R. TURNEAURE.

Boot-Trees.

No. 164,496. Patented June 15, 1875.

Fig. 1.

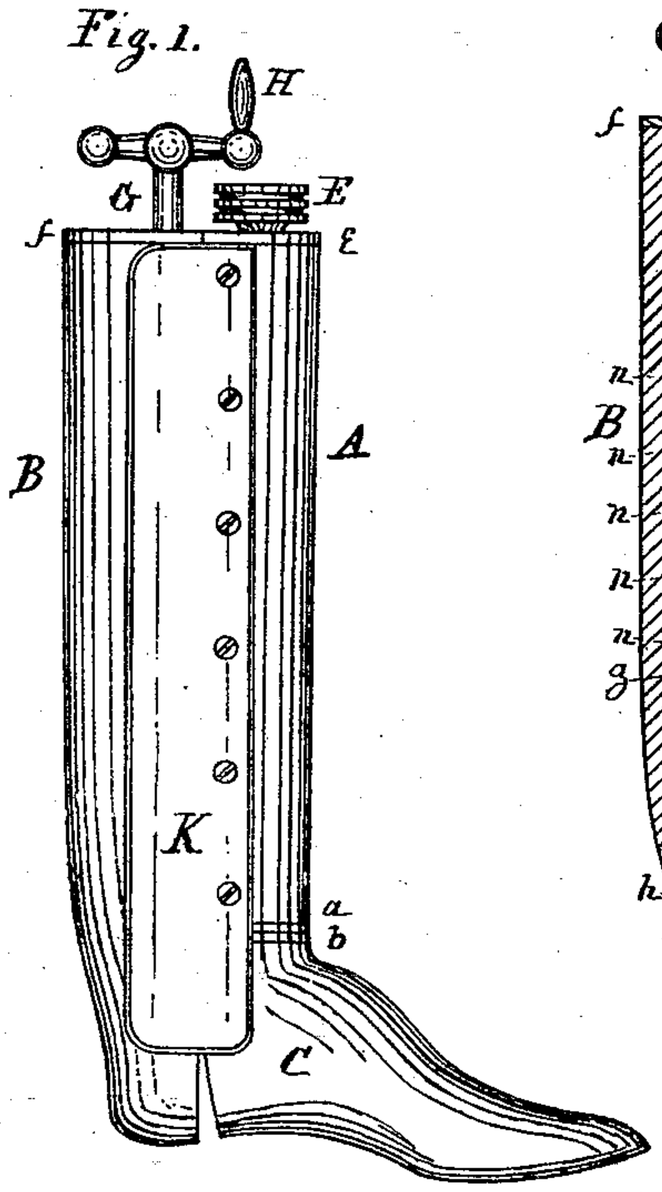


Fig. 2.

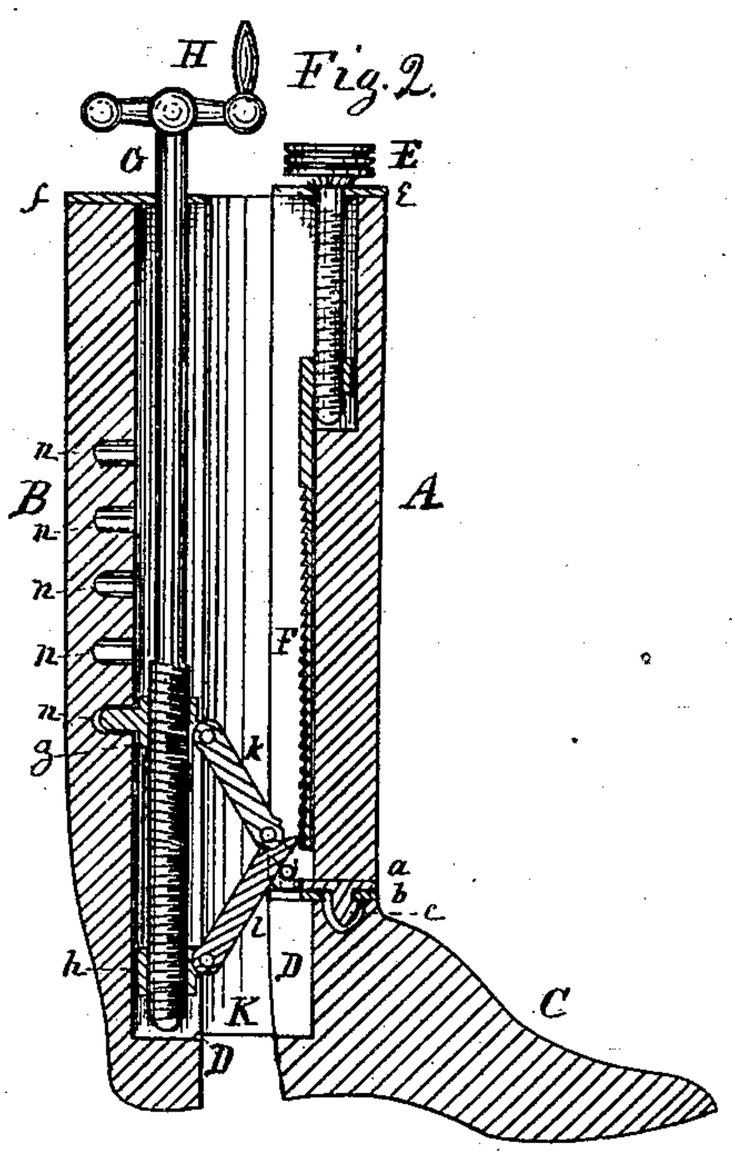


Fig. 3.

