Nov. 21, 1933. E. W. DUNN 1,935,944

ICE CREEPER

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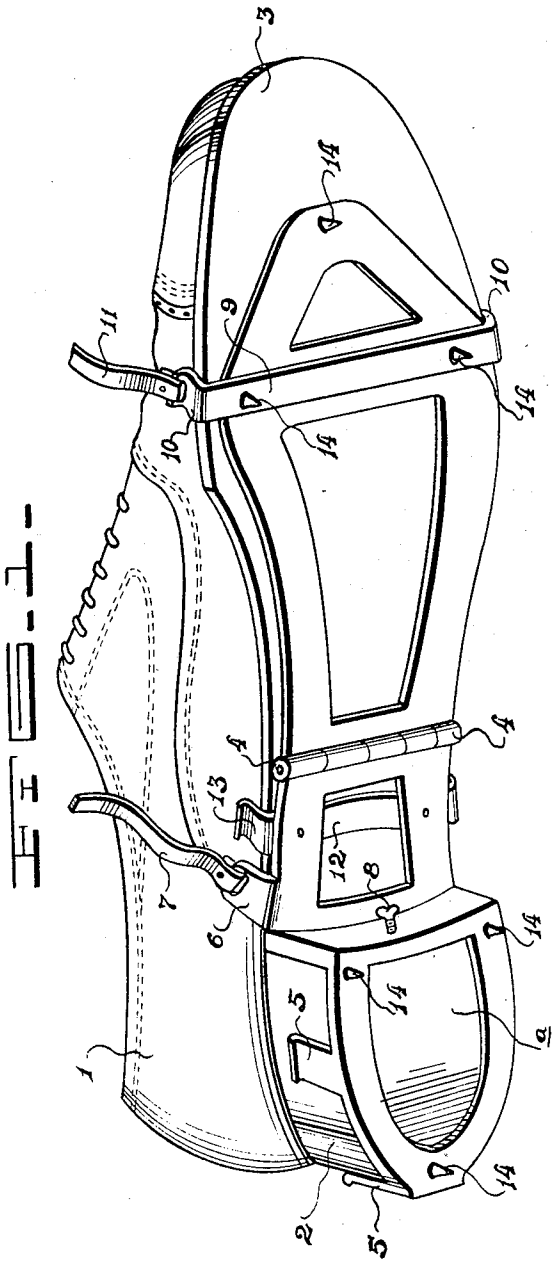


FIG. 1.

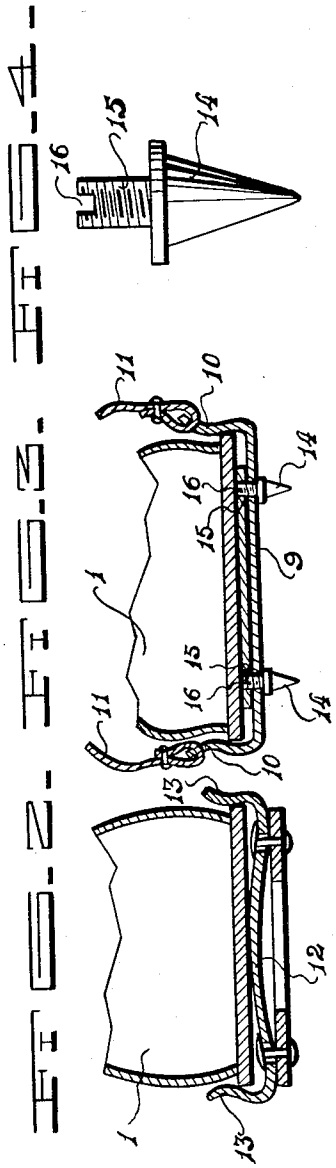


FIG. 4.

FIG. 2.

FIG. 3.

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ICE CREEPER

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3 Claims. (Cl. 36—7.6)

This invention relates to attachments for shoes and it has particular reference to a new article of manufacture in the form of an ice creeper, designed to insure the wearer against slipping or sliding on icy sidewalks and the like.

The principal object of the invention is to provide a device of the character specified, capable of being affixed to the shoes of the wearer with but few adjustments for the purpose of securing the same.

Another object of the invention resides in the provision of novel means for clamping the device in secure position on the sole of a shoe and which means is such as to require no manual adjustment and is particularly secure when the device is in use on the shoe of the wearer.

Another object of the invention is to provide an ice creeper or sandal in which removable studs are provided which will permit of replacements when the studs become so worn as to render them of no further use.

With the foregoing objects as paramount, the invention has particular reference to its salient features of construction and arrangement of parts, which will become manifest as the description proceeds, taken in connection with the accompanying drawing, wherein:—

Figure 1 is a perspective view of the underside of a shoe, showing the invention attached.

Figure 2 is a sectional view through the approximate middle of the device, showing the shoe partly broken away.

Figure 3 is a sectional view across the forward end of the device, showing the toe of the shoe partially broken away.

Figure 4 is a detail view of one of the studs.

