No. 645,830. Patented Mar. 20, 1900.

# G. L. PREBLE.

## BOX TOE.

(Application filed Aug. 22, 1899.)

(No Model.)

Fig. 1.

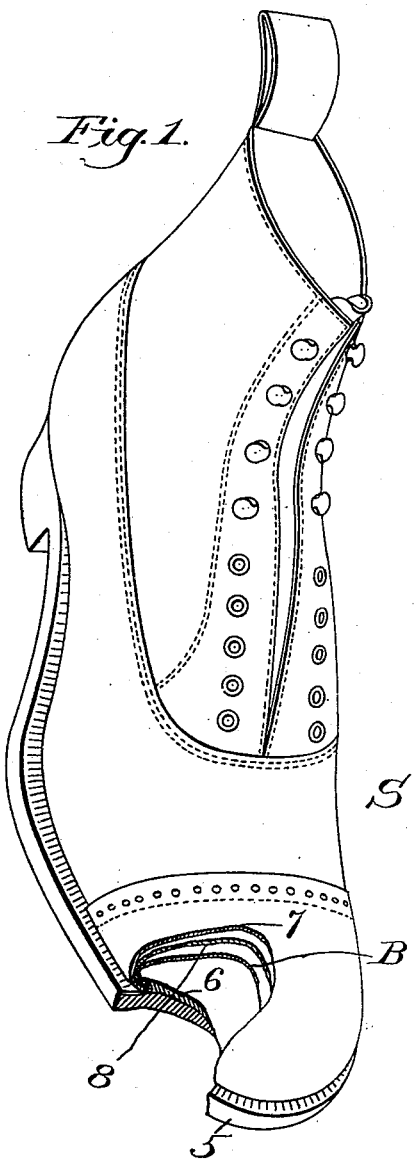
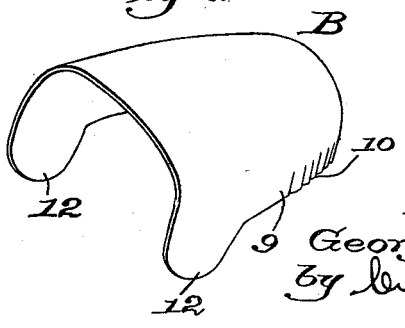



Fig. 2.




Witnesses.
Thomas J. Drummond
Adolf L. Kaiser

Inventor:
George L. Preble,
by Crosby Gregory
Atty's.

# UNITED STATES PATENT OFFICE.

GEORGE L. PREBLE, OF LYNN, MASSACHUSETTS.

## BOX-TOE.

SPECIFICATION forming part of Letters Patent No. 645,830, dated March 20, 1900.

Application filed August 22, 1899. Serial No. 728,053. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE L. PREBLE, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Box-Toes, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to box-toes for boots and shoes; and it has for its object the production of a novel, cheap, and highly-efficient box-toe which is highly resilient, inherently waterproof, and capable of being readily secured in position in the boot or shoe by suitable fastening means.

Box-toes have been made heretofore of various materials which possess in themselves some advantages, but which are each and all open to very serious objections.

Prior to my invention box-toes have been made wholly of leather or of leather-board; but the material readily collapses, breaks, or cracks under pressure or a blow, not having sufficient resiliency to resume its original shape, and when it collapses or breaks down the shape of the toe of the boot or shoe is spoiled. Furthermore, such box-toes are not water or moisture proof and frequently soften in use, depriving the toe of the shoe of its desired support. Canvas covered or coated with shellac or other cementitious material to afford rigidity and to repel moisture has also been used for box-toes; but it readily breaks down or dents without returning to its original shape, and the coating cracks, completely eliminating its waterproof qualities.

Metallic box-toes, aside from the difficulty experienced in their manufacture and their expense, cannot be used in a sewed shoe, inasmuch as the metal is impenetrable to the needle.

My novel box-toe is made from highly-resilient celluloidal non-coated material having great stiffness and strength relatively to its thickness and inherently waterproof, the material being also readily puncturable by a needle or other fastening means. It will not crack or break when dented or pressed inward; but it will at once resume its original shape when the pressure is removed.

Referring to the drawings, Figure 1 is a perspective view of a shoe provided with a box-toe constructed in accordance with my invention in the preferred form thereof, and Fig. 2 is a perspective view of the box-toe detached.

In the drawings I have represented a shoe S, the outer sole being denoted by 5 and the inner sole by 6, and the ordinary toe-cap 7 and the lining 8 are turned in along their edges and inserted between the two soles and secured in place in any well-known or suitable manner.

The box-toe is denoted by B and is cut by dies or otherwise in one piece from a sheet of celluloidal material which possesses all the valuable qualities heretofore set forth. The blank thus cut can be molded to proper shape like those now in general use, except that the flange or downturned portion 9 of the box-toe is crimped, as at 10, thereby adding to the stability of the device at its very tip or point, which part is ordinarily subjected to the greatest stress. The downwardly-turned portion or flange at the inner ends thereof is provided with the ears 12. In practice the shoe will be lasted as customary in this art, and the box-toe B will be inserted between the toe-cap 7 and the lining 8, and the flanged portion 9 thereof will be fitted against the lining 8, which is turned under the inner sole 6. The ears or tabs 12 will be tacked or otherwise secured to the under side of the inner sole 6, which serves to properly hold the box-toe in place. Afterward the outer sole 5 will be put in position and the parts secured together, as by stitches, and when the needle of the sewing-machine encounters the turned-under tabs or ears 12, which are then situated between the two soles, it can easily penetrate or pass through the same.

The box-toe is thin and light, it being understood that a thick one not only affects the outline or symmetry of the shoe, but adds to its weight, and owing to its great resiliency my novel box-toe will resume its normal position and shape at once if stepped upon or otherwise pressed inward, and a sewing-machine needle can readily pass through the same.

The box-toe is inherently waterproof and sufficiently stiff to uphold the regular tip of a shoe, as has been demonstrated after thorough, practical, and extensive tests.

The nature of the material from which my improved box-toe is formed is such that the crimping along the forward edge thereof will be crowded into close relation during the molding of the same, and the structure thus formed will have a smooth finish and will be very stiff or rigid.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A box-toe adapted to be placed beneath the tip of a shoe and formed of resilient, yet stiff and inherently waterproof material readily puncturable by a needle, and shaped to present a supporting-surface for the tip which will resume its original shape after having been distorted.

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

GEORGE L. PREBLE.

Witnesses:
JOHN C. EDWARDS,
HEATH SUTHERLAND.