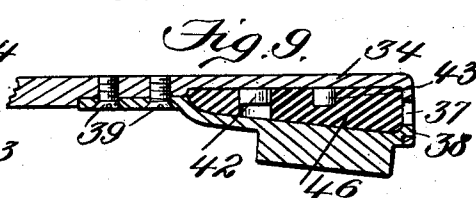
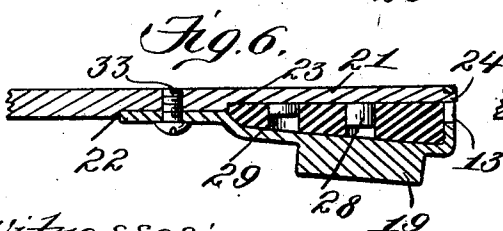
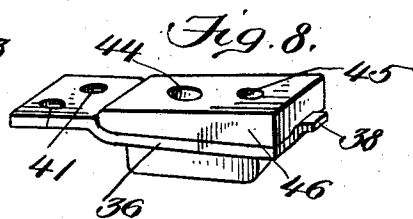
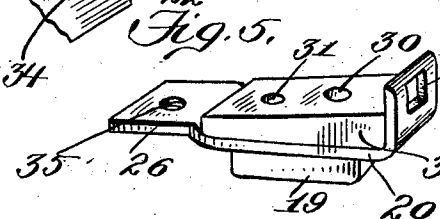
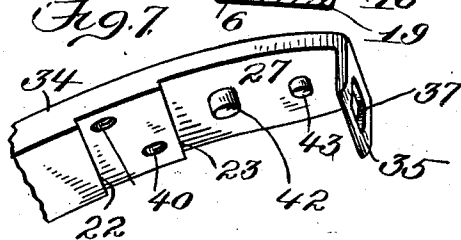
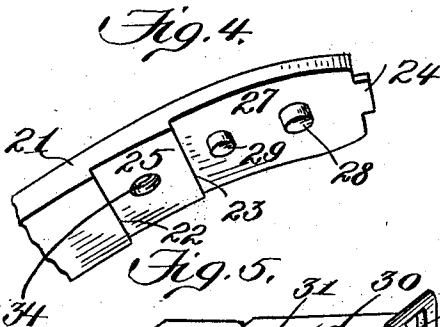
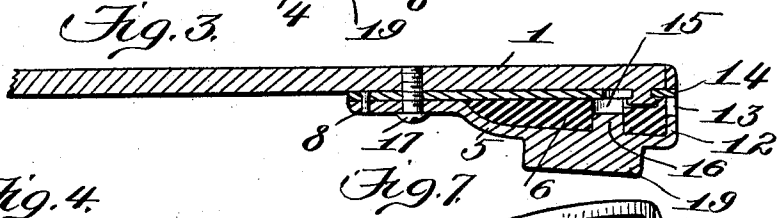
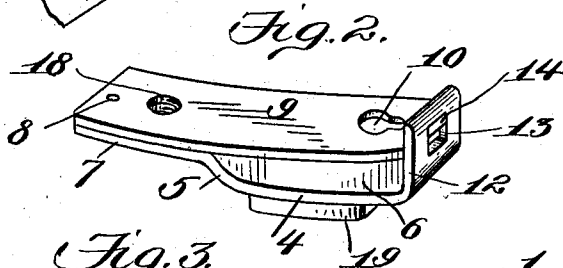
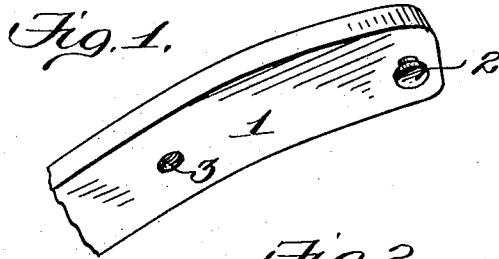


No. 857,554.

PATENTED JUNE 18, 1907.

J. E. GROSJEAN.
HORSESHOE.

APPLICATION FILED SEPT. 24, 1906.



Witnesses:

E. D. Kessler
H. B. Reeder

Inventor

James E. Grosjean
By *James L. Norris*

Atty.

UNITED STATES PATENT OFFICE.

JAMES E. GROSJEAN, OF LIMA, OHIO.

HORSESHOE.

No. 857,554.

Specification of Letters Patent.

Patented June 18, 1907.

Application filed September 24, 1906. Serial No. 336,008.

To all whom it may concern:

Be it known that I, JAMES E. GROSJEAN, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Horseshoes, of which the following is a specification.

