J. H. Sanford,

Ufyner Machine,

No. 2,686. Patented June 22, 1842.

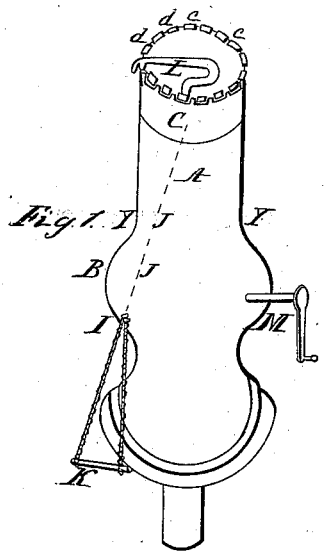

Fig. 1.

Fig. 5.


Fig. 6

Fig. 7.

Fig. 9.

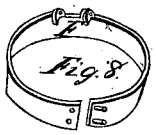

Fig. 8.

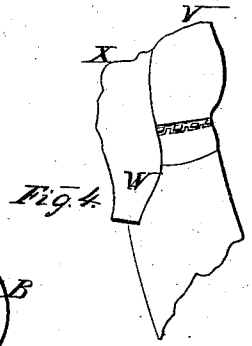

Fig. 4.

Fig. 2.
Fig. 10.

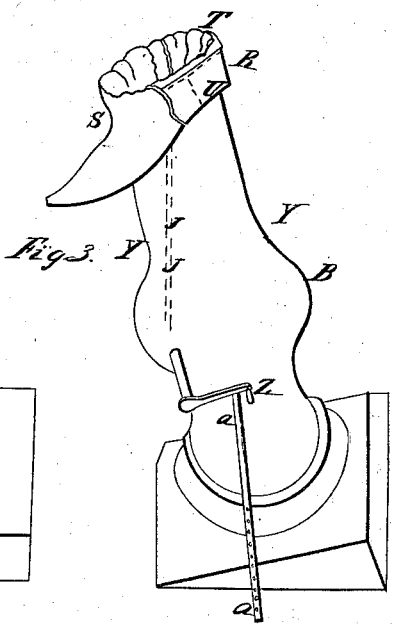

Fig. 3.

UNITED STATES PATENT OFFICE.

JOSEPH H. SANFORD, OF HOPEWELL, NEW YORK.

TURNING BOOT-LEGS.

Specification of Letters Patent No. 2,686, dated June 22, 1842.

To all whom it may concern:

Be it known that I, JOSEPH H. SANFORD, of Hopewell, in the county of Ontario and State of New York, have invented a new and useful machine for turning boot-legs with facility without destroying the crimp of the boot in the operation and which is peculiarly adapted for the benefit of boot-makers, which machine I denominate the "boot-leg reverser;" and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of the specification, in which—

Figure 1 is a general perspective view. Figs. 2. 3. and 4 are operative views, and Figs. 5. 6. 7. 8. 9 and 10 are sectional parts or views of its construction.

In the accompanying drawing, Fig. 1, I have represented my apparatus in two forms to suit the ability or choice of different persons which consists of a wooden or metalic cylindrical stock A 26 inches in length from base to top and has a bilge B 15 inches from top to its center diameter 5½ inches the diameter of the bilge at the bottom being the same. The stock is bored hollow 16 inches from the top and the diameter of this caliber is 3 inches the outside being sufficiently thick to insure strength. On the top of this stock I place a band of brass C or other metal which is prepared with short projections or studs on the upper edge in which eyes or holes are drilled, about ⅛ inch in diameter for the purpose of receiving a wire which is to form one continued pivot around the band for a number of friction rollers which are to be inserted between the studs before the band is closed and riveted. Fig. 5 is a sectional view of such a band in a straight position before being curved with the wire D prepared of a suitable length to meet in the center of a roller at the joint of the band when curved and riveted. The band and stud may be cast together the band answering the double purpose of a ferrule and as a base for the studs. Fig. 6 represents a suitable base or friction roller of an oval shape of about ⅝ of an inch long and nearly ½ inch diameter. The roller for this purpose may be made of tin zinc or other metal and cast in a mold prepared therefor with an aperture in the side opposite the hole where the metal is poured for the purpose of having a wire inserted therein until the ball is cast which is to be withdrawn before the ball is cold leaving the ball or roller perforated lengthwise in readiness for use.

