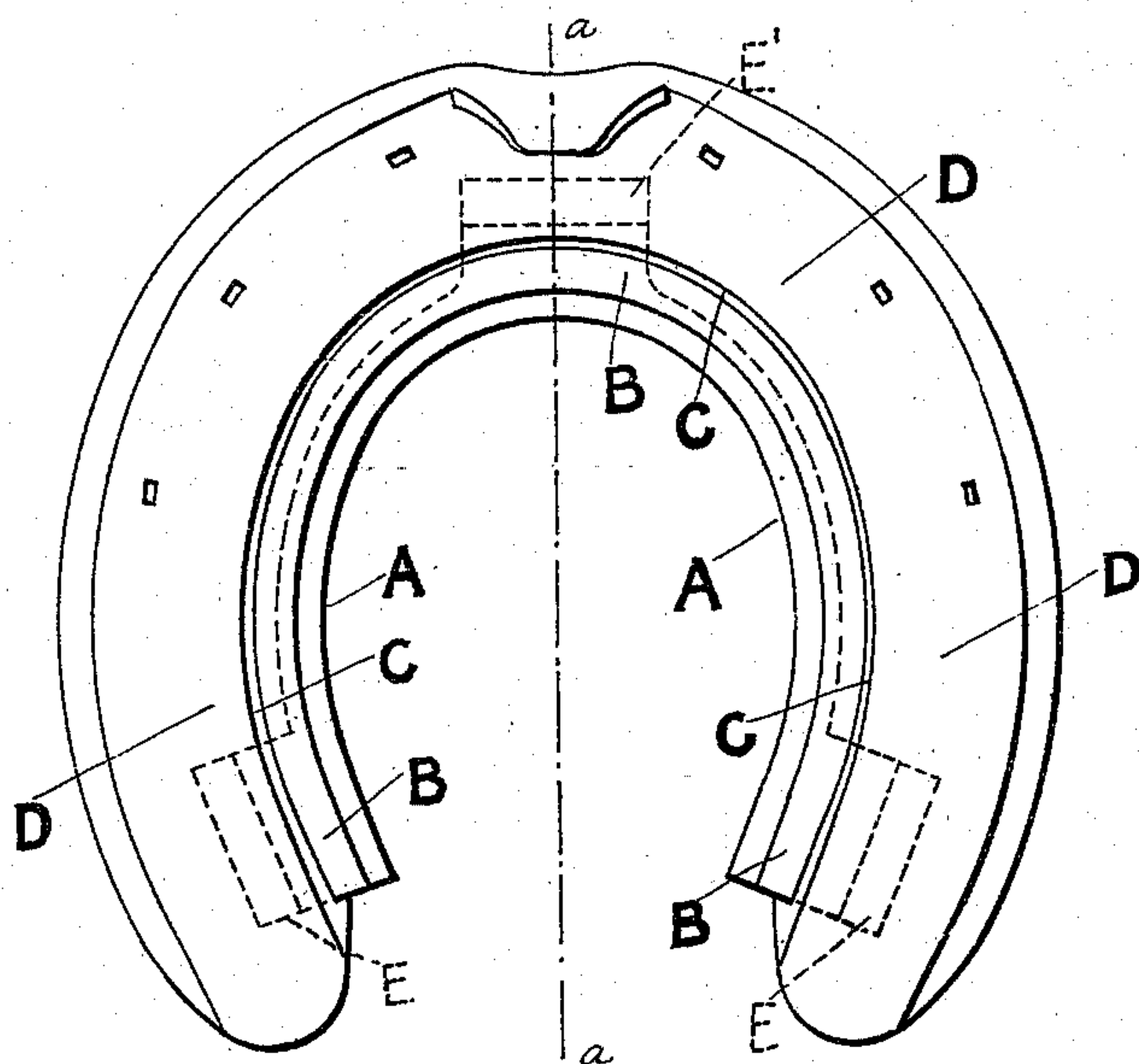


(No Model.)

