

(No Model.)

E. A. MUNGER.
BOOT OR SHOE HEEL.

No. 413,862.

Patented Oct. 29, 1889.

Fig. 1.

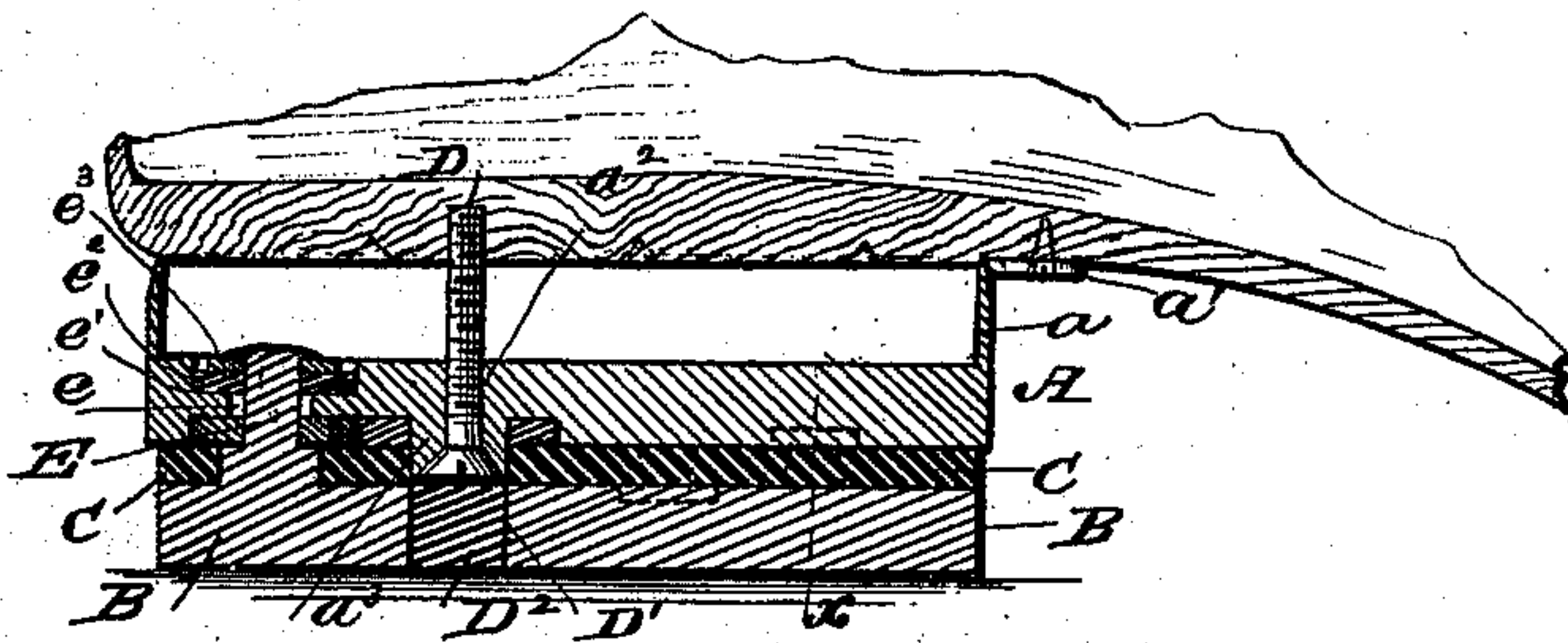


Fig. 3.

