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3,494,055

NON-SLIP SHOE

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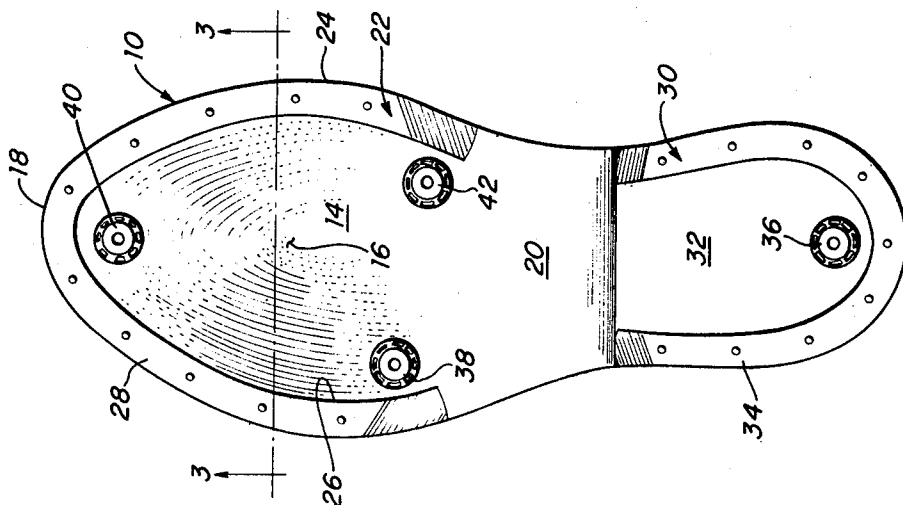


FIG. 2.

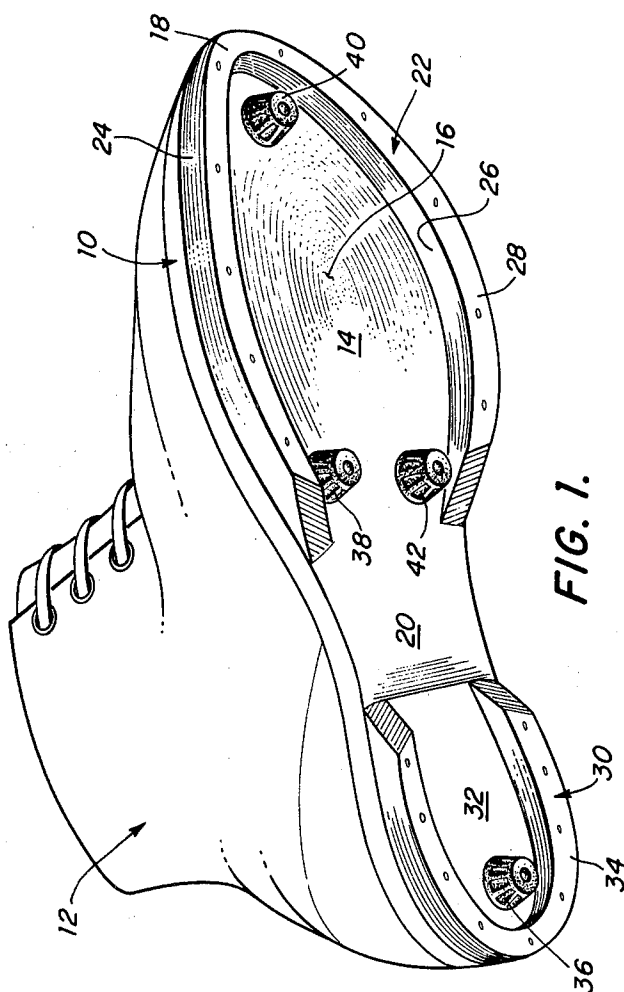


FIG. 1.

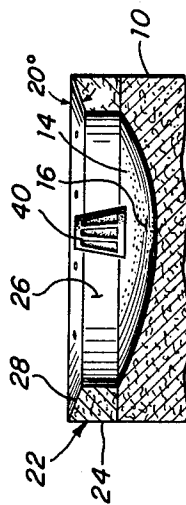


FIG. 3.

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3,494,055

NON-SLIP SHOE

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10 Claims

ABSTRACT OF THE DISCLOSURE

A non-slip shoe is disclosed including an outer sole having a large recess with a hard narrow cleat extending about the periphery of the recess at the edge of the sole.

BACKGROUND OF INVENTION

This invention relates to non-slip shoes.

Conventional footwear for use on muddy ground such as that worn by athletes in football and soccer games to enhance their stability on muddy fields often use a plurality of conventional, generally conical-shaped cleats, somewhat longer than the cleats used on dry fields.

The extra length of these cleats is designed to reach the firmer, less sloppy turf below the surface mud, as well as to gain more stability by interacting with more mud. Of course on fields where the mud is deeper than the cleats can reach these cleats have less value. Also, because these cleats are quite long they tend to retard the players' ability to start, stop and turn quickly and abruptly. Further, it is suspected that the added length of such cleats increases the chance of injury to the players, particularly knee injuries, because the longer cleats prevent the lower leg from turning with the upper leg when the player is blocked or tackled.

