

J. P. PRIDE & A. BATES.  
MACHINE FOR USE IN THE MANUFACTURE OF BOOTS AND SHOES.  
APPLICATION FILED MAR. 15, 1906.

1,019,085.

Patented Mar. 5, 1912.

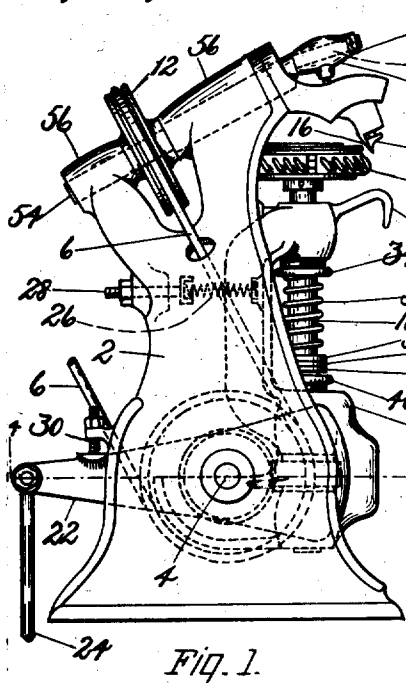


Fig. 1.

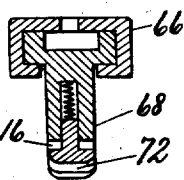


Fig. 5.

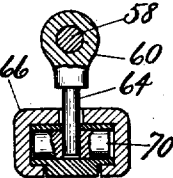


Fig. 6.

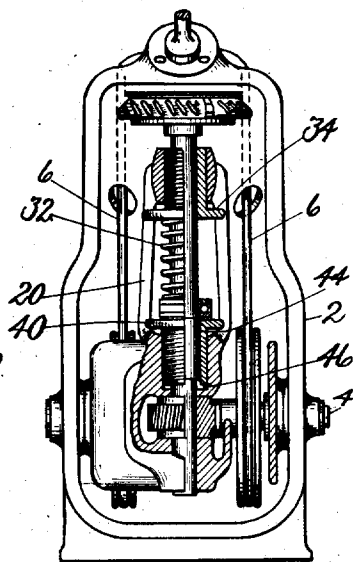


Fig. 2.

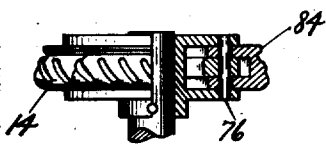


Fig. 7.

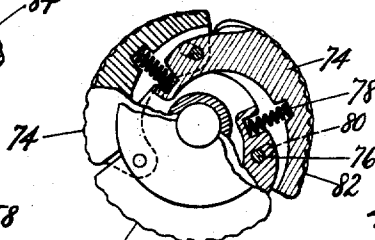


Fig. 8.

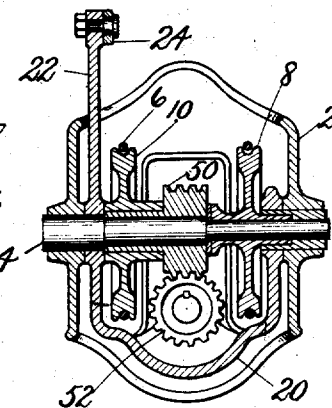


Fig. 4.

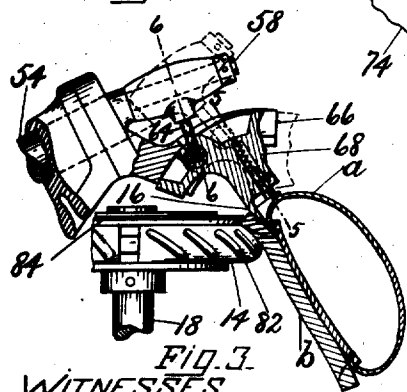


Fig. 3.

