June 13, 1950 C. YOUNG 2,511,191

ANTISKID ATTACHMENT FOR SHOES

Filed May 20, 1949

Fig. 1.

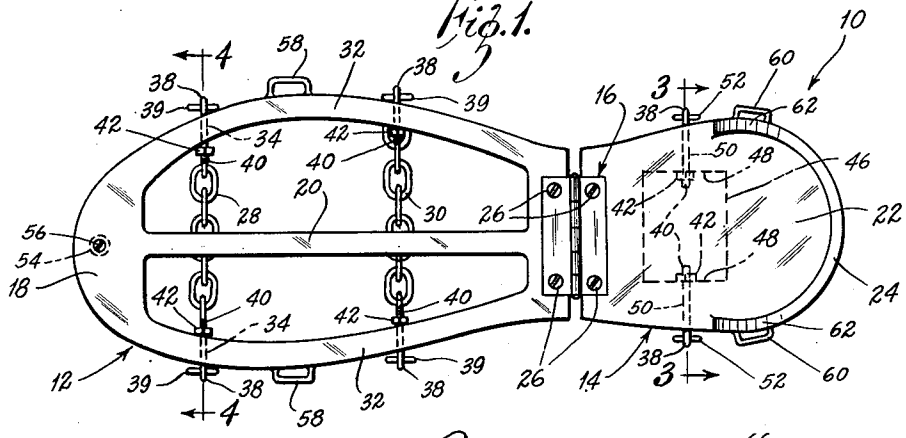


Fig. 2.

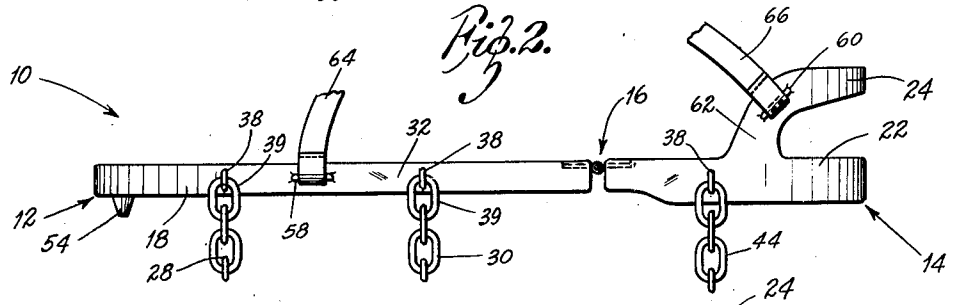


Fig. 3.

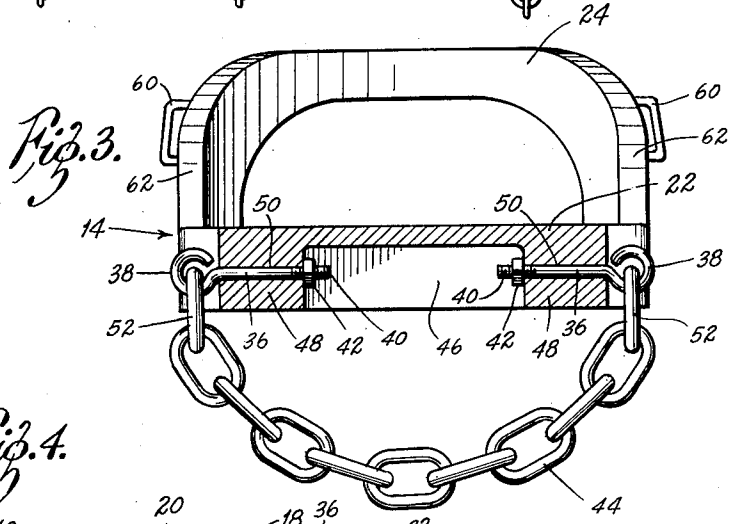
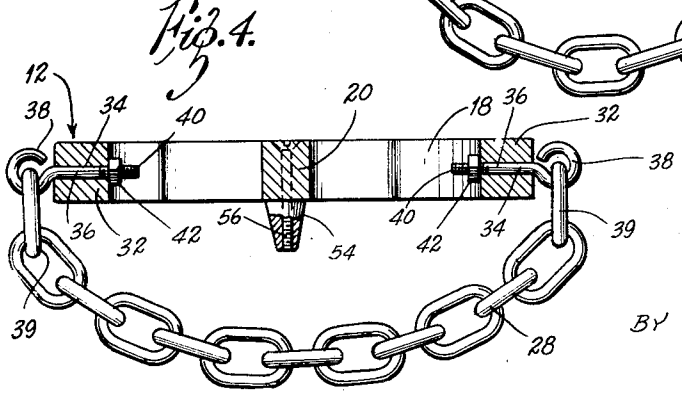


Fig. 4.



