

(No Model.)

2 Sheets—Sheet 1.

N. ECKHARDT & N. ECKHARDT, Jr.
HORSE ICE CREEPER.

No. 581,543.

Patented Apr. 27, 1897.

Fig. 1.

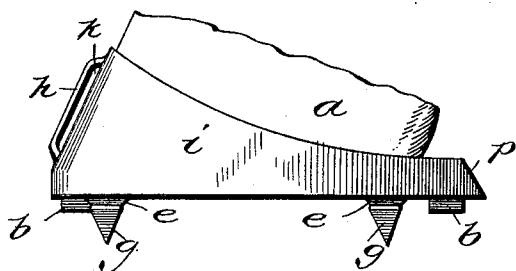


Fig. 2.

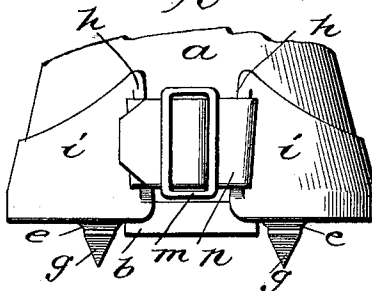


Fig. 3.

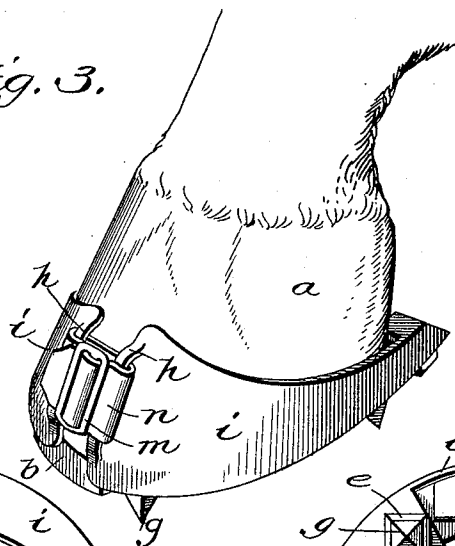


Fig. 4.

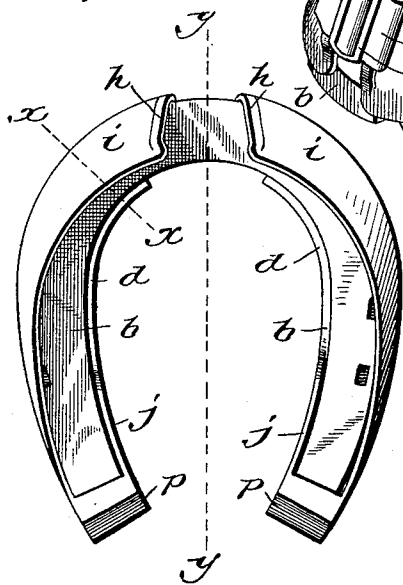
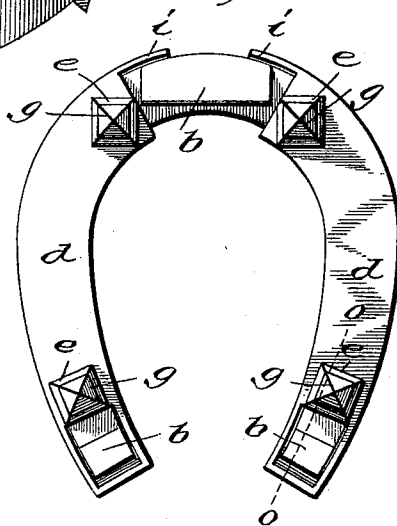


Fig. 5.



Witnesses
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2 Sheets—Sheet 2.

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Fig. 6.

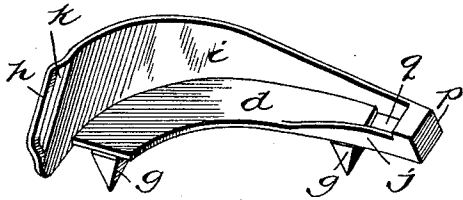


Fig. 7.

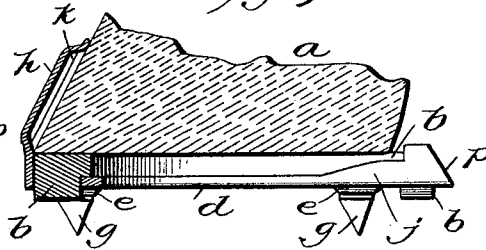


Fig. 8.

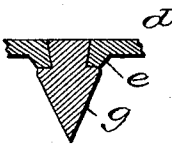


Fig. 9.

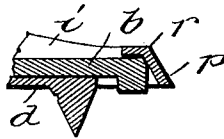


Fig. 10.

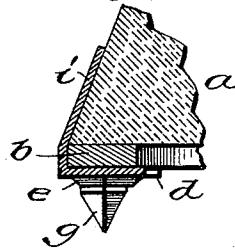


Fig. 11.

