M. BROCK.

END WIPER MECHANISM FOR LASTING MACHINES.

APPLICATION FILED JUNE 28, 1915.

1,303,847. Patented May 20, 1919.

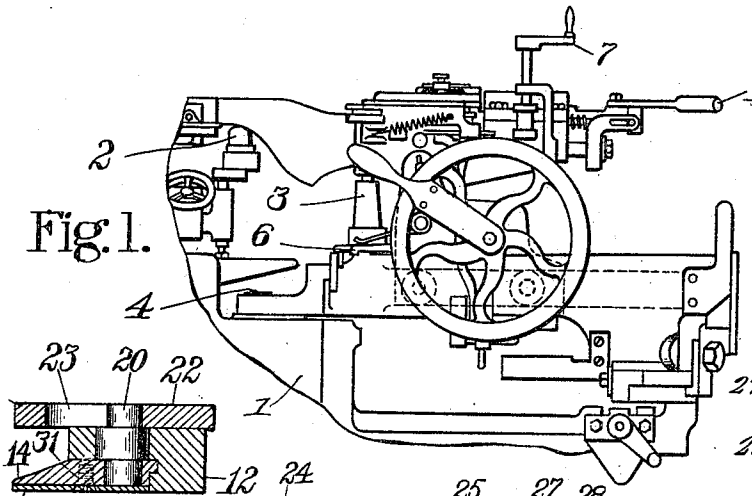


Fig. 1.

Fig. 4.

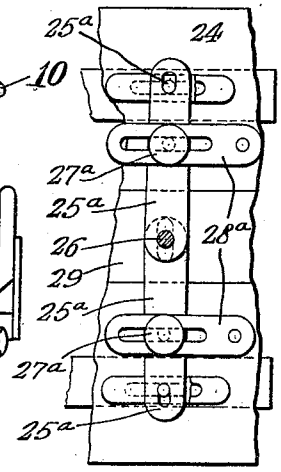


Fig. 2a.

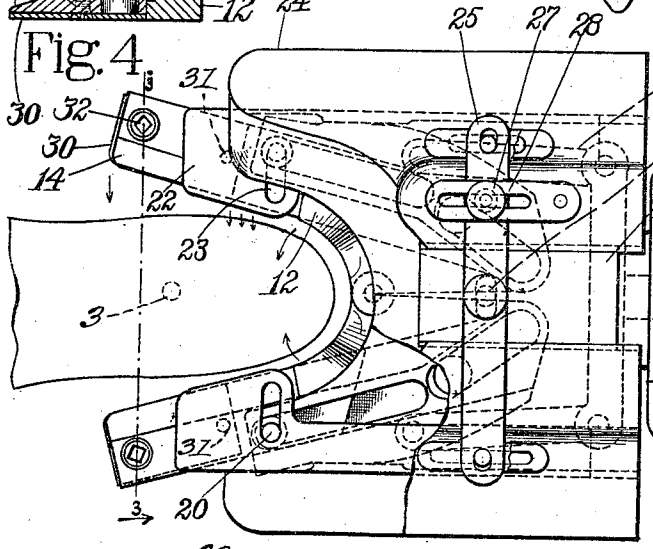
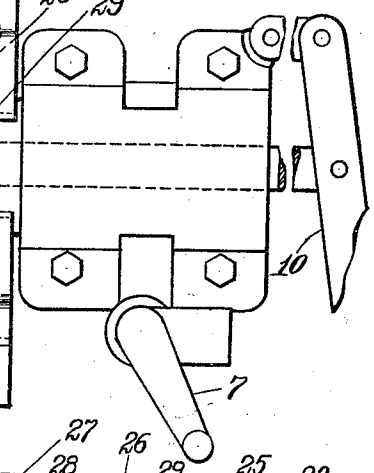


Fig. 2.



