

J. READ.

COMPOSITION HEEL FOR BOOTS, GAITER BOOTS, OR SHOES.

No. 23,312.

Patented Mar. 22, 1859.

Fig. 1

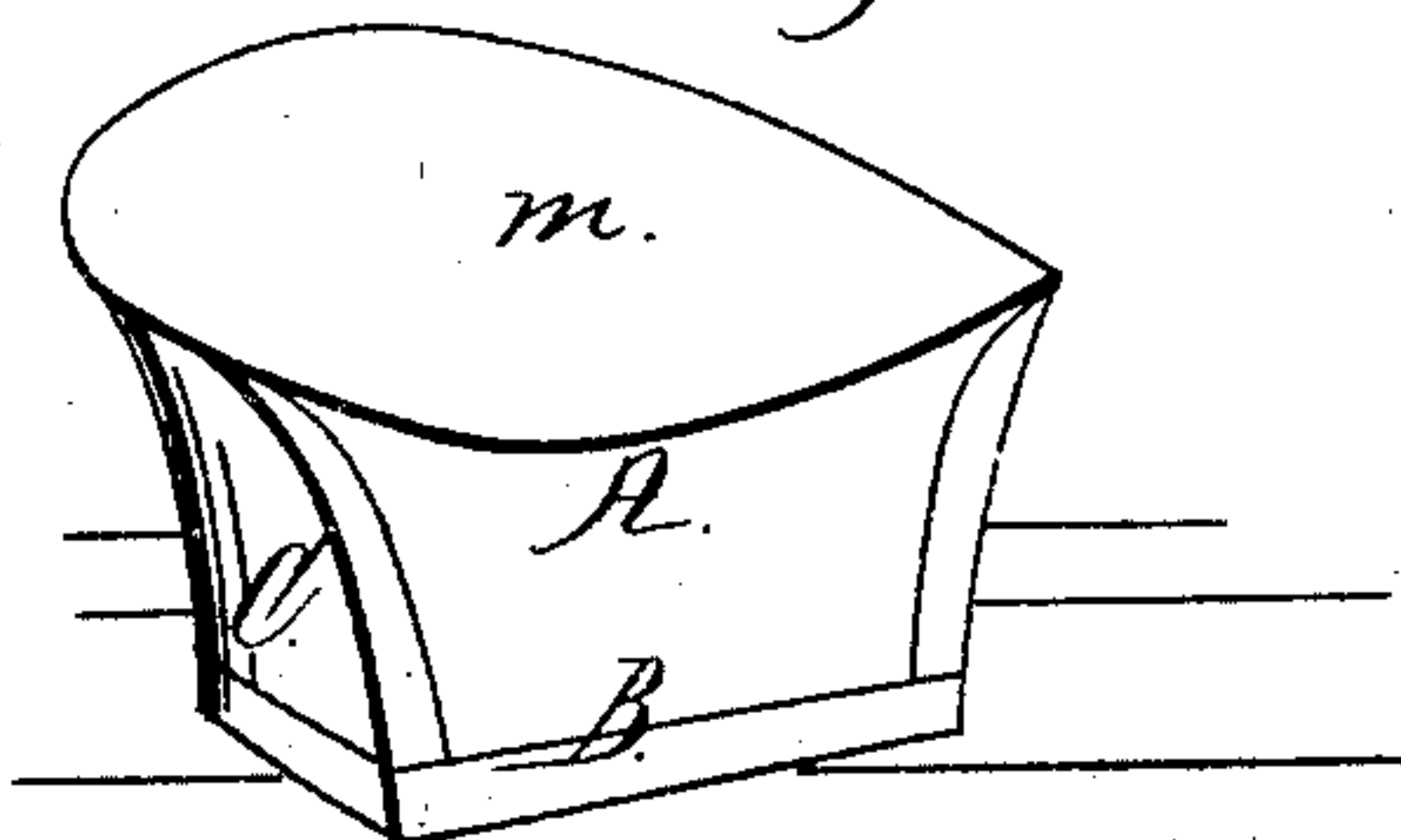


Fig. 4

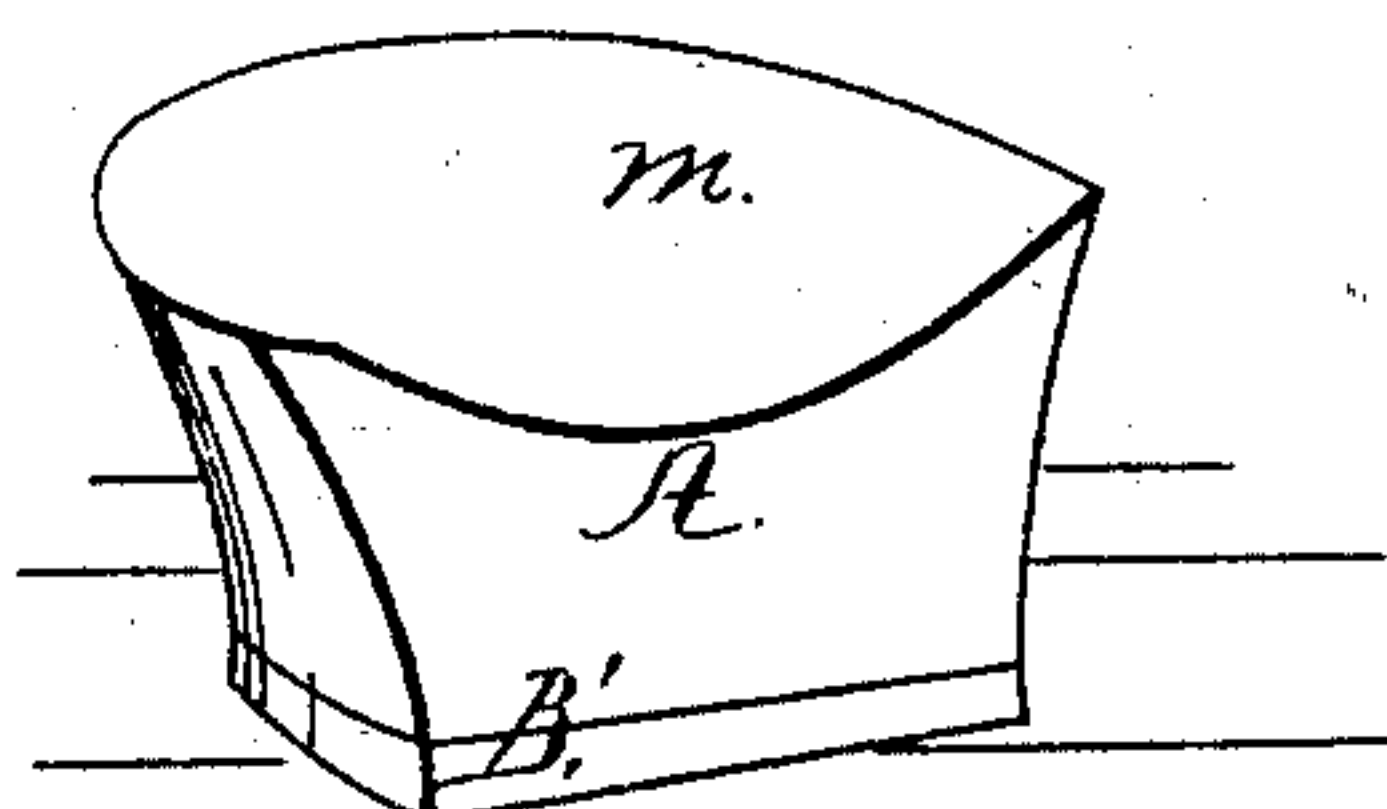


Fig. 2.

