

No. 859,810.

PATENTED JULY 9, 1907.

F. B. GARDNER, J. E. GROSJEAN & T. C. PENNELL.

HORSESHOE.

APPLICATION FILED AUG. 30, 1906.

Fig. 1.

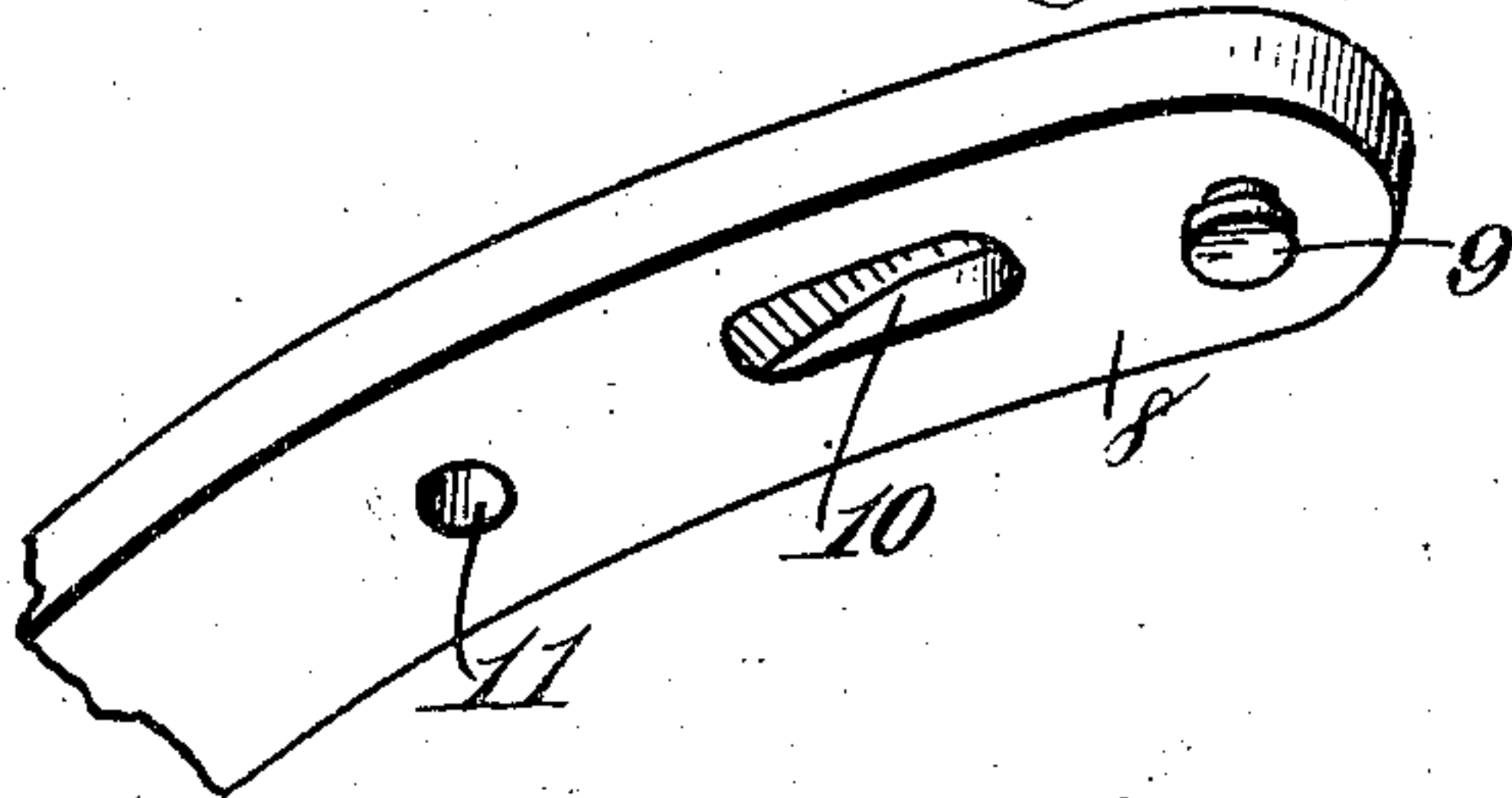


Fig. 2.

