

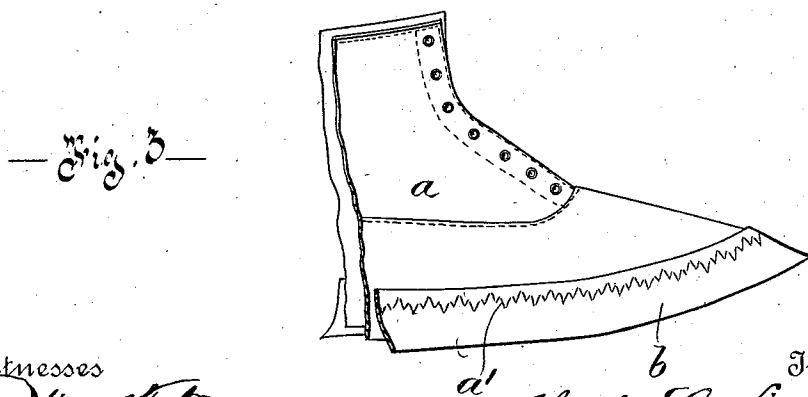
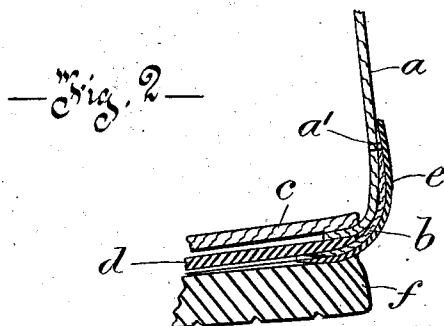
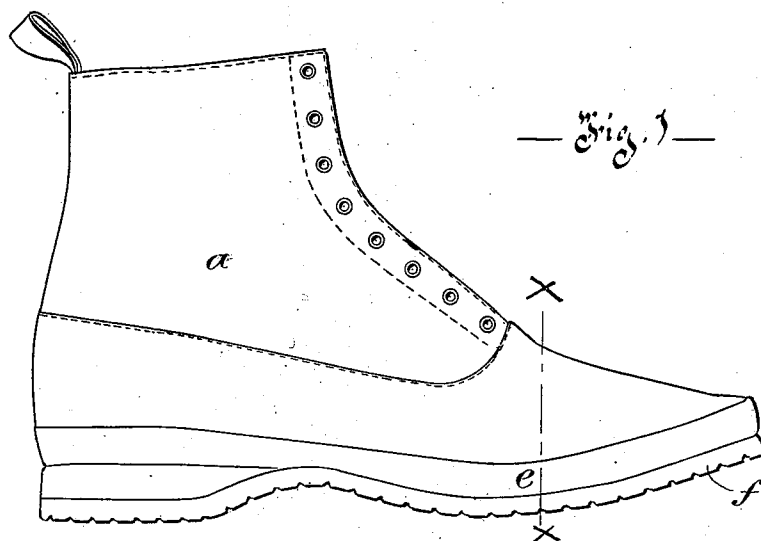
(No Model.)

C. L. HIGGINS.

MANUFACTURE OF RUBBER SOLED FOOTWEAR.

No. 558,279.

Patented Apr. 14, 1896.



Witnesses

*Wm. H. H. H.*

*Rupert Kimber*

Inventor

*Charles L. Higgins*

By his Attorney

*Wm. N. Wau*

# UNITED STATES PATENT OFFICE.

CHARLES L. HIGGINS, OF MONTREAL, CANADA.

## MANUFACTURE OF RUBBER-SOLED FOOTWEAR.

SPECIFICATION forming part of Letters Patent No. 558,279, dated April 14, 1896.

Application filed January 22, 1895. Serial No. 535,838. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES LEANDER HIGGINS, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in the Manufacture of Rubber-Soled Footwear; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to that class of footwear having an upper of leather, felt, or other textile material and a rubber sole portion, the object being to secure a stronger and more permanent connection between the sole and the upper as well as to render same less liable to leakage.