This invention relates to the construction of horseshoes devised with the object of diminishing concussion to the animal, and which consists in constructing the heel portion of the shoe in a manner hereinafter more specifically referred to, whereby all the advantages of elasticity of tread and the consequent avoidance of concussion due to hard pavements or roads, are obtained, without on one hand, the disadvantage as regards want of durability for the shoe, and on the other hand, injurious effects upon the animal's hoof, and to this end the invention aims to provide the shoe with a pair of removable cushion calks set up in a manner hereinafter set forth, so as to prevent the animal accidentally pulling off the calk in case of meeting with an obstruction.

The invention further aims to provide the shoe with a removable and replaceable calk carrying a removable and compressible cushioning means and which can be readily fitted to horseshoes now in general use; and to furthermore provide means whereby the compressing of the cushion element will be limited, thereby obtaining longevity, said means also constituting a stop to limit the movement in one direction of the calk-carrying plate.

The invention further aims to provide a removable and replaceable cushion calk for horseshoes, which shall be simple in its construction, strong, durable, efficient in its use, readily applied to the heel portion of the shoe and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination, and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings, wherein like reference

characters denote corresponding parts throughout the several views—Figure 1 is a perspective view of the heel portion of a horseshoe. Fig. 2 is a like view of the removable calk in accordance with this invention. Fig. 3 is a longitudinal sectional view of the parts shown in Figs. 1 and 2 when assembled. Fig. 4 is a view similar to Fig. 1. Fig. 5 is a view, similar to Fig. 2, of a modified form of calk. Fig. 6 is a longitudinal sectional view of the parts shown in Figs. 4 and 5 when assembled. Fig. 7 is a view similar to Fig. 1. Fig. 8 is a view, similar to Fig. 2, of another modified form of calk. Fig. 9 is a longitudinal sectional view of the parts shown in Figs. 7 and 8 when assembled.

Referring to the drawings by reference characters, 1 denotes the heel portion of a shoe having its lower face in close proximity to the end formed with a headed stud 2. The said heel portion 1 is furthermore provided with an opening 3. The form of calk as shown in Fig. 2 comprises a calk-carrying plate 4, which is offset, as at 5, and, seated against said offset portion is a cushion 6. The portion 7 of the calk-carrying plate 4 is secured by the hold-fast device 8, to a coupling plate 9, which at its outer end, is formed with the key-hole shaped slot 10 to permit of connecting the plate 9 with the shoe through the medium of the headed stud 2, as shown in Fig. 3.

The calk-carrying plate 4 at its outer end has a portion thereof bent at right angles; as at 12, which is slotted as at 13, to receive an attaching lug 14 projecting from the outer end of the plate 9.

The member 6 is formed with an opening 15 in which plays a stud 16, carried by the calk plate 4 and the said stud 16 constitutes a stop for limiting the movement in one direction of the plate 4 and also as a means for limiting the compression of the cushion 6. The movement of the plate 4 is also limited in one direction by the lower wall of the slot 13 and in an opposite direction by the upper wall of the slot 13. The plates 4 and 9 are secured to the shoe 1 by a suitable hold-fast device, as at 17, the latter passing through the opening 3 in the shoe 1, an opening 18 in the plate 9 and an alining opening in the portion 7 of the plate 4. The latter on its lower face carries a calk 19.

In the construction shown in Figs. 4 and 5

the calk-carrying plate, which is indicated by the reference character 20, is of the same form as the calk-carrying plate 4, with the exception that the plate 20 is not provided with a lug 16.

The heel portion of the shoe in Fig. 4 is indicated by the reference character 21 and is shouldered as at 22, 23 and the end of the heel portion is formed with an attaching lug 24, which when the calk-carrying plate is in position as shown in Fig. 6, is adapted to extend through the slot 13. The ledge 25 formed by cutting away the heel portion 21 so as to form the shoulders 22, 23, is adapted to receive the portion 26 of the calk-carrying plate 20, and that part 27 of the heel portion 21 is formed with a pair of lugs 28, 29, which are adapted to play in the openings 30, 31, formed in the cushioning member 32, which is carried by the plate 20 and adapted to engage the part 27 in the heel portion 21. The lug 28 is adapted to limit the compressing of the cushioning element 32, and furthermore acts as a means for limiting the movement of the plate 20 in one direction. The plate 20 has its movement also limited in one direction by the bottom wall of the opening 13 engaging the lug 24 and in its opposite direction by the bottom wall of the slot 13 also engaging the lug 24. The calk-carrying plate 26 is secured to the heel portion 21 of the shoe by the hold-fast device 33, openings 34 and 35 being provided for such purpose.

