

(No Model.)

J. C. HIGGINS.  
EXPANSIBLE HORSESHOE CALK.

No. 464,871.

Patented Dec. 8, 1891.

Fig. 1.

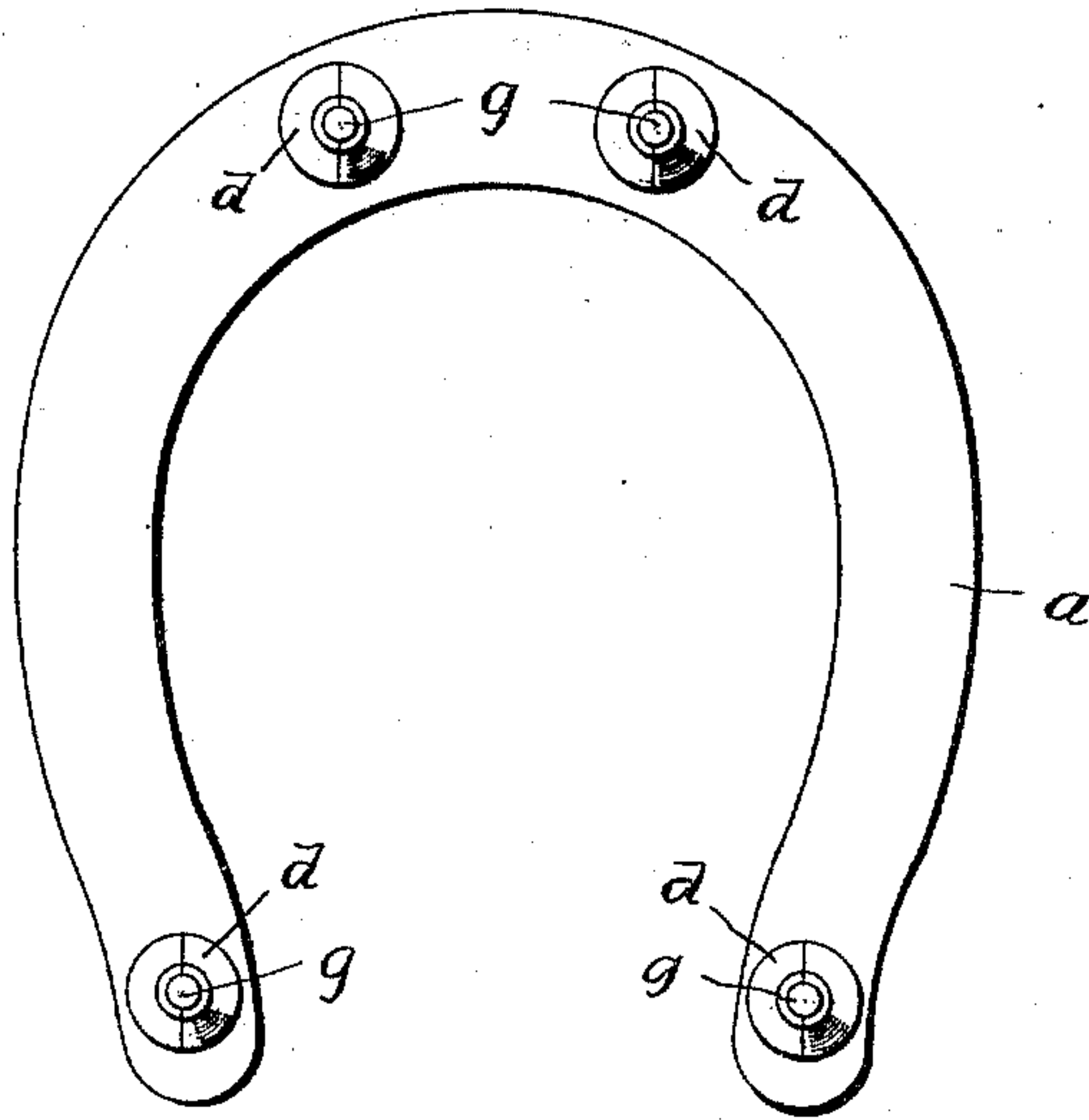


Fig. 2.

