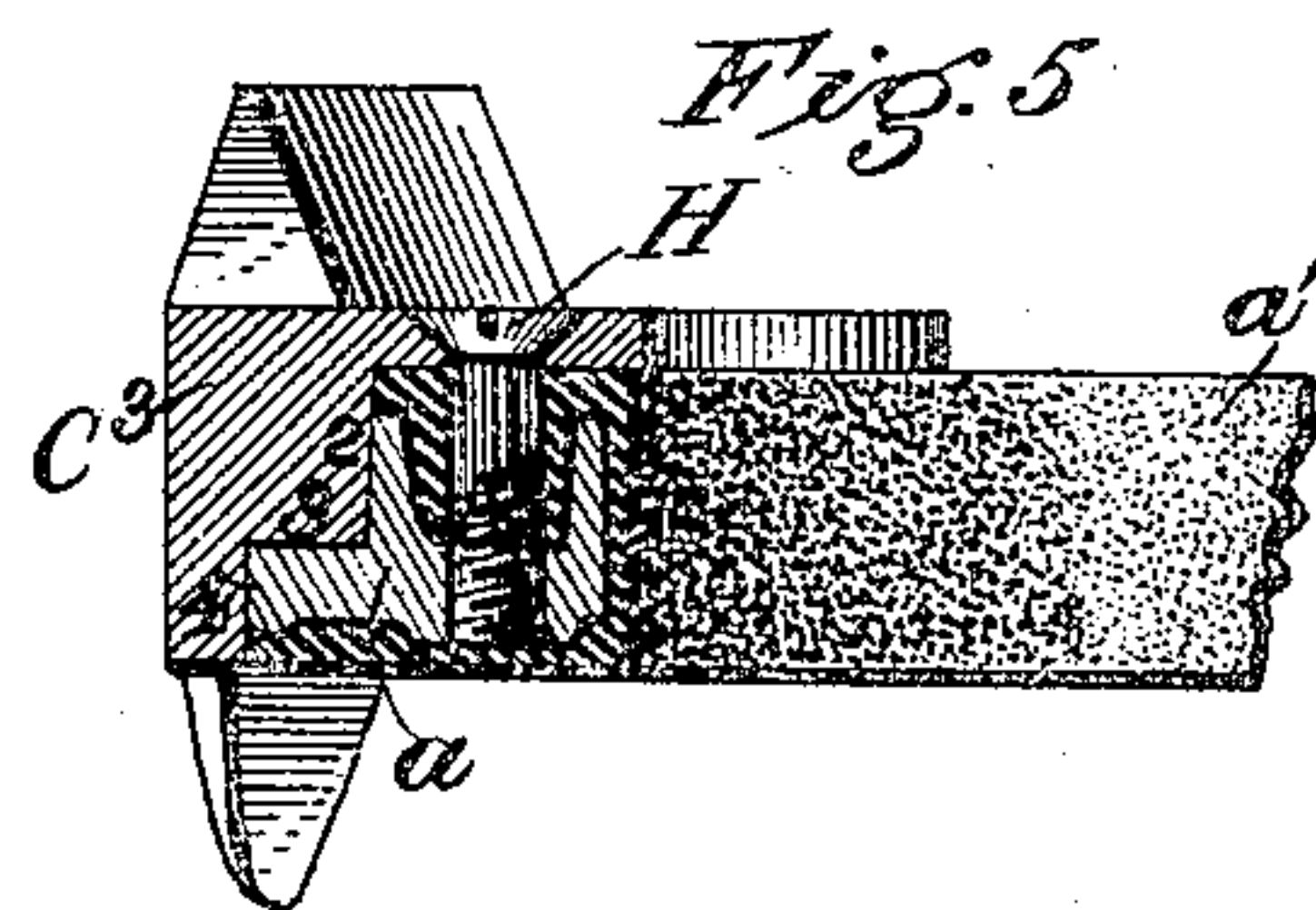