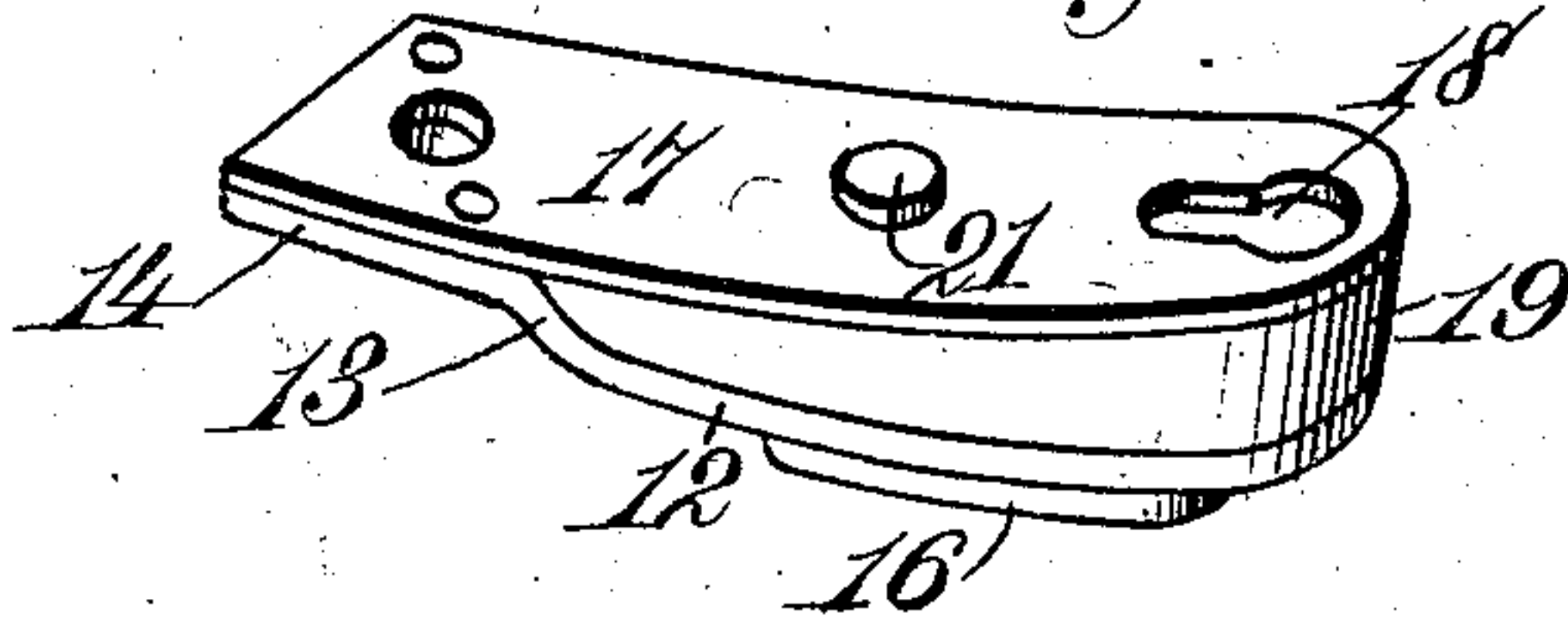


Fig. 3.

