

March 8, 1960

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2,927,384

HARD-TOE ATTACHMENT FOR SHOES

Filed Nov. 24, 1958

FIG 1.

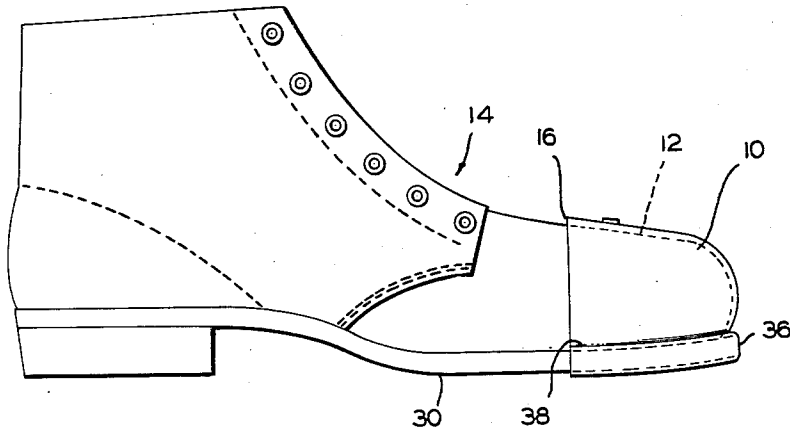


FIG 2.

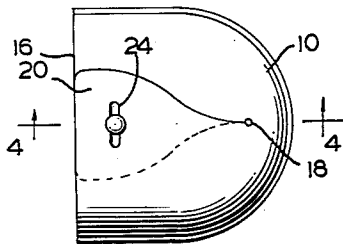


FIG 3.

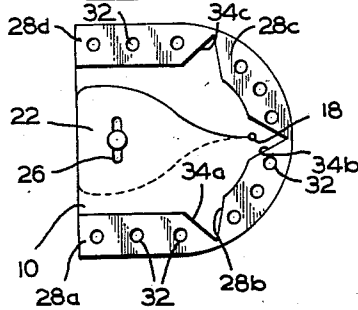
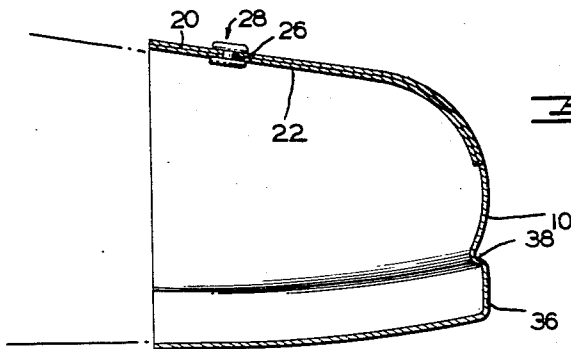


FIG 4.



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1

2,927,384

HARD-TOE ATTACHMENT FOR SHOES

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Application November 24, 1958, Serial No. 775,939

2 Claims. (Cl. 36—72)

This invention relates to a new and improved protective device for attachment to shoes and, in particular, to an adjustable hard-toe attachment for shoes to provide protection of the toes of miners and other workmen against falling coals, stones, tools and the like.

It is a principal object of the invention to provide such a device which may be manufactured in, for example, a single size die and then may be readily adjusted to fit various size shoes.

A further object is to provide an adjustable hard-toe attachment for shoes which, when fitted to a shoe, provides snug engagement about the toe of the shoe and about the line of juncture of the upper portion of the shoe and the shoe sole.

A further object is to provide such a device wherein the toe portion of the sole of the shoe is also protected.

These and other objects and advantages of the present invention are provided by the protective device for the toe of a shoe comprising a cap adapted to receive the toe of a shoe, said cap being slotted from the rear edge thereof to a point adjacent the front thereof to provide overlapping plate members, inturned peripheral flanges about the lower edge of said cap and adapted to underlie the sole of a shoe, said flanges being segmented at least at the forward end of the device whereby the amount of overlap of said plate members may be varied to adjust the size of the cap and means for retaining the plate members at selected overlap.

The invention will be more fully described with reference to the illustrative embodiments thereof shown in the accompanying drawings, wherein:

Fig. 1 is a side elevation of a shoe with the improved adjustable hard-toe device attached thereto;

Fig. 2 is a top plan view of the cap shown in Fig. 1;

Fig. 3 is a bottom plan view of the device shown in Figs. 1 and 2; and

Fig. 4 is a section substantially on line 4—4 of Fig. 2.