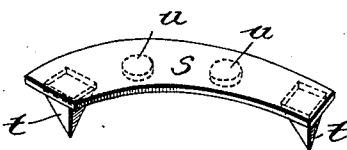


Fig. 12.

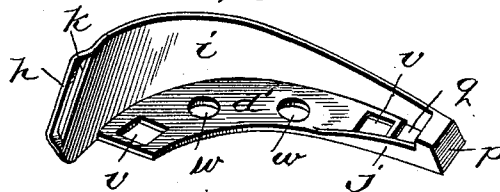


Fig. 13.

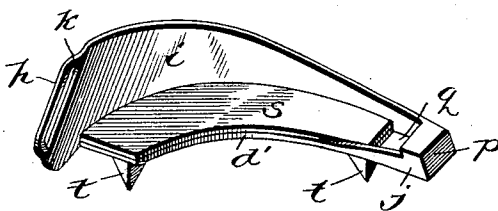
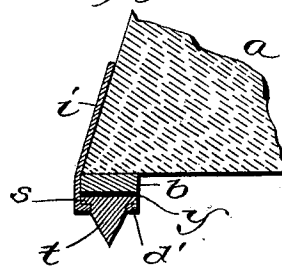


Fig. 14.



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UNITED STATES PATENT OFFICE.

NICHOLAS ECKHARDT AND NICHOLAS ECKHARDT, JR., OF WASHINGTON,
DISTRICT OF COLUMBIA.

HORSE ICE-CREEPER.

SPECIFICATION forming part of Letters Patent No. 581,543, dated April 27, 1897.

Application filed February 15, 1897. Serial No. 623,466. (No model.)

To all whom it may concern:

Be it known that we, NICHOLAS ECKHARDT, and NICHOLAS ECKHARDT, JR., citizens of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Horse Ice-Creepers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form part of this specification.

The object of our invention is to provide a simple adjustable attachment which can be quickly attached to a horse's foot by any inexperienced person without the use of wrenches or any device outside of the shoe itself and which can be applied to any shoe no matter how worn it may be or whether it already has heels and toes or old calks which have become useless or whether it be a perfectly flat shoe.

To that end our invention consists of two separate twin shells, the rear ends of which are so constructed that they fit over the rear ends or heels of the ordinary shoe and are fastened in front with a strap and buckle, said shells being provided on their under sides with calks.

We will now describe the manner in which we have carried out our invention, reference being had to the accompanying drawings, in which—

Figure 1 shows a side view of the device as attached to the foot. Fig. 2 is a front view of same. Fig. 3 is a perspective view showing general appearance of the device as applied to the foot. Fig. 4 is a top view in position upon the shoe. Fig. 5 is an under side view of same, showing position of calks and manner of avoiding the heels and toes of the ordinary shoes. Fig. 6 is an inside view of one of the shells. Fig. 7 is a vertical section taken on the line *y y* of Fig. 4. Fig. 8 is a section of one of the calks. Fig. 9 is a vertical section taken on the line *o o* of Fig. 5. Fig. 10 is a similar section taken on the line *x x* of Fig. 4, showing a portion of the hoof. Figs. 11, 12, 13, and 14 are views show-

ing a modification of the method of applying the calks to the shells.

Referring to the drawings, *a* represents the hoof of a horse, and *b* the ordinary shoe, secured thereto in the usual manner.

Our device comprises two duplicate shells, one of which is shown in Fig. 6 and is constructed of a base-plate *d*, provided at one edge with an upright flange *i*, said flange being extended beyond the ends of the base-plate. The base-plate is also provided on its inner rear edge with a flange *j*, which also extends beyond the end of the base-plate, and the ends of flanges *j* and *i* are connected by the beveled cross-piece *p*, thus leaving an opening *q*, through which the heel-calk of the shoe passes. The flange *i* gradually increases in height from the rear of the shell to the front thereof and is provided with a raised portion *h*, said portion being provided with an opening *k* for the reception of the strap *n*. The forward part of the flange *i* thus serves as a protection to the hoof from contact with sharp pieces of ice, while at the same time the fastening mechanism is raised sufficiently above the base of the shoe as to be effectually guarded against injury.

To the under side of the base-plate *d* are secured the calks *g*, said calks being either formed integral with the base-plate, as shown in Fig. 9, or made separate and riveted in the base-plate, as shown in Fig. 8. Where the calks are riveted to the base-plate, said plate is provided with a boss *e* in order to strengthen the connection between the plate and the calk.

The shells can be secured together by any fastening means, although we prefer to use a strap *n* and buckle *m*. By using a strap and buckle the shells can be easily tightened in case they work loose, and, furthermore, do not require the use of a wrench or other implement.

By tightening the strap *n* the bevel-plate *p* is always drawn tight against the point *r* of the shoe, thereby keeping the plate *d* in contact with the shoe, thus securing a firm and solid support for the foot.

