

(No Model.)

E. S. KINGSTON.

METHOD OF MAKING PATTERNS FOR METAL LASTS.

No. 299,650.

Patented June 3, 1884.

Fig. 1.

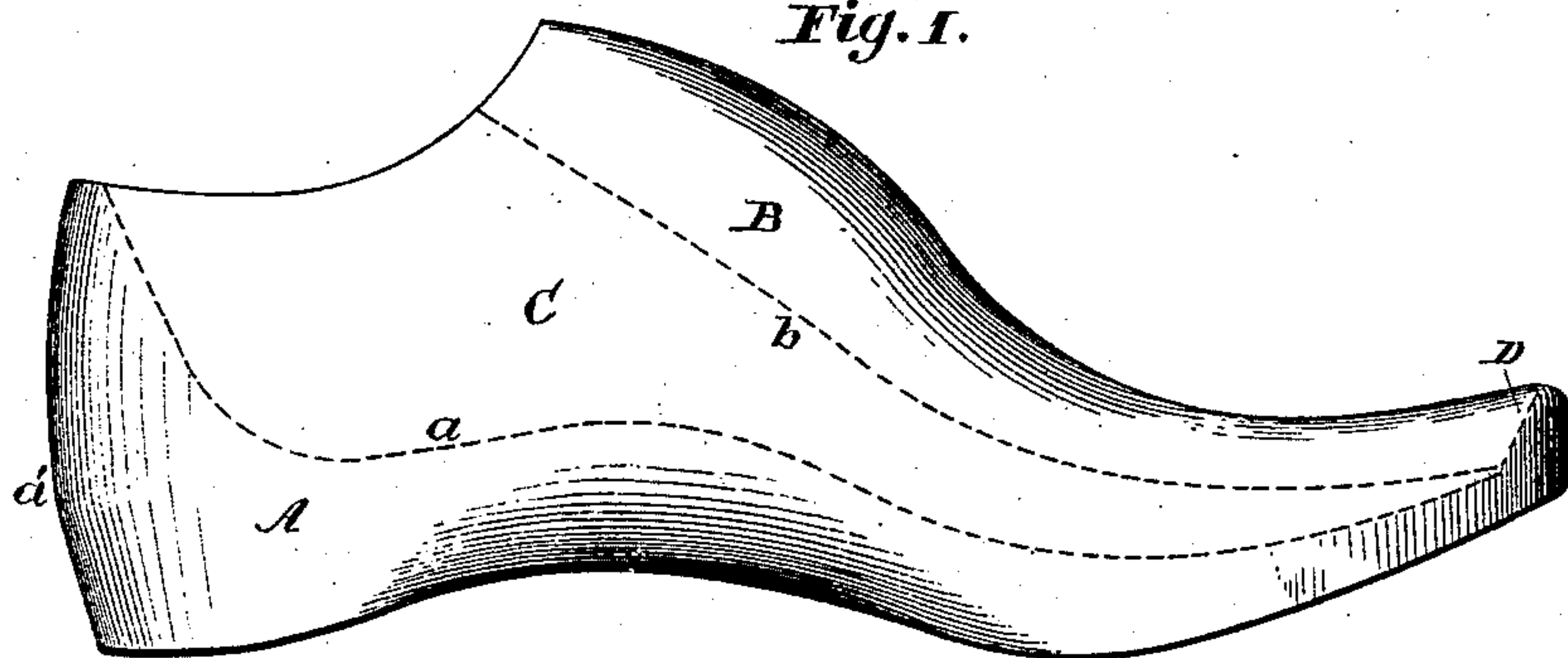


Fig. 2.