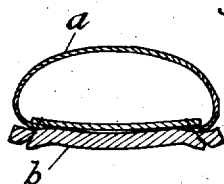


Fig. 9.

WITNESSES.

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By their Attorney  
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# UNITED STATES PATENT OFFICE.

JOHN PENNELL PRIDE AND ARTHUR BATES, OF LEICESTER, ENGLAND, ASSIGNORS TO  
UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MACHINE FOR USE IN THE MANUFACTURE OF BOOTS AND SHOES.

1,019,085.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed March 15, 1906. Serial No. 306,220.

*To all whom it may concern:*

Be it known that we, JOHN P. PRIDE, a citizen of the United States of America, and ARTHUR BATES, a subject of the King of England, both residing at Leicester, in the county of Leicester, England, have invented certain Improvements in Machines for Use in the Manufacture of Boots and Shoes, 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 improvements in apparatus for use in the manufacture of boots and shoes, and comprises a machine for operating upon the outersole, or upon the adjacent portions of the upper, or upon both at the same time if desired.

In the manufacture of certain kinds of boots and shoes, as a result of the operations of laying or temporarily attaching the outersole, of opening and closing the channel, and of sewing or otherwise permanently securing the sole to the shoe, the sole is frequently caused to bulge outwardly, so that its outer surface becomes convex, and its marginal portion or edge curls up toward the upper. This is particularly the case with those McKay sewed shoes, the outersoles of which have what is known as the "English channel," the cut forming the channel being more nearly perpendicular to the sole surface and its inner end being nearer the edge of the sole than in the ordinary McKay shoe. In the sewing of this kind of shoe, in order to insure that the stitches shall pass through the innersole at a sufficient distance from its edge, the shoe is commonly so held by the operator that the stitches, in the direction from the channel through the outer and inner soles, are inclined away from the edge of the soles, as a result of which the sewing operation causes or increases the bulging described. In the case of turned shoes, or light welted shoes, made to imitate turned shoes, the curling or bending of the sole margin is often desired; but, on the other hand, in McKay and other heavier kinds of shoes, a flat effect is usually pre-

ferred. Moreover, in the operation of leveling the shoe, especially when a machine of the direct pressure type is employed, not only is this curling or bending of the sole margin not corrected, but, because of such curling, it is impossible satisfactorily to level or mold the sole margin.

One of the principal objects of the present invention, therefore, is to devise a machine for bending or molding the margin of a sole, and especially for correcting the deformation just referred to, by returning or forcing the margin of a sole, after attachment to a shoe, to, or even a little beyond, its original plane, or by forcing a sole out of its original plane, before it is attached to the shoe, so as initially to deform it in a direction opposite to that in which the sewing and other operations mentioned will subsequently bend it, this initial deformation being subsequently canceled or corrected by such operations, so that the margin of the sole face will finally conform substantially to the level of the remainder of the face.

Other important objects of the invention are to devise, also, improved devices for shaping the upper adjacent the sole and for closing the channel or laying down the channel flap. While each of these devices may be used separately or for the accomplishment of a single function only and with or without the devices for bending the sole, yet in the preferred embodiment of the invention the devices which, as above described, bend back to or beyond its original plane the margin of a sole which has been attached to a shoe, are so constructed as to be capable of closing the channel, and, if desired, of shaping or blocking the upper.

In one aspect, the invention comprises broadly means arranged to enter the crease or angle between the sole and the upper of a shoe and mechanism for actuating said means to bend the sole, to block the upper or to perform both said operations, preferably by a succession of blows or pressing actions.

In another aspect, the invention comprises devices which engage opposite faces of the sole margin and which exert a pressing or a rubbing, or both a pressing and a rubbing,

action upon the sole in combination with mechanism for actuating either one or both of the devices for either bending the sole margin or closing the channel or both.

