J. DANIELS.

ICE CREEPER.

APPLICATION FILED DEC. 7, 1918.

1,326,648. Patented Dec. 30, 1919.

Fig: 1.

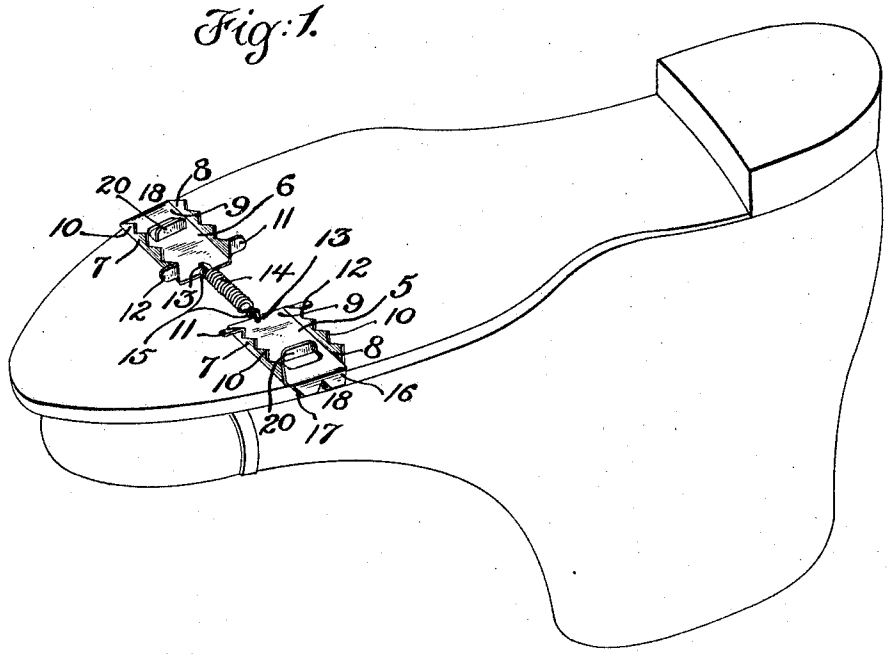


Fig: 2.

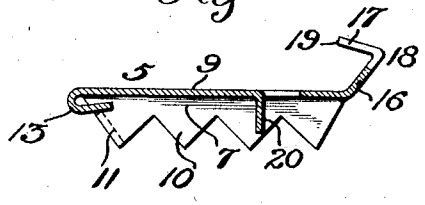


Fig: 3.

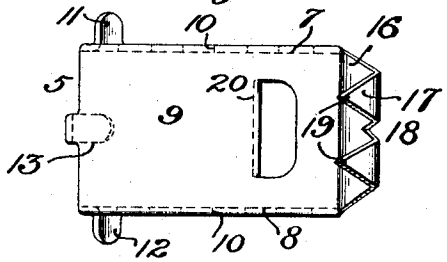
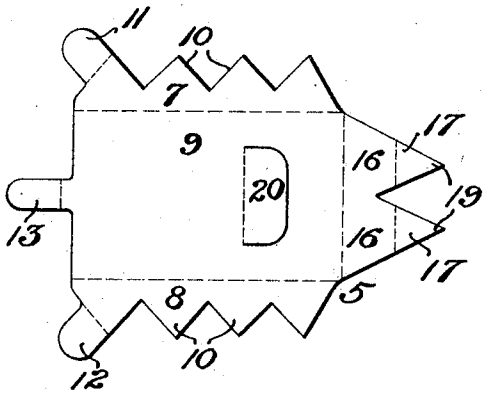


Fig: 4



Witnesses,
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UNITED STATES PATENT OFFICE.

JOSEPH DANIELS, OF CAMDEN, NEW JERSEY.

ICE-CREEPER.

1,326,648. Specification of Letters Patent. **Patented Dec. 30, 1919.**

Application filed December 7, 1918. Serial No. 265,676.

To all whom it may concern:

Be it known that I, JOSEPH DANIELS, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Ice-Creepers, of which the following is a specification.

One object of my invention is to provide ice creepers of simple and durable construction which can be easily and quickly attached to and removed from the shoes.

Another object is to so make my improved creepers that they will hold firmly to the shoes and efficiently serve to prevent accidental slipping.

