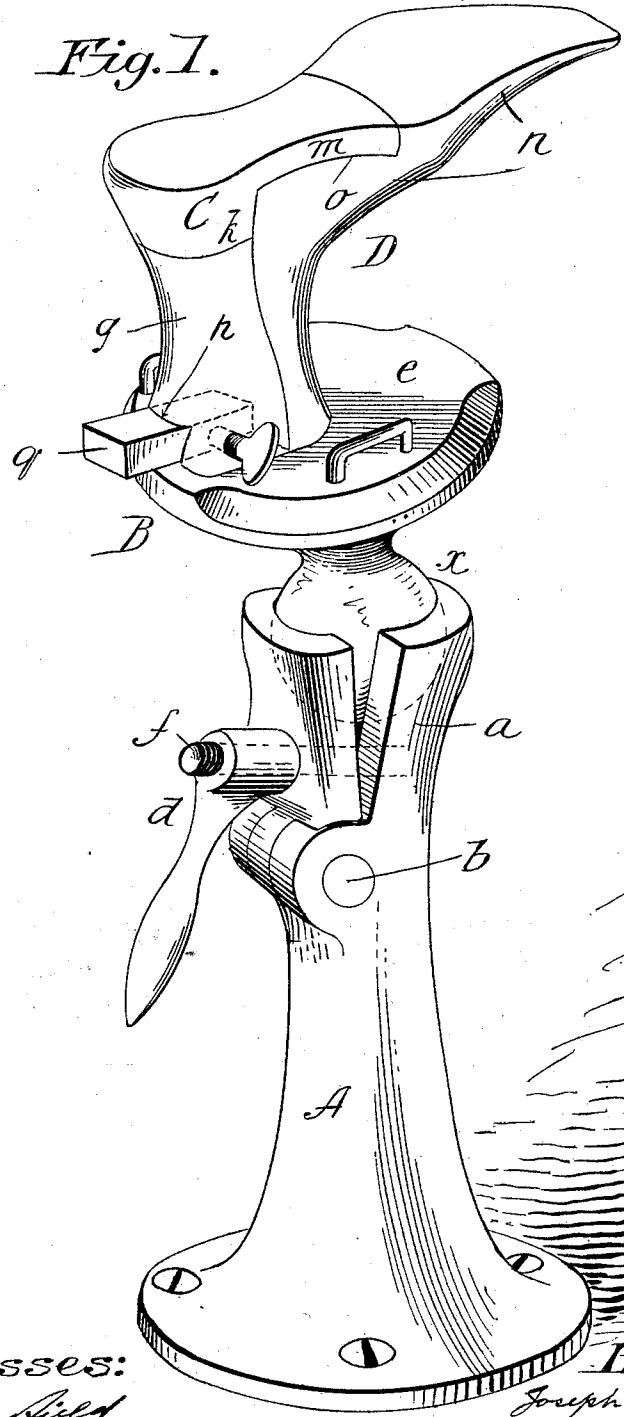
(No Model.) 2 Sheets—Sheet 1.

# J. BRIGHAM.

## LAST.

No. 473,654. Patented Apr. 26, 1892.

Fig. 1.




Witnesses:
J. W. Garfield
C. F. Dennen

Inventor,
Joseph Brigham
by Cushman & Co.
Attorneys

(No Model.) 2 Sheets—Sheet 2.

# J. BRIGHAM.

## LAST.

No. 473,654. Patented Apr. 26, 1892.

