(No Model.)

R. P. SCOTT.

ICE CREEPER.

No. 556,107. Patented Mar. 10, 1896.

Fig. 1.

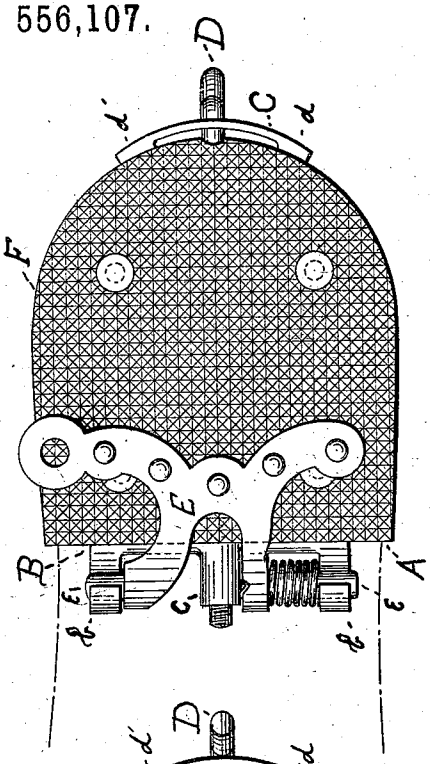


Fig. 2.

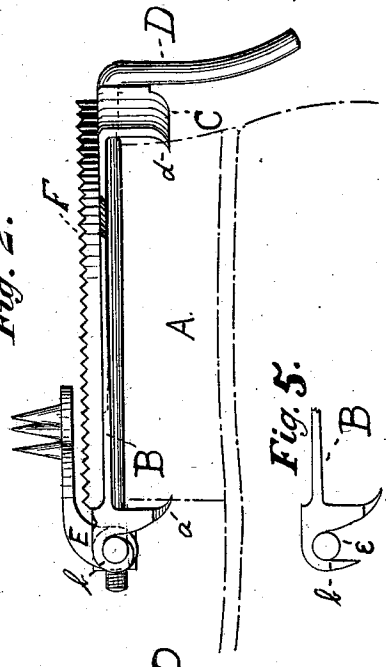


Fig. 5.

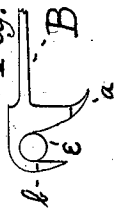


Fig. 3.

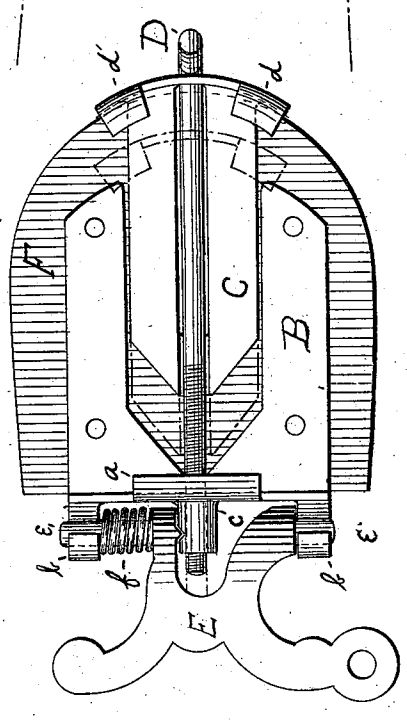
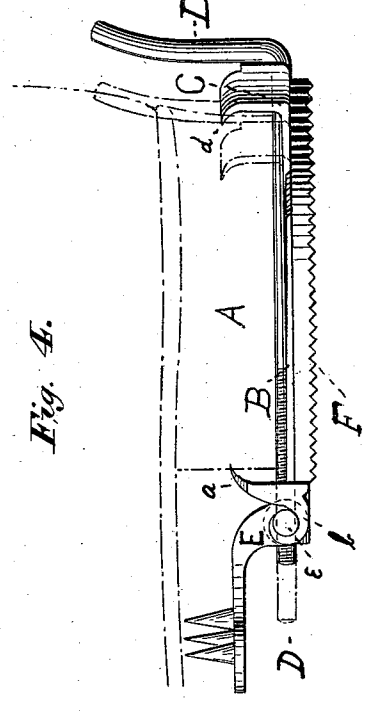


Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT P. SCOTT, OF BALTIMORE, MARYLAND.