In the construction shown in Figs. 7, 8 and 9 the heel portion 34 of the shoe is provided with an angularly-extending portion 35 at its end in lieu of providing the calk-carrying plate 36 with said angularly-extending portion. The angular portion 35 is slotted as at 37, to receive the attaching lug 38 projecting from the outer end of the calk-carrying plate 36. The latter is secured to the heel portion 34 of the shoe by a plurality of hold-fast devices 39 in lieu of the single one as shown in Figs. 3 and 6. Openings 40, 41 are provided for the hold-fast device 39. The heel portion 34 is shouldered in a like manner as the heel portion shown in Fig. 4, the same reference characters being applied thereto, but the part 27 of said heel portion 34 has the lugs reversed—that is to say, the lug of greater diameter being arranged near the shoulder 23 in Fig. 7, whereas in Fig. 4 the lug of smaller diameter is arranged near the shoulder 23. The lugs formed on the part 27 of the heel portion 34 are indicated by the reference characters 42, 43 and are adapted to play in openings 44, 45, formed in the cushioning element 46. The lug 42 performs the same function as the lugs 16 and 28. The lugs 29 and 43 prevent shifting of the cushioning element.

The lugs 14, 24 and 38 constitute means for connecting the calk-carrying plates to the heel portions of the shoes so as to prevent the

animal from accidentally pulling off the said plate, and furthermore as before stated, the said lugs act as a means for limiting the movement of the calk-carrying plate in either direction.

It will be evident from the foregoing construction that a simple and inexpensive cushion calk is set up which can be readily fitted to the shoe, that means is set up to prevent an accidental pulling off of the calk-carrying plate by the animal, that the elasticity of the tread obtained has the effect not only in diminishing the cushion, but of increasing the durability of the shoe, and furthermore the cushioning element besides affording elasticity of tread, acts also as an insulator to prevent the transmission to the hoof of the heat generated by frictional contact with the hot pavements.

What I claim is—

1. The combination with the heel portion of a horseshoe having the lower face thereof provided with a ledge and a pair of shoulders one arranged above the other, of a calk-carrying plate having a flattened and an offset portion, said flattened portion mounted against said ledge and abutting against the lower one of said shoulders, means for securing the flattened portion to the heel portion of the horseshoe, a rearwardly extending lug carried by the offset portion of the calk-carrying plate, and a slotted extension projecting at right angles with respect to the heel portion of the shoe and adapted to receive said lug, said lug and slotted extension constituting a stop for limiting the movement of the plate in either direction, combined with a cushioning element interposed between the offset portion of the plate and the heel portion of the shoe and abutting against the upper one of said shoulders.

2. In combination a horseshoe having its heel formed of a stationary and a shiftable portion, the rear terminus of each of said portions being in vertical alinement with each other a cushioning element interposed between said portions, an extension formed integral with the rear terminus of one of said portions, extending at right-angles with respect thereto and provided with an open slot, and an attaching lug projecting rearwardly from the rear terminus of the other portion, formed integral therewith and adapted to take in the slot in said extension, said slotted angular extension and said lug connecting the shiftable portion to the stationary portion and further providing a means for limiting the movement of the shiftable portion in either direction.

3. In combination a horseshoe having its heel formed of a stationary and a shiftable portion, said stationary portion provided with a pair of shoulders and a ledge a part of said shiftable portion positioned against said lug and abutting against one of the shoulders,

a cushioning element interposed between said portions, and abutting against the other of said shoulders an extension formed integral with the terminus of one of said portions, extending at right-angles with respect thereto and provided with a slot, an attaching lug formed integral with and extending rearwardly from the other of said portions and adapted to take in the slot in said extension, said slotted angular extension and said lug connecting the shiftable portion to the stationary portion and further constituting means for limiting the movement of the shiftable portion in either direction.

4. The combination with the heel portion of a horseshoe having the rear terminus thereof provided with an extension projecting at right-angles with respect thereto and provided with an open slot, of a calk carrying plate having the forward end thereof secured to said heel portion and the other end provided with a rearwardly extending lug adapted to engage the slot in said extension for connecting the rear end of said plate with the heel portion, and a cushioning element interposed between said plate and said heel portion and having the rear end thereof inclosed by the said extension, combined with

means extending in the cushioning element for limiting the compression thereof.

5. In combination a horseshoe having its heel formed of a stationary and a shiftable portion, a cushioning element interposed between the said portions, an extension formed integral with and projecting at right-angles to the rear terminus of one of said portions and provided with an open slot, a rearwardly extending attaching lug formed integral with and projecting from the rear terminus of the other portion and adapted to take in the slot in said extension, said extension and said lug connecting the shiftable portion to the stationary portion and further constituting a means for limiting the movement of the shiftable portion in either direction, and means carried by one of said portions and engaging in the cushioning element to retain it in position and limit the compression thereof.

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

JAMES E. GROSJEAN.

Witnesses:

OTIS T. LIPPINCOTT,
JESSIE LUNDIE.