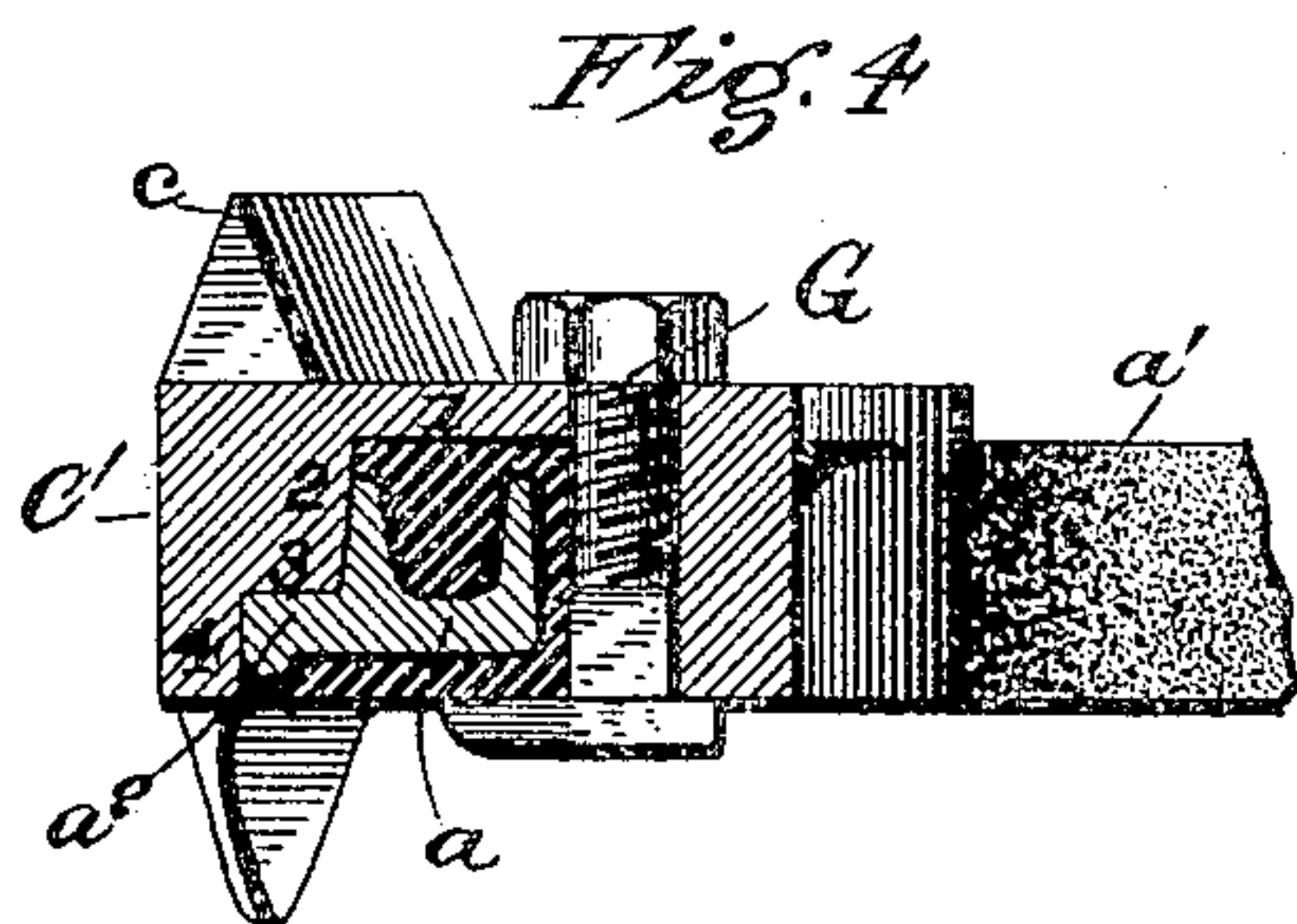