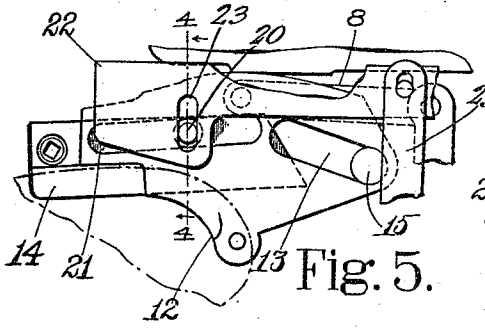


Fig. 5.

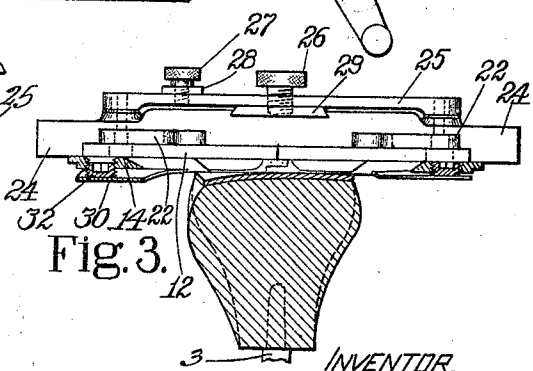


Fig. 3.

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UNITED STATES PATENT OFFICE.

MATTHIAS BROCK, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

END-WIPER MECHANISM FOR LASTING-MACHINES.

1,303,847. Specification of Letters Patent. Patented May 20, 1919.

Application filed June 28, 1915. Serial No. 36,736.

To all whom it may concern:

Be it known that I, MATTHIAS BROCK, a citizen of the United States, residing at Boston, in the county of Suffolk, and State of Massachusetts, have invented certain Improvements in End-Wiper Mechanism for Lasting-Machines, 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 mechanism for shaping an end portion of a shoe upper and particularly to end lasting mechanism, being herein shown as embodied for illustrative purposes in the heel wiper mechanism of a lasting machine similar to that shown in United States Letters Patent No. 1,018,477, granted February 27, 1912, on an application filed by me.

The general object of the invention is to improve upper shaping mechanism and a more particular object is to provide end embracing wipers better adapted for wiping upper materials into lasted position than wipers heretofore employed.

One feature of the invention consists in end embracing wipers which are adjustable in length for shoes which are of different lengths or which offer opportunity for advantageous use of wipers for different distances from the end of the shoe. This feature of the invention is shown as embodied in heel wipers which can be extended at either or both sides of a heel seat to reach into the shank as far as conditions in that particular shoe or that style of shoe may require or will permit.

Another feature of the invention consists in wipers which are adjustable to different planes presented by different portions of the shoe bottom to which the wipers are to shape the stock. This feature of the invention is shown as embodied in a wiper one portion of which as for example, the portion of a heel wiper reaching over the shank of the shoe, can be adjusted relatively to another portion to locate its acting face out of the plane of the acting face of said other portion such as the portion operating over the heel seat of the shoe. The end portion of the illustrated heel wiper has a resilient plate which can be deflected downwardly to adapt it to the plane of the portion of the shank of the shoe into which the wiper reaches.

These and other features of this invention, including certain details of construction and combinations of parts, will now be more fully described in connection with the accompanying drawings and will then be pointed out in the claims.

Figure 1 of the drawings is a side elevation of the rear portion of a lasting machine which is equipped with the present invention;

Fig. 2 is a plan view of the same, showing the wipers open and indicating the rear portion of a shoe which is to be operated upon;

Fig. 2ª is a fragmentary plan view illustrating a modified form of the wiper adjusting means;

Fig. 3 is a transverse vertical section looking toward the right from line 3—3 on Fig. 2;

Fig. 4 is a transverse vertical section looking toward the left from line 4—4 on Fig. 5; and

Fig. 5 is a plan view showing a wiper closed over a shoe bottom for comparison with Fig. 2.

