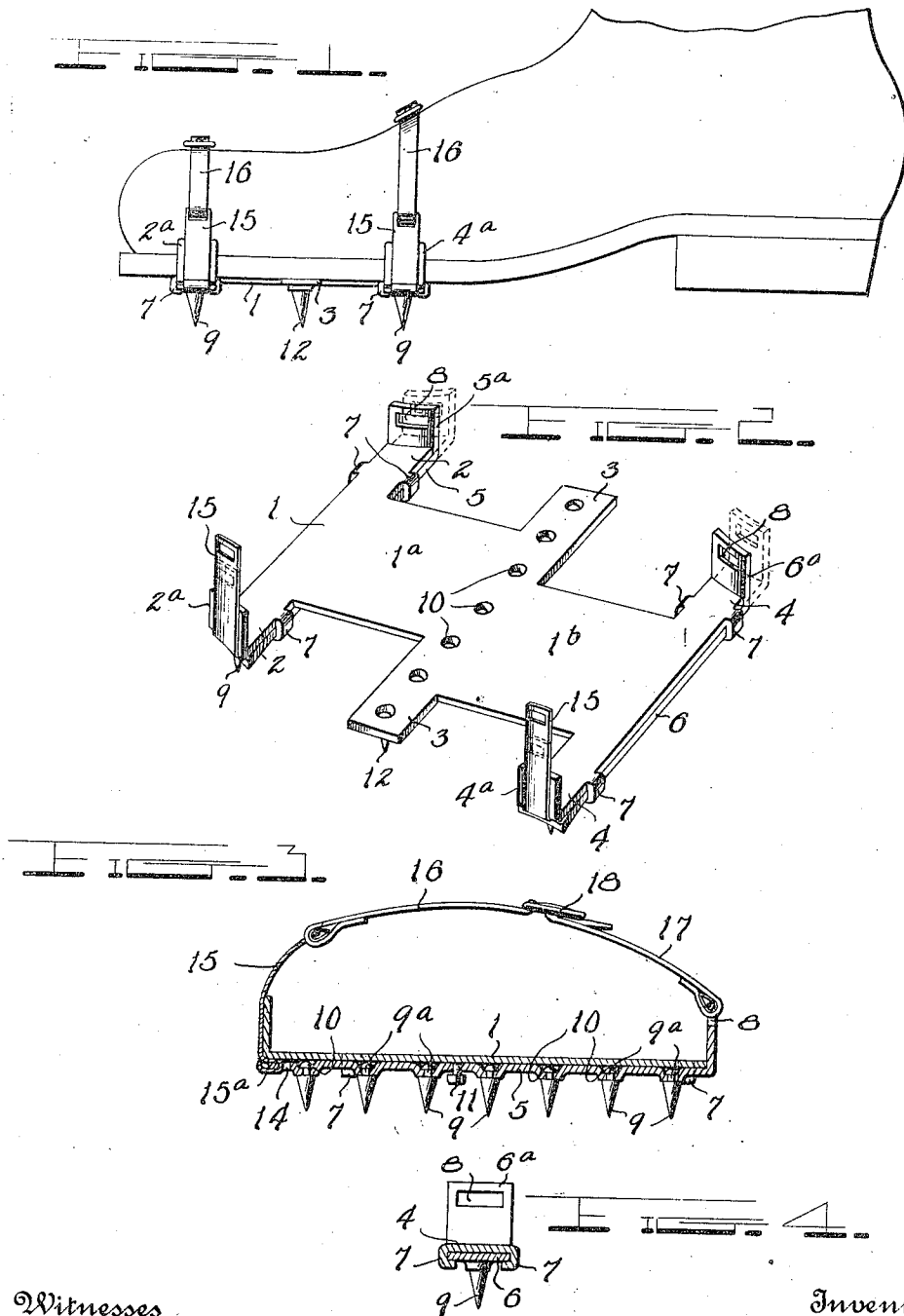


J. MacVANE.
 ICE CREEPER.
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1,154,646.

Patented Sept. 28, 1915.



Witnesses

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ICE-CREEPER.

1,154,646.

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To all whom it may concern:

Be it known that I, JAMES MACVANE, a subject of the King of Great Britain, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Ice-Creepers, of which the following is a specification.

The present invention relates to certain new and useful improvements in ice creepers, and has for its object to provide a device of this character which embodies novel features of construction whereby it can be readily fitted to any shoe, overshoe or article of footwear, and will operate in an effective manner to prevent slipping when walking upon icy pavements and the like.

Further objects of the invention are to provide an ice creeper which is comparatively simple and inexpensive in its construction, which can be easily and quickly adjusted to fit different sizes of shoes, which will not in any manner injure the shoe or article of footwear to which it is applied, and which enables the foot to obtain a firm grip upon icy surfaces.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a side elevation of a shoe provided with an ice creeper constructed in accordance with the invention. Fig. 2 is a detached perspective view of the ice creeper, with the retaining straps removed. Fig. 3 is a transverse sectional view through the ice creeper, the section being taken through one end thereof so as to show the manner of mounting the sliding bars. Fig. 4 is a transverse sectional view through one of the lateral arms of the body and the sliding bar mounted under the same.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Specifically describing the present embodiment of the invention, the numeral 1 designates the main plate or stock which is

adapted to be fitted upon the sole of a shoe or other analogous article of footwear. This stock 1 is provided upon each side thereof with corresponding laterally projecting arms 2, 3 and 4. The lateral arms 2 are arranged at the front of the stock, the arms 3 at an intermediate point in the length thereof, and the arms 4 at the rear of the plate, the corresponding arms upon opposite sides of the plate being in substantial alinement with each other, so as to provide in effect a series of three parallel cross bars adapted to extend transversely across the sole of the shoe. The portions 1^a and 1^b of the stock 1 between the corresponding lateral arms projecting from opposite sides of the stock are offset laterally from each other so that the stock will conform more nearly to the shape of the shoe to which it is applied. For right and left shoes the portions 1^a and 1^b of the stock 1 would be offset in opposite directions so that a pair of the ice creepers when applied in the correct manner to a pair of shoes will properly fit the shape thereof.