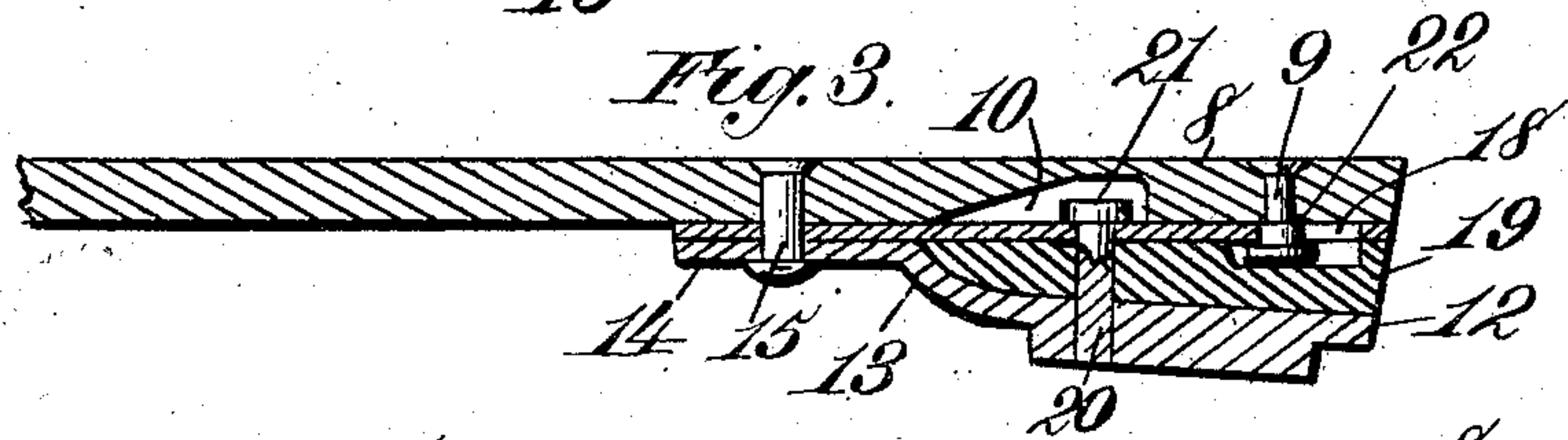


Fig. 4.

