J. G. DOUGHTY & J. R. SANFORD.

ANTISLIPPING SHOE SOLE.

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911,479. Patented Feb. 2, 1909.

Fig. 1.

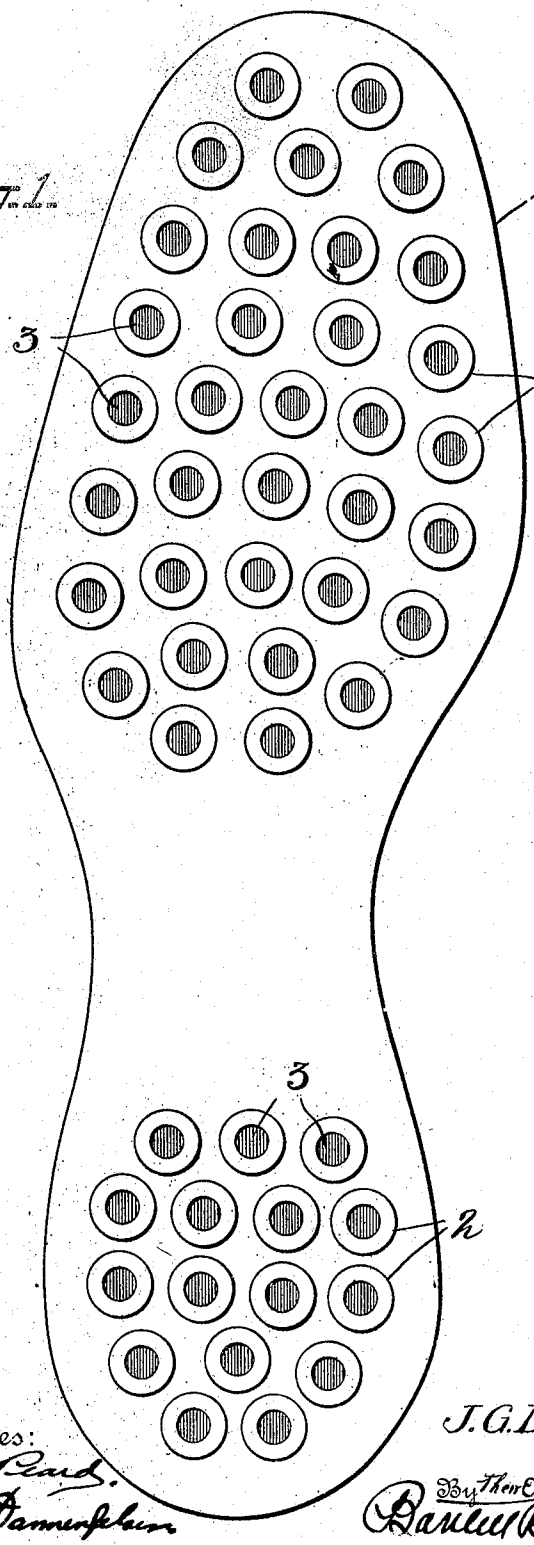


Fig. 2.

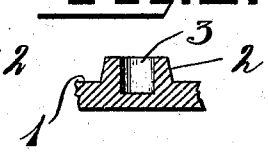


Fig. 3.

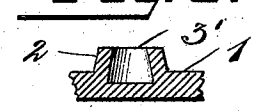
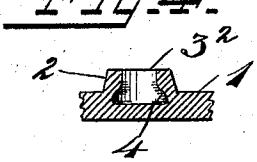


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ANTISLIPPING SHOE-SOLE.

No. 911,479. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed June 2, 1908. Serial No. 436,276.

To all whom it may concern:

Be it known that we, JOHN G. DOUGHTY and JOSEPH R. SANFORD, citizens of the United States, residing at Winsted, Litchfield county, Connecticut, have invented certain new and useful Improvements in Anti-Slipping Shoe-Soles, of which the following is a full, clear, and exact description.

Our invention relates to improvements in anti-slipping treads for shoe soles.

The object thereof is to provide a sole tread with suction holding means which will afford a firm grip upon the ground, and particularly to provide a construction in which the suction function will remain after a very considerable wear of the sole.

A further object is to provide for the automatic expulsion of foreign matter from the suction sockets of the tread.

A preferred form of our invention is illustrated in the accompanying drawings, in which,

Figure 1 is a plan view of the sole tread illustrating our invention. Fig. 2 is a sectional detail of one of the suction sockets. Figs. 3 and 4 are sectional detail views showing modifications of the form of suction socket.

In the embodiment of our invention here selected for illustration, the sole tread consists of a body portion 1 of resilient material, preferably rubber, provided upon its sole and heel portions with a plurality of anti-slipping projections 2. These projections are socketed at 3 to provide the required suction hold upon the ground

Referring more particularly to Fig. 2, the socket may be formed with straight walls at right angles to the tread surface, or as in Fig. 3, the socket $3'$ may be formed in the shape of a truncated cone, or, as a further modification, the socket 3^2 may be formed with an enlargement 4 at the base.

In all forms of the sockets it will be noticed that the same extend well within the body portion 1 of the sole, this construction being particularly advantageous for the reason that when some or all of the projections are worn away in use, there will still remain in the sole tread a considerable socket area for performing the suction function. Furthermore, the extension of the sockets into the sole body adds materially to the resilient feature of the socket projections 2, whereby easy tread is attained.

By reason of the compressibility of the material of which the sole is constructed, any foreign matter which enters the sockets when the sole is in use, will be considerably compressed by the collapse of the walls of the socket under the weight of the wearer, which walls, in springing back to their normal position on cessation of pressure, will be more or less freed from the mass of foreign matter. At the same time, the bases of the sockets which will have become more or less compressed by the presence of the foreign matter under pressure, in springing back to their normal positions will coact with the releasing effect of the walls to eject said material from the sockets.

While several forms of socket projections and sockets have herein been illustrated, it is obvious that the same may be varied without departing from the spirit and scope of our invention.

What we claim is:

1. A sole tread consisting of resilient material having formed thereon a plurality of relatively small anti-slipping tubular projections, each projection having a bore extending therethrough and into the body of the sole, the cross-sectional area of each bore beyond the base of its respective projection being as great as the cross-sectional area of the bore in the body of the projection.

2. A sole tread consisting of resilient material having formed thereon a plurality of relatively small anti-slipping tubular projections, each projection having a bore extending therethrough and into the body of the sole, the cross-sectional area of each bore beyond the base of its respective projection being greater than the cross-sectional area of the bore in the body of the projection.

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