Nov. 2, 1971 A. R. KNIFFIN 3,616,552

ANTISKID FOOTWEAR

Filed Sept. 8, 1969

FIG. 1

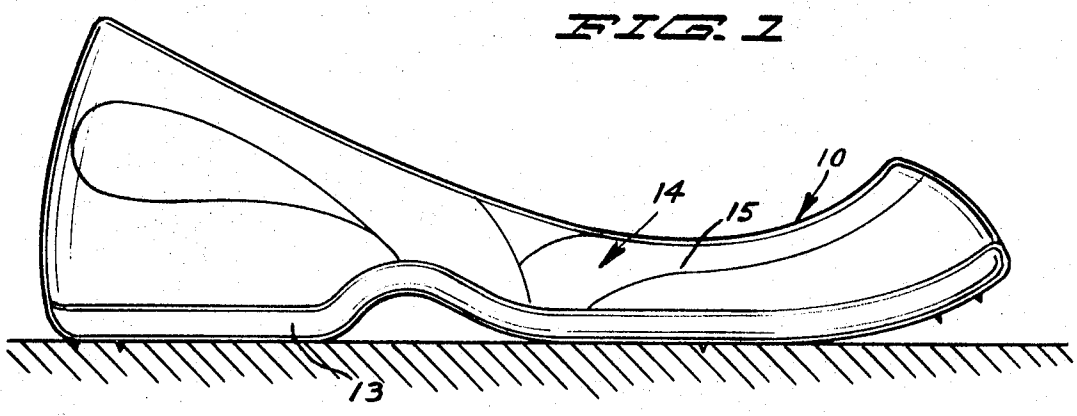


FIG. 2

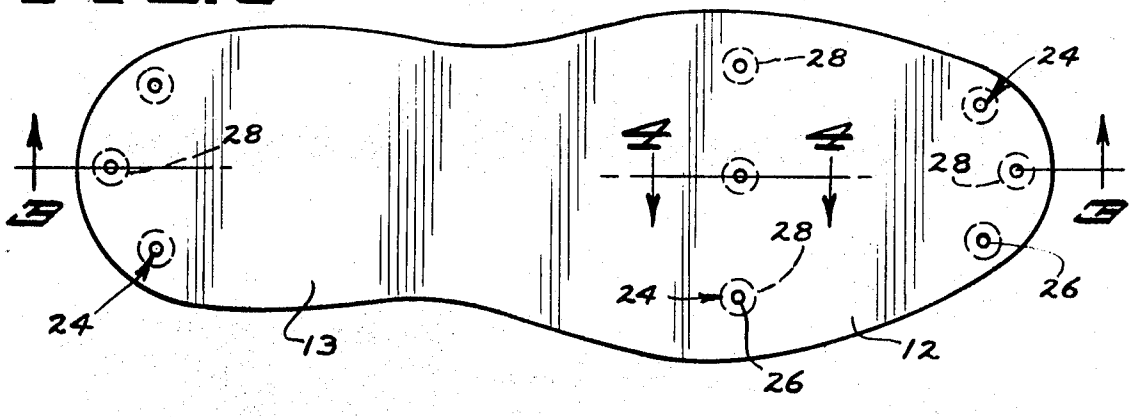


FIG. 3

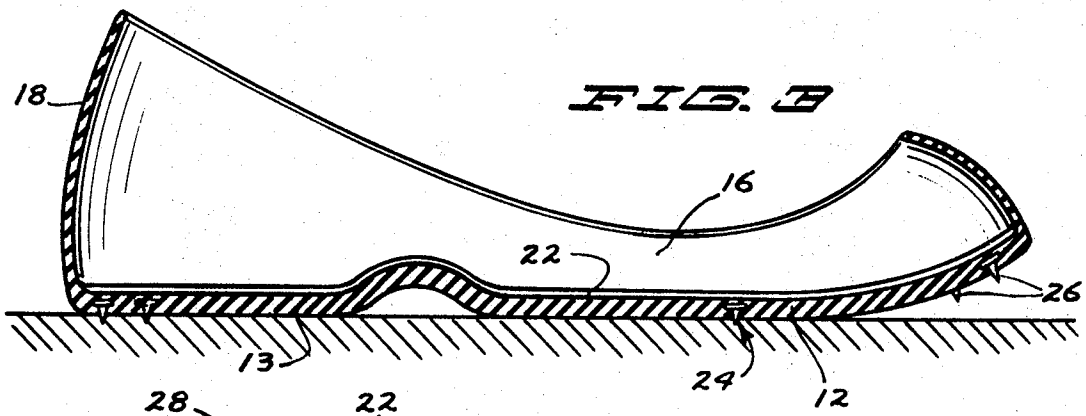
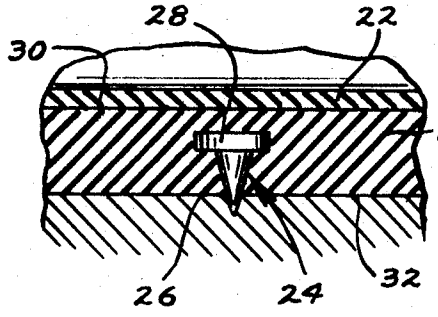


