

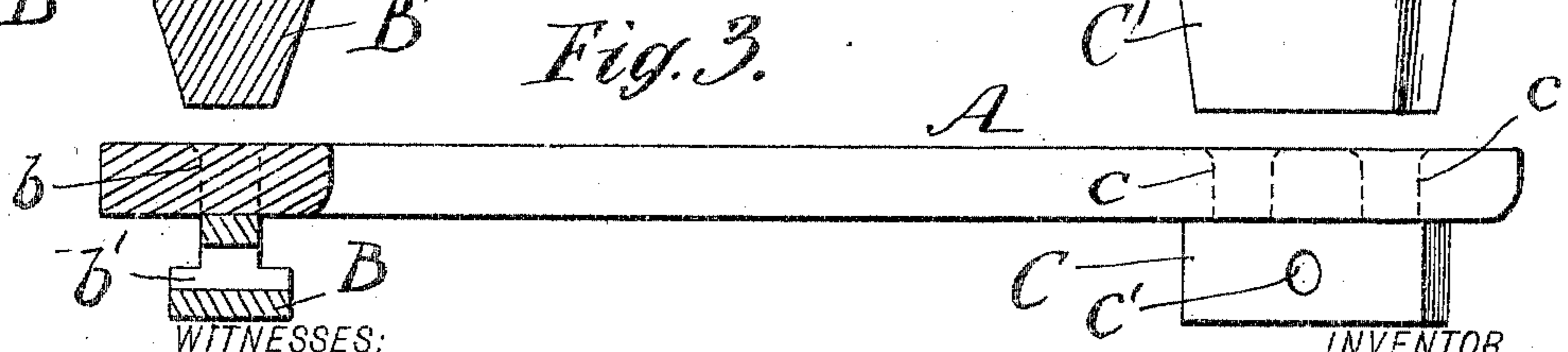
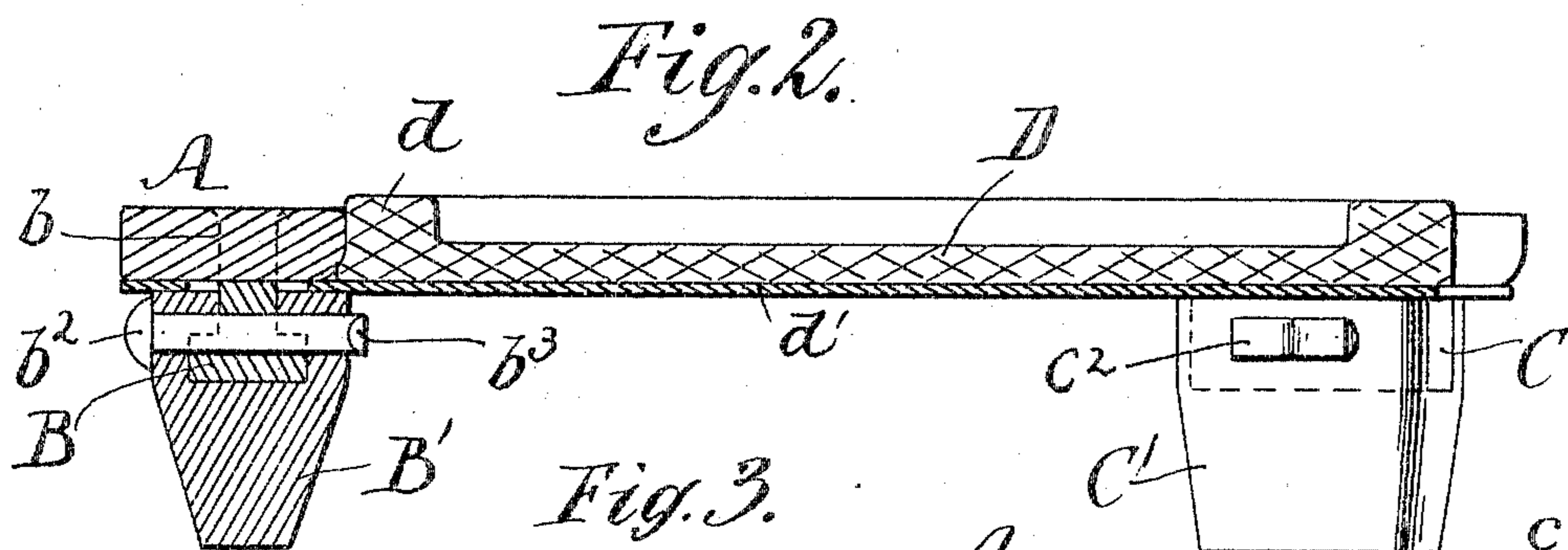