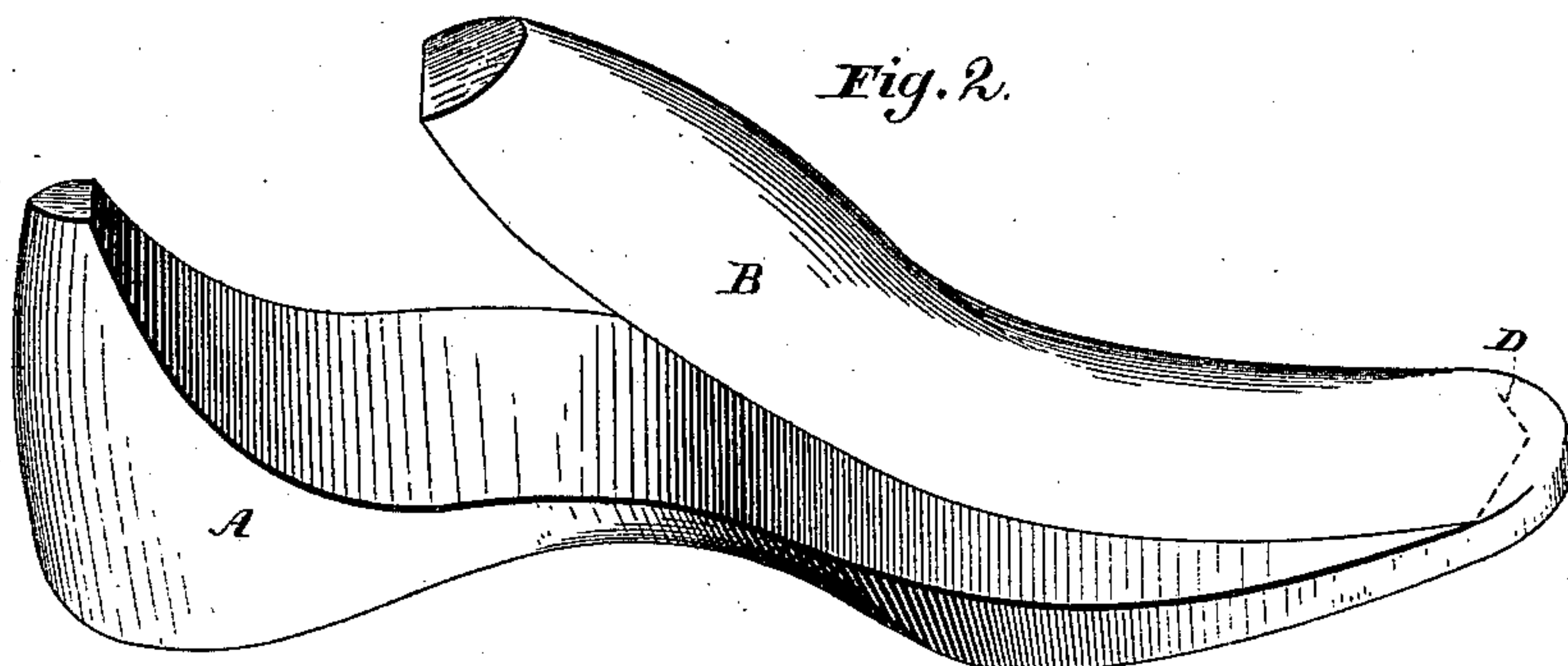


Fig. 3.

