No. 652,616. Patented June 26, 1900.

O. HEATH.

LAST.

(Application filed May 4, 1897.)

(No Model.)

Fig. 1.

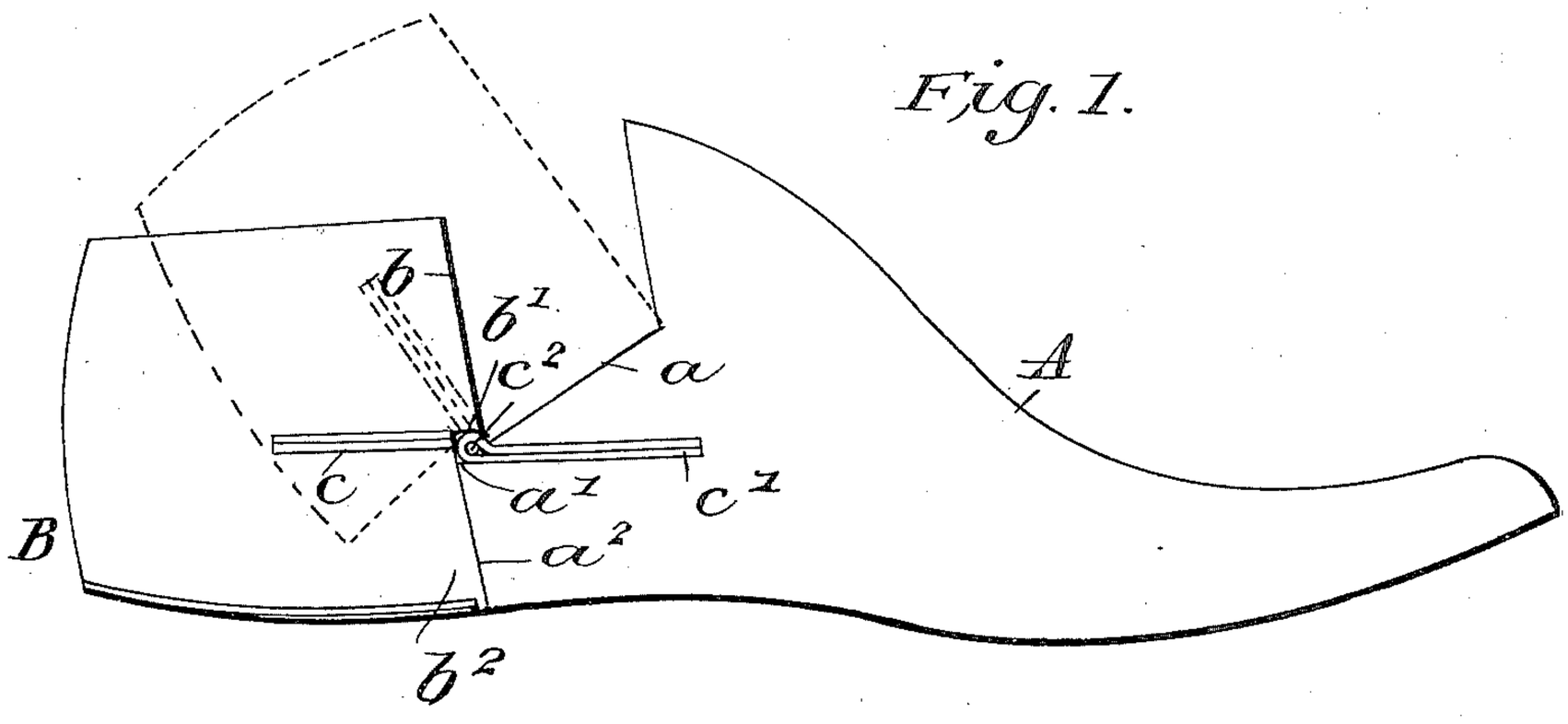
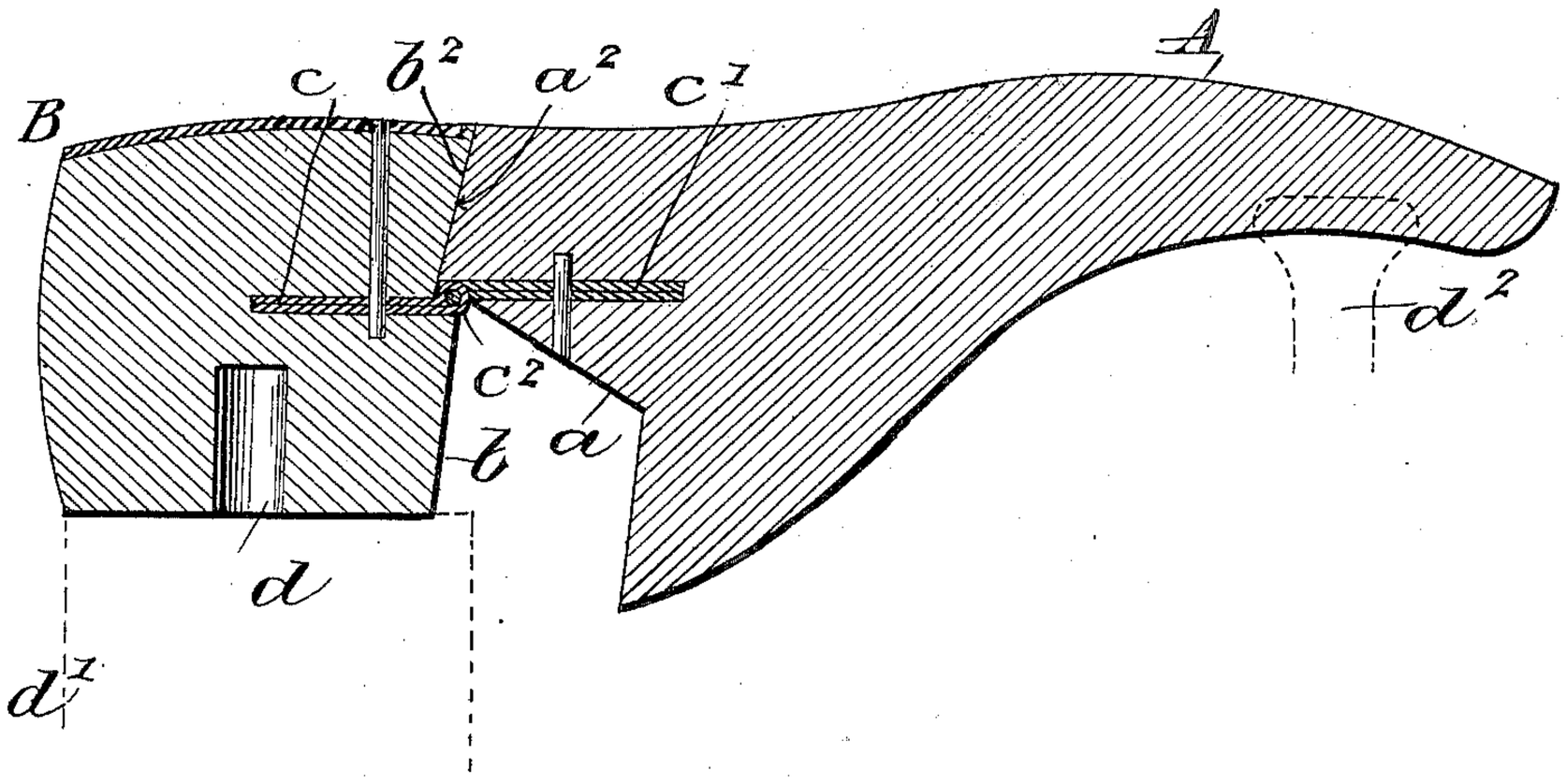


