

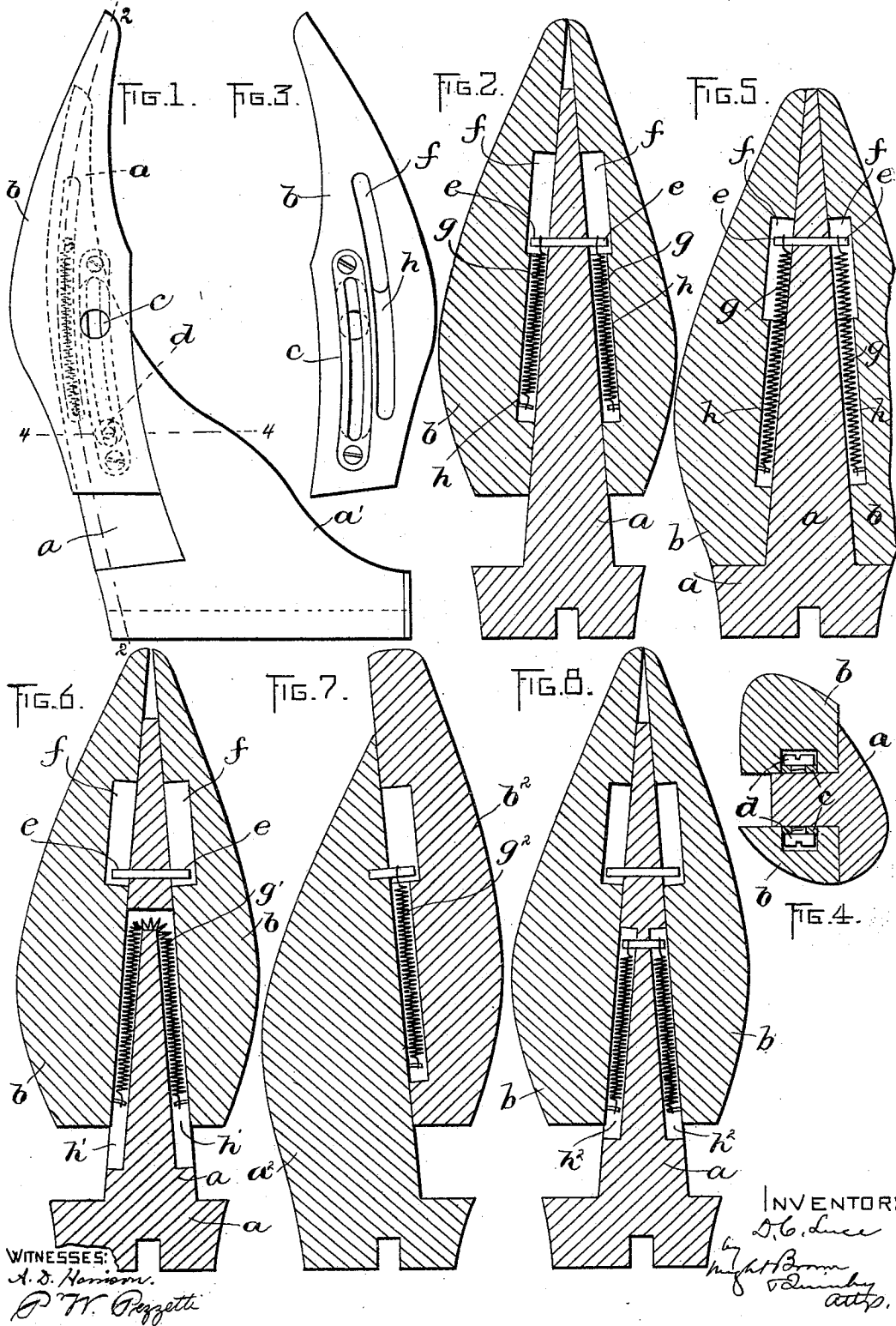
No. 618,700.

Patented Jan. 31, 1899.

D. C. LUCE.
BOOT TREE.

(Application filed Nov. 8, 1897.)

(No Model.)



UNITED STATES PATENT OFFICE.

DON CURTIS LUCE, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO O. A. MILLER, OF SAME PLACE.

BOOT-TREE.

SPECIFICATION forming part of Letters Patent No. 618,700, dated January 31, 1899.

Application filed November 8, 1897. Serial No. 657,749. (No model.)

To all whom it may concern:

Be it known that I, DON CURTIS LUCE, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain
5 new and useful Improvements in Boot-Trees, of which the following is a specification.

This invention relates to that class of boot or shoe trees in which the foot-piece is composed of a plurality of longitudinal sections, one of which is affixed to the body or instep
10 portion of the foot-piece, while another (one or more) is movable longitudinally upon the fixed section, the sections being formed and connected so that a movement of the movable section forward or toward the toe end will simultaneously elongate the foot-piece and
15 decrease its width, while an opposite movement of said movable section will simultaneously shorten the foot-piece and increase its width. A foot-piece of the construction thus
20 generally described is shown in Letters Patent of the United States No. 441,115, dated November 18, 1890.

The present invention has for its object to
25 provide a foot-piece of this character in which the movable section or sections shall automatically assume the position required to elongate and reduce the width of the foot-piece and shall be yieldingly maintained in said position, so that when a boot or shoe is removed
30 the foot-piece will automatically assume its narrowest form, permitting the removal of the boot or shoe with less strain upon the upper than heretofore, the foot-piece being normally held in shape to readily enter a boot or shoe and to be widened by the operation of
35 placing the boot or shoe upon it.

