

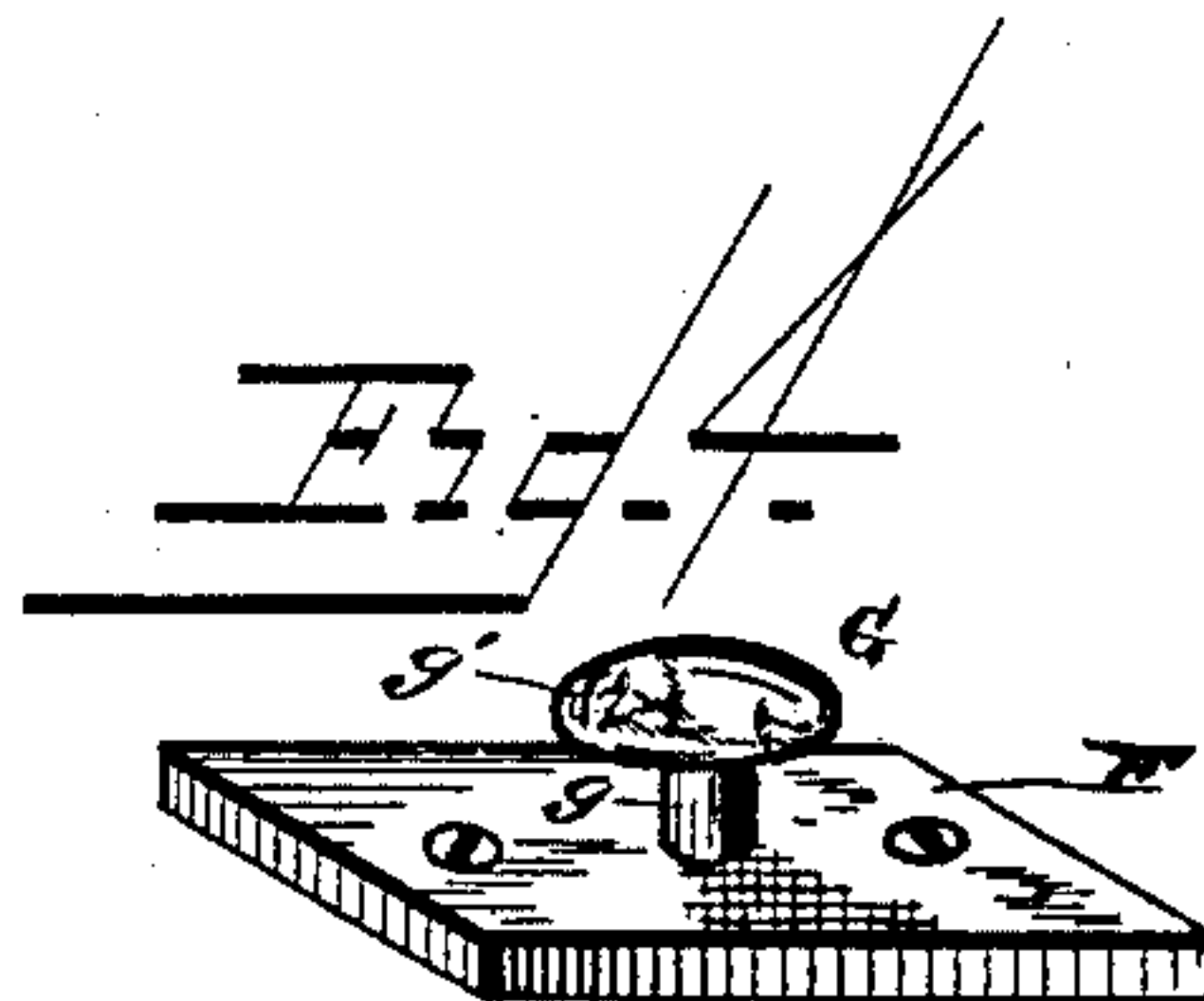
