

UNITED STATES PATENT OFFICE.

JOHN BATLEY, OF KENSINGTON PARK GARDENS, JOHN KEATS, OF WOOD GREEN, AND JAMES NEIL, OF WORSHIP STREET, ENGLAND.

IMPROVEMENT IN LASTS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 189,418, dated April 10, 1877; application filed February 22, 1877.

To all whom it may concern:

Be it known that we, JOHN BATLEY, of Kensington Park Gardens, in the county of Middlesex, JOHN KEATS, of Wood Green, in said county, and JAMES NEIL, of Worship Street, likewise in the same county, England, have invented certain Improvements in Lasts for the Manufacture and Display of Boots and Shoes, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to adjustable lasts for the manufacture and display of boots and shoes; and consists in a novel construction of such lasts, and in certain novel combinations of the adjustable parts thereof, and certain novel means of adjusting the said parts, whereby the contraction and expansion of the last at the heel, or between the heel and the instep, and at the sides of the forward portion of the foot, or at either of said places, is provided for in a most efficient manner, to facilitate its entry within a boot or shoe, and to spread or press out the boot or shoe to its required form free from undue strain on any portion of the seams of the boot or shoe. The use of such a last is not restricted to any particular kind of boot or shoe. It is applicable to ordinary boots or shoes made of leather; but it will be found particularly advantageous in the manufacture of boots or shoes made of seamless felt, in accordance with a process invented by us, and which it is our intention to make the subject of a separate application for Letters Patent, such seamless felt boot, shoe, or sock having a narrow elongated form, which offers an effectual obstacle to the insertion of an ordinary last, and consequently makes this our improved last a desideratum, inasmuch as it may be readily contracted to permit of its insertion into said felted work when in a moist state, and subsequently, or after its insertion, be as readily expanded to press out said work to its desired form.

Figure 1 represents a side view of a last illustrating our invention; Fig. 2, a longitudinal vertical section of the same; Fig. 3, an approximately horizontal section, mainly on

the line *xx*; and Fig. 4, a transverse section thereof on the line *yy*.

The last may be of cast-iron or any other suitable metal or material. A is its principal piece or body, which represents the instep and forward portion of the ankle and the central portion *b* of the forward part of the foot. B is the heel-piece, constituting the back portion of the last.

The heel piece or portion B is connected with the front piece or body A in such an adjustable manner that it may be set in or out relatively to the instep *c*, to vary the distance between the heel proper and the instep. This provides for such contraction of the depth of the last from heel to instep that the last may be more easily inserted into the boot or shoe, and be afterward expanded into the heel and foot of the boot or shoe.

A convenient mode of attaching the heel-piece B to the body portion A to secure this described adjustment of the heel-piece relatively to the instep *c* is to unite said pieces or portions together at the ankle or upper part of the last by a pivot-pin, C.

Furthermore, it is a peculiarity of the adjustable heel-piece B, as the parts are represented in the drawing, that said heel-piece is not only capable of being set in or out, but that in or during such adjustment it is made to work or pass within the body portion A, which is made hollow to receive it. This preserves a nearly close or continuous outer surface for the last. For this action of the heel-piece see full lines in Figs. 1 and 2, and dotted lines in Fig. 1.

To that part, *b*, of the body-piece A which represents the central portion of the front of the foot are attached side pieces D D, which complete the forward portion of the foot. These side pieces are hinged at *d d*, so as to swing outward from axial lines parallel, or nearly so, with the sole and the length of the foot at the base of the last, in order that when said side pieces are swung outward they will produce nearly equal strain on all parts of the seams of the boot or shoe exposed to the action of said side pieces. Fig. 4 represents, by full and dotted lines, the two extreme posi-

G. W. BEELEY.
FASTENINGS FOR BUTTONS.

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Fig. 1.