Fig. 7 presents an edge view of the band showing the extension of the stud downward on the inside of the band to insure its strength the top being inclined inward for the purpose of causing the draft of the boot downward to clear the side of the tube or caliber.

In Fig. 8 I would show that the band must be thus curved in order to fit the studs on, as seen at F on the inside edge thinner than on the outside to suit the rollers before the band is riveted. I provide a hook constructed as shown in Fig. 9 with a cord G attached thereto the ends of which being made fast to a short piece of wood or metalic stirrup for the foot as seen at H.

The hook and cord are applied to the stock as seen in Fig. 1 an aperture I being made in the stock from the lower side of the bilge upward in a line to the center of the top as seen by the dotted line J J. Through this aperture the ends or end of the cord are passed down from the inside and fastened to the stirrup as shown at K the hook being made to take hold of the loops on the boot and when not in use is left suspended on the top as seen at L Fig. 1. The foot is placed in the stirrup to give the required force in the operation.

The roller and crank as seen at M Fig. 1 are attached to effect the same object accomplished by the use of the stirrup which will be noticed in the operative description. A hole is made in the bilge transversely with the caliber about 2 inches in diameter through which the roller or cylinder is inserted a gudgeon or pivot being prepared on the inside end of the roller which plays in a smaller hole made through the left side of the bilge. The roller is not to pass through the center of the stock. The hole is made eccentrically with the caliber so that one side of the roller will just pass within the longitudinal course of the line of the side of the caliber in order to cause the cord to draw obliquely from the hook. One end of the cord is attached to the hook L and the other end thereof to the roller M and is to be wound on the side of the roller toward the center of the tube the space between the roller and side of the caliber being left sufficiently large for the winding of the cord.

The roller and crank may be made of wood or metal. Although I have given the measure of my stock and other apparatus I do not intend thereby to limit myself to the same but to vary and proportion the different parts of my machine as circumstances may require. To effect the same object N Fig. 10 represents a pivot projecting from the center of the bottom of the stock which is to be inserted in a block attached to the seat of the operator or otherwise by a bolt to render the machine firm. In order to use the boot leg reverser with facility the stock should be placed in an oblique position the top thereof sloping toward the operator for the convenience of rubbing down the seams and cutting the welt on the side opposite the operator. Therefore the end of the block to which the stock is attached should be beveled to such a slope as will cause the required position of the stock chosen by the operator, the hole being made at a right angle with the beveled surface. Fig. 2 represents such a block with a boot leg reverser thereon.

Having described the mode of constructing and arranging my machine and its appendages I now proceed to describe its operation and use. The boot is first placed on the stock as shown in Fig. 2 and crowded down on to the bilge of the stock with the vamp or foot toward the right which will cause one seam to be on the sloping side of the stock opposite the operator for his convenience to rub and smooth it. Thence the boot is turned around on the stock until the other seam comes on the sloping side and served as before described which leaves the vamp O on the left side which is the proper position to prepare for turning. The boot is now to be raised sufficiently to pass the hook through the loops or straps P P. The operator is then to take hold of the seams Q at the bottom of the boot then place the foot in the stirrup and therewith pressing downward at the same time lifting with the hands and revolving the boot a little to the left till the vamp is toward the operator which turns the boot as far as the counter the required position as shown at R Fig. 3. The crimp of the instep remaining undisturbed as shown at S and which will here be seen is effected by means of the oblique direction given to the draft of the cord both in the arrangement of the stirrup and that of the roller and winch M which have the required and invariable result of turning the back side of the boot as far as the counter while the front S is not turned so far as to disturb the crimp of the instep this being the most important part of boot turning. The remainder of the operation should be performed with the hands. With the foot remaining in the stirrup the thumbs are placed on the back of the counter at T pressing downward and with the fingers of both hands take hold of the edge of the counter at U on each side and draw upward which turns the counter as shown at V Fig. 4. Now the foot should be taken from the stirrup and the boot drawn out of the stock and unhooked then with the left hand take hold of the front side of the leg just below the vamp the top of the boot being still downward, and with a smart yet gentle blow of the right hand knuckle indent the instep at X and with the same hand turn the vamp to its natural position which process still preserves the crimp. The boot is now the second time placed on the stock but with the black side out for the purpose of cutting the welts and also to rub down the seams as before described instead of using a board or log. The use of the bilge B Figs. 1, 2, 3 on the stock as seen at *y y* Figs. 1 and 3 will be obvious is to provide a concave surface on which to suit the curved lines of the seams occasioned by the increased size of the vamp at the bottom while rubbing down.