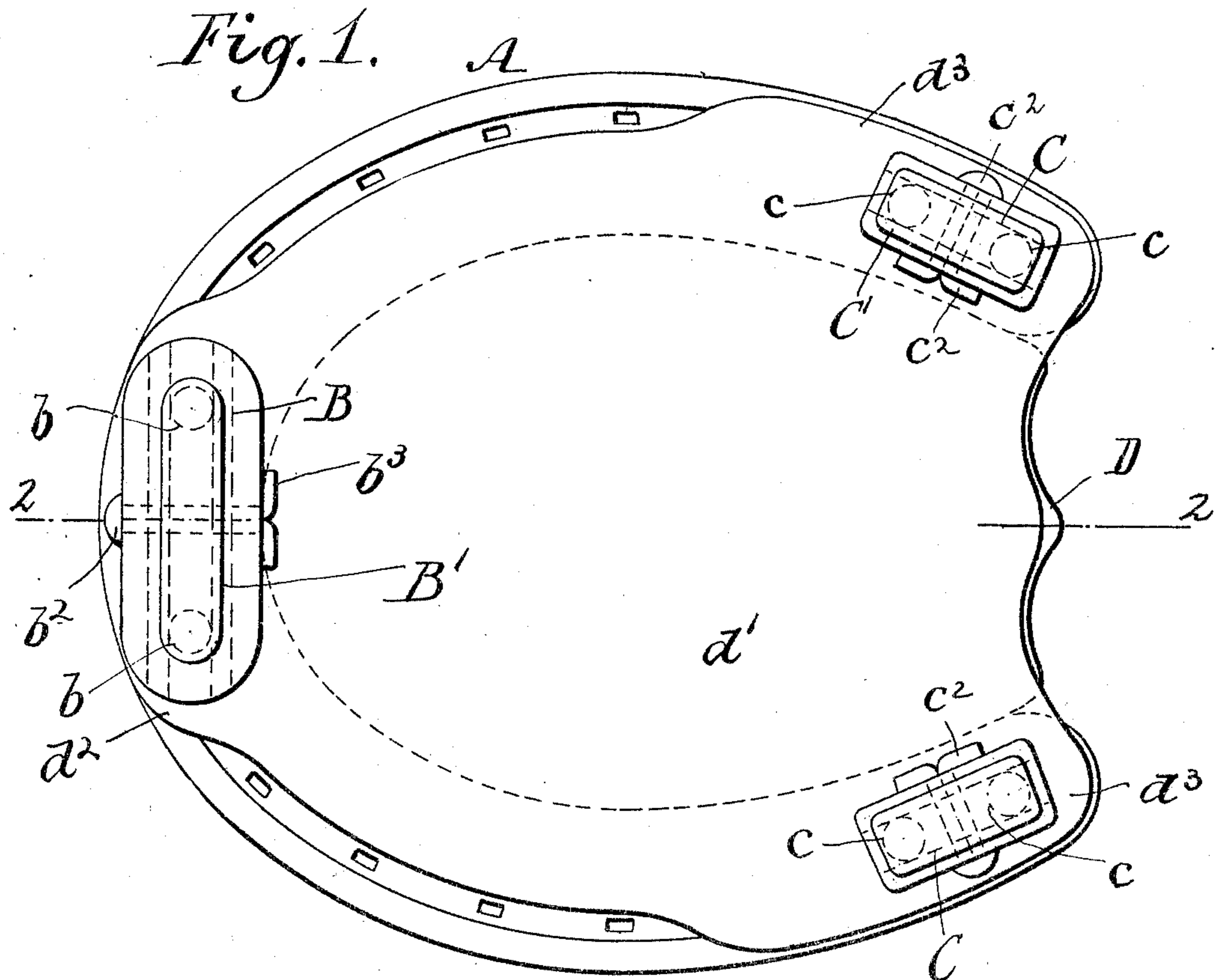
No. 780,092.