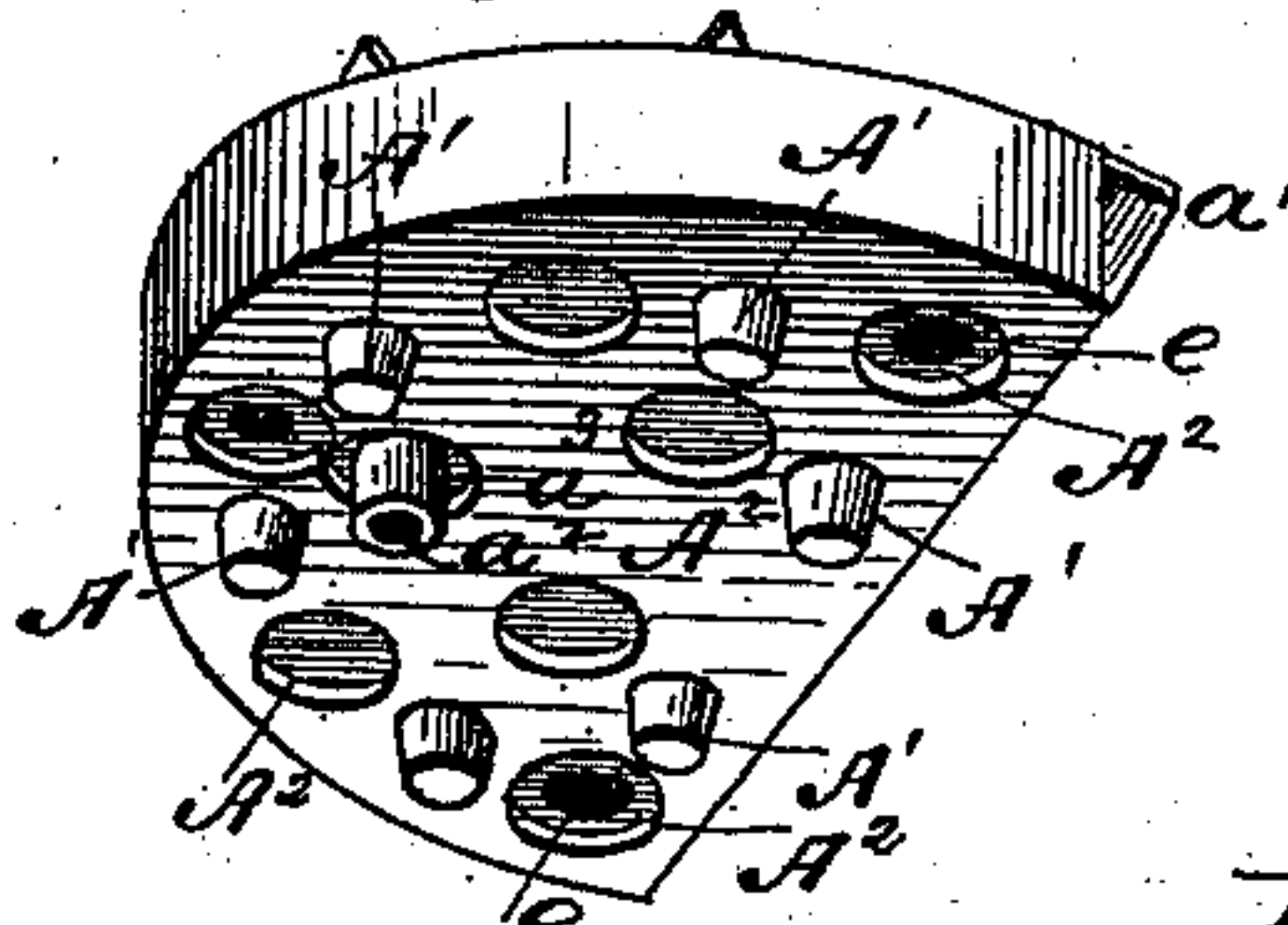


Fig. 4.

