

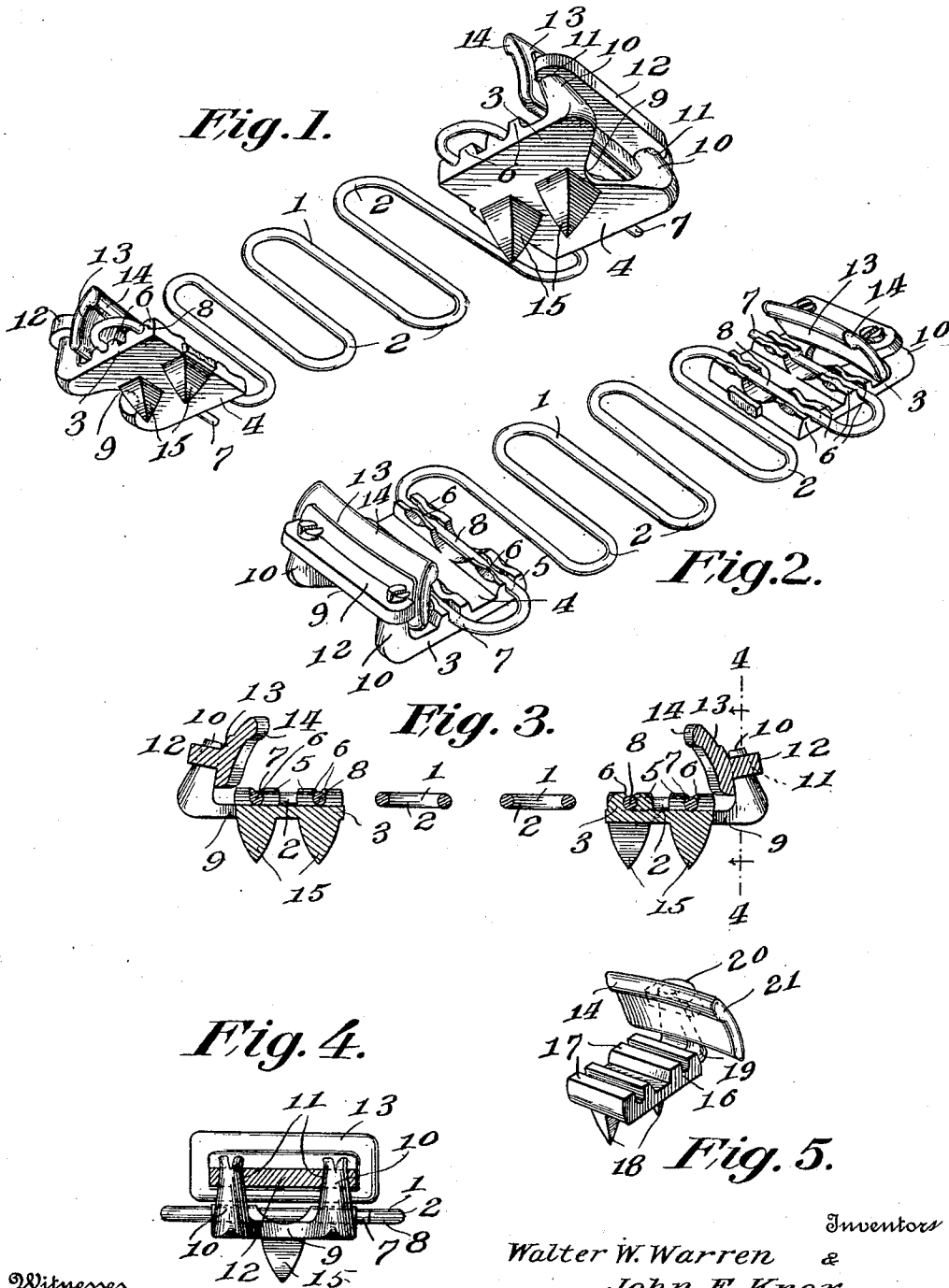
W. W. WARREN & J. E. KNOX.

ICE CREEPER.

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1,005,676.