5 The specific machine, which is about to be described as embodying the present invention in its preferred form, comprises the combination with a device capable of exerting upon the bottom of the sole a pounding  
10 or pressing action or a wiping or rubbing action, or both, of a rest or support for the opposite face of the margin of the sole which enters the crease between the upper and the sole or welt, when operating upon  
15 a shoe to which the outersole has been attached, so that the rest serves also as a guide while the shoe is being fed. This rest may be provided with a fulcrum so located as to enable the rest to be turned about its own  
20 tip, and it may have a vibrating motion in a direction transversely of the crease imparted to it by any suitable mechanism to cause it to act upon the upper side of the sole or welt for the purpose of assisting in  
25 the operation of bending the margin of the sole. Furthermore, it may itself be constructed, or other means may be provided, to shape the upper and, if the operation is performed, as may be desirable, with the  
30 last in the shoe, cause the upper to conform to the surface of the last. The term "vibrating" as herein employed is intended to cover any backward and forward motion whether in a straight or a curved path.  
35 Preferably the rest and the sole-pounding or channel-closing device may be separated to facilitate the insertion of the work between them.

The device for operating upon the bottom  
40 of the sole may take the form of a rotary member so constructed as to press and wipe the sole margin and preferably provided with devices for feeding the work. For instance, its operative surface or surfaces  
45 which contact with the surface of the sole may be provided with either oblique grooves or slightly raised oblique ribs which act to close the channel and to feed the work. The rotary member, as herein illustrated, is  
50 constructed as a roll or frame, preferably, with yielding peripheral segments adapted both to pound and to wipe the surface of the margin of the sole adjacent to the channel so as to smooth out and lay the channel  
55 flap and also to assist in bending the sole as the member rotates. A convenient construction consists in pivoting each segment to the roll by one of its ends, the other end of each segment being normally pressed outward, as by a spring or like yielding device.  
60 The rotary member, or other means employed for existing upon the sole a pounding or wiping action, is preferably combined with a rest to act against the vertical edge  
65 of the sole so as not only to serve as a gage,

but also to cooperate in bending the sole and closing the channel. This rest may take the form of a stop or projection or of a wheel or flange to press and, if rotated or vibrated, to rub against the edge of the sole.

70 It will be understood that the invention is adapted for application in the manufacture of all kinds of shoes, including not only McKay sewed, pegged and metallic fastened, but also Goodyear and turned shoes, and  
75 that the shoe operated upon may be either on or off the last. Hence the term "outersole" is intended to include the single sole of a turned shoe and also the double or compound outersole of a shoe having a slip sole  
80 or tap. The term "sole margin" is intended to include also a welt, or a mock welt, which, with the outermost layer of the sole, extends beyond the upper.

In the accompanying drawings, Figure 1  
85 is a side elevation of a machine embodying the present invention in a preferred form, the parts being shown in operative position; Fig. 2 is a front elevation of the machine shown in Fig. 1, partly in section and with  
90 the upper front portion removed; Fig. 3 is a detail of the upper portion of the machine illustrating the manner in which the machine operates upon the shoe; Fig. 4 is a  
95 section on the line 4-4 of Fig. 1; Fig. 5 is a sectional detail on the line 5-5 of Fig. 3; Fig. 6 is a similar view on the line 6-6 of Fig. 3; Fig. 7 is an edge elevation, partly in section, of the rotary member hereinafter  
100 described; Fig. 8 is an inverted plan, partly in section, of the rotary member; and Fig. 9 indicates, in transverse section, a McKay shoe before it is subjected to the action of the machine, the sole being provided with an "English channel."

105 Like reference characters indicate like parts in the several figures of the drawings.

In the machine illustrated, a frame 2, adapted to stand upon a bench or other support, has journaled therein a main shaft 4.  
110 Motion is imparted to the shaft 4 from any convenient source of power by means of a belt or band 6 which passes over pulleys 8, 10, one of which, only, being fast on the shaft. The belt 6 also passes over a pulley  
115 12 for a purpose to be explained.