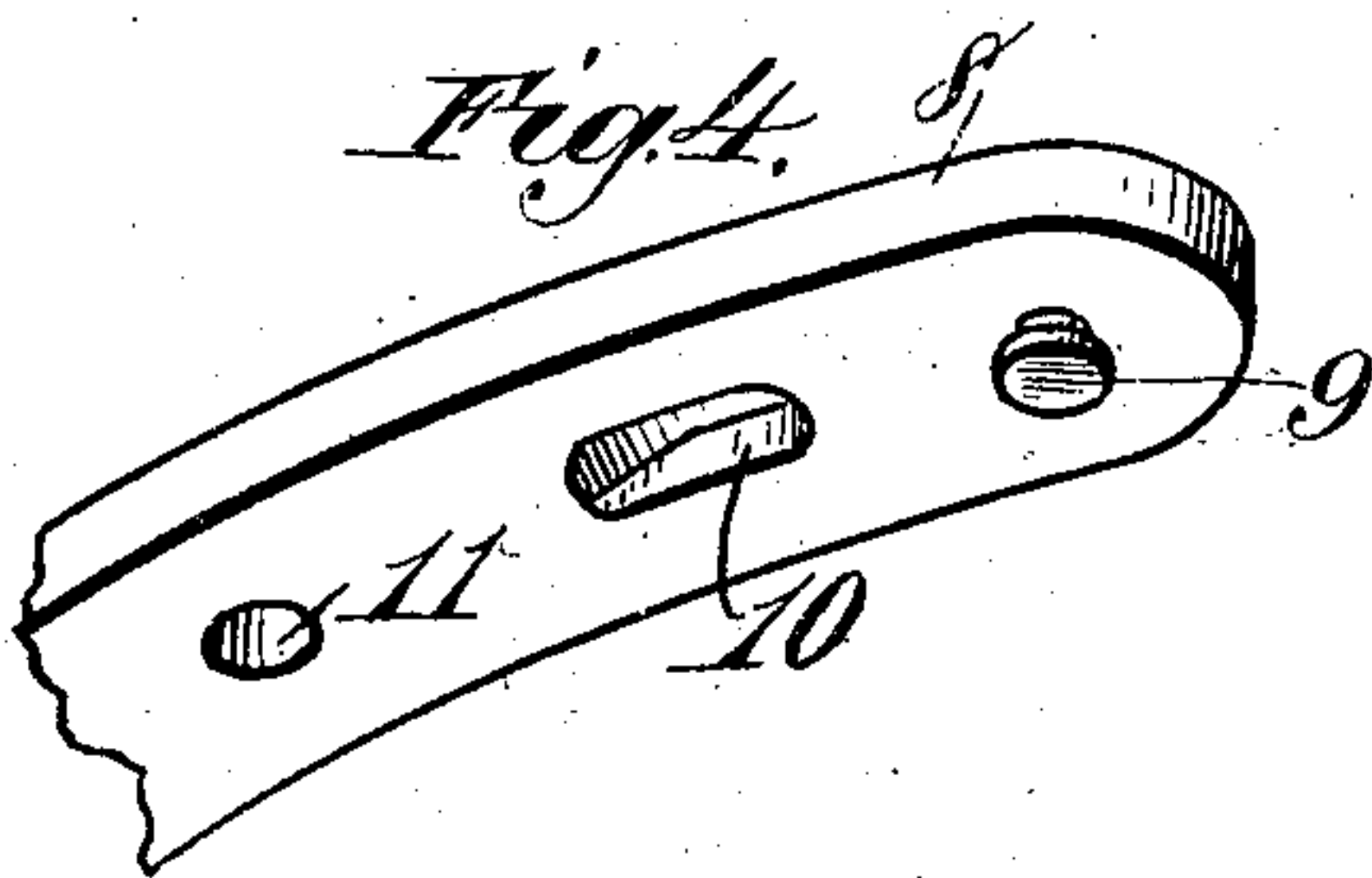


Fig. 5.

