

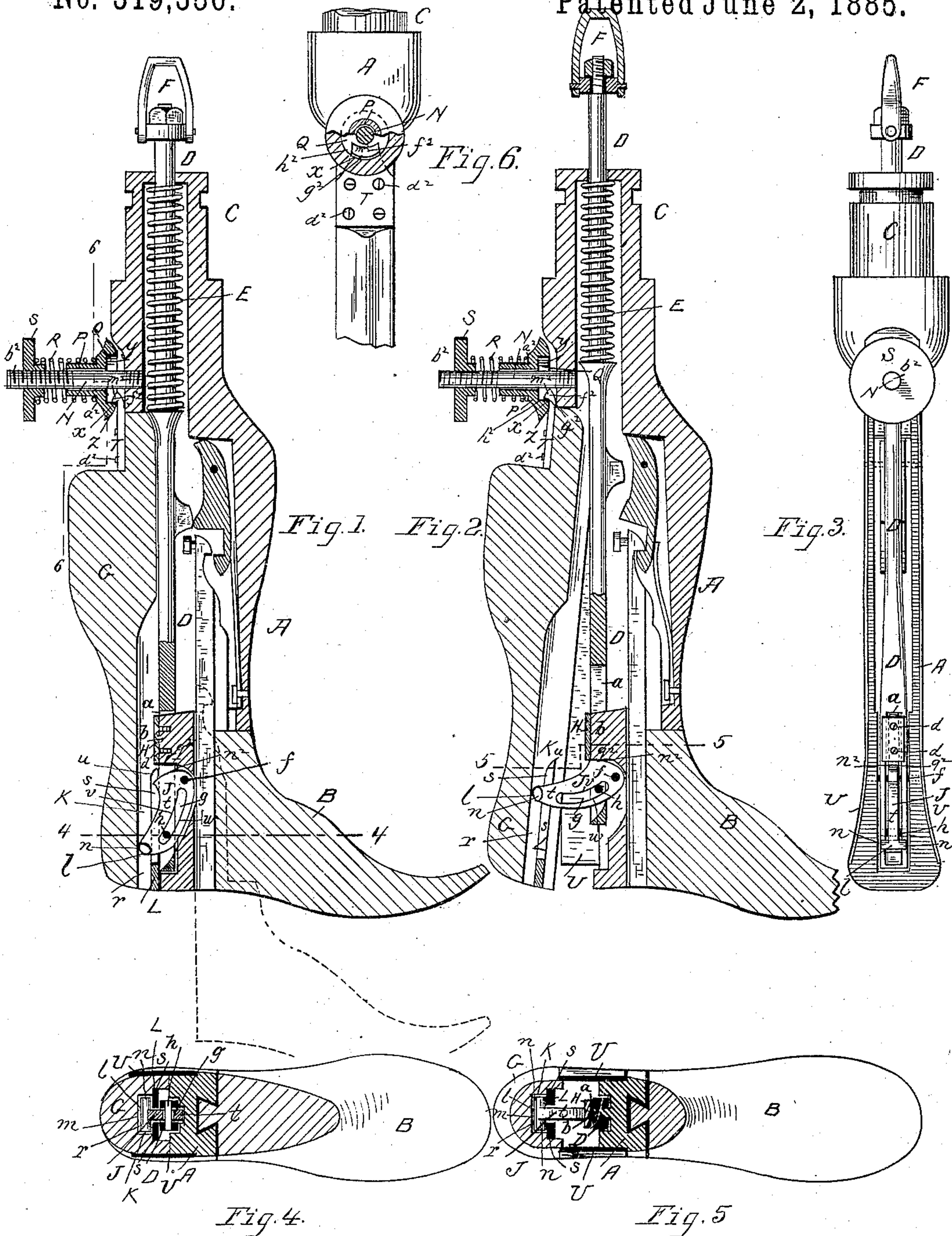
(No Model.)

