(No Model.)

W. S. HITCH.

HORSESHOE.

No. 458,051. Patented Aug. 18, 1891.

Fig. 1.

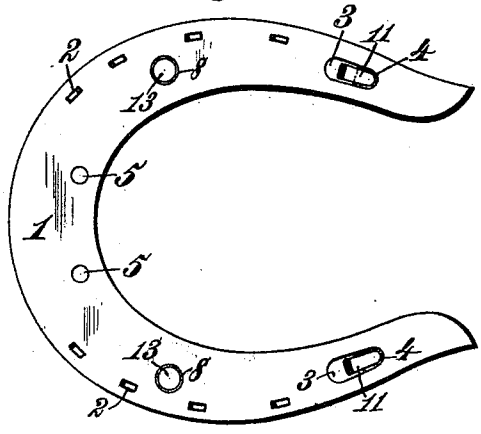


Fig. 2.

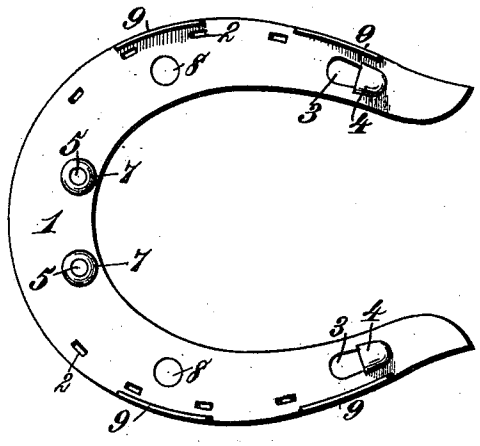


Fig. 3.

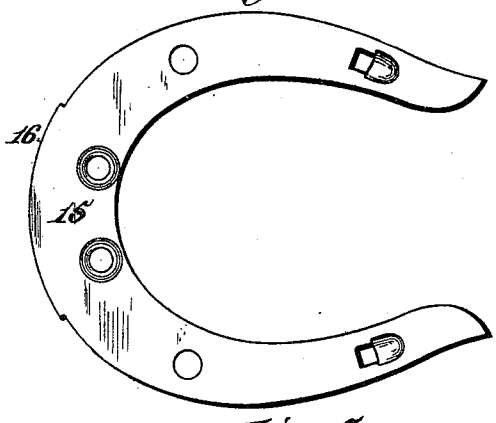


Fig. 4.

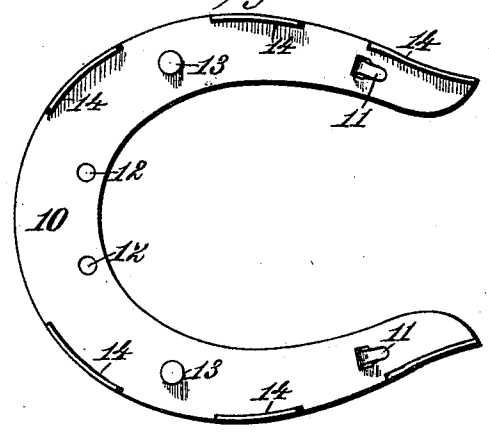


Fig. 5.

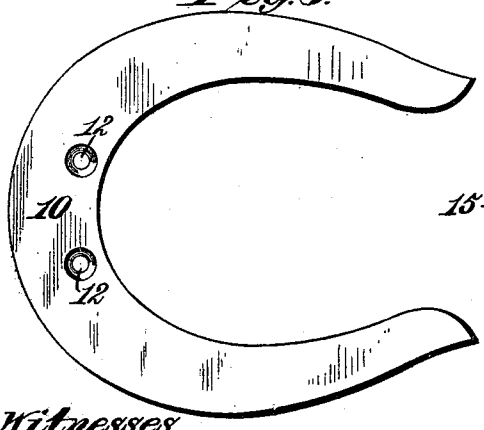
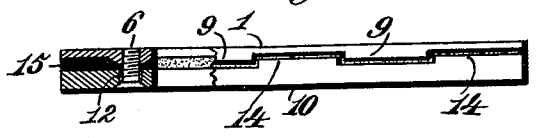


Fig. 6.



Witnesses.
Robt Everett.
J. A. Rutherford.

Inventor.
William S. Hitch.
By James L. Norris.
Atty.

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

UNITED STATES PATENT OFFICE.

WILLIAM SHORT HITCH, OF LAUREL, DELAWARE.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 458,051, dated August 18, 1891.

Application filed October 28, 1890. Serial No. 369,594. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SHORT HITCH, a citizen of the United States, residing at Laurel, in the county of Sussex and State of Delaware, have invented new and useful Improvements in Horseshoes, of which the following is a specification.

My invention relates to improvements in that class of horseshoes which comprise an upper plate that is secured to the foot of the horse, a lower detachable plate that can be readily removed and replaced or be interchanged with another detachable plate having either a smooth or rough wearing-surface, according to whether it is desired to have the horse shod rough or smooth, and an intermediate strip or layer of elastic material placed between said upper and lower plates to prevent concussion and relieve the horse's feet and joints from jar and strain.

