No. 744,156. PATENTED NOV. 17, 1903.

G. E. BELCHER.

SHOE TREE.

APPLICATION FILED MAY 5, 1902.

NO MODEL.

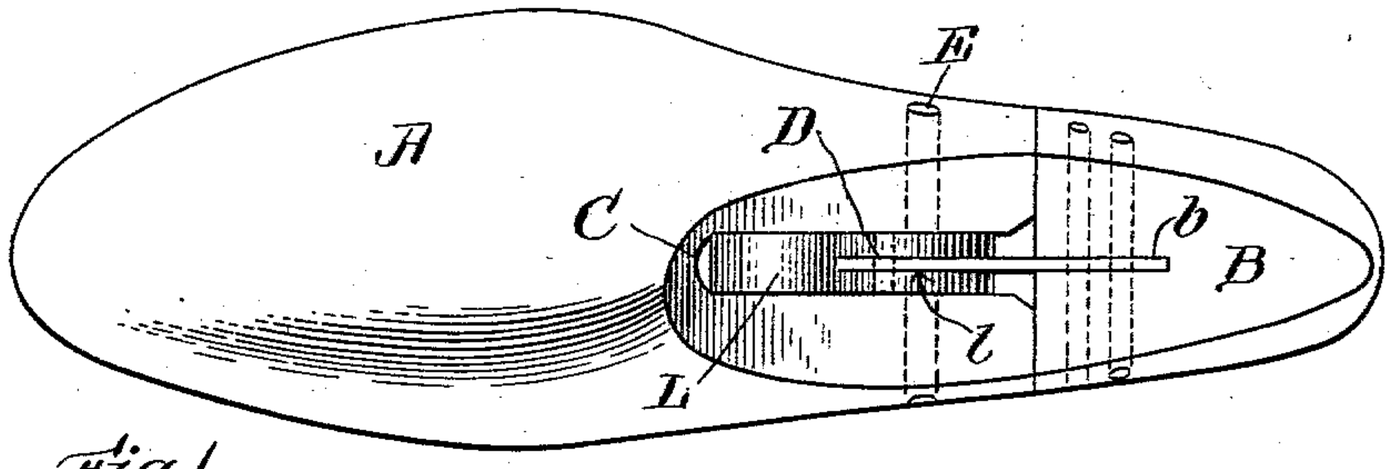

Fig. 1.

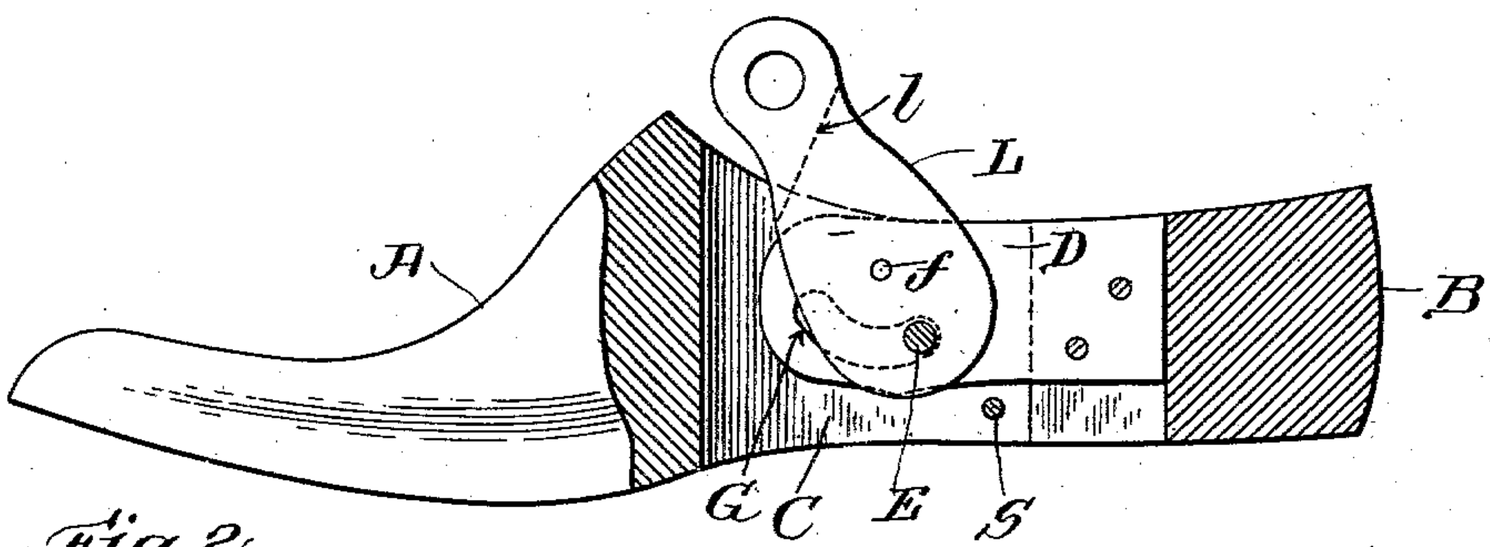

Fig. 2.

