No. 720,409. PATENTED FEB. 10, 1903.

W. M. DICKEY.

HORSESHOE.

APPLICATION FILED JULY 3, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

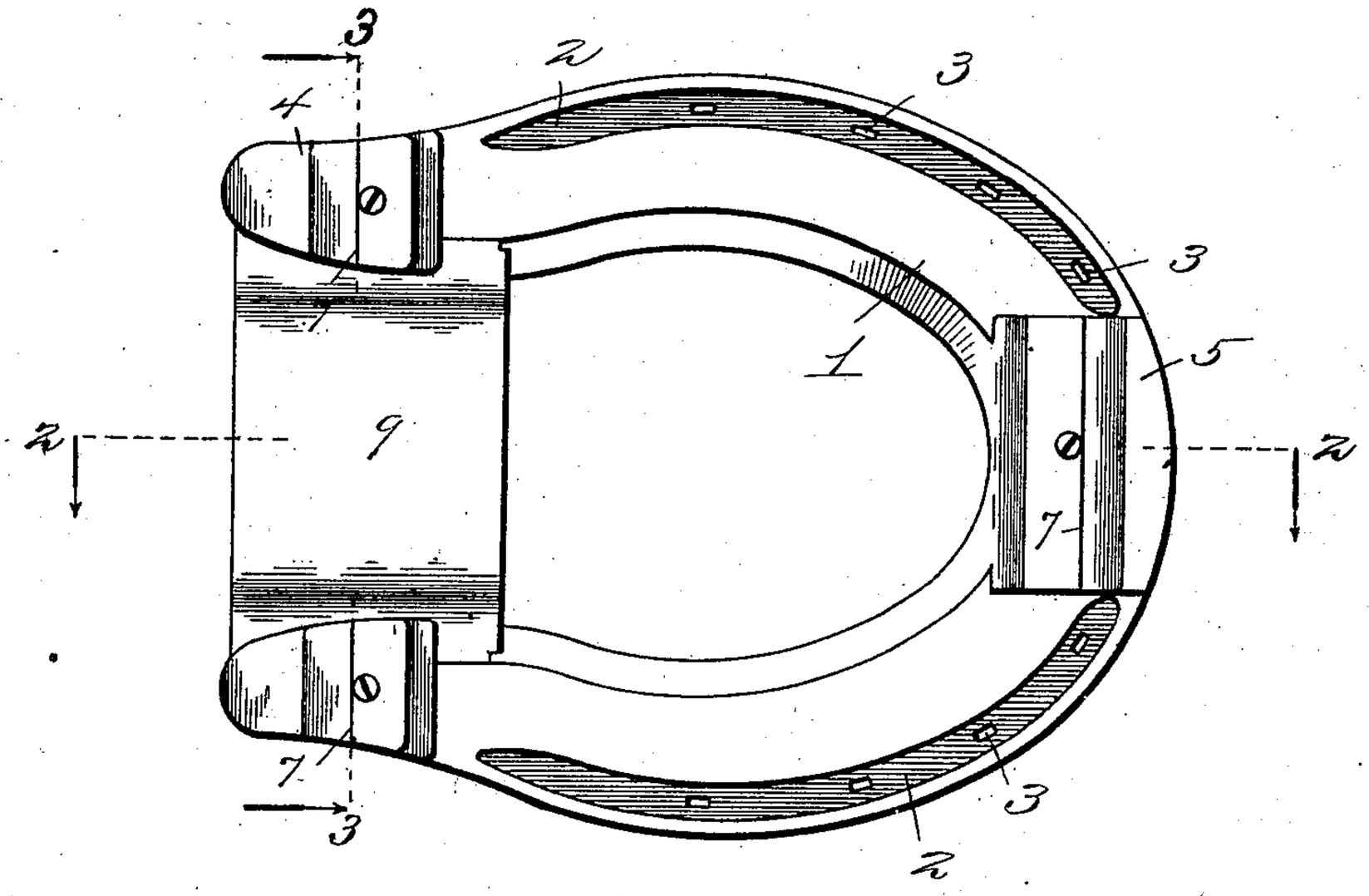


FIG. 2.