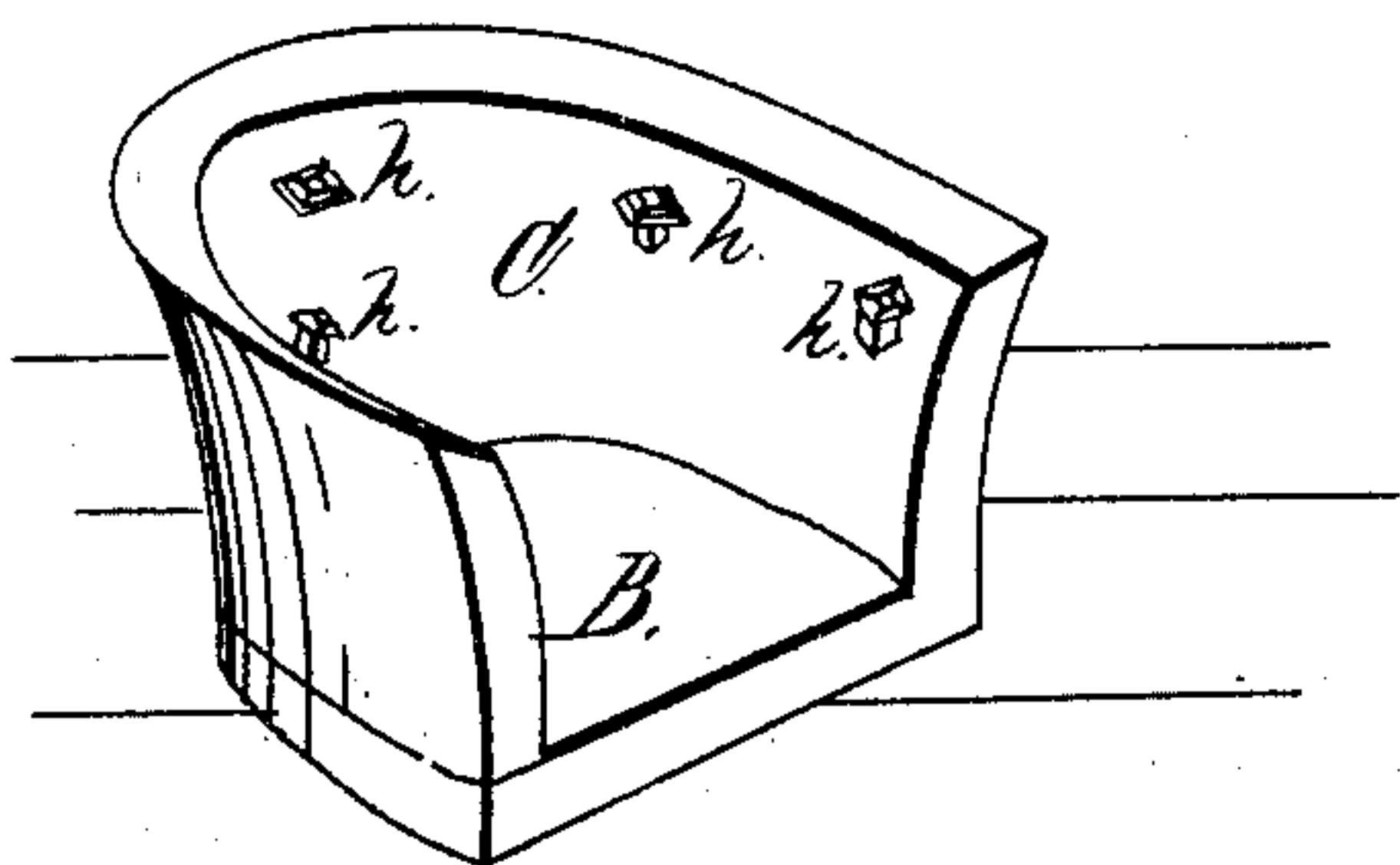


Fig. 5.

