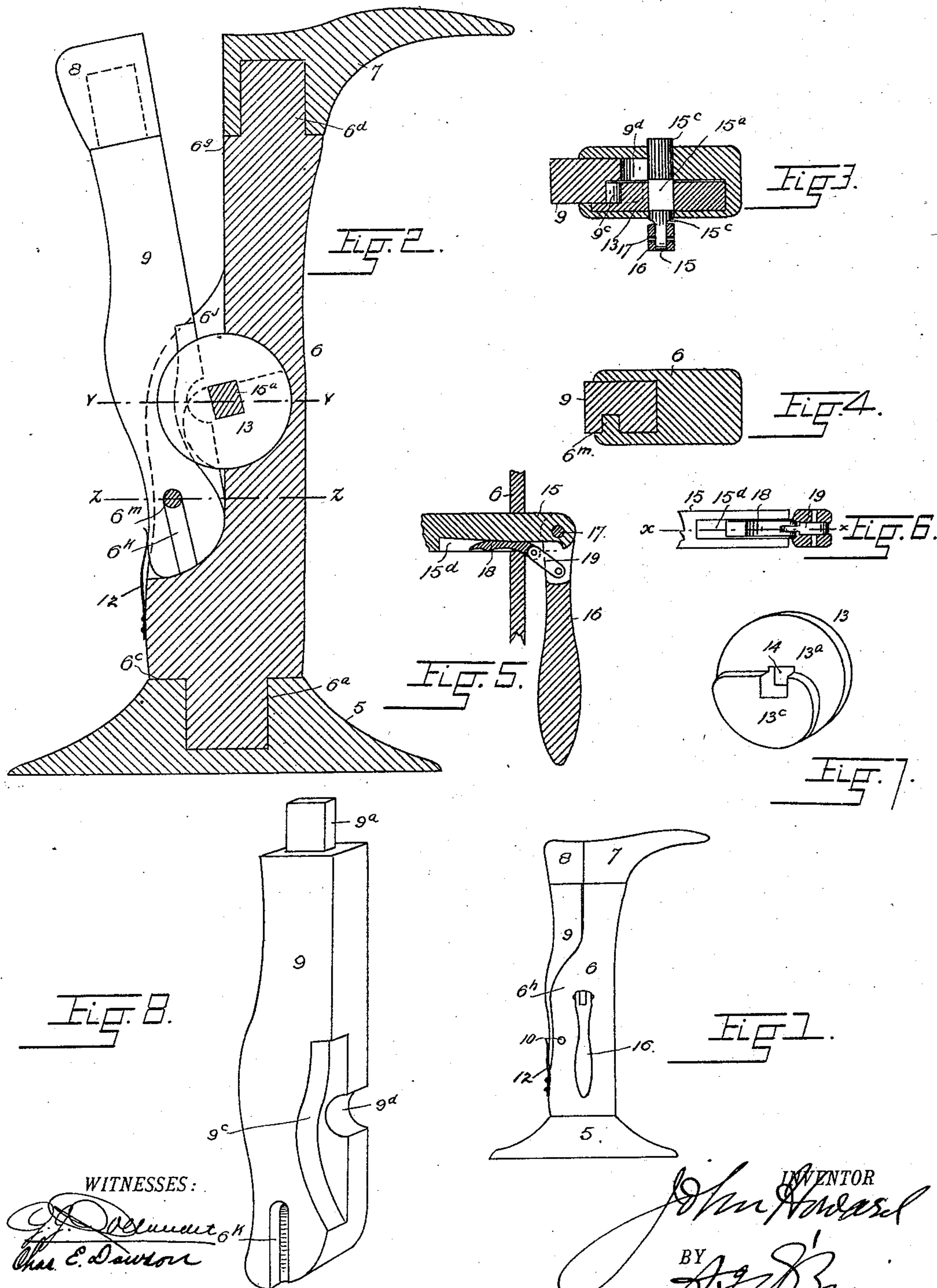


(No Model.)

J. HOWARD.  
LAST.

No. 525,323.

Patented Aug. 28, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN HOWARD, OF DENVER, COLORADO.

LAST.

SPECIFICATION forming part of Letters Patent No. 525,323, dated August 23, 1894.

Application filed April 16, 1894. Serial No. 507,805. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HOWARD, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Adjustable Lasts; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in adjustable iron lasts, and my object is to provide a last and stand of this class which shall be of such construction that it may be readily changed and adapted for use in connection with different sized boots and shoes.

To this end, the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of the device. Fig. 2 is a vertical longitudinal section of the same on a larger scale. Fig. 3 is a cross-section taken on the line  $y-y$ , of Fig. 2. Fig. 4 is a section taken on the line  $z-z$ , Fig. 2. Fig. 5 is a section taken on the line  $x-x$ , Fig. 6. Fig. 6 is an underneath view of Fig. 5, partly in section. Fig. 7 is a perspective view in detail of the cam disk. Fig. 8 is a detail view in perspective of the movable part of the divided stand or leg.