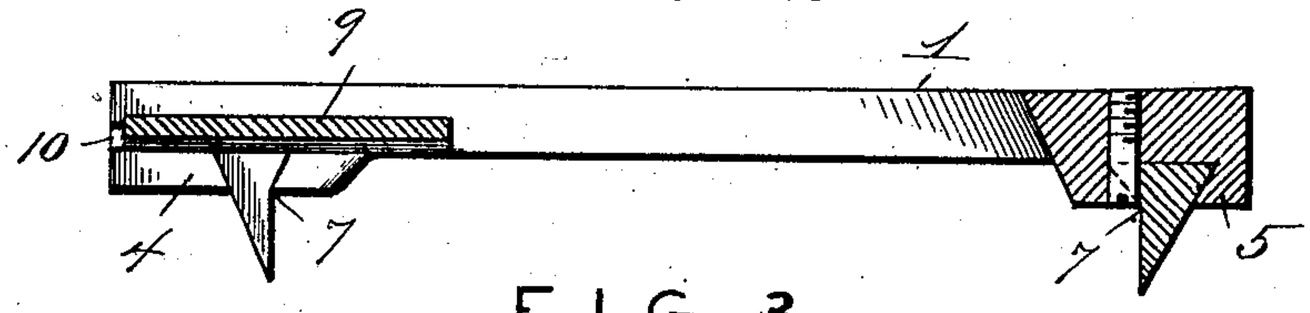


FIG. 3.

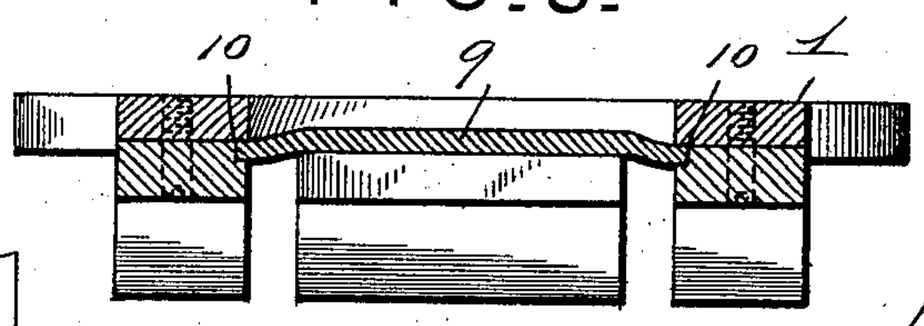


FIG. 5.

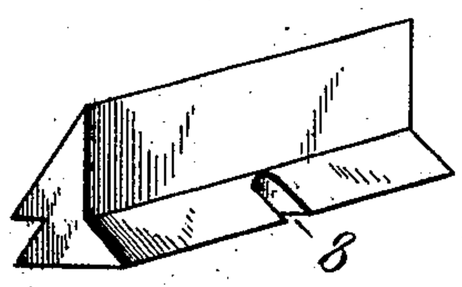


FIG. 6.

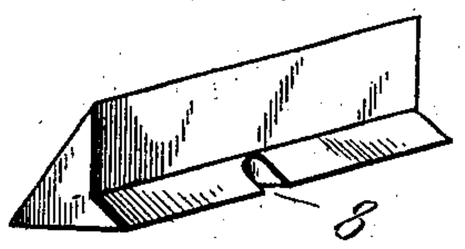


FIG. 4.