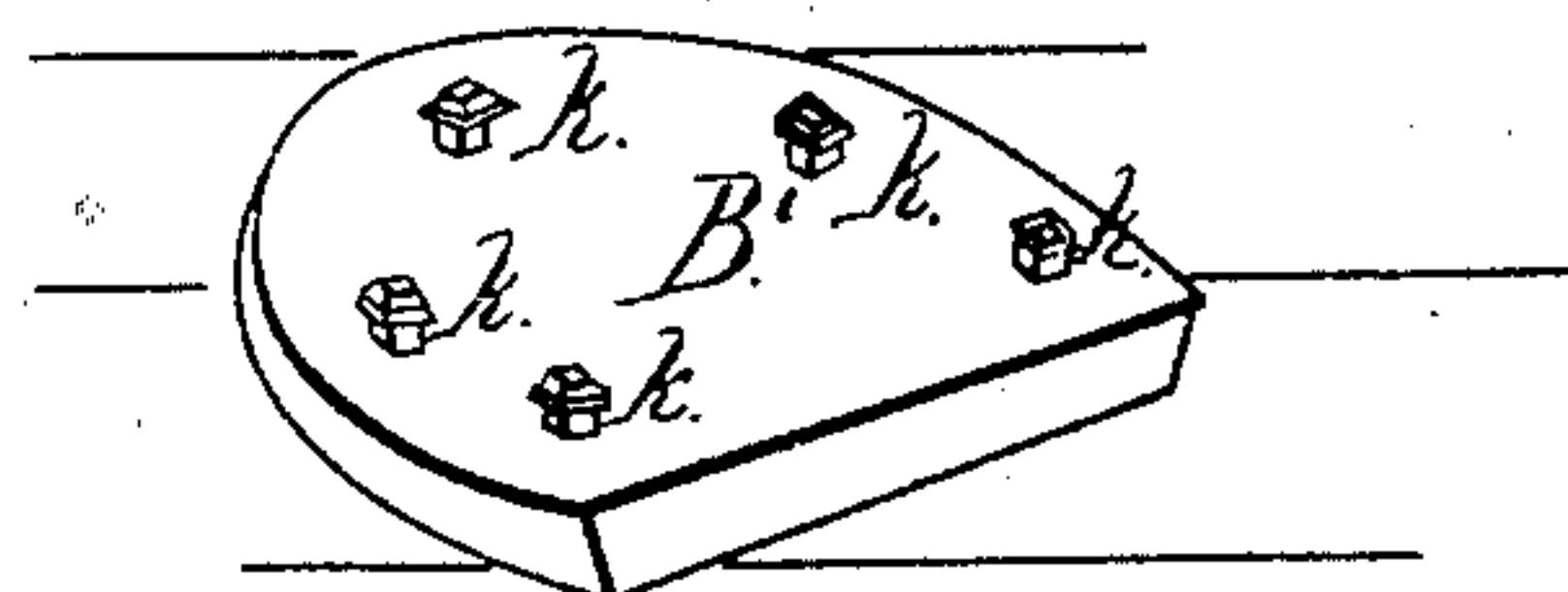


Fig. 3.

