

Boot Tree.

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UNITED STATES PATENT OFFICE.

WARREN HOLDEN, OF PHILADELPHIA, PENNSYLVANIA.

BOOT AND SHOE STRETCHER.

Specification forming part of Letters Patent No. 12,793, dated May 1, 1855; Reissued March 12, 1872, No. 4,799.

To all whom it may concern:

Be it known that I, WARREN HOLDEN, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Device for Stretching Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal section of my improvement. Fig. 2, is a plan or top view of ditto. Fig. 3, is a side view of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in dividing a last into a number of parts and forcing outward said parts by means of a device formed of levers and a screw, so that the desired parts of the shoe or boot may be stretched as will be hereafter fully shown and described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the last, formed of four parts, (a) represents the back part, (b) represents the instep part, (c), (c) represent the two parts forming the main portion or body of the last, the latter parts being formed by a longitudinal cut.

The two parts (c) (c) are connected near the front end by a link (d), see Figs. 1 and 2, and the back ends of the parts (c) (c) are connected to the back part (a) by horizontal wires or rods (e) (e) which fit loosely in holes or apertures in the parts. The instep part (b) is connected to the back part (a) by wires (f) (f) which pass loosely or freely into holes or apertures in the part (a).

In the inner sides of the parts (c) (c) there is cut a groove or recess (g), one in each part (c) and there is also a mortise (h) made through the back part (a) which is in line with the grooves or recesses (g).

There is also a groove or recess (i) made in the inner sides of the parts (c) (c) which is rather more inclined than the groove or recess (g). The groove or recess (i) is also

in line or communicates with the mortise (h) in the part (a).

Within the groove or recess (g) or in the groove or recess (i) there is placed a device formed of jointed levers (j) (j) which are connected to each end of two nuts (k) (k), see Fig. 1, and dotted lines in Fig. 2. Through the two nuts (k) (k) a screw (l) passes, said screw having a collar (m) at its outer end. On the outer sides of the parts of the lasts there are attached knobs or projections (n), see Figs. 1 and 2.

The several parts of the lasts being connected by the rods (e) (f) and link (d) is placed within the boot or shoe, and if one side of the boot or shoe is to be stretched near the center or instep a knob (n) is attached to one of the parts (e) at the desired spot, the levers (j) (j) being inserted in the groove or recess (g). The side of the boot or shoe to be stretched is moistened and the screw (l) is turned by a wrench or key and the sides (c) (c) are forced outward by the expansion of the jointed levers (j) (j) and the moistened parts of the boot or shoe will be stretched, the moistened part giving of course while the dry opposite side is rigid or stiff and consequently will not yield materially to the pressure.

If the toe of the boot or shoe requires stretching the link (d) is disconnected at the toe of the last by removing one of the screws, and by turning the screw (l) the front ends of the parts (c) will be expanded, the parts being held by the rods (e) which if necessary may be provided with joints.

If the instep requires stretching the levers (j) (j) are placed in the groove or recess (i) one over the other, as shown in Fig. 1, and the levers then expand vertically and stretch the instep. It being understood that the levers are placed horizontally, or side by side when in the groove or recess (g) so as to expand laterally when acting upon the two parts (c) (c).

The levers (j) (j), nuts (k) (k), and rod (l) are constructed of metal. The last is constructed of wood and the knobs (n) may be of iron with small rods or spurs to

fit in recesses or holes in the outer sides of the parts. I do not confine myself however to any particular material.

A general stretching may be given the
5 boot or shoe, by removing all the knobs (*n*).

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

Dividing the last A into a number of parts (*a*) (*b*) (*c*) (*c*) connected by rods
10 (*e*) (*e*) (*f*) (*f*) and a link (*d*) and forcing

said parts outward so as to stretch the boot or shoe, at any desired part, or at all parts, by means of the device composed of the jointed levers (*j*) (*j*) nuts (*k*) (*k*) and rod (*l*) as herein shown and described.

WARREN HOLDEN.

Witnesses:

LEMUEL STEPHENS,
GEO. I. BECKER.

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