Referring to the drawings, the adjustable hard-toe device of the invention comprises a cap portion generally designated 10, adapted to be slipped over the toe portion 12 of a shoe generally designated 14. The cap portion is slotted from the rearward edge 16 to a point 18 adjacent the front of the cap, thereby providing overlapping plate members 20 and 22.

In the drawings, the top plate of the overlapping plates is designated with the numeral 20 and the lower plate is designated with the numeral 22. The plates of the overlapping plate members are provided with elongated slot-like openings 24 and 26 which openings are adapted to receive a rivet 28. The length of the slots 24 and 26 determines the limits of adjustability of the adjustable hard-toe attachment for shoes of the present invention as will be more fully described hereinafter.

The cap is further provided with inturned peripheral

2

flanges designated 28a, b, c and d, which flanges are adapted to underlie the sole 30 of the shoe to which the hard-toe device is attached. Each of the plural inturned flanges 28a, b, c and d is preferably provided with a plurality of bores 32 adapted to receive nails, screws, rivets or the like when attaching the device to a shoe and the flange members are segmented as indicated at 34a, b and c.

In Fig. 3 of the drawings, the spaces 34a, b and c between the various segments of the inturned peripheral flanges 28a, b, c and d are positioned with one of the open spaces 34b adjacent the forwardmost edge of the protective device and the other two open spaces 34a and 34c positioned on either side of the central opening 34b.

As more clearly shown in Figs. 1 and 4, between the upper portion of the cap 10 and the inturned flanges 28a through d, is an upstanding rib or web portion 36 which rib portion joins the cap 10 along a recurved line 38 whereby, when the protective hard-toe device is attached to a shoe, a minimum of space is provided between the shoe and the device, thereby materially reducing the tendency for sand, dirt, small stones and the like, from wedging in between the cap and the shoe.

In operation an adjustable shoe attachment such as shown in the drawings is stamped from, for example, 18 to 24-gauge steel in a size that would fit a number 8 size shoe with the plate members 20 and 22 overlapped at an intermediate position whereby the protective device would fit a normal size 8 shoe without disturbing the manufactured overlap of the plates. If the device was to be fitted to a number 7 size shoe the shoemaker or the person attaching the hard-toe device to the shoe would squeeze inwardly on the side edges of the device causing further overlap of the overlapping plate members 20 and 22, which, in turn, would cause the inturned flange members 28a and 28b to move closer toward flange members 28c and 28d with the spaces between the segmented flanges decreasing in size. With the device sized for the number 7 shoe, a rivet such as 28 would be inserted in the openings 24 and 26 and cinched to maintain the plate members at the selected overlap. If the device, as manufactured, is provided with a rivet such as illustrated at 28, the rivet would loosely engage the respective overlapped plates 20 and 22 and the shoemaker would merely cinch the partially cinched rivet.

If the device is to be used on a size larger shoe, then the cap would be expanded.

After the hard-toe attachment is sized for the particular size and shape of the shoe, nails or the like are driven into the plural openings 32 in the flange members and into the sole 30 of the shoe 14 to maintain the attachment securely on the shoe.

As hereinbefore described the hard-toe attachment may be stamped from steel of, for example, 18 to 24-gauge or the device may be constructed of a plastic composition or where it is desired to have the device constructed of metal and eliminate sparking in a mine the hard-toe attachment may be constructed of a beryllium-copper alloy. Beryllium-copper alloys are non sparking and some of the alloys have tensile strengths approaching that of good steels.

Having described my invention and its use what is claimed is:

1. A protective device for the toe of a shoe comprising a cap portion shaped to receive the upper curved portion of a shoe, said cap portion being slotted from the top rear edge thereof to a point adjacent the front thereof to provide overlapping plate members adapted to ex-

3

tend about the top of the toe portion of a shoe generally upstanding web portions joining said cap portion along a recurved line and adapted to receive the peripheral edge of a shoe sole, an internal peripheral flange about the lower edge of said upstanding web portion and adapted to underlie the sole of a shoe, said flange being segmented whereby the amount of overlap of the plate members may be varied to adjust the fit of the protective device.

5

4

2. The invention defined in claim 1 wherein the peripheral flange is provided with three segments, one at each side and one at the front and fastening means for retaining the plate members at selected overlap.

References Cited in the file of this patent**UNITED STATES PATENTS**

1,602,763	Getrost -----	Oct. 12, 1926
2,157,423	Moriarty -----	May 9, 1939