As shown in the drawings, the devices for laying the channel flap or closing the channel in the sole of a shoe and for forcing the margin of the sole beyond its original  
120 plane comprise a rotary member 14 which engages the tread side of the sole margin and a vibratory member 16 operating upon the upper side of said margin, as shown in Fig. 3. The member 14 is secured to the upper  
125 end of a shaft 18 rotatably mounted and movable endwise in bearings in a swinging frame 20. This frame is pivoted upon or concentrically with the main shaft 4 and is provided with an arm 22 connected to a  
130

treadle (not shown) by a link 24, whereby the frame may be moved to separate the members 14, 16 to allow the work to be inserted between them. A spring 26, engaging, at one end, the frame 20, and, at the other end, a screw 28 adjustable in the main frame, tends to maintain the frame 20 in a forward position, which is determined, when the work is not in place, by the engagement of an adjustable stop 30 with the arm 22. A spring 32 surrounds the shaft 18 and bears at its upper end against a sleeve 34 which is threaded into the upper part of the frame 20 while the lower end of the spring rests upon a collar 36 loose on the shaft 18. Another collar 38, also loose upon the shaft, engages normally, or when no work is in the machine, a sleeve 40 also threaded into a socket or recess in the frame 20. An anti-friction device 42 may be interposed between the collars 36, 38. The shaft 18 has a boss 44 upon it, the lower end of which is adapted to rest, when no work is in the machine, upon the shoulder 46 in the socket in the swinging frame, but when the shaft 18 and member 14 are pressed upwardly by the work, as will be described, the upper end of the boss bears against the collar 38, putting the spring 32 under compression.

The above-described arrangement is such that normally the compressive force of spring 32 is exerted upon the sleeves 34 and 40 and does not act upon the shaft 18, but when the operator presents the work to the members 14, 16 he may lift the shaft 18, causing the boss 44 to raise the collar 38 slightly from sleeve 40, as shown in Fig. 2, thus further compressing the spring 32 and giving a yielding quality to the action on the work of the rotary member 14. It will be understood that by turning the sleeve 34 the initial compression of the spring 32 may be increased, reduced, or eliminated, and that by similarly adjusting the sleeve 40 the distance may be altered which the shaft 18 with its member 14 must be raised before the spring 32 comes into action.

Rotation is transmitted from the main shaft 4 to the shaft 18 and member 14 by means of a worm 50 fast on the main shaft and engaging a worm gear 52 splined upon shaft 18 and mounted between bearing surfaces on frame 20. This arrangement allows the shaft 18 to move endwise with relation to the gear 52 but constrains it to rotate therewith. As the frame 20 swings about an axis which is concentric with that of the main shaft 4, the worm and its gear will always remain in engagement irrespective of the position of the swinging frame.

The mechanism for operating the vibratory member 16 comprises a shaft 54 rotated by means of the pulley 12, hereinbefore referred to, and mounted in bearings 56 in the upper portion of the frame 2. The front

end of the shaft 54 has a part or extension 58, the axis of which is inclined to the axis of the shaft. A sleeve 60 is rotatably mounted upon the extension 58, being retained in position by a collar 62. A stem 64 projects from the sleeve 60 and passes through a slot in the curved guideway 66 formed in or secured to the frame 2, the arc of the curve having its center preferably at or near the tip of member 16. Mounted to slide in the guideway 66 is a carrier 68 for the member 16. A cylinder 70, capable of oscillatory movement in the carrier 68, has in it a transverse hole into which the stem 64 extends with a sliding fit. The parts 54, 58 and 64 are preferably so disposed with relation to each other that their axes all intersect in a common point. Hence, rotation of the shaft 54 will impart to the stem 64 a vibratory movement and also a movement of oscillation about its axis. This latter movement does not affect the carrier 68, as the stem simply turns in the hole in the cylinder 70, but the vibratory movement of the stem is effective to vibrate the carrier 68 in its guide way 66. Two positions of the carrier and its actuating mechanism are shown in full and in dotted lines, respectively, in Fig. 3. The member 16 is shown as a thin wedge-shaped part which is secured to or formed integral with the carrier 68. This part is arranged to engage the upper surface of the sole or welt, as shown in Fig. 3. A block 72 mounted on a spring-pressed plunger in the carrier 68 may be employed alone or together with the other devices described to act upon and shape the portion of the upper adjacent to the sole and, where the last is in the shoe, to cause the upper to conform to the lines of the last.