These objects, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which—

Figure 1 is a perspective view showing my improved creepers attached to a shoe,

Fig. 2 is a central sectional elevation of one of my improved clips taken on the line 2—2 of Fig. 3,

Fig. 3 is a top plan view of one of the clips, and

Fig. 4 is a developed view showing a cut blank of sheet metal before it is bent to complete one of my improved clips.

Referring to the drawing, my improved creepers include two similarly formed clips 5 and 6. Each of the clips is preferably made by cutting or stamping a piece of sheet metal in the shape shown in Fig. 4. This blank, so cut, is bent on the lines, as illustrated by dotted lines in Fig. 4, into the shape shown in Figs. 1, 2 and 3.

Each of the finished clips includes two parallel flanges 7 and 8 located at opposite sides of a central flat portion or plate 9. The flanges have ice-engaging teeth 10 on their lower edges and at their inner ends have laterally extending lips 11 and 12. These lips are made rounded at their outer ends and form abutments for the fingers to facilitate the attachment and removal of the creepers, as will hereinafter be more completely described.

A centrally located hook 13 is bent downwardly from and turned under the plate 9 of each clip. Two of the clips are joined together, as shown in Fig. 1, by a spring 14 coiled in the form of a helix. The spring 14 has its opposite ends provided with eyelets 15 through which the respective hooks 13 of the clips extend. After the hooks and eyelets have been joined, as just described, the ends of the hooks can be pressed close to the end surface of the plates 9 and the clips will be thus prevented from accidentally separating from the springs.

The outer end portion of each of the plates 9 is bent upwardly, as shown at 16, and inwardly, as shown at 17, to provide a sole gripping end 18. The portion 17 is furcated to provide prongs 19 so that when the creepers are attached to a shoe, in the manner shown in Fig. 1, the tension of the spring 14 will cause the prongs 19 to firmly engage the sole of the shoe to hold the clips in position; it being, of course, understood that to attach the creepers to a shoe, it is necessary to stretch the spring 14 beyond its normal length and the energy of said spring will serve to move the clips toward each other and thereby cause the gripping ends 18 of the clips to engage the opposite edges of the shoe sole.

A lip 20 depends from the plate 9 of each clip and is located between the flanges 7 and 8. This lip 20, as illustrated, is produced by partially cutting the plate portion 9, as shown in Fig. 4, and then bending the lip downwardly, as clearly shown in Figs. 1, 2 and 3. The lips 11, 12 and 20 form a purchase for the fingers when attaching or removing the creepers. A good leverage or grip can be secured by placing the thumb against the lip 20 and the two adjacent fingers respectively against the lips 11 and 12 of one of the clips after the other clip has been placed in engagement with one edge of the sole. The spring can thus be stretched until the sole gripping end 18 of the opposite clip is moved clear of the opposite sole, and after the plate 9 of said latter mentioned clip has been moved into flat engagement with the bottom of the sole, the spring 14 can be permitted to contract to cause both of the clips to respectively engage their portions of the sole edge.

Also by providing the lips 11, 12 and 20, the creepers can be attached to a shoe without injury to the fingers by the sharp ice-engaging teeth 10.

The clips can be made of steel and the teeth 10 are preferably hardened so that they will be durable and will not readily become flattened or smooth. By having the clips join centrally with a coiled helix spring, a central tension is provided which

firmly holds the clips in place during the walking action.

While I have described my invention as taking a particular form, it will be understood that the various parts of my invention may be changed without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

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

1. Ice creepers including plates having portions thereon providing ice-engaging teeth; and portions on said plates providing finger-engaging portions for preventing the fingers from injury by said teeth; substantially as described.

2. Ice creepers bent from pieces of sheet metal and including plates having flanges thereon providing ice-engaging teeth; and integral lips on said flanges bent laterally therefrom to provide finger holds; substantially as described.

3. Ice creepers including plates having flanges bent therefrom providing ice-engaging teeth; and lips bent from said plate and located between said flanges and providing a finger hold; substantially as described.

4. Ice creepers including plates having flanges bent therefrom providing ice-engaging teeth; integral lips bent from said flanges and extending laterally therefrom; and lips bent from and located between said flanges and out of alinement with said first lips; substantially as described.

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

JOSEPH DANIELS.

Witnesses:

CHAS. E. POTTS,

AUGUSTUS B. COPPES.