(No Model.)

I. F. WILLIAMS.

RUBBER BOOT.

No. 296,264. Patented Apr. 1, 1884.

Fig. 1.

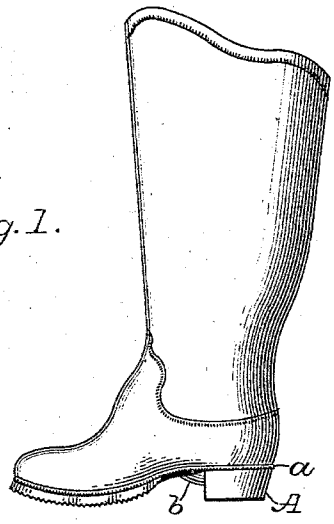


Fig. 2.

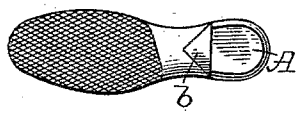


Fig. 3.

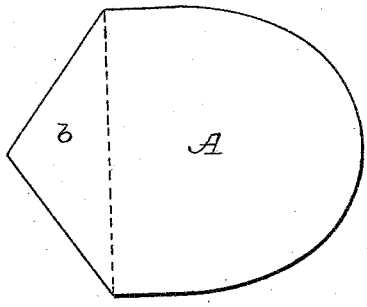


Fig. 4.

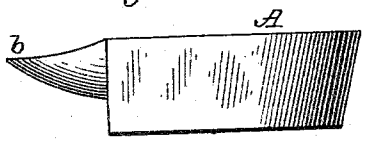
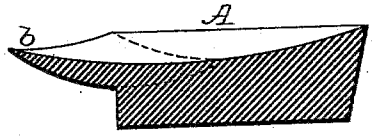


Fig. 5.



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UNITED STATES PATENT OFFICE.

ISAAC F. WILLIAMS, OF BRISTOL, RHODE ISLAND.

RUBBER BOOT.

SPECIFICATION forming part of Letters Patent No. 296,264, dated April 1, 1884.

Application filed April 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, ISAAC F. WILLIAMS, of Bristol, in the county of Bristol and State of Rhode Island, have invented certain new and useful Improvements in Rubber Boots; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

My said improvements pertain to that class of rubber boots which have solid heels, in contradistinction to that other class of goods which have internally-recessed heels for accommodating the heels of a leather shoe worn next the foot and inside a rubber overboot. It is well known that solid heels as heretofore ordinarily applied to rubber boots are extremely liable, in hard or continuous usage, to become loosened or detached across their front upper edge, at their front junction with the main sole of the boot, because in walking the rigidity of the solid heel and the flexibility of the sole obviously result in a straining or parting tendency between the sole and heel at the point mentioned.

The object of my invention is to durably unite a solid heel to the sole of a rubber boot; and I accomplish this end by providing a solid rubber boot-heel with a front lip, more or less flexible and projecting forward from the front vertical line or face of the heel, for affording not only a greater area of adhesive contact with the boot-sole than would be afforded by an ordinary heel of the same size or area of tread, but also for affording a flexible union of the sole with the heel, so that when the boot-sole bends in front of the front line of the heel-tread a portion of said heel—*i. e.*, its projecting lip—can more or less freely bend with the sole, thus practically obviating all liability of detachment of the heel from the boot.

To more particularly describe my invention, I will refer to the accompanying drawings, in which Figure 1 is a side view of a rubber boot embodying my invention. Fig. 2 is a bottom view of said boot. Figs. 3 to 5, inclusive, are respectively a top view, a side view, and a longitudinal section, of the boot-heel detached.

The main portion A of the boot-heel has the usual concave top for close adhesive contact with the main boot-sole *a*, as heretofore. The front lip, *b*, is the novel feature, and it is shown to be integrally formed with the heel, the whole being molded under great pressure, as is common with rubber boot heels. The dimensions of said lip, as well as its form, may be largely varied without departure from my invention. I prefer it to be substantially triangular in its outline, as shown in Fig. 3 in front of the dotted line indicating the front face of the heel. As will be seen in Figs. 1 and 4, said lip in no manner detracts from the symmetry of the main portion of the heel, the main vertical outlines thereof being substantially as heretofore, although the central portion of the lip *b* occupies vertically about one-half the height of the front face of the heel. In its best form the lip should be integral with the heel and molded solidly therewith, as shown; but in view of the possibility of obtaining by vulcanization a good union of a separately-formed lip with the heel and the sole of a boot, I am well aware that approximately good results will be obtained if the lip be separately formed and applied with the heel to the boot-sole. In such case the lip would have the same external front contour as is shown in the drawings; but its rear end would be formed as indicated by dotted lines in Fig. 5, the main portion of the heel being recessed on top, as also indicated by said dotted lines, for the reception of said lip, and its union therewith by vulcanization at the time of vulcanizing the finished boot. When thus separately constructed and applied, it will be seen that the lip will serve as a flexible "break-joint" element interposed between the front face of the heel and the boot-sole, and to that extent it will materially serve to prevent the rupture or separation of the heel from the boot, although I deem the integral lip most desirable in all cases.

The rear end of the outer or tread sole of the boot may be variously located and arranged with reference to the lip of the heel. As shown in Fig. 2, said tread-sole has its angular rear edge wholly in front of the lip; but said tread-sole may be advantageously extended centrally rearward, so as to merge with the front end of the lip; or said sole may be ex-

tended centrally to and in contact with the straight front face of the heel, so as to overlie the lip thereof, and in this latter case said tread-sole extension obviously contributes largely to the reliable union of the heel to the boot.

I am of course aware that in leather goods what are known as "French heels" have heretofore been circular in their tread outline, and that such have therefore had convex fronts, and also that in some cases a leather sole has been extended downward to serve as the front face of a forwardly-extended heel, and also that such extended sole at its end has been incorporated into the heel itself as one of the lifts thereof; but so far as my knowledge extends I am the first to provide in any manner for a front extension of a solid rubber boot-heel, as described, for affording a reliable union of such a heel with the sole of a rubber boot.

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

1. The combination, with a rubber boot, of a molded rubber heel having a forwardly-projecting lip for affording a reliable union of said heel with the main sole of the boot, substantially as described.

2. The molded rubber boot heel provided with the integral forwardly-projecting lip, substantially as described, whereby an extended area of adhesive contact with the sole of a rubber boot is afforded, and also whereby the front portion of the heel can be durably united to said sole, as set forth.

ISAAC F. WILLIAMS.

Witnesses:
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