PATENTED JAN. 17, 1905.

M. DEATER.
HORSESHOE.

APPLICATION FILED MAR. 31, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

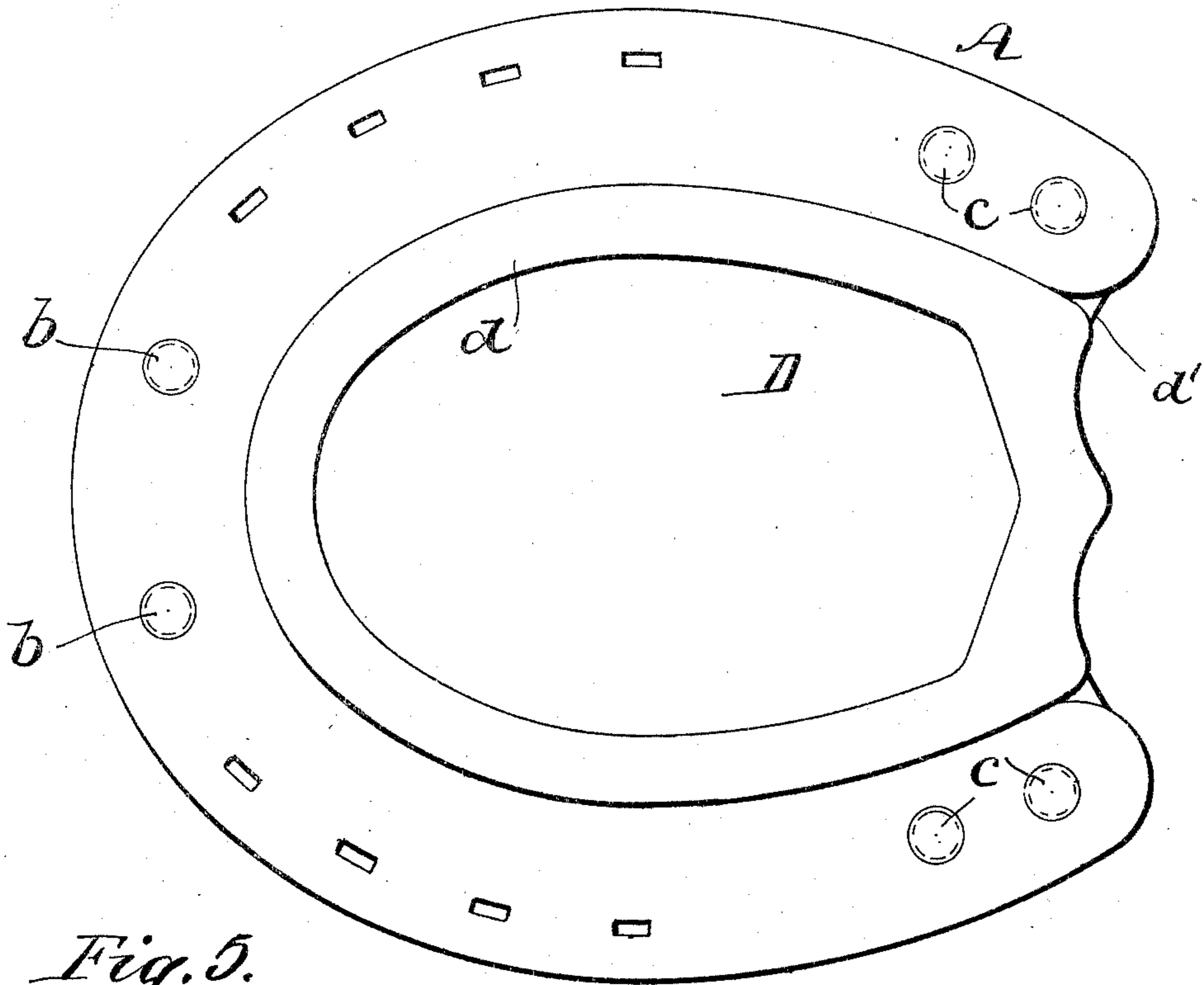


Fig. 5.