Continuing with a more detailed explanation of the drawing, 1 designates a shoe having a heel 2 and sole 3. The device is composed preferably of a die stamping in two sections and which sections constitute the forward and rearward portions which fit on the sole 3 and heel 2 respectively. The two sections are joined together by a hinge 4, as apparent in Figure 1 and the rearmost or heel portion is of skeleton formation and is so shaped as to define fingers 5 which embrace the heel 2 of the shoe. This section is also provided with lugs 6 on either side and to which are connected straps 7 which extend over the instep and are buckled or otherwise secured to prevent displacement of the heel portion.

As an added assurance against displacement, of the heel portion, a set screw 8 is provided, which is screwed down against the heel 2, in the manner shown in Figure 1. The opening *a* in the heel portion prevents the accumulation of ice and snow, which might add to the discomfort of the wearer.

The forward or sole portion of the device is shaped to conform with the sole 3 of the shoe, but terminates short of the toe and is likewise of skeleton formation to prevent the accumulation of ice and snow. A metal strap 9 extends laterally across the sole portion of the device, as apparent in Figure 1 and whose ends overreach the edge of the sole portion. The ends of the strap 9 are bent upwardly and inwardly, thence outwardly as shown in Figure 3, which provides an intermediate bend at 10 to grip the edges of the sole 3 and thereby hold the device against slippage. As a further precaution against displacement of the sole portion, a strap 11 is passed through apertures in the ends of the latter strap 9 and is buckled over the toe of the shoe 1.

Adjacent the hinge 4 and secured to the heel portion of the device is a lateral strap 12 and which, as apparent in Figures 1 and 2, is bent upwardly midway between its ends. The upwardly bent portion presses against the instep of the shoe sole and since the ends of the strap 12 are bent upwardly and inwardly and thence outwardly, pressure upon the upward bend of the strap will cause contraction of the ends 13 thereof and which will securely embrace the edges of the shoe sole. In so bending the shoe sole contraction of the ends of the strap 12 occurs at each step of the wearer or at the time most needed to insure against any possible displacement of the device upon the shoe.

The hinge at 4, which connects the two portions of the device together prevents any possible binding action on the shoe when the sole thereof is flexed while walking and there is consequently no frictional wear on the shoe which might impair its appearance by disfiguring the same. With particular reference to the stud 14 shown in Figure 4, it will be noted that one of these studs is provided on either side of the front portion of the heel and at the rear and three of these studs are affixed to the sole portion of the device at its forward end. When these studs become worn they may be readily removed and replaced by new ones by reason of the fact that a threaded portion 15 is provided thereon, which is threaded into interiorly threaded apertures in the sole and heel portions of the device, as shown in Figures 1 and 3. It will be understood that in applying the studs 14, they are threaded into the device from underneath, but should they become broken off, they may be

taken out from the top by means of a screw driver or the like which is inserted into the slot 16 provided therefor.

Although, a man's shoe has been shown as an example in the drawing, it is apparent that with but slight modifications, the invention may be equally as well applied to women's and children's shoes.

It will be understood that the invention is not limited by reason of the single mode of application and that certain modifications and changes may be resorted to from time to time without departing from the spirit of the invention as herein claimed.

What is claimed is:

1. As a new article of manufacture, an attachment for shoes including heel and sole portions hinged together at the instep, said heel portion having lugs on either side thereof and provided with apertures, a strap having its ends connected in said apertures and arranged to be secured about the instep of said shoe, means extending across the forward end of the sole portion of the said article and having its ends turned upwardly and inwardly, thence outwardly to grip the edges of the sole of said shoe and having apertures therein, a strap having its end connected in said apertures and arranged to be secured over the toe of said shoe, a clamp secured to the heel portion of said article adjacent said hinge and having a bend therein midway between its ends to engage the instep portion of said shoe sole, the ends of said clamp being turned upwardly and inwardly, thence outwardly to engage the sole of said shoe whereby pressure upon the bent portion of said clamp will cause the same to tightly embrace the sole of said shoe and removable studs secured at spaced points on said heel portion and said sole portion.

2. As a new article of manufacture, an ice creeper attachment for shoes including a metal stamping defining a portion to conformably receive the heel of the shoe and a substantially flat portion hinged to said heel portion arranged to conform to the sole of a shoe, a clamp secured to said heel portion and having an intermediate bend to engage the instep of the sole of said shoe, said clamp being further provided with upwardly turned ends to engage the edges of the sole of said shoe with a force proportionate to the pressure on said bent portion, means for securing said heel portion, means for securing said sole portion and a series of replaceable studs secured to said heel and sole portions.

3. As a new article of manufacture, an ice creeper attachment for shoes including metal stampings defining heel and sole portions and having hinged connection at a point adjacent the instep of said shoe, means for securing said heel portion to the heel of said shoe, a strap having its ends connected on either side of said heel portion and capable of being buckled about the instep of said shoe, means adjacent the forward end of said sole portion arranged to clampingly embrace the sole of said shoe, a strap connected to said means and capable of being buckled about the toe of said shoe, a clamp secured to the heel portion of said attachment and having a bend intermediate its ends to engage the instep of said shoe sole and having upwardly turned ends to embrace the side of said soles with pressure in proportion to the pressure applied on said bent portion and a series of studs removably mounted in said heel and sole portions.

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