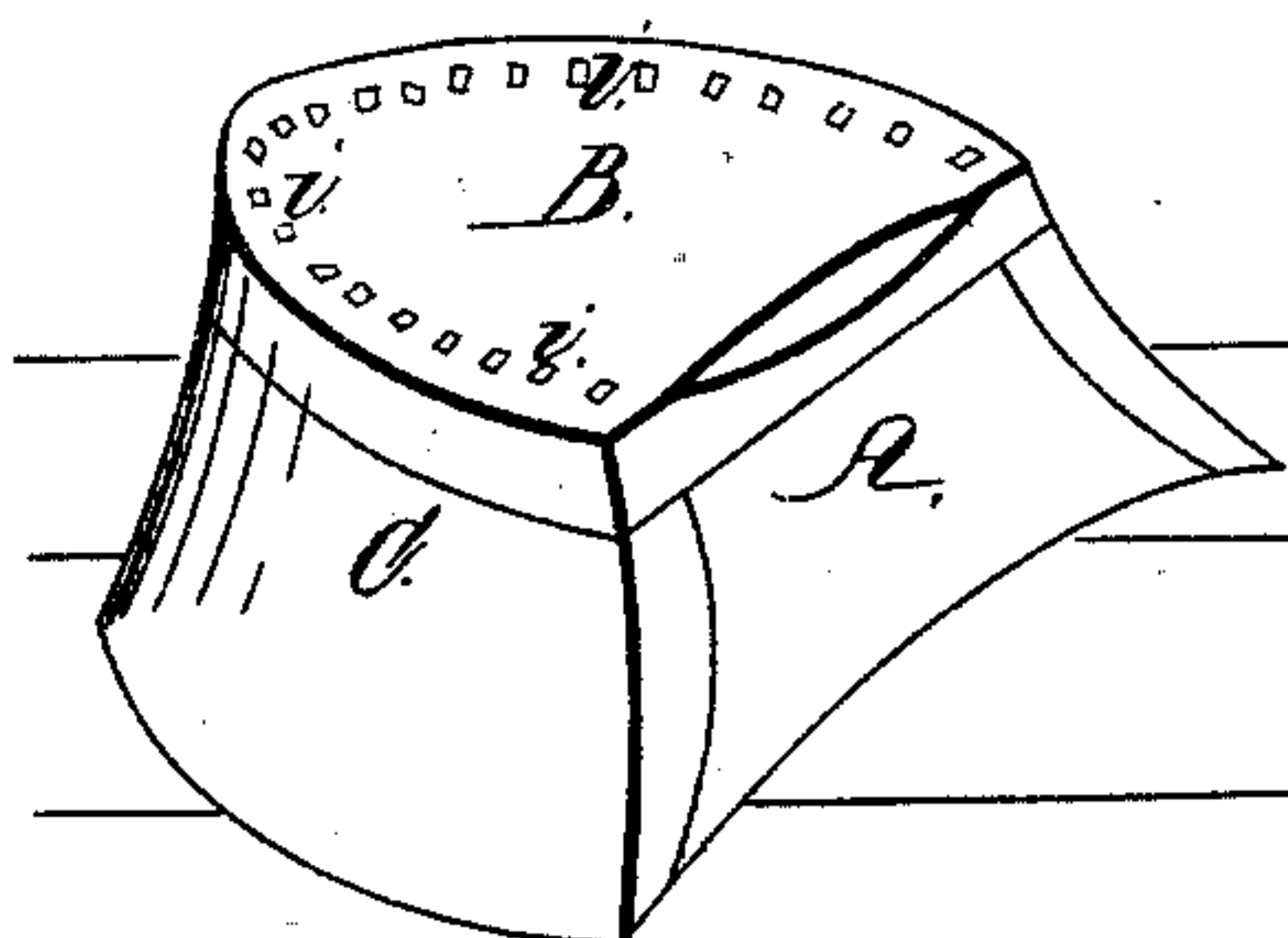


Fig. 7.