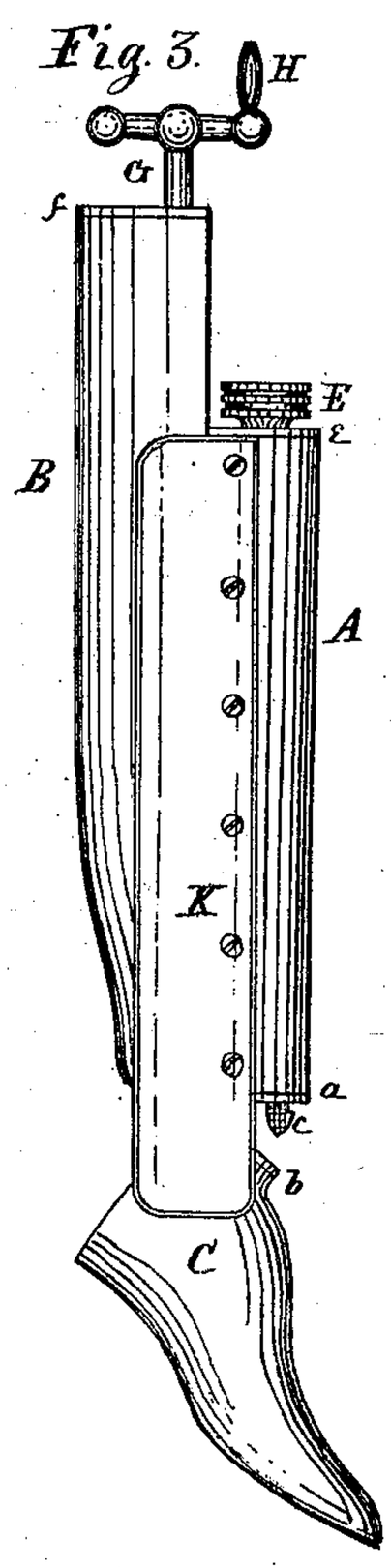


Fig. 4.

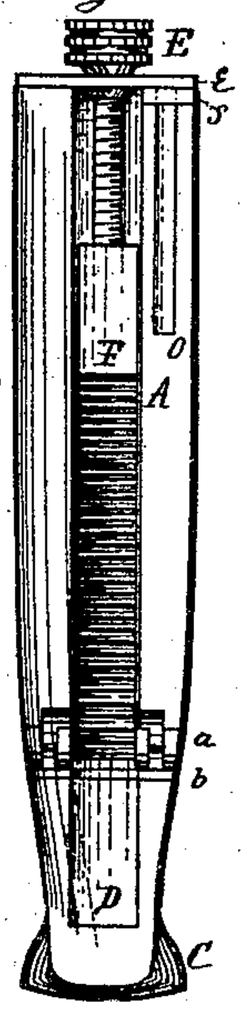


Fig. 5.

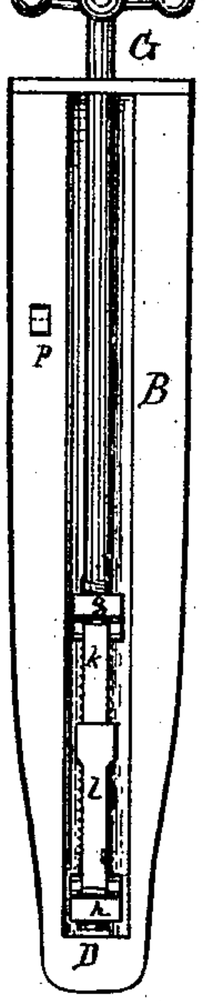


Fig. 6.

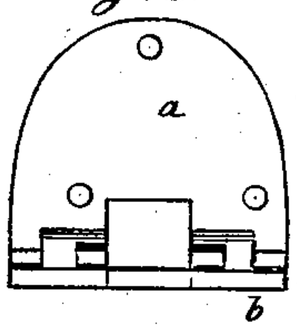
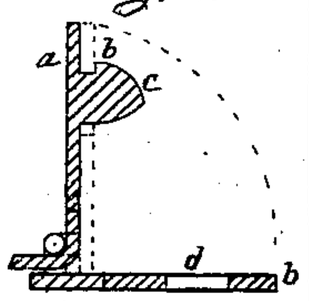


Fig. 7.



Witnesses.

Jacob Behel.

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UNITED STATES PATENT OFFICE.

ROBERT TURNEAURE, OF BELVIDERE, ILLINOIS.

IMPROVEMENT IN BOOT-TREES.

Specification forming part of Letters Patent No. **164,496**, dated June 15, 1875; application filed May 3, 1875.

