

(No Model.)

C. N. SHANNON.
ICE CREEPER.

No. 411,512.

Patented Sept. 24, 1889.

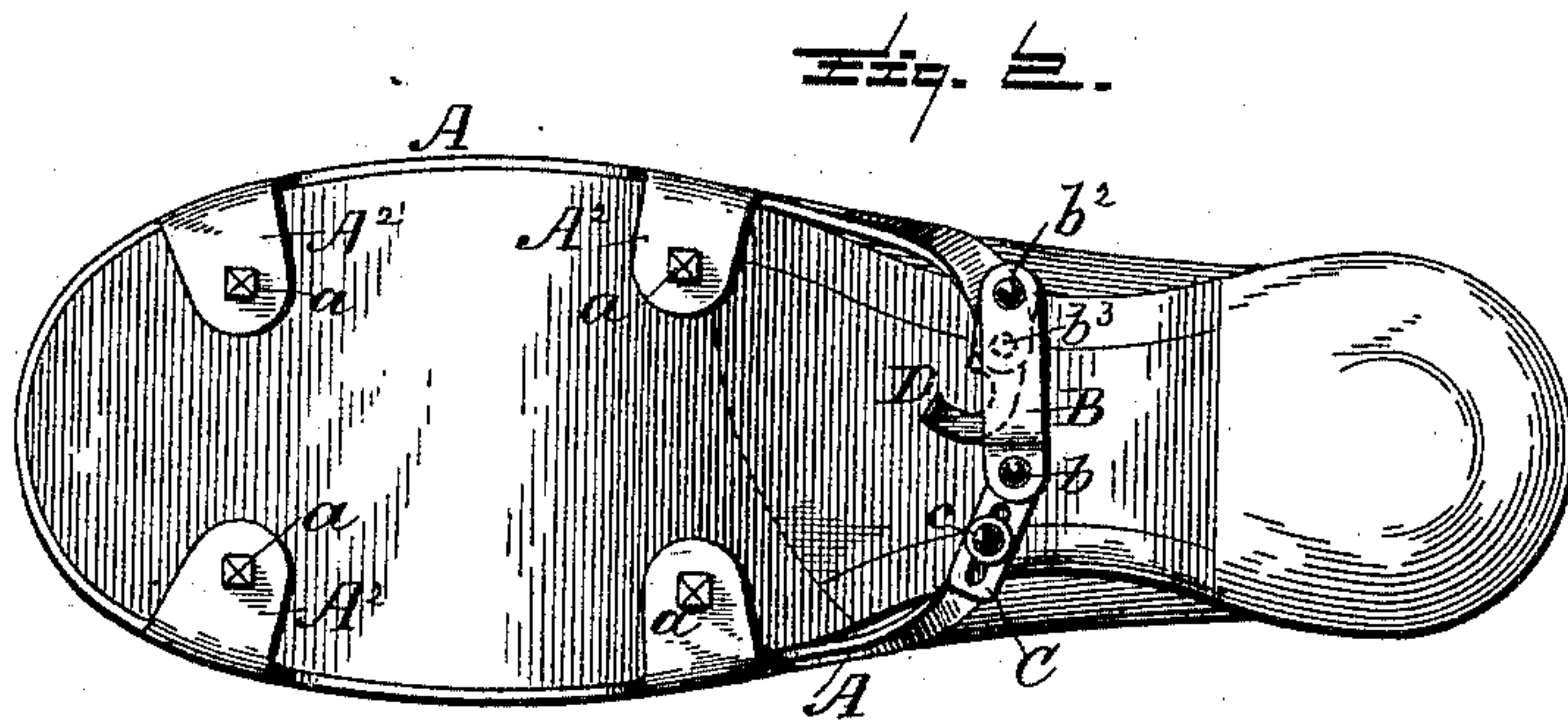
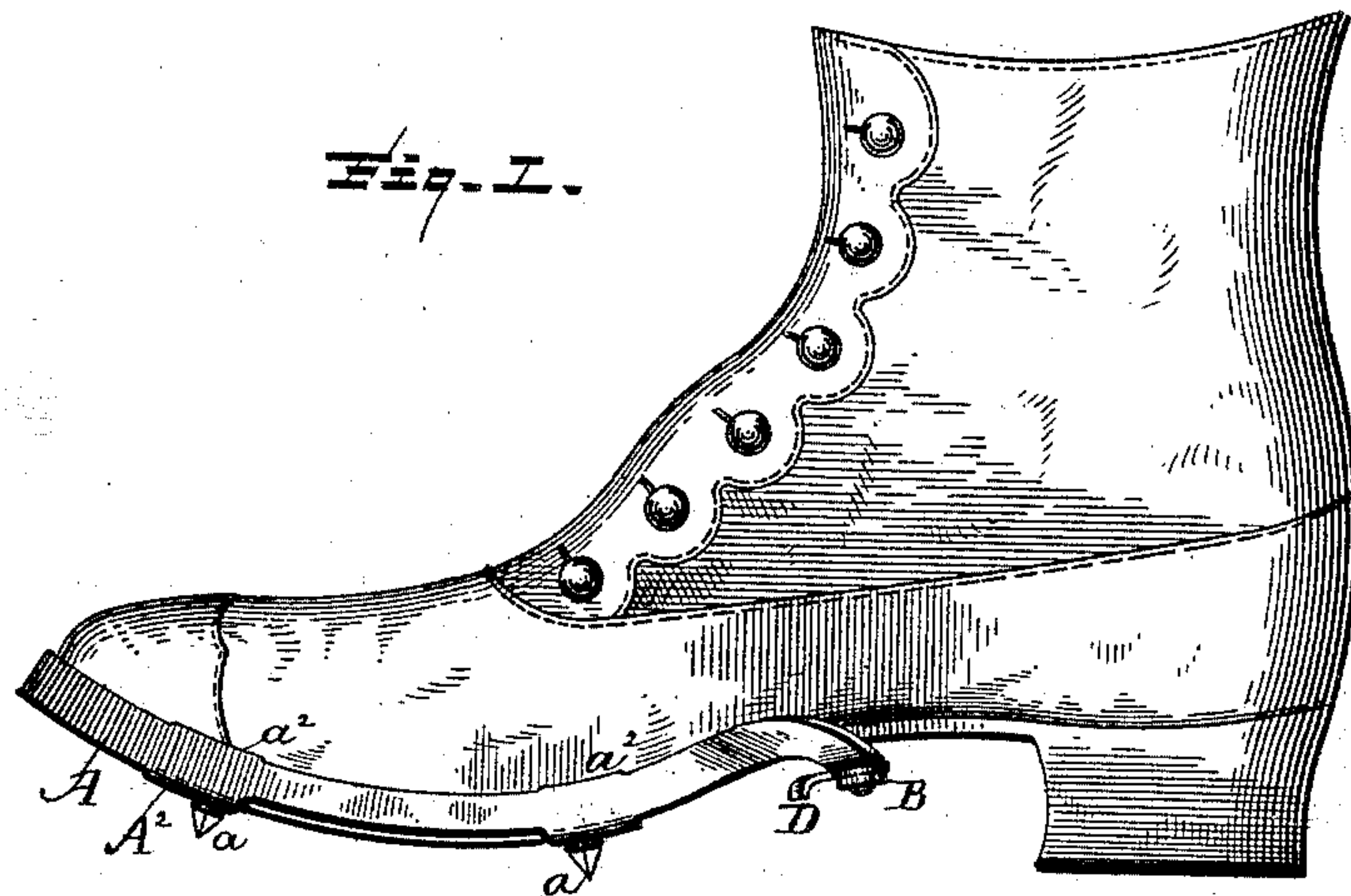


