No. 749,267. PATENTED JAN. 12, 1904.

O. C. DAVIS.

ART OF LASTING PORTIONS OF BOOT OR SHOE UPPERS.

APPLICATION FILED NOV. 13, 1902.

NO MODEL.

Fig. 1.

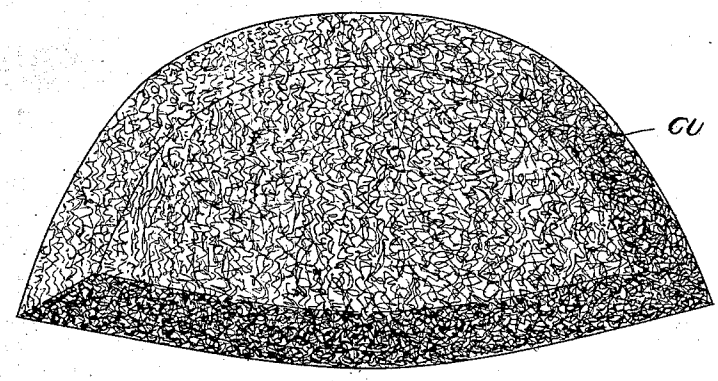


Fig. 2.

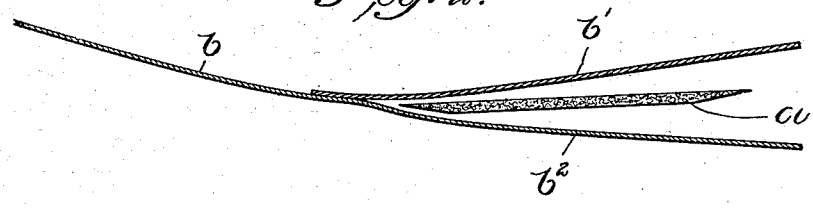
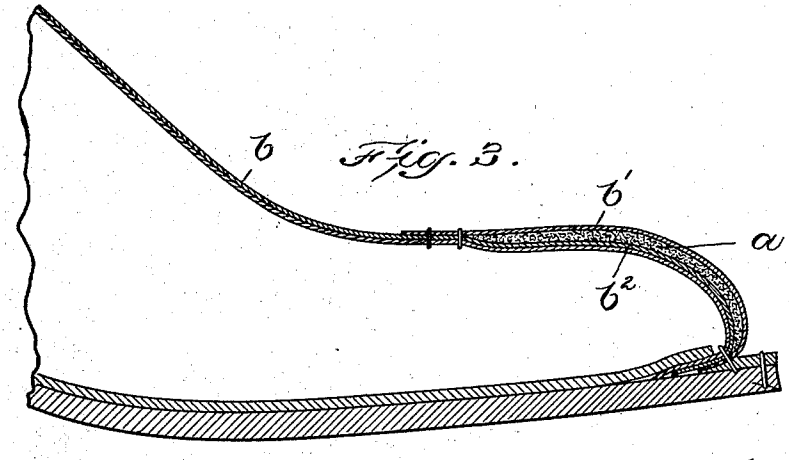


Fig. 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 749,267. Patented January 12, 1904.

UNITED STATES PATENT OFFICE.

OSCAR C. DAVIS, OF BROCKTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO GEORGE E. KEITH, OF BROCKTON, MASSACHUSETTS.

ART OF LASTING PORTIONS OF BOOT OR SHOE UPPERS.

SPECIFICATION forming part of Letters Patent No. 749,267, dated January 12, 1904.

Application filed November 13, 1902. Serial No. 131,098. (No model.)

To all whom it may concern:

Be it known that I, OSCAR C. DAVIS, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in the Art of Lasting Portions of Boot or Shoe Uppers, of which the following is a specification.

This invention has for its chief object to provide a boot or shoe upper with a box-toe which is capable of being freely and accurately conformed to the toe portion of the last by the lasting operation and of thereafter becoming relatively stiff, so as to retain the form imparted to it, and which shall when stiffened possess such a degree of elasticity or resilience that the toe portion of the upper will not be liable to be permanently distorted or indented by ordinary external pressure applied in such direction as to force the toe portion of the upper inwardly.