The lasting machine shown comprises a toe rest 2 and a heel post 3 supported by the frame 1 and by which a last with a shoe assembled upon it is sustained and fixed in position for the operation of the heel lasting mechanism upon the shoe materials. The heel lasting mechanism comprises, as may be learned in greater detail from said prior patent, a carriage movable longitudinally on the frame to carry the wipers and a heel embracing band into proximity to the shoe where it is held by a latch 6. On the carriage is a rocking head by which the wipers may be adjusted about a transverse horizontal axis to the longitudinal inclination of the last bottom. In the head the wipers are adjustable by a screw and hand crank 7 about a horizontal axis extending longitudinally of the shoe to adapt the wipers to the transverse inclination of the last bottom. The entire heel lasting mechanism may also be adjusted about a vertical axis located at 4 to adapt the wipers to coöperate uniformly with right and left crooked lasts. The wipers are operated to advance and close over the shoe bottom by a hand lever 10 act-

ing through a plunger having a cross-head to the opposite ends of which links 8 connect the two wipers for the right and left sides of the heel seat.

In the embodiment of the invention herein shown each wiper comprises a plurality of members including a curved rear end member 12 and a straight-edged side member 14. The rear end member is pivoted to the operating link 8 and its direction of movement is controlled by a cam slot 13 therein into which fits a fixed guide stud 15. Also the outer edge of each wiper member 12 is curved and is guided against an edge wall of the wiper confining recess in the head. The inner edges of the wiper members 12 are abutted together at their wiping edges and the guiding means are so formed as to advance and turn said members from their shoe receiving position shown in Fig. 2 to the relation to a shoe shown in Fig. 5.

The wiper member 12 is formed with a wiping edge that extends from the rear end of the heel forwardly to and, as shown best in Fig. 5, around the corner of the heel to the side of the heel. The wiper member 12 is cut away or otherwise formed on its lower face with a guide channel to receive the wiper member 14 and permit relative endwise movement between said two wiper members 12 and 14.

The members 12 and 14 of a wiper are operatively connected by a stud 20 rising from the member 14 through a longitudinal slot 21 in the member 12. The stud also extends upwardly into a transverse slot 23 in an overlying plate 22. The member 14 may also have a lateral flange on its inner edge, Fig. 4, which is guided in a groove in the adjacent wall of the member 12. These connections provide for operating the wiper member 14 inwardly and outwardly with and by the wiper member 12 and for moving the member 12 longitudinally relatively to member 14 while the plate 22 restrains member 14 from moving endwise. A similar arrangement by which a side wiper member is caused to partake of the closing movement of an advancing and closing end wiper but is restrained from accompanying the end wiper in its advance movement is described and claimed in prior United States Letters Patent No. 1,188,616, granted upon my application on June 27, 1916, and therefore no claim is here made to what is there disclosed.

The overlying plates 22 are movable, in accordance with the illustrated embodiment of this invention, longitudinally of the machine and of the shoe, being guided in ways cut for them in the cap plate 24, Fig. 3. The rear ends of the plates 22 have studs projecting up through longitudinal slots in the cap plate 24 and extending into an adjusting bar 25. This bar is shown as centrally fulcrumed on a screw stud 26 to permit it to be swung for adjusting one slotted plate 22 and side wiper member 14 forwardly and the plate 22 and wiper member 14 at the opposite side of the shoe backwardly. Adjustment of members 14 provides for making that wiper which operates at one side of the heel longer than that wiper which operates at the other side. This is important because many styles of lasts are so formed in the shank that the upper materials can advantageously be worked into lasted position by the heel wipers for a substantially greater distance along the inner side of the shank than can be done along the outer side of the shank. Simultaneous and proportional adjustment of the members 14 of the opposed wipers gives the results required in shifting the wipers for right and left shoes.

The adjusting bar 25, after having effected simultaneous adjustment of the two side wipers in opposite directions, can be secured in angular position by a clamping screw 27 which coöperates with a slotted link 28. If simultaneous adjustment is not desired the modified construction shown in Fig. 2ª may be used, the adjusting bar being divided at the stud 26, forming complemental bars 25ª, and duplicate securing means 27ª, 28ª being used at the two sides of the heel.

