M. A. HEINZER.

ICE CREEPER.

APPLICATION FILED APR. 5, 1918.

1,277,924. Patented Sept. 3, 1918.

Fig. 4.

Fig. 1.

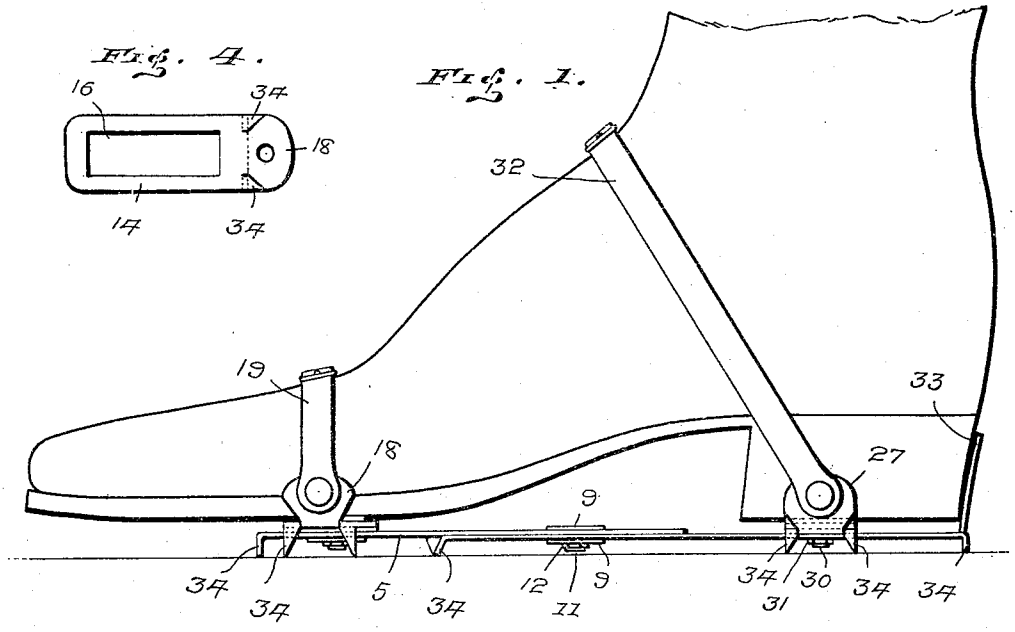


Fig. 2.

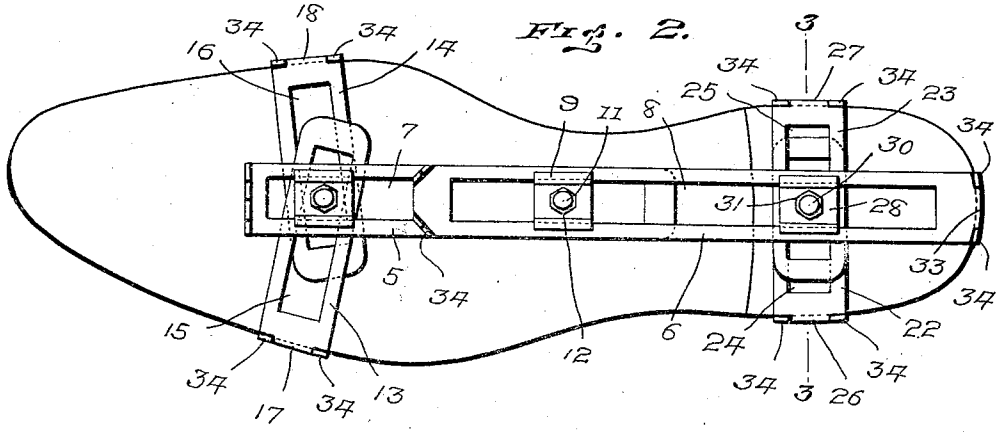
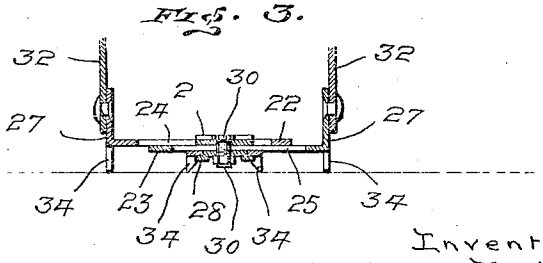


Fig. 3.



Inventor

Milton A. Heinzer

Fitz Gerald & Co

Attorneys

UNITED STATES PATENT OFFICE.

MILTON A. HEINZER, OF ABSECON, NEW JERSEY.

ICE-CREEPER.

1,277,924. Specification of Letters Patent. Patented Sept. 3, 1918.

Application filed April 5, 1918. Serial No. 226,830.

To all whom it may concern:

Be it known that I, MILTON A. HEINZER, a citizen of the United States, residing at Absecon, in the county of Atlantic and State of New Jersey, have invented certain new and useful Improvements in Ice-Creepers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to ice creepers for attachment to the soles and heels of boots or shoes to prevent slipping on slippery roads or pavements, and has for its primary object to improve, simplify and cheapen the construction of such devices while at the same time increasing the utility and ease of application to the boot or shoe.

A specific object of the invention is to provide an ice creeper with securing means adapted to fit upon any shape of footwear soles or heels.

A further object is to provide an ice creeper with improved and simple means for securing and fully and exactly adjusting the various parts.

With these objects in view the invention consists in the improved construction and arrangement of the parts of an ice creeper which will be hereinafter fully described and afterward particularly claimed.