ICE-CREEPER.

SPECIFICATION forming part of Letters Patent No. 556,107, dated March 10, 1896.

Application filed February 16, 1891. Renewed January 3, 1896. Serial No. 574,265. (No model.)

To all whom it may concern:

Be it known that I, ROBERT P. SCOTT, a citizen of the United States, residing at the city of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Ice-Creepers, of which the following is a specification.

My invention relates to improvements in ice-creepers, including that class commonly known as "reversible," wherein the calk-plate may be turned toward and against the arch of the shoe when the creeper is not in active use.

The objects of my invention are to provide a generally-improved ice-creeper as a whole and especially improved in the following respects:

First, in providing an ice-creeper clamping device applicable to either reversible or non-reversible creepers, which is adjustable to all the various sizes of shoes without the necessity of an assortment of independent lengths. An extensive experience in the past has shown that great difficulty exists in providing a practicable creeper of sufficient adjustability to accommodate itself to all sizes of shoes. Consequently dealers were obliged to keep a large assortment on hand for the purpose of supporting the demand for large, small, or medium sizes. In our present device ample adjustability is obtained by so locating the surplus length of the adjusting-rod that its presence, whether long or short, is no detriment to the creepers.

Second, in providing an ice-creeper with a supplemental flexible heel-sheet covering that portion of the metallic clamping device which rests on the bottom of the heel or sole, and thereby preventing its contact with the sidewalks. Reversible ice-creepers heretofore in use in which a metallic clamping device rested partly or wholly on the bottom of the heel or sole of the shoe were open to the serious and almost fatal objection that such a surface when in contact with an ordinary sidewalk, as it would be in its non-active position, had a very considerable tendency to slip and was particularly unsafe on a hard and smooth sidewalk, as of stone. While it accomplished the object of preventing the wearer from slipping on the ice when the creeper was in its operating position, yet when in its non-active position this dangerous tendency more than counterbalanced its useful features. As a consequence that style of creeper was practically worthless, although embodying many features otherwise quite valuable. My present invention completely obviates the above-mentioned objection, as will hereinafter be set forth.

Third, in providing an ice-creeper which is attachable to shoes having unusually low heels. Many reversible ice-creepers are not applicable to low heels, for the reason that there is not sufficient depth from the bottom of the shoe-heel to the shoe-shank to permit a calk-plate to be turned in against the arch of the shoe as contemplated and still clear the ground in walking. The supplemental heel-sheet, as will be explained, overcomes the objection as well as having the additional advantages mentioned heretofore.

Fourth, in providing an ice-creeper over which an ordinary rubber overshoe can be worn without detaching the creeper from the shoe.

Before considering my invention in detail it may be noted that although it is usually preferable to fasten the creeper to the heel of the shoe, yet I do not desire to limit my claims to the heel alone, but contemplate its application to the sole of the shoe as well. For convenience, however, I illustrate and describe the creeper as attached to the heel only; also, that the clamping device, independently of other features of my invention, may be applied to either a reversible or non-reversible ice-creeper; also, that the flexible supplemental heel-sheet is claimed as valuable only in connection with a reversible ice-creeper.

I attain the objects of my invention by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the under side of the creeper attached to a shoe-heel and in its operative position. Fig. 2 is an inverted side view of the same. Fig. 3 is a plan view of the upper side of the creeper unattached to a shoe-heel and in its inoperative or non-active position. Fig. 4 is a side view of Fig. 3 with the addition of a shoe. Fig. 5 is a side view of one of the projecting calk-supporting ears

and of the forward clamping-jaw, the former as originally cast and the latter in its bent or final form.

Similar letters of reference indicate corresponding parts throughout the several views.

In the said drawings, A is a shoe-heel.

B is one of the two metallic base-plates, usually of malleable iron, adapted to be flat on the face or tread of the shoe-heel and provided at its forward end with the angular and inwardly-bent clamping jaw or clip *a*, the forwardly-extending calk-plate-supporting ears *b b'*, and the similarly-extending tubular boss *c*, the latter being interiorly screw-threaded.