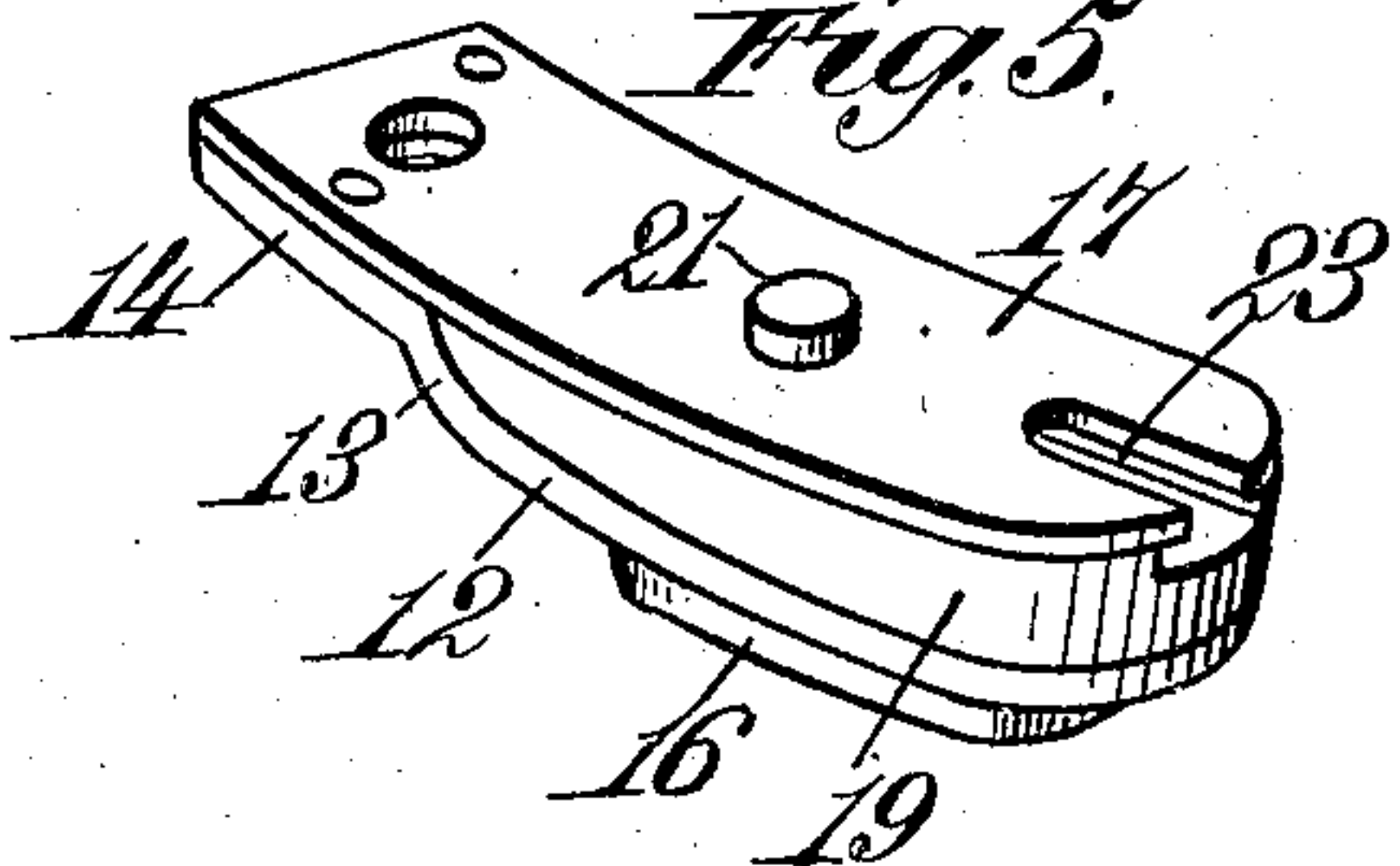


Fig. 6.

