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J. R. BERNSTEIN
GOLF SPIKE ASSEMBLY

2,689,417

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FIG. 1.

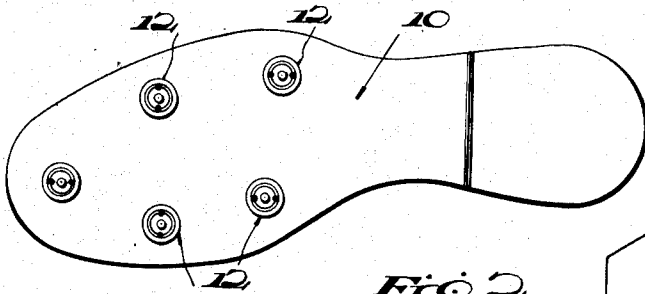


FIG. 2.

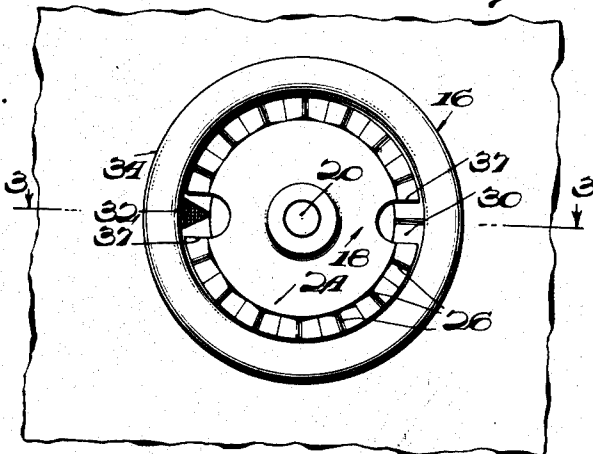


FIG. 3.

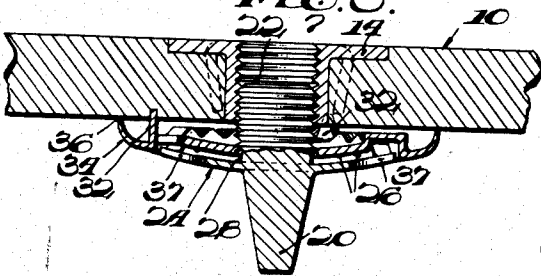


FIG. 4.

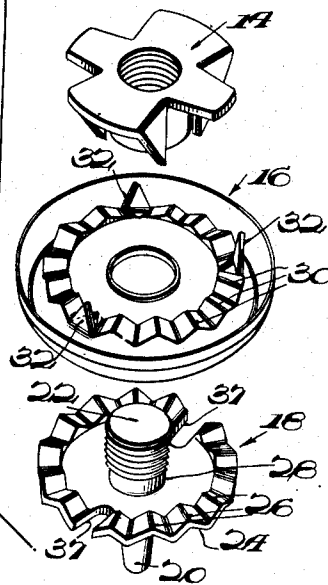
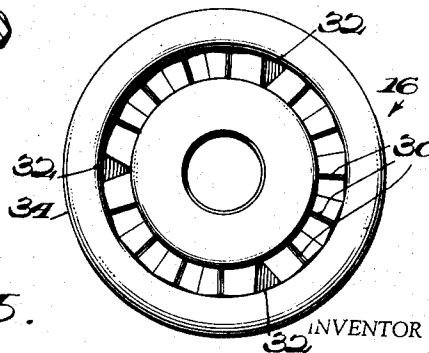


FIG. 5.



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GOLF SPIKE ASSEMBLY

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1 Claim. (Cl. 36—59)

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This invention relates to spike assemblies for athletic shoes and has particular reference to improvements in the type wherein an anchor member is embedded in the sole of the shoe, the anchor member being internally threaded for reception of a spike assembly.

One of the greatest difficulties in this type of shoe spike heretofore has been the tendency for the spike to loosen in its anchor. Such loosening may be caused by constant impact of the spike with the ground or supporting surface during use. The loosening effect is emphasized where the shoe sole is resting on the ground and is given a pivotal movement by the wearer. This pivotal or turning movement of the sole of the shoe on the ground, with the spikes embedded therein, is constantly repeated in the case of golf shoes. Each time a golfer assumes his stance for the purpose of addressing the ball, and subsequently takes a stroke, the spike which during those periods is engaged in the ground is subject to constant twisting stresses caused by rotation relative to the ground due to the pivoting movement of the player during the stroke.

For the above reasons this invention is adapted particularly for use in conjunction with spikes for golf shoes and its object is to eliminate the heretofore described loosening of the spike as a result of the forces to which it is subjected constantly during use.

A further object of the invention is to attain the above primary objective utilizing a minimum number of rugged parts in assembly, all of which are inexpensive to manufacture and easy to assemble, ship, and install.

Still another object of the invention is to so construct and interrelate each of the parts which are designed in accordance with the major concept expressed herein that each is adapted to low cost production on standard machines available for various other purposes.

Various other objects and meritorious features of the invention will become apparent from the following description taken in conjunction with the drawings, wherein like numerals refer to like parts throughout the several figures, and wherein:

Fig. 1 is a bottom plan view of a shoe sole equipped with my improved spikes.

