

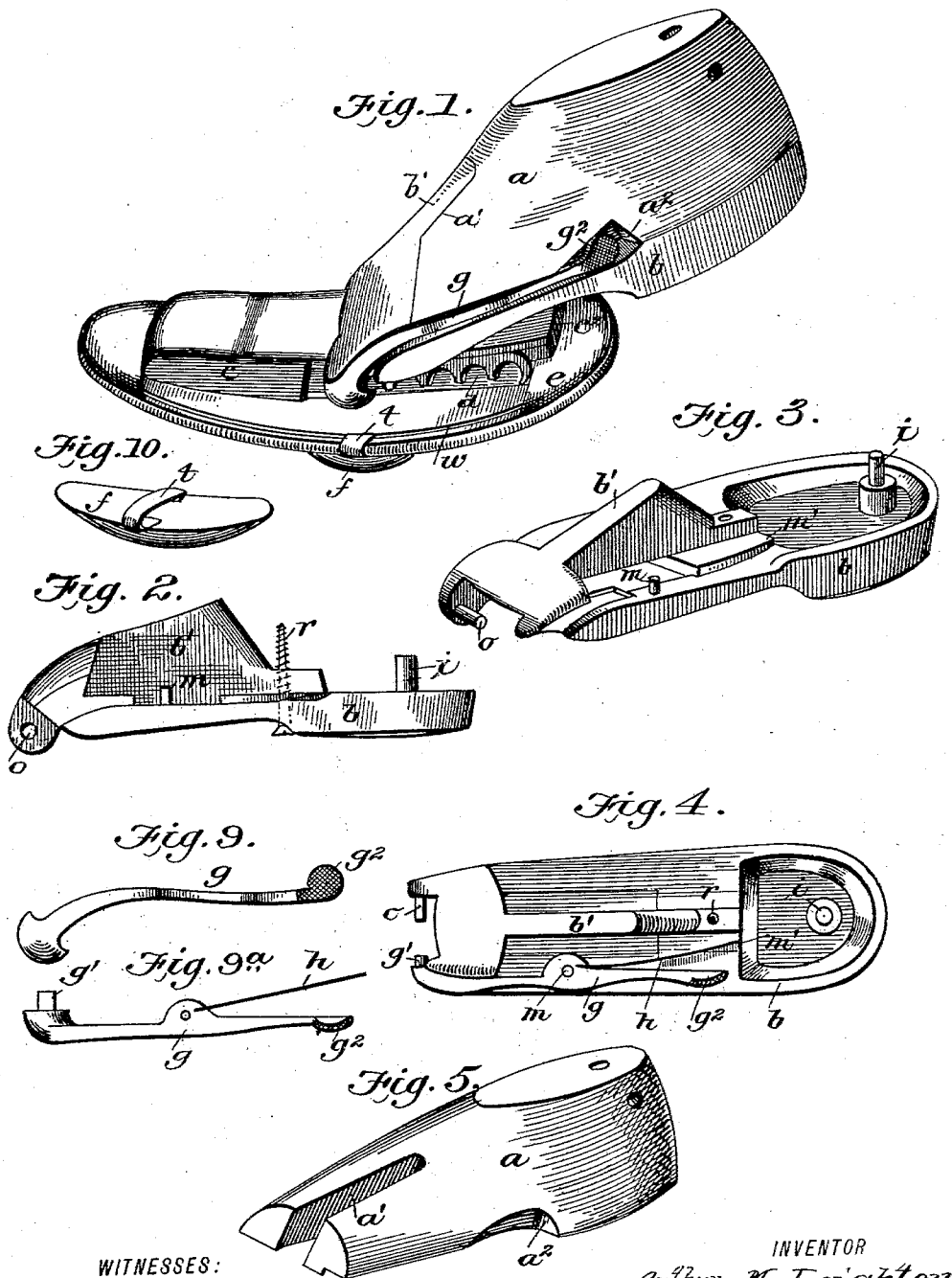
(No Model.)

2 Sheets—Sheet 1.

A. M. LEIGHTON.  
LAST.

No. 566,692.

Patented Aug. 25, 1896.



WITNESSES:  
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*Edw. W. Byrnes*

INVENTOR  
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ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 6

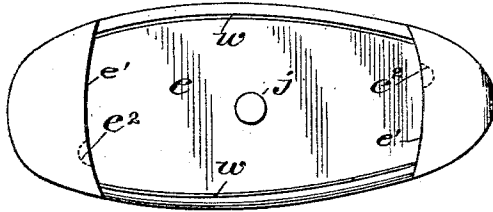


Fig. 7.



Fig. 7<sup>a</sup>



Fig. 7<sup>b</sup>



Fig. 7<sup>c</sup>



Fig. 7<sup>d</sup>

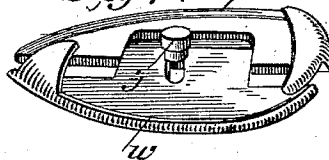


Fig. 8.