Similar reference characters indicate corresponding parts or elements of the mechanism in the several views.

Let the numeral 5 designate a base, which is recessed to form a socket for the reception of a projection 6<sup>a</sup> formed on the lower shouldered extremity of the upright part 6 which is provided with a shoulder 6<sup>c</sup> surrounding the part 6<sup>a</sup>, and engaging the top of the base, whereby the part 6 is given a stable support when in the upright position as used. The upper extremity of the part 6 is also provided with a projection 6<sup>d</sup> surrounded by a shoulder 6<sup>e</sup>.

The last proper is divided into two parts 7 and 8. The front part 7 is provided with a

socket for the reception of the projection 6<sup>d</sup> of the part 6. The shoulder 6<sup>e</sup> engages that portion of the part 7 surrounding its socket. 55

The rear part 8 of the last is supported upon the oscillating part 9 of the divided stand or leg, which is shouldered at its upper extremity and provided with a projection 9<sup>a</sup> adapted to enter a socket formed in the part 8. 60

The stand part 6 is provided with a rearward swell 6<sup>h</sup> which is recessed to form a socket 6<sup>j</sup> for the reception of the lower portion of the part 9 which is movably attached to the part 6 by means of a pivot lug 6<sup>m</sup> located in the lower part of the socket 6<sup>j</sup> and engaging an open slot 6<sup>k</sup> formed on the lower extremity of part 9. The part 9 is normally held in the closed position as shown in Fig. 1, by means of a leaf spring 12 attached to the rear side of part 6 near its lower extremity and engaging the lower portion of part 9. 65

The part 8 may be opened to the position shown in Fig. 2 by means of cam disk 13 provided with an angular opening 14 for the reception of a pin 15, which is provided with an angular part 15<sup>a</sup>, which enters an aperture of corresponding shape in the cam; and the cylindrical parts 15<sup>c</sup> which enter co-inciding circular apertures formed in the stand part 6 on each side of the cam. 70

The cam-disk is composed of the disk part 13<sup>a</sup> and the cam part 13<sup>c</sup>, and is located within a socket formed in the part 6 adjacent the part 9. This cam is adapted to engage the curved face 9<sup>c</sup> of a socket formed in the part 9, while the part 15<sup>c</sup> of the pin 15 engages a recess 9<sup>d</sup> formed in part 9. It will thus be seen that if the cam-disk is so turned that the cam engages the face 9<sup>c</sup>, the part 9 will open or move away from the part 6 according to the thickness of the engaging part of the cam, or the distance of the engaging cam surface from the center of the disk or pin 15. 75

One extremity of the pin 15 protrudes and is provided with a hand piece 16 attached by means of a pivot pin 17. This hand piece is employed in actuating the cam-disk. A locking device 18 is attached to the hand piece by means of a link 19, and is located in a groove 15<sup>d</sup> formed in the pin 15. This groove has an inclined bottom, and increases in depth from the outside. When the hand piece 16 80



is in the normal position, or that shown in Figs. 1 and 5, the locking device is concealed within the groove, and the pin is allowed to turn freely in the part 6. After the adjustment of the cam, however, the parts may be locked in any desired position by moving the hand piece to the right, (referring to Fig. 5) whereby the locking device is moved to a more shallow portion of the groove, whereby it presses tightly against that portion of the part 6 surrounding the aperture for the reception of the pin 15. It will thus be seen that by the movement of the cam-disk, the parts 7 and 8 of the last may be so adjusted as to fit many different sizes of shoes or boots.

The base 5 may be made fast to any suitable stationary support; or the device may be used without the base,—in which case, the standard, composed of the parts 6 and 9, will be supported by the user in the upright position, and its lower extremity will be suitably fashioned to correspond with such use.

Having thus described my invention, what I claim is—

1. The combination of the divided last stand, one part being slotted to receive a lug formed upon the other part, whereby one part is movably connected or hinged to the other or stationary part, a cam disk located in the stationary part and adapted to engage the movable part, and an operating pin fashioned to engage an opening in the disk and adapted

to turn in the opening formed in the stationary part, substantially as described.

2. The combination of the divided last stand, the last-parts supported thereon, one of the stand parts being hinged to the other part, a cam disk located in a socket formed in the stationary part and adapted to engage a shoulder formed on the movable part, and an operating pin fashioned to engage an angular opening in the disk and adapted to turn in an opening formed in the stationary stand part, substantially as described.

3. The combination of the divided last stand, the last-parts supported therein, one part of the stand being movably connected with the other part, a cam-disk located in the stationary part and adapted to engage the movable part and provided with an angular opening, an operating pin movable in the stationary part of the stand, and connected with the disk so that the latter shall rotate therewith, a hand piece hinged on the protruding extremity of the pin, a locking device engaging a groove formed in the pin, and a link connecting said device with the hand piece, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN HOWARD.

Witnesses:

G. J. ROLLANDET,  
CHAS. E. DAWSON.