

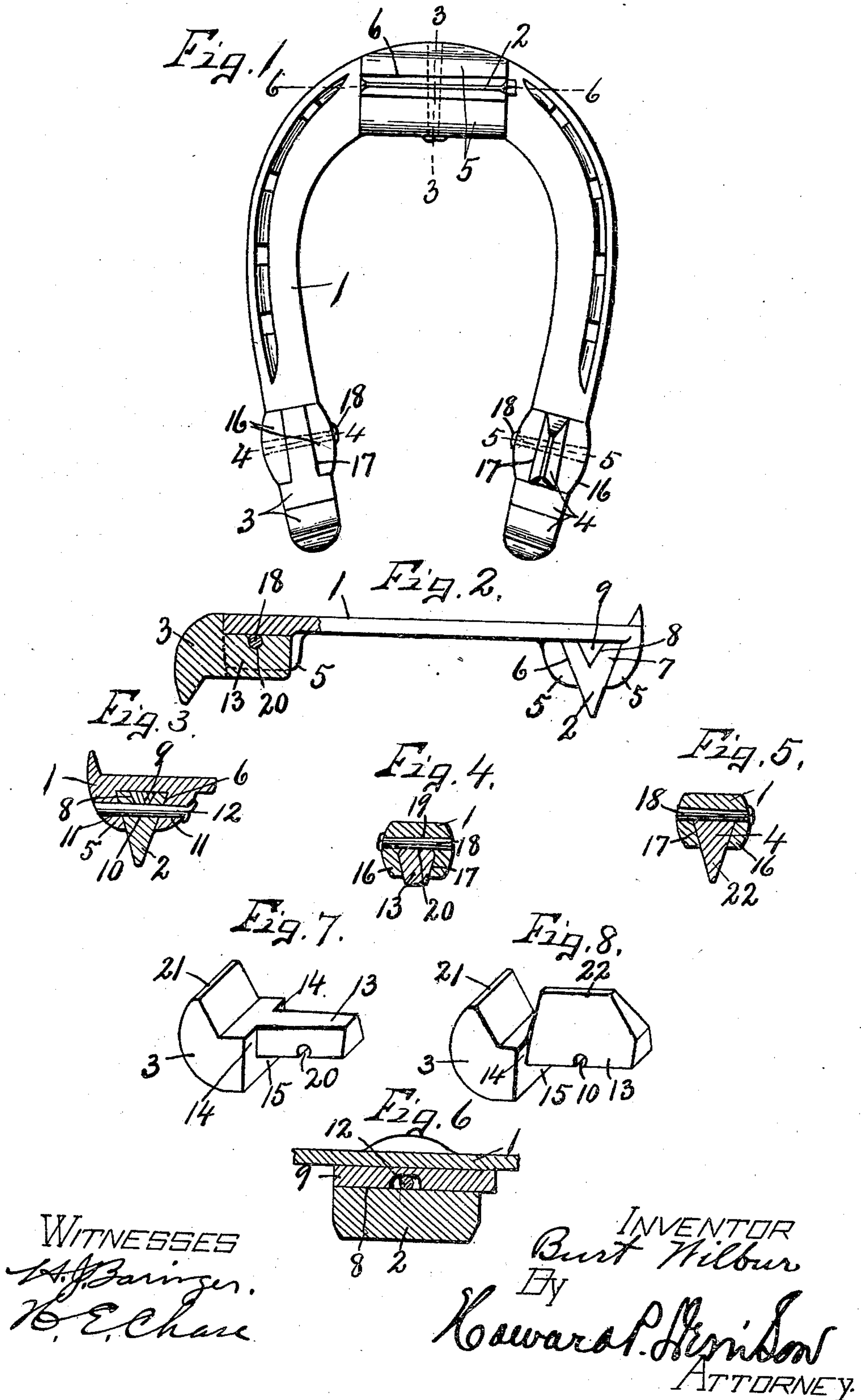
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HORSESHOE.