The rotary member 14, as illustrated, comprises a plurality of overlapping segments 74 pivoted upon pins 76 and pressed outwardly by springs 78, each of which is in compression between two adjacent segments, so that each segment has two springs acting upon it at opposite sides of its pivot pin, both tending to move its main portion outwardly, such outward movement being limited by the pivot pin of an adjacent segment which engages the end of a slot 80 in the end of each segment opposite its own pivot pin. Each segment has ribs or grooves 82, preferably diagonally arranged upon its outer face, and these ribs are adapted to close the channel of the sole and they tend also to feed the shoe along. It is desirable to provide the member 14 with a projection or flange 84 which acts as an edge gage for the sole, as shown in Fig. 3.

A rest 86 may be secured to the frame 2 to serve as a support for the hand of the operator as he presents the work to the machine.

In the use of the machine above described

in detail, the work, for example the shoe shown in Fig. 9, is held as indicated in Fig. 3 with the channel flap pressing against a segment 74, and with the vibratory member 16 inserted in the angle or crease formed by the upper *a* and the margin of the sole *b*, the edge of the sole being pressed against the gage 84 so as to lift the member 14, thus bringing the spring 32 into action.

When the machine is in operation, the member 16 vibrates rapidly about a center at or near its acting tip, forcing the sole margin beyond its original plane. At the same time, either the member 16 or its adjacent block 72 strikes the portion of the upper near the sole to shape it and, if desired, to cause it to conform to the last. The segments 74 of the rotating member 14 pound and wipe the bottom of the sole, the ribs 82 closing the channel and tending to feed the shoe along. The gage 84 and segments 74 aid the member 16 in its action of forcing the sole margin beyond its original plane.

Although the present invention, as herein described for the purpose of illustration, is embodied in a machine which acts upon a shoe to perform simultaneously the several functions of shaping the upper, closing the channel, and bending the sole margin to or beyond its original plane, it must be clearly understood that it is within the scope of the invention to employ the machine for performing any of these functions singly. Thus, the machine is adapted to force the margin of a sole, before it is permanently secured to the upper, out of its original plane so as initially to deform it in a direction opposite to that in which the channel opening and the sewing operations will subsequently return it. It is obvious, also, that the member 14 may be used for closing the channel with or without any other cooperating device such as member 16 for bending the margin of the sole, and that it is within the scope of the present invention to employ in the machine for closing the channel, whether or not the sole is bent at the same time, a device which is capable of exerting upon the channel flap a wiping or pounding motion or both, in combination with a rest or abutment which acts against the edge of the sole to aid in closing the channel. Furthermore, it will be obvious that either member 14 or 16 may serve as an abutment or rest to support the work while the other member operates upon it. In such case the supporting member or rest may be stationary. The term "rest", therefore, as used herein is intended to cover any device which may serve as an abutment or support for the sole and specifically the term is applicable to each of the members 14, 16 and 84.

It is obvious that various changes in construction, in arrangement and in application

may be made without departing from the scope of the present invention as defined by the claims.

The nature and scope of the invention having been thus indicated, and a preferred embodiment of the invention having been described and illustrated in detail, what is claimed and what it is desired to secure by Letters Patent is:—

1. In a machine of the class described, a device constructed and arranged to enter the angle or crease between the upper and the sole and mechanism for oscillating said device about an axis in or near its acting portion to shape a portion of the shoe.