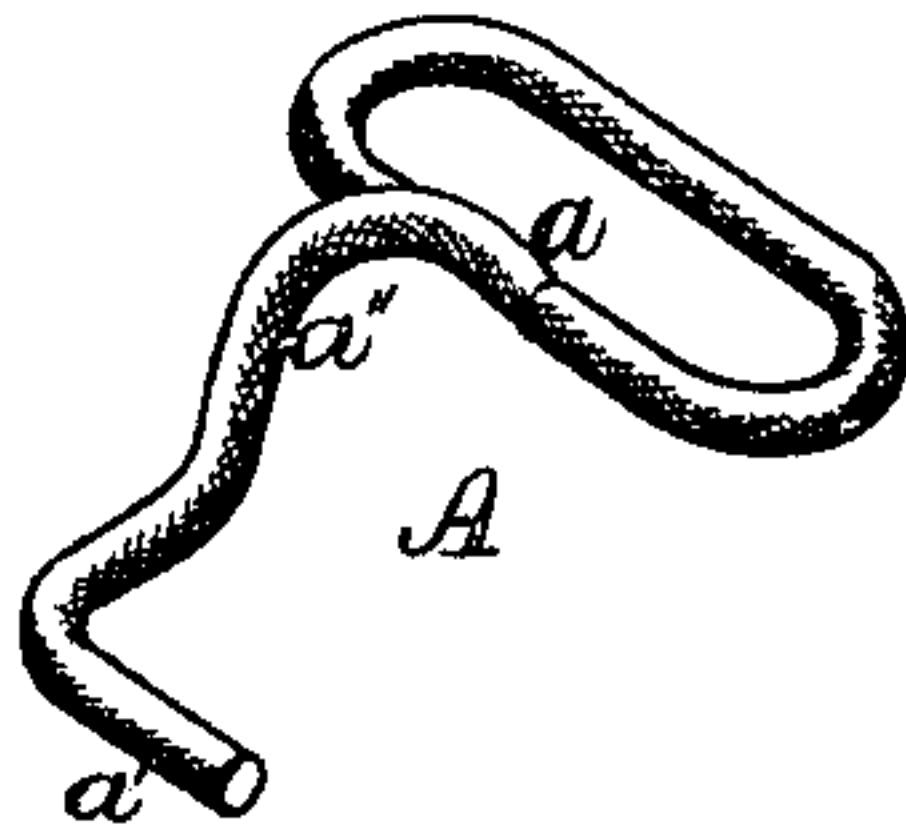


Fig. 2.