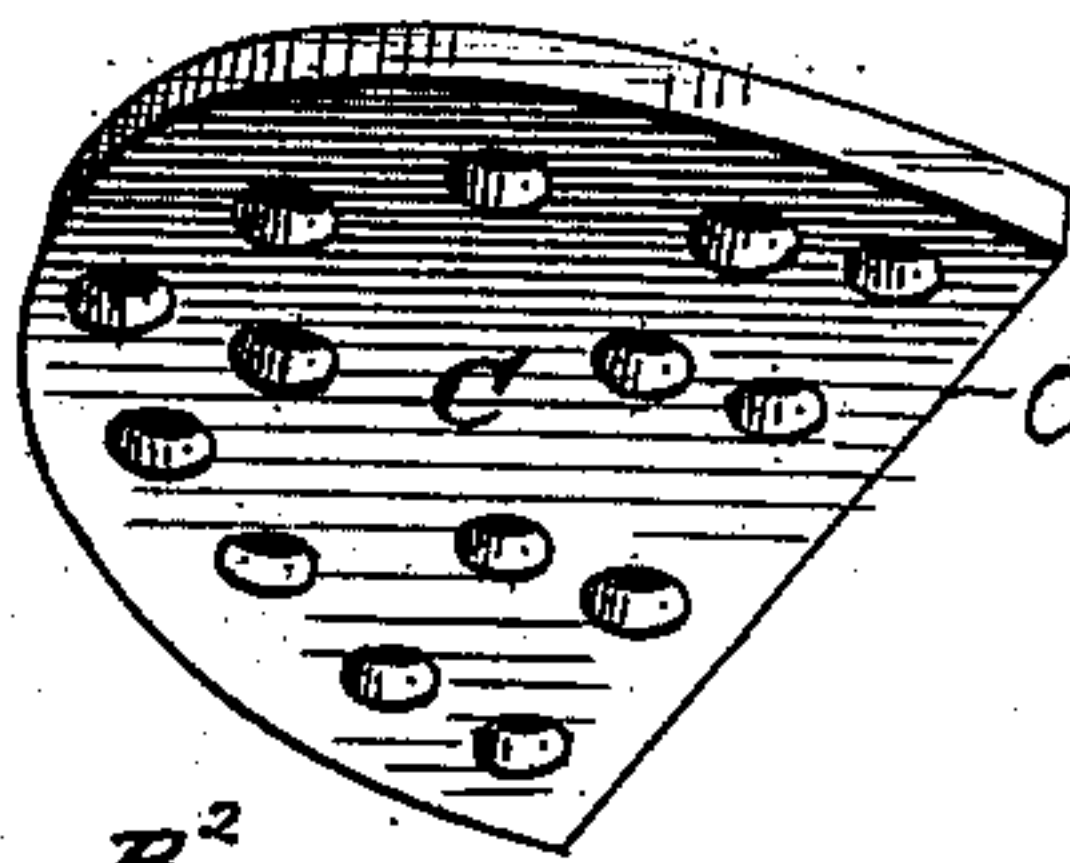


Fig. 5.

