

(No Model.)

H. L. LEE.  
BOOT TREE.

No. 523,535.

Patented July 24, 1894.

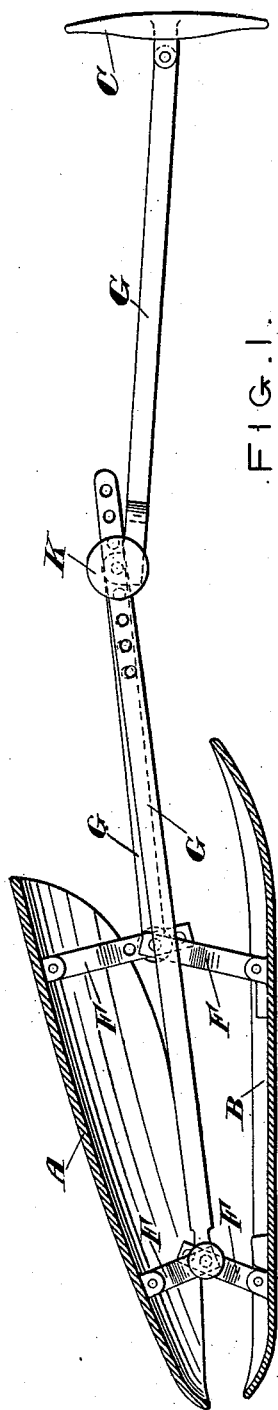


FIG. 1.

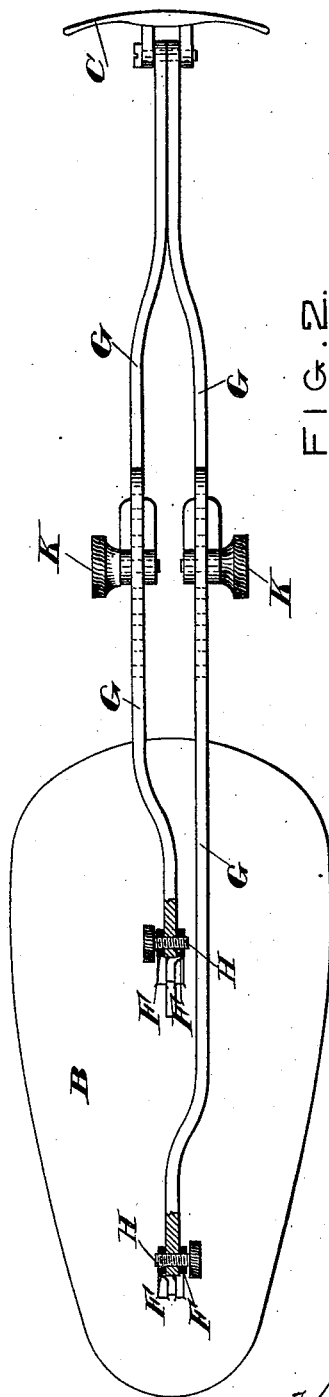


FIG. 2.

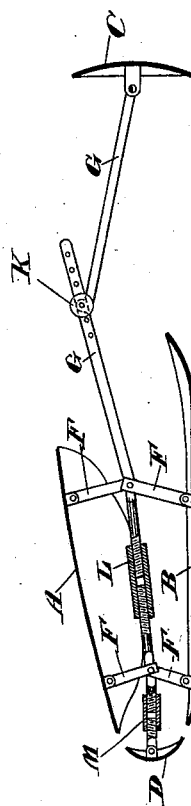


FIG. 3.

Witnesses:

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Inventor:

*Henry Louis Lee*

By *Richard Lee*  
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# UNITED STATES PATENT OFFICE.

HENRY LOUIS LEE, OF LONDON, ENGLAND.

## BOOT-TREE.

SPECIFICATION forming part of Letters Patent No. 523,535, dated July 24, 1894.

Application filed December 9, 1893. Serial No. 493,250. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY LOUIS LEE, residing at London, England, have invented an Improved Boot Tree or Stretcher, of which the following is a specification.

My invention relates to the means employed for stretching boots when not in wear, and consists of an improved tree which is cheaply made, of great efficiency and simplicity, and is less cumbersome for transport, being of small weight and capable of being packed into small compass.

In order that my invention may be the better understood, I now proceed to describe the same in relation to the drawings hereto annexed, and to the letters marked thereon.

Figure 1 is an elevation of my apparatus. Fig. 2 is a plan of the same with the top plate removed. Fig. 3 shows a modification of Fig. 1, to a smaller scale.

The essence of my apparatus common to all modifications shown, is that the stretching effect of the various plates or molds inside the foot or leg of the boot is produced by hinged, or pivoted, pairs of toggle joints, which are forced by the pressure of the hand to lie nearly in a line to one another, thus producing a greatly increased outward thrust toward their ends or extremities.

A is the upper plate of metal or any suitable material, molded to suit the required shape of the upper part of the boot, and in Figs. 1, 2 and 3, it is combined with a sole plate B and a heel plate C. In Fig. 3 a special toe plate D is added to the combination; and in Fig. 4, the sole plate may be dispensed with, as shown, while other leg plates E E, are added to fit the leg of a long riding, Wellington, or military boot. In each case these plates are connected together by toggle joints F F pivoted or hinged at the plates, and also to one another where they meet. In Figs. 1 and 2 the said toggle joints F F are pivotally connected at their center pivots to another pair of horizontal toggle levers G G, which are pivotally attached at the other end to the heel plate C. Or these toggle joints G G may be duplicated to bend both up and down, and their centers may be connected by a right and left handed screw to draw them together.

The pins H H may be readily taken out, so that the upper plate A can be easily removed for the substitution of another one if desired.

The ends of the toggle joints G G, and the end of one or more of the toggle joints F are perforated with a series of holes, so that their length may be regulated at will to put any desired strain upon either the toe end or the instep end of the plate A before they are brought down to their final horizontal position, beyond which they cannot go, as the tail of one lever laps upon the other and forms a detent.

The pivots K may also be utilized as screw clamps to fix the toggle joints G in any desired angular position to one another. By removal of one of the screws K, the plates A, C, may be collapsed, and the other levers G, and plate C, folded over on the plate B for transport.

In Fig. 3 a single central adjustable bar L connects the central pivots of the toggle joints F F, and is continued by an adjustable part M to a toe piece D.

The rear set of toggles F F is connected by the farther pair of toggle joints G G to the heel piece C, the whole stretching action of the tree being in this case effected by the depression of a single pair of toggle joints G.

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

1. In combination in a boot tree, the opposing upper and sole plates A B, the front and rear pairs of toggle arms F F extending between the plates, the heel plate C arranged transversely of the pair of plates A B and the toggles G G extending horizontally from the heel plate C and connected with the toggles between the plates A B, substantially as described.

2. In combination in a boot tree, the opposing upper and sole plates, the front and rear pairs of toggles F F, the adjustable connections L between them, the heel plates C, the toe plate D, the toggle levers extending from the heel plate to the toggles F and the adjustable connection M extending from the toe plate to the toggles F, substantially as described.

3. In combination, in a boot tree, the up-

per and sole plates, the toggles F between them, the heel plate, the toe plate and the horizontally disposed connections between the heel and toe plates and the toggles F  
5 comprising the toggle levers G G and the adjustable connections M, substantially as described.

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

HENRY LOUIS LEE.

Witnesses:

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CHARLES H. CARTER.