2. In a machine of the class described, means for acting upon a sole near its margin, comprising a device arranged and constructed to enter the angle or crease between the upper and the sole of a lasted shoe, a rotary device constructed and arranged to engage the opposite face of the sole, and means for rotating said device at a rotatively high speed to rub the sole.

3. In a machine of the class described, means for bending the margin of a sole comprising a tool arranged and constructed to enter the angle or crease between the upper and the sole and actuating mechanism for the tool to cause it to exert a succession of blows or pressing actions upon the sole.

4. In a machine of the class described, means to engage one face of the marginal portion of a sole, in combination with a device engaging the opposite face and operating through a succession of blows or pressing actions to bend such marginal portion.

5. In a machine of the class described, means for bending the marginal portion of a sole comprising a rest against which the sole is held, a tool movable in a curved path, and means for causing it to exert a succession of blows or pressing actions upon the marginal portion of the sole to bend it relatively to the general plane of the sole.

6. In a machine of the class described, means for bending the marginal portion of a sole, comprising a rest against which the sole is held, a tool movable in a curved path having an acting face of a contour corresponding approximately to the shape which it is desired to give to the marginal portion of the sole, and means for causing it to exert simultaneously a pounding and a rubbing action upon the marginal portion of the sole.

7. In a machine of the class described, means for bending the marginal portion of a sole comprising a rest to engage one face of the sole, a tool arranged to engage continuously the marginal portion of the other face of the sole, and means for vibrating the tool to bend such portion relatively to the general plane of the sole.

8. In a machine of the class described, a rest to engage one face of a sole, a tool ar-

5 ranged to engage the marginal portion of the other face of the sole, and means for oscillating the tool about an axis at or near its operating tip in a plane approximately at right angles to the sole.

9. In a machine of the class described, means for bending the marginal portion of an outersole after attachment to a lasted shoe comprising devices arranged to act upon the opposite faces of the sole near its edge and means for actuating them to cause them to exert a succession of blows or pressing actions upon the sole.

10. In a machine of the class described, a rest against which one face of a sole is held, a tool continuously in engagement with the opposite face while operating upon the sole, and means for vibrating the tool to bend the marginal portion of the sole.

11. In a machine of the class described, a tool arranged to remain continuously in the crease or angle between the upper and the sole, and means to vibrate the tool transversely of the crease to cause it to shape or block the upper.

12. In a machine of the class described, a guiding tool arranged to enter the crease or angle between the upper and the sole, in combination with a shaping tool movable to press the upper in a direction transverse to the crease.

13. In a machine of the class described, a guiding tool arranged to remain continuously in the crease or angle between the upper and the sole, and a spring pressed vibratory shaping tool constructed and arranged to block the upper adjacent to the crease.

14. In a machine of the class described, a shaping tool having a plurality of work engaging portions respectively constructed and arranged to shape the upper and sole of a shoe and means for actuating the tool.

15. In a machine of the class described, a shaping tool constructed and arranged to enter the angle or crease between the upper and the sole, and means to move the tool in a plane extending transversely across the sole so as to shape both the upper and the sole.

16. In a machine of the class described, a carrier provided with means for engaging one face of the margin of a sole and also the adjacent portion of the upper, and means for vibrating the carrier for simultaneously bending the sole margin and shaping the upper.

17. In a machine of the class described, means for bending the marginal portion of a sole and for shaping the adjacent portion of the upper comprising a vibratory carrier provided with a sole-bending tool adapted to enter the crease between the sole and the upper and a blocking device mounted in the carrier in position to engage the upper.

18. In a machine of the class described, a rubbing tool and a work rest spaced apart to receive the margin of a sole between them, the acting face of the tool approximately corresponding in contour to the shape which it is desired to give to said margin, and mechanism for actuating the tool so as simultaneously to bend the marginal portion of the sole and to close the channel.