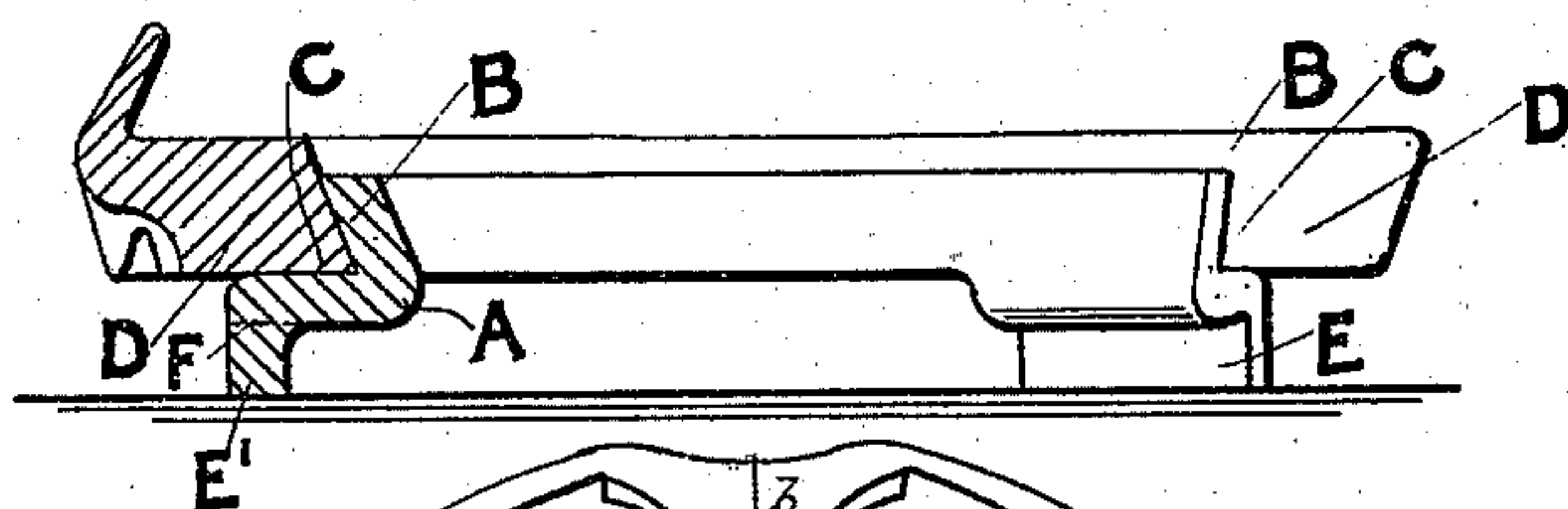
R. ABELL.  
HORSESHOE ICE CALK.

No. 547,407.