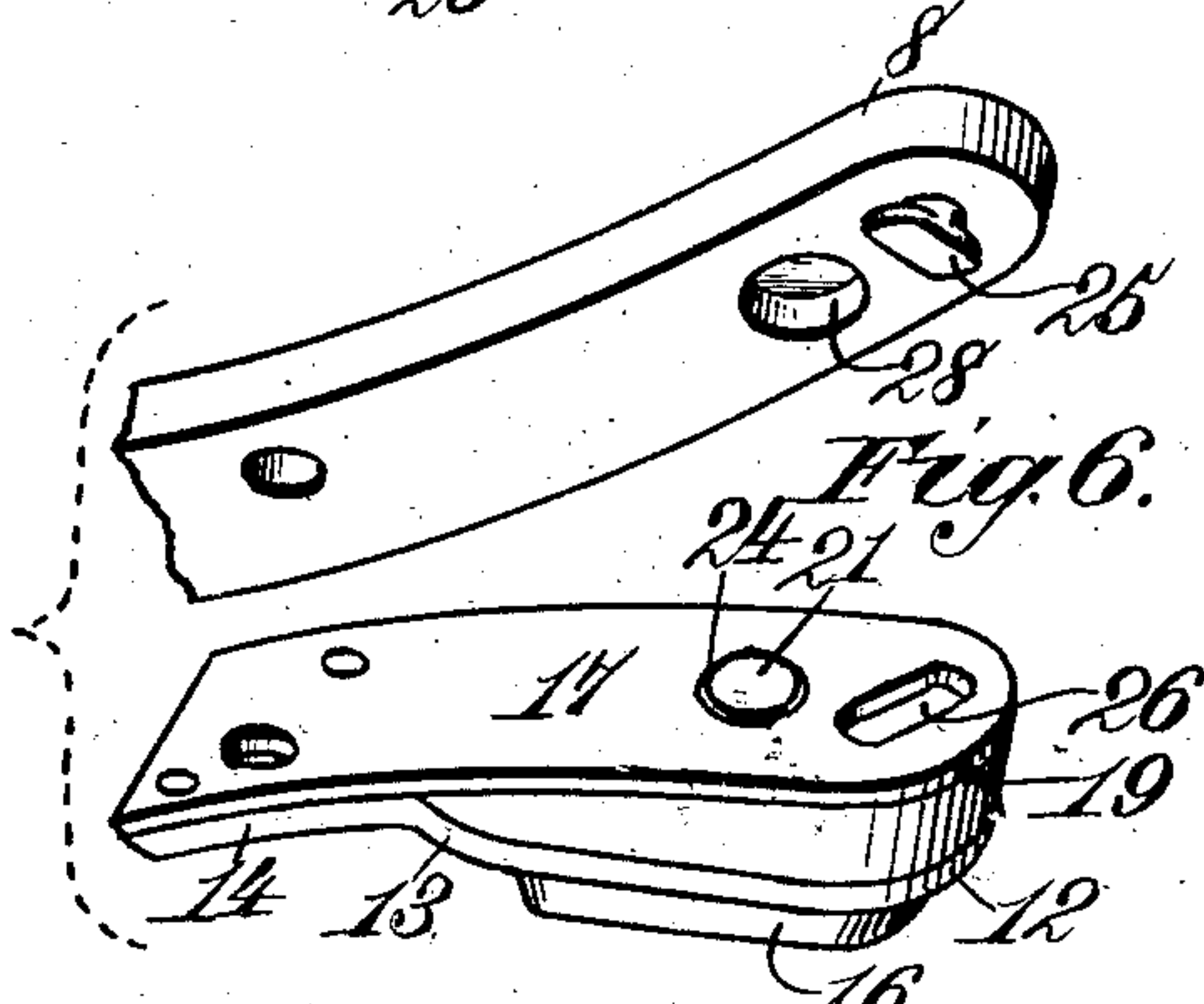
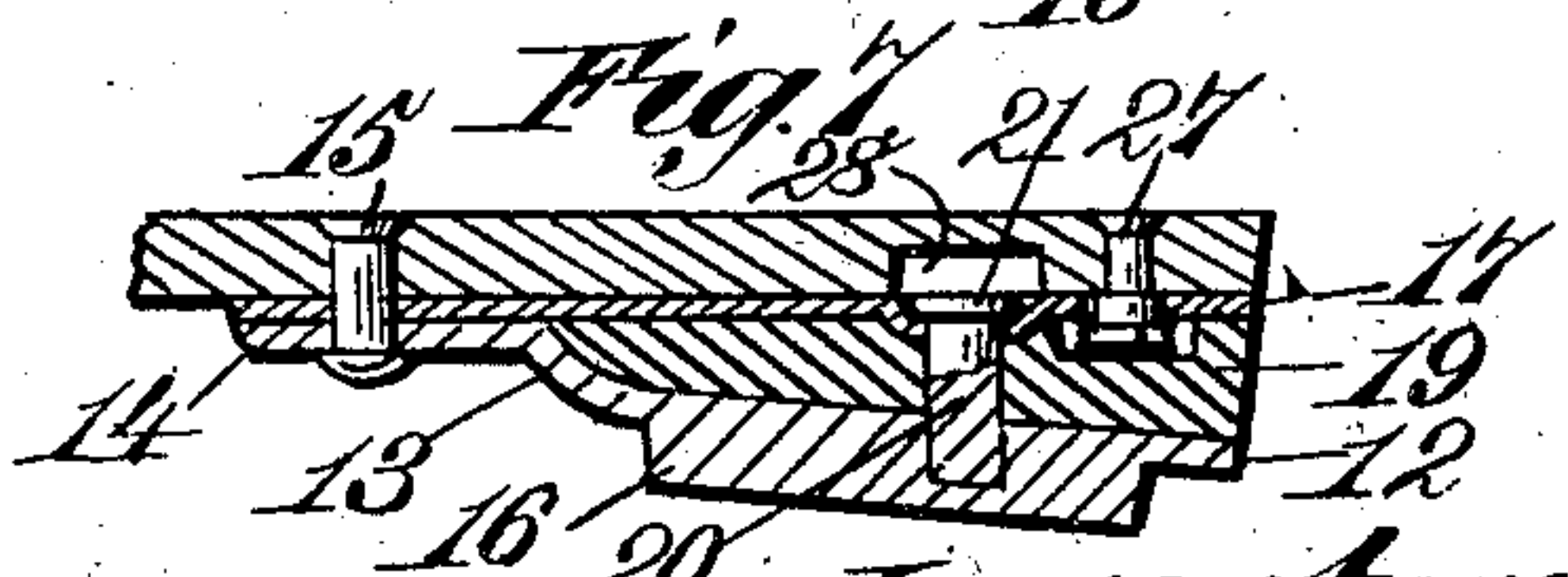