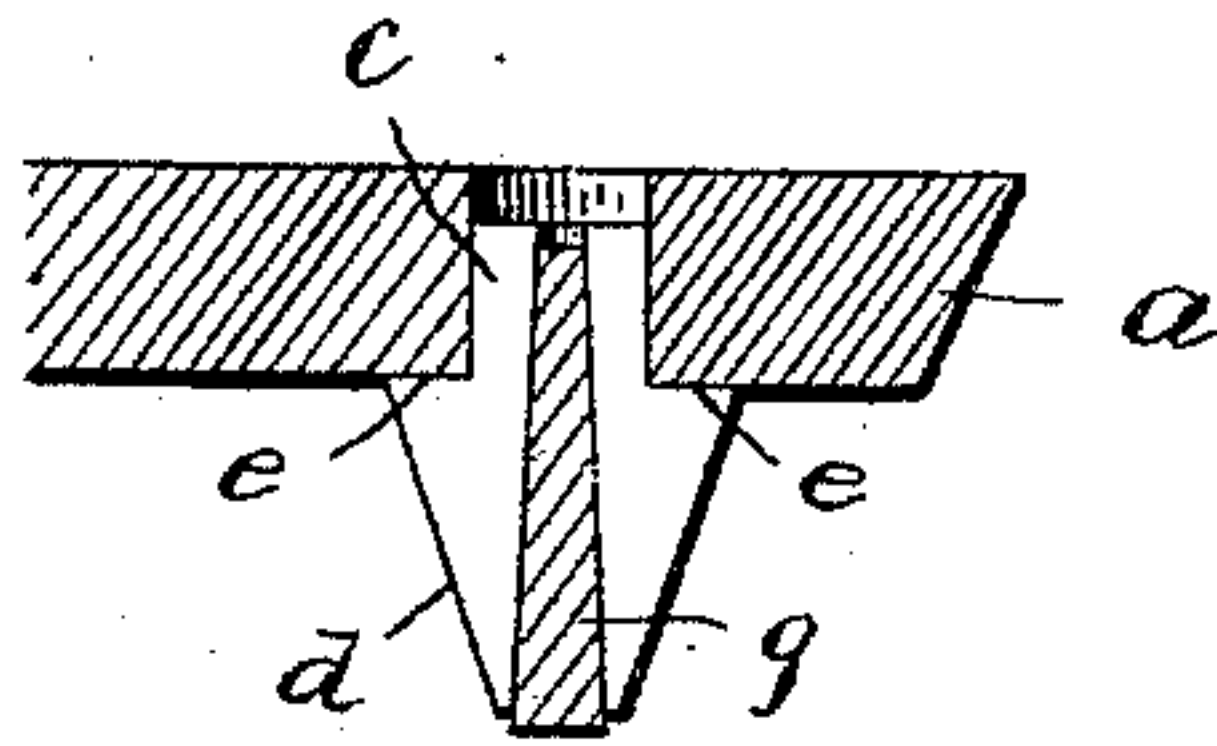