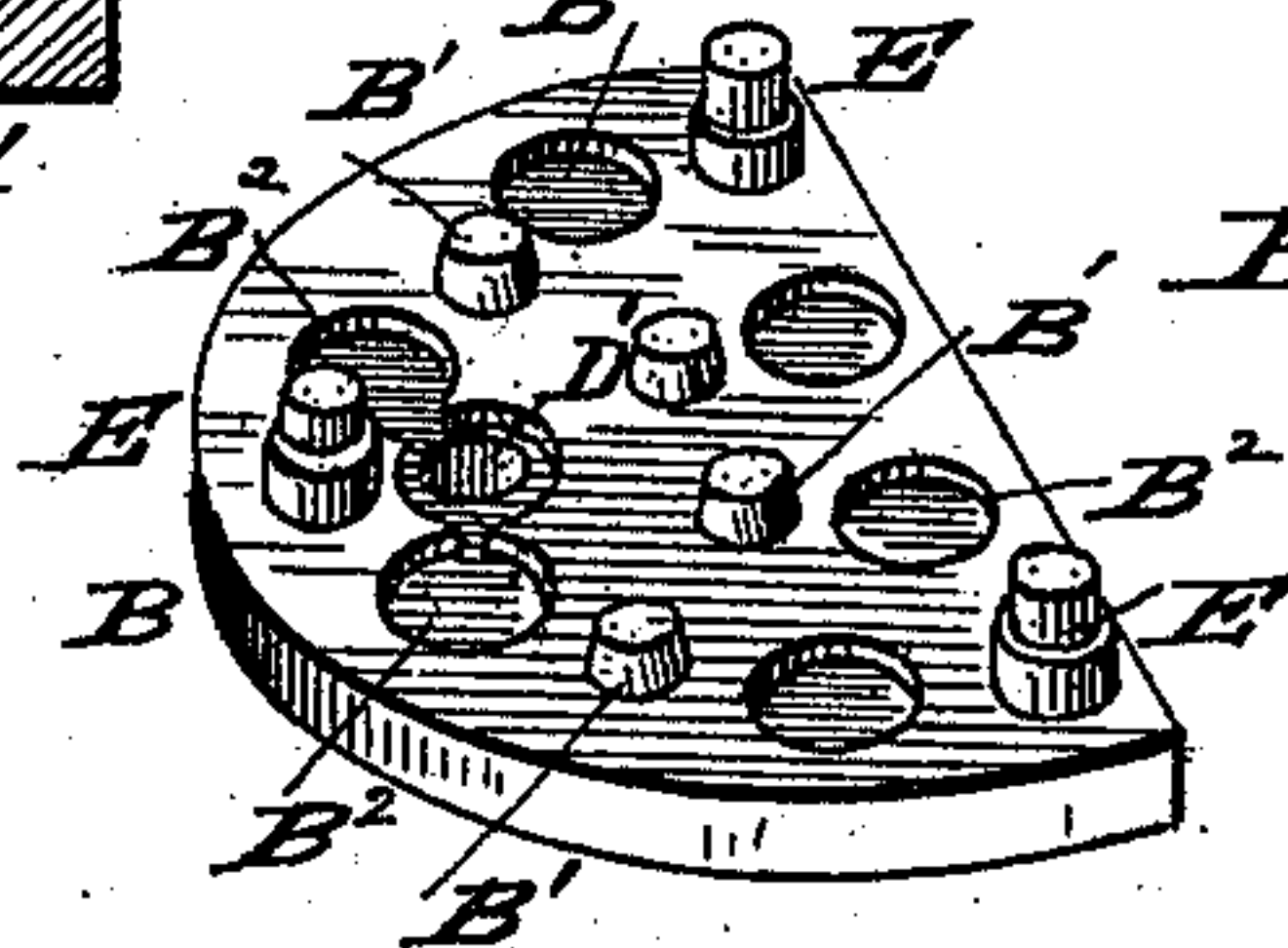


Fig. 6.