Fig. 7.



Witnesses:
Robert C. Smith,
J. D. Keeler

Inventors:
Frank B. Gardner,
James E. Grosjean,
Thomas C. Pennell.
By James L. Norris, Atty.

UNITED STATES PATENT OFFICE.

FRANK B. GARDNER, JAMES E. GROSJEAN, AND THOMAS C. PENNELL, OF LIMA, OHIO,
ASSIGNORS TO THE HUMANE HORSESHOE CO., OF LIMA, OHIO, A CORPORATION OF
OHIO.

HORSESHOE.

No. 859,810.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed August 30, 1906. Serial No. 332,682

To all whom it may concern:

Be it known that we, FRANK B. GARDNER, JAMES E. GROSJEAN, and THOMAS C. PENNELL, citizens 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 a construction of horse shoe devised with the object of diminishing concussion to the animal, which consists in constructing the heel portion of the shoe in a manner as 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 regard want of durability for the shoe, and on the other hand, injurious effect upon the animal's hoof, and to this end the invention aims to provide the shoe with a pair of removable cushioned calks set up in a manner as 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 provided with a removable and compressible cushioning means and which can be readily fitted to horseshoes now in general use without the necessity of any special machinery or tools; and without changing the contour of the shoe whatsoever; and to furthermore provide means whereby the compressing of the cushioning element will be limited, thereby securing longevity of the latter, said means also constituting a stop to limit the movement in one direction of the calk proper.

The invention further aims to provide a removable and replaceable cushioned 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 in 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 a removable calk. Fig. 3 is a longitudinal sectional view of the parts shown in Figs. 1 and 2 when assembled. Figs. 4

and 5 are views similar to Figs. 1 and 2. Fig. 6 is a view similar to Figs. 1 and 2. Fig. 7 is a view similar to Fig. 3 when the parts shown in Fig. 6 are assembled.

Referring to the drawings by reference characters 8 denotes the heel portion of the shoe having on its lower face near the outer end thereof a headed stud 9, further provided with a recess 10 in the said lower face and also having an opening 11 to receive a hold-fast device to be hereinafter referred to.

12 denotes a calk carrying plate which is offset as at 13, and has a flattened portion 14 which is detachable or otherwise connected to the heel portion 8 by means of the hold-fast device 15 which passes through the opening 11 and a suitable opening in the portion 14 of the calk carrying plate. The calk is indicated by the reference character 16. Secured to the inner face of the portion 14 is a holding plate 17 having a keyhole-shaped opening 18. Interposed between the plate 17 and the plate 12 is a cushion element 19. The cushion element 19 is retained between the two plates 12 and 17 through the medium of a headed pin 20 which is secured at one end of the calk 16 and extends through the plate 12, the element 19, the plate 17 and is headed as at 21, the said headed end 21 of the pin 20 playing in the recess 10 formed in the heel portion of the shoe. The pin 20 not only acts as a means for retaining the cushion element 19 in position, but also acts as a stop for limiting the movement in either direction of the offset portion of the calk carrying plate 12. This will be evident for the reason that the movement in one direction is arrested when the head 21 engages the wall of the recess 10, and movement in the other direction is arrested when the head 21 engages the plate 17. The headed stud 9 is shouldered as at 22 so as to prevent said stud being forced through the heel portion of the shoe and injuring the animal's hoof, and the headed stud 9 is adapted to engage in the keyhole-shaped opening 18 in a manner as shown in Fig. 3, so that the offset portion of the calk carrying plate 12 with the cushion element 19 and the plate 17 will be detachably connected to the heel portion 8 of the shoe. The keyhole-shaped opening 18 and the pin 9 constitute a pin and slot connection between the cushion calk and the shoe, and also act as a means to prevent the cushioned calk from being accidentally pulled off the shoe when the animal's hoof meets with an obstruction.