The fulcrum screw 26 is threaded into a slide 29 which is dove-tailed into a longitudinal slideway in the cap plate 24. The slide 29 can be moved along the slideway to adjust the side wiper members 14 endwise to lengthen or shorten the heel wipers according to the size of shoe to be lasted. When screwed down against the cap plate 24 the screw 26 binds the slide 29 in adjusted position. When the screw 26 is loosened one end of the bar 25 can be adjusted forwardly or backwardly, fulcrumed on the other end of the bar which is held stationary for adjusting one wiper member 14 lengthwise without adjusting the other wiper member.

The front portion of each wiper member 14 is cut away on its lower side and a resilient plate 30 is set into it and secured in place as by a screw 31 shown in Fig. 4, the front end portion of each resilient plate being free to be sprung downwardly by a screw 32 as in Fig. 3. It will be understood that the wiper members 12, 14 are so arranged relatively that their lower wiping faces are flush, or lie in the same plane. The rear portion of resilient plate 30 will also be flush with member 14 and in the same plane with it and the front portion of said plate 30 may be normally in that plane. The feature of the invention embodied in this construction deals with that formation of many styles of lasts by which the tread face is carried from the heel seat forwardly into and along the shank in a plane that is lower at one side of the last, as the inner side, than at the outer side. Heretofore the

wipers could not effectively wipe in the upper on the low side because of being held in too high a plane by the high side of the last. This difficulty is particularly apparent when long wipers are used, such as herein contemplated, which reach well forwardly over the shank of the shoe. By this invention the plate 30 coöperating with the low side of the last can be sprung down by its adjusting screw 32, as indicated in Fig. 3, to locate the effective acting face of the side wiper in the plane required for dealing properly with the low side of the last. If the plate 30 is normally inclined upwardly, as above suggested, the wiper on one side can deal with an abnormally high side of a last in the shank while the wiper on the other side can deal with such a low side as that described. It will be noted that the adjustment provided by the parts 30, 32 is equivalent to twisting, or bending downwardly the acting face of one wiper at its front end, as distinguished from adjusting the wipers as a whole to the longitudinal and the transverse inclinations of the last bottom, which is well known.

When a lasting or other machine for shaping uppers is equipped with this invention the side wiper members are adjusted longitudinally for the length of shoe or length of heel seat to be lasted, and, if the last is so shaped that one wiper can advantageously operate farther forwardly into the shank than the other can, the adjusting bar 25 is adjusted angularly to set one side member 14 ahead of the other. If the shank portion of the last reached by the end portion of either of the wipers is out of the plane of the heel seat the screws 32 are set to adjust the resilient face plates 30 to the requirements of the last. The wipers may then be operated as usual to shape the flange portions of the upper materials to fit snugly to the bottom face of the shoe.

Having explained the nature of the invention and described how it may be used, I claim as new and desire to secure by Letters Patent of the United States:—

1. In a machine of the class described, the combination with wipers which are adapted for use in shaping an end portion of a shoe upper to the end portion of a last and are adjustable in length to a plurality of working positions, of means for operating the wipers.

2. In a machine of the class described, the combination with wipers which are adapted for use in shaping an end portion of a shoe upper to the end portion of a last and include end members and side members which latter are mounted for adjustment lengthwise relatively to the end members to a plurality of working positions, of operating means for the wipers.

3. In a machine of the class described, the combination with wipers which are adapted for use in shaping an end portion of a shoe upper to the end portion of a last and are connected for simultaneous adjustment lengthwise in opposite directions, of means for operating said wipers in their adjusted relations.

4. In a machine of the class described, the combination with wipers which are adapted for use in shaping an end portion of a shoe upper to the end portion of a last, and a means for effecting simultaneous lengthwise adjustment of the wipers at the two sides of the shoe, of wiper operating means.