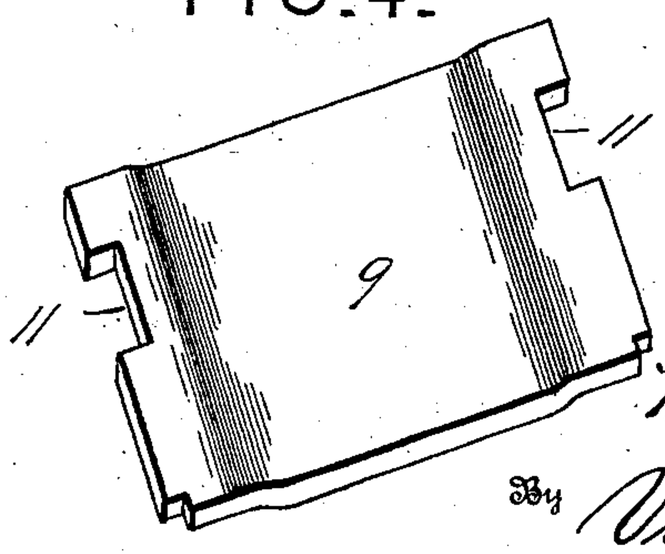


FIG. 7.

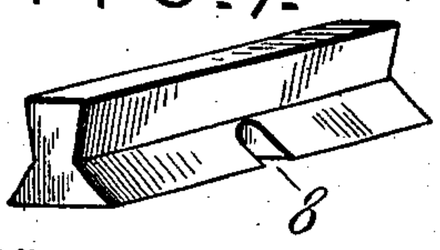
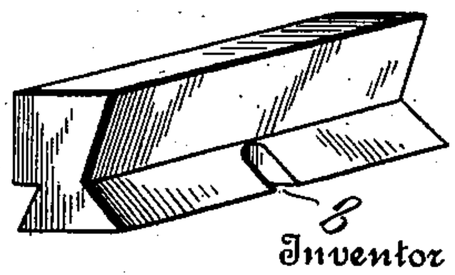


FIG. 8.



Witnesses

Harry L. Amer.

A. G. Heyburn

Inventor

Willis M. Dickey.

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 720,409. PATENTED FEB. 10, 1903.

W. M. DICKEY.

HORSESHOE.

APPLICATION FILED JULY 3, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

FIG. 13.