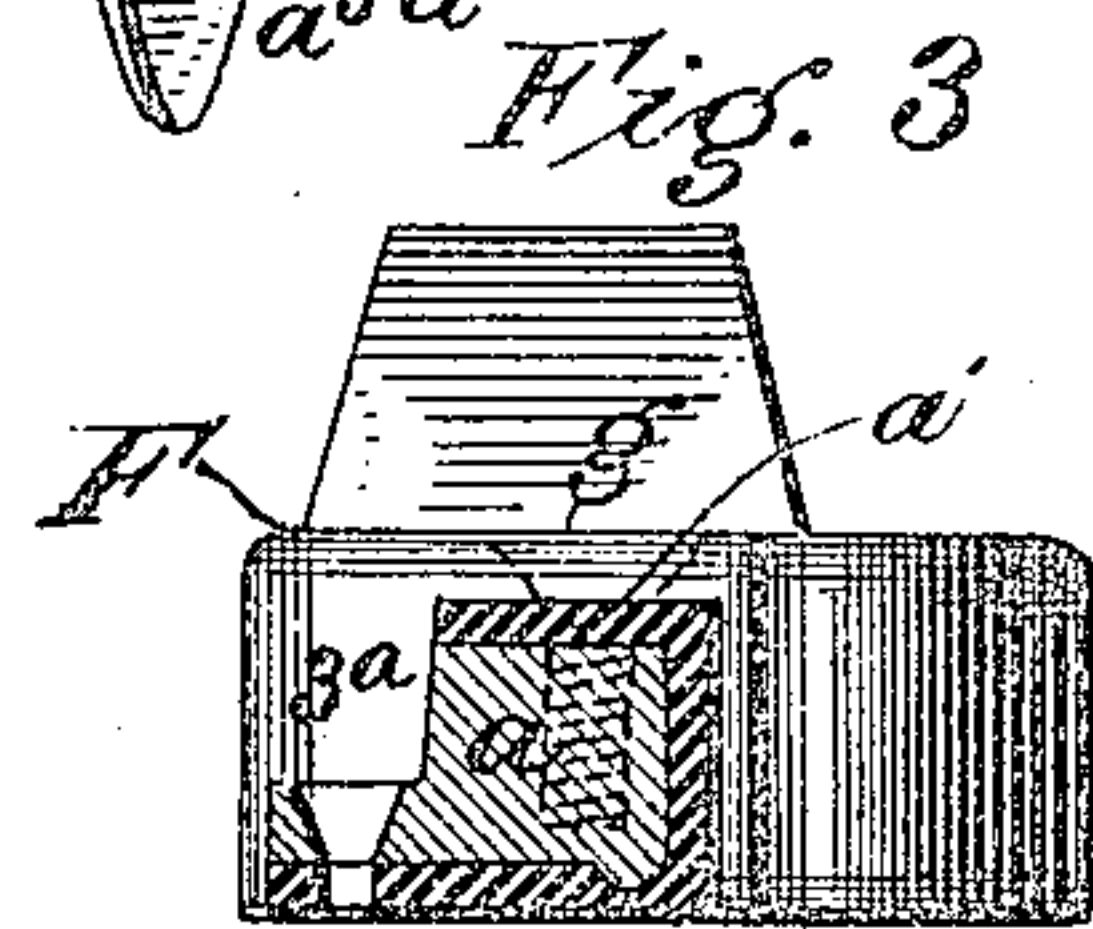
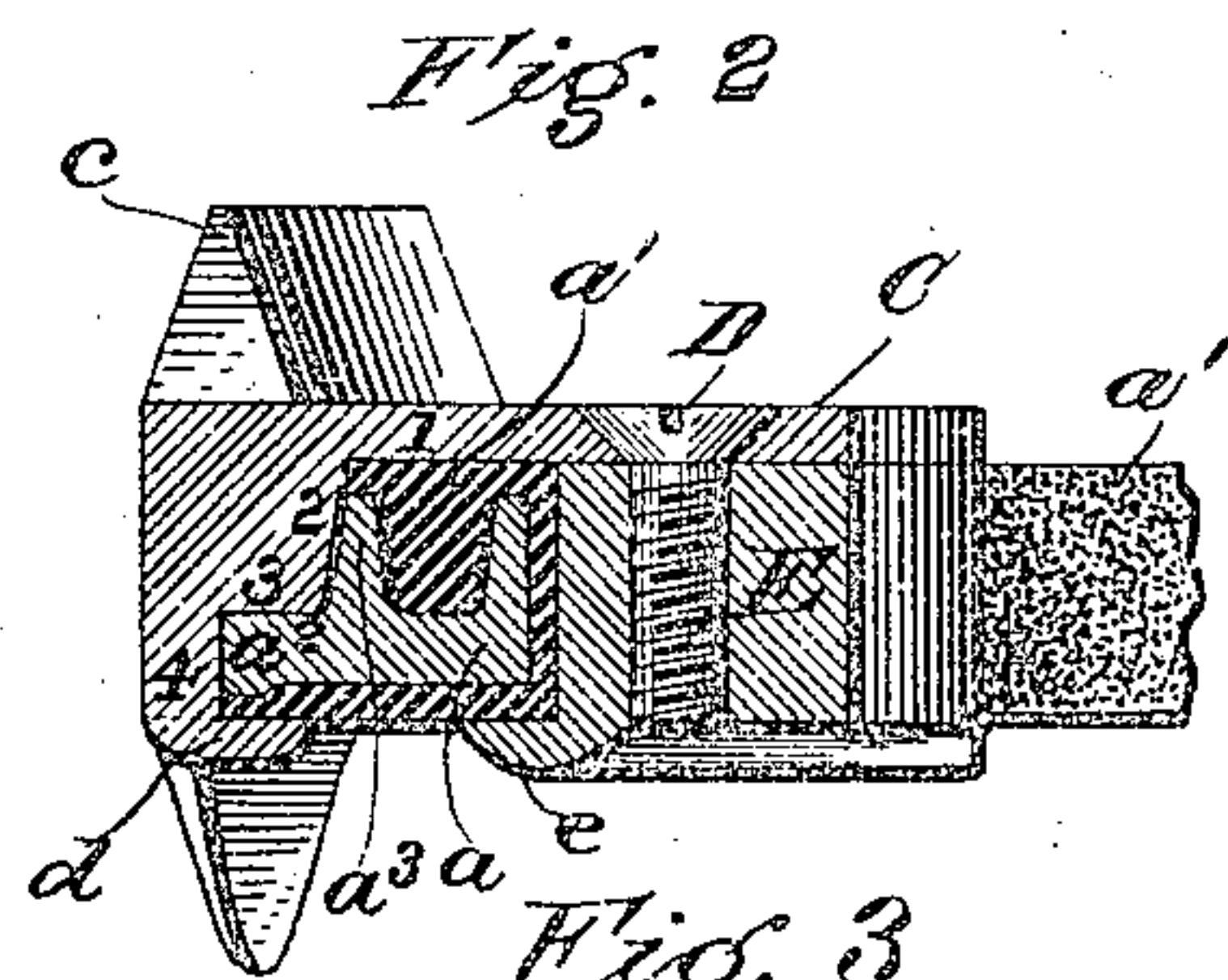
