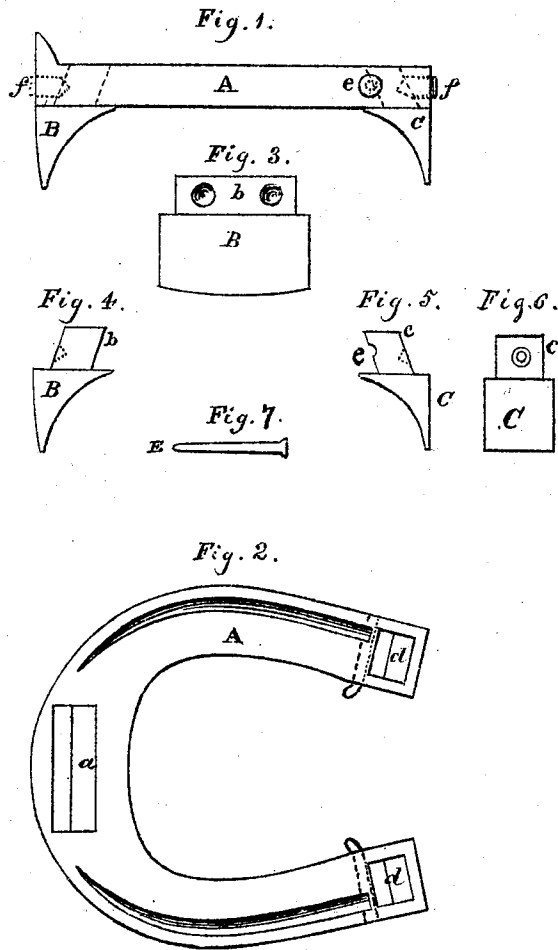


W. H. FRELEIGH.

Horseshoes.

No. 124,203.

Patented March 5, 1872.



Witnesses.

Austin F. Park.
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WILLIAM H. FRELEIGH, OF TROY, NEW YORK.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. 124,203, dated March 5, 1872.

To all whom it may concern:

Be it known that I, WILLIAM H. FRELEIGH, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Horseshoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon, which drawing makes a part of these specifications.

The nature of my invention consists in the construction of a horseshoe that will allow the toe and heel calks to be readily removed from the shoe or attached thereto in position at any time by the person in charge of the horse without the aid of a blacksmith, thereby saving great expense in recalcking and resetting shoes, and, by the removal of the calks, will afford great relief to a horse when compelled to stand any considerable length of time without driving. It also enables the person in charge of a horse to readily remove dull or worn-out calks and to replace them with new ones, either sharp or blunt, as occasion may require, without removing the shoe.

With this improved shoe the services of the blacksmith are only required to set new shoes, or to remove the shoe for the purpose of paring and shaping the hoof. There is also an advantage derived by making the calks without danger of imperfections or flaws by improper or imperfect welding.

I am aware that various methods have been adopted to make horseshoes with adjustable or changeable calks; but none were made in the manner or form herein described.

Figure 1 represents the edge of a shoe and one end of the toe and heel calks in position. Fig. 2 is a plan of a shoe with the calks removed therefrom, and showing the bevel-mortises *a* and *d*. Fig. 3 is a front or side view of the toe-calk, showing two countersinks in the tenon thereof. Fig. 4 is a section of the toe-calk through one of the countersinks in the bevel-tenon, and showing the shape of the bevel thereof. Fig. 5 is a section of a heel-calk through the countersink in the bevel-tenon, also showing the groove *e*. Fig. 6 is a section or side view of a heel-calk, showing the countersink in the tenon thereof. Fig. 7

is a section of a pin or key used in fastening the heel-calk into the shoe.

Like letters refer to and represent like or corresponding parts.

I construct my improved horseshoe by making the shoe of wrought or malleable iron with bevel-mortises through the shoe to receive the tenon of the calks, as shown at *a* and *d*, Fig. 2; also by the dotted lines representing the bevel-tenons of the calks on A, Fig. 1. The mortises are nearly of an equal size through the shoe, or may be a little tapering—a little the smallest on the side that comes next the hoof. The mortises are beveled from the face or bottom of the shoe toward the central portion of the shoe, as shown on A, Fig. 1. The calks should be made of steel, and that portion that projects from the shoe may be sharp or blunt, or such shape as may be desired. The drawing hereto attached represent sharp calks, as B and C. The calks are made with bevel-tenons, so as to exactly fit or fill the mortises in the shoe, and are made with shoulders or bearings all around the tenon, as shown at B and C. Said calks are fastened in their places by set-screws (made of steel) passing through that portion of the shoe outside of the tenon and into the countersink in said tenons or their equivalents. The heel-calks are further fastened by passing a pin or key through the shoe—one part in the shoe next the mortise, the other part in the tenon opposite the set-screws. Fig. 3 is a front or side view of the toe-calk B, tenon *b*, and two countersinks to receive the points of the set-screws *f* on A, Fig. 1. By screwing these set-screws into the countersinks in the bevel-tenon draws the calk down to the shoulder or bearings, and is there firmly held in position, as at B on A, Fig. 1. Fig. 4 is a section of the toe-calk through one of the countersinks, showing the bevel-tenon *b*, calk B, with its shoulders or bearing parts of said calks. Fig. 6 is a section or side view of one of the heel-calks C, tenon *c*, in which is a countersink to receive the conic point of the set-screw *f*. The set-screw *f*, when screwed into the end of the shoe, the conic point enters the countersink or its equivalent and draws the calk down so that the shoulders bear firmly upon the shoe, and is there held firm in position. Fig. 5 is a sec-

tion of the heel-calks C through the countersink in the bevel-tenon *e*, also the groove *e* in the tenon *e* opposite the countersink, and a like groove is in the side of the mortise for the reception of the pin or key E. Fig. 7 is a section of a pin or key, E. This pin is made of iron or steel. It should be made a little tapering, and with a small head to fit a small countersink. This pin or key is used in fastening the tenon of the heel-calks in the shoe by passing it through a hole made in the shoe and through grooves in the side of the mortise and in the side of the tenon, as at *e*, Fig. 5, (see also the dotted lines on A, Fig. 2.) The ends of said pins or keys are bent on the inside of the shoe to prevent them from coming out or working loose. Fig. 1 is an edge view of the shoe with toe-calk B and heel-calk C in position in the shoe. It also shows the position of the bevel-tenons *b* and *c*, the pin or key E,

and the set-screws *f*; also the countersink and hole *e* for the pin E.

Having thus described my improvement and invention in horseshoes with removable and adjustable calks, what I claim as my invention, and desire to secure by Letters Patent, is—

A shoe, A, having inclined and upwardly-converging mortises *a* and *d* to receive calks having correspondingly-inclined or beveled tenons *b* and *c*, fastened by set-screws or by keys and set-screws, substantially as and for the purpose specified.

WILLIAM H. FRELEIGH.

Witnesses:

AUSTIN F. PARK,
JEREMIAH D. GREEN.