The objects of my invention are, first, to provide an improved horseshoe that will facilitate speed and prevent lameness from constant jar and strain of the joints and extremities, and, second, to provide an improved shoe in which there are no nails passed through the lower detachable plate, which is so constructed as to be readily removed and replaced by a rough one for use in sleety weather.

The invention consists in the construction and combination of parts in a horseshoe, as hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a plan of my improved horseshoe. Fig. 2 is a bottom view of the upper plate. Fig. 3 is a plan of the intermediate elastic strip or plate. Fig. 4 is a plan, and Fig. 5 a bottom view, of the lower plate. Fig. 6 is a side elevation of the improved horseshoe, partly in section.

Referring to the drawings, the numeral 1 designates the upper shoe-plate, which is provided with holes 2 for passage of the nails by which said plate is secured to the hoof. The plate 1 is also provided near its heel end with elongated openings 3, the rear ends of which are formed on the under side of the plate with lips or sockets 4, that serve to engage hooks on the lower plate, as hereinafter explained. In the toe portion of the plate 1 are openings 5 for passage of screws 6, that assist in connecting the upper and lower plates of the shoe, and the under side of the plate 1 is provided with annular bosses 7, that surround the openings 5 to provide more extended bearings for said screws. At suitable points between the openings 3 and 5 are circular mortises 8 to receive studs or tenons on the lower plate, as hereinafter described. The under side of the plate 1 is provided on its outer edge at suitable intervals with flanges 9, which interlock with similar flanges on the lower or detachable plate of the shoe.

The detachable lower plate 10, like the upper plate, has the general form of a horseshoe. On its upper surface the plate 10 is provided near its heel ends with upward and rearward projecting hooks 11, that are adapted to pass through the openings 3 and engage the lips or sockets 4 of the upper plate, and so detachably secure these parts together at the heel of the shoe. In the toe portion of the detachable plate 10 are holes 12 for passage of the screws 6, and these holes are countersunk on the under side of the plate 10 to receive the heads of said screws, so that they will be flush with the under side or ground surface of the plate and not greatly exposed to wear. On the upper surface of the plate 10, between the hooks 11 and holes 12, are the studs or tenons 13, that engage the mortises or openings 8 of the upper plate. It will be seen that by means of the screws 6, hooks 11, and tenons 13 the plates 1 and 10 are securely connected, and yet permit the ready removal of the detachable lower plate whenever required. The upper side of the detachable plate 10 is provided on its outer edge at suitable intervals with flanges 14, that are adapted to interlock with the corresponding flanges 9 on the under side of the upper plate, as before mentioned.

Between the upper shoe-plate 1 and the detachable lower plate 10 is placed a strip, layer, or plate 15, of rubber or some suitable elastic material that will counteract the effect of concussion and prevent jar or strain of the joints and extremities. This elastic layer or plate 15 is perforated for passage of the screws 6, hooks 11, and tenons or studs 13, and is sufficiently yielding to conform readily to the opposing surfaces of the plates 1 and 10 that compose the shoe. The yielding or

elastic plate 15 fits within the flanges 9 and 14 of the plates 1 and 10, and its edges are nearly or quite concealed thereby, except an offsetting portion 16 at the toe end of said plate 15, which fits between the flanges 14 at the toe of the detachable lower plate, the upper plate having no flange at that point, thus giving the shoe a greater degree of elasticity at its toe. It will be seen that by withdrawing the screws 6 and then disengaging the tenons 13 from the mortises 8 and the hooks 11 from the socketed openings 3 the lower plate of the shoe can be readily detached at pleasure, and by making the ground surface of this detachable plate smooth or rough, or by providing interchangeable detachable plates—that is to say, a set of such plates with smooth surfaces and a set with rough surfaces, as contemplated by my invention—the horse can be quickly shod for any weather, or so as to accord with the condition of the roads.

I am aware that horseshoes have been heretofore constructed of two metal plates and an interposed elastic cushion, and that these parts have been secured together in various ways. This, therefore, I do not broadly claim.

In my improved horseshoe there are no projecting nail-heads to cause the horse to cut himself, and by avoiding the ordinary necessity of frequently shoeing the horse in sleety weather the liability of injury to the hoof is greatly diminished, the horse will be enabled to wear his shoes the full time without removal, and by so doing the holes from the nails will become grown out and the hoof made sound. In sleety weather the ordinary shoe wears smooth very quickly, so that the horse will have to be sent back to the smith to have his shoes removed or sharpened, and every time he is shod new nail-holes have to be made with risk of injury to the feet. These difficulties are avoided by my invention, as the groom can quickly remove the detachable plate and apply another, either rough or smooth, whenever required.

What I claim as my invention is—

In a horseshoe, the combination of the upper shoe-plate 1, adapted to be nailed to the hoof and provided with screw-openings 5, mortises 8, flanges 9, and elongated openings 3, having sockets 4, the detachable lower plate 10, having screw-openings 12, tenons 13, flanges 14, adapted to interlock with the flanges 9 of the upper plate, and hooks 11 to engage the socketed openings 3, the interposed elastic layer 15, and the screws 6, substantially as shown and described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

WILLIAM SHORT HITCH. [L. S.]

Witnesses:
THOS. C. HORSEY,
W. T. RECORDS.