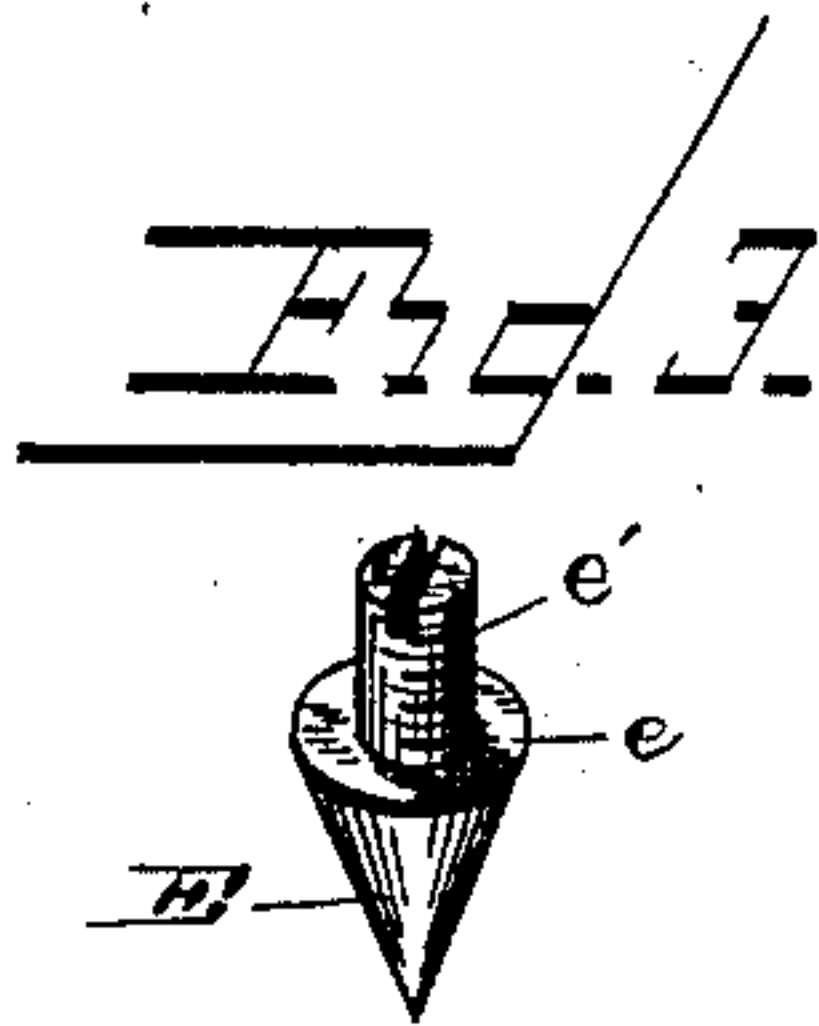
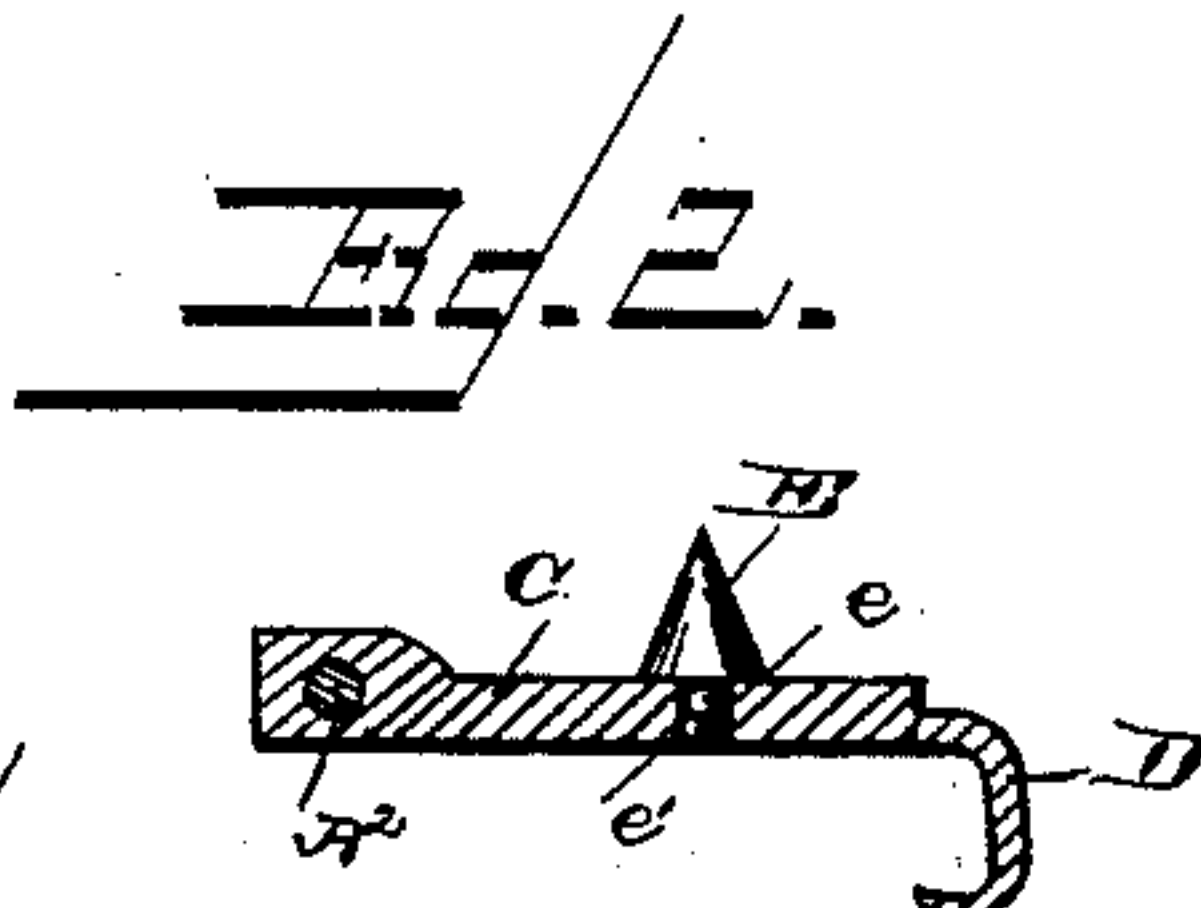
