

(No Model.)

E. F. AYRES.
RUBBER BOOT OR SHOE.

No. 418,105.

Patented Dec. 24, 1889.

Fig 1

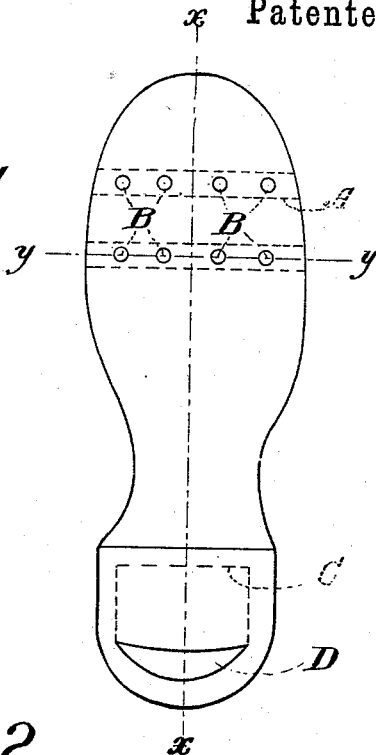


Fig 2

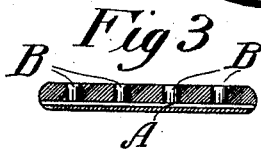
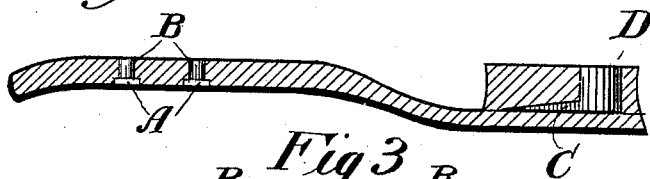


Fig 4

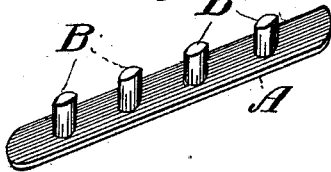
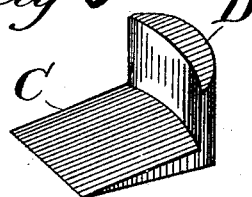


Fig 5



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD F. AYRES, OF DANBURY, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO TIMOTHY H. FOSTER, OF SAME PLACE.

RUBBER BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 418,105, dated December 24, 1889.

Application filed April 29, 1889. Serial No. 308,918. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. AYRES, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Rubber Boots or Shoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to the manufacture of rubber boots or shoes, and has for its object to protect or re-enforce the wearing-points of the sole and heel, with the end in view to afford a rubber boot or shoe which shall be exceedingly durable.

With these ends in view my invention consists in the details of construction and combination of elements, such as will be hereinafter fully set forth, and then specifically designated by the claim.

In order that those skilled in the art to which my invention appertains may fully understand the same, I will proceed to describe its construction and operation, referring by letter to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a bottom view of a sole and heel provided with my invention; Fig. 2, a section at the line *xx* of Fig. 1; Fig. 3, a section at the line *yy* of Fig. 1; and Figs. 4 and 5, detail perspectives of my sole and heel protectors, respectively.

Similar letters denote like parts in the several figures.

My sole-protector consists of a strip of metal A, approximately of the width of the shoe and from which project studs B. When the sole is molded, said strip is embedded within the rubber, so that the studs come about flush with the face of the sole. Of course rubber soles are secured to a shoe in a variety of ways, none of which have any bearing on my

invention, and I therefore do not wish to be circumscribed by any particular manner in which I apply my improvement within a shoe-sole. For instance, rubber soles are often sewed or tacked to a leather sole, in which case I would place the strip between the two soles and allow the studs to project through suitable perforations in the rubber sole; also, in case the sole is cemented to the upper of a shoe, I place the strip between the upper and the sole and allow the studs to project through the latter. I prefer to make the strip of a stout flexible material—as steel—the studs being set therein by riveting; but I contemplate also casting the strip and studs from malleable iron.

The heel-protector consists of a plate C, having projecting therefrom a single stud D of any desired shape. This plate and stud are applied within the heel in the same manner as that above described with respect to the application of the strip within the sole, and I do not wish to be limited to a single stud in this connection, since two, three, or more may be used, the gist of my invention resting in the broad idea of one or more studs projecting to the wearing-surface from an interiorly-confined plate.

I claim—

In a boot or shoe, the bottom having a transverse strip of metal embedded therein at the ball, said strip being provided with a series of studs projecting to a point substantially flush with the base of the bottom, and with the plate C embedded in the heel and having the crescent-shaped stud projecting therefrom in the manner set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD F. AYRES.

Witnesses:

THOMAS G. BARNUM,
F. W. SMITH, Jr.