(No Model.)

J. W. FRENCH.

METHOD OF MANUFACTURING BOOTS OR SHOES.

No. 379,640. Patented Mar. 20, 1888.

Fig. 1.

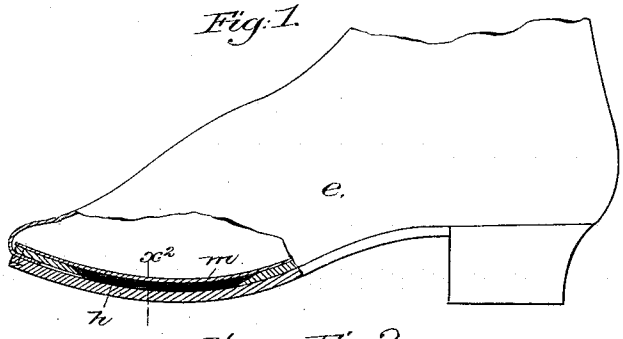


Fig. 2.

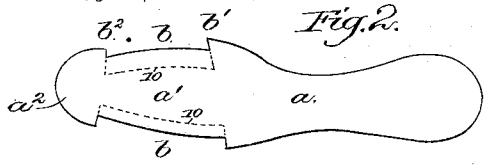


Fig. 3.

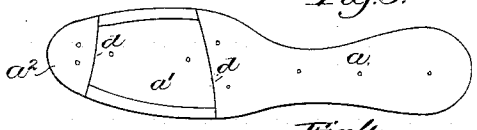


Fig. 4.

Fig. 5.

Fig. 6.

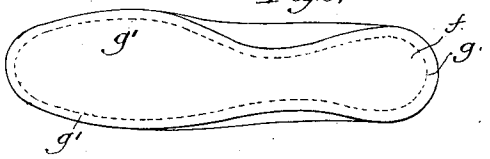


Fig. 7.

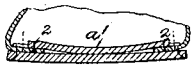
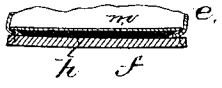


Fig. 8.



Witnesses.
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UNITED STATES PATENT OFFICE.

JUSTUS W. FRENCH, OF LYNN, MASSACHUSETTS.

METHOD OF MANUFACTURING BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 379,640, dated March 20, 1888.

Application filed January 17, 1888. Serial No. 260,968. (No model.)

To all whom it may concern:

Be it known that I, JUSTUS W. FRENCH, of Lynn, county of Essex, and State of Massachusetts, have invented an Improvement in the Method of Manufacturing Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the preparation of material to be manufactured into boots and shoes upon a sole-sewing machine containing a horn—as, for instance, of the McKay class—it is customary to confine the edges of the upper to the inner sole by means of tacks during the lasting process, and thereafter the outer sole having been applied is stitched through and through, the stitches passing through the edge of the upper and the inner sole. In this way a series of tacks is left, which is particularly objectionable, in and along the ball of the foot, and the said tacks work up into this material, lessening the value of so-called "McKay work." Further, the machine-made shoe sewed through and through is too stiff at the ball of the sole, and many attempts have been made to make the sole more flexible.

In accordance with my invention herein contained, the sole is made more flexible, and at the same time the lasting-tacks, applied in usual manner, are completely removed just before applying the usual sock-sole, so that the ball of the foot is free from tacks or lasting-nails.

My invention consists, essentially, in that improvement in the art or method of manufacturing boots and shoes which includes cutting away the edges of the inner sole along the ball portion thereof, tacking the upper to the inner sole about its edge and along the edge left by cutting away the inner sole, as described, removing the lasted upper from the last, and, with an inner sole added, stitching the outer sole, upper, and inner sole, together by through-and-through stitches, except along the ball portion of the inner sole, severing the upper between the line of stitching and a line of tacks in the inner sole near its cut-away portion, and removing from the shoe that portion of the upper and of the inner sole containing the tacks referred to, which were driven into the ball of the inner sole when lasting the upper, as will be described.