5. An end lasting mechanism having heel embracing wipers of which that one which acts at the inner side of the shoe can be adjusted to extend variable distances farther forwardly toward or along the shank than does the wiper which acts at the outer side of the shoe while maintaining similar relations of the wipers to the adjacent parts of the rear end of the heel.

6. An end lasting mechanism having heel embracing wipers including a wiper located at one side of the heel and comprising two members both of which are continuously in operative position and which are relatively adjustable lengthwise to enable the wiper to extend variable distances along the shank of the shoe.

7. In an end wiper emechanism, the combination with an end wiper member, and operating means to advance and close it over the corner of a heel, of a side wiper member arranged to partake of the closing movement but restrained from advancing movement by the operating means, and means for adjusting the side wiper member lengthwise.

8. In an end wiper mechanism, the combination with an end wiper member, and operating means to advance and close it over the corner of a heel, of a side wiper member arranged to partake of the closing movement, a sliding connection between said members, a plate having a pin and slot connection with the side wiper member to restrain it from partaking of the advancing movement of the end wiper member, said plate being movable to adjust the side wiper member forwardly and backwardly, and means for securing said plate in different adjusted positions.

9. A wiper and means for adjusting one portion of the wiper to locate the acting face of that portion of the wiper out of the plane of the acting face of another portion of the wiper.

10. A wiper having a resilient plate set into its lower face and forming a portion of its acting face, and means for adjusting a portion of said plate forming such acting face to deflect it away from the plane of the lower face of the wiper.

11. An end lasting mechanism having heel embracing wipers with means whereby the acting face of that wiper which acts at the inner side of the shoe may be moved relatively to the acting face of another and connected portion of that wiper to present for engagement with the tread face of the shoe an acting face which is out of the plane of said other portion of the wiper.

12. An end lasting mechanism having heel embracing wipers mounted to close over the bottom of the shoe by swinging movement about axes substantially perpendicular to the plane of the shoe bottom, with means whereby the acting face of that wiper which acts at the inner side of the shoe may be moved relatively to the acting face of that wiper operating at the opposite side of the shoe to present for engagement with the tread face of the shoe an acting face which is out of the plane of the acting face of the wiper at said opposite side.

13. An end lasting mechanism having end embracing wipers with means whereby a portion of the acting face of that wiper which acts at one side of the shoe end may be moved relatively to another and connected portion of the acting face of that wiper to present for engagement with the tread face of the shoe an acting face which is out of the plane of the acting face of said other portion.

14. An end lasting mechanism having end embracing wipers mounted to close over the bottom of a shoe by swinging movement about axes substantially perpendicular to the plane of the shoe bottom, with means whereby a wiper that operates at one side of a shoe end may be moved relatively to the wiper operating at the opposite side to present for engagement with the tread face of the shoe an acting face which is out of the plane of the acting face of the wiper at said opposite side.

15. An end lasting mechanism having heel embracing wipers formed and arranged to reach into the shank portion of a shoe and mounted for swinging movement about axes substantially perpendicular to the plane of the shoe bottom to close over the heel end and shank portions of a shoe bottom, with means whereby the acting wiper face of the shank portion at one side of the heel end of a shoe may be moved relatively to the plane of the acting wiper face at the shank portion of the opposite side to adapt the wipers to the plane of the shank.

16. An end lasting mechanism having heel embracing wipers formed and arranged to reach into the shank portion of a shoe with means whereby the acting face of the shank portion of that wiper which operates at the inner side of the shoe may be moved relatively to another and connected portion of that wiper to present for engagement with the tread face of the shoe an acting face which is out of the plane of said other portion and is adapted to the plane of the shank of the shoe.

17. A wiper comprising a wiper member, a plate forming a portion of the acting face of the wiper, and means for adjusting said plate perpendicularly to the plane of the acting face of the wiper member.

18. A wiper comprising a wiper member having an end portion recessed on its lower side, a resilient plate set into the recess and forming a continuation of the acting face of the wiper, and means for springing the resilient plate away from the wiper member.

