

C. L. FUNK.
HORSESHOE.

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947,327.

Patented Jan. 25, 1911

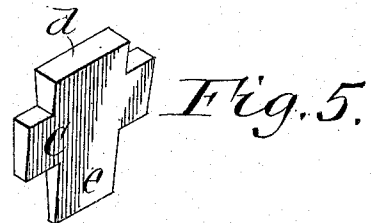
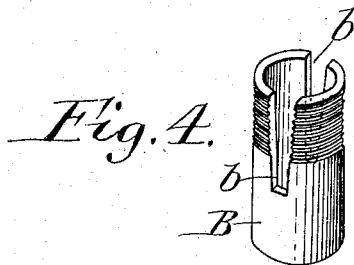
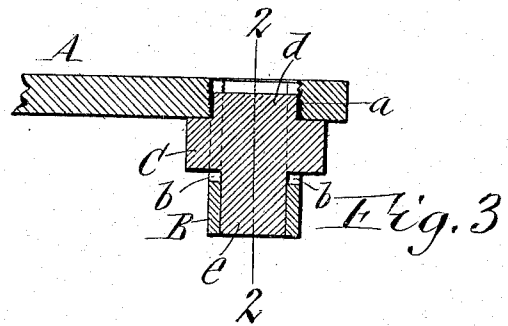
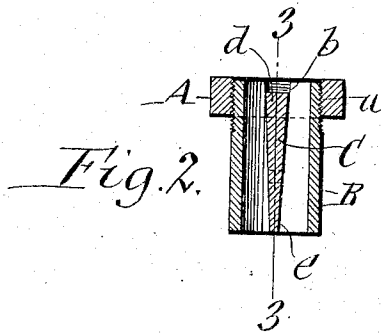
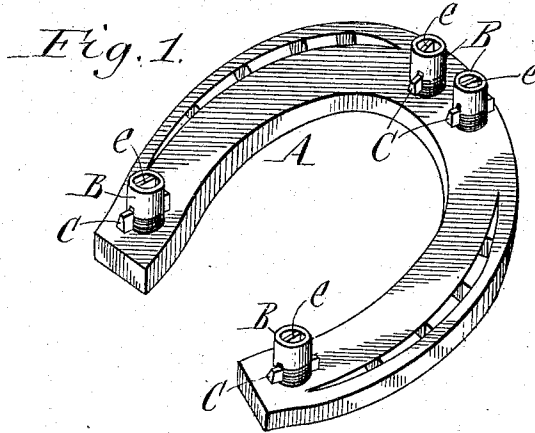
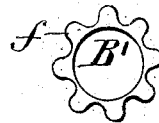


Fig. 6.

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UNITED STATES PATENT OFFICE.

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HORSESHOE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES L. FUNK, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Horseshoes, of which the following is a specification.

The object of this invention is the production of a horseshoe having calks which can be easily applied to the shoe when new and removed therefrom when worn out; which are reliably held in place on the shoe while in use, and which can be produced at comparatively small cost.

In the accompanying drawings: Figure 1 is a perspective view of a horseshoe provided with my improved removable calk. Fig. 2 is a vertical transverse section in line 2-2, Fig. 3. Fig. 3 is a fragmentary vertical longitudinal section in line 3-3, Fig. 2. Fig. 4 is a perspective view of one form of my improved calk. Fig. 5 is a similar view of the means for clamping the calk on the body of the shoe. Fig. 6 is an end view showing a modification in the form of the lower end of the calk.

Similar letters of reference indicate corresponding parts throughout the several views.

Referring to Figs. 1-5, A represents the body of the horseshoe which has the same form as the horseshoes heretofore in general use. At its front end or bow and at the rear ends of its legs the body of the horseshoe is provided with openings or sockets *a* extending vertically through the same which openings are provided with internal screw threads. Each of these sockets or openings is adapted to receive a removable calk B which has its upper end provided with an external screw thread adapted to engage with the thread of the socket or opening in the shoe body. As shown in Figs. 1-4, the calk is of tubular form, whereby a light and strong construction is obtained and external as well as internal corners are provided at the lower end of the calk which increases the grip of the calk on the surface of the road and thereby reduces the liability of slippage.

