(No Model.)

E. A. THURSTON.

BOOT OR SHOE.

No. 524,620. Patented Aug. 14, 1894.

Fig. 1.

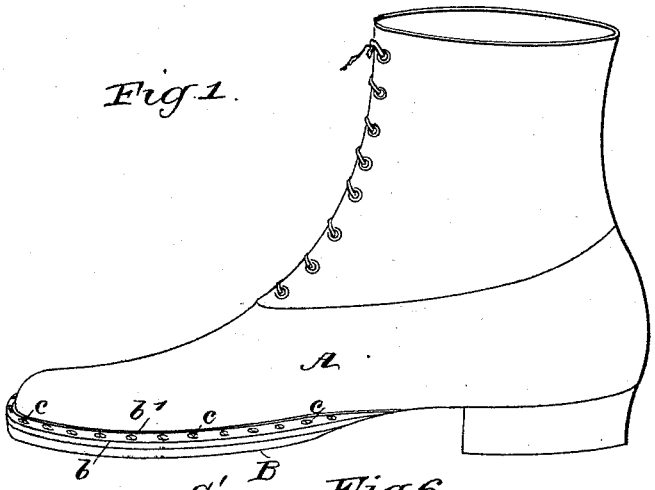


Fig. 6.

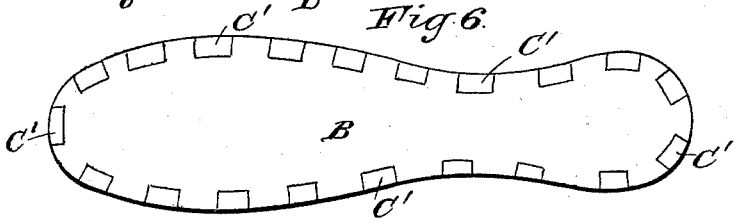


Fig. 2.

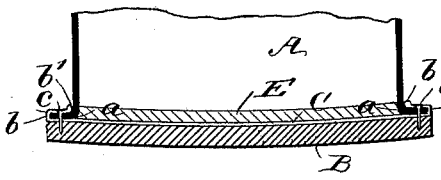


Fig. 3.

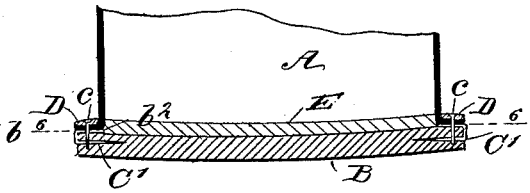


Fig. 4.

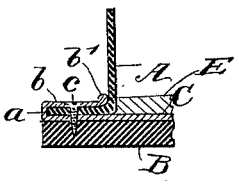
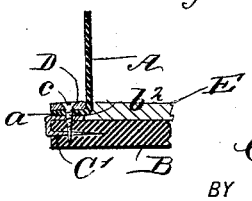


Fig. 5.



WITNESSES:

Paul Johst

A. Purcott.

INVENTOR

E. A. Thurston.

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ERNEST A. THURSTON, OF PLACERVILLE, IDAHO.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 524,620, dated August 14, 1894.

Application filed September 16, 1893. Serial No. 485,666. (No model.)

To all whom it may concern:

Be it known that I, ERNEST A. THURSTON, of Placerville, in the county of Boisé and State of Idaho, have invented a new and useful Improvement in Boots or Shoes, of which the following is a full, clear, and exact description.

My invention relates to improvements in the manufacture of boots and shoes, and has for its objects to provide novel and durable means for the attachment of the soles to the uppers of boots and shoes, that will be waterproof and adapted to protect the upper leather from abrasion, and also reinforce the edge of the upper and sole.

To these ends my invention consists in the peculiar construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a shoe having the improvement. Fig. 2 is an enlarged transverse sectional view of a shoe or boot sole secured to the upper leather, shown in part, by the improved means. Fig. 3 is a transverse sectional view of a shoe or boot upper leather, in part, attached to the sole by a modified form of the improvement. Fig. 4 is an enlarged transverse section more clearly illustrating the preferred form of constructing the improved boot or shoe sole attachment. Fig. 5 is an enlarged view in cross section, of a shoe or boot sole and upper leather, in part, more plainly indicating the details of construction of the modified form represented in Fig. 3; and Fig. 6 is a plan view of the modified form of construction, on the line 6—6 in Fig. 3.