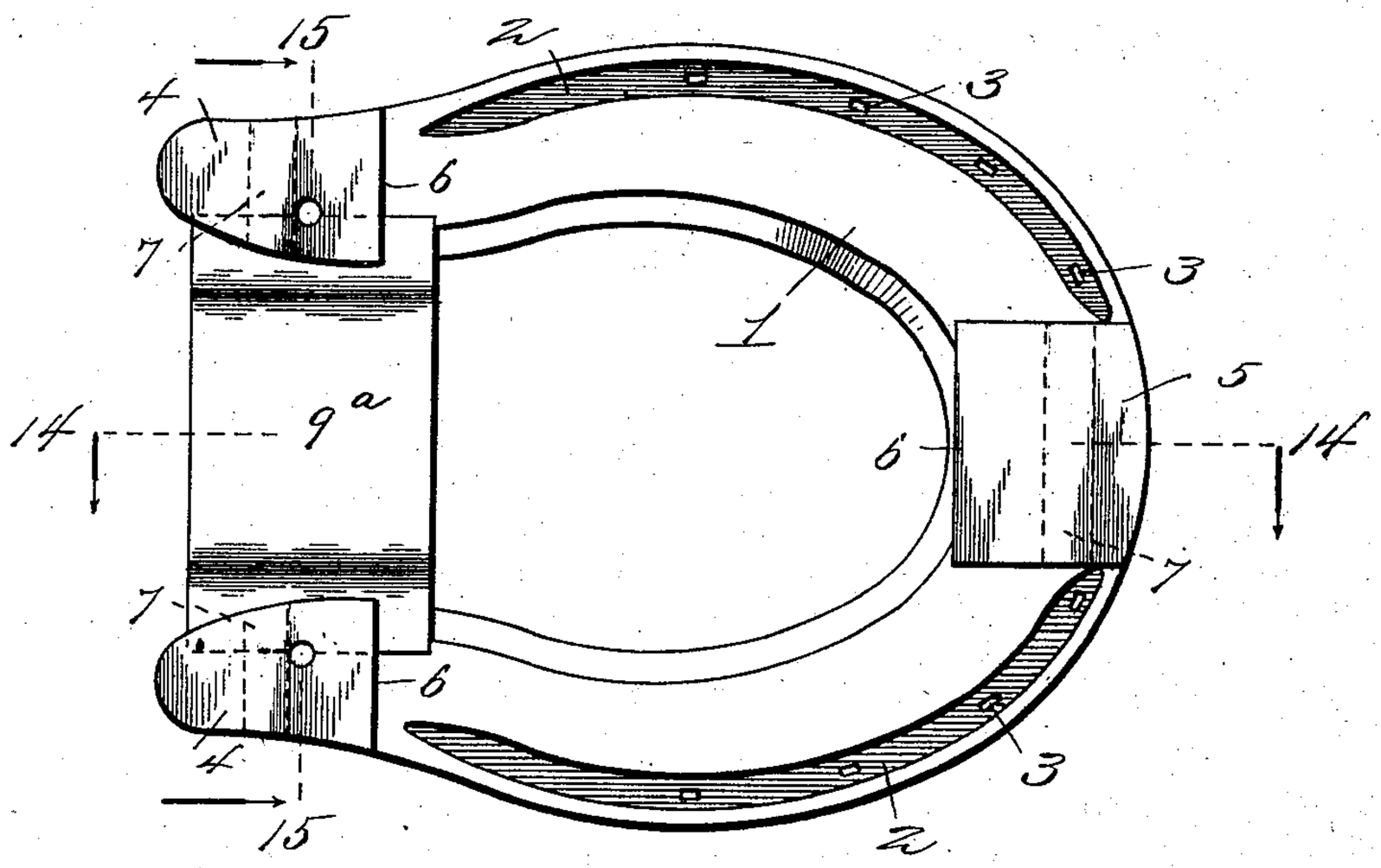


FIG. 14.

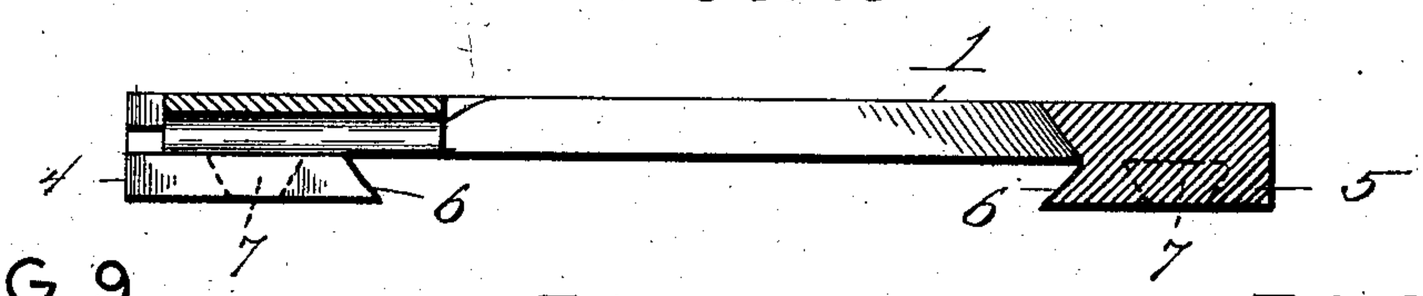


FIG. 9.

FIG. 15.

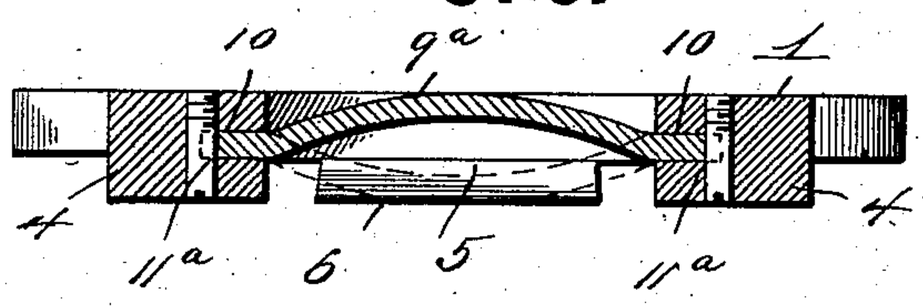


FIG. 11.