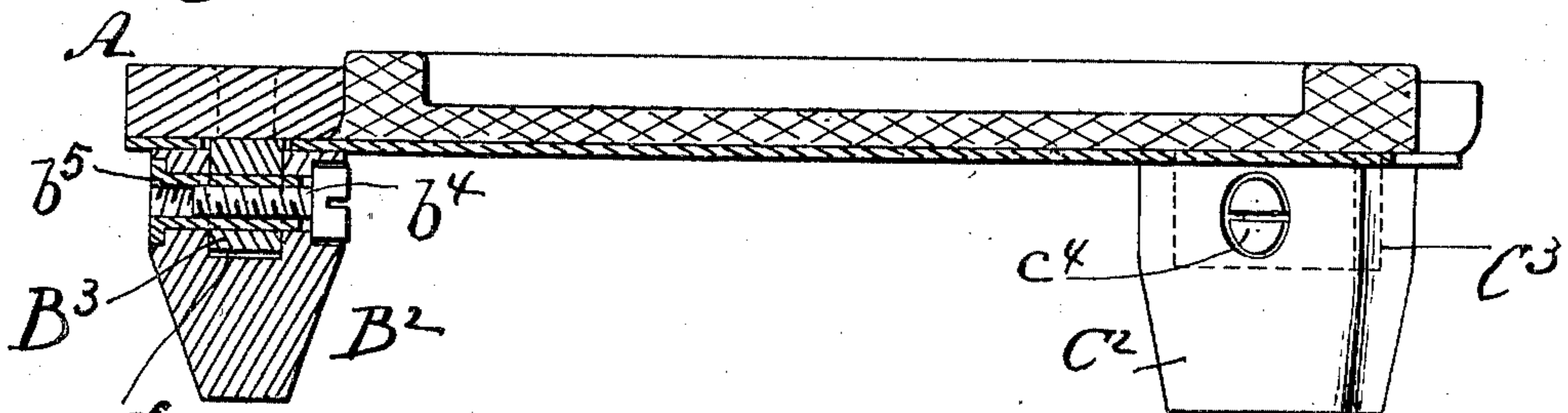


Fig. 6.



Fig. 7.

