(No Model.)

F. D. HAYWARD.

RUBBER HEEL FOR BOOTS OR SHOES.

No. 263,781. Patented Sept. 5, 1882.

Fig. 1.

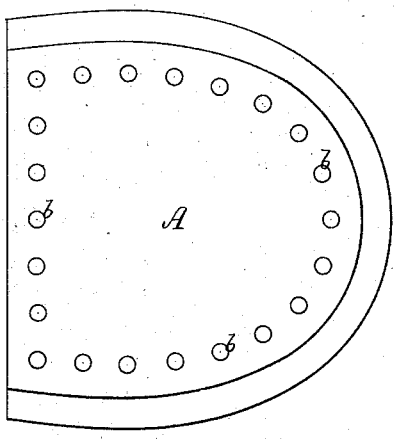


Fig. 2.

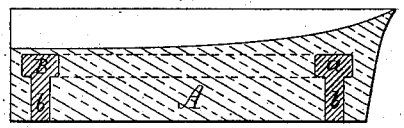
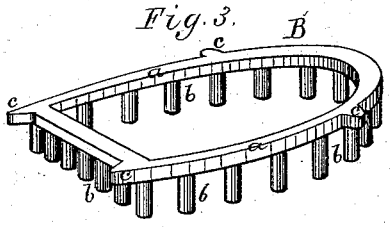


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRANCIS D. HAYWARD, OF MALDEN, MASSACHUSETTS.

RUBBER HEEL FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 263,781, dated September 5, 1882.

Application filed July 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS D. HAYWARD, of Malden, in the county of Middlesex, of the State of Massachusetts, have invented a new and useful Improvement in Vulcanized Rubber Boot or Shoe Heels; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a bottom view, and Fig. 2 a vertical section, of a heel provided with my invention, the nature of which is defined in the claims hereinafter presented. Fig. 3 is a perspective view of the metallic re-enforce of the rubber or elastic body of the heel.

In carrying out my invention I combine with the vulcanized rubber body of the heel a metallic re-enforce composed of an annulus or ring, or a portion of such, and a series of teeth or studs projecting down from it.

In the drawings, A denotes the rubber body of the heel, while B is the metallic re-enforce, arranged therein in manner as shown, the said re-enforce consisting of the U-shaped ring *a* and its series of teeth or studs *b*, extending down from it. This ring I provide with projections *c*, extending from it, in order to centralize it in the mold used for molding the heel-body upon it, such projections, when the re-enforce is in place in the matrix of the mold, being in contact, or about so, with the sides thereof. Having placed the re-enforce in the mold, I force into such mold, so as to thoroughly cover the re-enforce, except at the extreme ends of its studs *b*, the vulcanizable composition or material to constitute the elastic body of the heel, after which I submit the mold to heat sufficient to "vulcanize" the said material.

The studs, besides giving to the heel the appearance of being nailed, will protect its bottom from wear, they being held in place by their ring, or the part from which they may project.

A vulcanized rubber heel so re-enforced is not only stronger and more durable than it would be without the re-enforce, but is less liable to slip on either dry or wet ice, the spurs, owing to the elasticity of the rubber, operating to prevent such slipping.

The re-enforce may consist of a rubber plate or a ring or a strip of rubber suitably bent and provided with a series of studs extending from it.

I do not claim a re-enforce made with a lip to extend down from it and around it to the level with the bottom of the heel.

What I claim as my invention is as follows, viz:

1. The metallic re-enforce consisting of the annulus B, having downwardly-projecting studs *b*, and the outwardly-centralizing projections *c*, all substantially as shown and described.

2. A rubber heel provided with the annular re-enforce B, provided with the projections *b c*, all substantially as shown and described.

FRANCIS D. HAYWARD.

Witnesses:
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