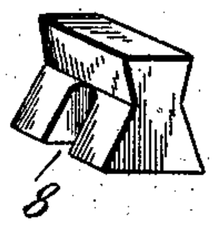


FIG. 10.

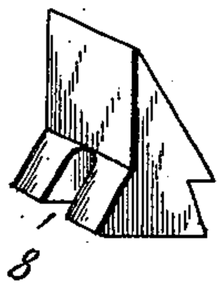


FIG. 16.

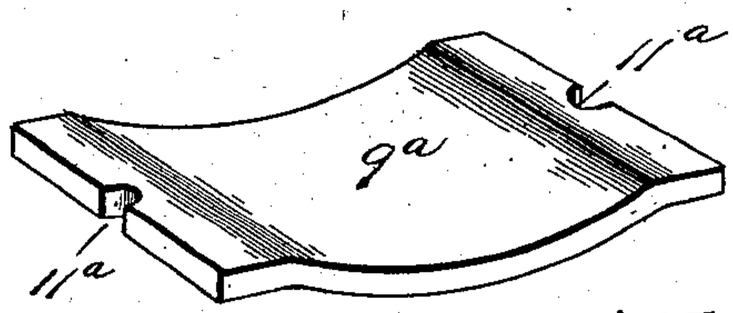
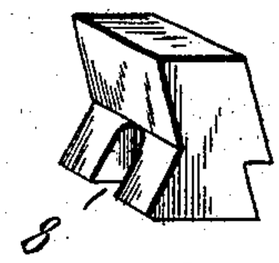


FIG. 12.



Witnesses

Harry L. Ames.

A. G. Heylmun.

Inventor

Willis M. Dickey.

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIS M. DICKEY, OF MANCHESTER, NEW HAMPSHIRE.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 720,409, dated February 10, 1903.

Application filed July 3, 1902. Serial No. 114,298. (No model.)

To all whom it may concern:

Be it known that I, WILLIS M. DICKEY, a citizen of the United States, residing at Manchester, in the county of Hillsboro and State of New Hampshire, have invented new and useful Improvements in Horseshoes, of which the following is a specification.

My invention has relation to improvements in horseshoes; and the objects are, first, to construct a horseshoe which will prevent slipping of the animal; second, to provide a horseshoe provided with interchangeable calks; third, to provide a horseshoe with a reversible heel and frog protecting plate, and, fourth, to provide a horseshoe with a detachable and reversible frog and heel protecting plate. I attain these objects by the construction and elements hereinafter fully described and which I have fully and clearly illustrated in the accompanying drawings, to which reference is made.

In the drawings, Figure 1 is a bottom plan view of a horseshoe embodying my improvements. Fig. 2 is a central longitudinal section taken on the line 2 2 of Fig. 1. Fig. 3 is a section through the shoe on the line 3 3 of Fig. 1, showing the heel and toe calks. Fig. 4 is a perspective view of the preferred form of the heel and frog plate. Figs. 5 and 6 are perspective views of different forms of sharp toe-calks intended for hard and smooth surfaces. Figs. 7 and 8 are perspective views of different toe-calks having flat and broad working surfaces. Figs. 9 and 10 are perspective views of heel-calks made sharp. Figs. 11 and 12 are detail perspective views of heel-calks having flat and broad working surfaces. Fig. 13 is a bottom plan view of a horseshoe of slightly-modified construction. Fig. 14 is a section of Fig. 13 on the line 14 14. Fig. 15 is a section through Fig. 13 on the line 15 15. Fig. 16 is a perspective of heel and frog plate arched or curved in cross-section.

