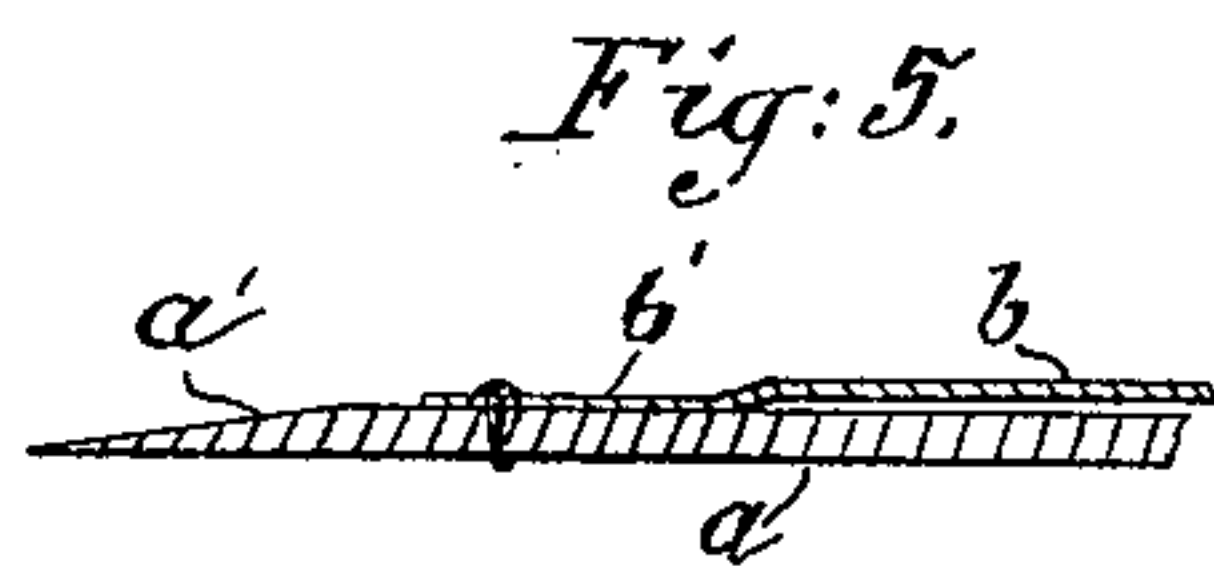
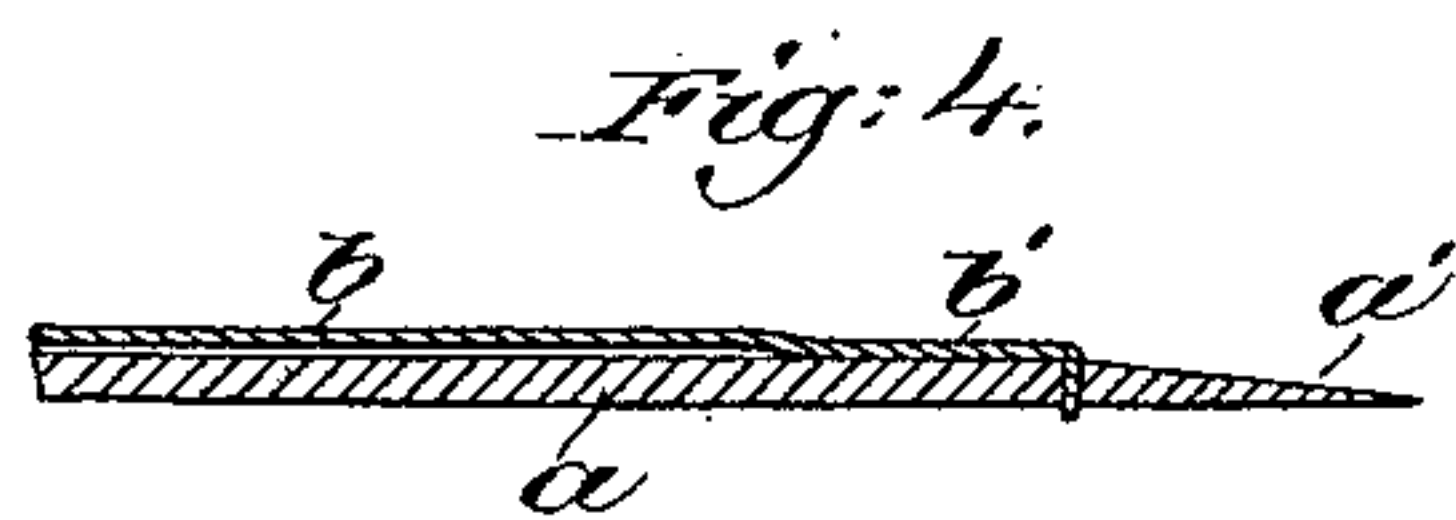