Patented Oct. 10, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

WALTER W. WARREN AND JOHN E. KNOX, OF TERRYVILLE, CONNECTICUT.

ICE-CREEPER.

1,005,676.

Specification of Letters Patent.

Patented Oct. 10, 1911.

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To all whom it may concern:

Be it known that we, WALTER W. WARREN and JOHN E. KNOX, citizens of the United States, residing at Terryville, in the county of Litchfield and State of Connecticut, have invented new and useful Improvements in Ice-Creepers, of which the following is a specification.

This invention relates to ice creepers, and has for an object to provide a device of this character that can be readily placed upon the sole of the rubber or shoe or applied to the heel, the construction of the supporting portion of the device being such as to prevent tearing the rubber or injuring the shoe.

In the drawing, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a bottom perspective view of the ice creeper. Fig. 2 is a top perspective view of the same. Fig. 3 is a section taken longitudinally through the device. Fig. 4 is a section on line 4—4 of Fig. 3. Fig. 5 is a perspective view of a slightly modified form of attaching plate.

Our improved ice creeper comprises a spring 1 which is formed preferably of a single length of spring wire bent upon itself so as to form a plurality of identically constructed parallel loops 2. An attaching device 3 is located at each end of the spring, and as illustrated, it embodies a base plate 4 having a plurality of pairs of retainers 5 thereon each embodying alining pairs of upstanding transversely extending spaced lugs 6. The outer arm 7 of the end loop of the spring is fitted between the lugs of the outer pairs and the inner arm 8 of the end loop of the spring is fitted between the lugs of the inner pairs, the companion pairs of lugs being pinched against the arms 7 and 8 of the end loops so as to securely hold the attaching device in its applied position to the spring without the assistance of such permanent fastening devices as rivets, screws or the like.

Each attaching device is bifurcated at its outer end, as at 9, and formed to provide a pair of upstanding substantially conical studs 10 which extend through suitable passages 11 in the flange 12 of the shoe-engag-

ing element 13. The shoe-engaging element is longitudinally curved and is disposed immediately above the attaching device and formed at its upper end to provide a longitudinal bead 14 which presents a relatively broad curved contacting surface for a purpose to be hereinafter described. Each attaching device is formed on its underside to provide one or more spurs 15. The conical studs have their upper extremities split vertically and spread upon the upper surface of the flange 12, as shown.

In the modified form of attaching device shown in Fig. 5 of the drawing, the attaching plate 16 is somewhat smaller than the one shown and described in the preferred form of our invention and it is provided on its upper surface with a plurality of pairs of longitudinally extending lugs 17 and on its under surface with a plurality of spurs 18. At the outer end, the attaching plate is formed to provide a single substantially conical stud 19 which extends through the flange 20 of the plate 21. This plate in other respects is identical in construction with the construction of the attaching plate described in the preferred form of our invention.

From the construction described it will be seen that the opposite attaching devices when mounted on the supporting spring are relatively movable and adjustable so as to permit of a quick engagement of the plates with the sole of the shoe or with the rubber. If desired the device may be engaged with the heel of the shoe, as is obvious. By providing the attaching plates with the curved beads 14 of the construction specified, I guard materially against mutilation of the shoe or of the rubber, this being particularly incident to the fact that the said beads present the relatively broad curved contacting surfaces hereinbefore referred to. It may be described that the shoe-engaging element 13 of the base plate 4 of the attaching device extends upwardly and inwardly at an angle with respect to the said base plate so that the bead 14 when presented to the shoe will overlie the sole thereof.

We claim:

An ice creeper constructed from a single length of spring material formed to provide

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a plurality of parallel loops, an attaching device secured to each end loop and provided on its underside with a plurality of spurs, studs formed on the plate and provided with
5 upper split portions, and a shoe-engaging element disposed above the plate and provided with an apertured portion receiving the split ends of the said studs.

In testimony whereof we affix our signatures in presence of two witnesses.

WALTER W. WARREN.
JOHN E. KNOX.

Witnesses:

ALFRED BLAKESLEE,
JULIA W. ELLS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