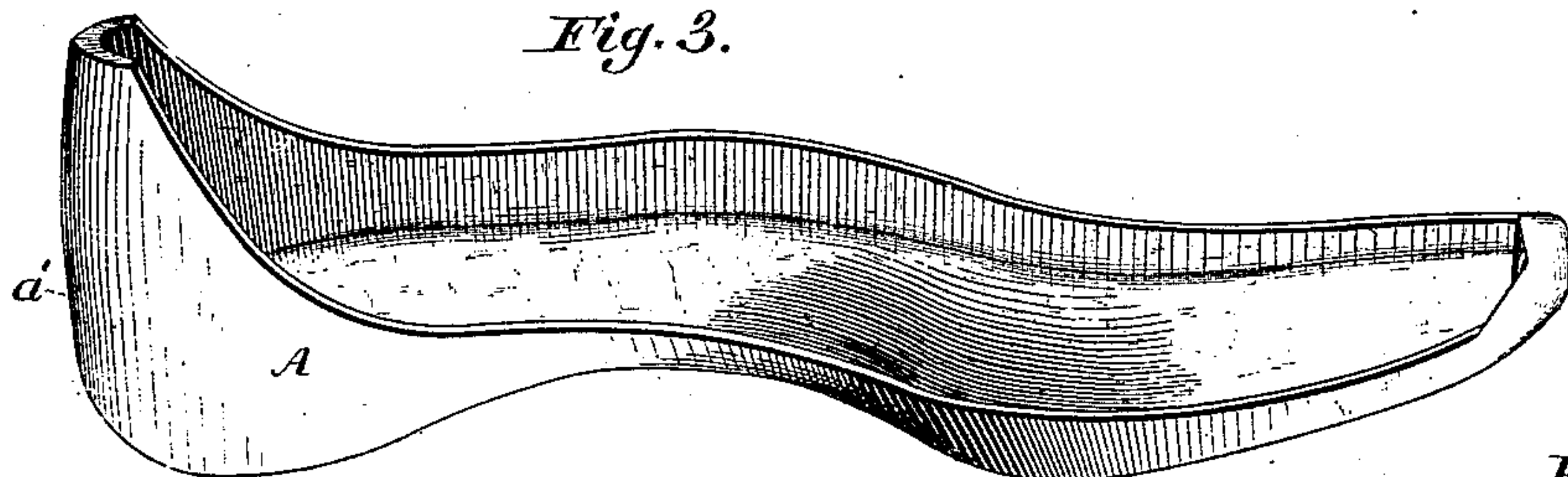


Fig. 4.