The base-plates of the shells are cut away in front, so as not to interfere with the toe-calk of the shoe.

The device can be easily adjusted to differ-

ent-sized shoes by simply tightening or loosening the strap, no matter what the thickness of the shoe may be.

It is immaterial whether the shoe is provided with calks or not, as the bevel cross-piece always bears against the heel of the shoe and tends to draw the shell tighter to the shoe.

Referring to Figs. 11, 12, 13, and 14, which disclose a modification of the means for applying the calks to the shells, d' represents the base-plate of a shell, said plate being provided with openings v and w .

In Fig. 11, s represents a plate shaped to conform to the base-plate d' , said plate being provided with the calks t , formed integral therewith, and with one or more retaining or strengthening lugs u . In use the plate s rests upon the base-plate d' , the calks t passing through the openings v and the retaining or strengthening lugs passing through the openings w .

When the device is constructed as disclosed in Figs. 11, 12, 13, and 14, the shells can be made of one kind of metal and the plate can be made of a harder metal.

In some instances it may be found desirable to interpose a packing y , of rubber or leather, as shown in Fig. 14, between the shoe and the base-plate of the shell in order to prevent noise. Said packing is to be secured to the shells in any manner.

One of the principal features of our device is that it does away with screws or bolts and all necessary accessories thereto, while it retains all the advantageous features. Moreover, where screws or bolts are employed they are liable to rust. Especially is this so where they are employed underneath the foot to secure the clips or creepers to the shoe. Furthermore, where the fastening means is placed beneath the foot it is more liable to injury, and also becomes so clogged with snow, ice, and dirt that it is very difficult to remove the creepers.

We do not desire to limit ourselves to the details of construction herein shown and described, but reserve to ourselves the right to make such changes in the form, proportion, and minor details of construction as may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having fully disclosed our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. As an article of manufacture, an ice-creeper shell, carrying calks, and provided near its rear end with an opening through which the heel-calk of the shoe is adapted to pass, and with a lug or flange adapted to embrace the heel-calk, substantially as described.

2. As an article of manufacture, an ice-creeper shell carrying detachable calks, and provided near its rear end with an opening through which the heel-calk of the shoe is adapted to pass, and with a lug or flange

adapted to embrace the heel-calk, substantially as described.

3. As an article of manufacture, an ice-creeper shell provided with calk-openings in its base, and at its rear end with an opening through which the heel-calk of the shoe is adapted to pass, and with a lug or flange adapted to embrace the heel-calk, and a plate provided with calks, which calks are adapted to pass through the openings in the base-plate, substantially as described.

4. In an ice-creeper, the combination of twin shells provided with calks and having openings in their rear ends through which the heel-calks of the shoe are adapted to pass, and means for securing the shells together, substantially as described.

5. In an ice-creeper, the combination of twin shells, provided with detachable calks, openings in the rear ends of said shells through which the heel-calks of the shoe are adapted to pass, and means for securing the shells together, substantially as described.

6. In an ice-creeper, the combination of twin shells, provided with calks, and having openings in their rear ends through which the heel-calks of the shoe are adapted to pass, lugs or flanges adapted to embrace the heels of the shoes, and means for securing the shells together, substantially as described.

7. In an ice-creeper, the combination of twin shells provided with calks, and having openings in their rear ends through which the heel-calks of the shoe are adapted to pass, beveled flanges or lugs adapted to embrace the heels of the shoe, and means for securing the shells together, substantially as described.

8. In an ice-creeper, the combination of twin shells, openings in the base-plates of the shells, openings in the rear ends of the shells through which the heel-calks of the shoe are adapted to pass, a plate provided with calks, which calks are adapted to pass through the openings in the base-plate, and means for securing the shells together, substantially as described.

9. In an ice-creeper, the combination of twin shells, openings in the base-plates of the shells, openings in the rear ends of the shells through which the heel-calks of the shoe are adapted to pass, lugs or flanges adapted to embrace the heels of the shoes, a plate provided with calks, which calks are adapted to pass through the openings in the base-plates and means for securing the shells together, substantially as described.

10. In an ice-creeper, the combination of twin shells, provided with calks, the vertical walls of said shells increasing in height and conforming to the hoof from the rear to the front, openings in the rear ends of said shells through which the heel-calks of the shoe are adapted to pass and means for securing the shells together, substantially as described.

11. In an ice-creeper, the combination of twin shells provided with calks, and having

openings in their rear ends through which the heel-calks are adapted to pass, lugs or flanges adapted to embrace the heels of the shoes, packings secured to the upper surface of the
5 base-plates of the shells, and means for securing the shells together, substantially as described.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

NICHOLAS ECKHARDT.
NICHOLAS ECKHARDT, JR.

Witnesses:

DANIEL N. KLAPP,
F. T. J. MURPHY.