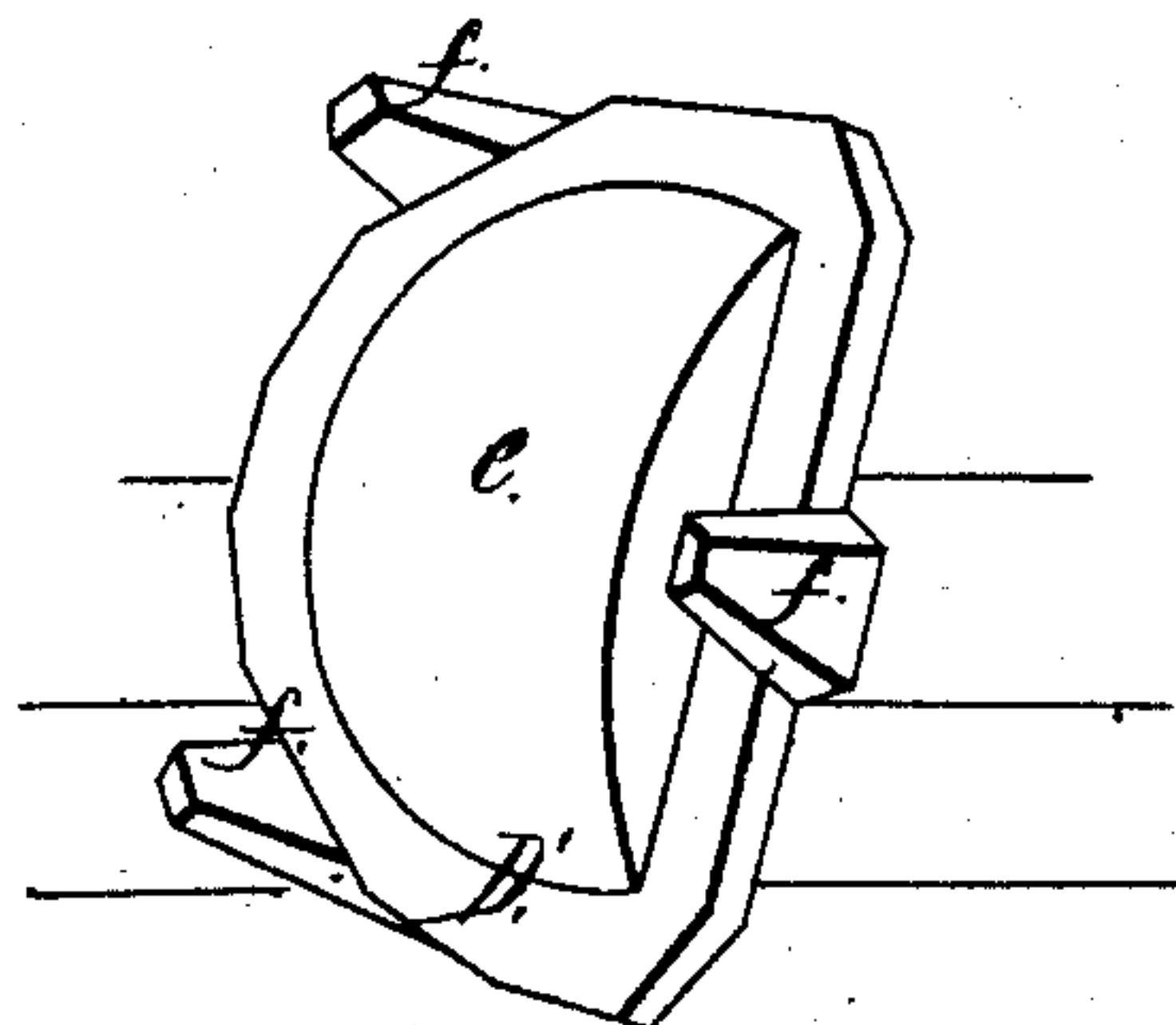