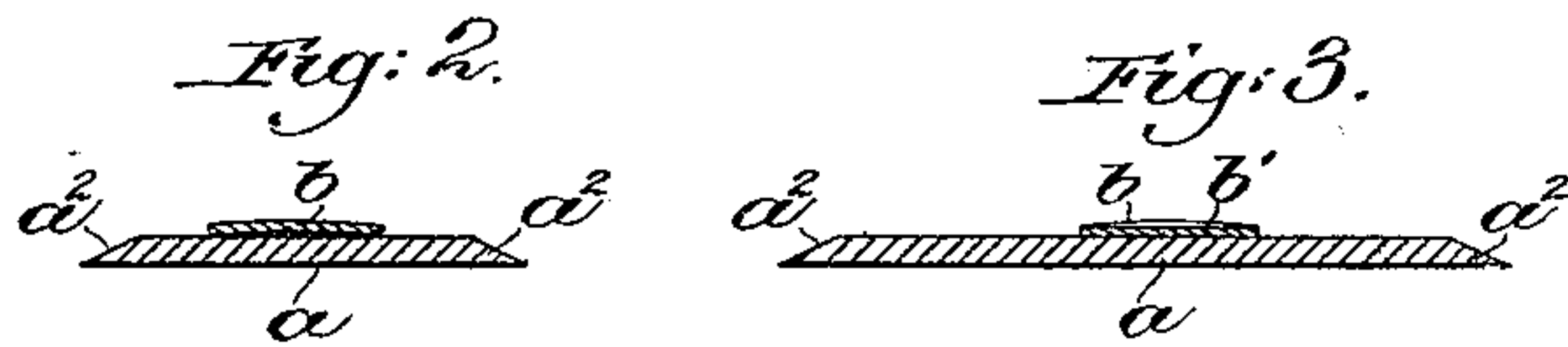
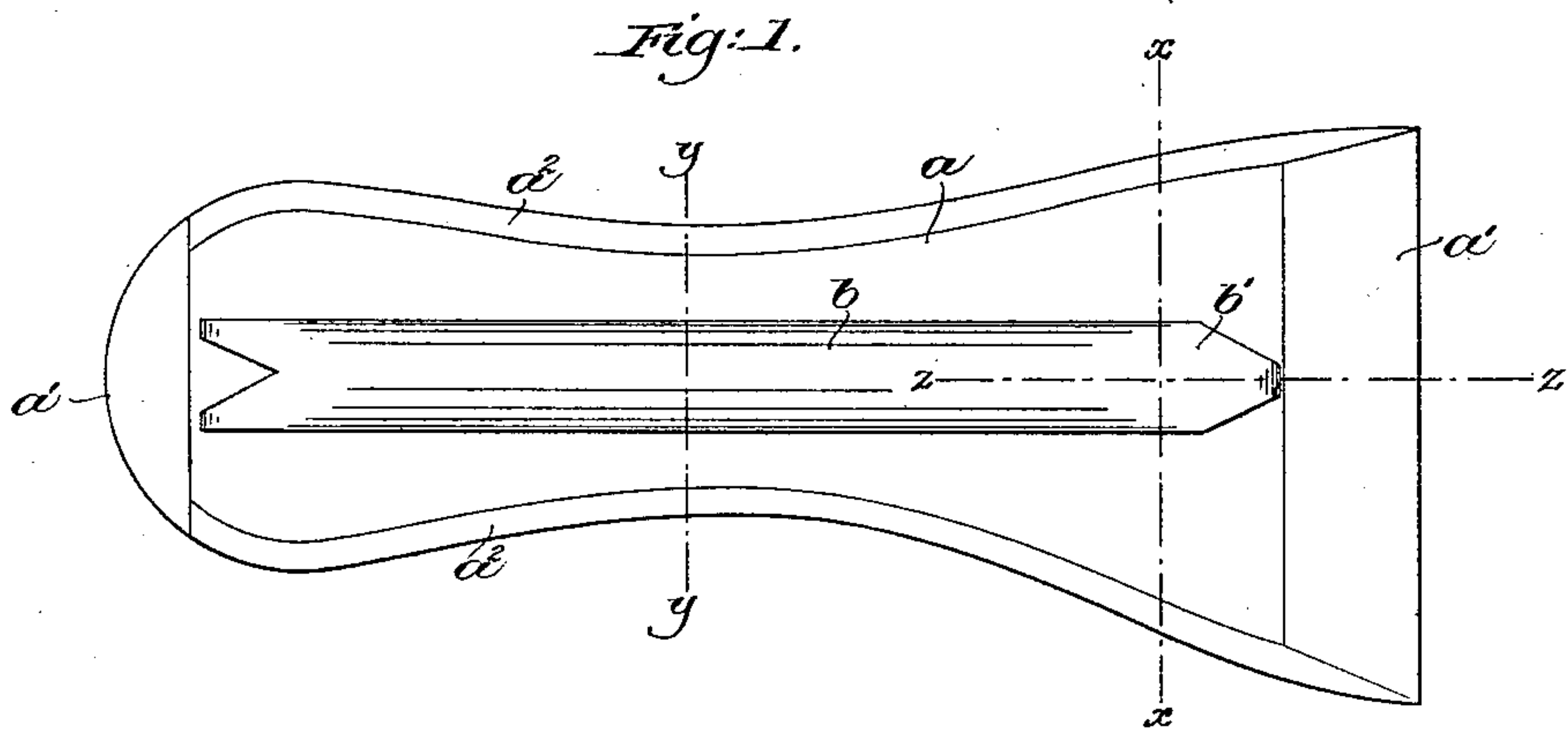