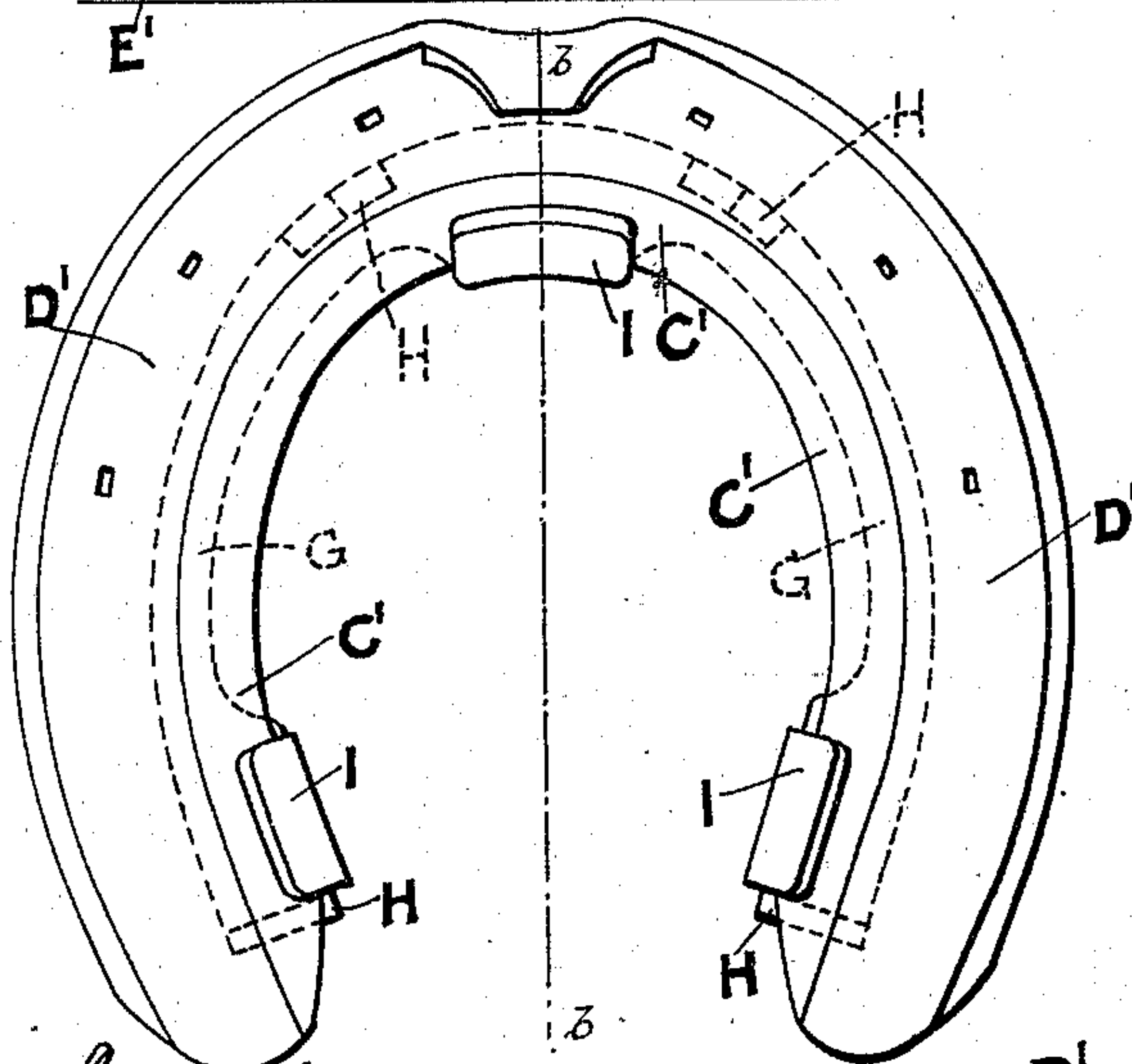
Patented Oct. 8, 1895.