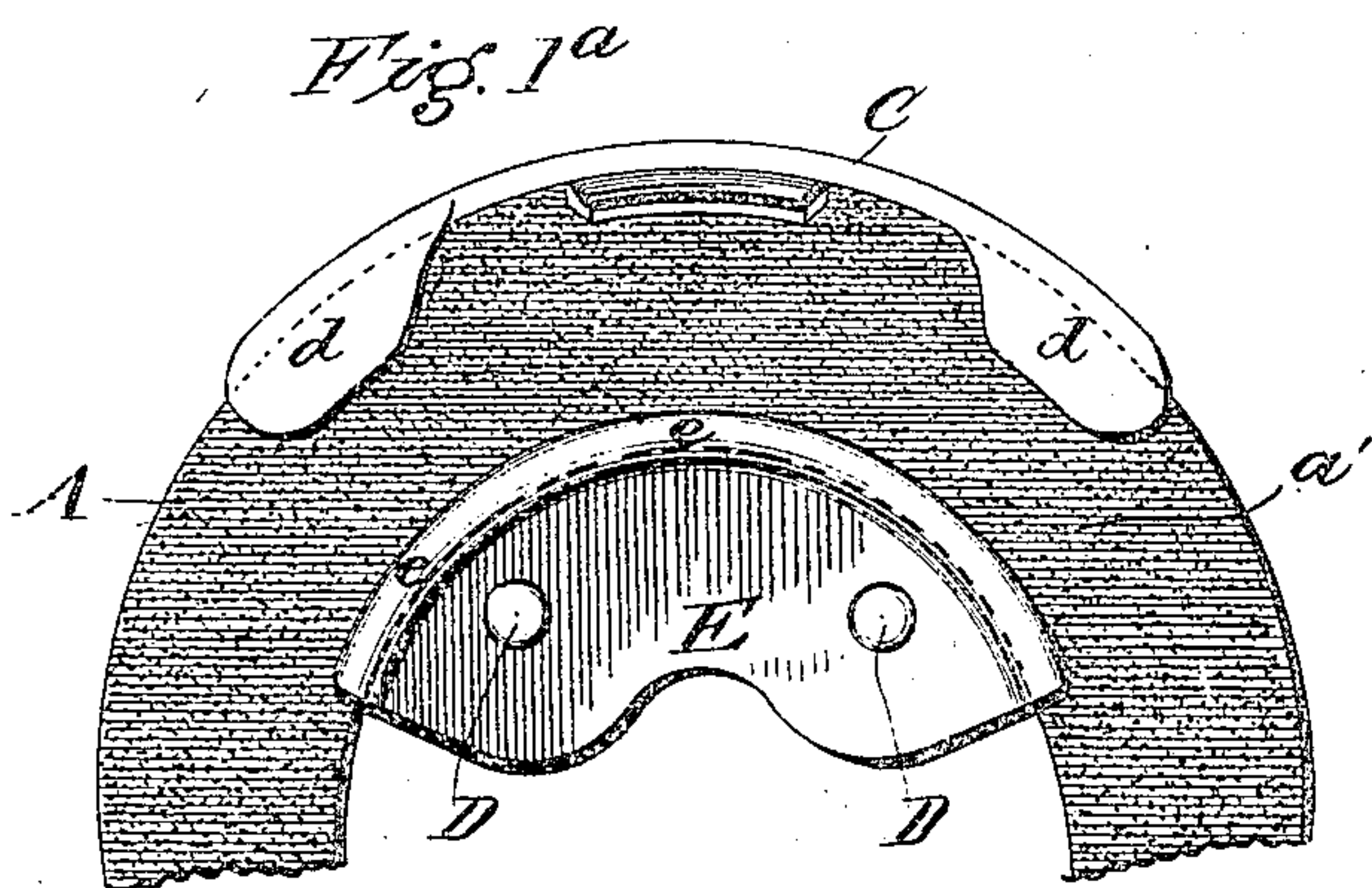