APPLICATION FILED MAR. 9, 1909.

960,754.

Patented June 7, 1910.





# UNITED STATES PATENT OFFICE.

BURT WILBUR, OF SYRACUSE, NEW YORK.

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Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, BURT WILBUR, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Horseshoes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in horse shoes, and refers more particularly to the construction of the calks and means for attaching them to the body of the shoe.

I am aware that in the use of horse shoes with removable calks, it is common to provide the body of the shoe and calks with interfitting tongues and grooves, usually dovetailed in cross section and slidably interlocked with each other, the calks being retained in their adjusted position by pins, keys or similar locking devices to hold them against further sliding movement when in use, but in all such devices with which I am familiar, the excessive strains to which the calks are subjected tend to shear the pins or locking keys, thereby loosening the calk and allowing it to become displaced from the shoe. This is particularly true of the heel calks in which the tongues and grooves run lengthwise of the heel of the shoe, and the primary object of my invention is to relieve the locking pins from these excessive strains. This object is carried out in the heel calk by providing the latter with shoulders which abut against the rear end of the body of the shoe so as to transmit the strain from the locking key or pin to the shoe proper; as, for example, under the strains in drawing a heavy load, under which conditions the shoulders on the calk abutting against the rear ends of the body of the shoe prevent further forward movement of the calks relative to said shoe, and thereby relieve the locking pins from excessive strains. The dovetail tongues and grooves in the toe of the shoe and calk extend transversely of the shoe and, therefore, the strains upon the pin are not so excessive as upon the heel calks, but there is nevertheless some lateral strain and tendency to loosen the calk in its bearings by wearing the tongue and groove, or rather by spreading the sides of the groove apart. In order to obviate this result I have provided the base of the toe calk with a lengthwise V-shape tapering groove in which is fitted a similarly formed key, which, when

driven in place, operates to slightly spread the opposite sides of the V-shape groove against the walls of the dovetail groove in the body of the shoe, thereby affording a tight fit of the base of the calk in the base of the dovetail groove, or next adjacent to the body of the shoe.

A further object is to provide at least one of the heel calks with a plurality of, in this instance two, spurs arranged one in advance of the other, the front spur being elongated lengthwise of the shoe to prevent lateral slipping, while the rear spur is elongated transversely of the shoe to prevent forward and rearward slipping.

Other objects and uses will be brought out in the following description.

In the drawings—Figure 1 is an inverted plan view of a horse shoe embodying the various features of my invention. Fig. 2 is a side elevation of the same shoe showing the rear portion of one side in section. Figs. 3, 4, 5 and 6 are sectional views taken respectively on lines 3—3, 4—4, 5—5 and 6—6, Fig. 1. Figs. 7 and 8 are perspective views respectively of the heel calks.

This shoe comprises a main body —1— a toe calk —2— and heel calks —3— and —4—, the main body —1— being provided at its toe with a boss —5— having a transverse groove —6— dovetailed in cross section for receiving a dovetail tongue or base —7— of the toe calk —2—. The dovetail base of the toe calk —2— and its corresponding dovetail groove —6— are substantially of the same transverse form and size, but are slightly tapered lengthwise in one direction so as to cause the base of the toe calk —2— to lie snugly with a wedging fit between the opposite sides of the corresponding groove —6— when the toe calk is driven to its operative position. The base of the toe calk —2— is provided with a central lengthwise key seat —8— which is V-shape in cross section and slightly tapered toward one end for receiving a similarly formed key —9—, the latter being driven into the groove —8— after the calk —2— has been inserted into the dovetail groove —6— so as to slightly spread the opposite sides of the groove —8— against the corresponding sides of the base of the dovetail groove —6—, thereby firmly holding the toe calk in position. This toe calk is provided near its dovetail base with a transverse aperture —10—, and the key —9— is also provided



with a transverse groove or aperture, which, when the key is driven in place, is registered with the aperture —10— in the toe calk, said aperture —10— being also registered  
 5 with similar apertures —11— in the opposite sides of the groove —6— for receiving a locking pin —12—, as best seen in Fig. 3, said locking pin serving to hold the  
 10 key and calk against relative movement relatively to each other, and to the main body of the shoe, the transverse pin opening in the key being slightly elongated, as best seen in Fig. 6, to permit said key to be  
 15 driven in still farther when it is desired to further tighten the calk in place.