*Fig. 3.*

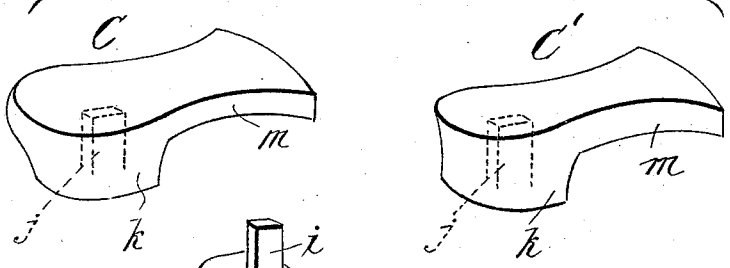



*Fig. 2.*

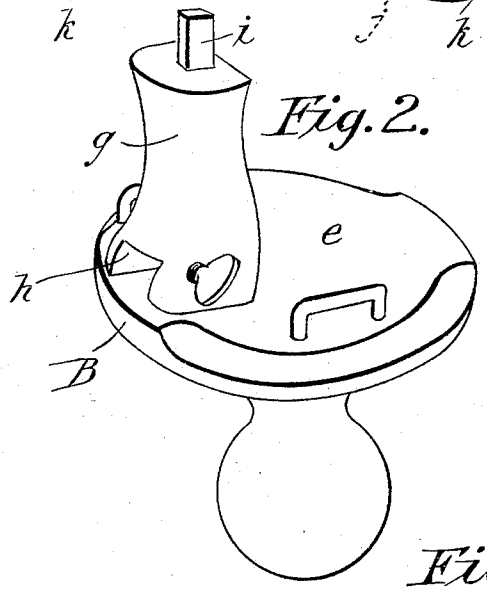
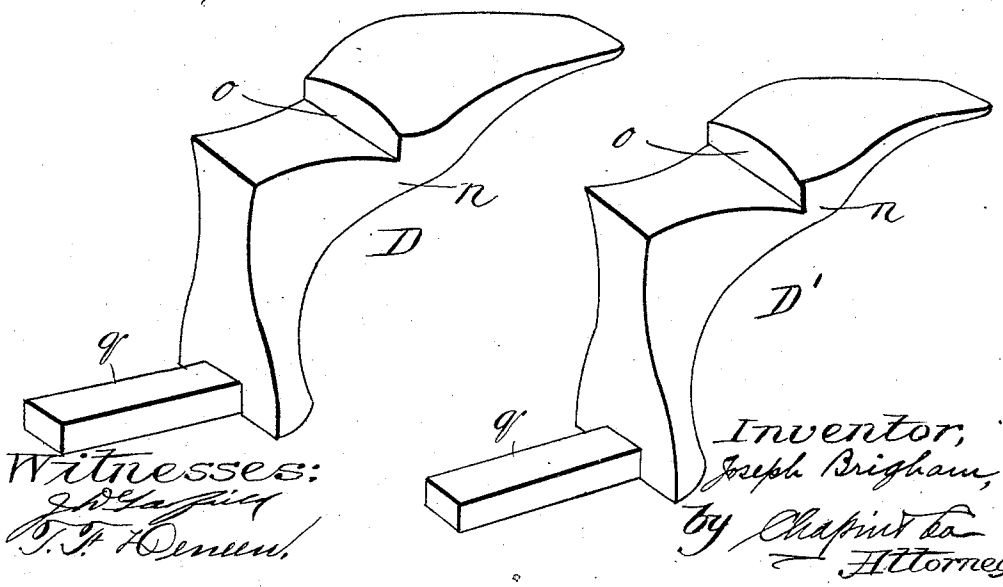



*Fig. 4.*




Witnesses:
J. D. Hopkins
T. F. Dewey.

Inventor,
Joseph Brigham,
by Chapin & Co
Attorneys.

# UNITED STATES PATENT OFFICE.

JOSEPH BRIGHAM, OF NORTHAMPTON, MASSACHUSETTS.

## LAST.

SPECIFICATION forming part of Letters Patent No. 473,654, dated April 26, 1892.

Application filed August 20, 1891. Serial No. 403,252. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH BRIGHAM, a citizen of the United States, residing at Northampton in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Sectional and Adjustable Lasts, of which the following is a specification.

This invention relates to improvements in sectional and adjustable lasts, the object of the invention being to provide a last of the character indicated which will readily permit of variations in the dimensions and contour thereof, whereby practically a wide range of modification may be secured by the adjustment or interchange of a comparatively few parts.

While the improved last is more especially designed as a last or pegging-jack for repair work it is capable for advantageous use for new work.

The invention consists in the construction and arrangement or combination of parts, all substantially as will hereinafter more fully appear, and be set forth in the claims.

In the accompanying drawings, in which all are perspective views, the invention is clearly illustrated, and from these views the same may be readily understood with but brief descriptions and explanations.

Figure 1 shows the improved last complete and as mounted for use. Fig. 2 represents the rear heel portion or standard and the part on which same is directly carried. Fig. 3 indicates interchangeable heel-sections, and Fig. 4 interchangeable ankle and foot sections.

In the drawings, A represents the primary support or standard, at the upper end of which the supplemental support B is connected by a ball-and-socket joint, as at *x*, the socket being formed in the two jaws of the standard B, one *a* of which is immovable and the other hinged, as at *b*, to swing toward and from the one *a* to bind upon the ball or to release the bind thereon. The bind is secured by turning the handle *d*, which has, as a nut, an engagement with the screw *f*, that is secured to the fixed jaw and passes loosely through the movable jaw.