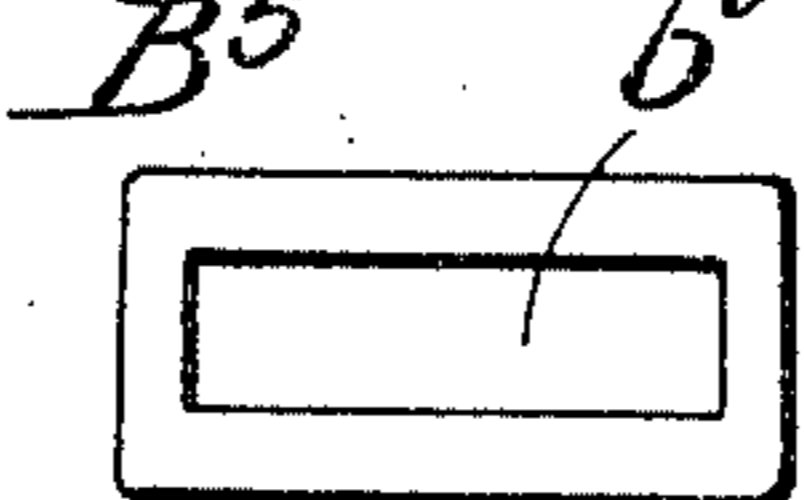
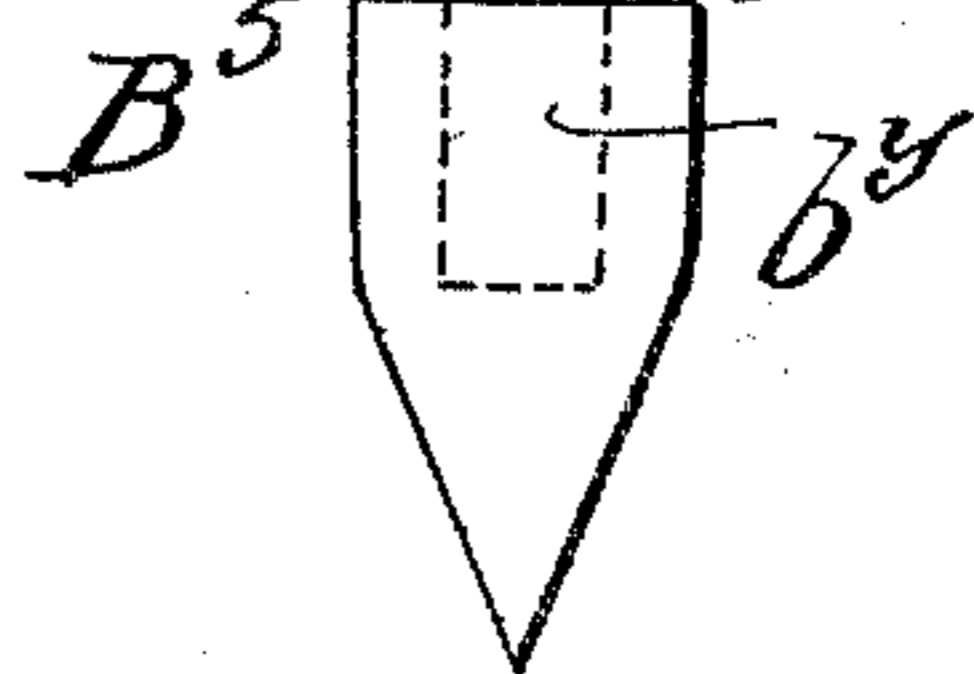


Fig. 8.



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HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 780,092, dated January 17, 1905.

Application filed March 31, 1904. Serial No. 200,869.

To all whom it may concern:

Be it known that I, MACK DEATER, a citizen of the United States, and a resident of Johnstown, county of Cambria, and State of Pennsylvania, have invented certain new and useful Improvements in Horseshoes, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

The present invention relates to certain improvements in horseshoes, the more prominent objects being to facilitate the substitution and interchangeability of toe and heel calks to adapt the shoe for different road conditions, to provide a simple and efficient arrangement of hoof-pad, and so to condition the novel shoe that thereby facility for the application of medicinal agents is promoted.

With the above and other purposes in view the improvements involve novel means designed for attachment to any make or size of horseshoe and so disposed and formed at the lower side of the shoe as to permit the ready, convenient, and positive attachment of toe and heel calks thereto, thus enabling, as before pointed out, the toe and heel calks to be superseded by others equipping the shoe for a different condition of road travel. The attaching devices are of such character that the adjustment and removal of the calks can be accomplished without requiring the employment of special tools for such purpose.

A highly-important development of the invention consists in effecting the connection of the calk-engaging means with the shoe and the attachment of the calks in such manner that a yielding or hoof pad will be detachably but properly retained in position. Manifestly such pad not only coacts to neutralize differing sensations sustained by the hoof, due to the quick change from one type or style of calk to another, but said pad serves to cushion the hoof generally. A depression provided by the pad is capable of receiving and comfortably retaining medicinal or remedial agents beneficial to the hoof.

There are other important features connected with the invention which, in addition to

those above alluded to, are clearly set forth in the subsequent detailed description.

