No. 859,758. PATENTED JULY 9, 1907.

F. B. GARDNER & J. E. GROSJEAN.

HORSESHOE.

APPLICATION FILED AUG. 30, 1906.

Fig. 1.

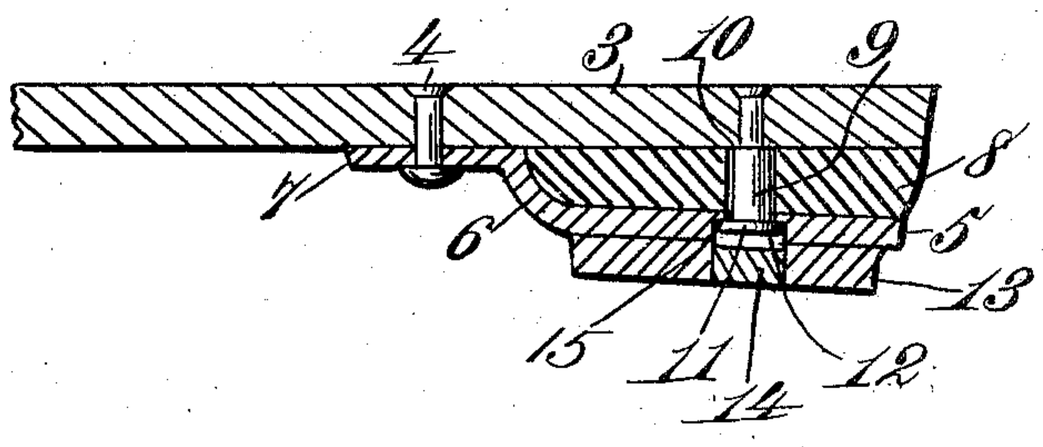
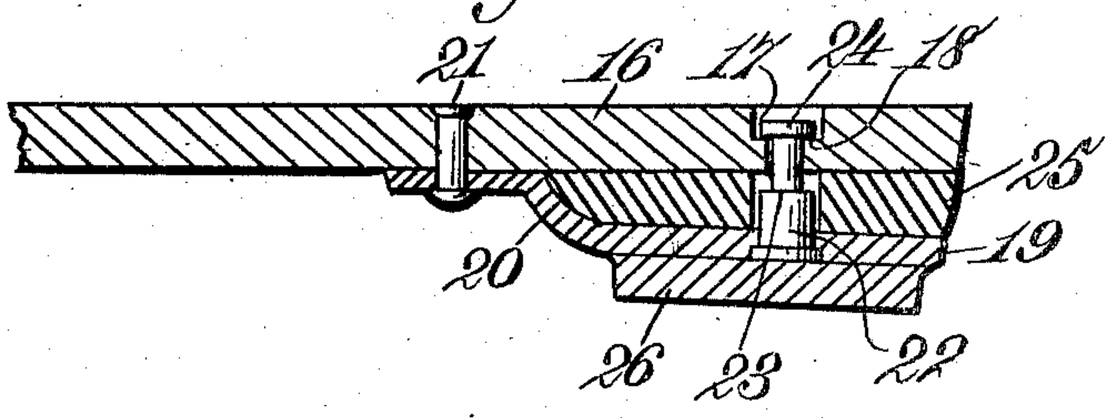


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

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

HORSESHOE.

No. 859,758. Specification of Letters Patent. Patented July 9, 1907.

Application filed August 30, 1906. Serial No. 332,671.

To all whom it may concern:

Be it known that we, FRANK B. GARDNER and JAMES E. GROSJEAN, 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 horse shoes and the object thereof is to provide the shoe with means as hereinafter set forth for diminishing concussion to the animal's hoof, and furthermore to prevent the animal accidentally pulling off the said means in case of meeting with an obstruction, and to this end the invention consists in providing the heel-portion of the shoe with a cushioned calk in a manner as set forth hereinafter, whereby all the advantages of elasticity of tread and the consequent avoidance of concussion due to hard pavements and roads is obtained, without, on one hand, the disadvantages with regard to want of durability to the shoe, particularly at the heel-portion, and on the other hand, without any injurious effect upon the animal's hoof.

The invention further aims to provide a cushioned calk which shall be simple in its construction, strong, durable, efficient in its use, provided with means to prevent the same from being accidentally pulled off, readily attached in position, 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 describing the invention in detail reference is had to the accompanying drawings, wherein like reference characters denote the corresponding parts throughout the several views wherein—

Figure 1 is a longitudinal sectional view of the heel-portion of a horseshoe, showing a cushioned calk in accordance with this invention connected thereto, and Fig. 2 is a like view of a modification.

