

No. 639,349.

Patented Dec. 19, 1899.

G. S. & H. D. BRONSON.
LAST FOR MAKING OVERSHOES.

(Application filed Apr. 14, 1899.)

(No Model.)

Fig. 1.

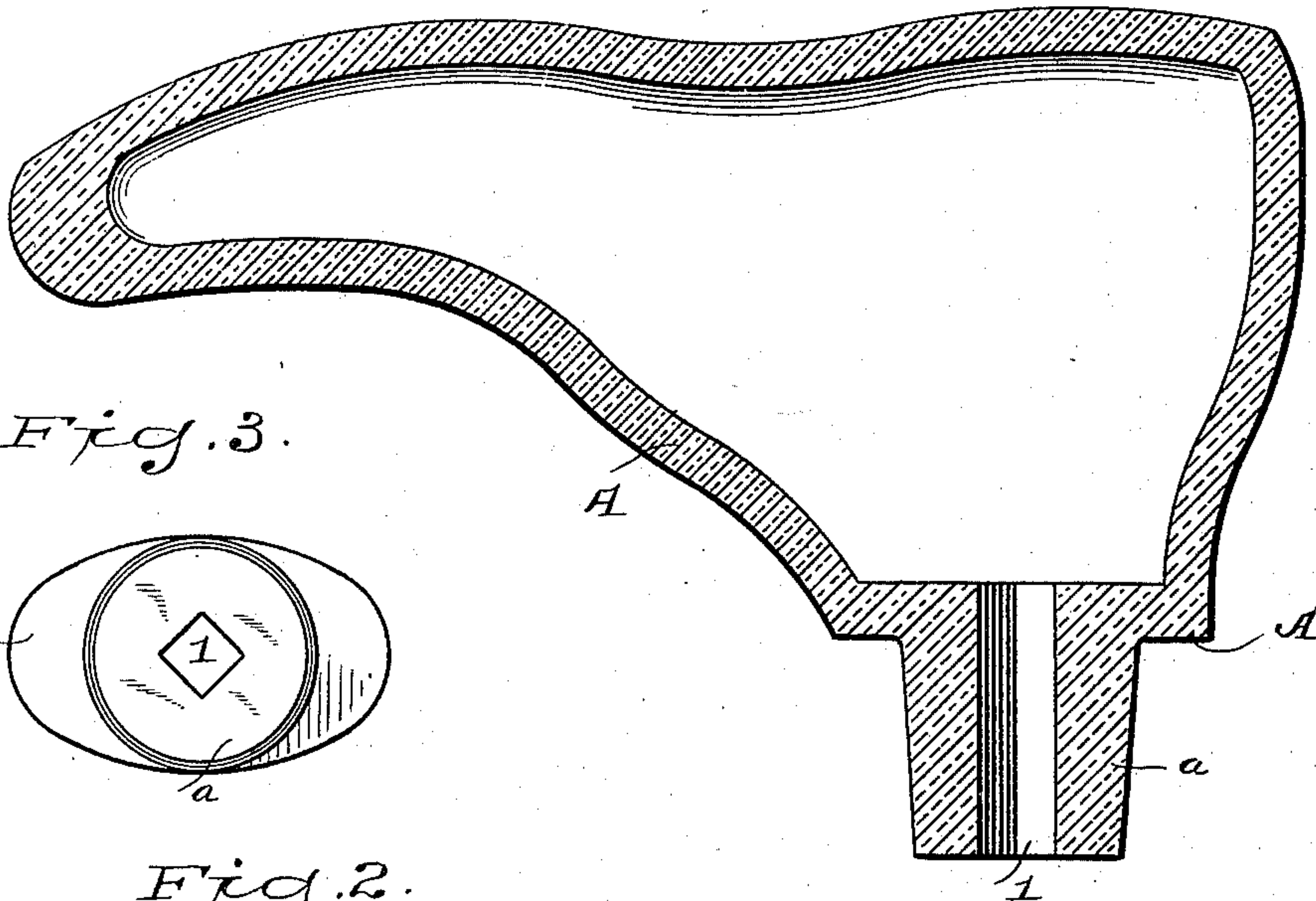


Fig. 3.

