R. TURNEAURE.
Shoe-Trees.

No. 201,210. Patented March 12, 1878.

Fig. 1.

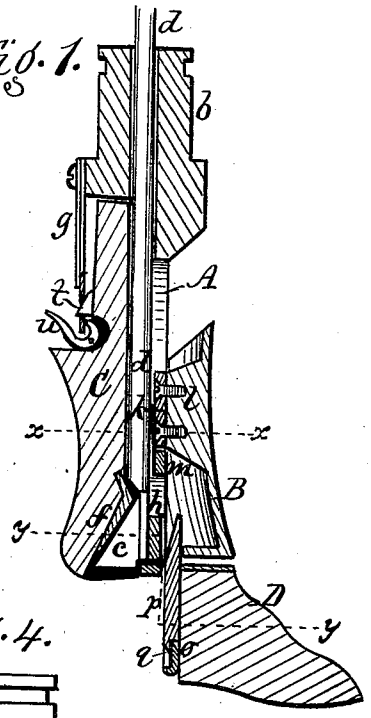


Fig. 2.

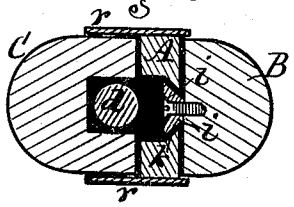


Fig. 3.

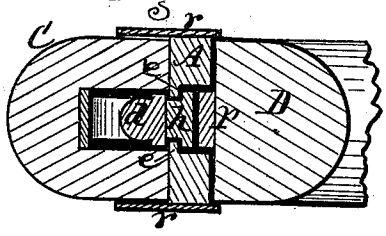


Fig. 4.

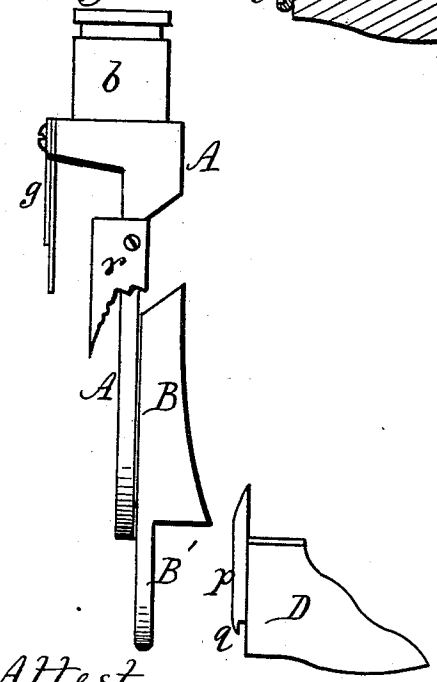


Fig. 5.

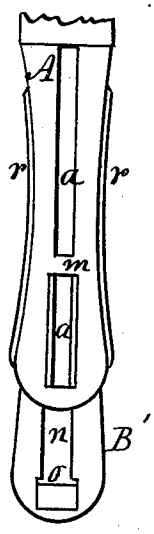


Fig. 6.

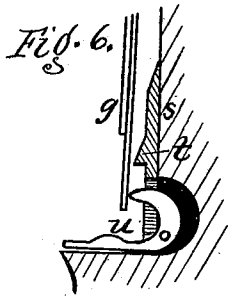
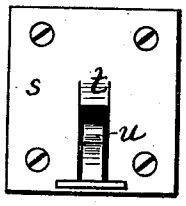


Fig. 7.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SHOE-TREES.

Specification forming part of Letters Patent No. **201,210**, dated March 12, 1878; application filed August 27, 1877.

To all whom it may concern:

Be it known that I, ROBERT TURNEAURE, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Shoe-Trees; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central longitudinal section. Fig. 2 is a cross-section in line *x x*. Fig. 3 is a cross-section in line *y y*. Fig. 4 is a side or edge elevation of the center bearing, the front and the foot in skeleton form. Fig. 5 is a back elevation of the same parts. Figs. 6 and 7 are a section and elevation, respectively, of the locking plate and cam which secure the back piece to the center bearing.

My improvement relates to devices for treeing shoes; and the invention consists in the construction and arrangement of parts hereinafter more fully described and definitely claimed.

The tree consists of four general parts which are common to other trees, viz: first, a center bearing, A, of iron, to which the other parts are connected; second, the front B, which slides up and down on the center bearing; third, the back C, which is attached to, but removable from, the center bearing; and, fourth, the foot D, which is connected with, but also removable from, the front B. The upper end of the center bearing is mounted in a socket resting on a table, as usual, so as to be properly manipulated.

The center A is a flat plate of iron, somewhat enlarged at its bottom, and is provided with a central longitudinal slot, *a*, Fig. 5, closed at its lower end, and extending as high as the journal *b*, which connects with the table. At the lower extremity this slot is widened, and a way, *e*, is thereby formed, in which slides the cam *c*, for expanding the tree. This cam is of the usual inclined or triangular form, and is attached to a rod, *d*, which passes centrally up through the top of the center bearing, and is connected with any suitable operating devices.