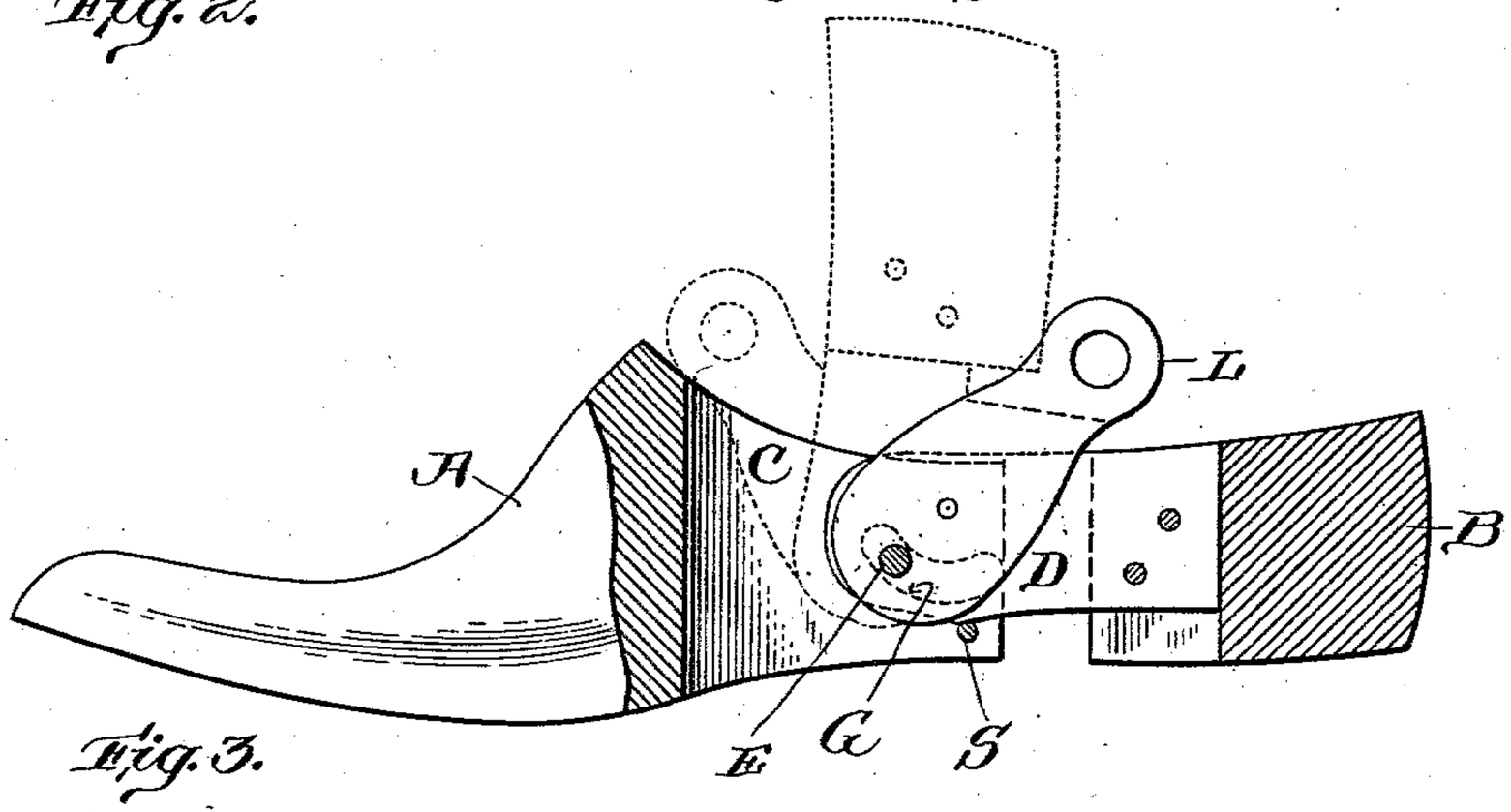

Fig. 3.

Witnesses:
Joseph T. Brennan.
Grace E. Gilbone.

Inventor:
George E. Belcher,
by Roberts & Mitchell
Attorneys.

No. 744,156. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

GEORGE E. BELCHER, OF STOUGHTON, MASSACHUSETTS.

SHOE-TREE.

SPECIFICATION forming part of Letters Patent No. 744,156, dated November 17, 1903.

Application filed May 5, 1902. Serial No. 105,868. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. BELCHER, a citizen of the United States, and a resident of Stoughton, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Shoe-Trees, of which the following is a specification.

My invention relates to shoe trees or lasts; and its object is to provide a transversely-divided shoe tree or last capable of being elongated or contracted at pleasure and also of being folded to facilitate inserting it within a boot or shoe or for like purpose.