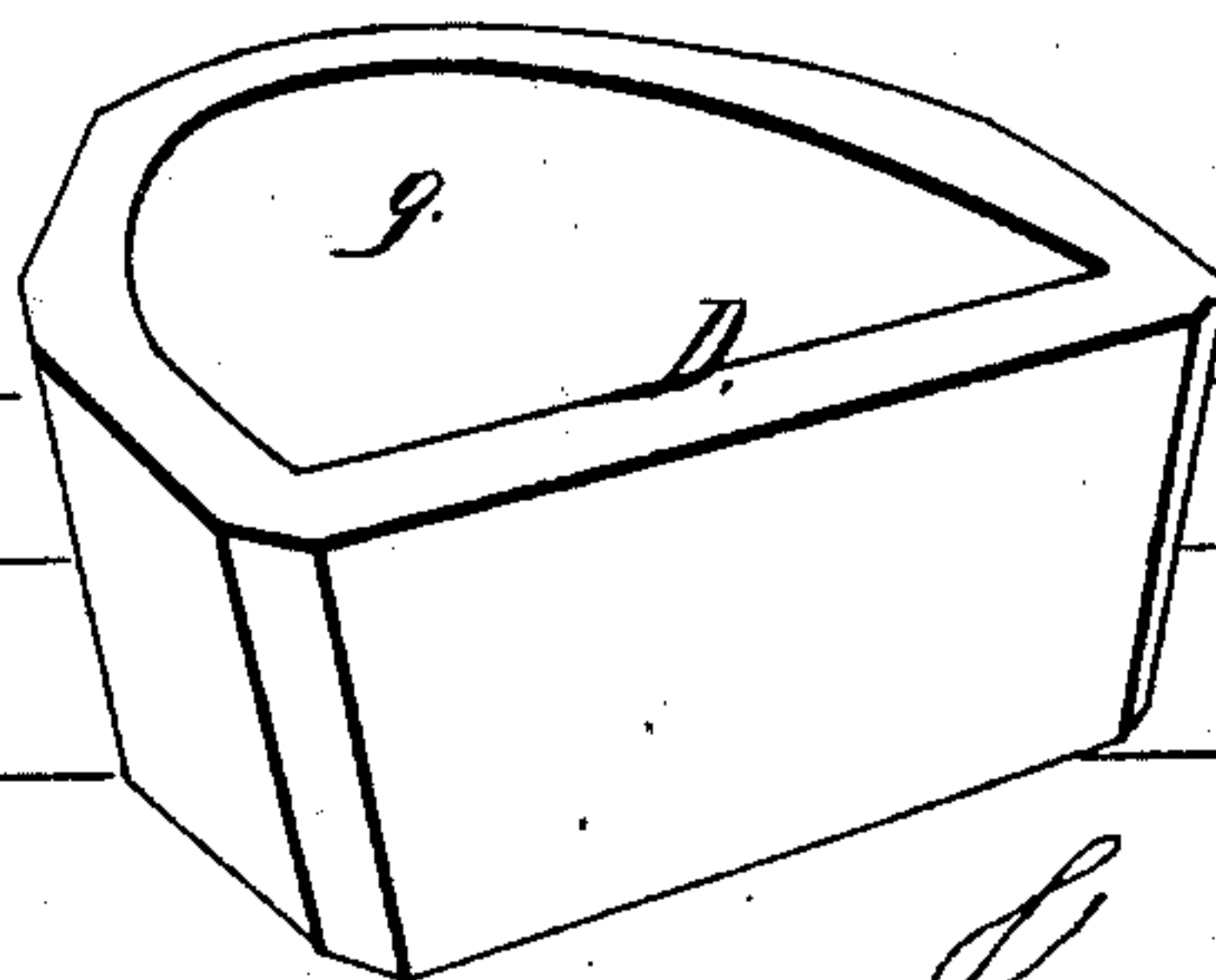