In the accompanying drawings, forming part of this specification, Figure 1 is an inverted plan view of a horseshoe embodying one form of my invention. Fig. 2 is a longitudinal sectional view of said shoe, the section being in the plane indicated by the broken line 2 2, Fig. 1, and said shoe occupying a normal position. Fig. 3 is a corresponding view of the shoe proper with the permanently-connected calk-engaging means indicated. Fig. 4 is a plan view of the shoe disclosed in Figs. 1 and 2 and illustrating more particularly the disposition of the cushion portion of the hoof-pad and the location of the rivets of the calk-engaging means. Fig. 5 is a longitudinal vertical section of the shoe and showing more particularly modified calk-attaching devices. Figs. 6 and 7 are views of different forms of calks, and Fig. 8 is a detail end view of the calk represented in Fig. 7.

The shoe proper, A, may be of any suitable material and of any desired type and size. It can be of any satisfactory metal, and where lightness is a consideration it may be of aluminium. For reasons that will be readily understood this shoe is not equipped with the integral toe and heel calks characteristic of the shoes most commonly used.

In the toe portion of the shoe A are drilled or otherwise formed a pair of holes, respectively located on opposite sides of the longitudinal center of the shoe. There is also a corresponding pair of such holes at each of the heel portions of the shoe. At its upper end each hole is reamed to adapt it for the countersunk head of a rivet.

As indicated in Figs. 1 to 3, inclusive, a transversely-disposed block B is located at the under side of the shoe, at the toe portion thereof, and this block is substantially of a dovetail shape in cross-section. Integrally at the top of the block is a pair of vertical pins or rivets *b*, dotted circles, Fig. 1, and one of which is indicated by the vertical dotted lines, Figs. 2 and 3. The block B is maintained in permanent relation to the shoe through the medium of the upper ends of the pins *b* being

riveted and occupying the countersinks of the openings therefor, so as to provide a smooth and flush surface at the upper side of the shoe proper. Extending through the central part 5 of the block B is a horizontal perforation b' .

The toe-calk B' can have its tread portion designed for any particular character of road condition—as, for instance, winter or summer season, fair or inclement weather, light 10 or heavy travel, or for urban or rural service. As indicated in Fig. 1, the upper part of this calk B' is somewhat more transversely extended than the block B and is of such dimension longitudinally as to adapt it to contain a transversely-disposed channel open at 15 its respective ends and of such size and cross-sectional configuration that it can be laterally slid endwise into engagement with the block B and be positively held by the latter against 20 movement either longitudinally or vertically with respect to the shoe. Palpably the disengagement of the calk can be effected by simply withdrawing it laterally. With the view, however, of securely holding the calk against 25 unintended lateral movement the upper portion of such calk contains a longitudinally-extending opening which intersects the channel therein and which opening when the calk is in position is designed to register with the 30 opening b' in the block B to permit the insertion of a key b^2 , the head of which bears against the calk at its front, while the members b^3 , presented by the split end of the key, are beyond such calk at its rear, against which 35 they are spread and clenched to maintain the key against withdrawal.

The blocks C at the under side of the shoe A at the heel portions may be formed and coact with calks in a manner similar to the 40 arrangement provided for the toe-calk. I have, however, shown the blocks C as each being of plain rectangular shape, having a pair of upper integral pins c , adapted to occupy the openings therefor in the appropriate heel 45 portion of the shoe, the upper ends of such pins being riveted to occupy countersinks for presenting a flush surface, as well as retain their particular block in position. Of course the perforations in each heel portion are so 50 disposed that the block pertaining thereto can be connected to occupy the proper position with respect to its heel portion. At a central point in each block is a horizontal perforation c' . Each of the heel-calks C' has in its upper 55 portion a transversely-extending channel open at its top and ends to permit the calk to be applied so that its block will be snugly received within its recess with the ends of the block flush with the ends of its calk. When 60 so applied, a perforation in each calk will register with the perforation c' in its block to permit the application and clenching of a split key c^2 in a manner similar to that of the toe-calk. Before attaching the toe and heel calks,

as described, I prefer to fit to the shoe a hoof- 65 pad, the cushion part D of which has a raised portion d intimately conforming to the shoe at its inner edge and projects for a short distance above the top of said shoe. Many of the hoof-pads of commerce embody a lower 70 or sole thickness d' of leather, to which the cushion D is permanently connected. As disclosed in the present case, such thickness, as well as the base of the cushion, is of continuous character, so as to close the opening 75 presented within the shoe. The dimensions and marginal configuration of the thickness d' are such, however, that offset portions d^2 d^3 extend beneath the toe and heel parts of the shoe and are perforated to accommodate the 80 blocks B C C, so that when the calks are attached in position the offset portions d^2 d^3 will be firmly clamped between the under side of the shoe and tops of the blocks, and thus result in the pad being detachably but securely 85 held in position.