In order that the construction and operation thereof may be readily comprehended, I have illustrated an approved embodiment of my invention in the accompanying drawing and will now proceed to fully and specifically describe the same with reference to said drawing, in which—

Figure 1 represents a view of the invention, inside elevation, applied to a shoe,

Fig. 2, a bottom plan view of the device as shown in Fig. 1,

Fig. 3, a sectional view on a vertical transverse plane cutting through the creeper at the point indicated by the broken line 3—3 of Fig. 2, and

Fig. 4, a detail view of one of the clamping arms, detached.

Like reference characters mark the same parts in all of the figures of the drawing.

Referring specifically to the drawing, 5 and 6 indicate the two plates which together form the main body of the device, each plate being provided with a longitudinal slot, as at 7 and 8, so that when the inner ends of the plates are overlapped, said slots will be overlapped, so that when a clamp plate 9 is placed under the overlapped ends of the body plates, and a similar clamp plate 10 is placed upon the top of the plates, a suitable bolt 11 may be passed through suitable bolt holes in the clamping plates and through the overlapped slots of the body plates, when by turning up a suitable clamping nut 12, the two body plates will be firmly secured in any position to which they may have been adjusted to suit the footwear upon which the creeper is secured.

This arrangement will afford means for adjusting the length of the body of the creeper to suit that of the footwear, but it is also necessary to fit the means for clamping means to varying widths and shapes of the soles of footwear and for such purposes I provide for the forward part of the device, clamping bars 13 and 14, longitudinally slotted at 15 and 16, and provided at their outer ends with upright flanges 17 and 18 to which are attached straps 19 to fit over the ball of the foot.

When the clamping bars are placed in position, their slots are over the slot 7 of the body plate 5 and clamping plates 20 are placed in position, provided with a suitable bolt 21 passing through them and the slots 7, 15 and 16.

The upright flanges 17 and 18 may then be adjusted to fit against the edges of the sole, the movement of the clamping bars on the bolt permitting of their adjustment in any direction to fit the shape of the sole, when a nut 22 may be screwed upon the bolt, thus firmly securing the clamping plates and clamping bars in their adjusted positions, when, with the upright flanges 17 and 18 clamping the edges of the sole, the strap 19 is tightened, which will keep the mechanism in position on the sole.

A similar clamping means is provided at the heel end of the creeper consisting of clamping bars 22 and 23, slotted at 24 and 25, and having upright end flanges 26 and 27, and clamping plates 28 and 29, bolt 30 and nut 31, which operate in exactly the same manner as the forward clamping means and permit of the adjustment of the bars 22 and 23, in any direction to fit against the sides of heels of varying sizes and shapes, where they are held by tightening up straps 32 secured to the flanges 26 and 27 and passed over the instep as seen in Fig. 1.

The body plate 6 is provided at its rear end with an upright flange 33 which fits against the back edge of the heel, where the parts are in position and acts in conjunction with the straps 32 to prevent the shoe sliding forward on the creeper.

At the outer ends of the body plates and at the forward or inner end of plate 6 and at the outer ends of the clamping bars, are downwardly turned teeth 34 which engage the slippery surfaces over which the wearer of the creeper may move.

It will be obvious from the foregoing that I have provided a simple, strong and economical construction of creeper, all of the parts of which, except the bolts, may be stamped up of sheet metal at a very low cost, and which can be fitted to the bottoms of foot wear of greatly varying shapes and sizes, without the employment of skilled labor or expensive tools.

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

1. An ice creeper comprising longitudinally adjustable body plates, means for clamping them together at different lengths, separate clamping bars projecting in opposite directions from the forward body plate and pivotally mounted thereon for adjustment in all directions, and means on the outer ends of the bars for engaging the edges of the footwear to which the creeper is attached.

2. An ice creeper comprising longitudinally adjustable body plates, means for clamping them together at different lengths, separate clamping bars projecting in opposite directions from a pivot upon the forward body plate and separately adjustable in all directions, means on the outer ends of the bars for engaging the edges of the footwear to which the creeper is attached, and similar clamping bars secured and adjustable on the rear body plate provided with means for engaging the side edges of the heel.

3. An ice creeper comprising longitudinally adjustable slotted body plates, means for clamping them together at different lengths, separate clamping bars projecting in opposite directions from a pivot adjustably mounted in the slot of the forward body plate and separately adjustable in all directions, means on the outer ends of the bars for engaging the edges of the footwear to which the creeper is attached, and similar clamping bars secured and adjustable on the rear body plate provided with means for engaging the side edges of the heel, the rear body plate being provided with means for engaging the rear edge of the heel.

4. An ice creeper comprising longitudinally adjustable slotted body plates having at their free ends downwardly projecting teeth, means disposed within the slots of said plates for clamping them together at different lengths, separate slotted clamping bars having at their free ends downwardly projecting teeth and upwardly projecting means for engaging the edges of the footwear to which the creeper is attached, means disposed within the slots of said plate and bars for pivotally securing them together, separate slotted clamping bars adjustably mounted upon the rear body plate and provided with downwardly projecting teeth and upwardly projecting means for engaging the side edges of the heel, and a clamp disposed in the slots of said rear plate and bars for pivotally securing them together.

5. A creeper comprising a forward and a rear body plate longitudinally slotted and overlapped, slotted clamping plates, means for clamping the body plates together as overlapped, transverse slotted bars superposed upon the forward and rear body plates and projecting separably and laterally therefrom, means for clamping each clamping bar to its body plate to permit pivotal adjustment thereof, means for securing the clamping bars at their outer ends to the edges of the bottom of the footwear, and downwardly projecting teeth at the ends of each clamping bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MILTON A. HEINZER.

Witnesses:
LEONARD BRUCKLER,
MATH KUTSCHOE.