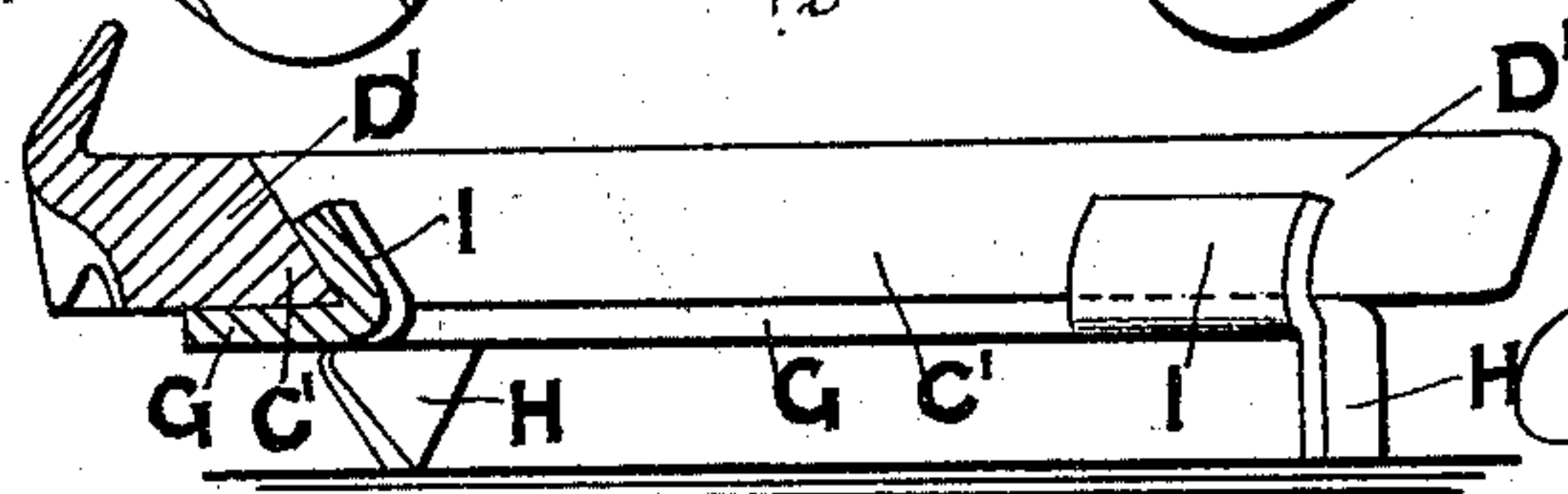
**Fig. 2**



**FIG. 3**



**FIG. 4**



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att.



# UNITED STATES PATENT OFFICE.

ROBERT ABELL, OF DERBY, ENGLAND.

## HORSESHOE ICE-CALK.

SPECIFICATION forming part of Letters Patent No. 547,407, dated October 8, 1895.

Application filed January 26, 1895. Serial No. 536,386. (No model.) Patented in England November 24, 1893, No. 22,528.

*To all whom it may concern:*

Be it known that I, ROBERT ABELL, a subject of the Queen of Great Britain and Ireland, and a resident of Elm Tree House, Ultoxeter New Road, Derby, in the county of Derby, England, have invented a certain new and useful Improved Means or Device for Preventing Horses Slipping, (for which I have obtained a Patent in Great Britain, No. 22,528, bearing date November 24, 1893,) of which the following is a specification.

The object of my invention is to provide an improved means or device for preventing horses slipping.

Referring to the drawings, which form a part of this specification, Figure 1 is a plan of a horseshoe, showing one application of my invention. Fig. 2 is a sectional elevation of the same on line *a a* of Fig. 1. Fig. 3 is a plan of a horseshoe, showing another application of my invention. Fig. 4 is a sectional elevation of the same on line *b b* of Fig. 3.

In carrying out my said invention I provide a piece of steel or other suitable elastic metal, material, or composition carrying studs, bars, teeth, spikes, or the like, technically known as "calkings," adapted to come into contact with the ground or other surface trodden upon, the said piece of steel or the like being also provided with suitable means of clipping or embracing the inside of the said shoe, the heels or sides of the said device being sprung together and placed inside the horseshoe, and upon being released it recoils and firmly grips the inside of the said shoe. I cast, cut, stamp, or otherwise form a piece of steel or other suitable metal, material, or composition A in the manner shown on Figs. 1 and 2, (partly by dotted lines on Fig. 1,) and turn the inner portion of the same upward, as shown at B, to clip the beveled or splayed inside edge C of the shoe D. Other parts E, I turn downward and form into suitable studs, spikes, or calkings. It is evident, however, that in place of the latter I may employ any kind of projection best calculated to prevent slipping, and may form the said spikes, studs, or calk-

ings separately and screw or fix them into the said plate or device by any suitable means, as desired. The front calking E' is only required to be turned down for hind shoes and in the case of fore shoes may be carried straight out, as shown by dotted line F, if desired.

In the other application of my invention (illustrated in Figs. 3 and 4) a bottom plate G is shown passing round the under side of the shoe D', carrying calkings H and clips I, the latter being adapted to engage the splayed or beveled inner edge C' of the shoe D', and thus secure the device to the shoe.

It is evident that the inside edge of the shoe may be made of any section other than a splay that will effectually allow of the device being clipped onto the inside edge of the said shoe, and that any suitable means may be used for springing the heels of the pieces of metal or plates A and G closer together when fixing or releasing the devices; also, that I may employ any suitable number of calkings and place them in any convenient position on the shoe.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A horse shoe having its inner edge beveled throughout its extent, presenting a seat flaring upwardly, and a spring calking ring having upwardly projecting flaring bearings or walls adapted to the flaring seat in the shoe and having a bearing extending under the bottom of the shoe, said bearing holding the spring ring against upward movement in the flaring seat, while the flaring seat prevents the ring from being displaced downwardly, the upper surface of the shoe being plain and free from projections connecting it with the calk ring, substantially as described.

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

ROBERT ABELL.

Witnesses:

C. K. EDDOWES,  
W. SWINDELL.