The improvement is equally well adapted for the manufacture of boots or shoes; for the purpose of illustration, it is represented in connection with a shoe of the laced style.

The upper leather A should be heavy enough to insure durability at the point of juncture with the sole B, and may be lined or left without a lining; in the sectional views the latter is omitted.

The heavy sole B is shown as a single thickness of leather, but if desired more than one piece may be used and be secured together by any preferred means that will properly connect the parts of the sole.

In Figs. 2 and 4, the reinforce and means for connecting the leather sole B to the upper leather A consists of a thin plate of tinned iron or other metal that is coated to render it proof against oxidation, which plate C is inserted between the sole B, and the outwardly turned edges *a* of the upper leather, the plate C having its edge shaped to conform with the contour of the sole, but of greater width.

The application of the plate C should be so made that an even marginal projection will be provided for said plate, which border flange is then inwardly folded and forcibly compressed upon the edge portions *a* of the upper leather A, as represented at *b*, in Figs. 2 and 4.

To prevent the inturned edge of the sheet metal cap flange *b* from cutting the upper leather, said edge is return-bent outwardly, thereby producing a double thickness *b'* on the edge, having its rounded margin in contact with the upper leather. The sheet metal cap flange *b* is now firmly secured to the sole B, so as to clamp the upper leather A watertight thereto, by the insertion of screws or nails *c*, which may be of a length to go part way through the sole as shown, or if nails are used these may pass through and be clinched.

The construction of parts shown in Figs. 3 and 5, is substantially the same as has been described, the change consisting in the use of a series of strips of sheet metal, in place of a plate that extends across the inner surface of the sole, said strips C' being inserted in a marginal slit produced around the sole B, at or near its center of thickness as shown, or it may be introduced between the adjacent surfaces of the layers of sole material, that are then cemented or otherwise attached together, in a water-proof manner.

The strips C' may be continuous and be bent to conform with the contour of the sole B, or may be formed of a plurality of pieces, and inserted at intervals around the sole and heel; in either case the strip or strips are return-bent to fold them upon the top surface of the sole B, along the edge of the latter, as is indicated in Fig. 5 at b^2 and also in Fig. 6. The out-turned edge portion *a* of the upper

leather A is now placed in position over the return-bent flange b^2 on the strip or strips C′, and a cap plate D is imposed on the part *a*.

The cap plate D is thickened on its inner edge, and rounded where it comes into contact with the upper leather A, so that it will not be liable to cut the latter.

Perforations are formed at proper intervals in the cap plate D, for the reception of the screws *c*, that engage threaded perforations in the return-bent flange b^2 of the strip or strips C′, and also may go through aligned perforations in the lower part of said strip, as shown in Figs. 3 and 5.

It will be seen that when the cap plate D is firmly secured in place, the joint between the upper leather A and sole B, will be rendered durable and water tight, and that in both forms of attaching the soles and uppers together, the metal shield afforded at the edge of the sole will protect the latter from injury, while the outward extension of the sole beyond the upper leather will greatly protect the upper leather from contact with sharp rocks or fragments of mineral that might cut holes in the same if permitted to abrade its outer surface.

Preferably, there is an inner sole E, introduced and secured within the improved shoe, as represented in Figs. 2 to 5 inclusive, which piece is made of a sufficient thickness to have its top surface about in the same plane with the border flange *b*, or cap plate D, so that these metal parts will not be liable to have pressure against the sides of the feet of the wearer to hurt them.

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

1. A boot or shoe having the edge of its upper turned outward and a metal reinforce applied upon said edge and between it and the sole and a binder, and screws passing through the reinforce and edge of the upper into the sole, as shown and described.

2. In a boot or shoe, the combination with the upper and the outer sole, of a sheet metal insole return-bent at one edge and imposed on the out-turned edge of the upper, and means for securing the edges of the soles and upper together, substantially as described.

3. In a boot or shoe, the combination with the upper and the outer sole, of a sheet metal insole return-bent at one edge and thickened and outturned at said edge and lying upon the out-turned edge of the upper, and means for securing the edges of the soles and upper together, substantially as described.

4. In a boot or shoe, the combination with the outer sole and the upper having its edge out-turned, of a return-bent, sheet-metal piece intervening the edges of the sole and upper, and screws which penetrate the upper, the return-bent, metal piece, and the sole, thereby securing said parts together, as shown and described.

ERNEST A. THURSTON.

Witnesses:
CHAS. C. FAIRCHILD,
C. A. MYER.