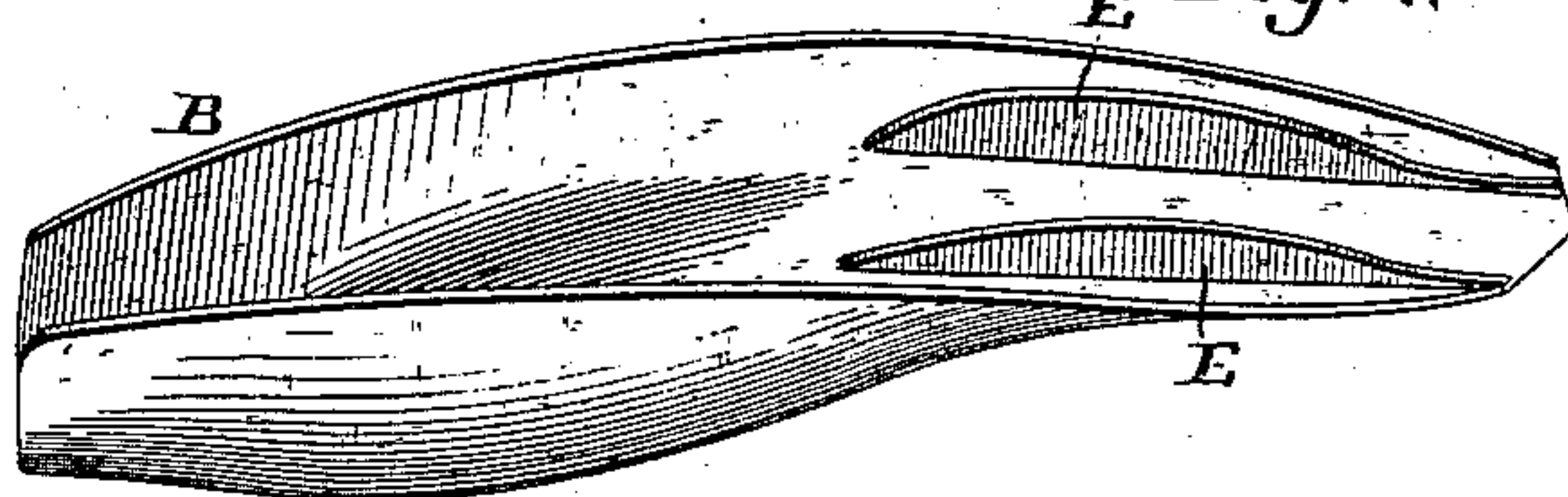
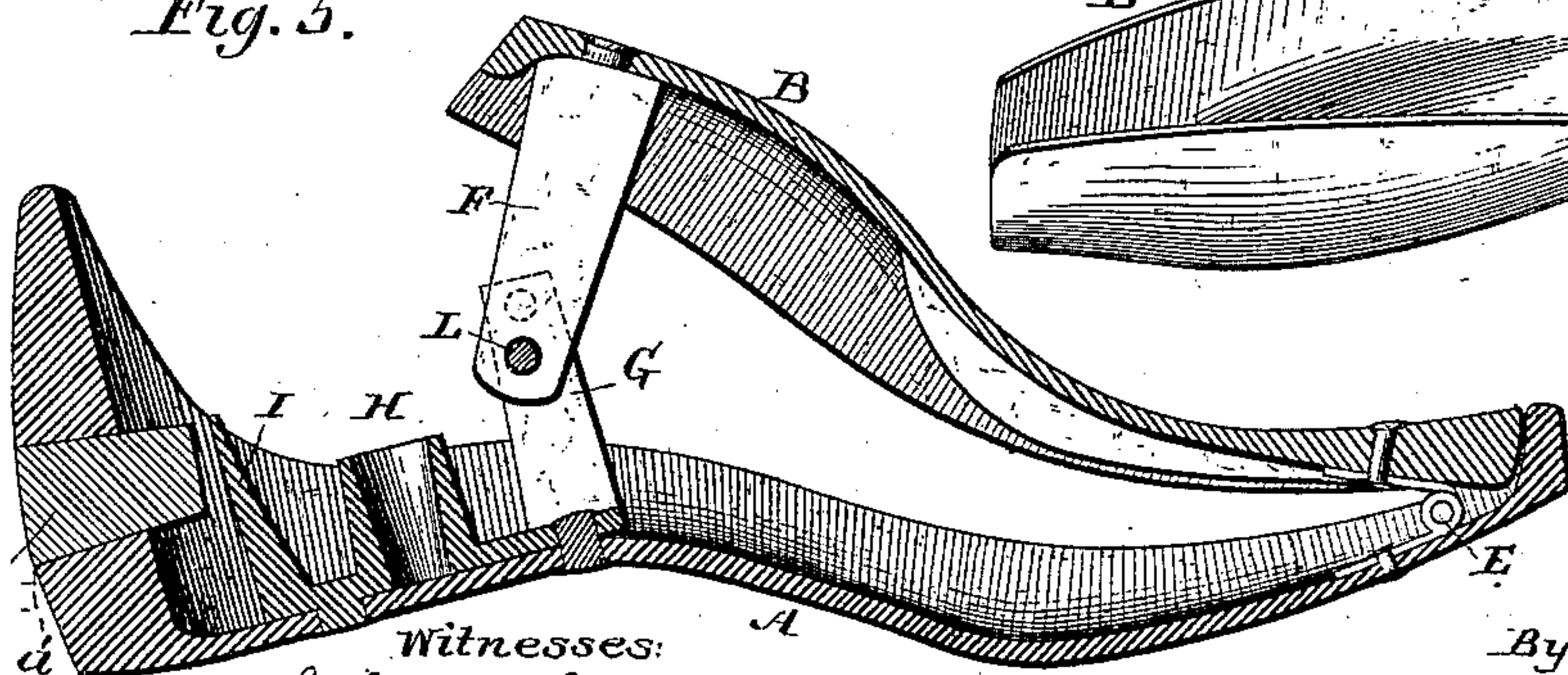


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD S. KINGSTON, OF UTICA, NEW YORK.

METHOD OF MAKING PATTERNS FOR METAL LASTS.

SPECIFICATION forming part of Letters Patent No. 299,650, dated June 3, 1884.

Application filed August 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. KINGSTON, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Methods of Making Patterns for Casting Shell Lasts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a cheap and practical method of making patterns for casting metallic lasts, whereby they can be manufactured at a price low enough to allow them to be generally used.

