

(No Model.)

V. F. COONS & L. C. S. FRICK.
HORSESHOE.

No. 586,304.

Patented July 13, 1897.

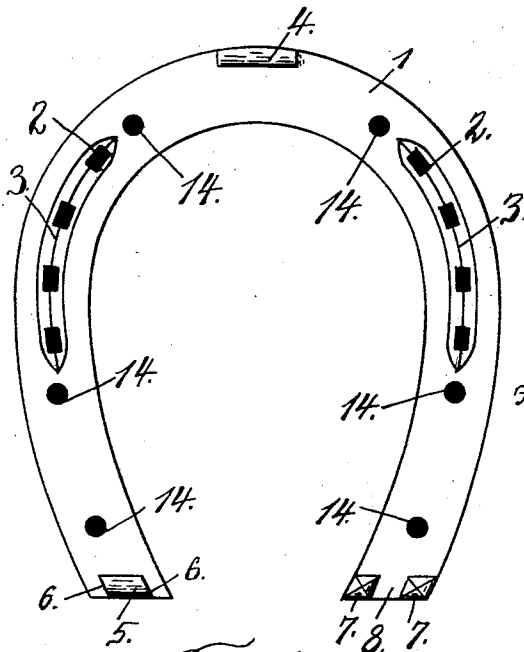


Fig. 1.

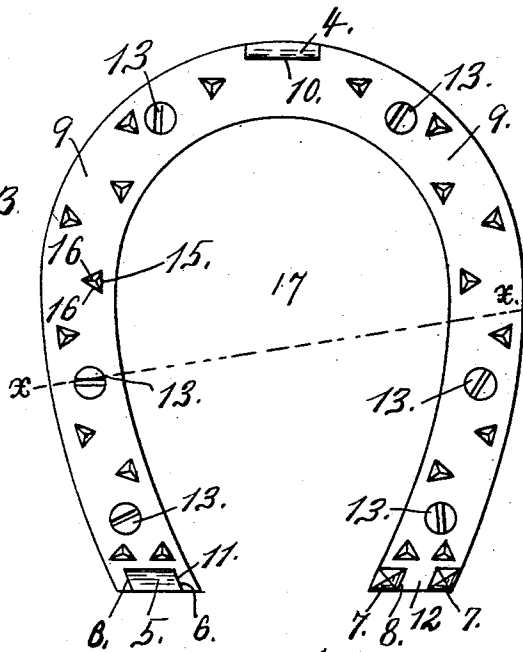


Fig. 2.

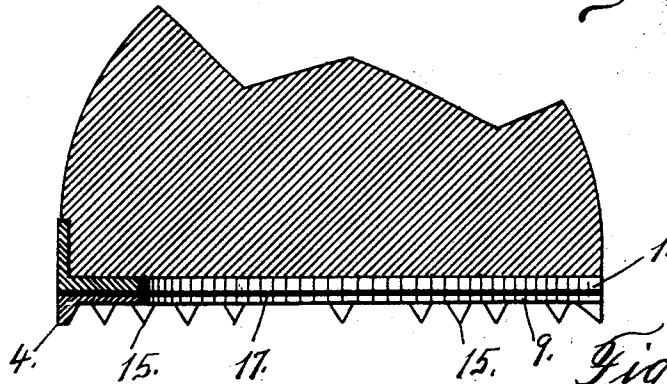


Fig. 3.

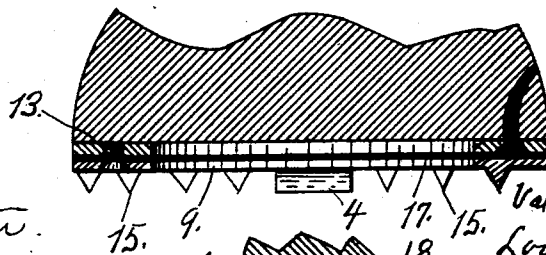


Fig. 4.

Witnesses.

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Fig. 5.

UNITED STATES PATENT OFFICE.

VALINTINE F. COONS AND LOUIS C. S. FRICK, OF BUFFALO, NEW YORK.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 586,304, dated July 13, 1897.

Application filed December 5, 1896. Serial No. 614,631. (No model.)