The invention consists in the herein-described improvement in the art of lasting portions of boot and shoe uppers.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a plan view of a box-toe or toe-cap blank made of felt and employed in carrying out my invention. Fig. 2 represents a longitudinal section of an unlasted upper into which the blank shown in Fig. 1 is incorporated. Fig. 3 represents a sectional view of the upper shown in Fig. 2, showing the same lasted.

The same reference characters indicate the same parts in all the figures.

In carrying out my invention the preferred mode of procedure is as follows: I cut by suitable dies from a sheet of felt a blank *a* of proper form for a box-toe blank. The felt of which the blank is composed is saturated with a suitable waterproof soluble stiffening material, such as shellac, although any other suitable gum in solution may be employed for saturating the felt. The felt is preferably saturated before it is cut out into the form of a blank, the stiffening material being allowed to harden before the blank is formed. This enables the blank to be skived or scoured to reduce its margin by means of a suitable skiving or scouring machine. The blank, with its hardened stiffening, is then subjected to the action of a suitable solvent, which in the case of shellac may be wood-alcohol. This solvent quickly penetrates the interstices between the fibers of the felt and reduces the stiffening material to the form of a solution, so that the blank becomes extremely limp and flexible. The blank while in this condition is incorporated into the upper of a boot or shoe before the said upper is lasted. Ordinarily the vamp portion *b* of an unlasted upper is provided with a pocket for the reception of a flat box-toe blank, this pocket being composed of two layers b' and b^2, the outer layer b' being the usual external toe-cap, while the inner layer b^2 is a lining-piece of the same general shape as the toe-cap and stitched with the toe-cap to the forward end of the vamp, or the layer b^2 may be a part of the vamp extended forward under the toe-cap. The softened blank *a* is inserted in said pocket and may be inserted in the pocket and stitched to the parts b b' b^2 before being softened, the operator dipping the blank into the solvent after its attachment to the upper, or the blank may be softened before insertion and either stitched to the said parts or left loose. The upper as a whole is then lasted in the usual manner, its toe portion, including the softened blank *a*, being conformed to the shape of the toe portion of the last. After the lasting operation the upper is allowed to dry to again harden the stiffening material and cause it to impart the relative stiffness desired to the box. I find that felt thus stiffened is adapted to retain for an indefinite length of time the shape imparted to it by the lasting operation and is at the same time so elastic that when indented by ordinary external pressure it will return to its original shape upon the removal of the indenting pressure.

It is obvious that stiffening material in solution may be applied to the felt box during the lasting operation to increase the stiffening effect.

I do not limit myself to the described improvement in connection only with the toe portions of boot and shoe uppers, it being obvious that the above-described improvement in the

art of lasting may be practiced in connection with the heel portion—that is to say, a heel-counter blank of felt may be treated and formed in substantially the manner above indicated.

I claim—

1. That improvement in the art of lasting portions of boot and shoe uppers, which consists in incorporating in the unlasted upper a blank made of felt treated with a waterproofing, stiffening fluid, lasting the upper to form or mold the blank, and subsequently permitting the blank to dry whereby its stiffness is increased.

2. That improvement in the art of lasting portions of boot and shoe uppers which consists in simultaneously lasting the upper and a stiffener-blank made of felt saturated with a waterproof stiffening material in solution, so that the blank is soft and flexible, thus forming or molding the blank while the latter is soft, and subsequently allowing the stiffening material to harden and stiffen the lasted or formed upper.

3. That improvement in the art of lasting portions of boot and shoe uppers, which consists in saturating a stiffener-blank made of felt with a soluble waterproof stiffening material, incorporating the stiffened blank in an unlasted upper, dissolving the stiffening material of the blank by means of a solvent thereof to soften the blank, lasting the upper, and thus forming or molding the blank while the latter is soft, and subsequently allowing the stiffening material to harden and stiffen the lasted or formed upper.

In testimony whereof I have affixed my signature in presence of two witnesses.

OSCAR C. DAVIS.

Witnesses:

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C. F. BROWN.