To all whom it may concern:

Be it known that I, ROBERT TURNEAURE, of Belvidere, in the county of Boone and State of Illinois, have invented a Boot-Tree, of which the following is a specification:

The object of my invention is to provide a boot-tree of such construction as will more fully adapt it to the different sizes of boots, and the different forms peculiar to different manufactories. To this end, and other improvements which I now proceed to describe more fully, I have constructed the boot-tree represented in the accompanying drawings, in which—

Figure 1 is an elevation. Fig. 2 is a vertical central section lengthwise of the foot. Fig. 3 shows the tree adjusted to be passed into the boot. Fig. 4 shows the rear face of the shin or front portion of the tree. Fig. 5 shows the front face of the back or rear portion of the tree. Figs. 6 and 7 show the hinge which connects the foot to the shin portion of the tree.

In the figures, A represents the shin, B the back, and C the foot, of a boot-tree, the contour of which is substantially the same as those now in general use. The inner faces of the back, shin, and foot are ground centrally lengthwise nearly their entire length, as at D. The foot C is connected to the shin A by a detachable hinge, consisting of plates *a* and *b*, provided with a knuckle. The plate *a* is provided with a catch, *c*, to enter an opening, *d*, in plate *b*. The plate *a* is secured to the lower end of shin A, and plate *b* to the upper portion of foot C. By sliding the foot C slightly forward it will be detached from the catch *c*, when it can be turned into the position seen in Fig. 3, which will permit the tree to be passed into the boot, and the foot will assume the position seen in Figs. 1 and 2, and be locked in position by means of the catch device described, by turning the foot until the hinge comes into the position seen in Figs. 6 and 7. The foot may then be detached from the shin by sliding it upward and rearward, and another foot of proper size substituted. The shin A is fitted with a plate, *e*, secured to its upper end, which furnishes a bearing for screw E, in which it is secured by a collar on the screw-rod on the under side of the plate. F is a plate fitted to slide in the groove D, its rear face is provided with ratchet-teeth, and its upper end is fitted with a screw-nut to receive the screw E, by means of which the ratchet-plate F may be moved up or down in the groove, as circumstances may require. The back B is fitted with a plate, *f*, secured to its upper end, and is fitted to receive the screw-rod G, the lower end portion of which is provided with a screw-thread, divided into two portions, one being a right-hand and the other a left-hand screw, and is fitted with suitable screw-nuts *g* and *h*, to which are hinged the jointed toggle-levers *k* and *l*; the lever *l*, being longer than lever *k*, is fitted with a catch to engage with the teeth of the ratchet-plate F. The screw-nut *g* is provided with a stud to enter the holes *n* in the bottom of the groove D in the back B, which holds it in position, and provides for the vertical adjustment of the toggle-levers to balance the expanding force, so as to properly fill the boot, or to change the center of the expansive force to different portions of the boot, as may be required. H is a wrench, by means of which the screw-rod G is operated. K are plates, secured to the shin portion, and overlap the joint between the shin and back. The shin A provided with a groove, *o*, the upper end of which is covered with a plate, *s*. A hook-stud, *p*, is secured in the back to slide in groove *o* in the shin, and when the back is drawn up the hook portion of the stud *p* will slide under plate *s*, and hold the parts A and B together, and limit the upward movement of the back B.

In using the boot-tree, the back B is first drawn up until the hook-stud *p* comes in contact with plate *s*. The foot is then shoved forward, to disengage it from the catch *c*, and turned downward, when the tree will be in the position as represented in Fig. 3, and prepared to be passed into the boot, when the foot will turn into the foot of the boot, and be locked in position. The back is then shoved down, when the tree will be in the boot in the position represented in Fig. 1.

In turning the screw-rod G to the right, by means of the wrench H, the toggle-levers, through their connection with the screw-nuts

g and *h*, will be made to rise and come in contact with the ratchet-plate F, engaging with the ratchet-teeth therein.

The continued turning of the screw will force the parts A and B apart, and the screw-nut *g*, being held in position by means of the stud engaging with the back B in holes *n*, will cause the shin A, with the foot C, to slide upward and fill the instep of the boot.

Should the upward movement of the shin and foot be too great or too small, it may be lessened or increased by means of the screw-nut E, the turning of which will cause the shin and foot thereto attached to slide up or down as the screw is turned to the left or right.

I claim as my invention—

1. The detachable hinge-joint and locking device, in combination with the shin A and foot C, substantially as and for the purpose set forth.

2. The combination of the toggle-jointed levers, screw-rod G, and ratchet-plate F, for the purpose of expanding a boot-tree, and forcing the shin A and foot C upward during the expansion, substantially as set forth.

3. The combination of the screw-rod G and toggle-levers, one of which is adapted to engage with the teeth of the ratchet-plate F, by means of which both screw-rod and levers are made vertically adjustable, substantially as shown and described.

4. The combination of the screw E, ratchet slide-plate F, and toggle levers, substantially as described, for the purpose of forcing the shin A and the foot upward, or relieving the upper pressure exerted on the shin portion of the tree by the expanding device, as set forth.

ROBERT TURNEAURE.

Witnesses:
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