In the accompanying drawings, illustrating an embodiment of my invention, Figure 1 is a plan view of a tree or last containing my invention, showing the last in closed or contracted position. Fig. 2 is a vertical longitudinal section of Fig. 1; and Fig. 3 is a vertical longitudinal section of a last containing my invention, showing the last in extended position, the folded position of the last being shown in dotted lines.

Like parts are indicated by like letters of reference in all the figures.

A represents the fore section, and B the heel-section, of a transversely-divided shoe tree or last. The fore section A is provided with the vertical longitudinal slot or recess C for accommodating the articulating parts hereinafter described.

D is a tongue, preferably made from a metal plate and firmly secured within a vertical slot *b* provided therefor in the heel-section B by means of rivets or in any suitable manner.

L is a lever fulcrumed within the slot C of the fore section A upon the pin or bar E. The lever L is preferably made of wood and fits tightly within the recess C, whereby it is frictionally bound, so that it tends to resist movement. The lever L is centrally divided for a part of its length by the slot *l* and straddles the tongue D, as shown in Fig. 1. The tongue D is pivoted to the arm of lever L at the point *f* by means of a pin and fits tightly within the slot *l*, whereby the lever L and tongue D are frictionally bound and tend to resist relative movement. The pivot *f* is preferably located in the arm of the lever L in or above the line of pressure between the two sections A and B as the tree tends to close or collapse, thus obviating any tendency of the last to fold up when under pressure within a shoe. It is desirable for the purpose of securing the greatest possible strength that the tongue D should be of considerable depth. Accordingly it is provided with the slot G to accommodate the pivot E, by which the lever L is fulcrumed to the fore section A.

The operation of my shoe-tree will be obvious. To close or shorten the tree, the lever L is thrown forward, as shown in Fig. 2, when the heel-section B will be drawn forward by the tongue D as the pivot therefor, *f*, swings forward about the fulcrum E of the lever. The reverse motion of the lever L causes the parts A and B to be separated and the tree to be thereby extended, as shown in Fig. 3. The articulating parts being preferably frictionally bound, as above described, the two sections of the tree will be maintained against the normal pressure within the shoe either at the fully-extended position, as shown in Fig. 3, or at any intermediate point between such position and the closed or contracted position, as shown in Fig. 2. To fold the tree, the lever L is moved to the rear. The heel-section may then be swung upward and forward, about the point E as a pivot, into the position shown in the dotted lines in Fig. 3.

S represents a stop consisting of a pin or bar secured within the fore section A transversely through the slot or recess C and located in such position that the tongue D will bear against it when the extended heel-section B is in norma lalinement with the fore section A. (See Fig. 3.) The downward folding of the sections A and B is thereby prevented. Any suitable form of stop for this purpose may be used in place of the pin S.

It will be clear that the relative locations of the fulcrum E of the lever and the pivot *f* between the lever-arm and the tongue D may be reversed and the fulcrum be between the pivot joining the lever L and the tongue D and the operative end of the lever without departing from the spirit of my invention. In such case the direction of the throw of the lever will be the reverse of that above described.

What I claim, and desire to secure by Letters Patent, is—

1. A shoe-tree comprising a fore section and

a heel-section, a lever fulcrumed to one section, a tongue projecting from the other section and pivotally connected to the arm of the lever, whereby the two sections may be bodily forced apart or drawn together actuated by the lever, and a stop adapted to prevent the downward folding of the section when in extended position, substantially as described.

2. A shoe-tree comprising a fore section and a heel-section, one of said sections being made with a recess and the other with a rigid metal tongue projecting into the recess; a slotted lever within the recess and straddling the tongue, said lever being pivotally connected at one point to the recessed section and at another point to the metal tongue of the other section.

3. A shoe-tree comprising a fore section and a heel-section, one of said sections being made with a recess and the other with a rigid slotted tongue projecting into the recess; a lever within the recess alongside the tongue; a pin extending through the slot of the tongue and pivotally connecting the lever at one point to the recessed section, and means connecting the lever at another point to the tongue.

4. A shoe-tree comprising a fore section and a heel-section, one of said sections being made with a recess and the other with a rigid slotted tongue projecting into the recess; a lever within the recess alongside the tongue; a pin extending through the slot of the tongue and pivotally connecting the lever at one point to the recessed section; a pin connecting the lever at another point to the tongue, and a stop within the recessed section for engaging the tongue of the other section to limit relative folding movement of said sections in one direction.

5. A shoe-tree comprising a fore section and a heel-section, a longitudinal slot in the rear portion of the fore section, a lever fulcrumed within said slot by means of a transverse pivot, a vertically-disposed tongue-plate rigidly secured within and extending forward from the front face of the heel-section, said plate being provided with a slot for said transverse lever-pivot, and being pivotally connected with the arm of said lever, whereby said tree may be extended or contracted under the influence of the lever and the two sections be folded one upon the other, and a stop adapted to prevent the downward folding of the sections when in extended position, substantially as described.

Signed by me at Boston this 3d day of May, 1902.

GEORGE E. BELCHER.

Witnesses:
JOSEPH T. BRENNAN,
OLIVER MITCHELL.