A. D. TYLER, Jr.

BOOT TREE.

No. 319,356.

Patented June 2, 1885.



Witnesses

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UNITED STATES PATENT OFFICE.

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BOOT-TREE.

SPECIFICATION forming part of Letters Patent No. 319,356, dated June 2, 1885.

Application filed March 14, 1884. Renewed November 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, ABEL D. TYLER, JR., 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 full, clear, and exact description.

This invention relates to mechanism for dis-
tending the back portion of a boot or shoe tree
10 from its body portion, and also to the manner of attaching the back portion to the body portion; and the invention consists in arranging the center rod of the boot or shoe tree at or
near its lower end, to engage with the back
15 of the boot or shoe tree in such manner that moving the center rod in one direction—that is, outward—will force the heel or back portion away from, and moving said center rod
in the other direction—or inward—will cause
20 the heel or back portion to return to its closed or normal position on the boot or shoe tree body, all substantially as hereinafter fully described; and it also consists in a novel mode
of securing the back or heel portion to the
25 body portion, so that it can be easily attached and detached, all substantially as hereinafter described, reference being had to the accompanying plate of drawings, in which—

Figures 1 and 2 are vertical sections from
30 the rear to the front of a boot or shoe tree having this invention applied thereto, Fig. 1 representing the back or heel portion in its closed or normal position on the tree, and Fig. 2 in its open or distended position. Fig. 3 is a
35 rear view of the tree with the back removed; Figs. 4 and 5, views in cross-section on lines
4 4 and 5 5, respectively, of Figs. 1 and 2; Fig. 6, a detail view, to be hereinafter referred to.

In the drawings, A represents the body of
40 a boot or shoe tree; B, the foot-piece secured thereto in any suitable manner; C, the journal by and on which the boot or shoe tree is supported and turned; D, the center rod or
iron; E, its spring, and F its eye-piece, by
45 which the center rod is connected to suitable mechanism for its operation, and G the back piece, all constructed and arranged for operation as usual in boot and shoe trees, except
as to this invention, and needing no particular
50 description herein.

a is a longitudinal slot near the lower end

of the center rod, D, loosely fitting over a vertical rib or tongue, *b*, of the body portion, said rib *b* and slot *a*, as the rod is moved up
and down in the operation of the boot-tree, 55
serving as a guide to the lower end of the rod D, for the purposes of this invention. The rod is prevented from accidental escape from the rib *b* by a plate, H, secured thereto by
screws *d*, and extending laterally over the rod, 60
but leaving the rod free to be moved vertically.

Pivoted at *f* to the body A is a cam or lever, J, arranged to swing vertically thereon, and projecting back through the slot *a* of the rod D, 65
and in which it can freely move, and engaging by its curved slot *g* with a cross-pin, *h*, firmly secured to the rod, said plate by its outer end, *l*, being arranged to bear against the rear
or wall *m* of a recess, K, in the front part of 70
the back piece, G. This lever or cam J has on its outer end, *l*, right-angular extensions
n, one each side, substantially round in cross-section, and which lie in a groove, *r*, between
the rear wall, *m*, of the recess K and the two 75
arms *s s* of a plate, L, secured to the back G at its lower end, the body part *t* of the cam or lever J being of such a thickness as to move
freely between the two arms *s s* of the plate L. The recess K extends upward above the 80
upper end, *u*, of plate L, so that when desired the cam or lever J can be removed from its engagement with the back by passing it over
the upper ends, *u*, of the plate L, the rod D
first having been removed from its guiding- 85
rib *b*.

In the operation of this boot or shoe tree, after the boot or shoe is attached thereto, the tree being in its normal position, as shown in Fig. 1, from the tension of the spring to dis- 90
tend the back, in order to firmly hold the boot or shoe for the proper work upon it, the center rod is pulled out in the usual manner against its spring, and as it moves outward its pin *h* will press against the upper side, *v*, of the slot 95
g of cam J, thus pulling and swinging it in a vertical direction. Its end *l* presses against the rear wall, *m*, of the back and forces it backward at such place sufficiently to firmly hold the boot on the tree, as shown in Fig. 2, the 100
rod being secured from backward movement in the usual manner.

