

L. HEILBRUNN & F. FRIESE.
METHOD FOR BINDING UPPERS ON THE LAST.
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1,051,955.

Patented Feb. 4, 1913.

Fig. 1.

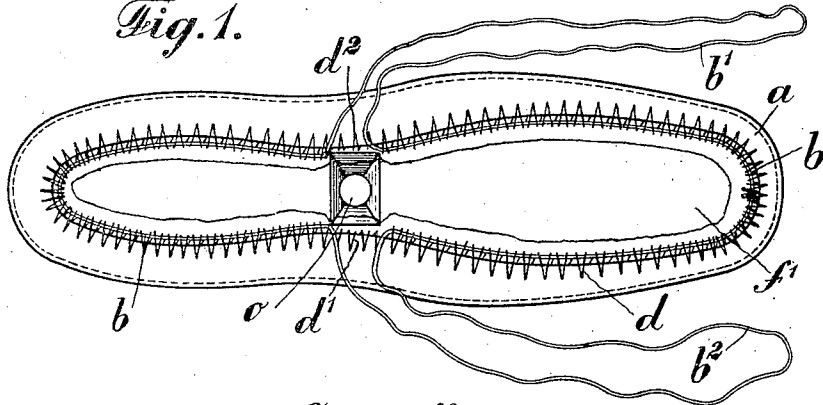


Fig. 2.

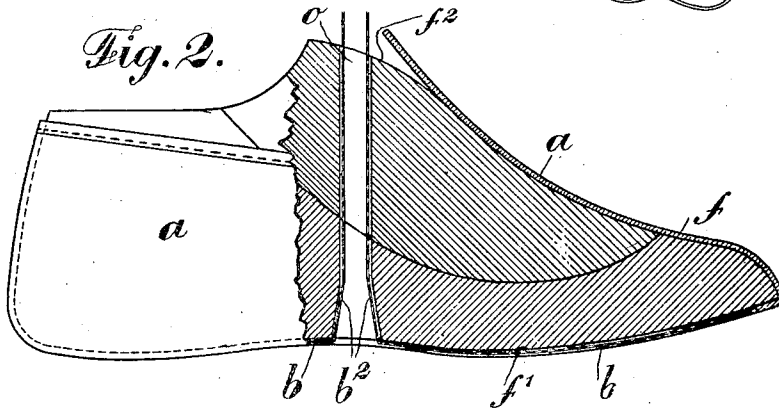
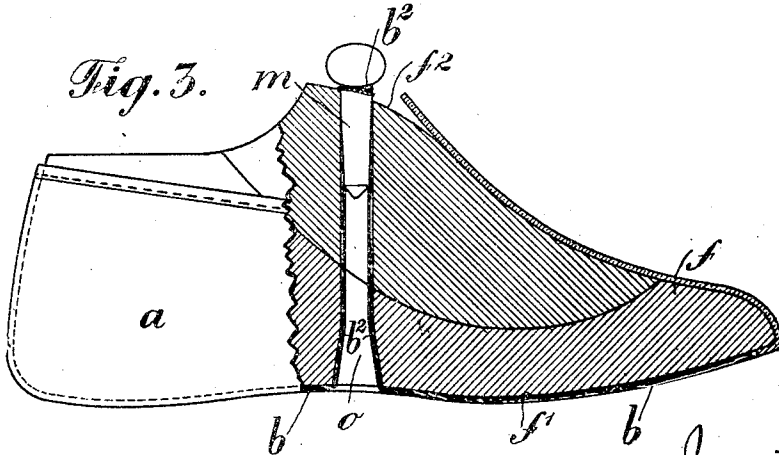


Fig. 3.



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LUDWIG HEILBRUNN AND FRITZ FRIESE, OF FRANKFORT-ON-THE-MAIN, GERMANY,
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METHOD FOR BINDING UPPERS ON THE LAST.

1,051,955.

Specification of Letters Patent.

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Application filed December 12, 1911. Serial No. 665,319.

To all whom it may concern:

Be it known that we, LUDWIG HEILBRUNN and FRITZ FRIESE, subjects of the German Emperor, and residing at Mainzerlandstrasse 225/227, Frankfort-on-the-Main, in the German Empire, have invented certain new and useful Improvements in Methods for Binding Uppers on the Last, of which the following is a specification.

10 According to our invention the upper is drawn in the usual manner over the last, after the string for binding the upper has been previously drawn through the stitches provided for the purpose. Then the looped
15 ends of the string are pulled out of these stitches close to the middle of the upper, approximately at the waist of the last. These loops are then passed from the underside of the upper to the top thereof. For this pur-
20 pose a last may be used, which has a bore extending from the sole to the ridge of the span. The loops are drawn through this bore, preferably by means of a sort of bod-
25 kin resembling a hairpin, so that they emerge at the mouth of said bore and hang down over the upper. The two loops are then preferably twisted about each other and tightly pulled, whereby the edge of the
30 upper will be uniformly lipped all around over the last, and well drawn in at the waist. For preventing the strings from slackening when their loops are released, they are se-
35 cured at the ridge of the span, for which purpose any suitable means may be employed.

For better explaining the method forming the subject matter of the present invention, the various operations required for carrying out said method are illustrated in the ac-
40 companying drawings.

Figure 1 is a view from below showing the last with the upper drawn over it, the string being passed through zig-zag stitches along the edge of the upper. Fig. 2 is a side view
45 of and partly a longitudinal section through the last before the string loops are secured. Fig. 3 is a view similar to Fig. 2, but showing the loops secured in the last.

The upper *a* is provided with a pull string
50 *b*, which is passed through a row of whipped or zig-zag stitches *d*, along the edge of the upper, from which it may project, say at the

toe, in form of one single loop. Then the string is brought out at the points *d*¹ *d*² of the zig-zag stitching *d*, so that two loops *b*¹ *b*² are formed. These loops are then threaded into a hole *o*, which is provided approximately in the middle of the last *f*, and which leads from the sole *f* of the last to the ridge *f*² (Fig. 2). Thereupon the loops *b*¹ *b*² are
60 pulled taut, so that the upper, lips over the last, and the edge of the upper approaches the middle of the sole of the last, lying at all points close against the last, as shown in Figs. 1-3. For securing the loops in such
65 tightened position a plug *m* is introduced into the bore *o*, and with its shank clamps the loops against the inside wall of the bore, whereupon the ends of the loops are wound
70 around the shank of said plug. Now the upper will be tightly drawn about the last, and the sole can be fitted in known manner to the edge of the upper, for instance by being pasted thereto. After this operation
75 has been carried out, the plug *m* is removed, and the loops are thereby released. The last is then withdrawn from the upper, for which purpose it is made in two pieces, and the shoe can be finished.

The hereinbefore described method may be
80 employed both for lasting leather uppers, and for lasting uppers made of soft material, such as are used for house or traveling slippers and the like.

We claim:

The method of binding an upper having a string passed through stitches in its lower rim on a last provided with a bore extending close to the waist from the sole to the ridge of the span, consisting in drawing the string
90 out of said stitches on opposite points of the last and adjacent to the lower mouth of said bore in form of loops, passing said loops through the said bore, pulling the said loops taut by means of their projecting portions
95 and securing them to the last near the upper mouth of said bore.

In testimony whereof we affix our signatures in presence of two witnesses,

LUDWIG HEILBRUNN.
FRITZ FRIESE.

Witnesses:

JEAN GRUND,
BERNHARD REISER.