The invention consists in the construction of the boot or shoe substantially as hereinafter described, and particularly pointed out in the claims, and for full comprehension thereof reference must be had to the annexed drawings, forming a part of this specification, in which like symbols indicate corresponding parts, and wherein—

Figure 1 is a side elevation of a complete boot formed with leather upper and rubber sole attached according to my invention. Fig. 2 is a transverse section of same on line *x x*, Fig. 1; Fig. 3, a perspective view of a boot vamp or upper with a strip of frictioned stock frictioned on both sides, required in carrying out my invention, attached.

To the unlasted vamp or upper of any foot-covering, such as a boot or shoe, whether of leather, felt, or other textile fabric (the upper *a* of a leather boot being shown) I attach, preferably by stitching according to the zig-zag fashion shown at *a'* in Fig. 3, a connecting-strip *b*, preferably of what is known to rubber-footwear manufacturers as "frictioned" stock, although any other equivalent textile material capable of effectively retaining stitches might be used, the strip passing completely around the vamp and being sewed only at its upper edge to the vamp at any desirable height or distance from the lower edge thereof, but otherwise free from same. After the strip has been attached the upper is lasted and its lower edge secured to the leather or other insole *c* in the ordinary way, the strip of frictioned stock remaining free and untouched. Following the lasting together of

the upper and insole of the boot I cover with cement the outside surface of the insole and the portions of the upper attached thereto, taking the precaution, if necessary, to roughen to some extent the portions of the upper receiving the cement in order to insure its better adherence, and it is also well to even up any hollows by scrap-filling, strips, &c. After the necessary surface is well covered with cement, as mentioned, I apply a rubber insole *d* and last the lower edge of the strip *b* to such rubber insole with cement. I then apply (securing it by cement) an outer covering or finishing strip *e*, the upper edge of which is practically flush with or slightly above that of the connecting-strip *b*, while the lower edge extends inward somewhat beyond the edge of the sole.

Thus far it will be seen that the rubber insole and strip of the frictioned stock go to form what I term an "intermediate" waterproof retaining section or layer, to which the thick outer rubber sole *f* and heel *g* can be securely affixed with a much greater certainty of adhering than if attached directly to the leather insole, since the rubber insole being overlapped by the frictioned stock and this latter stitched to the upper it is practically impossible for such rubber insole to become disconnected from the upper, even should it fail to adhere to the leather insole, and consequently the permanent connection of the outer rubber sole is insured.

The outer sole and heel are secured in the usual way by cementing under pressure, the rubber portion of the article varnished, and the complete boot finally placed in the usual vulcanizer to vulcanize the rubber portions.

I am aware that it is not usual to vulcanize rubber with leather attached, and do not now claim, broadly, what I consider to be the joint invention of myself and Joseph John Westgate relative to the simultaneous treatment of rubber and leather in a vulcanizer, and which is fully described and claimed in another application, filed December 2, 1895, and numbered serially 570,832.

I might also point out that the outer finishing-strip *e*, while serving to cover up the stitching *a'* and so improve the appearance of the article as well as to protect such stitching, also acts, in conjunction with the intermedi-

ate rubber-retaining section, to prevent any possibility of leakage, a fault not uncommon in all forms of footwear.

What I claim is as follows:

5 1. A boot or shoe having a connecting-strip of frictioned stock secured to the outer surface of the vamp or upper thereof, an insole proper to which such upper is lasted, a second insole of rubber secured to the insole  
10 proper, and said connecting-strip lasted to said second insole, an outer finishing-strip applied over the connecting-strip, and the rubber outsole secured to both the rubber insole and the connecting-strip, for the purpose set  
15 forth.

2. A boot or shoe having a connecting-strip of frictioned stock stitched to the outer surface of the vamp or upper thereof, an insole proper to which such upper is lasted, a sec-

ond insole of rubber secured to the insole 20 proper, and said connecting-strip lasted to said second insole, an outer finishing-strip applied over the connecting-strip, and the rubber outsole secured to both the rubber insole and the connecting-strip for the purpose set 25 forth.

3. A boot or shoe having the usual leather or textile upper or vamp and insole, a rubber outsole, an intermediate waterproof retaining-section comprising a rubber insole and 30 strip of frictioned stock stitched to the vamp, and an outer finishing-strip covering up the connecting-strip, for the purpose set forth.

Montreal, 14th day of January, 1895.

CHARLES L. HIGGINS.

In presence of—

FRED. J. SEARS,  
RUPT C. MIMLER.