FIG. 4



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3,616,552

Patented Nov. 2, 1971

3,616,552

ANTISKID FOOTWEAR

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Filed Sept. 8, 1969, Ser. No. 856,029
Int. Cl. A43b 1/10
U.S. Cl. 36—7.3 1 Claim

ABSTRACT OF THE DISCLOSURE

An antiskid footwear including an upper connected to a sole and a spike having a head from which extends a pointed portion, the spike being embedded in the sole with the head substantially centrally transversely of the thickness of the sole and the pointed portion extending outwardly from the bottom surface of the sole.

SUMMARY OF THE INVENTION

The invention relates to antiskid footwear and more particularly to the sole and the surface gripping means thereof. It is an object of the invention to provide an article of footwear having a sole in which is embedded in the head of a spike with the pointed portion of the spike extending outwardly from the bottom surface of the sole. The head of the spike is embedded so that it is substantially centrally transversely of the thickness of the sole. With such a construction there is no additional clumsy anchor means in the form of an inner sole or other mechanical anchor means on the upper inner surface of the sole for the spikes. Such known forms of anchoring the spikes allows less flexibility for the sole than with the construction disclosed herein which also reduces the cost of manufacture. With the construction disclosed the sole of the footwear is lighter in weight, more flexible and therefore more comfortable to the user.

These and other more detailed and specific objects will be disclosed in the course of the following specification, reference being had to the accompanying drawings, in which:

FIG. 1 is a side elevational view of an article of footwear embodying the invention.

FIG. 2 is a bottom plan view of the device of FIG. 1.

FIG. 3 is a sectional view on the line 3—3 of FIG. 2.

FIG. 4 is a sectional view on the line 4—4 of FIG. 2.

Referring to the drawings in detail, the article of outdoor footwear illustrated as A is in the form of a conventional rubber for wear over a shoe. The invention may also be embodied in a conventional shoe or overshoe for outdoor use. The rubber A includes the molded one-piece body **10**. The body **10** includes the sole and heel portions **12** and **13**, respectively, which terminate in the upper **14** which includes the side portions **15** and **16**, the upper heel **18** and the toe portion **20**. The body **10** is molded of rubber or other plastic material. An inner sole **22** is provided which is secured to the inner surface of the sole portion **12**.

Further provided are a multiplicity of small spikes **24**. Each spike **24** includes the tapered pointed portion **26** which terminates at its broadest base portion in the flat head **28**. The spike **24** is anchored by molding the same

in the sole portion **12** when the sole is molded with the head **28** spaced inwardly from the inner surface **30** and also the outer surface **32** with a portion of the point **26** extending outwardly of the outer surface **32** of the sole **12**. The head **28** should be substantially transversely centrally of the sole **12** and forms an anchor. It has been found that a projection of the point **26** beyond the outer surface of the sole in the amount of .025 of an inch is preferable.

The spike **24** is made of a wear resistance material whereby the wear of the same is substantially at the rate of wear of the sole **12**. The spikes may be made of metal or hard wear-resisting plastic and may extend beyond the outer surface **32** of the sole a greater or lesser degree depending upon the use to be made of the footwear A. With the point **26** extended approximately .025 of an inch outwardly of the sole and/or heel, a ground gripping result is achieved but with little or no chance of spikes injuring anyone coming into contact with the sole or heel of the rubber A. The spikes **24** may be placed and spaced in the sole and heel as shown but such placement and spacing depends upon the surface on which the footwear A will be used. The rubber A is particularly desirable when the user ventures forth on ice in the northern climes. With the spikes **24** molded as described the rubber A is lighter and less expensive because there is no clumsy or expensive inner sole or anchor which fastens the spikes to the sole. With the spikes secured as described above the sole of the rubber is more flexible, for it has no conventional anchor members which impair flexibility.

Having now therefore fully illustrated and described our invention, what we claim to be new and desire to protect by Letters Patent is:

1. An antiskid footwear of molded, one-piece construction comprising:

(a) a body for encompassing a portion of the foot including an upper connected to

(b) a sole and heel having an inner and an outer surface,

(c) spikes embedded in the sole and heel when it is molded with one end of the spikes extending from the outer surface of the sole and heel and the other end spaced inwardly of the inner surface of the sole and heel,

(d) said other end of said spikes including a head portion,

(e) said one end of said spikes being substantially pointed,

(f) said head portions being substantially centrally of the thickness of the sole and heel.

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PATRICK D. LAWSON, Primary Examiner

U.S. Cl. X.R.

36—59 R