Referring to Fig. 1 of the drawings for reference characters, 3 denotes the heel-portion of a horseshoe which has secured thereto through the medium of the rivet 4, or other suitable hold-fast device, a calk-carrying plate 5. This plate 5 is offset as at 6 and has a portion 7 secured to the shoe by the rivet 4. The offsetting of the plate 5 makes a portion of the plate somewhat elastic and interposed between the offset portion of the plate 5 and the heel-portion 3 is a cushioning element 8 of any suitable resilient material, preferably rubber. The element 8 is retained in position between the plate 5 and the heel-portion 3 through the medium of a pin 9 fixed at one end in the heel-portion 3, and shouldered as at 10, said shoulder bearing against the outer face of the heel-portion 3 and the said pin 9 is furthermore provided with a head 11 which plays in an opening 12 formed in the plate 5. The reference character 13 denotes the calk which is suitably connected to the plate 5 and the said calk 13 is formed with an opening to permit of the insertion of the pin 9 through the plate 5, element 8 and heel-portion 3. The opening in the calk 13 after the pin 9 has been positioned is closed by a plug 14 for protecting the connecting pin 9. The latter constitutes a stop for limiting the movement of the plate 5 and the compressing of the element 8 when the plate 5 is moved in one direction, and the head 11 of the pin 9 constitutes a means for limiting the movement of the plate 5 in the other direction owing to the fact that said head is adapted to engage a shoulder 15 formed in the wall of the opening 12 through the plate 5. Shoulder 10 of the pin 9 constitutes a means to prevent the forcing of the pin 9 through the heel-portion 3 so as to prevent the animal's hoof from being injured. The pin 9 further constitutes a means for connecting the offset portion of the plate 5 with the heel-portion of the shoe, and further prevents the calk from being accidentally torn off when the horse's hoof meets with an obstruction.

In Fig. 2 of the drawing a reversal of the construction shown in Fig. 1 is illustrated, and in this connection the heel-portion 16 of the shoe is formed with an opening 17 having the wall thereof provided with a shoulder 18. The calk-carrying plate 19 which is offset as at 20 and connected to the heel-portion as at 21 has fixed to the offset portion a retaining pin 22 shouldered as at 23 and headed as at 24. Interposed between the offset portion of the plate 19 and the heel-portion 16 of the shoe is a cushioning element 25 which is retained in position through the medium of the pin 22 as the latter extends through the element 25. The reference character 26 denotes the calk suitably connected to the offset portion of the plate 19. The shoulder 23 of the pin 22 constitutes a means to arrest the movement of the offset portion of the plate 19 in one direction as well as the compression of the element 25; this is evident as the shoulder 23 when the offset portion of the plate 19 is moved towards the heel-portion of the shoe is adapted to engage the lower face of the shoe, consequently arresting the movement in one direction of the offset portion 6 of the plate 19. The shoulder 23 also constitutes a means to prevent the pin 22 protruding from the opening 17 so as not to engage the animal's hoof, as otherwise, if the pin 22 passed through the opening 17, it would injure the animal's hoof. The head 24 constitutes a means to

arrest the movement of the plate 19 in the opposite direction as will be evident for the head 24 is adapted to engage the shoulder 18.

It will be evident from the foregoing construction that a simple and inexpensive calk is set up which can be readily fitted to the shoe, and furthermore, the retaining pin acts as a means to prevent the accidental pulling off of the calk plate by the animal. It will furthermore be evident that no special shoe construction will be necessary, which is a material advantage, for the reason that it permits the calk to be fitted to any style of shoe now in use. The providing of a cushioned calk in the manner as stated provides an elasticity of tread and has the effect of not only diminishing concussion, but of increasing the durability of the shoe.

What we claim is—

1. The combination with the heel portion of a horseshoe, of a plate having a flattened and an offset portion, said flattened portion being secured to the heel portion of the horseshoe, a cushioning element interposed between the shoe and the offset portion of the plate, a shouldered retaining pin having its ends engaging respectively in the heel portion of the shoe and in the offset portion of the plate for connecting said offset portion to the heel portion, and means connected to the offset portion of the plate for protecting that end of the pin engaging in the offset portion of the plate.

2. The combination with the heel-portion of a horseshoe, of a calk-carrying plate having one portion thereof connected with said heel-portion and its other portion offset from the shoe, an apertured calk secured to said plate, a cushioning element interposed between the offset portion of the plate and the heel-portion of the shoe, a retaining pin having one end fixed to the heel-portion of the shoe and its other end extending in the calk-carrying plate, said pin provided with a shoulder and a head, said shoulder engaging the shoe to prevent the forcing of the pin through the shoe, said head engaging a calk-carrying plate to prevent the accidental pulling off of said plate, and a plug secured in the opening of the calk and adapted to be engaged by said head to limit the movement of the calk-carrying plate in one direction and to limit the compression of said element.

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

FRANK B. GARDNER.
JAMES E. GROSJEAN.

Witnesses:
OTIS T. LIPPINCOTT,
HERBERT JONES.