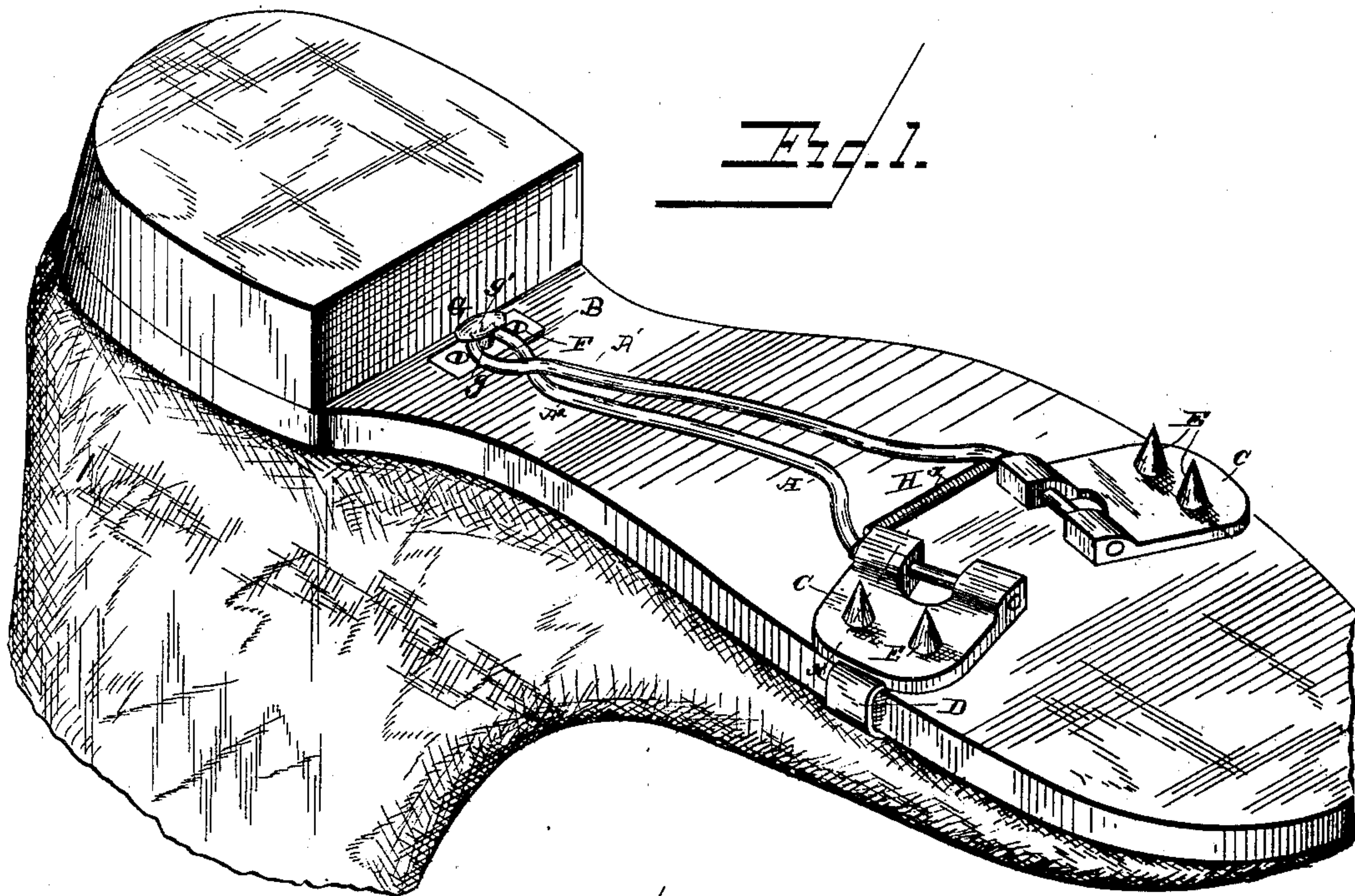
(No Model.)

