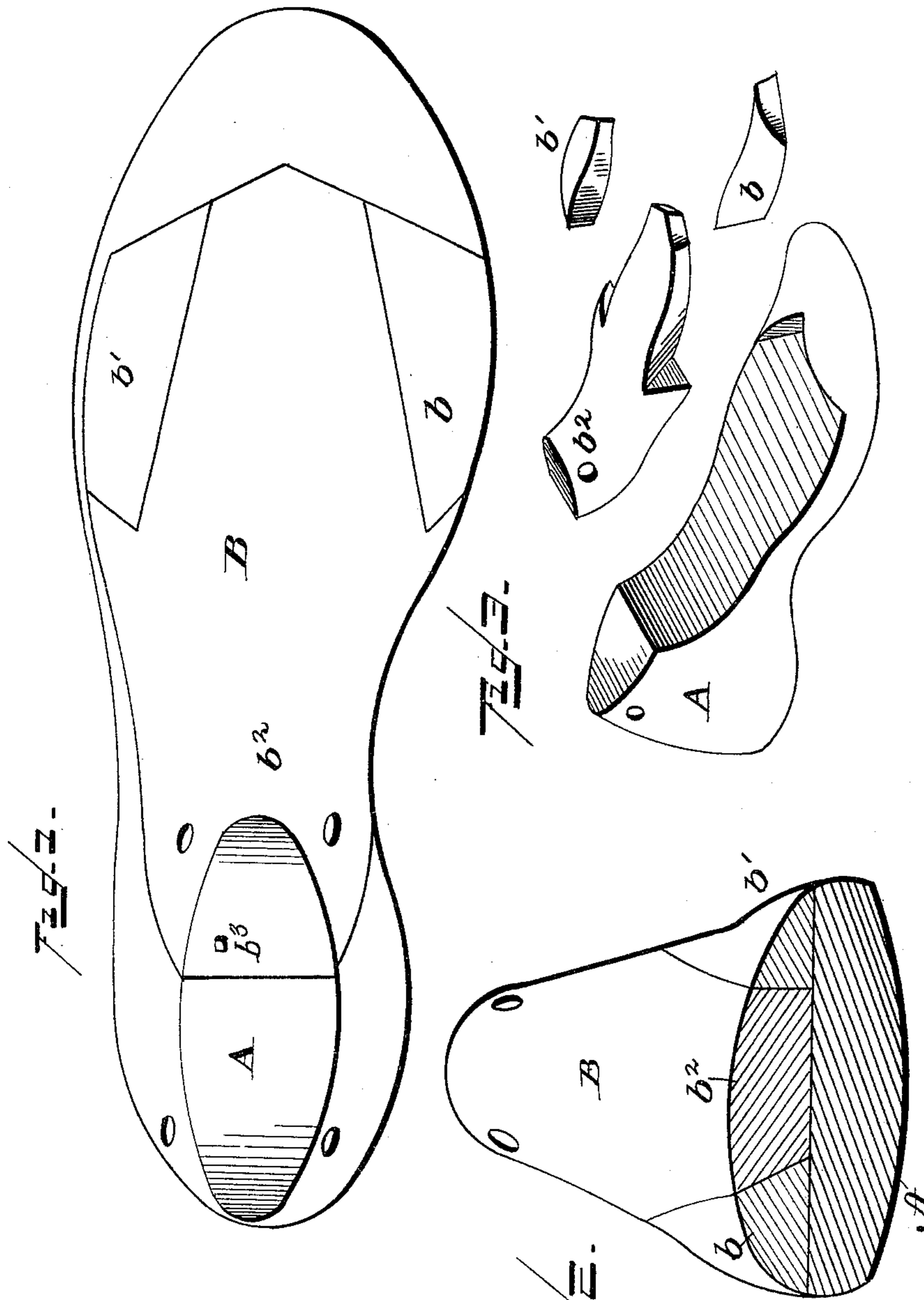


(No Model.)

B. W. KOOPMAN.  
LAST.

No. 410,528.

Patented Sept. 3, 1889.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

BEARARD W. KOOPMAN, OF TERRE HAUTE, INDIANA.

## LAST.

SPECIFICATION forming part of Letters Patent No. 410,528, dated September 3, 1889.

Application filed May 20, 1889. Serial No. 311,469. (No model.)

*To all whom it may concern:*

Be it known that I, BEARARD W. KOOPMAN, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in 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.

My invention relates to an improvement in lasts; and the objects of my improvements are, first, to provide a last with the block of same so constructed and arranged that the boot or shoe made thereon can be manufactured any desired shape or width across the ball portion of the foot with a view of making them comfortable; second, to provide a last that will obviate the necessity of having the shoe-maker to fit up the same by tacking pieces of sole-leather upon the ball portion thereof to make it the required shape and width, and, third, to provide a last in which the block portion of same can be taken to pieces in an instant, thereby enabling anybody to quickly and easily remove the last from the boot or shoe made thereon. I attain these objects by cutting the block of the last in three pieces, which will be fully described in this specification and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my invention. Fig. 2 is a cross-sectional view of same. Fig. 3 is a detail view showing the parts that compose the last separated.

A designates the last, which is manufactured as shown in Fig. 1. B represents the block of same, which is composed of three pieces  $b b' b^2$ . Said pieces are wedge-shaped, and when the block B is loosened from the last A, which is done by taking out the screw or pin  $b^3$ , the last A can readily be withdrawn. The pieces  $b$  and  $b'$  can be made any desired size or shape, so as to make the shoe comfortable across the toe portion. By doing this the necessity of tacking sole-leather upon the last—now so common with shoe-makers—is obviated.

It will readily be seen that the block B, being thus composed of the three pieces, the sides  $b b'$ , being wedge-shaped, are securely held in their normal position, when the central piece  $b^2$  is secured by means of the screw or pin  $b^3$ .

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

In a last, the body portion, in combination with the last-block, said block consisting of the central part  $b^2$ , and the wedge-shaped pieces  $b$  and  $b'$  across the ball upon the inner and outer sides, respectively, of said block, substantially as described, and for the purpose set forth.

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

B. W. KOOPMAN.

Witnesses:

H. H. TWOMBLY,  
I. W. HUNT.