(No Model.)

J. M. WATSON.  
SHANK STIFFENER.

No. 403,569.

Patented May 21, 1889.



Witnesses.  
Frederick L. Emory,  
Fred. S. Greenleaf

Inventor.  
Jeremiah M. Watson,  
by Crosby & Gregory Attys.

# UNITED STATES PATENT OFFICE.

JEREMIAH M. WATSON, OF BOSTON, MASSACHUSETTS.

## SHANK-STIFFENER.

SPECIFICATION forming part of Letters Patent No. 403,569, dated May 21, 1889.

Application filed January 29, 1889. Serial No. 297,954. (No model.)

*To all whom it may concern:*

Be it known that I, JEREMIAH M. WATSON, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Shank-Stiffeners, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a shank-stiffener for boots or shoes.

In accordance with this invention the shank-stiffener comprises a piece of leather-board or other equivalent material scarfed at each end and beveled at the sides, and a metallic plate attached to said piece of leather-board concaved or grooved longitudinally except at the ends, which are flattened. Suitable spurs may be formed on the plate, or tacks or other independent fastenings may be provided for attaching the plate to the piece of leather-board. The groove or concavity is formed on that side of the plate next the leather-board, and hence a convex surface is presented at the opposite side, thickening the shank materially, while the ends of the plate, being flattened next the scarfed ends of the leather-board pieces, obviates the formation of a shoulder or abrupt projection, which would be the result if the plate were grooved or concaved from end to end. The plate is made quite wide, so that the groove or concavity may be quite deep to give considerable thickness to the stiffener and yet not present a recess at each side of the plate to receive the outer sole, and thereby form objectionable depressions in said outer sole.

Figure 1 shows in plan view a shank-stiffener embodying this invention; Fig. 2, a cross-section of the shank-stiffener shown in Fig. 1, taken on the dotted line  $y y$ ; Fig. 3, a cross-section of the shank-stiffener shown in Fig. 1, taken on the dotted line  $x x$ ; Fig. 4, a sectional detail of a portion of the shank-stiffener shown in Fig. 1, taken on the dotted line  $z z$ ; and Fig. 5, a sectional detail of a modification, to be referred to.

The piece of material  $a$ , preferably made of leather-board, is of suitable shape to serve as a shank-stiffener or filling, it preferably being scarfed at each end, as at  $a'$ , and beveled at each side, as at  $a^2$ . A metallic plate,  $b$ , grooved or concaved longitudinally, as best

shown in Fig. 2, is secured to the piece  $a$  by means of spurs formed on the ends of the metallic strip, or by tacks or any other independent fastenings, as shown in Fig. 5. The plate  $b$  is flattened at its ends, as at  $b'$ , and as shown in Fig. 3. The plate is secured to the piece  $a$ , so that the grooved or concaved face lies next the piece, thereby presenting a convex surface upon the outer side, the concavity extending from one to the other longitudinal edge of the plate. The flattened ends arranged adjacent to the scarfed ends of the piece prevent the formation of a shoulder or other obstruction, which would be formed if the plate were grooved or concaved from end to end, such a shoulder or projection being objectionable. The plate is made quite wide, so that a deep groove or concavity may be formed to increase the thickness of the stiffener more particularly at the median line, and yet avoid the formation of deep recesses at each side of the plate to receive and wrinkle the outer sole of the boot or shoe.

By attaching the metallic plate to the piece  $a$  the entire stiffener may spring slightly longitudinally and the strain come upon the plate its entire length in contradistinction to coming upon the plate at a single point, stretching the upturned edges and kinking.

I do not desire to limit my invention to any particular means by which the metallic plate may be fastened, nor to any particular dimensions of the parts.

I claim—

The shank-stiffener herein described, comprising the piece of material  $a$ , and the metallic plate grooved or concaved from one to the other of its longitudinal edges and secured to said piece  $a$ , and provided with fastenings at its ends by which it is secured directly to said piece, the ends of the metallic plate being flattened to prevent the formation of shoulders thereat, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEREMIAH M. WATSON.

Witnesses:

BERNICE J. NOYES,  
MABEL RAY.