The invention consists in the improvements which I will now proceed to describe and
40 claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of the foot-piece of a boot or shoe tree embodying my improvement. Fig.
45 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents an elevation showing the inner side of one of the movable sections shown in Figs. 1 and 2. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents a view
50 similar to Fig. 2, showing the movable sections retracted to widen the foot-piece. Fig. 6 rep-

resents a view similar to Fig. 2, showing a modification hereinafter referred to. Fig. 7 represents a sectional view showing the foot-piece having but one movable section. Fig. 55 8 represents another modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings and referring first to Figs. 1, 2, 3, 4, and 5, *a* represents the fixed section
60 of the foot-piece, the same being formed on the body portion, which includes the instep *a'*, and is provided with means for detachable connection with the heel-section of the tree. (Not shown.)
65

b b represent two movable sections, which are adapted to slide upon the fixed section *a* and may be engaged therewith by any suitable means, the engaging means here shown being substantially the same as those shown
70 in the above-mentioned Letters Patent, No. 441,115—that is to say, the body-section is provided with recesses in its sides in which the side sections are fitted to slide, the side sections being provided at their inner sides
75 with slotted plates *c*, with which are engaged headed screws *d*, affixed to the body-section. Pins *e e*, projecting from the forward portion of the body-section, enter slots *f f* in the side sections. The slots in the plates *c*
80 and the slots *f f* are suitably curved, so that they coöperate with the screws *d* and pins *e* in properly guiding the sections *b b* in their longitudinal movements, all as set forth in the patent above mentioned.
85

The fixed section *a* is wedge-shaped or has its sides inclined at different angles, so that when the sections *b b* are moved forward, as shown in Figs. 1 and 2, the foot-piece is elongated and its width is reduced to the minimum, and when said sections *b b* are moved
90 backwardly, as shown in Fig. 5, the foot-piece is shortened and has its maximum width.

In carrying out my invention I provide means for yieldingly maintaining the foot-piece in its adjustment of minimum width,
95 so that when the heel portion of the boot or shoe is released the foot-piece will automatically contract in width, and will thus release the fore part and permit its ready removal.
100

The preferred embodiment of my inven-

tion is shown in Figs. 1 and 2, in which $g g$ represent helical springs located in slots $h h$, formed in the inner sides of the sections $b b$, the forward ends of said springs being secured to the fixed section a and their rear ends to the movable sections $b b$. The stress of the springs $g g$ normally forces the sections $b b$ from the position shown in Fig. 5 to that shown in Figs. 1 and 2, thus reducing the width of the foot-piece.

In Fig. 6 I show a single spring g' , the central portion of which is bent over an abutment in the fixed section a , the end portions of said spring being located in slots $h' h'$, formed in the sides of the fixed section a . The ends of the spring g' are engaged with the movable sections $b b$.

In Fig. 7 I show a foot-piece composed of a body-section a^2 , which constitutes one side of the foot-piece, and a single movable section b^2 , which constitutes the other side of the foot-piece, the meeting surfaces of said sections being inclined, so that longitudinal movements of the movable section will reduce and increase the width of the foot-piece. In this case a spring g^2 is employed, connected at one end with the section a^2 and at the other end with the section b^2 .

In Fig. 8 I show a construction similar to that shown in Fig. 2, excepting that the spring-receiving slots (lettered h^2) are formed in the sides of the fixed section a .

My improvement above described enables a boot or shoe to be easily and quickly drawn onto the foot-piece and without strain on the upper, the foot-piece being widened only after the toe portion of the upper has been drawn against the toe end or ends of the movable section or sections, so that there is no objectionable longitudinal strain on the upper during the drawing-on operation. The foot-piece of a tree usually stands in a vertical position with the toe portion uppermost. Hence the movable sections if not yieldingly raised in accordance with my invention normally assume the position shown in Fig. 5, and the upper has to be drawn onto the foot-piece when it is in its adjustment of maximum width, thus in many cases subjecting the upper to an undesirable

strain, particularly when it has a laced or buttoned top. My improved tree permits the ready application of boots or shoes of the character last mentioned.

My improvement also facilitates the operation of removing a boot or shoe, the foot-piece automatically narrowing and forcing the boot or shoe forward from the fixed section when the heel is released.

I do not limit myself to the details of construction above described and may variously modify the same without departing from the spirit of my invention.

I claim—

1. A foot-piece for a boot or shoe tree, comprising a plurality of longitudinal sections having meeting faces which are obliquely arranged, so that the foot-piece may be simultaneously elongated and narrowed, or simultaneously shortened and widened, and means for yieldingly elongating and narrowing the foot-piece, whereby it automatically assumes its narrowest form when a boot or shoe is removed, and is adapted to be widened by the operation of applying the boot or shoe.

2. A foot-piece for a boot or shoe tree, comprising a plurality of longitudinal sections having meeting faces which are obliquely arranged, so that the foot-piece may be simultaneously elongated and narrowed, or simultaneously shortened and widened, and a spring arranged to normally maintain the foot-piece in its elongated and narrowed form.

3. A foot-piece for a boot or shoe tree, comprising a wedge-shaped central section, two side sections movable thereon lengthwise of the last and guided thereby in paths which are oblique to each other, and a spring or springs arranged to normally maintain the side sections at the forward extreme of their movement.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of October, A. D. 1897.

DON CURTIS LUCE.

Witnesses:

C. F. BROWN,
A. D. HARRISON.