United States Patent [19]

Kwan

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[54] **SHOE ANTI-SLIP DEVICE**

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[52] **U.S. Cl.** ..... **36/67 D**

[51] **Int. Cl.** **A43c 15/00**

[58] **Field of Search** ..... 36/59 R, 67 R, 67 D

[56] **References Cited**

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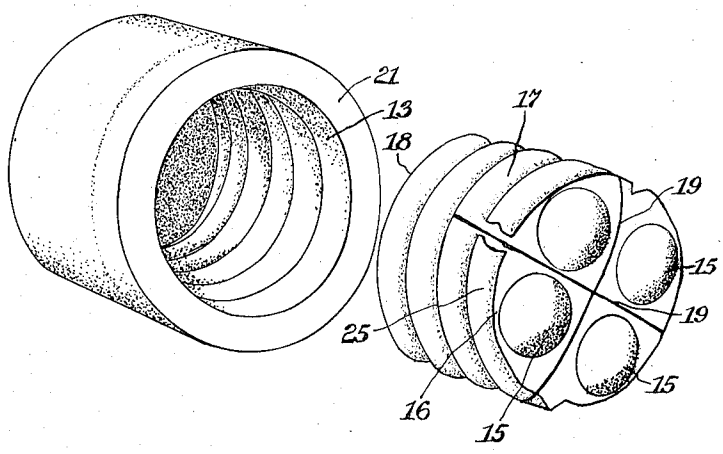
Primary Examiner—Patrick D. Lawson

Attorney, Agent, or Firm—Howard I. Podell

[57] **ABSTRACT**

A pointed metal cap that screws into a female thread in the bottom of the heel of a conventional shoe. The points of the metal cap may be adjusted, to protrude a desired distance beyond the heel of the shoe on which it is attached, for the purpose of increasing traction between the heel of a shoe and a slippery surface such as ice or snow.