The support B comprises the platform or base *e* above the ball and the upright *g*, which more or less nearly conforms to the shape of the rear portion of the ankle. The said upright has the opening or way *h*, which extends horizontally through it from front to rear.

C C′ represent heel-sections, which are formed to match with and engage the upper portion of the rear-ankle standard, the engagement being made by the pin *i* on the standard and the socket *j* to closely fit the pin, which is formed in the under portion of the heel-section. Each heel-section has the forward extension *m*, which is of less thickness than that portion *k* of such section which is directly over the standard *g*, and said extension conduces to the formation of that part of the last under the instep or which corresponds to the hollow of the foot just back of the ball.

D D′ represent toe-sections, each of which corresponds to and conduces to form by the part *n* the fore part of the foot and ankle, including the instep, the section by its rear vertical surface, which is straight or plane, being adapted to match with the upright *g*. The section D at its upper rear portion is recessed or formed stepped, as at *o*, to receive the extension *m* of the heel-section, and at its lower end the section D has the rearwardly-extended stud or rigid bar *q*, which is formed for a close fit, though to slide freely in and through the said way *h*.

It will be noticed that the heel-sections C C′ and also the fore-part foot-sections D D′ are shown as of different dimensions, and yet all are adapted for combination with the rear-ankle upright *g*, and either of the fore-part foot-sections may match with the one or the other of the heel-sections, and all to form practically a last of desired dimensions having a substantially continuous contour. Thus the left-hand sections in Figs. 3 and 4 may be combined with the upright of Fig. 2 to form a last having a comparatively full heel and a comparatively wide and long fore part; and, if desired, that the last be even longer the elongation may be effected by loosening the set-screw and sliding the section D forward, the comparatively slight transverse break in the sole just back of the ball of the foot being practically immaterial. Again, if desired, with the larger fore-part foot-section it is desired to combine the smaller heel-section, the latter

may be substituted, or with either heel-piece, may be combined the smaller fore-part section; and consequently it will be apparent that by the provision of a single rear-ankle standard and a few interchangeable heel and fore-part foot-sections, practically a sufficient scale of lasts to cover the sizes for men's, women's, and children's shoes may be obtained.

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

1. In combination, an integral fore-part foot-and-ankle section having at the rear of the sole portion thereof a step-like recess or depression *o*, a rear-ankle section shorter than the length of the foot-and-ankle section and adapted to match with the fore-part ankle portion thereof, but having its one end terminating at a distance from the contour of the sole, and means for confining said parts in matching engagement, and a heel-section having a forwardly-extended sole portion *m* to fit in said step-like depression and having a pin-and-socket engagement with the upper end of said rear ankle-section, substantially as described.

2. In combination, in a sectional last, a part comprising a base and rear-ankle standard rigidly fixed thereon and having a transverse opening or slideway extended horizontally from front to rear thereof, a heel-section removably mounted on the upper end of said standard, and a fore-ankle and fore-part foot-section having a stud or bar, which is horizontally extended from the rear of the fore-ankle portion for engagement in said slideway, and a fastening device for an engagement between said standard and said bar, substantially as described.

3. The combination, with an integral fore-part foot-and-ankle section, which has at the rear of the sole portion thereof the step-like depression *o*, of a base and permanent rear-part ankle-standard, of less height than the aforesaid section, and one of said parts having a transverse socket and the other a bar to fit therein, and a device for locking the bar in the socket, and the heel-section having the forwardly-extended sole portion *m* to fit in the said depression, and having a pin-and-socket engagement with the end of the rear-part ankle-standard, all whereby by the substitution of an interchangeable extension heel or foot and fore-part ankle-section, the form and dimensions of the last may be modified, substantially as and for the purposes set forth.

4. The combination, with the rear-ankle standard and the heel-section having dowel-and-socket engagements with the standard, substantially as described, the said heel-section having the forward extension *m*, and the standard having the opening *h*, of a fore-part foot-and-ankle section having the recess *o* to match with said heel-extension and having the stud or bar *q*, that is adapted to slide in said opening, and the set-screw, substantially as described.

JOSEPH BRIGHAM.

Witnesses:
H. A. CHAPIN,
WM. S. BELLOWS.