The construction shown in Figs. 4 and 5 is the same as that shown in Figs. 1, 2 and 3 with the exception that the opening 23 in the plate 17 is of a different contour, that is to say, it is substantially U-shaped with one end wall and is arranged at the outer end of

the plate 17; otherwise than that stated in connection with Figs. 4 and 5 the construction shown thereby is the same as that shown in Figs. 1, 2 and 3, the same reference characters being applied thereto.

5 In connection with the construction shown in Figs. 6 and 7 the head 21 of the pin 20 is seated in a countersunk opening 24 in the plate 17. The headed stud carried by the heel portion of the shoe in Fig. 6 has the head thereof oblong as at 25 in lieu of circular as
10 shown in Fig. 1. The opening in the plate 17, indicated by the reference character 26, corresponds in contour to the shape of the head 25 of the pin 27, but the opening 26 extends at a different angle with respect to the direction in which the head 25 of the pin 27
15 extends so that it is necessary to give the cushion calk almost a half turn in moving it to operative position with respect to the heel portion of the shoe. The heel portion of the shoe, as shown in Fig. 6, is provided with a circular recess 28 to receive the head 21 of the
20 pin 20; otherwise than that stated the construction shown in Figs. 6 and 7 is the same as shown in the other figures of the drawings, the same reference characters being applied thereto.

It will be evident from the foregoing construction
25 of horseshoes that a simple and inexpensive cushion calk is set up which can be readily fitted to the shoe, and furthermore, means are set up to prevent the accidental pulling off of the calk plate by the animal. It will furthermore be evident that no special shoe
30 construction is necessary, which is a material advantage, for the reason that it permits the calk to be fitted to any style of shoe now in general use.

It will furthermore be evident that the elasticity
35 of the tread obtained by the construction of the shoe in the manner set forth has the effect not only in diminishing concussion, but of increasing the durability of the shoe, and furthermore, the cushion element be-

sides affording elasticity of tread, acts also as insulators to prevent the transmission to the hoof of the heat generated by frictional contact with the hot pavement. 40

What we claim is—

1. A calk carrying plate having an offset portion, a holding plate secured to one end of the calk carrying plate, a cushion element interposed between the plates, means for retaining the cushion element between the plates, 45 means for connecting one end of the calk carrying and holding plates to the heel portion of a horseshoe, and a pin and elongated slot connection between the other end of said holding plate and horseshoe.

2. The combination of a holding plate, a calk carrying 50 plate having the forward end connected to said holding plate and further having an offset portion extending from said holding plate, means for connecting the forward ends of the said plates to a horseshoe, a cushion element interposed between said plates, and a pin and elongated slot 55 connection for detachably connecting said holding plate to the heel portion of a horseshoe.

3. A removable cushion calk comprising a holding plate, a pin and elongated slot connection between the holding plate and a horseshoe, a calk carrying plate having one 60 end secured to said holding plate and a portion thereof offset from the said holding plate, a cushion element interposed between said offset portion and the holding plate, and means for securing said cushion element between said plates and for limiting the movement in either direction of 65 said offset portion.

4. A calk carrying plate having one portion thereof attached to a horseshoe and its other portion offset, a cushioning element interposed between the offset portion 70 and the shoe, a headed pin, and means adapted to be slipped over the inner face of the head of the pin for detachably connecting the offset portion of the plate to a horseshoe.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

FRANK B. GARDNER.
JAMES E. GROSJEAN.
THOMAS C. PENNELL.

Witnesses:

CHAS. T. SPRAGUE,
OTIS T. LIPPINCOTT.