Feb. 15, 1938. L. H. L'HOLLIER 2,108,439

SPIKED SHOE

Filed Dec. 10, 1936

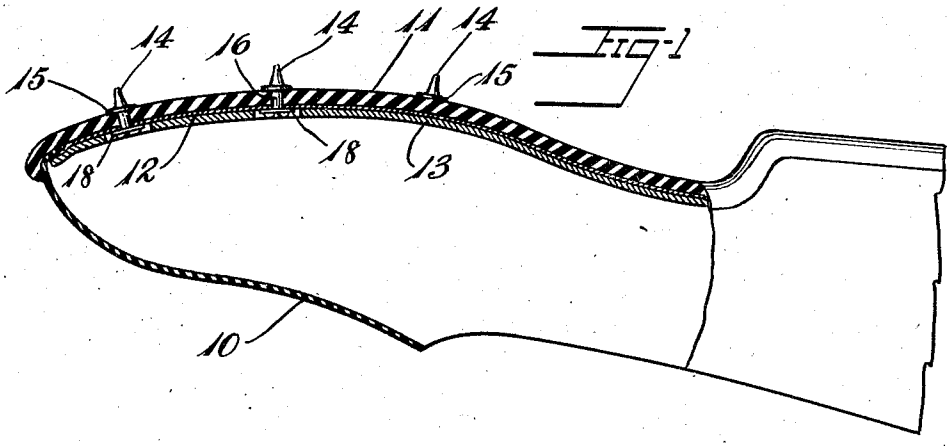


Fig-1

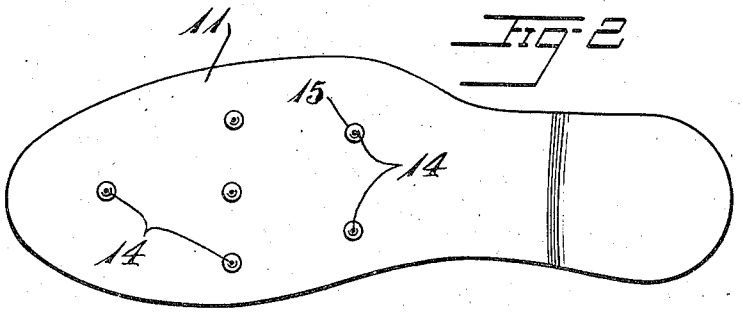


Fig-2

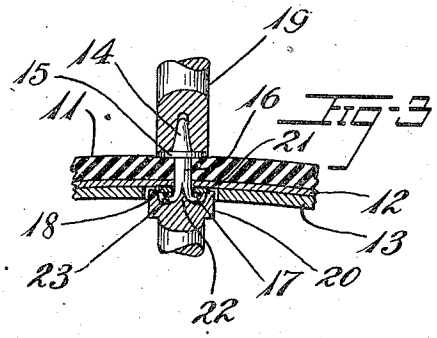


Fig-3

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SPIKED SHOE

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Application December 10, 1936, Serial No. 115,201

1 Claim. (Cl. 36—7.6)

This invention relates to spiked shoes, especially spiked rubber shoes or overshoes, such as are used in the playing of athletic games.

Heretofore the spikes used with rubber shoes have usually been riveted to the rubber sole of the shoe by clinching over the inner end of the spike. With that type of construction pressure on the spikes parallel to the sole of the shoe has caused the spike to be tipped about the edge of the flange on the spike, exerting a powerful leverage upon the clinched end of the spike and causing the spike to be loosened and even withdrawn from the sole. Loosening of the spikes or withdrawing of them from the sole not only results in loss of traction and discomfort to the wearer but also the openings left by the tearing away of the spikes permit moisture to enter the shoe.

The principal objects of the present invention are to provide security of attachment without excessive stiffening of the sole of the shoe; to provide comfort to the wearer and to eliminate ingress of moisture.

Other objects will appear from the following specification and the accompanying drawing.

Of the drawing:

Fig. 1 is a side elevation of a spiked shoe embodying the invention in its preferred form, parts being shown in section.

Fig. 2 is a bottom view of the sole of the shoe.

Fig. 3 is a vertical section showing the manner of applying the spike according to the invention.

Referring to the drawing:

The shoe, which may be an overshoe designed to be worn over a leather shoe or a shoe to be worn directly upon the foot, comprises, for example, an upper 10, of rubber, which may be provided with a lining if desired, and a rubber sole 11 attached thereto. A reinforcing layer or layers of fabric or other reinforcing material 12 may be incorporated in the sole, preferably in its inner face, and an insole 13 is also cemented or vulcanized in place in the shoe.

Spikes 14 are each provided with a flange 15 which engages the tread face of the sole and a shank 16 which extends through the sole 11 and fabric reinforcement 12 and has its inner end bifurcated to provide clinch members 17.

In order to prevent tearing of the spikes from the sole and also to securely seal the margins of the sole around the spike against the flange 15, I provide a washer 18 for each spike, the washer being of such size as to clamp a substantial area around the shank of the spike when drawn against the inner face of the sole by riveting of the shank and the spike, and having an aperture of sufficient size to freely admit the shank when such shank is in its unclamped condition. In inserting the spikes in the sole of the shoe use may be made of a rivet setting member such as that shown at 19 in Fig. 3, and a co-operating anvil 20, said anvil having a recess 21 in its face for receiving one of the washers 18 and also having a conical projection 22 at the center of said recess surrounded by a groove 23 which cooperates to turn and clinch the prongs of the spike. The rubber material of the sole, being resilient, aids in maintaining the clamping pressure.

In order that the clinched ends of the spikes will be depressed below the inner surface of the sole and thereby provide comfort to the wearer without objectionable contact of the wearer's foot with the clinched ends of the spikes, the inner sole 13 is formed with apertures of such size as to clear the washers 18 and is made of such thickness as to exceed the projection of the clinched prongs of the spike above the sole. While an auxiliary insole may be provided, if desired, this is not essential for comfort, owing to the fact that the apertures in the insole need not be so large as to cause discomfort.

The metal washer securely attaches the spike to the sole of the shoe without such stiffening of the sole as would occur were a reinforcing plate of substantially the area of the sole used as a fastening means, so that the shoe provided with the spikes is substantially as flexible as a rubber shoe not so provided.

I claim:

An article of footwear comprising a thin flexible rubber sole, apertures therethrough for receiving spikes, a plurality of metal spikes each having a bifurcated shank end adapted to be deformed within the shoe for clinching, and an integral flange for engaging the tread side of the sole, a layer of flexible non-metallic but substantially inextensible material adhered to the inside face of the sole around the apertures to prevent spreading of the material at the apertures, a washer about each shank at the inextensible layer, said washer, inextensible layer and sole being held clamped against said flange by the clinched end of the shank, and an insole at least substantially equal in thickness to the washers and the clinched ends of the shanks so as to present a substantially flush insole surface, said insole being adhered to the sole within the shoe, and clearance openings to receive the washers.

LESLIE H. L'HOLLIER.