Fig. 8<sup>a</sup>



Fig. 8<sup>b</sup>

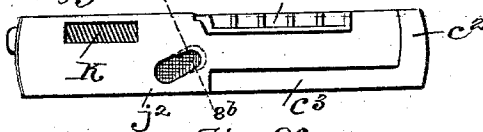


Fig. 8<sup>c</sup>



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# UNITED STATES PATENT OFFICE.

ARTHUR M. LEIGHTON, OF EVERETT, WASHINGTON, ASSIGNOR OF ONE-HALF TO MARY J. THOMAS, OF SAME PLACE.

## LAST.

SPECIFICATION forming part of Letters Patent No. 566,692, dated August 25, 1896.

Application filed January 29, 1896. Serial No. 577,285. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR M. LEIGHTON, of Everett, in the county of Snohomish and State of Washington, have invented a new and useful Improvement in Lasts, of which the following is a specification.

My invention is in the nature of an adjustable cobbler's last to be used for repairing boots and shoes and adapted to fit different sizes and widths of shoe and the varying contour or indentation of the insole as produced by the feet of the wearer; and it consists in the peculiar construction and arrangement of the last, as hereinafter more fully described with reference to the drawings, in which—

Figure 1 is a perspective view of the entire last. Fig. 2 is a side view, Fig. 3 a perspective view, and Fig. 4 a plan, of the heel-base. Fig. 5 is a perspective view of wooden instep portion of the last. Fig. 6 is a top plan view of the reversible metal toe-plate. Fig. 7 is an edge view of the same. Fig. 7<sup>a</sup> is an edge view, Fig. 7<sup>b</sup> a bottom face view, and Fig. 7<sup>c</sup> a cross-section, of a modified form of the toe-plate; and Fig. 7<sup>d</sup> is a perspective view of the toe-plate made laterally adjustable. Fig. 8 is a side view of the adjustable piece for lengthening or shortening the last. Fig. 8<sup>a</sup> is a bottom view, and Fig. 8<sup>b</sup> a cross-section, of the same; and Fig. 8<sup>c</sup> is a detail in side view of an adjustable portion of the same. Figs. 9 and 9<sup>a</sup> are details of the adjusting-lever, and Fig. 10 is a detail of the bunion.

In the drawings, *a* represents the instep portion of the last, which is made of wood for lightness and has (see Fig. 5) a slot *a'* in its front end and a notch *a<sup>2</sup>* in its side. Figs. 2, 3, and 4 show the heel-piece made of metal and chambered for lightness, as shown in Fig. 3. This heel-piece is connected to the part *a* detachably by a pin *i* in the center of the heel-piece, which enters a corresponding hole in the part *a*, and also by a tongue *b'* on the front upper side of the heel-piece, which tongue enters the slot *a'* of the part *a* and makes a stiff and strong connection between the same. To further connect and hold these parts together, a long screw *r*, Fig. 2, passes up through the heel-piece *b* and enters the wooden instep portion

*a*, so as to connect these parts together as one in the ordinary manipulation of the last.

At the front end of the heel-piece *b* there is formed on one side an ear having a fixed and inwardly-projecting stud *o*, Figs. 3 and 4, and immediately opposite to it is another adjustable stud *g'*, formed on the end of a lever *g*, Figs. 9 and 9<sup>a</sup>. This lever is fulcrumed near its middle upon a vertical stud *m* on the heel-piece *b*, (see Figs. 3 and 4,) and its rear end is contained within a recess *a<sup>2</sup>* in the wooden block and is fashioned into a thumb-piece *g<sup>2</sup>*, by pressing upon which the movable stud *g'* is drawn outwardly. To throw the stud inwardly, a spring *h*, Figs. 9<sup>a</sup> and 4, is connected to the lever and is made to bear against a shoulder *m'* in the heel-piece. The two studs *o* and *g'* serve to connect the heel-piece of the last with the toe-plate in a hinged or pivotal manner, so as to be both adjustable as to length and detachable therefrom.

Referring to Figs. 1, 6, and 7, *e* is the reversible toe-plate, having the curve of the shoe-sole, and with one broad end and one narrow end to fit within and approximately fill the toes of different-shaped shoes. This toe-plate is formed in its center with a pivotal and headed stud *j*, which forms a swiveling attachment to the parts above that permits it to be reversed. Along each edge of the toe-plate is formed a groove or channel *w* to receive the clasp-spring *t* of an adjustable "bunion" *f*, Fig. 10. This bunion is simply a cast-metal plate with a rounded outer side, and when applied to the toe-plate, as in Fig. 1, it lies underneath the same at its edge and serves to bear against any portion of the insole, as beneath the joint of the big toe, that may happen to have an indentation in it, so as to preserve this indentation for the sake of the comfort of the wearer and yet insure the clenching of nails through the sole at this point.

For connecting the toe-plate *e* to the rest of the last said toe-plate has not only a headed stud *j*, but has also undercut ends *e'* *e'*, (see Fig. 7,) which connect with an intermediate piece *c*. This piece has (see Fig. 8) dovetail ends *c' c'*, that slide under the undercut ends *e' e'* of the toe-piece, and has also

an elongated slot  $j^2$  in its bottom, (see Fig. 8<sup>a</sup>), that is larger at one end than it is at the other, and at its smaller end is undercut, as shown by dotted lines, so that its larger end may receive the head of the stud  $j$  of the toe-piece, and then, when the head  $j$  is slipped up to the smaller end, it catches above the overhanging lips of this slot (see Fig. 8<sup>b</sup>) and prevents the toe-plate from falling away.