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ANTISKID ATTACHMENT FOR SHOES

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2 Claims. (Cl. 36—7.6)

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The present invention relates to an improved attachment for shoes, and is particularly directed to an anti-skid device that may be easily and quickly attached to, or removed from the shoes of an individual.

Primarily designed for use by those whose duties require them to operate out-of-doors in all kinds of weather, for example policemen, mail carriers, deliverymen and so on, the attachment may be worn to good advantage by anyone for safe walking on slippery surfaces.

I am aware that heretofore a number of patents have been issued for shoe attachments of this general nature, including ice creepers. These devices however, have many disadvantages, in that they rely almost entirely on pointed studs or projections to prevent slipping. Thus, on a smooth icy surface for example, instead of providing safety for the wearer, these devices, especially when through previous use the points of the studs have become rounded, frequently prove to be dangerous.

One of the distinguishing features of the present invention consists in the provision of a plurality of transversely disposed chains in lieu of spikes or the like, on the underside of the attachment. As is well known from experience on automobile tires, chains are exceptionally effective from an anti-skid standpoint.

In a general summary, the attachment comprising the present invention may be said to include a forward or sole portion; a rearward or heel portion including an upwardly extending and arcuately formed heel-embracing band; a hinge connection joining the sole and heel portions; at least two spaced transversely disposed lengths of chain removably secured to said sole portion; at least one transversely disposed length of chain removably secured to said heel portion; a single tapered or conical element adjacent the front marginal edge of the sole portion; and a pair of loops or the like on the sole portion and also on the heel portion for the attachment of suitable straps or the like by means of which the entire device may be quickly fastened to a shoe.

A more comprehensive understanding of the invention may be had from the detailed description to follow, reference being had also to the accompanying sheet of drawings, wherein is illustrated the preferred embodiment of the device.

In said drawings:

Fig. 1 is a top plan view of the shoe attachment comprising the present invention, the means for attaching same to a shoe being omitted;

Fig. 2 is a side elevational view thereof, suitable means for attaching the device to a shoe being fragmentarily shown;

Fig. 3 is a vertical sectional view on a greatly enlarged scale, taken on line 3—3 in Fig. 1; and

Fig. 4 is a similar view taken on line 4—4 in Fig. 1.

In Figs. 1 and 2, the device is generally indicated by the numeral 10. It includes a forward or sole engaging portion generally designated 12, a rearward or heel engaging portion generally designated 14, and a hinged connection shown at 16.

Preferably, the sole portion 12 and the heel portion 14 are of lightweight material, such as aluminum, plastic, or the like, so that the device does not prove to be unduly cumbersome.

To that end also, the sole portion 12 is of skeleton formation and includes a peripheral portion 18, and an approximately centrally disposed reinforcement bar or brace 20 integrally formed therewith.

The heel portion 14 includes a base member 22 and an upwardly extending arcuately formed heel-embracing band 24 integrally formed therewith.

As shown in Fig. 2, the hinge connection 16 is countersunk in the adjacent upper regions of the sole and heel portions 12 and 14, being secured in place by screws 26, or otherwise.

The forward or sole portion 12 is provided with a pair of transversely disposed lengths of chain. The first of these is designated by the numeral 28, and the second, by the numeral 30. Both these chains are mounted in the manner illustrated on an enlarged scale in Fig. 4.

As there shown, the side rails 32 of the peripheral portion 18, have formed therein horizontal apertures 34, through each of which extends the shank portion 36 of a screw element also including a hook or eyelet portion 38 adapted to receive one of the terminal links 39 of the chain 28. The inner end of each shank portion 36 is threaded as at 40 to receive a nut 42, whereby said chain is securely fastened to the sole portion 12, as shouid be apparent.

The other chain 30 is similarly mounted and the same reference numerals are applied in the drawings to corresponding parts.

The rearward or heel portion 14 is likewise equipped with a transversely extending chain, the latter being designated by numeral 44.