To all whom it may concern:

Be it known that we, VALINTINE F. COONS and LOUIS C. S. FRICK, citizens of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Horseshoes; 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 figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in horseshoes, and particularly to that class which are provided with antislipping attachments.

The object of our invention is to provide an attachable and detachable plate carrying a series of pointed calks which can be secured to or removed from the shoe proper, as occasion requires, without necessitating the removal of the shoe from the hoof, and to additionally provide removable means for protecting the frog.

To that end our invention consists of a specific construction of the shoe proper, in combination with a specific form of plate carrying pointed calks and adapted for removable engagement with the shoe proper.

Our invention further consists of other details of construction, all of which will be more fully hereinafter set forth and claimed.

In the drawings, Figure 1 is an under side view of the shoe proper. Fig. 2 is an under side view of the shoe proper and attachable calk-plate in position. Fig. 3 is a central vertical longitudinal section of the shoe and plate in position. Fig. 4 is a vertical transverse section taken in the line *xx* of Fig. 2, and Fig. 5 is a sectional modification.

Referring to the drawings, 1 is the shoe proper, having the usual nail-holes 2 and grooves 3 for the reception of the nail-heads when the shoe is secured to the hoof.

4 is the usual toe-calk.

5 is one form of heel-calk made narrower than the width of the shoe, as shown, thus leaving the vertical side shoulders 6 6, and 7 is another form of heel-calk of the same width

as the shoe, but provided with the central vertical recess 8. This form of shoe, as shown, is adapted for ordinary use.

Our improved antislipping plate is constructed and applied to the shoe proper as follows: 9 is such plate, of a configuration similar to the shoe. 10 is a vertical recess in front adapted for the snug reception of the toe-calk 4 of the shoe. One of the rear ends of the plate 9 is provided with the recess 11 for the reception of the heel-calk 5, and the other rear end has the central projection 12, adapted to rest within the recess 8 of the heel-calk 7. Either of these two forms of engagement of the plate with the heel-calks may be employed, and both are intended to prevent accidental lateral displacement of the plate 9 when in position upon the shoe, the recess 10 in the front of the plate performing a similar function in connection with the toe-calk 4 of the shoe. The plate 9 is removably secured to the shoe 1 by means of the screws 13, engaging in the screw-threaded aperture 14, which are countersunk, as shown in Fig. 4, to enable the screw-heads to lie flush with the under face of the plate 9, which has arranged thereon a series of pointed calks 15, preferably formed with three equilateral sides 16, this form of calk having been found to be most effective in taking hold of a slippery surface.

To protect the frog and prevent the balling of snow on the bottom of the hoof, we have provided the diaphragm 17, (see Figs. 3 and 4,) preferably made from a soft material, such as leather or rubber. This is secured in place between the shoe and plate by the screws 13 passing therethrough.

To protect the diaphragm from accidental puncture, we have provided the construction shown in Fig. 5, in which 18 18 are two separate diaphragms of leather or rubber, and 19 is an interposed protective plate, preferably of thin sheet metal or cloth, which will effectually prevent the puncturing of the diaphragm by forcible contact with a sharp stone or other projection upon the road or street.

Our improved calk-plate is simple in construction and can be quickly secured in position when desired for use upon a slippery road or street and can be as quickly removed when not necessary.

The plate 9 by reason of its peculiar construction can be drop-forged, or, if desired, may be cast of steel.

We claim—

- 5 The combination with a shoe proper having the usual toe-calk and vertically shouldered or recessed heel-calks, of a removable plate provided with pointed calks and vertically recessed in front for the reception of the toe-calk of the shoe and vertically shouldered or
10 recessed at its rear ends for engagement with the vertically shouldered or recessed heel-calks of the shoe, a diaphragm of soft material secured between the shoe and plate, and

a flexible metallic protective plate similar to 15 the diaphragm and similarly secured in position, and means for securing the plate, diaphragm, and protective plate to the shoe proper, substantially as shown and described.

In testimony whereof we have signed our 20 names to this specification in the presence of two subscribing witnesses.

VALINTINE F. COONS.
LOUIS C. S. FRICK.

Witnesses:

W. T. MILLER,
C. B. BUTLER.