The use of the roller and winch is intended as a substitute for the stirrup in such cases as where the bootmaker is unfortunately debilitated or suffering the loss of a leg. In such cases the roller and crank would be used as a necessity and others from choice may use it in preference to the stirrup. When the crank and roller are used the same process should be observed as described in the use of the stirrup except in the act of turning the boot the right hand is to be applied to the crank Z Fig. 3 to revolve it while the other is to be placed on the center of the bottom of the counter at R thereby to lift upward as in the other case and when the boot is turned as far as the counter by the operation of the machine as seen in Fig. 4 then in order to retain the draft downward while that part of the boot leg termed the counter is being turned up by hand the crank is effectually kept in its position by means of a leather strap *a a* with several openings therein. One end being attached to the crank Z and the hole that would be in the right place is to be slipped on a pin fixed in the block as seen at *b*, Fig. 3 or elsewhere, as convenience shall dictate. The same object may be effected by other analogous fixtures such as a ratchet and pawl &c.

From the description of the operation of turning a boot on my machine it is obvious that the roller as affixed and specified in connection with the studs, and band, are very essential parts of my apparatus, thereby avoiding a great degree of friction on the top of the caliber C C Fig. 1 which if omitted would require so much more force to produce the result in view—besides the chafing of the machine and straining the boot out of shape when used without rollers

would render such a machine nearly useless. Here I would more particularly observe that should the direction of the draft of the cord be longitudinally down within the center of the caliber then the instep would be drawn down as soon as the counter which would have the effect of removing the cramp and consequently such a fixture would render the machine of no avail and useless to the community entirely destroying the end in view. But the manner of my arrangement effectually and entirely obviates such an effect or even a tendency of removing the crimp by causing an oblique direction to the draft of the cord as previously described which draws the counter down first while the instep and crimp thereof are left undisturbed. Being a boot maker myself I have long been aware of the necessity of such an article as I have invented and herein specified. From the experience and actual use of this machine together with the favorable declarations of others who have used the same I am confident that the public benefit derived therefrom in facilitating the manufacture of boots will be very great. Having thus fully described the nature of my invention and shown the mode of its construction in its several combinations together with the manner in which the respective parts operate and having in so doing included parts which may not be entirely new I now proceed to designate those parts or combinations which I believe to be new.

What I claim as my invention and desire to secure by Letters Patent is—

1. The particular form of the hollow stock A described in Fig. 1 with the bilge B for the purpose of suiting the shape of the bottom of the boot while rubbing down and smoothing the seams thereof.

2. I claim the use and manner of attaching the friction rollers *d d* Fig. 1 in connection with the studs and band or ferrule on the top of the stock as specified and referred to in Figs. 1, 5, 6, 7 and 8 for the purpose of preventing the great friction that otherwise would take place on the top of the stock during the operation of turning a boot. I claim also the particular mode as specified of causing an oblique direction to be given to the draft of the cord strap or chain connected with the stirrup or roller and crank as specified and in Figs. 2 and 3 or any other fixture which may be used to produce the same end in view of drawing down the back part of the boot faster than the front so that when the counter will have arrived at the top of the stock the instep wherein is the crimp or cramp (that part of the boot which is previously contracted to suit the shape of the foot and ankle) will not have been drawn up to the top of the stock as shown and referred to at S Fig. 3 therefore the object of turning the boot after it has been closed to the right and proper side out is thus accomplished with facility without disturbing the crimp or contraction of the leather so suited to the foot and ankle the remainder of my directions for turning the counter and vamp as shown and referred to in Fig. 4 being regarded.

3. I claim the arrangement of the roller and crank as described and shown in Figs. 1 and 3 as a substitute for the stirrup to suit the choice of some as well as the convenience of debilitated persons for the purpose of giving an oblique direction instead of a longitudinal direction to the draft of the cord as shown by the dotted lines J J Figs. 1 and 3 to produce the same effect as with the use of the stirrup. Not intending however by these claims to limit myself to the precise manner of arranging the respective parts as herein designated but to vary the same as I may think proper while the same ends are attained by means substantially the same.

4. Finally I claim these several parts in combination which constitute the boot-leg-reverser being constructed and operating substantially as herein described.

JOSEPH H. SANFORD.

Witnesses:
NATHAN BRUNDAGE,
LESTER WATKINS.