19. Heel embracing wipers formed and arranged to reach into the shank of a shoe, and plates which are secured to the portions of the wipers which reach into the shank and are adjustable relatively to the plane of the wipers for adaptation to the plane of the shank.

20. Heel embracing wipers formed and arranged to reach into the shank of a shoe and means for causing a wiper to present at the shank engaging portion an acting face deflected from the plane of the acting face of the heel seat engaging portion of the wipers.

21. An end lasting mechanism having heel embracing wipers one of which can be adjusted lengthwise to reach into the shank and also to present an acting face inclined at its end portion to fit an inclination of the tread face of the shank relatively to the tread face of the heel seat.

22. An end lasting mechanism having, in combination, operating mechanism and wipers which include members that are adjustable longitudinally, an adjusting bar connected at its opposite ends with said members, and means for fixing said bar in positions of adjustment.

23. An end lasting mechanism having, in combination, operating mechanism and wipers which include members that are adjustable longitudinally, an adjusting bar connected at its opposite ends with said members, and a fulcrum about which said bar can be turned to adjust the wiper members relatively.

24. An end lasting mechanism having, in combination, operating mechanism and wipers which include members that are adjustable longitudinally, an adjusting bar connected at its opposite ends with said members, a fulcrum slide on which the bar is pivoted, means for fixing the slide in adjusted position and means for fixing the bar in angularly adjusted position relatively to the slide.

25. An end lasting mechanism having, in combination, operating mechanism and wipers which include members that are adjustable longitudinally, an adjusting bar con-

nected at its opposite ends with said members, a fulcrum about which said bar can be turned to adjust the wiper members relatively, a slotted link having one end secured to a fixed support and a binding screw connecting one end portion of the adjusting bar with the slotted portion of the link to secure the bar with the wiping members in relatively adjusted positions.

26. An end lasting mechanism having, in combination, operating mechanism and interconnected end embracing wiper plates constructed and arranged for adjustment to present for action on different parts of the bottom of an end portion of a shoe acting faces located in different planes.

27. In an end lasting mechanism, the combination with end embracing wipers of an adjuster adapted for manipulation to adjust both wipers together and for other manipulation to adjust one wiper separately.

28. In an end lasting mechanism, the combination with end embracing wipers of an adjuster adapted for manipulation to adjust both wipers together and for manipulation to adjust either wiper separately, and means to maintain the adjustment.

29. In an end lasting mechanism, the combination with opposed end embracing wipers, of means for simultaneously closing said wipers, and one means connected with opposed wipers for adjusting one wiper lengthwise of the last and reversely adjusting the other wiper.

30. In an end lasting mechanism, the combination with end embracing wipers, of mechanism to operate the wipers to lay an end portion of an upper over a last bottom, said wipers comprising members extending lengthwise of the last which are movable longitudinally in a substantially right line independently of the overlaying movement of the wipers.

31. In an end lasting mechanism, the combination with wiper operating mechanism, of end embracing wipers comprising members which are continuously operative and are constructed and arranged for adjustment to vary the extent of their acting faces lengthwise of the shoe.

32. In an end lasting mechanism, the combination with wiper operating mechanism, of extensible end embracing wipers comprising continuously operative members which are arranged for adjustment independently of the shoe.

33. In an end lasting mechanism, the combination with wiper operating mechanism, of end embracing wipers comprising continuously operative members which are extensible on one side of the shoe independently of those on the other side.

34. In an end lasting mechanism, the combination with wiper operating mechanism, of end embracing wipers each comprising an end member and a side member which are relatively adjustable to vary the length of the wipers.

35. An end embracing wiper having one portion adjustable to locate its acting face out of the plane of the acting face of another portion.

36. In a machine of the class described, the combination with wipers which are adapted for use in shaping an end portion of a shoe upper to the end portion of a last, each wiper comprising a plurality of members relatively adjustable endwise to vary the effective length of the wipers, and each of said members being operative in all positions of adjustment, of operating mechanism for said wipers.

In testimony whereof I have signed my name to this specification.

MATTHIAS BROCK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."