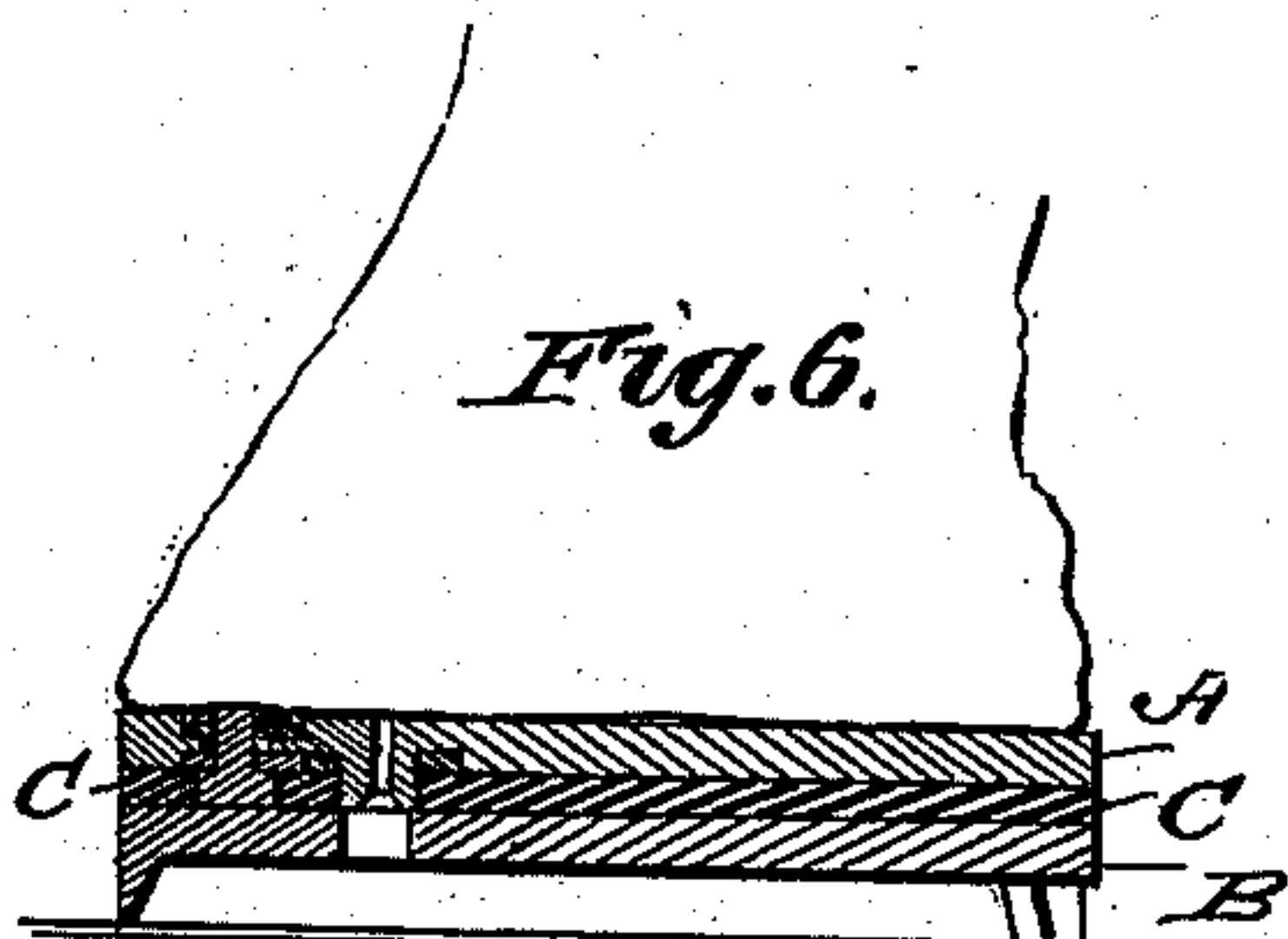
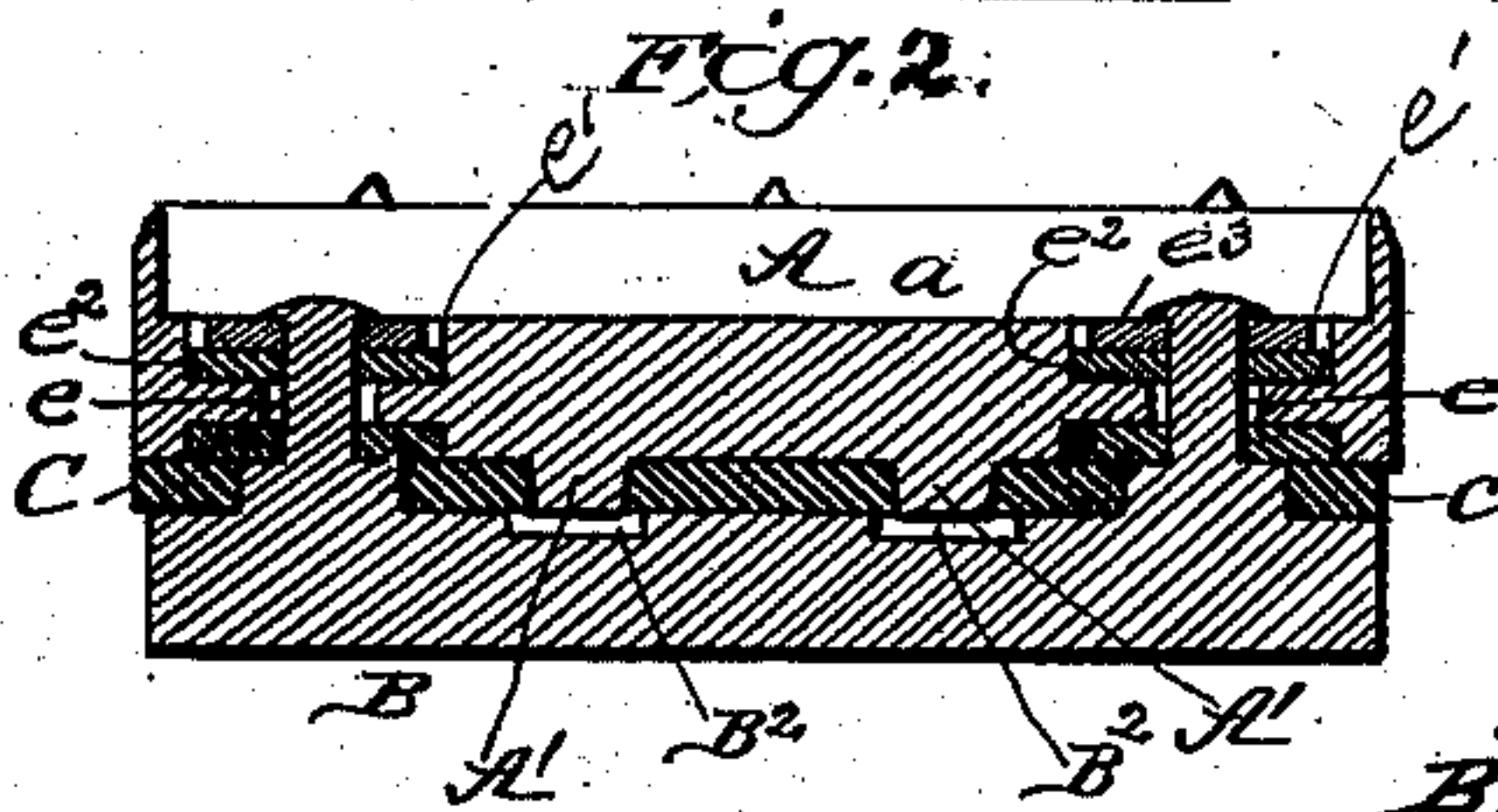