To remove the boot or shoe after being so applied to the tree, release the center rod, and by the reaction of its spring E the rod will be forced inward, and its pin h , then bearing 5 against the lower side, w , of the slot g , forces said cam downward, swinging it on its pivot, which, by its arms n bearing and pulling against the plate L, will draw the back to its closed position, as shown in Figs. 1 and 4. Thus in 10 both of these movements the back is moved and controlled by the pin h acting on the cam J by its curved slot g . To allow for these movements of the back, it is hinged at x to the body A, as will now be described.

15 N is a pin screwing into the body A of the tree, or in any suitable manner secured thereto at right angles, and having a loose collar or sleeve, P, arranged to slide freely thereon, and having on its inner end, y , which is enlarged, as shown, a circular depression or recess, Q, from which recess the outer end is beveled, as shown in cross-section at z , Figs. 1 and 2.

Over the collar or sleeve P is a spiral spring, 25 R, confined between the enlarged portion a^2 and a screw-nut, S, arranged to screw onto the end b^2 of the pin N, and by which screw-nut the force exerted by the spring R to hold the collar against the tree is regulated as desired. 30

Attached by screws d^2 , or in any suitable manner, to the upper end of the back G is a plate, T, having an outwardly-projecting hooked end, f^2 , which hooked end f^2 is arranged to lie within the recess Q in collar P, 35 and engage by its shoulder g^2 with the edge or shoulder h^2 of the recess Q.

To attach the back piece to the tree-body A, it is first placed within the two longitudinal side plates, U, one on each side of the 40 body portion, so that the end l of cam J will pass into the recess K above the end u of the plate L, and then pushing up the back piece until the hooked end f^2 of the plate passes under the beveled edge l^2 of the collar, pressing it back against its spring, and enters the 45 recess Q, where it will be held by the engagement of its shoulder g^2 with the shoulder h^2 of the collar P, the spring R holding the collar 50 firmly to such engagement. The outer end of the plate T is beveled, as at m^2 , to facilitate

insertion of such end under the collar P. This mode of attaching the back of the body portion, while it serves to securely hold the back G from accidental detachment, allows such 55 back to be easily attached and detached at pleasure, as by simply pressing the collar back against its spring R the back can then be moved downward and detached from the body portion. 60

A mechanism such as herein described and shown as applied to a boot or shoe tree for the purpose of distending the back from the body portion is simple, practical in its operation, is not liable to get out of order, is positive in both movements of the center rod, 65 and requires no special attention of the operator.

The limit of upward movement of the cam J and the distension of the back is secured 70 by the abutment of the edge n^2 of the cam against the shoulder q^2 , as shown in Fig. 2.

The slot g , in lieu of being curved, can be straight; but it is preferable to have it curved.

Having thus described my invention, what 75 I claim is—

1. In combination with the body of a boot or shoe tree and its center rod, D, arranged to slide therein, of a lever, J, pivoted to said body and having a slot, g , adapted to engage 80 with a pin, h , of said rod, and by its side arms, n , adapted to engage with a groove in the back, all substantially as and for the purpose specified.

2. In combination with the back of a boot 85 or shoe tree provided with a shouldered catch, f^2 , a spring-catch, P, attached to the body, substantially as and for the purpose specified.

3. In combination with the back of a boot or shoe tree provided with a shoulder-catch, 90 f^2 , a collar, P, having a shouldered recess, Q, and arranged to slide on a pin, N, provided with a spring, R, and screw-head S, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my 95 hand in the presence of two subscribing witnesses.

ABEL D. TYLER, JR.

Witnesses:

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