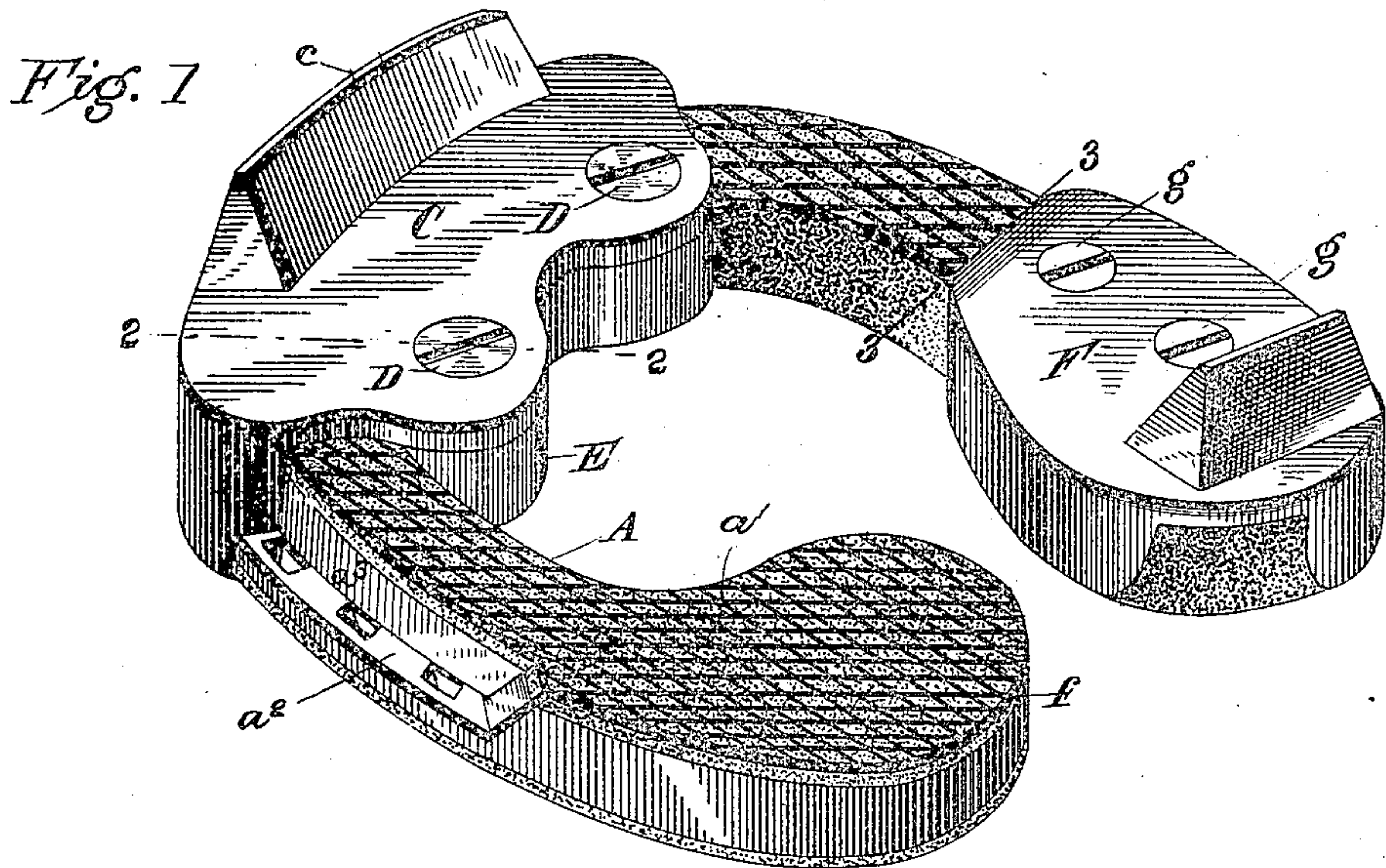