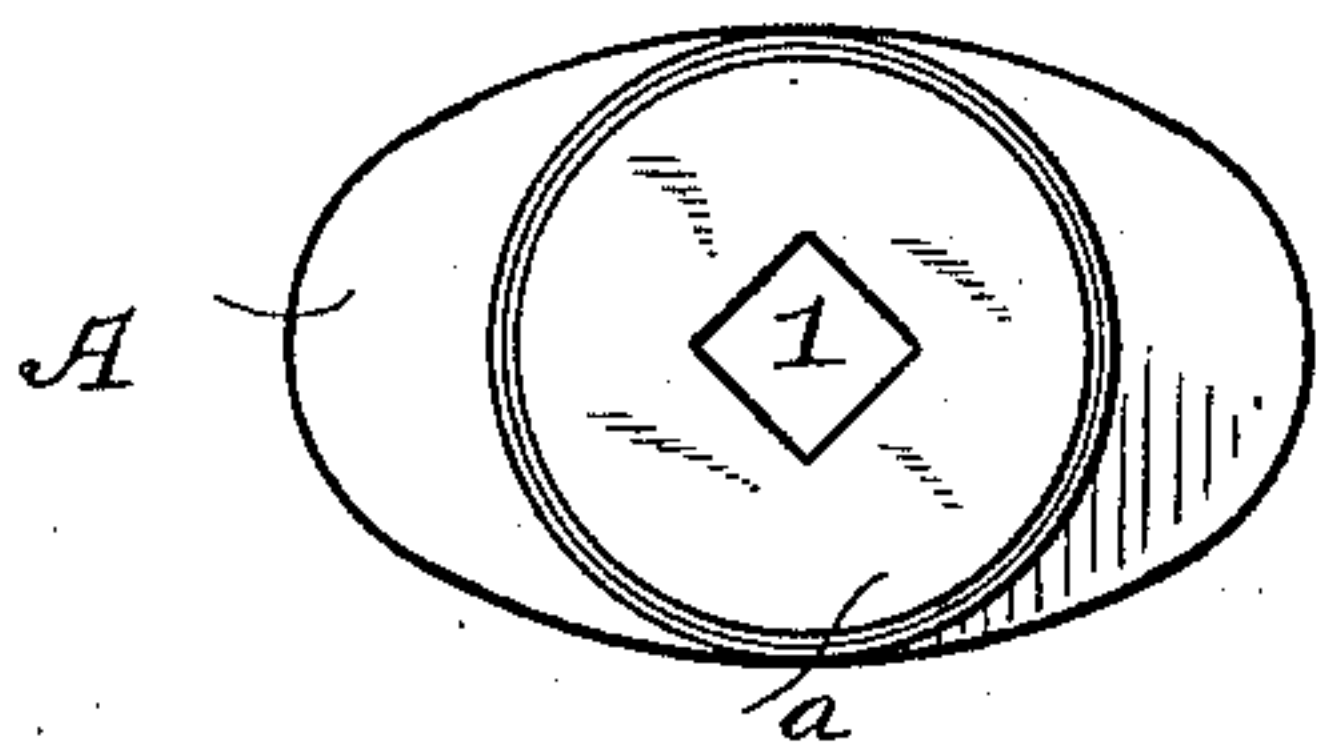


Fig. 2.