The principal or primary construction of my improved horseshoe comprises a shoe-plate 1, bent into any of the approved shapes for fitting the sole of a horse's hoof and provided with the usual nail-head grooves 2 and nail-holes 3 and also provided at the heel and toe with comparatively large and flat calk-bases 4 5, undercut or beveled inwardly at their inner edges from bottom to top, as at 6, (see Figs. 13, 14, and 15,) in order that the inclines with their edges may take hold in slippery or soft dirt roads and prevent the animal from slipping.

When it is necessary to adapt the shoe for hard and uncertain footing, I form the calk-bases with transverse locking-grooves 7, which may be of dovetail shape or any other suited to effect the purpose. In the grooves thus formed are detachably placed the flanged base portions of the toe and heel calks shown in detail in the several figures of the drawings, the calks being formed with notches 8 in one of their base-flanges, as shown, wherein the stem or shank of fastening-screws engages to hold the calks in the grooves against lateral displacement. The working or ground ends of the calks may be made sharp, as shown in Figs. 2, 5, 6, 9, and 10, or they may be blunt and flat, as seen in Figs. 7, 8, 11, and 12, to suit the different conditions of travel.

In Figs. 4 and 16 are illustrated slightly-different forms of my improved heel and frog plates, constituting protective means for the bottom of the animal's foot. Fig. 4 shows the bearing portion 9 of the plate straight and flat, but arranged on a different plane from its end flanges, and Fig. 16 shows the plate as arched or curved in cross-section. In either form the plate is reversible, so that its position may accommodate a high or low frog. The end edges of the plates engage in grooves 10, made in the inner face edges of the calk-bases, and have angular recesses 11 formed in their edges, in which the base of the calk engages to hold the plate in position. In Fig. 16 the bridge of the plate 9^a is arched or curved to suit either high or low frogs and is provided with notches 11^a, wherein fastening-screws engage, as hereinbefore mentioned.

It will be perceived that when the calks become worn down or broken off they may be readily taken off by simply removing the fastening-screws and then sliding them out of their seats, when they may be replaced by new ones, thus making the shoe as good as when new.

The heel and frog plate is made of spring-steel and, as indicated in the drawings and described, will fit a high or a low frog, giving protection against injury. It may be stated

in this connection that if the frog is dry and hard and the heel has become contracted and needs softening any suitable remedial preparation may be applied to the parts and the heel and frog plate applied to prevent the removal of the remedial agent. If the horse has a low frog, the plate is applied with the bridge on the lower plane or the arch reversed.

Having thus described my invention, what I claim is—

1. A horseshoe provided with flat heel and toe calk bases, heel and toe calks fitted and secured in said bases, the said calks being beveled inwardly on their inner edges, and a detachable heel and frog plate disposed between the rear portions of the shoe and the fastening means for the calks, the said heel and frog plate being reversible.

2. A horseshoe comprising the plate, formed with toe and heel calk bases having transversely-arranged locking-grooves, and grooves in the inner edges at the heels, calks detachably disposed in the locking-grooves, fastening-screws to hold the calks in position, and a reversible arched heel and frog plate detachably placed with its ends in the inner grooves of the shoe-plate.

3. A horseshoe comprising the plate formed with toe and heel calk bases having transverse locking-grooves in them, calks detachably disposed in the locking-grooves, means to fasten the calks in position, and a reversible heel and frog plate arranged between the heel-calk bases, and means to hold the frog-plate in position.

4. A horseshoe comprising the plate formed with toe and heel calk bases having transverse locking-grooves in them, and grooves in the inner edges at the heel portion, calks detachably disposed in the locking-grooves, fastening-screws projecting through the flanges of the locking-grooves and the flanges of the calks, a heel and frog protecting plate having its ends detachably engaging the grooves in the inner edge faces of the heel-bases, and formed with recesses engaged by the inner ends of the calks, and fastening-screws to hold the calks in position.

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

WILLIS M. DICKEY.

Witnesses:
DANL. CROSS,
HARRY E. LOVEREN.