For the purpose of securely holding the calk in the screw threaded socket of the shoe body, the inner or upper threaded end of the calk is spread, so as to firmly grip the bore of the socket. This is preferably effected by providing the calk with a taper-

ing longitudinal slot *b* at its upper end, this slot extending downwardly from the upper end of the calk and tapering toward the lower end thereof. Within this slot is arranged a downwardly-tapering wedge C which extends transversely through the calk and projects with its opposite ends beyond opposite sides of the calk. These projecting ends bear against the under side of the shoe body which latter serves as an abutment to arrest the wedge against upward movement of the wedge with the calk. Upon screwing the calk upwardly into the socket or opening of the shoe body with the wedge thus arranged, the latter, on account of abutting against the body and being held against vertical movement, causes the upper parts of the calk on opposite sides of its slot to be spread by the wedge and tightly pressed against the bore of the socket, so that the calk cannot be loosened by the blows to which it is subjected while in use.

In order to hold the wedge against transverse or lateral displacement in the calk, the same may be provided with retaining means which engage with the inner side of the calk or with the bore of the shoe body. In the construction shown in Figs. 1, 3 and 5, both of these means are applied to the wedge and comprise a contracted portion or lug *d* arranged centrally on the upper edge of the wedge and extending upwardly into the bore of the threaded opening or socket in the shoe body. In the absence of any other provision, this lug by engaging with the bore of the threaded socket will prevent lateral displacement of the wedge in the calk and thereby avoid loss of the same even if the calk should be loosened somewhat. On the central part of its lower edge the wedge is also provided with a contracted portion or lug *e* which extends downwardly and preferably fits at its opposite side edges against the bore of the lower part of the tubular calk and terminates at its lower end flush with the lower end of the calk. This downward extension of the wedge of itself will serve as a means for preventing lateral displacement of the wedge in the calk but it is preferable to use the same in connection with the upper retaining lug *d* inasmuch as the calk is by this means stiffened throughout its length and for the further reason that an increased bearing and wearing surface is thus provided for the calk.

Furthermore by thus extending the lug *e* to the lower end of the calk the pressure against the underside of the same is transmitted by the ends of the wedge *C* against the underside of the body of the shoe, thereby relieving the threads of the calk and body from undue strain and wear and preventing loosening of the calk and also necessitating less frequent renewal of the body of the shoe on the hoof of the horse.

When the calk is worn down flush with the under side of the shoe body, the two sides of the calk are no longer connected, inasmuch as the wear on the calk has extended upwardly beyond the lower edge of the tapering slot. At this time the severed calk sections are held in place in the socket solely by the lateral edge portions of the upper lug which is for this purpose made of sufficient length and of the same tapering form as the wedge. In order to remove these sections of the calk preparatory to replacing them by a new one, it is only necessary to give the upper wedge extension still remaining in the calk an upward blow by means of a hammer or other instrument, whereby its wedge surfaces are shifted relatively to the corresponding surfaces of the calk sections, thereby loosening all of the parts in the socket of the shoe body and permitting them to be easily removed. To permit of thus driving the wedge extension upward a sufficient distance to release the worn calk sections this extension is made of a height less than the vertical thickness of the shoe body, so as to leave a space or gap in the threaded socket between the upper end of the upper wedge extension and the upper side of the shoe body, as shown in Figs. 2 and 3. This gap or space provides the necessary room in

the upper end of the socket into which the upper wedge extension may be driven from below for releasing the calk sections.

Instead of making the calk of circular or cylindrical form, as shown in Figs. 1-4, the calk *B*¹ may be provided on its outer side with external corrugations *f* at its lower end, as shown in Fig. 6, thereby increasing the bearing of the calk and the hold on the road.

My improved calk can be manufactured at low cost, it is possible to secure the same quickly and reliably to the body of the shoe, and it also permits of quickly replacing a worn calk by a new one when required.

I claim as my invention:

1. A horse shoe comprising a body having an internally threaded socket, a hollow calk having its upper end threaded externally and engaging with said socket and provided with a downwardly tapering slot, and a wedge arranged in said slot and engaging with said body and having a downwardly projecting lug arranged within the calk.

2. A horseshoe comprising a body having an internally threaded socket, a hollow calk having its upper end threaded externally and engaging with said socket and provided with a downwardly tapering slot, and a wedge arranged in said slot and engaging with said body and having a downwardly projecting lug arranged within the calk and an upwardly projecting lug arranged within said socket.

Witness my hand this 28th day of March, 1909.

CHARLES L. FUNK.

Witnesses:

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