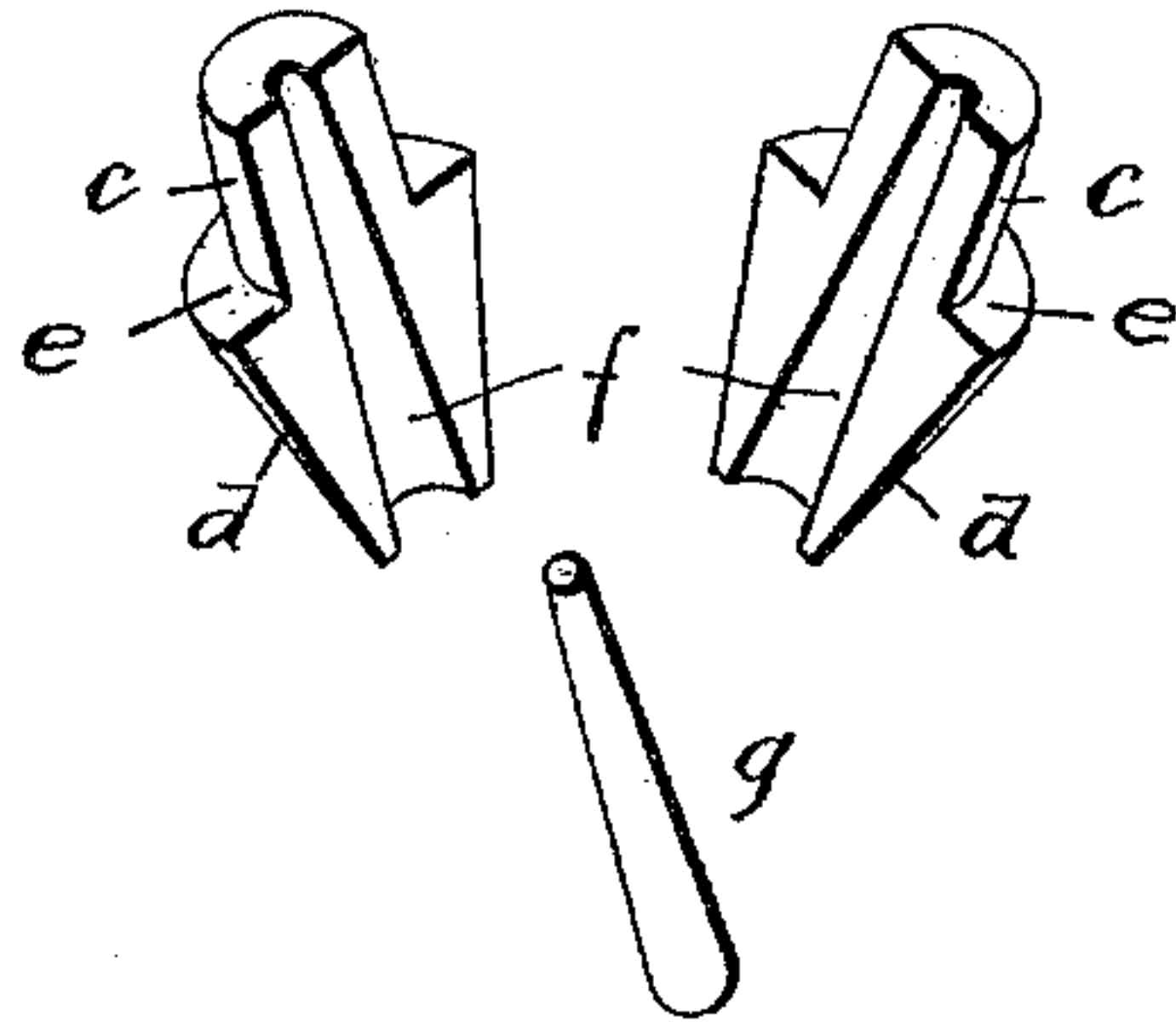


