78. Adjustably mounted on this plate are two fingers 170 extending downwardly at opposite sides of the pin 158, each of these fingers being adjustable toward or from the pin along a guideway on the plate and secured in adjusted position by a screw 172. At its upper end the plate 166 is provided with a lug 174 which lies between the inner ends of two screws 176 carried by the lever 114. Fig. 7 indicates the positions of the parts when the wipers are fully retracted, and it will be understood that when the hand lever 114 is swung toward the right to actuate the clutch the left-hand screw 176 is carried into a position nearer the lug 174. When the wipers are operated by the power means the pin 158 travels with the member 66 toward the right, and if the operator holds the clutch engaged long enough to render the limiting means effective, the pin will engage the right-hand finger 170 and swing the plate 166 in a counterclockwise direction, so that by the action of the lug 174 on the left-hand screw 176 the lever 114 will be swung to the left to release the clutch and thereby stop the power operation of the wipers. Similarly, retractive movement of the wipers by power will be limited by the action of the pin 158 on the left-hand finger 170. By adjustment of the right-hand finger the amount of movement by power which the wipers can receive may be variably determined in accordance with the character of the work, so that the operator will not need to exercise any special care not to hold the clutch engaged too long. It will be understood that the left-hand finger, after having once been adjusted to determine the proper initial relation of the rod 56 and the casing 78, will ordinarily require no further adjustment.

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 wiping means for wiping the marginal portion of an upper inwardly over the bottom of a last, of a member movable by the operator thus to operate said wiping means, a power-driven member, a clutch for connecting said power-driven member to the wiping means, said clutch being mounted to move idly along with the wiping means in response to the movement of said first-named member, and mechanism for actuating said clutch after the wiping means has been forced inwardly against the upper by the operator to render said power-driven member effective to supplement the force applied by the operator to said wiping means.

2. In a lasting machine, the combination with wiping means for wiping the marginal portion of an upper inwardly over the bottom of a last, of

a member movable by the operator thus to operate said wiping means, a power-driven member, a clutch for connecting said power-driven member to the wiping means, a support for said clutch movable by said first-named member, and mechanism arranged to act in response to resistance of the upper to the movement of the wiping means to actuate said clutch and thus render said power-driven member effective to supplement the force applied by the operator to the wiping means.

3. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of a hand lever movable by the operator to operate said wipers to wipe the marginal portion of the upper inwardly over the bottom of the last, a power driven member, a clutch for connecting said power-driven member to the wipers to render said member effective to supplement the force applied by the operator to the wipers through the hand lever, said clutch being located opposite that end of the last where the wipers operate, and mechanism for actuating said clutch by movement of the hand lever in response to resistance of the upper to the movement of the wipers by the hand lever.

4. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of a hand lever movable by the operator to operate said wipers to wipe the marginal portion of the upper inwardly over the bottom of the last, a spring through which the wipers are thus operated by the hand lever, said spring being yieldable in response to resistance of the upper to the movement of the wipers, a power-driven member, a clutch for connecting said power-driven member to the wipers to render said member effective to supplement the force applied by the operator to the wipers through the hand lever, and mechanism for actuating said clutch by the hand lever when the spring thus yields.

5. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of means movable by the operator to advance and close said wipers to wipe the marginal portion of the upper inwardly over the bottom of the last and also to retract the wipers, and power-operated means for supplementing the force applied by the operator to advance and close the wipers after they have been forced inwardly against the upper by the operator and for also effecting retractive movement of the wipers.

6. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of a member movable by the operator to advance and close said wipers to wipe the marginal portion of the upper inwardly over the bottom of the last and reversely movable to retract the wipers, and rotatable power-driven means controlled by said member for also advancing and closing and retracting the wipers.

7. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of a hand lever movable by the operator to advance and close said wipers to wipe the marginal portion of the upper inwardly over the bottom of the last and also reversely movable to retract the wipers, a power-driven member, a double-acting clutch for connecting said power-driven member to the wipers to render said member effective also to advance and close the wipers and to retract them, and mechanism for actuating said clutch by movements of the hand lever.

8. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of means for imparting to said wipers wiping movement heightwise of the last in contact with the upper, a power-driven member, a clutch for connecting said power-driven member to the wipers to operate them to wipe the marginal portion of the upper inwardly over the bottom of the last, said clutch being movable heightwise of the last with the wipers, and mechanism movable by the operator to actuate said clutch.

9. In a lasting machine, the combination with wipers for embracing an upper about an end of a last, of means for imparting to said wipers wiping movement heightwise of the last in contact with the upper, a hand lever movable by the operator to advance and close said wipers to wipe the marginal portion of the upper inwardly over the bottom of the last, a power-driven member, a clutch for connecting said power-driven member to the wipers to render said member effective also to advance and close them, said clutch being movable heightwise of the last with the wipers, and mechanism for actuating said clutch by the hand lever in response to resistance of the upper to the movement of the wipers by the hand lever.

10. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a power-driven member, a clutch for connecting said power-driven member to the wipers to render said member effective thus to operate the wipers, and a manually operated member for also operating the wipers to wipe the upper inwardly, said clutch being movable bodily by the manually operated member in the manual operation of the wipers.

11. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a power-driven member, a clutch for connecting said power-driven member to the wipers to render said member effective thus to operate the wipers, a support for said clutch mounted to move with the clutch, means for also operating the wipers to wipe the upper inwardly by the movement of said clutch support, and a member movable by the operator for thus moving the clutch support.

12. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a power-driven member, a clutch for connecting said power-driven member to the wipers to render said member effective thus to operate the wipers, a support for said clutch mounted to move with the clutch in directions lengthwise of the last, means for also operating the wipers to wipe the upper inwardly by the movement of said clutch support, a hand lever for thus moving the clutch support, and mechanism for actuating the clutch to connect said power-driven member to the wipers in response to resistance of the upper to the movement of the clutch support.

13. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a rotatable shaft mounted also for lengthwise movement, means for operating the wipers either

by rotation of said shaft or by lengthwise movement thereof, power-driven means for rotating the shaft, and means movable by the operator to impart lengthwise movement to the shaft.

14. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a rotatable shaft mounted also for lengthwise movement, means for operating the wipers either by rotation of said shaft or by lengthwise movement thereof, means movable by the operator to impart lengthwise movement to the shaft, a power-driven member, a clutch for connecting said power-driven member to the shaft for rotating the shaft, and mechanism for actuating said clutch to start the rotation of the shaft in response to resistance of the upper to the lengthwise movement of the shaft by the operator.

15. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a rod movable lengthwise of the last to operate the wipers, a shaft arranged to extend lengthwise of the last, said shaft being mounted for rotation and also for lengthwise movement, a connection between said shaft and rod for operating the wipers through the rod either by rotation of the shaft or by lengthwise movement thereof, power-driven means for rotating the shaft, and means movable by the operator to impart lengthwise movement to the shaft.

16. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a rod movable lengthwise of the last to operate the wipers, a shaft arranged to extend lengthwise of the last, a connection between said shaft and rod for operating the wipers through the rod either by rotation of the shaft or by lengthwise movement thereof, a power-driven member, a clutch for connecting said power-driven member to the shaft to rotate the shaft, a casing supporting said clutch and shaft and mounted for movement with the shaft lengthwise of the last, a member movable by the operator to impart such movement to the casing and thereby to operate the wipers by lengthwise movement of the shaft, and means for actuating said clutch to cause the wipers also to be operated by said power-driven member.

17. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of means movable by the operator thus to operate the wipers, power-operated means for also imparting inward wiping movement to the wipers, and mechanism for automatically stopping the action of said power-operated means on the wipers when the wipers have been moved a definite distance by said power means.

18. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of means movable by the operator thus to operate the wipers, a power-driven member, a clutch for connecting said power-driven member to the wipers to render said member effective also to impart inward wiping movement to the wipers, and automatic means for actuating said clutch to disconnect the power-driven member from the wipers when the wipers have been moved a variably predetermined distance by said member.

19. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of means movable by the operator to impart inward wiping movement and retractive movement to the wipers, power-operated means for imparting to the wipers further inward wiping movement and a corresponding retractive movement, and mechanism for automatically stopping the action of said power-operated means on the wipers when the wipers have been moved a definite distance in either direction by said power means.

20. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a hand lever movable by the operator thus to operate the wipers, power-operated means controlled by said hand lever for also imparting inward wiping movement to the wipers, and mechanism arranged to act on said hand lever automatically to limit the power-effected movement of the wipers.

21. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable by the operator lengthwise of the last thus to operate the wipers, another member also movable lengthwise of the last and through which the wipers are operated by said first-named member, power-operated means for moving said other member relatively to the first member also to operate the wipers, and controlling mechanism comprising parts movable respectively with said different members and arranged to stop the action of said power-operated means on the wipers after a predetermined relative movement of said members.

22. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable lengthwise of the last thus to operate the wipers, a hand lever for operating said member, another member also movable lengthwise of the last and through which the wipers are operated by said first-named member, power-operated means including a clutch controlled by said hand lever for moving said other member relatively to the first member also to operate the wipers, and controlling mechanism comprising parts movable respectively with said different members and arranged to actuate the clutch through said hand lever to stop the action of said power-operated means on the wipers after a predetermined relative movement of said members.

23. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a hand lever movable by the operator to operate said wipers and reversely movable to retract them, a device arranged to act automatically to lock the wipers against retractive movement, and means to cause said locking device to release the wipers as an incident to reverse movement of the hand lever.

24. In a lasting machine, the combination with wipers for embracing an upper about an end of

a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable lengthwise of the last to impart operative movement to the wipers and reversely movable to retract them, a lever for operating said member, a roll for preventing retractive movement of the wipers by wedging action on said member, and means carried by said lever for operating the roll to release the wipers as an incident to movement of the lever.

25. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable lengthwise of the last to impart operative movement to the wipers and reversely movable to retract them, a roll for preventing retractive movement of the wipers by wedging action on said member, a hand lever, and a pin carried by said hand lever for operating said roll to release the wipers by movement of the lever and for then imparting wiper-retracting movement to said member by further movement of the lever.

26. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable lenghwise of the last to impart operative movement to the wipers and reversely movable to retract them, a device for normally locking said member against movement in either direction, a lever movable in opposite directions to operate said member, and means for operating the locking device to release said member as an incident to movement of the lever in either direction.

27. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable by the operator lengthwise of the last to impart inward wiping movement to the wipers, power-operated means carried by said member for imparting further inward movement to the wipers, and means for locking said member against reverse movement during such power operation of the wipers and for thereafter releasing it to permit it to be moved to retract the wipers.

28. In a lasting machine, the combination with wipers for embracing an upper about an end of a last and for wiping the marginal portion of the upper inwardly over the bottom of the last, of a member movable by the operator lengthwise of the last to impart inward wiping movement to the wipers and reversely movable to retract them, power-operated means carried by said member for imparting to the wipers further inward movement and a corresponding retractive movement, and mechanism for automatically locking said member against movement in one direction during the power-effected inward movement of the wipers and against movement in the opposite direction during the retractive movement of the wipers by the power means.

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