Fig. 6.



Witnesses;  
Moses Kennedy  
Robert Delany

Inventor;  
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# UNITED STATES PATENT OFFICE.

JOSEPH READ, OF PHILADELPHIA, PENNSYLVANIA.

## HEEL FOR BOOTS AND SHOES.

Specification of Letters Patent No. 23,312, dated March 22, 1859.

*To all whom it may concern:*

Be it known that I, JOSEPH READ, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful  
5 Improvement in the Construction of Composition-Heels for Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying draw-  
10 ings in perspective, making a part of this specification, in which—

Figure 1, shows one of the said heels as ready for application to the sole of the boot or shoe; Fig. 3, a view of the underside of  
15 the same; Fig. 2, the exterior leather casing of the same without the “composition-filling”; Fig. 4, shows the same form of the heel, but without the edge-leather; Fig. 5, the bottom leather piece or “lift”, of Fig. 4,  
20 previous to its being united to the same; and Figs. 6, and 7, the iron mold in which the said heels are formed and condensed—the same letters on the different figures, indicating like parts.

25 My invention has for its object the production of a composition heel, for boots and shoes, which shall combine lightness in weight, durability in use, a readiness for direct application to the sole, and a susceptibility to “after finish,” equal to the best  
30 leather heels—with diminished cost of production.

It consists in constructing a composition heel, of wood saw-dust and gutta percha,  
35 the same having a concave upper surface so adapted as to cause the heel to fit accurately upon the convex part of the sole to which a heel is usually applied, and be cemented thereto, or to an intermediate  
40 “lift” of the composition previously cemented and nailed thereon; and having also a leather bottom-“lift” cemented either to the said composition alone, or to the said composition and a back or edge leather  
45 molded around the composition, as hereinafter described, so as to form the back and side edges of the heel—the said heels being adapted to be sold to the trade ready for subsequent application to boots or shoes.

50 To enable others, skilled in the art, to understand and make my improved composition heels, I will proceed to describe their construction more minutely.

55 In the drawings A, represents the composition of gutta-percha and wood saw-dust which constitutes the body of the heel; B,

the bottom leather “lift”; and C, the edge-leather.

D, represents the body of the iron mold, and D', the lid or cover of the same. 60

The mold (D) is open at its top and bottom, and has its interior sides formed so as to be an exact counterpart of the edges of the heel to be made. The lid (D') has a convex protuberance, *e*, on its under side, 65 which is an exact counterpart of the concavity, *m*, required in the upper side of the heel, and accurately fits in the mouth of the mold (D) when the said lid (D') guided by the stays, *f, f, f*, is placed in juxtaposition 70 thereon as hereinafter described.

