

# UNITED STATES PATENT OFFICE.

HENRY BROWN, OF NORTHAMPTON, ENGLAND, ASSIGNOR OF ONE-HALF TO  
HENRY EDWARD RANDALL, OF SAME PLACE.

## LAST.

SPECIFICATION forming part of Letters Patent No. 640,990, dated January 9, 1900.

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*To all whom it may concern:*

Be it known that I, HENRY BROWN, a subject of the Queen of Great Britain, residing at Northampton, England, have invented new and useful Improvements in Lasts, of which the following is a specification.

This invention relates to lasts for use in the manufacture of boots and shoes.

In making welted boots and shoes it is the custom to make use of a wood last in combination with a jack for supporting the front during manipulation.

The object of this invention is to dispense with the necessity for using this jack; and to this end the present invention consists in using a combination wood and iron last which fulfils all the requirements of the wood last and at the same time possesses such strength and rigidity that it can be used upon an ordinary standard without a jack.

According to the said invention a last is made with a metal back portion and heel, having a socket for fitting onto the standard from which extends a plate, to the upper side of which the block of the last is adapted to be connected and to the under side of which the bottom of the last is adapted to be fixed. In practice I prefer to introduce a layer of india-rubber or other suitable material between the bottom and the metal plate for reducing concussion, and thereby preventing premature injury to the said bottom.

To enable the invention to be fully understood, I will describe the same by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved last. Fig. 2 is a longitudinal vertical section of the same, and Fig. 3 is a transverse section on the line 3 3 of Fig. 2.

*a* is the metal portion of the last, the back or heel part *b* of which is provided with a socket *c*, which fits onto the usual standard, and the plate part *d* of which has applied to it on the upper side the wood block or instep portion *e* of the last and on the under side has fixed to it the wooden bottom *f* of the last.

*g* is the sheet of india-rubber or other suitable material between the bottom *f* and the metal plate for reducing concussion, and thereby preventing premature injury to the said bottom.

It will be understood that the block portion

*e* of the last is made movable, as in an ordinary wooden last, a rib *h* being formed upon the metal portion *a*, as clearly shown in Fig. 3, and a corresponding groove in the block portion *e*, in order to insure the proper adjustment of the said block portion relatively with the other part of the last.

With the construction hereinbefore described it will be understood that when the last is mounted upon a suitable standard an upper can be lasted over the same in the same manner as upon a wooden last without the necessity for employing a jack, which is necessary with the wooden last and which tends to more or less injure the leather of the upper. It will also be obvious that when the bottom *f* of the last becomes worn or injured it may be readily replaced without discarding the other parts of the last and also that the bottom can be changed from time to time to suit different shapes or fashions. Furthermore, by having a last provided with a metal heel portion I am enabled to clench the nails by which the heel of a boot or shoe is attached.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a last the combination with the metal heel portion provided with means for attaching it to a supporting-standard, and provided with a forwardly-extending portion, of a bottom of wood secured to said forwardly-extending portion and a layer of elastic material interposed between said bottom and said forwardly-extending portion to prevent injury to said bottom, substantially as described.

2. In a last the combination with the metal heel portion provided with means for engaging a supporting-standard, and with a forwardly-projecting extension the full width of the last, a detachable instep portion for engaging the upper side of said extension, a wooden bottom piece on the lower side of said extension, secured thereto, and a layer of rubber interposed between the lower face of said extension and said wooden bottom, to prevent injury to the latter, substantially as described.

HENRY BROWN.

Witnesses:

FRANCIS WILLIAM MAYCOCK WATTS.  
HENRY RUSSELL SMITH.