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PATENTED APR. 10, 1906.

T. W. J. MCGANN.
DETACHABLE CALK FOR RUBBER PAD HORSESHOES.

APPLICATION FILED JAN. 3, 1906.



WITNESSES:
W. C. Ruffey
Edw. W. Fyfe

INVENTOR
THOMAS W. J. MCGANN
BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS W. J. MCGANN, OF WASHINGTON, DISTRICT OF COLUMBIA,
ASSIGNOR OF ONE-HALF TO AENEAS COLLINS, OF WASHINGTON,
DISTRICT OF COLUMBIA.

DETACHABLE CALK FOR RUBBER-PAD HORSESHOES.

No. 817,584.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed January 3, 1906. Serial No. 294,345.

To all whom it may concern:

Be it known that I, THOMAS W. J. MCGANN, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented a new and useful Improvement in Detachable Calks for Rubber-Pad Horseshoes, of which the following is a specification.

My invention is designed to provide a detachable calk for the toe and heel of that form of composite horseshoe which is made of a skeleton frame of metal having its recesses filled with rubber which forms a full tread-surface of an elastic quality. This form of horseshoe is well known and while cushioning the blow of the horse's hoof on the road-bed has but little durability and is not effective in preventing the horse from slipping when there is sleet or ice on the road-way.

My invention consists in a novel construction of detachable calk especially adapted to this form of shoe, but applicable in some of its features to the ordinary metal shoe.

Figure 1 is a perspective view of my toe and heel calk applied to the composite rubber shoe. Fig. 1^a is a partial inside face view. Fig. 2 is a cross-section on line 2 2 of Fig. 1. Fig. 3 is a cross-section on line 3 3 of Fig. 1. Fig. 4 is a cross-section similar to Fig. 2, but showing a modification of the toe-calk; and Fig. 5 is a similar cross-section showing a further modification of the toe-calk.

In the drawings, A represents a composite horseshoe of the type for which my calk is more especially intended. This shoe has a skeleton metal frame *a*, Fig. 2, which is embedded in a vulcanized mat of soft rubber *a'*, except along the front outer edge, where the metal of the skeleton frame projects at *a*² to form a flange that is perforated with holes to receive the nails by which the shoe is secured to the horse's hoof. This forms an external recess along the front outer edges of the shoe that makes the tread-surfaces of the shoe along the flange *a*² somewhat narrower than the other parts of the tread-surface, and the walls of this recess are formed by the horizontal flange *a*² of the metal skeleton frame and the vertical flange *a*³ of the metal frame.

C is the calk-plate, which is formed with a toe-calk *c*. This calk-plate is made wide

enough to extend from a little distance in front of the shoe to a greater distance in rear of the inside toe part of the shoe.