Heretofore iron lasts as manufactured have been either too heavy for general use, or, if made light enough, the cost of manufacture has been too great; but by my method I am able to make iron shell lasts which are light enough in weight and low enough in price to successfully compete with wooden lasts. The method consists, essentially, in the following steps: first, in turning out a wooden last of the desired pattern, and in cutting out a transverse section of the wooden last extending from the top nearly down to the toe, as hereinafter described; second, in severing from each other, near the toe, the instep and bottom blocks thus left, and hollowing them out to form shell-like patterns for casting. After casting from the patterns thus formed the bottom and instep plates are fitted together for use as lasts.

In the accompanying drawings, Figure 1 is a wooden last to be used as a pattern. Fig. 2 represents the same last when the section C has been removed. Figs. 3 and 4 are perspective views of the patterns for casting the bottom and instep plates A and B. Fig. 5 is a vertical longitudinal section through a finished iron last, the external contour of which will be like the mutilated wooden last shown by Fig. 2.

Starting with the wooden last shown in Fig. 1, or a last made of any equivalent material that can be turned and cut, I saw out, by means

of a gig-saw or otherwise, the central portion, C, following the dotted lines *a* and *b*, leaving the last in the condition shown by Fig. 2, consisting of the bottom block, A, and instep-block B, attached only at the toe.

I have found that a last having open sides is just as serviceable as a solid last, for the upper-leather draws smooth and even from the lower edge of the instep-block B across the open space down to the bottom A. I therefore construct my lasts with open sides, whereby I secure lightness and economy of material, and am also able to make them collapsible. The flange left around the edge of the bottom-plate extending from the top of the heel downward along the shank and ball to the toe affords full support to the heel or heel-stiffener and to the edge of the upper along the edge of the sole, and the broad instep-plate B gives the true shape and curve to the instep, and does not distort the upper, as would a mere rib, if used in place of the broad instep-plate, as has been proposed. The bottom and instep blocks are then severed on the dotted line D, and both hollowed out, substantially as shown by Figs. 3 and 4, to be used as patterns for casting. Ribs R may be left along the under side of the instep-block for strength, and in fashioning the bottom block sockets in the sole may be formed for the reception of cork-fillings to receive the insole-nails, and lugs or flanges, projecting from the inside of the bottom for strength or for the attachment of the interior fittings of the last, may be left as desired; but the configuration of both of the patterns must be such that a casting can be taken from them without requiring the use of a core. The toe is left as a portion of the bottom block, and the line of separation is behind the toe, so that the contour of the toe is not broken. A serious defect in the last is thus avoided. It will be observed that the last narrows or tapers slightly from the line *a* down to the edge of the sole, and it likewise tapers at the heel from a line drawn around at the point *a'*, in order that the pattern can be easily withdrawn from the sand in the process of casting. The castings are tinned to give the last a smooth surface and to protect it from rust. The castings being thus made, I attach the interior fittings substantially as illustrated by Fig. 5, though these

of course can be varied in details, and any other equivalent devices may be substituted for those herein described, some of which may, if desired, be formed as parts of the castings, as above explained.

E is a hinge riveted to the bottom and instep plates at the toe. F is a post riveted to the instep-plate at the instep, and riveted to the bottom plate is a casting forming a forked standard, G, a socket, H, to receive the pin of the jack, and also the tool by means of which the last is pulled out in the usual way, and a prong, I, against which the wooden or cork plug K abuts to prevent it from being driven in. The upper is nailed to the plug K in the process of lasting, the hole for it being drilled after casting. A locking-pin, L, passing through holes in the forked standard G and post F, holds the instep-plate in the proper po-

sition. Several holes may be provided for different heights of the instep, and the last is easily removed from the shoe when the locking-pin L is withdrawn.

Having thus described my invention, what I claim as new, is—

The method of making patterns for shell lasts, herein described, which consists in cutting from a solid last the transverse section C, and hollowing out the separated sections of said lasts, so as to leave flaring sides, in order that the shell-castings may be made without the use of cores, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD S. KINGSTON.

Witnesses:

HENRY E. OWENS,

HORATIO S. MOORE.