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

OSCAR HEATH, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO WILLIAM B. ARNOLD, OF ABINGTON, MASSACHUSETTS.

LAST.

SPECIFICATION forming part of Letters Patent No. 652,616, dated June 26, 1900.

Application filed May 4, 1897. Serial No. 634,995. (No model.)

To all whom it may concern:

Be it known that I, OSCAR HEATH, of Brockton, county of Plymouth, State of Massachusetts, have invented an Improvement in Lasts, 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 the production of a novel last, one which may be easily applied to or taken from the shoe and which may remain in the shoe throughout the entire manufacture, including the leveling.

The hinge uniting the parts of my improved last is of peculiar construction, and it is inserted in a novel manner and occupies a novel position between the heel and fore part of the last, and the abutting ends of the heel and fore part are so shaped that one part overlaps the other part, thus giving to the last the property of withstanding a large amount of strain without breaking down.

Figure 1, in side elevation, shows a last embodying my invention, the dotted lines showing the parts turned on the hinge-joint to shorten the last. Fig. 2 is a section of the last in the position it will occupy when in use in a machine and holding a shoe.

The object of my invention is to produce a transversely-divided last which is better adapted to withstand heavy pressures than the lasts of this class heretofore made. It has sometimes happened in practice that the fore part and heel part were forced out of alinement by the great pressures to which lasts of this class are subjected in the process of manufacturing machine-made shoes, and my invention contemplates the production of a strong and durable transversely-divided and preferably-hinged last which is not liable to have its fore part and heel part forced out of alinement.

The last is composed of a fore part A and a heel part B, and they are united together at a suitable distance from the bottom of the last by a hinge, preferably composed of two like folded sheet metal plates c c', notched at the ends where the plates are folded, so that the projecting portions of the plates between the notches may be shaped to constitute hinge-eyes, the projections of one half entering the notches of the other half and a pin c^2 being inserted to complete the hinge. The fore part has an inclined abutment a, against which the wall b of the heel part may rest when the heel part is fully turned on the hinge to shorten the last, as shown by dotted lines, the shoe when the last is shortened, as described, being left in such condition that by a straight pull on the fore part of the shoe it may be easily drawn straight from the fore part.