The bottom leather-“lift” (B) consists of a piece of solid sole-leather cut so as to fit accurately within the bottom opening of the mold (D). The edge leather (C) also 75 consists of a piece of solid sole-leather, and is cut of the width and length required to make it fit around against the inner, curved side, *g*, of the mold (D), when it is, after soaking in water, pressed therein—its lower 80 edge being beveled so as to fit fully and fairly on the bottom “lift” (B) in the mold, and its upper edge also beveled, and trimmed off so as not to project, above the upper edge of the mold (D), after it has been pressed 85 and dried therein so as to take the form required and retain it permanently when removed therefrom. Around the inner side of the edge-leather (C) 5, or 6, nails, *h—h*, are driven obliquely downward into the same 90 so as to leave their heads projecting—substantially as seen in Fig. 2.

The composition (A) consists of gutta-percha and saw-dust of mahogany, or other hard wood, in the proportion of about one 95 and a half pounds of gutta percha and one quart of saw dust, incorporated together by heating and kneading in a suitable vessel over a fire or heater.

In the construction of the heel, I proceed by placing the lift of bottom-leather (B) in juxtaposition in the bottom of the mold (D), and upon it place, edgewise, the edge-piece (C) which has been previously pressed, dried, and fitted with the 105 nails, (*h—h*) as before described; I then put in a sufficient portion (ascertained by weighing) of the hot (and therefore soft) composition (A) and immediately apply the lid (D') in position upon the same, and 110 subject the whole to a machine-press of sufficient power to close the lid (D') down



firmly upon the mold, D. I now let it stand a minute or two, or until it has become cool enough to retain the given form—when it is turned out. The nails, *i—i*, may now be “set” and driven in around the edge in the usual manner, as seen in Fig. 3, for the purpose of more firmly securing the bottom lift (B) to the edge leather (C) and increasing its durability in use. The heel is now ready for application to the sole. This is effected by simply holding the concave side (*m*) over a spirit-flame, or its equivalent, until it becomes melted, and then immediately placing it in proper position and pressing it, by hand, into close contact with the sole of the boot or shoe, or into like contact with an intermediate “lift” of the “composition” previously formed, cemented and nailed to the sole. Its outer edge is then blackened and polished, or “finished” in the usual well known manner.

Fig. 4, shows the composition heel when made without the edge-leather (C) which is shown in Figs. 1, 2, and 3. In this modification, the bottom leather, B', is cut to fit into the lower side of the mold (D), as in the other case, but the upper side of the said piece (B') is studded with 5, or 6, nails, *l—l*, whose heads are left projecting a short distance above its upper surface. These projections become embedded in the composition (A) during the operation of pressing or forming the heel in the mold (D), as described in the other case. This latter and more simple mode of constructing my improved composition heel, is somewhat cheaper than the former one, and is therefore intended to be adapted for making heels for boots or shoes of the “second quality.” In either case, where the heels are required to be made very “high”, two or three iron wood-screws may be inserted, from the inner side of the shoe, into the heel, as an additional security against their being knocked off by hard blows.

It will be obvious that heels constructed as described, will be about of the same weight as those made entirely of leather as heretofore; and that the difference in the cost of the gutta percha required, over that

of the leather as heretofore used, will be more than counterbalanced by the avoidance of the labor and the saving of the time required in making and trimming the usual solid leather-heels. In practice I find the saving in cost in favor of my heels, to be from 15 to 20 cents on each pair of ladies' heel gaiter-boots, while their susceptibility of “finish” in the usual manner, and their durability in use, are fully equal to the best solid leather heels. Another advantage in their favor is, that their edges always remain perfectly smooth and free from those cracks, found in leather heels after drying awhile, which arise from the separation of the several “lifts” of leather, of which they are composed, around the outer edge of the same.

I am aware that composition heels have been made and used before; but their construction and mode of application, heretofore, involved either an increase of weight over leather heels, or an objectionable difficulty in securing them properly in position on the boot or shoe, which has prevented their adoption by the trade. I therefore do not claim, broadly, making composition heels for boots and shoes; nor do I claim the described mode of securing them to the soles; but having fully described their construction, and the best mode of producing and applying them,

What I claim as new and desire to secure by Letters Patent is—

A composition heel, for boots and shoes, consisting of the composition (A), molded into the form of a heel, with the concavity (*m*) in the upper side of the same, as described, and the leather “lift,” or bottom piece (B or B') in combination with the leather edge-piece (C) applied and secured thereto substantially as set forth, the said heel being adapted for subsequent application to a boot or shoe, as described, and for the purposes specified.

JOSEPH READ.

Witnesses:

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