T. W. MURPHY.

HORSESHOES.

No. 194,712. Patented Aug. 28, 1877.

Fig. 1.

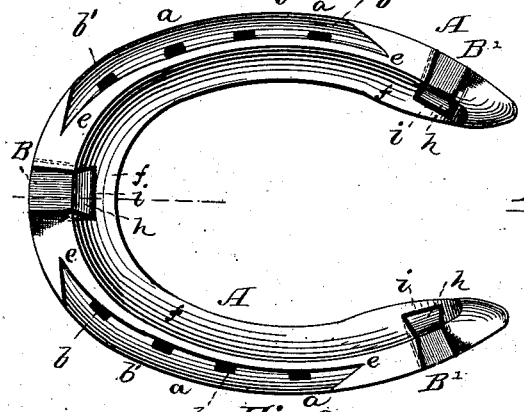

Fig. 5.

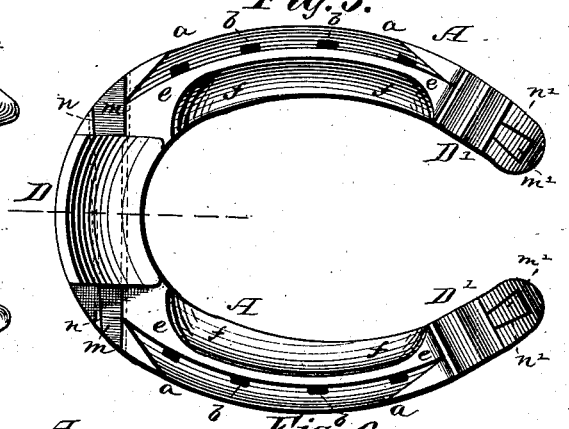

Fig. 2.

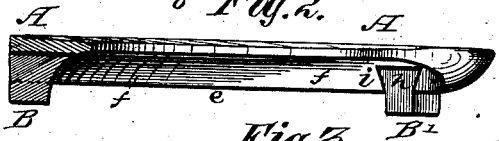

Fig. 6.

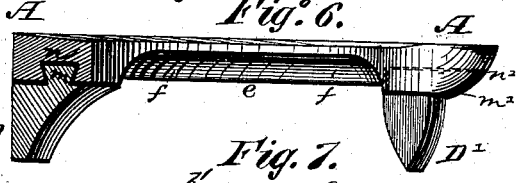

Fig. 3.

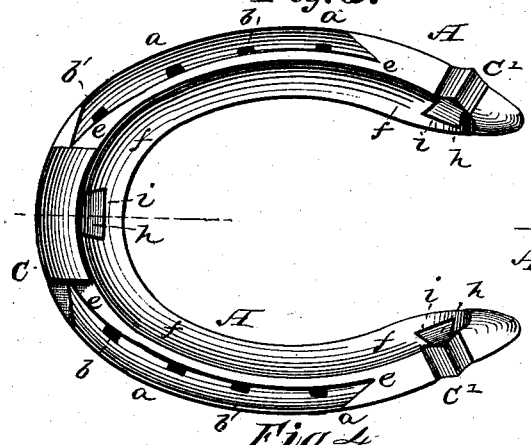

Fig. 7.

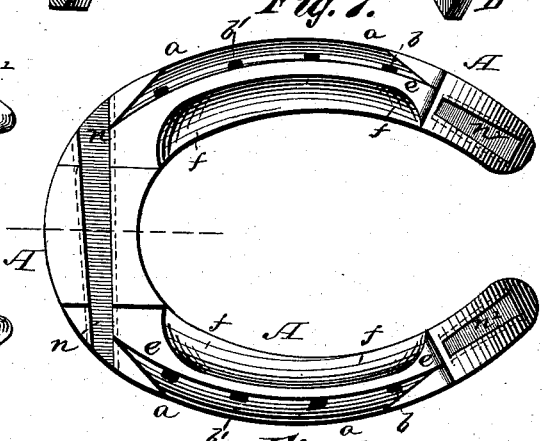

Fig. 4.

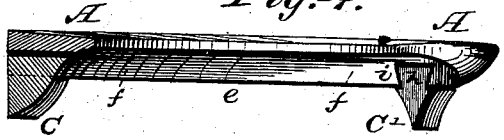

Fig. 8.

Fig. 9.

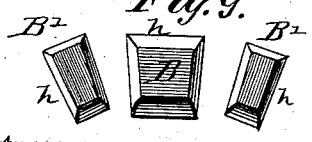

Fig. 11.