The conventional array of cleats on the sole of an athletic shoe does not discourage the accumulation of mud between the cleats. And as mud accumulates the effective length of the cleats is shortened.

SUMMARY OF INVENTION

It is therefore a primary object of this invention to provide a non-slip shoe which prevents slipping or sliding and increases the capability of the wearer to start, stop and turn quickly and abruptly on muddy ground.

It is a further object of this invention to provide such a shoe in which the restraint of the muddy ground on the shoe, thus also the wearer's foot and leg, is lessened.

It is a further object of this invention to provide such a shoe which discourages the accumulation of mud on the bottom of the shoe.

It is a further object of this invention to provide such a shoe which is simple and inexpensive to make.

The invention may be accomplished by a non-slip shoe including an outer sole member having a concave recess occupying a major portion of the sole member, and a hard narrow cleat extending about the periphery of the recess along the edge of the sole.

DISCLOSURE OF PREFERRED EMBODIMENT

Other objects, features and advantages will occur from the following description of a preferred embodiment and the accompanying drawings, in which:

FIG. 1 is a perspective view of a non-slip shoe according to this invention;

FIG. 2 is a bottom plan view of the non-slip shoe of FIG. 1;

FIG. 3 is a sectional view of the sole portion of the shoe taken along line 3—3 of FIG. 2.

One embodiment of the invention includes an outer sole 10 attached to a conventional upper portion 12, FIG. 1. A recess 14 approximately $\frac{7}{16}$ of an inch deep at the

center 16 covers most of the sole 10 from the toe 18 to the arch 20 of the shoe. A hard narrow cleat 22 extends around the periphery of recess 14 at the edge of sole 10. The outer wall 24 of cleat 22, FIG. 2, provides a substantial area which impedes the progress of the shoe through the mud when cleat 22 is partially or wholly submerged in the mud.

Outer wall 24 is higher than inner wall 26 of cleat 22, so that the bearing surface 28 of cleat 22 is inclined inwardly and upwardly at an angle of twenty degrees (20°) to the plane of sole 10, FIG. 3. This inclination or bevel facilitates the ability of cleat 22 to dig into the ground and also enables it to be withdrawn from the muddy ground with minimum suction being formed, as may occur if the bearing surface were horizontal, i.e. parallel to the plane of the sole 10.

A second hard narrow cleat 30 may be mounted about the edge of the heel 32. The bearing surface 34 of cleat 30 may have a 20° bevel similar to that of bearing surface 28 of cleat 22.

Cleats 22 and 30 are preferably a hard, tough leather material which is not soft or resilient and will not spread substantially when the weight of the wearer is applied to it.

Recess 14 preferably has a finish or coating which is smooth and slippery to prevent adherence of mud and dirt to the recess surface. In addition the concave or cup shape of recess 14 causes a cushion of air to be trapped in recess 14 between the mud and the surface of the recess each time the shoe is pushed into the mud. This air pocket inhibits the mud from contacting the recess surface and thereby enhances the ability of the shoe of this invention to prevent clogging and balling of mud in the recess.

The recess 14 gently shallows at the arch, where the shoe is most flexible and the danger of mud clogging is consequently least problematical, so that the air pocket formed between the mud and recess 14 is not isolated but may be vented to the atmosphere by the normal bending of the shoe thereby minimizing any vacuum that may form and hold the mud in the recess as the shoe is lifted from the mud.

Conventional generally conical-shaped cleats 36, 38, 40, and 42 may be added to the shoe of this invention to increase the capability of the shoe to perform in various consistencies of muddy ground.

What is claimed is:

1. A non-slip shoe for preventing sliding on muddy ground comprising:

an outer sole member having a concave recess occupying a major portion of said sole member; and
a hard, narrow cleat extending about the periphery of said recess along the edge of said sole.

2. The shoe of claim 1 in which the outer wall of said cleat is higher than its inner wall and its bearing surface is inclined upwardly inwardly from said outer wall to said inner wall.

3. The shoe of claim 2 in which said bearing surface is inclined approximately twenty degrees to the plane of said outer sole.

4. The shoe of claim 1 further including a second hard, narrow cleat extending about the periphery of the heel portion of said shoe.

5. The shoe of claim 4 in which the outer wall of said second cleat is higher than its inner wall and its bearing surface is inclined upwardly inwardly from said outer wall to said inner wall.

6. The shoe of claim 5 in which said bearing surface is inclined approximately twenty degrees to the plane of said heel portion.

7. The shoe of claim 1 further including at least one

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conventional generally conical-shaped cleat mounted in said recess.

8. The shoe of claim 4 further including at least one conventional generally conical-shaped cleat mounted on said heel portion.

9. The shoe of claim 1 in which said recess has a smooth surface for minimizing accumulation of mud in said recess.

10. The shoe of claim 1 in which said cleat is $\frac{3}{16}$ of an inch high and said recess is no more than $\frac{7}{16}$ of an inch deep.

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PATRICK D. LAWSON, Primary Examiner

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