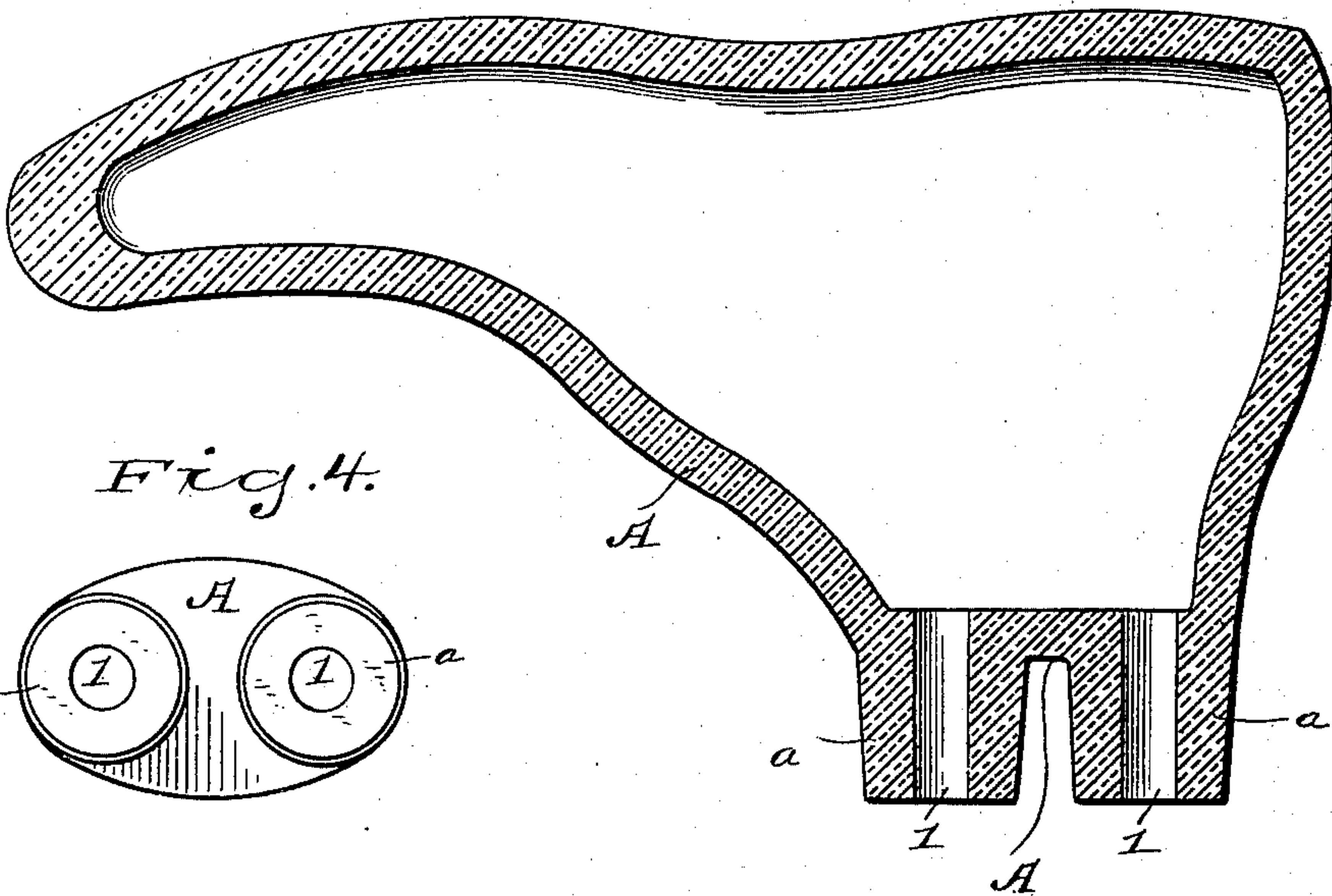
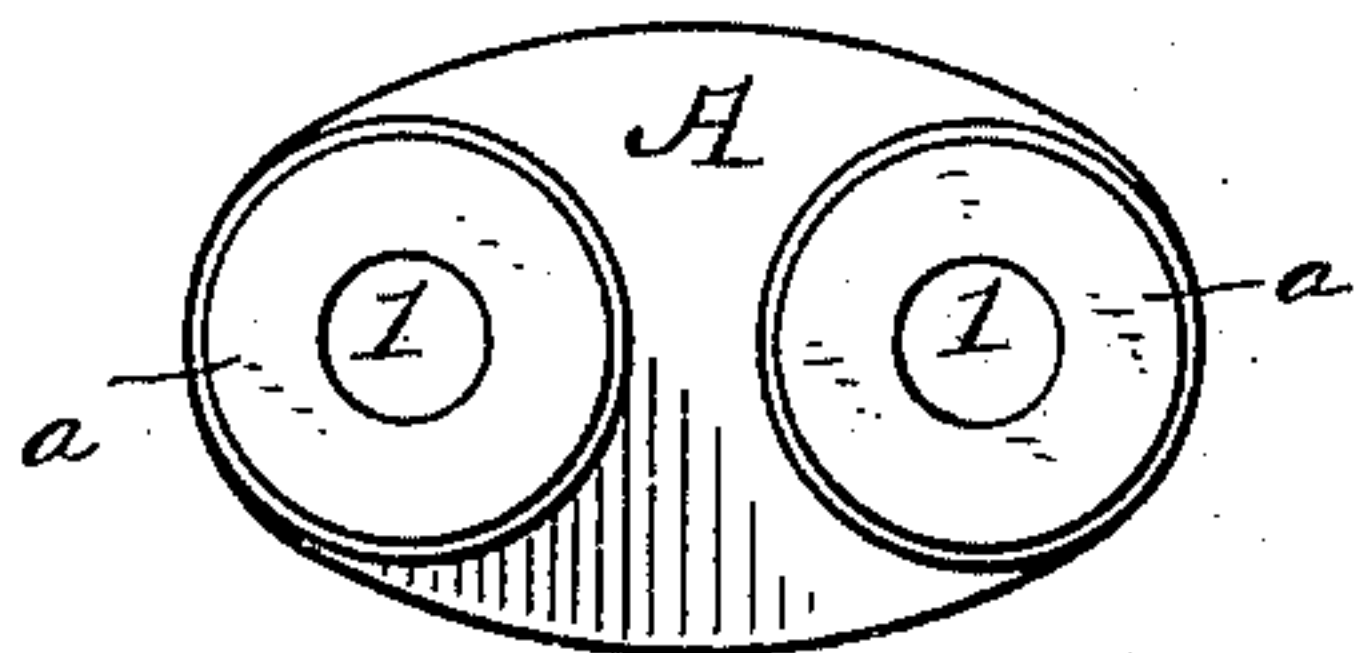


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE S. BRONSON AND HOMER D. BRONSON, OF BEACON FALLS,
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LAST FOR MAKING OVERSHOES.