Fig. 3.



WITNESSES:

*E. C. Duffy*  
*H. E. Peck*

INVENTOR

*J. C. Higgins*  
BY *E. C. Duffy*

ATTORNEY.

# UNITED STATES PATENT OFFICE.

JOSEPH C. HIGGINS, OF NEW BRUNSWICK, NEW JERSEY.

## EXPANSIBLE HORSESHOE-CALK.

SPECIFICATION forming part of Letters Patent No. 464,871, dated December 8, 1891.

Application filed August 12, 1891. Serial No. 402,418. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH C. HIGGINS, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Horseshoes, (for which I have made application for Letters Patent in the Dominion of Canada, such application bearing Serial No. 57,707 and dated August 26, 1891;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in horseshoe-calks.

The object of the invention is to provide an improved calk for horseshoes exceedingly simple, cheap, and durable in construction and composed of a minimum number of parts, which can be quickly and easily attached or detached and can be easily knocked out and will by continued use be more firmly secured in the shoe. These objects are accomplished by and this invention consists in certain novel features of construction and in combinations of parts more fully described herein-after, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 illustrates a horseshoe provided with my improved calks. Fig. 2 is a sectional view of the calk when the same is secured in position. Fig. 3 is a detail perspective, parts of the calk being shown in detail and detached.

In the drawings, reference-letter *a* indicates a horseshoe provided with any suitable number of apertures, preferably circular, although, if more desirable, they can be angular in contour. Two or more apertures are preferably located at the toe, and each heel or end of the shoe is provided with an aperture.

Each calk preferably consists of the straight shank *c*, formed to fit in its respective shoe-aperture, and the outer or wearing portion *d*, preferably, although not necessarily, tapered or in the form of an inverted cone at its upper or inner end, forming the shoulder *e*, formed to fit against the end face of the

shoe and form a firm bearing. This calk is divided longitudinally and preferably, although not necessarily, centrally, so as to be formed in longitudinal sections, preferably two in number. The inner faces of these sections of the calk are provided with registering grooves *f*, extending longitudinally from the lower or wearing contact end of the calk, so as to form a longitudinal aperture within the calk. This aperture receives a beveled or tapered pin *g*, which is forced into the end of the aperture at the contact-point of the calk after the calk has been inserted in the aperture in the shoe, the sections of the calk being placed together to form a symmetrical calk. The pin or wedge *g*, when thus inserted or forced in, spreads the calk within the aperture of the shoe, and thereby firmly and rigidly secures the calk, so that continued use or concussion on the wearing end of the calk simply tends to drive the wedge farther in and more securely fasten the calk within the shoe.

Of course it is evident that the calks can be readily removed when the shoe is taken off by tapping their inner upper ends lightly with a hammer or other article, or they can be removed by inserting a suitable instrument between the face of the shoe and the shoulder *e* of the calk.

The longitudinal aperture should preferably extend completely through the calk, so that the wedge can lie within that portion of the calk within the aperture of the shoe. However, this is not absolutely necessary, and I do not limit myself to exactly such construction.

It is evident that the invention is not limited to a peculiar shape of expanding-pin or to a peculiar shape of passage therefor; but the pin and its receiving aperture are so relatively formed as to accomplish the object desired, of expanding the shank within the shoe. Furthermore, the invention is not limited to any peculiar shape or contour of calks.

Heretofore a horseshoe-calk has been formed in three longitudinal sections with the lateral shoulders to fit the under side of the shoe, the central section being wedge-shaped and having the lateral shoulders which engage the shoe, the inner faces of the two outer sections being inclined, the two outer sections hav-



ing the opposite lateral lugs on their shanks and the shoe-aperture having the opposite lateral recesses to receive said lugs. My invention radically differs from such a device, inasmuch as I have an expanding pin or wedge which has no shoulders to engage or be stopped by the shoe, but which extends up from the contact end of the shoe and is constantly forced in by the concussions to maintain the calk expanded. This is impossible and needless in the old device, the calk of which is held by said lugs.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the horseshoe having an aperture, of the expansible calk having the shank located in said aperture and the expanding pin or wedge extending longitudinally within the calk from the contact end thereof and being disconnected and out of engagement with the shoe, so as to be forced inwardly by the concussion on its lower end, substantially as set forth and described,

whereby the shank is maintained expanded within said aperture of the shoe.

2. The combination, with a horseshoe having an aperture, of the calk having a shank to fit in said aperture and provided with the smooth exterior, said calk being longitudinally divided into similar sections with the flat meeting faces and a longitudinal passage extending from the contact end of the calk throughout the length thereof, and the expanding-pin having the straight sides longitudinally located within said passage out of engagement with the shoe and extending from the contact end of the calk, so that the pin will be constantly forced inwardly by the concussion.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOSEPH C. HIGGINS.

Witnesses:

JOHN D. MARTIN,  
H. R. VAN NUIS.