

UNITED STATES PATENT OFFICE.

DANIEL HAVERON, OF CAMPELLO, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ELLERY C. WRIGHT, OF CAMPELLO, MASSACHUSETTS.

LAST.

SPECIFICATION forming part of Letters Patent No. 790,128, dated May 16, 1905.

Application filed May 13, 1904. Serial No. 207,731.

To all whom it may concern:

Be it known that I, DANIEL HAVERON, a subject of the King of Great Britain, and a resident of Campello, county of Plymouth, State of Massachusetts, have invented an Improvement in Lasts, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of an improved last to which an upper may be fitted in its contracted condition, the last being then thereafter elongated to stretch the upper in the final fitting of the upper to the last.

In another application, Serial No. 207,732, filed on the 13th day of May, 1904, I have fully described the last made the subject of this specification as employed in the lasting of a shoe.

Figure 1, in side elevation, represents a last embodying my invention, the last being in contracted condition. Fig. 2 is a like view showing the last elongated. Fig. 2^a shows the expanding device detached. Fig. 3 is a view looking at the end of the fore part of the last, and Fig. 4 shows the heel end of the last with the connecting-web employed to maintain the parts of the last in working position.

My novel last comprises a toe part A, a heel part B, and an expanding device C. The toe part and heel part of the last are united by a connection D, represented as a piece of metal firmly joined by pins *a* to the heel end of the last, said connection being extended forwardly and entering a slot *a'* at the inner end of the toe part. The connection is provided at its rear extremity with two slots *a*², each of which receives a suitable pin *a*³, extended through the fore part of the last. This connection also has an inclined slot *b*, that receives a pin *b'*, that is extended from one to the opposite side of the expanding device C, said expanding device being slotted (see Fig. 2^a) to embrace the connection D.

The fore part of the last at its inner end is bored, as represented best by dotted lines in Figs. 1 and 2, to receive a spring *d*, that acts

upon a headed pin *d'* to thus normally project said pin from the end of the toe part.

The expanding device C has a hole from its upper end forming part of the crown of the last to the edge thereof that abuts the heel end of the fore part, so that said spring-pressed pin, which constitutes a locking device, may enter the hole *d*² of the expanding device when the same is driven in to expand the last to its full length. To contract the last, a tool or pin of any sort may be inserted in the hole *d*² to push back the pin *d'*, and then the expanding device may be drawn outwardly by a hook in the usual hole *e* into the position shown in Fig. 1.

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

1. A last comprising a fore part, a heel part longitudinally movable one with relation to the other, and a wedge-shaped expanding device interposed between the heel part and fore part, a connection between the heel part and fore part to confine the same together loosely, said connection acting as a guide for the last in its contracted and extended condition, and means to lock the expanding device to the fore part when the expanding device occupies its operative position.

2. A last comprising a fore part, a heel part and an expanding device wedge-shaped at its sides, the top of the expanding device forming part of the crown of the last, and a connection engaging loosely said fore part and said expanding device and extended from the heel part through the expanding device into the fore part.

3. In a last, a heel part having an extension provided with a substantially horizontal slot and an upwardly-inclined slot, a fore part having a pin entering said horizontal slot, and an expanding device interposed between said heel part and fore part, and having a pin entering said upwardly-inclined slot.

4. In a last, a heel part having an extension provided with a substantially horizontal slot and an upwardly-inclined slot, a fore part having a pin entering said horizontal slot, an expanding device interposed between said heel

part and fore part, and having a pin entering said upwardly-inclined slot, and a locking device to lock the expanding device in place when the latter has been moved to extend the last.

5 5. A last comprising a toe part having a longitudinal slot at its rear end, a heel part having a forwardly-extended connection provided with an upwardly-inclined slot, a pin carried by the fore part and entering the said longitudinal slot, an expanding device interposed
10 between said heel part and fore part, and slotted to embrace the connection and having a pin movable in the upwardly-inclined slot, and a locking device to confine the expanding device in position to elongate the last to its full-
15 est extent.

6. A last comprising a fore part, a heel part, and a wedge-shaped expanding device interposed between the heel part and fore part, and a connection uniting the heel part and fore part to permit longitudinal movement of one of said parts away from the other part, said connection also acting as a guide for the expanding device. 20

In testimony whereof I have signed my name 25 to this specification in the presence of two subscribing witnesses.

DANIEL HAVERON.

Witnesses:

GEO. W. GREGORY,
MARGARET A. DUNN.