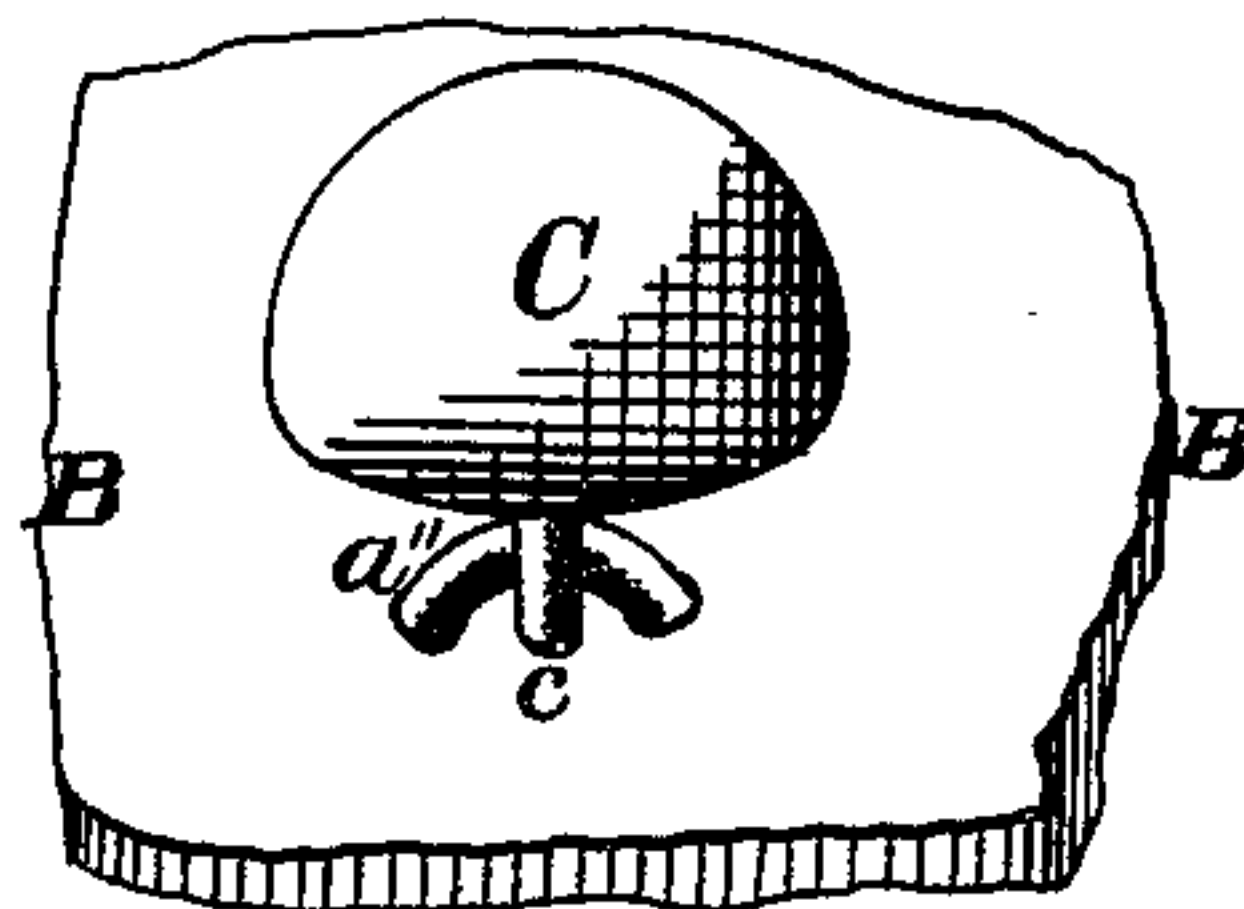


Fig. 3.