C is the companion plate to the said plate B and is provided at its rear end with two angular clamping-jaws *d d'*. The said clamping-jaws *d d'* and the forward jaw *a* are adapted to be brought in clamping relation with the rear and breast of the shoe-heel, respectively. The said plates B and C lie in the same plane and have a sliding or telescopic relation with each other and are actuated by means of the adjusting and holding crank-rod D. This rod D extends longitudinally and centrally in line with the base-plates B and C, and likewise with the shoe-heel. It is screw-threaded on a portion of its forward length and adapted to play freely through the rear and angular part of the base-plate C and to engage in threaded relation with the interior of the boss *c*. The said rod D is bent at its rear portion, forming a convenient lever or crank whereby it may be readily manipulated in adjusting and clamping the creeper to the shoe-heel by drawing the two base-plates B and C into their proper clamping position on the said shoe-heel.

The limit of the advancing progression of the base-plate C is shown in Figs. 3 and 4 by the dotted lines of the said plate, that being the minimum clamping size of the ice-creeper for very small heels. The extensive limit will of course depend on the length of the crank-rod D, which may be sufficient to span the largest-size heel.

E indicates the reversible or swinging calk-plate, which is provided with two arms *e* and *e'*, by which it is pivoted to its supporting-ears *b b'*, and may be turned into its operative or inoperative positions at will. The said calk-plate E is further provided at the inner end of its arm *e* with a small cam or V-shaped projection adapted to play in a similar negatively-formed cam or notch or the boss *c*. This arm *e* is surrounded by a coiled compression-spring *f*, which in conjunction with the said cam and notch operate as detents in retaining the calk-plate in its two positions, as will be understood. This particular arrangement of the spring, cam, and notch is not claimed as new independently of its present combination.

F indicates the supplemental heel-sheet, usually having its under surface corrugated or dented, as shown in the present instance. This may be of any flexible yielding or resilient substance, as of rubber. It is firmly secured to the metallic base-plate B at the under side thereof by rivets or other suitable means, and as the said plate, together with other parts of the creeper lying on the face of the heel is entirely covered by this means, any contact with the ground by the metallic part of the creeper is thereby avoided when the latter is in its inoperative position.

The supplemental heel-sheet may be made of sufficient areal dimensions to cover the surface of the largest heel and can be readily trimmed down to conform to the marginal contour of smaller shoe-heels when so desired.

It will be noticed that the supporting-ears *b b'* are almost on a level with the bottom surface of the supplemental heel-sheet F, and, according to the thickness of the latter, just so much increased heel depth will correspondingly be gained in permitting the calk-plate to be swung into the arch of the shoe, and by this means it allows the calk-plate to clear the ground freely in its non-active position in many cases wherein a low shoe-heel would otherwise prevent it.

The base-plate B may be conveniently cast in a single piece including the clamping-jaw *a* and the calk-plate-supporting ears *b b'*. The former may then be bent slightly inward to provide a proper grip on the shoe-heel, as shown in Fig. 5, and the said ears may be bent so as to partially surround the pivotal ends of the calk-plate arms E E', as shown in all figures except Fig. 5, wherein it is not bent into final form.

It will also be observed that the complete creeper constructed and assembled as shown and set forth presents an integral whole without disconnected parts liable to loss or accidental separation.

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

1. An ice-creeper comprising two base-plates having upwardly-projecting clamp-jaws, a threaded rod passing through one of the said plates and engaging in screw relation with the other plate, a supplemental heel-plate of flexible material secured to one of the base-plates, a calk-plate swinging from one of the base-plates and means for retaining the same in its two positions, substantially as described and for the purpose set forth.

2. An ice-creeper comprising the base-plate B provided with jaw *a*, ears *b*, *b'* and boss *c*, the base-plate C provided with jaws *d*, *d'*, the threaded rod D passing through one plate and engaging with the other in screw relation, the flexible plate F, the calk-plate E swinging from one of the base-plates and provided with suitable locking-detent, substantially as described and for the purpose set forth.

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