J. A. DIEHL & N. WEISS.

ICE CREEPER.

No. 360,666.

Patented Apr. 5, 1887.



Witnesses

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# UNITED STATES PATENT OFFICE.

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ONE-THIRD TO HENRY R. SCHLOUCH AND ALLEN W. HAINES, OF  
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## ICE-CREEPER.

SPECIFICATION forming part of Letters Patent No. 360,666, dated April 5, 1887.

Application filed February 14, 1887. Serial No. 227,569. (No model.)

*To all whom it may concern:*

Be it known that we, JULIUS A. DIEHL and NOAH WEISS, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Ice-Creepers, of which the following is a specification.

Our invention relates to improvements in ice-creepers; and it consists in a certain novel construction and arrangement of parts for service, hereinafter fully described, specifically pointed out in the appended claims, and clearly illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of the bottom of a shoe having our improved creeper attached thereto. Fig. 2 is a detail section on the line *xx* of Fig. 1. Fig. 3 is a detail perspective view of one of the points detached from the creeper. Fig. 4 is a similar view of the detent for the heel or rear end of the said creeper.

Referring to the drawings, in which similar letters denote corresponding parts in all the figures, A designates a large doubled steel spring bent at the rear end to form the longitudinally-elongated loop B, and having the two forwardly-extending arms *A'* *A''*, the front ends of which are spread apart and each passes through and is secured in a plate, C. Said plates C are each provided on the upper side at the outer edge with an upwardly-projecting flange, D, being slightly inturned at the upper edge, the object of said flanges being to clasp the outer edges of the sole of the shoe when the said sole is placed on top of the plates C, the spring A serving to hold said flanges in close engagement with the edges of the sole.