This intermediate piece  $c$  has on one side a longitudinal recess  $c^3$ , in which freely plays the stud  $o$  of the heel-piece  $b$ , and on the other side has a series of locking-seats  $d$ , into any one of which the adjustable stud  $g'$  may be seated to lock it to that position and yet allow a slight pivotal or hinge action, as seen in Fig. 1. By pressing on the thumb-piece  $g^2$  the stud  $g'$  may be withdrawn from and re-adjusted in any one of the notches  $d$  to lengthen or shorten the last, and as the stud  $o$  plays in the recess  $c^3$  when the stud  $g'$  is taken out of the notches  $d$  the parts  $a$  and  $b$  may be together removed from the parts  $c$  and  $e$ . At the rear end of the part  $c$  there is an overhanging lip  $c^2$ , which bears upon the end of the toe-piece and makes a solid and firm bearing. To lock the part  $c$  against turning on the toe-plate  $e$ , the part  $c$  has a spring-seated bolt  $k$ , Fig. 8<sup>a</sup>, which is housed within the part  $c$  and is adapted to engage with recesses  $e^2$  in undercut  $e'$  of the toe-plate.

As a modification of my toe-plate I may make it in sections laterally adjustable, as shown in Fig. 7<sup>a</sup>, to adapt it to the exact width of a shoe, it being important in repairing sewed work that the last should not be wider than the sole, so as to give plenty of room for sewing on the sole.

In constructing the toe-plate as shown in 7<sup>a</sup> each section runs the full length of the plate and has at its end a lip overlapping the adjacent section, so as to cover the longitudinal joint, while the middle parts have overlapping edges, one of which is slotted to give passage to the stem  $j$ , by which they are adjustably connected, said stem being fastened to the underlying section and passing through the slot of the top section and having an overlapping head, which, if desired, may be made in the form of a tightening-nut. I may also make the toe-plate non-reversible, but with a reverse curve running up to the heel, as shown in Fig. 7<sup>a</sup>, for repairing spring-heel shoes, so as to nail up close to the heel along the shank, and in such case I may make on this plate permanent lumps or bunions  $f'$  on one or both sides, as shown in Figs. 7<sup>b</sup> and 7<sup>c</sup>.

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

1. A shoe-last comprising a toe-plate having

notches for adjusting the toe-plate as to length, and a heel-piece having two axial studs for connecting it with a hinging action to the toe-plate, one of said studs being made movable and provided with means for operating it to adjust or disconnect the toe-plate substantially as shown and described.

2. A shoe-last comprising a toe-plate, a heel portion, and an intermediate part having a pivotal or swinging connection with the toe-plate for reversing it, and having a notched connection with the heel part for connecting the latter with the toe-plate for adjusting it as to length substantially as shown and described.

3. A shoe-last having a toe-plate with marginal grooves  $w$  in its edges, combined with a detachable bunion  $f$  having an attaching clamp-spring  $t$  fitting in said groove substantially as shown and described.

4. A shoe-last having a toe-plate made in two longitudinal sections with overlapping lips at the ends and middle parts connected together and made laterally adjustable to vary the width of the toe-plate substantially as shown and described.

5. The combination of the heel-piece  $b$  having pin  $i$  and tongue  $b'$ , the instep portion  $a$  having front slot  $a'$  receiving tongue  $b'$ , a socket receiving pin  $i$  and an adjustable toe-plate substantially as shown and described.

6. The combination of the reversible toe-plate  $e$  having undercut ends  $e'e'$  and central headed stud  $j$ , the intermediate piece  $c$  having dovetail ends, undercut slot  $j^2$ , channel  $c^3$  and notches  $d$ , the heel-piece having also studs  $o$  and  $g'$  playing in the channel  $c^3$  and notches  $d$ , respectively, the stud  $g'$  being made movable substantially as and for the purpose described.

7. The combination of the reversible toe-plate  $e$  having undercut ends  $e'e'$  and locking-recesses  $e^2$ , the intermediate piece  $c$  having an adjustable connection for the heel-piece, and a spring-seated locking-stud  $k$  adapted to lock into the recesses  $e^2$  in the ends of the toe-pieces substantially as and for the purpose described.

8. The shoe-last herein described, comprising instep portion  $a$  with slot  $a'$  and notch  $a^2$ , heel-piece  $b$  with pin  $i$ , tongue  $b'$  and studs  $m$  and  $o$ , the lever  $g$ , with stud  $g'$  and spring  $h$ , fulcrumed on the stud  $m$ , the intermediate piece  $c$  with channel  $c^3$ , lip  $c^2$ , notches  $d$ , undercut slot  $j^2$  and spring-seated bolt, and the reversible toe-plate having headed pin  $j$  and undercut ends  $e'e'$  substantially as and for the purpose described.

ARTHUR M. LEIGHTON.

Witnesses:

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C. P. THOMAS.