This chain is removably mounted in a manner similar to that described relative to the chains 28 and 30.

As shown in Fig. 3, the base portion 22 is re-

cessed to provide a cavity 46 of rectangular configuration, thus forming walls 48, each of which has formed therein a horizontal aperture 50, for the reception of retainer elements similar to those appearing in Fig. 4.

These are identified by the same reference numerals, the terminal links of chain 44 however being designated by numeral 52, in the interest of clarity.

It is noted that each of the three chains is of greater length than the distance between the pairs of eyelets 38 to which they are attached, so that when not in use, the chains hang out of contact with the sole and heel portions.

Thus when in use, the chains are free to move in any direction, and will do so, thereby preventing clogging of the links with ice and snow.

Adjacent the front marginal edge of the sole portion 12 of the device, and located approximately on the longitudinal centerline of the device, is a single tapered, or conical element 54, which as seen in Fig. 4, is preferably maintained in place by means of a countersunk screw 56.

Obviously, the invention necessarily includes means whereby the device may be attached to the shoe of the wearer. To this end, the sole portion 12 is provided with a pair of loops 58 integral therewith, or rigidly secured thereto.

Similarly, the heel portion 14 is provided with a pair of loops 60 integral with, or rigidly secured to the upwardly and rearwardly extending supporting portions 62 for the band 24.

As suggested in Fig. 2, a pair of toe straps 64 and a pair of ankle straps 66 associated respectively with the loops 58 and 60, may serve for attaching the device to a shoe, it being understood that buckles or other fastening means may be provided to obviate fortuitous displacement.

From the foregoing description and the drawing, it should be evident that the invention provides a novel safety device for walking, running, or climbing over slippery surfaces.

The flexibility inherent in the chains has many advantages not present in rigid studs, prongs, and so on. The band 24, integral with the heel base 22, facilitates attachment of the device, in that it serves as an abutment for the heel portion of the shoe. The single conical element or stud 54, has no particular function on level surfaces, but does come into play on inclined surfaces, as is understood. Countersinking of the hinge 16 in the upper surfaces of the device has this advantage, that any snow or ice tending to accumulate about said hinge is immediately and continually agitated in walking, whereby its coagulation is prevented.

Obviously, slight changes in the shape and details of construction may be had without departing from the spirit of the invention. For example, instead of a single chain of relatively large links, a pair of chains of relatively small links may be substituted in each instance, and so on. Therefore I do not desire to be limited to the precise details of construction shown.

What I claim is:

1. An anti-skid attachment for a shoe, comprising in combination: a sole member and a heel member joined by a hinge connection, said sole member being of skeleton formation and having a peripheral portion including a pair of side rails, an approximately centrally disposed longitudinally extending reinforcement bar, and a pair of longitudinally spaced horizontal apertures formed in each side rail; said heel member including a base portion, an upwardly and rearwardly extending arcuately formed heel-embracing band portion integral therewith, and a cavity of rectangular configuration formed in said base portion to provide a pair of spaced walls each having therein a horizontal aperture; a pair of transversely disposed lengths of chain the terminal links of each said chains being removably secured to the side rails aforesaid of the sole member by means of screw elements passing through said side rail apertures; a transversely disposed length of chain the terminal links of which are removably secured to the spaced walls aforesaid of the heel member by means of screw elements passing through said wall apertures; a single downwardly projecting conical element removably secured adjacent the front marginal edge of the sole member; and means adapted to receive toe and ankle straps whereby to removably secure the attachment to the shoe of the wearer, said means comprising a pair of opposed loops formed integrally with said sole member, and a pair of similarly disposed loops formed integrally with said heel member.

2. The anti-skid attachment of claim 1, wherein the said hinge connection is countersunk in the adjacent upper regions of the sole and heel members; wherein each of the said transversely disposed lengths of chain is of greater length than the distance obtaining between the said screw elements to which the terminal links of each chain are attached; wherein each of said screw elements includes an integral eyelet portion adapted to retain a terminal link, a shank portion extending through one of said horizontal apertures and having a threaded extremity adapted to be engaged by a retaining nut; and wherein the conical element adjacent the front marginal edge of the sole member is removably secured thereto by means of a countersunk screw passing therethrough and into engagement with a threaded aperture provided in said element.

CLARENCE YOUNG.

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