19. In a machine of the class described, a rotary member having a periphery to engage the marginal portion of a sole, and a cooperating vibratory member for delivering a succession of blows to such marginal portion held between said members.

20. In a machine of the class described, means for closing a channel formed upon the face and adjacent the edge of a sole attached to a lasted shoe, comprising a tool having a wiping action outwardly across the channel and means engaging the opposite face of the sole adjacent the shoe upper to sustain it against the pressure of the channel closing tool.

21. In a machine of the class described, a ribbed rubbing tool constructed and arranged to close, by an oblique wiping action, a channel formed upon the face of a sole adjacent its edge, said tool rotating about an axis nearly parallel with the sole, and means to sustain said edge against the action of the tool.

22. In a machine of the class described, a rest or gage for engaging the edge of a sole and thus positioning it, a rotary member provided with means for closing the channel flap formed upon the face of the sole, and means for rotating said member in the direction in which and at a greater speed than the work is fed.

23. In a machine of the class described, a flap-laying tool comprising a plurality of members each provided with flap-engaging portions having oblique ribs, a rotary support upon which the members are pivoted, and yielding means tending to throw the flap-engaging portions of said members outwardly in combination with a rest or support constructed and arranged to engage the marginal portion of the sole opposite the point of operation of said tool.

24. A flap-laying tool comprising a hub, a plurality of ribbed segments pivoted to the hub, and a spring interposed between two adjacent segments and tending to swing them in the same direction about their pivots.

25. In a machine of the class described, the combination with means continuously engaging the upper of a shoe adjacent to the edge of the shoe bottom, of means for actuating said engaging means properly to shape or block the upper and means arranged to assist the operator in presenting the shoe in operative relation to said engaging means.

26. In a machine of the class described, the combination with cooperating members constructed and arranged for continuous engagement with the bottom of a shoe and with the upper on the side of the shoe adjacent to its bottom, of means for actuating said members to shape both the bottom and the side of the shoe by a rubbing and a pressing action.
27. In a machine for shaping shoes, the combination with cooperating members for engaging the opposite sides of the projecting edge portion of a shoe and also the upper adjacent to the crease, of means for actuating said members to shape or block the upper and by a rubbing action to shape the projecting edge portion of the shoe.
28. In a machine for shaping shoes, the combination with means for supporting one side of the projecting edge portion of a shoe and means for engaging the other side of said projecting edge portion and the upper adjacent to the crease, of means for actuating said engaging means to shape the shoe by a pressing action.
29. In a machine for shaping shoes, the combination with two cooperating members constructed and arranged to receive between them the projecting edge portion of a shoe, of means for moving said members relatively to engage and disengage the work and means for actuating said members to shape said projecting edge portion of the shoe by a rubbing and a pressing action.
30. In a machine of the class described, a shaft provided with an extension, the axis of which is oblique to the axis of the shaft, a sleeve on the extension, a tool arranged to be vibrated in order to shape portions of a shoe, a carrier for said tool constructed to vibrate about an axis which does not intersect the axis of the shaft and connections from said sleeve to said carrier.
31. In a machine of the class described, a shaft provided with an extension the axis of which is oblique to the axis of the shaft, a sleeve on the extension, a tool arranged to be oscillated about an axis at or near its operating tip, a carrier for the tool, guide-ways for the carrier and connections from the sleeve to the carrier.
32. In a machine of the class described, a frame, a shaft longitudinally movable in the frame, a rotary member on the shaft for operating upon the bottom of a sole, an edge gage or rest on the shaft against which the edge of the sole is pressed, and a yielding stop having provision for adjustment arranged to be engaged by the shaft when it is moved in one direction.
33. In a machine of the class described, a rest against which the sole is held, a rotary tool for operating upon the sole, a shaft supporting the tool, a pivoted frame in which the shaft is mounted, with provision for yielding longitudinally, and means acting upon said frame to hold the tool against the sole and the sole against the rest with a yielding pressure.
- In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN PENNELL PRIDE.  
ARTHUR BATES.