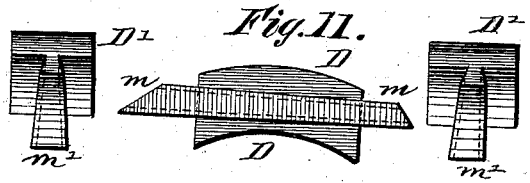

Fig. 10.

Witnesses:

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UNITED STATES PATENT OFFICE.

TIMOTHY W. MURPHY, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. **194,712**, dated August 28, 1877; application filed July 7, 1877.

To all whom it may concern:

Be it known that I, TIMOTHY W. MURPHY, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Horseshoes; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction of a horseshoe having a calk on the outer edge of the shoe, and a central ridge with an inner curved concavity, all extending on each side of the shoe from the heel-calks to the toe-calk, said calks being formed separate from the shoe, and provided with dovetailed tapering fastening, and the shoe inclined on its upper surface, as hereinafter more fully set forth.

In the annexed drawings, which fully illustrate my invention, and to which reference is made, Figure 1 is a bottom view of my horseshoe as made for light draft and for use in the summer. Fig. 2 is a section of the same. Fig. 3 is a bottom view of the same shoe adapted for use in the winter, and Fig. 4 is a section thereof. Fig. 5 is a bottom view of my horseshoe as made for heavy draft, with the calks in position. Fig. 6 is section of the same. Fig. 7 is a bottom view, and Fig. 8 a section, of the same shoe with the calks removed. Figs. 9, 10, and 11 represent the calks as applied to my horseshoe.

A represents the horseshoe, made in the usual form, and having its upper surface slightly inclined downward from the outer edge to the inner, as shown in Figs. 2, 4, 6, and 8, which inclination has a tendency to spread the hoof of the horse when the shoe is properly put on. In the under side of the shoe are made the side creases *a a*, with nail-holes *b b* therein, said creases extending along both sides, from the toe of the shoe to, or nearly to, the heel thereof. The metal outside of the creases *a a* forms a continuous sharp edge, *b'*, along each edge of the shoe, on the under side. These edges, in case the calks should become broken off, lost, or worn down, act as calks along both sides of the foot, which is of great advantage, and oftentimes prevents accidents that might otherwise occur. Along the inner sides of the creases *a a* the metal forms a continuous ridge, *e*, and from this ridge inward to the inner top edge of the shoe the metal is hollowed out, forming a continuous concave, *f*, on the under and inner side of the shoe. This makes the shoe light, while it yet retains all the strength required for ordinary purposes. In heavy-draft shoes the concavity *f* does not extend around the toe, but is simply along both sides of the shoe, as shown in Figs. 5 and 7.

B B' represent the toe and heel calks respectively used for summer wear in a light-draft shoe, and C C' represent the corresponding calks used in the same shoe for winter wear. All these calks are provided with dovetailed tapering tenons *h h*, which enter corresponding dovetailed tapering grooves *i i*, formed in the shoe A. The toe-calks are inserted from the front, and the heel-calks from the outer sides, and, being tapering—that is to say, the tenons being thus shaped—they can be hammered in tightly in their respective grooves, and will not come loose unless by hammering from the inside outward, the combined taper and dovetail making them bind tightly, and become almost, or even fully, as firm as if they were rigidly connected to the shoe.

For heavy-draft shoes the calks are united to the shoe on the same principle, but applied differently, so as to allow for the great strain put upon them. In this case the toe-calk D is formed with a dovetailed tapering tenon, *m*, running lengthwise thereof, and projecting a suitable distance beyond each end of the calk, and the groove *n* in the shoe, to receive said tenon, runs across the under side of the toe, from side to side, as shown in Fig. 7. The tenons *m'* of the heel-calks D' run at right angles to them and extend beyond their rear sides, and the grooves *n'* run lengthwise from the heel inward.

By thus elongating the different tenons a firmer and longer bearing is obtained, making the entire shoe solid and durable for a heavy-draft shoe.

Any desired mode of fastening the calks

may be used, and, as the dovetailed slots are tapering, the calks may be easily secured by a blow of the hammer upon the shoe at each side of the calk.

I am aware that outer continuous calks are not new, and also that beveled dovetailed fastenings for calks have been used, and do not, therefore, claim such as my invention; but

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

As a new article of manufacture, the shoe A, having outer edges *b'*, ridges *e*, and the curved concavity *f*, extending from the heel to the toe-calk on each side, and the toe and heel calks provided with dovetailed tapering fastenings, and the shoe having an inclined upper surface, constructed and arranged as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

TIMOTHY W. MURPHY.

Witnesses:
C. H. WATSON,
FRANK GALT.