The fore part of the last is provided at the end of the abutment a with a shoulder a', on which, as herein shown, rests the joint part of the hinge, and from the end of said shoulder the fore part is cut, as shown, to the bottom of the last to present an inclined face a^2. The heel part at the end of the wall b is cut to present a shoulder b', the joint of the hinge lying between the said shoulders a' and b', so that when pressure is applied to the bottom of the last, it being supported by a heel-pin, as d, of a standard, as d', and the fore part resting on a suitable toe-rest d^2, the said overlapping shoulders acting on opposite sides of the hinge at the hinge-eye effectually resist the vertical strain. When the last is straight in a shoe and during the process of the manufacture thereof, the face a^2 of the fore part and the opposite face b^2 of the heel part contact firmly together, and the force of said contact increases with the pressure. The hinge parts are inserted into suitable slots made in the fore part and the heel part, as fully shown in the drawings, and these slots are made substantially as continuations of said shoulders a' b', and when the last is in the position for use (see Fig. 2) the shoulder b' lies directly on and overlaps the shoulder a', and it will be noticed that one half of the hinge occupies a different position in a horizontal plane from the other half.

I do not intend to restrict my invention in all respects to the kind of hinge shown, although this hinge forms a feature of certain of my claims, nor do I intend to limit myself in all respects to a hinge, as it will be noted that I make certain claims to the lines of cut alone.

I regard the lines of cut, taken broadly, as an important feature of invention, and I

therefore claim them as such. It will be understood that I have herein shown and described as my preferable construction the last made for withstanding the hardest service; but it will also be understood that lasts are used in many situations where such strength is not required and that accordingly various features of my invention are of value separately as improvements in and of themselves, capable of employment in subordinate and other capacities known to last users.

It will be understood that my invention is applicable to any usual shape, style, or kind of last, and for clearness and definiteness of understanding, however, of my invention I have described the specific details thereof.

My invention resides in providing at the pivotal line of flexure or turning-point of the last overlapping shoulders, so that when the heel-part and fore-part bottoms are in alinement the shoulders or overlapping portions of the fore part and heel part at said turning-point withstand the downward pressure on the bottom of the fore part, which heretofore the hinge-eye and pintle have been largely required to withstand alone. By this construction it becomes practically impossible to force the fore-part bottom out of alinement with the heel-part bottom by vertical pressure, as the thrust or strain which has heretofore tended to break, twist, or distort the hinge is transmitted directly to the heel part by means of the overlapping shoulders.

My invention is an improvement on or one specific means of carrying out the invention covered in the patent to W. B. Arnold, No. 607,978, dated July 26, 1898, and is distinguished therefrom, among other respects, in the following particular, that whereas said patented construction while disclosing, broadly, the idea of so cutting the heel part from the fore part that the wood of the heel part would sustain a portion of the downward vertical thrust or pressure on the last when in use the particular line of cut shown in said patent would result in a more or less sliding tendency and would therefore require that the parts of the last (if used in leveling, for instance) should be connected by some sort of a joint or hinge for preventing this sliding tendency, whereas I provide a construction in which there is no sliding tendency, but all the vertical pressure is directly borne by the heel part. It will also be understood that I have shown a hinge and have shown the particular angular cut at the crown of the last and the straight line or cut at a^2 extending obliquely forward to the bottom of the last merely as showing my invention applied to one conventional kind of last commonly in use on the market; but I wish to make clear that my invention is applicable to any and all kinds of divided lasts.

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

1. In a divided last, a fore part having an abutment and a projecting shoulder at its end, combined with a heel part having a wall extending at an angle away from said abutment when the last is in extended position, with a shoulder at the end of said wall, the said shoulders being shaped to overlap one the other in the same vertical plane, substantially as described.

2. A last divided transversely by lines of cut forming at the top of the last a gap or open space permitting the heel part to turn up on the fore part with a swinging movement about the bottom of said gap for shortening the last, the parts at opposite sides the line of division presenting horizontally-overlapping shoulders, whereby one may be vertically supported by the other when the last is in use, substantially as described.

3. The combination, in a transversely-divided hinged last, of a hinge having an eye with opposed hinge-eye-bearing shoulders, one on the fore part on one side of said eye, and the other on the heel part on the other side of said eye, substantially as described.

4. A multipart last wherein the parts thereof are united by a hinge, said parts having the leaves of the hinge embedded within them up to the pintle thereof on opposite sides thereof, and said leaves, viewing the edge of the hinge at the side of the last when in extended position, being out of alinement, substantially as described.

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

OSCAR HEATH.

Witnesses:
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