Fig. 3.

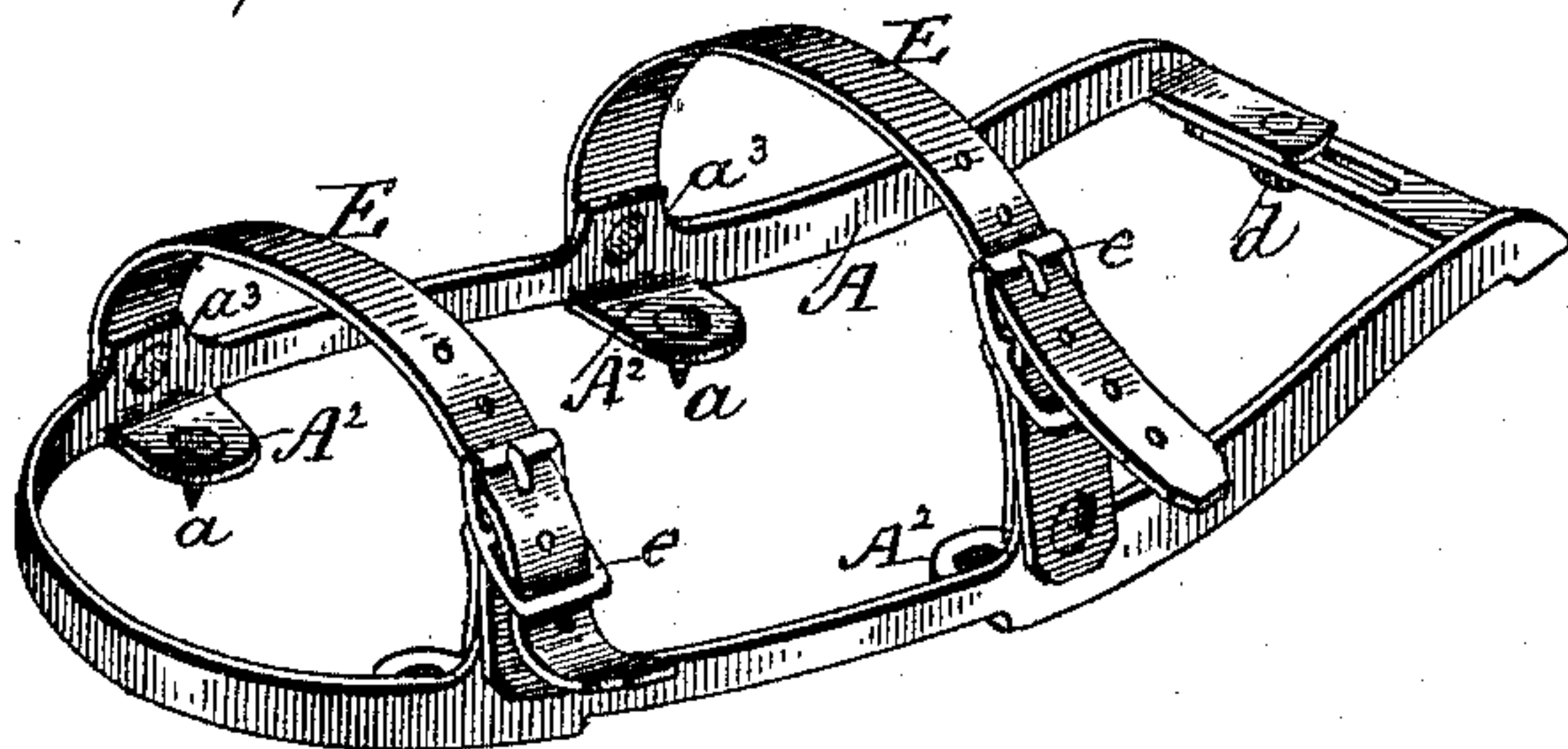
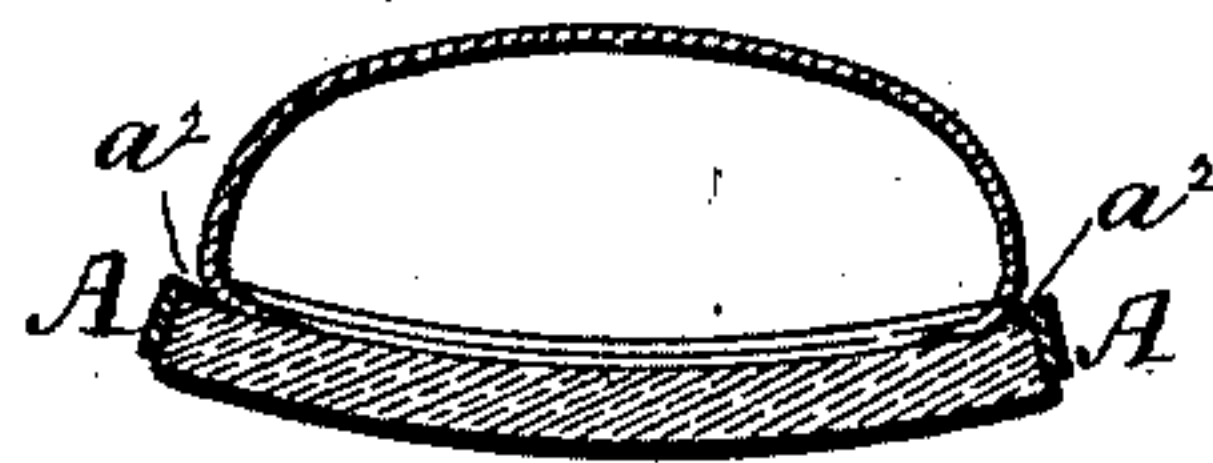


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

CYRUS N. SHANNON, OF ST. CLOUD, MINNESOTA.

ICE-CREEPER.

SPECIFICATION forming part of Letters Patent No. 411,512, dated September 24, 1889.

Application filed June 21, 1889. Serial No. 315,082. (No model.)