Figure 1 in elevation, broken away at the top and broken out at the side, shows a boot or shoe embodying my invention. Fig. 2 shows the inner sole employed by me. Fig. 3 shows the inner sole applied to the bottom of the last and cut transversely. Fig. 4 is a longitudinal section in the line x, Fig. 5. Fig. 5 is a plan view of the upper drawn over the inner sole and tacked thereto, the said figure, by the heavy dotted line, showing the position of the line of stitches which will unite the upper and inner sole, and also the outer sole when the latter is applied in place, the outer sole being, however, omitted from said figure, the small dotted lines representing the lines in which the upper will be cut after the soles and upper are united together by stitching, in order to remove that portion of the upper immediately at opposite sides of the ball of the inner sole where the lasting-tacks were driven. Fig. 6 shows the outer sole laid upon the lasted upper of Fig. 5 and stitched. Fig. 7 is a partial section across the ball of the foot after the outer sole has been stitched in place and before cutting the upper between the line of stitching and the line of tacks along the opposite sides of the ball of the inner sole; and Fig. 8 is a cross-section of the completed shoe in the line x^2, Fig. 1.

The inner sole, a, of any usual material, will be cut away or notched to leave spaces b b at opposite edges of the ball of the foot, so that the stitches uniting the inner sole, upper, and outer sole may run off the inner sole between the points b' b^2 and not pass through the inner sole.

The inner sole, shaped as described, is applied to the bottom of a last, c, of usual construction, and preferably the said inner sole will be severed with a bevel cut from side to side in the line d, although my invention would be the same even though the sole were not cut entirely across in the line d, but only partially into the sole from each side toward its longitudinal center. The upper e, of any usual shape and material, is next laid over upon the bottom of the inner sole and is lasted, as it is called, its edges being united to the inner sole by usual lasting-tacks, 2 3 4, the tacks 2 entering that

portion of the inner sole between the lines *d d*, or opposite the cut-away edges thereof, and called by me the "ball" of the inner sole and marked *a'*. The shoe having been lasted, the outer sole, *f*, is laid thereon in place, in usual manner, by two or more sole-tacks, the last is removed, and the shoe applied to the horn of a sole sewing machine, which will stitch the outer sole, upper, and inner sole together by a line of stitches, *g g'*, the stitches *g'* uniting only the outer sole and upper, the said stitches running off the inner sole, as before stated. The shoe, having been stitched substantially about the outer sole and upper, is removed from the horn, and the operator, by a knife, will cut the upper in the dotted line 8 between the line of stitching *g'* and the line of tacks 2, and thereafter he may readily remove from the shoe the ball portion *a'* of the inner sole, taking with it a portion of the edge of the upper with the tacks therein.

If the cuts *d* are not extended entirely across the inner sole, but only partially so, as in the dotted lines, Fig. 2, then the operator, besides cutting the upper in the line 8, would also be obliged, by a tool, to cut the ball portion *a'* of the inner sole along, say, the dotted lines 10, leaving a narrow section of the said ball portion extending along through the center of the shoe; but I prefer to altogether remove the ball portion, leaving in the shoe only that portion of the inner sole designated *a* and a^2, the latter representing the toe portion of the inner sole.

Referring to Fig. 7, the dotted lines show the line in which the upper will be cut preparatory to removing the ball portion a^2 of the inner sole, together with that portion of the edge of the upper which was secured to it by the tacks 2. The tacks 3 and 4 at the rear of the ball of the shoe and at the toe of the inner sole are not particularly hurtful in the shoe.

The portion *a'* at the ball of the inner sole having been removed, the operator will lay or pass into the space so left a piece of scrap or other leather or filling, as *h*, and will complete the interior finish of the shoe by the addition of any usual sock-sole, *m*, which will be pasted or cemented into position.

I claim—

That improvement in the art or method of manufacturing boots and shoes which includes cutting away the edges of the inner sole along the ball portion thereof, tacking the upper to the inner sole about its edge and along the edge left by cutting away the inner sole, as described, removing the lasted upper from the last, and, with an inner sole added, stitching the outer sole, upper, and inner sole together by through-and-through stitches, except along the ball portion of the inner sole, severing the upper between the line of stitching and the line of tacks in the inner sole near its cut-away portion, and removing from the shoe that portion of the upper and of the inner sole containing the tacks referred to, which were driven into the ball of the inner sole when lasting the upper, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JUSTUS W. FRENCH.

Witnesses:
G. W. GREGORY,
C. M. CONE.