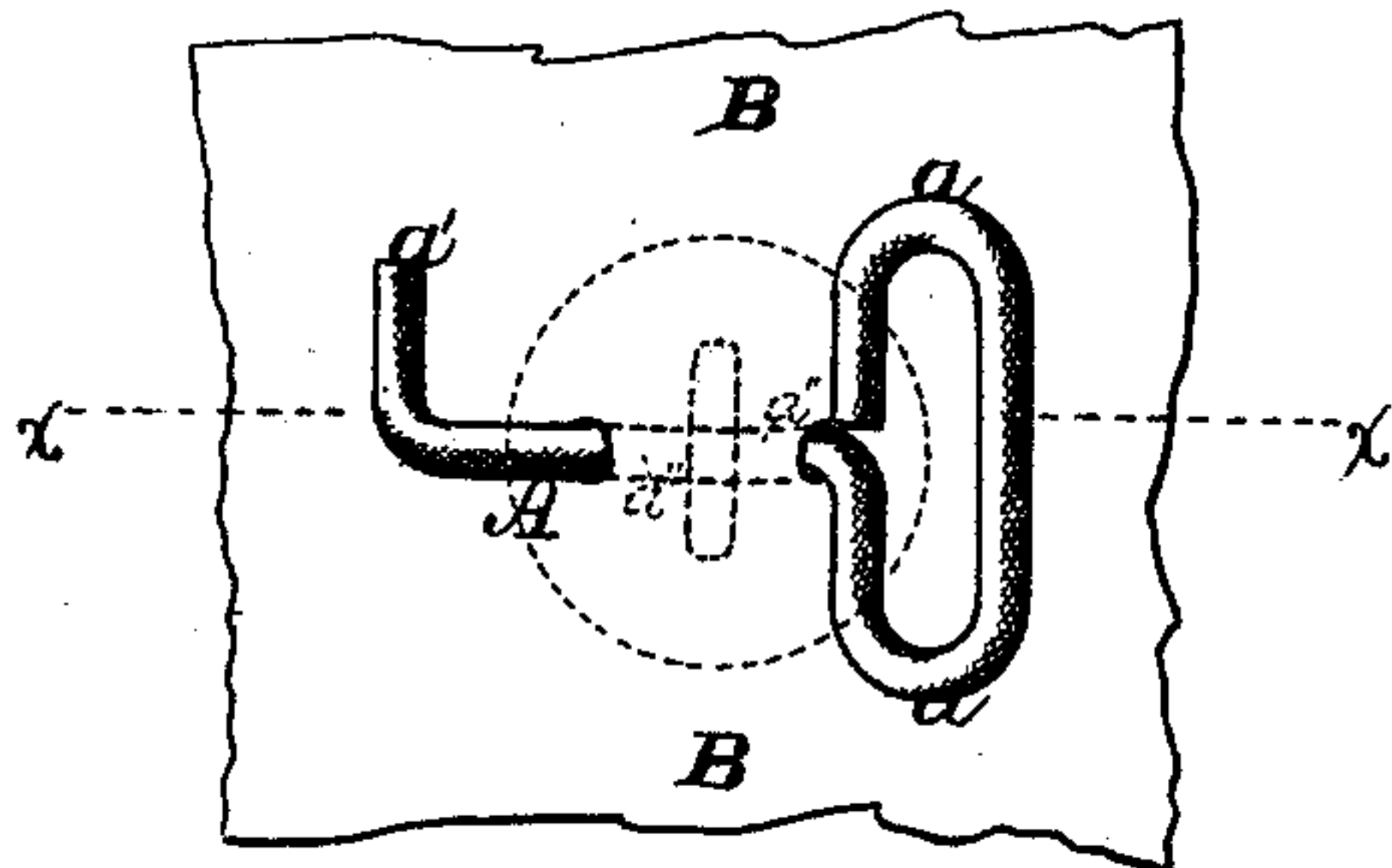
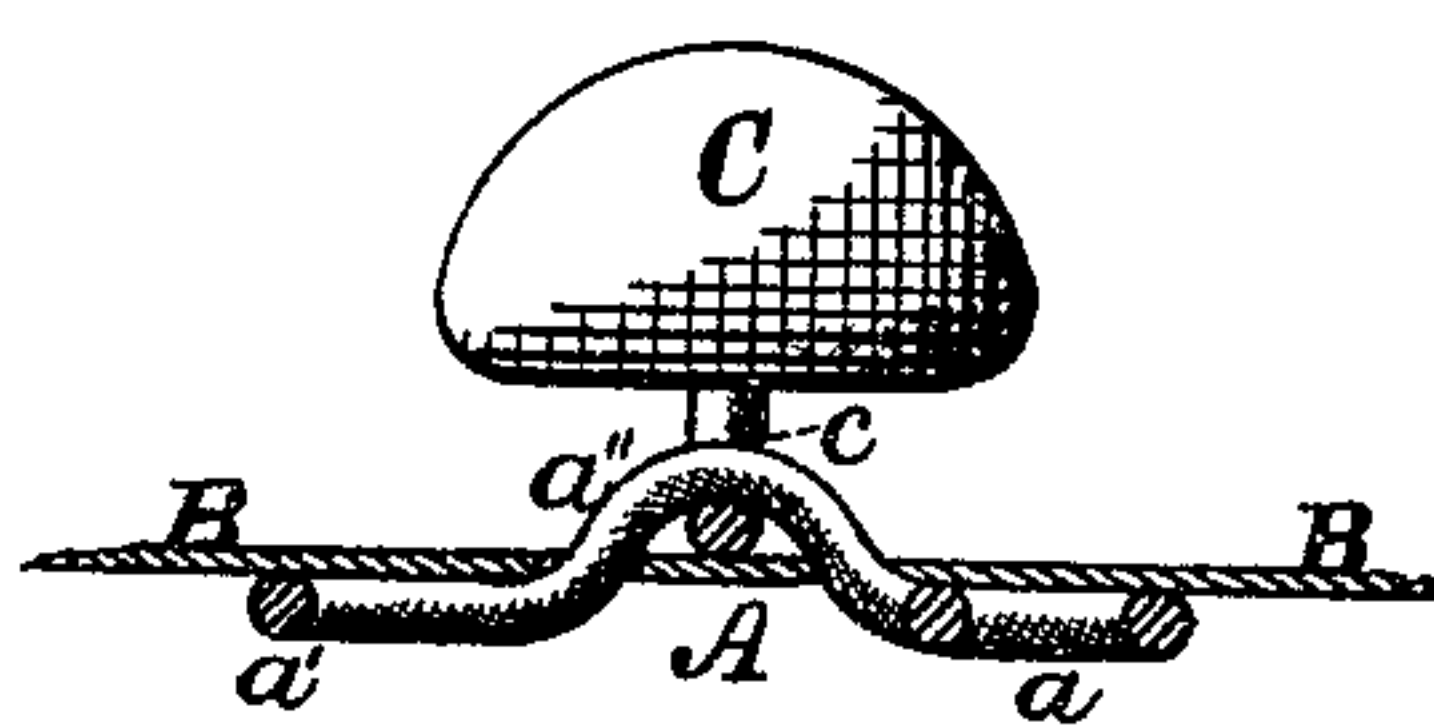


Fig. 4.



WITNESSES=
Jas. C. Hutchinson.
Henry G. Hazard

INVENTOR.
Geo. W. Beeley, by
Grindle and Fox his Attys