To all whom it may concern:

Be it known that I, CYRUS N. SHANNON, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Ice-Creepers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to ice-creepers adapted to be secured under the soles of boots and to be promptly removed therefrom; and the objects of my invention are to produce a simple, light, and inexpensive ice-creeper particularly adapted for use by railroad-brakemen and others who have to climb and walk on top of freight-cars when they are slippery from various causes, and to permit said ice-creeper to readily bend and conform itself to the periphery of boot-soles and without materially interfering with their elasticity. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a boot provided with ice-creepers constructed in accordance with my invention. Fig. 2 is a bottom view of the same. Fig. 3 is a perspective view of a slightly-modified form of a creeper provided with straps to adapt it for use with rubber overshoes. Fig. 4 is a transverse section of a boot with the ice-creeper attached thereto.

In said drawings, A represents a pliable band of metal bent about the middle of its length in conformity with the toe end of the boot or shoe and having its extremities adj-
justably united together under the instep of said boot by any suitable means.

In Figs. 1 and 2 the means are shown to consist of two links and a pivoted lever, the link B having one end pivoted at b to a longitudinally-slotted link C, and the latter is adjustably connected to one extremity of the band A by means of a screw c , passing through the slot of the link C and entering a screw-tapped perforation in the extremity of the band. The opposite end of the link B is pivoted at b^2 to one end of the lever D, said lever having its opposite end bent laterally and downward to form a thumb-piece to revolve it around its pivot b^2 when it is desired to apply

the ice-creepers to or remove it from a boot, one of the extremities of the band A being pivoted at b^3 to the lever D at a point between its pivot and its thumb-piece.

In the modification shown in Fig. 3 the links B C and the lever D are dispensed with, but the extremities of the band A are made to lap past each other, and one of said extremities is longitudinally slotted, and a screw d passes through the slot and enters the screw-tapped opposite extremity of the band A and clamps together the lapped portions of said band; and although this mode of securing the ice-creeper to the boot is of simple construction it is not regarded as reliable as that shown in Figs. 1 and 2.

The band A has no continuous flanged edge to extend under the sole of a boot, as it would interfere with the flexibility of said band and its adaptability to conform with the edge of the sole of said boot, but has only a series of distinct and separate lugs A^2 , flanged therefrom, that extend a short distance inwardly under the sole of a boot, and each lug has a pointed spur a to readily engage into ice or other slippery surface. The lugs A^2 are preferably made to project slightly beyond the edge of the band A, (or, when in use, below said edge,) so that as the sole rests only in parts upon said lugs the somewhat yielding leather of the sole will, under the ball of the foot, bear upon the metal rounds of the ladders or stirrups usually found at the ends of freight-cars, and will not be as liable to slip sidewise upon said rounds or stirrups, and will thereby prevent accidents to the user.

To retain the ice-creepers suspended from the sole of a boot, its upper edge is provided with two or more inwardly-flanged short lips a^2 —one opposite each lug A^2 , Figs. 1 and 4—that rest in the groove formed between the sole and the upper of a boot, and retain the ice-creeper in position in connection with the clamping device under the instep.

If the ice-creeper is to be used with rubber overshoes that have no perceptible groove between the sole and upper, the lips of the band are kept turned up, as shown at a^3 in Fig. 3, and at these points the ends of straps E are riveted to the band A, one of the straps of

each pair being provided with a buckle *e* to receive one end of the strap to secure the device to the foot of the wearer.

I am aware that ice-crawlers have been
5 formed of a plate more or less cut away in the center and applied to the bottom or wearing surface of the sole of a boot, and secured thereto by clamps engaging with the edge of the sole, and also with straps, and said plate
10 has also been made in sections hinged at the toe end; but they all differ from my continuous flexible metal band, that encircles the edge of the sole and leaves the ball of said sole entirely free from metal surface.

15 Having now fully described my invention, I claim—

1. An ice-crawler consisting of a flexible metal band having its middle portion bent to fit around the edge of the toe end of a sole
20 and the edges of said sole, a series of separate lugs *A*², flanged therefrom and adapted to ex-

tend under the sole and provided with spurs and lips *a*², inwardly projecting from the upper edge of said band, and means to connect the ends of said band, substantially as de- 25 scribed.

2. An ice-crawler consisting of a flexible metal band having its ends adjustably united together and bent to rest flatwise against the edge of a boot-sole, and having a series of
30 separate lugs *A*², adapted to extend under said sole, and spurs on said lugs, in combination with means, as set forth, whereby it is adapted to be secured to a boot, substantially as described. 35

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

CYRUS N. SHANNON.

Witnesses:

JAMES E. WING,

ANDREW C. ROBERTSON.