A transverse slide 5 is mounted under the forward end of the stock 1 and extends under the corresponding laterally projecting arms 2 thereof. A similar transverse slide 6 is mounted under the rear end of the stock 1 and extends under the laterally projecting arms 4. The said lateral arms 2 and 4 are formed at the sides thereof with ears 7 which are returned around the respective slides to provide guide members through which the slides are adapted to move. One end of the slide 5 is formed with an up-turned sole engaging lug 5^a, and in a similar manner the corresponding end of the slide 6 is formed with a sole engaging lug 6^a, the said lugs 5^a and 6^a being preferably curved transversely so that the edges thereof will not bite into and engage the soles of the shoe and being also provided with strap engaging slots 8. The ends of the lateral arms 2 and 4 on the opposite side of the stock are provided with integral sole engaging lugs 2^a and 4^a respectively which are also transversely curved and have an opposed relation to the sole engaging lugs 5^a and 6^a. With this construction it will be understood that by properly adjusting the slides 5 and 6 the sole of the shoe to which the device is applied can be gripped between the opposed sole engaging lugs on opposite sides thereof.

The slides 5 and 6 are each provided with a series of downwardly projecting teeth 9. In the present instance the upper ends or bases of these teeth 9 are formed with reduced stems 9^a which pass through openings in the bases of depressions 10 formed in the slides, the extremities of the stems 9^a being upset or clenched within the depressions 10 so as to retain the teeth in position. The provision of the depressions 10 prevents the upset ends of the stems 9^a from projecting above the upper surfaces of the slides in such a manner as to engage the stock and interfere with the proper operation of the slides. Each of these slides 5 and 6 is preferably provided with a set screw 11 so that it can be locked securely against movement after being once set in a properly adjusted position. An intermediate series of teeth 12 identical in construction with the teeth 9 extends transversely across the stock 1 and along the laterally projecting arms 3. These teeth 12 are secured to the stock in the same manner the teeth 9 are secured to the slides.

The free end of each of the slides 5 and 6 is formed with a slot 14 through which the returned end of a flexible metal strap 15 is threaded. The upper ends of the flexible metal straps 15 have the usual leather strap members 16 connected thereto, corresponding strap members 17 being connected to the sole engaging lugs 5^a and 6^a of the respective slides and the leather strap members 16 and 17 having the usual buckle connection 18.

The returned ends 15^a of the metal straps 15 engage the slots 14 of the respective slides and have a binding or frictional engagement with the stock which tends to hold the slides against accidental movement. The metallic construction of the strap members 15 is also important for the reason that portions of these strap members extend under the stock and would quickly wear through if made of leather, fabric or like material. When fitting the ice creepers to a pair of shoes the slides 5 and 6 are adjusted so that the sole is clamped between the sole engaging lugs on opposite sides of the device. The binding engagement of the returned ends 15^a of the metal straps 15 with the stock 1 will serve to hold the slides in an adjusted position, although it is preferable to provide some positive locking means such as the set screws 11 which can be tightened after the slides have been ad-

justed. The outer ends of the metal straps 15 are then bent upwardly against the respective sole engaging lugs 2^a and 4^a. The leather strap members 16 and 17 can then be buckled over the top of the shoe, as illustrated by Fig. 1, so as to hold the device securely in position. After the ice creepers have once been adjusted they can be very quickly applied to the shoe or removed therefrom, and when in position will enable the shoe to obtain a firm grip upon slippery and icy surfaces so that slipping is practically impossible.

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

1. An ice creeper including a stock provided upon opposite sides thereof with corresponding laterally projecting arms, the said arms upon one side of the stock terminating in sole engaging lugs, transversely disposed slides mounted upon the stock and extending under the laterally projecting arms, said slides terminating in sole engaging lugs which have an opposed relation to the before mentioned sole engaging lugs of the stock, metal straps extending under the stock and connected to the slides and arranged and constructed to produce a binding engagement with the stock, and strap connections between the metal straps and the sole engaging lugs of the slides.

2. An ice creeper including a stock formed upon opposite sides thereof with corresponding laterally projecting arms, one set of the arms terminating in sole engaging lugs, transversely disposed slides mounted under the stock and extending under the lateral arms thereof, said slides terminating in sole engaging lugs having an opposed relation to the before mentioned sole engaging lugs of the stock, teeth carried by the slides, means for locking the slides in an adjusted position, metal strap members extending under the stock and connected to the slides and arranged and constructed to produce a binding engagement with the stock, and strap connections between the metal straps and the sole engaging lugs of the slides.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES MACVANE.

Witnesses:

WILFRID H. BEAULIEU,
HENRY W. KIMBALL.