Witnesses:

GRACE HOLMES,  
ARTHUR ERNEST JERRAM.

Corrections in Letters Patent No. 1,019,085.

It is hereby certified that in Letters Patent No. 1,019,085, granted March 5, 1912, upon the application of John Pennell Pride and Arthur Bates, of Leicester, England, for an improvement in "Machines for Use in the Manufacture of Boots and Shoes," errors appear in the printed specification requiring correction as follows: Page 2, line 62, for the word "existing" read *existing*; and page 4, line 89, for the word "rotatively" read *relatively*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of April, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

*Acting Commissioner of Patents.*

26. In a machine of the class described, the combination with cooperating members constructed and arranged for continuous engagement with the bottom of a shoe and with the upper on the side of the shoe adjacent to its bottom, of means for actuating said members to shape both the bottom and the side of the shoe by a rubbing and a pressing action.
27. In a machine for shaping shoes, the combination with cooperating members for engaging the opposite sides of the projecting edge portion of a shoe and also the upper adjacent to the crease, of means for actuating said members to shape or block the upper and by a rubbing action to shape the projecting edge portion of the shoe.
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29. In a machine for shaping shoes, the combination with two cooperating members constructed and arranged to receive between them the projecting edge portion of a shoe, of means for moving said members relatively to engage and disengage the work and means for actuating said members to shape said projecting edge portion of the shoe by a rubbing and a pressing action.
30. In a machine of the class described, a shaft provided with an extension, the axis of which is oblique to the axis of the shaft, a sleeve on the extension, a tool arranged to be vibrated in order to shape portions of a

shoe, a carrier for said tool constructed to vibrate about an axis which does not intersect the axis of the shaft and connections from said sleeve to said carrier.

31. In a machine of the class described, a shaft provided with an extension the axis of which is oblique to the axis of the shaft, a sleeve on the extension, a tool arranged to be oscillated about an axis at or near its operating tip, a carrier for the tool, guide-ways for the carrier and connections from the sleeve to the carrier.

32. In a machine of the class described, a frame, a shaft longitudinally movable in the frame, a rotary member on the shaft for operating upon the bottom of a sole, an edge gage or rest on the shaft against which the edge of the sole is pressed, and a yielding stop having provision for adjustment arranged to be engaged by the shaft when it is moved in one direction.

33. In a machine of the class described, a rest against which the sole is held, a rotary tool for operating upon the sole, a shaft supporting the tool, a pivoted frame in which the shaft is mounted, with provision for yielding longitudinally, and means acting upon said frame to hold the tool against the sole and the sole against the rest with a yielding pressure.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN PENNELL PRIDE.  
ARTHUR BATES.

Witnesses:

GRACE HOLMES,  
ARTHUR ERNEST JERRAM.

Corrections in Letters Patent No. 1,019,085.

It is hereby certified that in Letters Patent No. 1,019,085, granted March 5, 1912, upon the application of John Pennell Pride and Arthur Bates, of Leicester, England, for an improvement in "Machines for Use in the Manufacture of Boots and Shoes," errors appear in the printed specification requiring correction as follows: Page 2, line 62, for the word "existing" read *existing*; and page 4, line 89, for the word "rotatively" read *relatively*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of April, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

*Acting Commissioner of Patents.*

It is hereby certified that in Letters Patent No. 1,019,085, granted March 5, 1912, upon the application of John Pennell Pride and Arthur Bates, of Leicester, England, for an improvement in "Machines for Use in the Manufacture of Boots and Shoes," errors appear in the printed specification requiring correction as follows: Page 2, line 62, for the word "existing" read *erecting*; and page 4, line 89, for the word "rotatively" read *relatively*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of April, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

*Acting Commissioner of Patents.*