Fig. 2.



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ERNEST A. MUNGER, OF BEAVER DAM, WISCONSIN, ASSIGNOR TO GEORGE E. SWAN, OF SAME PLACE.

BOOT OR SHOE HEEL.

SPECIFICATION forming part of Letters Patent No. 413,862, dated October 29, 1889.

Application filed May 8, 1888. Renewed May 10, 1889. Serial No. 310,357. (No model.)

To all whom it may concern:

Be it known that I, ERNEST A. MUNGER, of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented a new and useful Improvement in Boot or Shoe Heels, of which the following is a specification.

My invention is an improved elastic boot or shoe heel and seeks to provide a simple construction of parts by which to secure a durable economical heel, in the use of which there will be given not only a vertical yielding or spring, but also a backward and forward spring, avoiding all shock and jar in walking.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a sectional view of the improvement in connection with a part of the boot or shoe. Fig. 2 is a cross-section of the heel on about line xx , Fig. 1. Figs. 3, 4, and 5 are respectively detail views of the upper section, the cushion-section, and the lower section; and Fig. 6 shows the invention embodied in a horseshoe.

In the construction shown the heel is formed in three sections—an upper section A, a lower section B, and an intermediate section or cushion C. The upper section A has its upper face formed with a recess a , is provided at its front edge with lugs a' , perforated to receive fastening-screws, and is provided near its rear end with screw-hole a^2 , through which screw D may be passed into the sole. By preference I form the upper section with a depending tube or nipple-like part a^3 , surrounding opening a^2 , and providing at its lower end a bearing for the screw D. The upper plate or section also has openings e for the connections E, which latter are formed on the lower section B, and extend through openings in the cushion C and through the openings e . These openings e are countersunk at e' in their upper sides to receive the rubber or elastic rings or washers e^2 and the metal washers e^3 , the upper ends of the connections E passing through the holes e and washers e^2 e^3 , and being secured by riveting, as shown, or in other suitable manner. These holes e are larger than the connections E, so the latter can move laterally in said openings, and may consequently