SPECIFICATION forming part of Letters Patent No. 639,349, dated December 19, 1899.

Application filed April 14, 1899. Serial No. 712,975. (No model.)

To all whom it may concern:

Be it known that we, GEORGE S. BRONSON and HOMER D. BRONSON, citizens of the United States, residing at Beacon Falls, county of New Haven, State of Connecticut, have invented a new and useful Last for Making Overshoes, of which the following is a specification.

Our invention relates to the manufacture of overshoes, and has for its object to provide a convenient, durable, and inexpensive last over which to form the overshoes and upon which to trim them.

It is of course well understood that in the manufacture of overshoes they are formed upon lasts which give shape to the shoes, and the upper edge of each shoe is trimmed with a cutter while it is on the last. The material heretofore in general use for making lasts was wood. Various fine close-grained woods have been used; but ordinarily maple has been selected. Although enormous quantities of wooden lasts have been used in the manufacture of overshoes, wood has never been satisfactory as a material for lasts owing to the fact that it is impossible to prevent wooden lasts from shrinking, swelling, and splitting when subjected to changes in temperature—as, for example, to the intense heat required for vulcanization, to which process the overshoes are subjected while upon the lasts. In practice the change in the size of wooden lasts owing to this property of the wood not infrequently amounts to the full size in width. It is furthermore not infrequent for the lasts to warp and to split to such a degree as to render them useless. It results, therefore, that manufacturers of overshoes are compelled to watch wooden lasts closely to see that they are holding their sizes and to throw away large number of lasts which become useless owing to the inherent properties of all kinds of wood.

Some of the serious objections to the use of wooden lasts are overcome by the use of metal lasts. No special objection is found to the weight of the lasts and none whatever to their durability. They are, however, so expensive as to add materially to the cost of manufacturing overshoes. The great dura-

bility of the metal lasts does not in practice compensate for their greatly-increased cost, owing to the fact that it is necessary to make frequent changes in the style of lasts, most changes in style rendering the lasts previously in use wholly worthless. It has long been sought by manufacturers of overshoes to find some material from which to make lasts, in connection with a mode of making the lasts, that would greatly reduce this important item of the cost of production. The essential requirements for a satisfactory last are that the last will retain its shape under all circumstances, even when exposed to the intense heat of a vulcanizing-oven, and shall be so inexpensive to produce as to quickly pay for itself in use, so that whenever the style changes new sets of lasts may be quickly provided and at a relatively small cost.

In order to accomplish the desired result, we have devised a last made entirely of glass, which we will now describe, referring by suitable reference characters to the accompanying drawings, forming part of this specification, and in which—

Figures 1 and 2 are longitudinal sections of our novel last, illustrating slightly-different modes of holding the last in place in use; and Figs. 3 and 4 are plan views corresponding therewith.

A denotes the body of our novel last, which may be made hollow or not, as preferred, and is provided with suitable means for holding the last in place in use—for example, with one or more hubs *a*, having holes 1 to receive the pin or pins (not shown) by which the last is held in place in use. When the last is provided with but one hub, as in Figs. 1 and 3, the opening 1 is made angular in cross-section to receive a pin of corresponding shape, so as to hold the last firmly in place when seated thereon. When the last is provided with two hubs, as in Figs. 2 and 4, the shape of the holes in the pins is a matter of no consequence, as a plurality of pins and hubs of any shape will hold the last in place and prevent it from turning.

Having thus described our invention, we claim—

1. A last for making overshoes formed from

glass in a single piece and provided with means for retaining it in place in use.

2. A last for making overshoes formed from glass and provided with means as a hub provided with an angular hole for holding it in place in use.

3. A hollow glass last for making overshoes provided with a hub having an opening to receive a pin.

10 4. The glass last A having a hub *a* with a

hole 1 substantially as shown, for the purpose specified.

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

GEORGE S. BRONSON.
HOMER D. BRONSON.

Witnesses:

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