1 Claim, 6 Drawing Figures



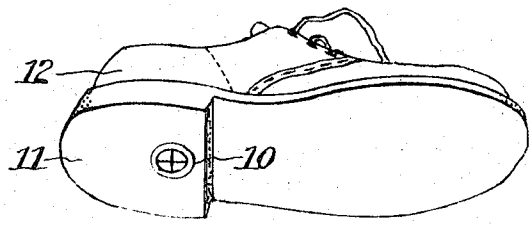


FIG. 1

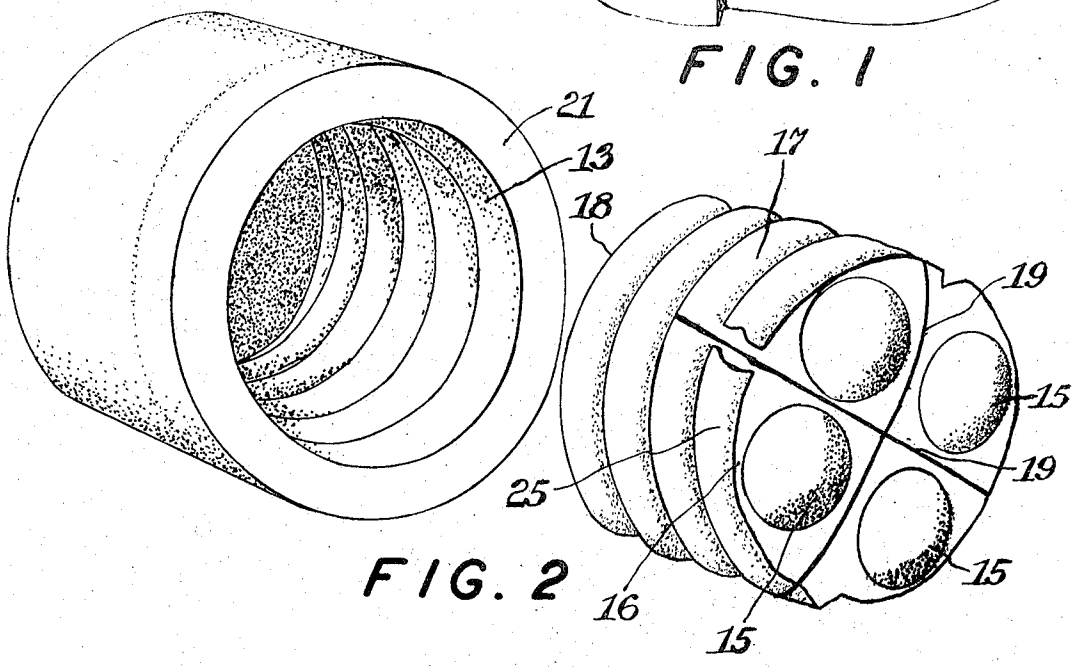


FIG. 2

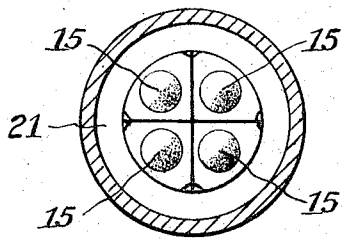


FIG. 3

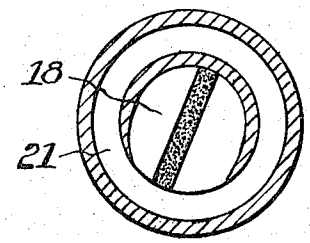


FIG. 4

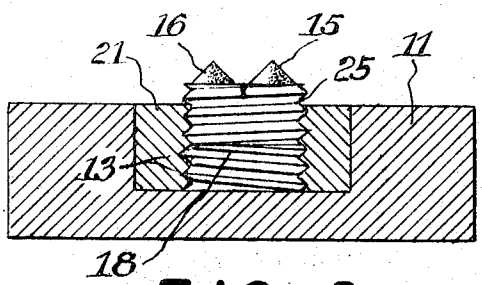


FIG. 5

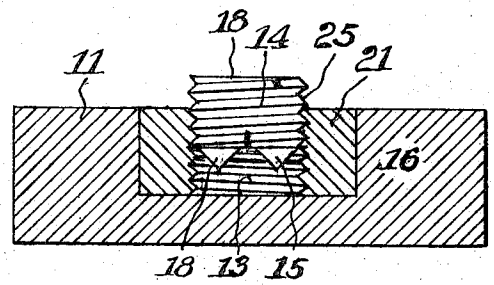


FIG. 6

SHOE ANTI-SLIP DEVICE

SUMMARY OF THE INVENTION

My invention relates to a pointed metal cap which is screwed into the bottom surface of the heel of a conventional shoe.

This metal cap may be adjusted to partially protrude as desired from the bottom of the heel of the shoe, for increasing traction, when the shoe is worn on ice or snow covered ground.

BRIEF DESCRIPTION OF THE DRAWING

The objects and features of the invention may be understood with reference to the following detailed description of an illustrative embodiment of the invention, taken together with the accompanying drawings in which:

FIG. **1** illustrates a perspective view of the invention mounted in the heel of a shoe;

FIG. **2** illustrates an exploded perspective view of the pointed cap and threaded housing;

FIG. **3** illustrates a bottom plan view of the invention in an activated position;

FIG. **4** illustrates a bottom plan view of the invention in a recessed position;

FIG. **5** illustrates a cross-section view of the invention in an activated position; and

FIG. **6** illustrates a cross-section view of the invention with the cap reversed.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now descriptively to the drawing, in which similar reference characters denote similar elements throughout the several views, FIG. **1** illustrates the device **10** installed in the bottom of a heel **11** of shoe **12.** The device combines a threaded cap **14** which engages the female threads **13** of cylindrical housing **21** that is fastened to the bottom of heel **11.**

The outer face **16** of cap **14** is formed with pointed section **15** or cone shaped spikes, with the inner face

18 of cap **14** being of smooth or flat shape.

As shown in FIG. **2,** slots **19** may be cut across the outer face **16** of threaded cap **14** and into the threaded section **17** of the cap so as to expand the pitch diameter of the threaded section **17** and provide a tight fit between the male threads **25** of cap **14** and the female threads **13** of the housing **21.**

The amount of protrusion of points **15** of the cap **14** may be adjusted by the rotation of cap **14** when threadably engaged in housing **21,** as shown in FIG. **5.**

As shown in FIG. **6,** the cap **14** may be reversed in housing **21** so that the points **15** are enclosed in housing **21** and smooth cap face **18** is exposed. Cap **14** may then be rotated so that face **18** is flush with the surface of heel **11.**

Since obvious changes may be made in the specific embodiment of the invention described herein, such modifications being within the sprit and scope of the invention claimed, it is indicated that all matter contained herein is intended as illustrative and not as limiting in scope.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. An anti-slip device in the form of a male threaded cap, together with a female threaded housing in the form of a sleeve which threadably engages the cap, said housing being mounted in a recess in the bottom of a sole or heel of a shoe, in which one end face of the cap is fitted with sharp points,

with slots formed in the face of one end of the cap and extending into the threaded section of the cap so as to extend the pitch diameter of the threaded section of the cap to provide a tight fit between the expanded threads of the cap and the threads of the sleeve housing which prevents inadvertent rotation of the cap with respect to the housing when the cap is rotated in threaded engagement with the housing to project a variable desired amount of the cap beyond the surface of an attached shoe.

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