The heel calk —3— is provided with a dovetail shank —13— of somewhat less transverse width and vertical depth, than the main body of the calk, forming flat abut-  
 20 ting faces —14— and —15—, the abutments —14— being disposed at opposite sides of the rear end of the shank —13—, while the abutment —15— is disposed above the shank, the abutment —15— serving to engage the  
 25 rear end face of the heel of the shoe proper, while the lateral abutments —14— serve to engage the rear end face of a boss —16—, which is integral with the rear end of the main body of the shoe. This boss —16—  
 30 is provided with a lengthwise dovetail groove —17— corresponding in form and size to the dovetail shank —13—, which latter is driven into the groove —17—, and together with said groove, is slightly tapered  
 35 in one direction to afford a tight wedging fit. As previously intimated, the dovetail shank —13— is driven firmly into the dovetail groove —17— until the abutment faces —14— and —15— firmly engage the rear  
 40 end of the body of the shoe and boss —16—, the calk —3— being locked in this position by a tapered pin —18— which is passed through apertures —19— and —20— in the boss —16— and shank —13— respectively.  
 45 This calk —3— is provided with a single spur —21— elongated transversely of the shank —13— and a short distance at the rear of the shoulders or abutments —14— and —15—, said spur projecting some dis-  
 50 tance below the lower face of said shank. The opposite calk —4— is substantially the same as calk —3— except that it is provided with an additional spur —22— elongated lengthwise of the shoe and of substantially  
 55 the same length as the shank —13—, of which it forms an integral part; otherwise the same reference numerals apply to this calk as given to the calk —3—, and it is assembled in substantially the same manner.

As will be seen, the heel calk 4 has its spurs 60 21 and 22 spaced one from the other, thereby providing the beveled inner face of the spur 21 throughout the length of the spurs. This results in a construction particularly  
 65 useful in connection with icy streets or pavements, in that it permits each spur to act to a maximum degree and without interference one with the other, a result not obtainable by combining the spurs, since in  
 70 such case, it is required that both spurs penetrate the ice in order that either spur may become operative, the joined spur structure having the effect of increasing the size of the sharpened edges of the calks and  
 75 thereby rendering them less effective.

What I claim is:—

1. A horseshoe comprising a main body having the heel portion thereof provided on its under face with a boss, said boss having a longitudinally-extending dove-  
 80 tailed groove therein, and a heel calk comprising a body portion and having a dovetailed shank fitting the groove in said boss and being of a vertical height greater than the depth of the groove, said shank being of  
 85 less thickness and width than the body whereby shoulders are formed at opposite sides of the inner end of the shank and a shoulder is also formed at the upper side of the inner end of the shank, said boss being  
 90 provided with transverse openings and the shank of said calk having a groove in its upper face registering with said openings, and a pin passing transversely through the openings in the boss and the groove in said  
 95 shank for securing the calk to the shoe.

2. A horseshoe comprising a body having the heel portion thereof provided on its underneath face with a boss, said boss provided with a longitudinally-extending dove-tailed  
 100 groove, and a heel calk comprising a body provided with a shank dove-tailed to fit within the dove-tailed groove and having a longitudinally-extending spur, the body of said calk having a spur lying at right angles  
 105 to the spur on the shank and spaced therefrom, the lower face of said spurs being in the same plane, the said shank having a transverse groove, and the boss having transverse openings registering with said grooves,  
 110 and a pin in said openings and groove for securing the heel calk in position.

In witness whereof I have hereunto set my hand this third day of March 1909.

BURT WILBUR.

Witnesses:

H. E. CHASE,  
 J. M. HOES.