The front portion of the calk-plate is formed where it abuts against the front edge of the shoe with a stepped construction forming bearings at different levels and consisting (see Fig. 2) of a flat horizontal face 1, which lies against the rubber tread-surface of the shoe, a vertical face 2, which lies against the flange *a*³ of the skeleton frame, a horizontal shoulder or face 3, which lies against the nail-flange *a*² of the shoe, and a vertical face 4, which lies against the outer or front edge of the nail-flange. The value of this construction will be explained later on.

For holding the calk-plate C to the shoe two claws *d d* are formed at the front edge, which claws overlap the top edge of the shoe next to the horse's hoof, and two screws or bolts D D pass through holes in the calk-plate inside the shoe and connect with a clamp-plate E, which (see Fig. 1^a) conforms to the curve of the interior of the shoe and has a lip or flange *e*, that overlaps the upper and inner edge of the shoe. This clamp-plate forms a snug abutment against the inner periphery of the shoe, and the two screws or bolts are spaced apart on each side of the middle line, so as to prevent all pivotal or rocking action, such as might exist with a single bolt.

When the outer calk-plate C and the inner clamp-plate E are firmly held together by the bolts or screws, it will be seen that the calk cannot be dislodged from the shoe.

With regard to the value of the stepped edges 1 2 3 4 of the calk-plate I would state that this is an important feature as applied to a composite shoe of the kind described for the following reasons:

The outer surface *a'* of this form of horseshoe, it will be understood, is rubber and more or less elastic, and hence if the plate C had only a bearing against the rubber face it would yield upwardly from the weight of the horse, and this would ultimately allow the calk-plate to become loose; but by means of the shoulder 3 abutting directly against the metal nail-flange *a*² and the shoulder 2 abutting against the metal flange *a*³ of the shoe a rigid bearing is given to the calk-plate to resist movement both in upward and back-

ward direction that insures the stability and permanence of the connection and prevents all initial looseness.

In applying the same principle of the toe-calk to the heel of the shoe the heel-calk F has (see Fig. 3) the same stepped bearing-face 3^a entering the outside front recess of the shoe, and the heel-calk is made with an enlarged chamber adapted to receive and in-
 10 close the laterally-enlarged heel ends *f* of the shoe, the heel-calk being held on by one or two screws or bolts *g*, which may either go through the shoe or have a head overlapping the inner edge of the shoe in front of the en-
 15 largement.

In making use of my toe-calk I prefer the form shown in Figs. 1 and 1^a and 2, in which I use a separate clamp-plate E, as this clamp-plate, in connection with the outer calk-plate,
 20 is applicable for any kind of a shoe; but I may in some cases dispense with the clamp-plate E and use the form shown in Fig. 4, in which bolts G G are formed with heads that overlap the inner and upper edge of the shoe,
 25 or, if desired, bolts or screws H, Fig. 5, may pass directly through the shoe, in which case the metal of the shoe is formed with screw-threaded holes.

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

1. A detachable calk for that form of composite horseshoe having an elastic face and a rigid external nail-flange, said calk consisting

of a plate having an outer rigid bearing-sur- 35
 face for the nail-flange, an external calk and vertical holes inside the calk, and two vertical screw-bolts arranged to pass through the holes of the plate to secure the same to the shoe. 40

2. A detachable calk for horseshoes, consisting of an external calk-plate an internal clamp-plate fitting against the inner edges of the shoe and having a flange extending over the top of the inner edge of the shoe and a
 45 plurality of vertical screw-bolts arranged inside the shoe and on opposite sides of the middle line of the same.

3. A detachable calk for horseshoes, consisting of an external calk-plate having a plu- 50
 rality of bearing-surfaces arranged at different levels at the front outer edge of the shoe, a clamp-plate arranged inside the shoe and having a flange overlapping the upper edge of the inner part of the shoe and a plurality
 55 of vertical screw-bolts clamping the calk-plate to the clamp-plate on opposite sides of the middle line of the shoe.

4. The combination with a horseshoe having an elastic face and a rigid nail-flange pro- 60
 jecting outside the elastic face; of a detachable calk-plate having a bearing both against the elastic face and the rigid nail-flange and means for securing it thereto.

THOMAS W. J. MCGANN.

Witnesses:

AENEAS COLLINS,
 EDWD. W. BYRN.