E represents the points, each plate being provided with two or more, which are adapted to screw up into threaded openings in said plate until the shoulder *e* at the lower end of the screw-threaded portion *e'* comes firmly against the under side of the plate. These points are adapted to be withdrawn and new and sharp ones substituted when broken or worn smooth, and for this purpose a slot or crease similar to that in the head of a screw is placed in the upper end of the screw-threaded

portion of the point to facilitate the insertion thereof.

F represents a plate adapted to be secured by screws passed therethrough to the sole of the shoe immediately in front of the heel, and having the detent G thereon, which comprises the stud *g* and the elongated or elliptical cross-head *g'*.

As the length of the loop B in the large spring extends longitudinally with the shoe, and the length of the cross-head *g'* extends transversely across the shoe, it is evident that to place said loop in engagement with the detent it is necessary to pass it over the cross-head with the length of the said spring at right angles to its proper position, or the length of the shoe. After having slipped it down on the stud beyond the cross-head, turn the said spring, with the plates attached thereto, to its proper position, and, separating the plates sufficiently to pass the sole of the shoe between the flanges, place the sole of the shoe firmly on the plates, and then allow the spring to act and clasp said sole between the flanges.

To give additional security to the creeper, we provide a coiled spring, H, attached at each end to one of the arms of the large spring just in rear of the plates and adapted to draw the said arms strongly together to clasp the sole firmly.

It will be seen that having firmly secured the creeper to the shoe, it cannot possibly be dropped or thrown off, as the power of the springs is sufficient to hold the flanges in engagement with the sole of the shoe at the front, and the heel or rear end of the spring cannot become detached until the entire creeper is turned at right angles to its proper position. (Said position at right angles to the shoe is shown in dotted lines in Fig. 1.)

Thus we provide an ice-creeper which it is impossible to loosen or detach accidentally, and in which the points can be replaced when worn or broken by the owner of the creepers, the fact of the said points being provided with a screw making it sufficiently easy for any one to insert a new point. The simplicity of the device is also a commendable point, the parts being few, and it is particularly adapted for the service for which it is designed, being ex-



ceedingly strong and durable. The device is also very lightly constructed, the material of the plates being cut away where it is possible to do so without impairing the strength thereof, as seen in Fig. 1.

Our improved creeper will be found to be an exceedingly serviceable and desirable article and a great improvement over similar devices now in use in point of security on the shoe, strength, and general adaptability to the purpose for which it is designed.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In an ice-creeper, the long steel spring A, having plates C attached to the front ends and provided with flange D and points E, combined with the auxiliary spiral spring H, attached at each end to an arm of the spring A, substantially as described, for the purpose set forth.

2. An ice-creeper comprising the plates C, having points E and flanges D, to clasp the sole of the shoe at the front, combined with the spring A, having the front ends attached to said plates and having a longitudinally-elongated loop, B, in the rear end, the plate F, secured in front of the heel of the shoe and hav-

ing a detent, G, thereon, adapted to receive and engage the loop B of the spring, substantially as and for the purpose herein set forth.

3. In an ice-creeper, the plates provided with the points to engage in the ice, combined with the flanges to engage the edges of the sole of the shoe and hold the front part of the creeper from movement, and the loop B, connected with the said plates and adapted to engage over a detent to secure the rear end of the creeper from movement, substantially as described, for the purposes hereinbefore set forth.

4. An ice-creeper comprising the looped spring, a fixed detent passing through the loop of the spring to hold one end thereof against displacement, and the toothed plates secured to the free ends of the spring and having the clips adapted to take over the edge of the sole, as and for the purpose described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JULIUS A. DIEHL.  
NOAH WEISS.

Witnesses:

JAMES MCGLINN,  
W. S. Y. MYERS.