be said to be movably secured to the upper section. The lower section B has an opening D' for the screw D and has formed on it the posts forming the connections E. From the inner faces of the upper and lower sections extend projections or studs A' B', the former projecting down and the latter up into openings formed in the cushion C, interposed between said sections. By preference these projections are formed to extend slightly through the cushion when the latter is compressed. To receive the projecting ends of parts A' B', I form the inner faces of sections A B with recesses A² B² to receive the points of projections extended from the opposite sections, such recesses being made larger than the points of the projections, so the latter can move in the recesses.

By the above construction it will be seen I form the heel of the two sections or plates and the cushion interposed therebetween. I also provide connections E, extended between said plates or sections and movably secured to one of same, and provided in connection with a cushion with sections on opposite sides of such cushion and having projections entering the cushion.

In practice I prefer to form the sections A and B of malleable metal and the cushion C of rubber, although other suitable elastic substance might be used instead of rubber. It is also preferred to provide on the edge of the wall or rim-flange surrounding the recess a sharpened points or prongs to enter the sole and aid in holding the heel to the shoe. The edge of the walls of the recess a is also brought to an edge, so it will embed itself in the sole, making a water-tight joint. After the screw D has been turned home the opening D' is filled with a rubber plug D². The projections B' transmit forward, backward, or sidewise pressure or jar on the lower section B to the rubber cushion, which is held by the projections A', such projections holding the lower part of the heel from turning or getting out of position. The sections A B, being of metal, make the heel durable and neat and can be cheaply made and easily applied.

Screws D and the screws passed through the lugs a' serve to secure the heel to the

boot or shoe, as will be understood from the drawings.

While the improvements before described are especially intended for use on boots and shoes, and while the appended claims refer to it in such connection, it is obvious that the improvements may be embodied in horse-shoes, as shown in Fig. 6, and that such a use would involve no substantial departure from the broad features or principles of my invention.

It will be understood that while the particular form of cushion shown may be preferred, the form of such cushion might be modified or varied without departing from some of the broad principles of my invention, the invention seeking particularly not to provide any particular construction of cushion, but the construction of a heel with two sections of metal, a cushion between such sections, and connections between such sections, whereby lateral and vertical spring or elasticity may be obtained.

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

1. The improved heel herein described, comprising two sections A and B, a cushion arranged between said sections, and connections fixed at one end to one of such sections and extended and secured at their opposite ends in openings in the other section, such openings being sufficiently larger than the portions of the connections fitted therein to permit lateral play of the connections in said openings, whereby the sections A B may move laterally independent of each other, substantially as set forth.

2. In a heel, the combination of a cushion having sockets or openings which open or lead out of its opposite sides or faces, two sections or plates fitted against the opposite sides or faces of the cushion, such sections or plates being provided on their faces next the

cushion with studs or projections which enter the openings of the cushion, and connections between the plates or sections, substantially as set forth.

3. The improved heel herein described, comprising the upper section or plate formed with a recess or socket in its upper face and having the wall or rim-flange thereof provided on its edge with prongs or spurs, the lower section or plate, the cushion, and connections, substantially as and for the purposes specified.

4. As an improved article of manufacture, the heel, substantially as described, consisting of the upper section or plate having its upper side recessed and provided on its under side with downwardly-extended studs or projections, the cushion having sockets or openings fitted to receive said studs, the lower plate or section, and connections, substantially as set forth.

5. In a heel, the combination of the plate A, having in its lower face the recesses A², the plate B, having in its upper face recesses B², the cushion arranged between the plates A B and having sockets or openings registering with recesses A² B², and the studs A' B', extended from plates A B into the sockets of the cushion, with their extremity arranged to enter the recesses of the opposite plate when the cushion is compressed, substantially as and for the purposes specified.

6. The heel herein described, consisting of the section A, having openings e, countersunk at e', and the projections A', extended from its under side, the cushion C, and the lower plate B, having projections B' and connecting-posts E, and the washers e² e³, substantially as set forth.

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