From the description thus far it will be readily comprehended that the calks can be easily detached when desired by simply straightening the spread ends of the keys, 90 withdrawing the latter, and removing the calks, for which latter other calks suitable for different conditions of travel can be conveniently substituted and secured in position. The substituted calks can have coarse or finer 95 treads, according to the character of service desired. Further, as before intimated, the calk connections perform the additional function of holding the hoof-pad in position in a simple and efficient manner. Another ad- 100 vantage connected with the presence of the pad is that it tends to render less disagreeable any unpleasant sensations to which the hoofs may be subjected on account of the changes in the calks. The ledge or projection d of the cushion 105 presents a depression adapted for the reception of a sponge or other suitable material designed to further relieve the hoof from soreness and other difficulty. Such sponge or other material may be saturated with tar, oil, 110 grease, or other agents of a medicinal or remedial nature, or such agents may be introduced within the depression without the employment of the sponge or other material.

I do not desire to be understood as limiting 115 myself to the precise construction and arrangement of parts shown and described, but reserve the right to all modifications within the scope of my invention. For instance, in lieu of the split keys screws b^4 c^4 c^4 may serve 120 with internally-threaded head-sleeves to maintain the toe and heel calks B² C² in position. Fig. 5 illustrates at the toe part such arrangement, the screw b^4 being introduced from the rear to engage within the threaded opening 125 of the sleeve b^5 , inserted from the front. Manifestly the rotation of the screw in the proper direction will occasion the drawing to-

gether of such screw and its sleeve, so that the heads of both these parts will occupy countersinks in the rear and forward faces of the calk and retain the latter against accidental detachment in a self-evident manner.

Instead of the channels extending entirely through their calks they may be closed at their ends, and thus constitute pockets b^6 , adapted for the snug reception of the correspondingly-shaped rectangular blocks $B^3 C^3$ at the toe and heel portions.

The calk B^4 in Fig. 6 represents a sharp-tread toe-calk having an upper open-ended channel b^x . Figs. 7 and 8 illustrate a somewhat similar calk B^5 , but having the pocket-shaped recess b^y , before adverted to.

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

1. The combination with a horseshoe, of blocks at the under side of the shoe and having pins riveted to said shoe, a hoof-pad, the cushion of which includes a raised portion forming a depression, the bottom thickness of said pad providing marginal portions perforated for the accommodation of the blocks, and calks with means for detachably connecting them to the blocks and for detachably clamping the marginal portions of the pad.

2. The combination with a horseshoe, of perforated blocks at the under side of the shoe, having pins riveted to said shoe, a hoof-pad,

the cushion of which comprises a raised portion forming a depression, the bottom thickness of said pad providing marginal portions perforated for the accommodation of said blocks, calks having transverse perforations, registering with the perforations in said blocks, and keys passing through said perforations and detachably attaching said calks and blocks.

3. The combination with a horseshoe, of perforated blocks having dovetail extensions, and pins by which they are riveted to said shoe, a hoof-pad the cushion of which comprises a raised portion forming a depression, the bottom thickness of said pad providing marginal portions perforated for the accommodation of said blocks, calks having dovetail channels engaging the extensions of said blocks, and transverse perforations registering with the perforations in said blocks, and keys comprising a head and split shank detachably attaching said blocks and calks, and by such arrangement detachably clamping the marginal portions of the said pad.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of March, 1904.

MACK DEATER.

Witnesses:

EDW. E. LEVERGOOD,
I. E. SLOAN.