The inclined face of the cam rests against an angular iron lug, *f*, secured in the lower end of the back C, and forming an inclined plane. As the cam is drawn up it forces the bottom of said back outward, and thus expands the tree. When it is forced down, the parts contract again by the pressure of the spring *g*, which is attached to the center bearing, and presses inward against the top of the back.

The cam is held to its way in the slot *a* by a block or gib, *h*, which is screwed to its back, embracing the way *e*. (Shown in Fig. 3.) The cam is gaged in its up and down movements by suitable stops.

The upper end of slot *a* has dovetailed ribs *i i*, Fig. 2, on the front side, in which slides a block, *k*, screwed to a lug, *l*, on the inner side of the front piece. By this means the front B is permanently attached to the center A, but is allowed to slide up and down. It is gaged in the down movement by striking a stop, *m*, in slot *a*, and in its up movement by its top striking the journal portion of the center bearing.

The heel portion of the tree is formed at the bottom of the back C. The lower end of the front B has an extension, forming a flat plate, B′. In this plate is a longitudinal slot, *n*, similar to *a*. It is closed at the bottom, and on the front side is a sharp-edged catch, *o*, formed by halving the metal. (Shown most clearly in Fig. 1.) On the back of the foot D is screwed a metal plate, *p*, which extends some distance above the foot, and has at its lower end an offset sharp-edged catch, *q*, similar to *o*, but standing reversely to it. The foot is connected with the front piece by inserting the upper end of the plate *p* in the socket at the bottom of the front piece, then dropping the plate in the groove *n*, when the two catches *o q* engage, and the foot cannot be removed without raising it. This arrangement dispenses with the use of locks, springs, and similar holding devices.

The ordinary side guides *r r* are employed, and the back piece slides up between them. The spring *g*, in addition to pressing the back forward into place, serves the additional pur-

pose of locking the back and holding it in position by the employment of the following additional parts: *s* is a plate screwed to the back in line with the spring. *t* is a hook formed on the same, which strikes into a slot formed in the spring. *u* is a cam pivoted in the lower end of the plate, its upper end resting against the inner side of the spring. The spring, by its natural elasticity, strikes over the hook and fastens the back piece in place; but when pressure is applied on the cam it throws the spring off from the hook, and the back piece can then be removed.

In use, the foot is first inserted in the front piece, and the front piece is then drawn down into the position shown in Fig. 1. The shoe to be operated upon is placed over the foot, which is then slid up, bringing the heel of the shoe over the back piece, and the tree is then expanded by drawing up the rod *d*, as before described.

This invention differs from others in having the slot of the center piece extend all the way up, and furnish a bearing both for the expanding-rod and cam and the front sliding piece of the tree; also, in making the front piece of the tree a permanent attachment to the center piece, and arranging it so that it can slide bodily downward, carrying the foot with it, some distance below the rear portion, thereby enabling the foot to be inserted squarely into the shoe; also, in constructing the front piece with the slotted extension B′, and employing, in connection therewith, the plate *p* on the back of the foot, by which the foot is readily connected in place, and can be detached at pleasure, and always retain its stiff and square position for the placing of the shoe thereon; and, furthermore, in the combination, with the spring *g*, of the hook *t* and cam *u*, by which the back piece is secured and pressed up to place.

Having thus described my invention, I do not claim, broadly, a spring for pressing the back piece up to place; but

I claim—

1. In a shoe-tree, as described, the center piece A, constructed with the slot *a* extending its whole length, and forming a bearing for the expanding-cam *c* on one side, and the front piece B on the other, as shown and described, and for the purpose specified.

2. In a shoe-tree, the combination, with the center piece A, provided with the longitudinal slot *a*, of the front piece B, having a block, *k*, sliding up and down in the groove, said front piece being permanently attached, but capable of sliding sufficiently to bring the foot below the heel of the back piece, as shown and described, and for the purpose specified.

3. In a shoe-tree, the sliding front piece B, constructed with the flat extension B′, provided with a slot, *n*, to receive the plate *p* of the foot, as shown and described, and for the purpose specified.

4. The combination, with the slotted extension B′, provided with the catch *o*, of the plate *p*, secured on the back of the foot, and provided with the reverse catch *q*, the whole arranged to operate in the manner and for the purpose specified.

5. The combination, with the reacting spring *g*, of the hook *t*, projecting from the back piece C, and the cam *u*, resting against the back of the spring, as shown and described, and for the purpose specified.

In witness whereof I have hereunto set my hand this 30th day of July, 1877.

ROBERT TURNEAURE.

Witnesses:
A. R. MILLER,
HUGH MILLER.