Fig. 2 is an enlarged bottom plan view of a single spike assembly positioned in the shoe sole;

Fig. 3 is a section through 3—3 of Fig. 2;

Fig. 4 is an exploded view of the component elements making up the composite spike assembly, and

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Fig. 5 is a plan view of the outer face of my improved washer element.

Referring now to Fig. 1 of the drawings, the numeral 10 designates a shoe sole in which a plurality of my improved spike assemblies broadly designated by the numeral 12 are inserted. The assembly is composite in nature and is comprised of an internally threaded anchor 14, a washer 16, and a spike member broadly indicated by the numeral 18. As will be apparent from Fig. 3 of the drawings, the anchor 14 is embedded in sole 10 of the shoe for reception of the remainder of the assembly now to be described.

The spike member broadly designated by numeral 18 comprises a spike portion 20 at one end and a threaded shank 22 at the other for reception into the internally threaded anchor 14. Interposed between the spike and the threaded shank is a flange 24 which is concavo-convex and which is provided with a series of corrugations or indentations 26 extending around its outer margin or periphery. Between the threads on the shank 22 and the adjacent surface of flange 24 is an unthreaded portion 28 forming in substance a groove around the shank.

The washer broadly designated by numeral 16 is generally concavo-convex corresponding to flange 24 and the radius of curvature is substantially the same. Near the outer periphery of the washer a series of corrugations or indentations 30 extends circumferentially therearound, the corrugations 30 being radially spaced from the center of the washer a distance corresponding to the radial distance which corrugations 26 are removed from the center of the spike shank. Thus, when the spike flange 18 and washer 16 are in superimposed position the corrugations 26 register with corrugations 30 for a purpose to be more clearly brought out hereafter.

At circumferentially spaced points along corrugations 30 prongs 32 are struck up from the metal. The extreme outer periphery of washer 16 is crowned as indicated at 34, the outer margin of this crown portion lying in a plane which is spaced outwardly beyond the plane of corrugations 30 and forming a marginal rim or lip designated by the numeral 36 which serves a purpose to be hereafter brought out.

The functions of the various structural features heretofore emphasized in connection with each of the component elements forming the assembly will be clear from examination of Fig. 3 of the drawings. The washer 16 is interposed between the flange 24 of spike member 18 and

the sole of the shoe as the shank 22 is threaded into the anchor 14. Openings 37 may be provided in the margin of flange 24 for reception of a spanner wrench or other tightening tool which may be used to thread the assembly into the anchor. As the spike member and its flange move in toward the sole of the shoe the pressure exerted on washer 16 will force the prongs 32 into the material of the sole of the shoe, as clearly shown in Fig. 3. After prongs 32 become so embedded in the sole material, further rotation is precluded insofar as the washer 16 is concerned. However, as the spike member is further rotated corrugations 26 which are in registry with corrugations 30 will continue to move over the latter, which are stationary, in ratchet-like fashion.

Due to the concavo-convex nature of washer 16 and the fact that its diameter is substantially greater than the similarly concavo-convex flange 24 of the spike member, the washer 16 will tend to flatten on continued rotation of the spike member and the rim or lip 36 of the crown portion 34 of washer 16 will engage the sole of the shoe tightly, digging into the same to some extent and forming a seal against the ingress of moisture, etc.

At whatever point rotation of the spike member is terminated, which will ordinarily be when the assembly seems to be suitably tightened in the shoe sole, the ratchet-like nature of the connection between the washer and the spike flange will preclude counterrotation of the flange due to the stresses emphasized earlier in this description. Since counterrotation or loosening movement of the spike element and its flange 24 is prevented by this ratchet engagement, the remainder of the assembly will continue in tight engagement with the anchor and the sole of the shoe. Rotation of the washer in any direction is, of course, precluded by the fact that prongs 32 of the washer 16 are embedded in the material of the shoe sole.

In preparing the assembly for shipment the

washer may be slipped over the shank of the spike member to a position adjacent flange 24. Groove 28 which receives the central opening in the washer will retain it in place during shipment.

While I have described a preferred embodiment of the invention, it will be apparent that various modifications within the scope of the inventive concept disclosed may be apparent to those skilled in the art and for that reason I wish to limit myself only within the scope of the appended claim.

What I claim is:

A golf spike assembly comprising an internally threaded anchor member, a spike member including a threaded shank at one end and a concavo-convex flange at the base of the spike, the extreme outer margin of said flange being corrugated, and a concavo-convex washer provided with corrugations adapted to register with those in said spike flange when the two are in superposed position to provide an interlock for fine increments of rotative tightening movement, said washer including a crown portion extending around its corrugations the outer rim of which lies in a plane beyond the plane of said corrugations for engaging the sole material of a shoe to provide a tight weatherproof seal, spaced portions of said corrugated section of said washer being struck from the plane of the corrugations to form prongs adapted for engaging the sole material of a shoe, said prongs extending substantially normal to the plane of the outer rim of the washer and beyond the same for engaging the sole material of a shoe, said spike flange covering the openings resulting from the formation of the prongs to preserve the weatherproof integrity of the seal.

References Cited in the file of this patent

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