(No Model.)

A. LEACH.

SHOE.

No. 590,580. Patented Sept. 28, 1897.

FIG. 2.

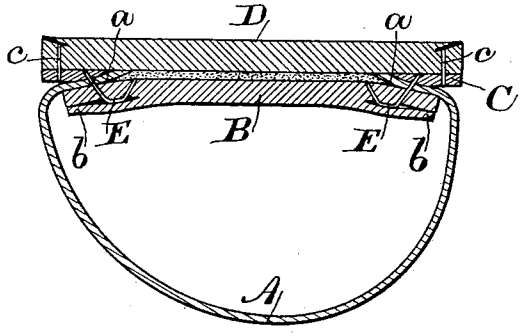
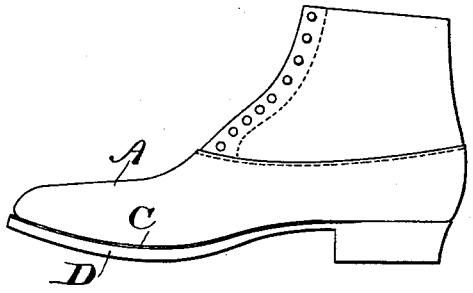


FIG. 1.



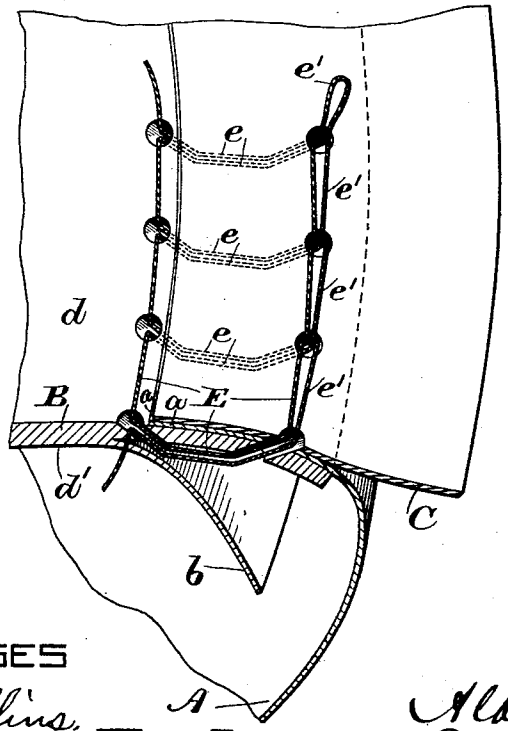


FIG. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALBERT LEACH, OF BROCKTON, MASSACHUSETTS.

SHOE.

SPECIFICATION forming part of Letters Patent No. 590,580, dated September 28, 1897.

Application filed November 12, 1896. Serial No. 611,863. (No model.)

To all whom it may concern:

Be it known that I, ALBERT LEACH, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Shoes; and I do hereby 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.

The present invention relates to shoes, and more particularly to welted shoes; and its object is to produce a shoe of this character which shall be stronger and more durable than those heretofore made.

A further object is to produce a welted shoe so constructed that the necessity of providing the inner sole with a shoulder or channel is obviated and in which the inner sole may be formed of comparatively thin and flexible stock.

To the above ends the present invention consists of a welted shoe constructed and arranged as hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows in elevation a shoe embodying my invention. Fig. 2 shows a transverse section through the forward portion of Fig. 1, and Fig. 3 is an enlarged diagrammatic view showing the formation of the seam.

Similar letters of reference refer to similar parts throughout the several views.

In the drawings, A represents the upper; B, the insole; C, the welt, and D the outsole.

The insole B may be formed of any suitable material, and as in the present invention it is unnecessary to provide the usual channel or groove to receive the stitches which unite the upper and welt to the insole it may be formed of comparatively thin and flexible stock.

As shown in the drawings, the insole B may be provided with a flap *b* upon its upper surface for the purpose of covering the stitches which unite the upper and welt to the insole; but such flap is not an essential feature of the present invention, as the stitches may be left exposed or covered by the usual sock-lining.

As welted shoes have been heretofore constructed the upper, welt, and insole are united by a line of stitches which pass in substantially a horizontal line through a lip formed upon the under surface of the insole and thence through the upper and welt. In the present invention the insole, as before stated, is not channeled, and therefore has no lip, but the upper and welt are secured thereto by a line of stitches which pass twice through the insole, forming a crown or bridge upon the upper surface of the insole and thus producing a strong and durable seam uniting the upper, welt, and insole.

In carrying out my invention the edge *a* of the upper is drawn over upon the under surface of the insole and lasted in the usual manner, it being preferably secured temporarily in place by tacks or other suitable means. The welt C is then placed in position with its edge superimposed upon the edge of the upper A, and the insole, upper, and welt united by a line of stitches E, each stitch passing twice through the insole B, as shown, forming a strong and durable union between the parts.

The seam may be formed by lock or chain stitches, as preferred, the stitches E in the form of my invention shown in the drawings being of the chain variety and produced as follows:

By means of a suitable tool a loop of thread is forced through the insole B, adjacent the edges of the upper A and welt C, from the under face *d* of the insole to and through the upper face *d'*. By means of another suitable tool, which is thrust through the welt C, the edge *a* of the upper, and the insole B, the loop of thread is engaged and drawn through the insole, upper, and welt, passing from the upper face *d'* through the under face *d* of said insole and through the upper and welt, as before set forth, forming a crown or bridge *e* upon the upper face *d'*, as shown. The loop *e'* is now laid along the surface of the welt and held while the stitch is set, after which another loop *e'* is forced through the insole, upper, and welt and through the loop *e'* last formed, which operation is repeated around the shank and fore part, thus securely uniting the upper, welt, and insole. The outsole is now secured by a line of stitches *c* to the welt in the usual manner, and if the insole has been provided with the flap *b* it is turned

down upon the portions *e* of the stitches E and secured by any suitable adhesive.

It is to be noted that by the construction above described the strain put upon the welt by the outer sole is not borne by the between substance in the usual lip and that the insole is not weakened by a channel or groove cut into the same to form the lip, but that any strain upon the welt C is borne by the full thickness of material at the margin of the insole B.

I am aware that it has been heretofore proposed in the art to construct an imitation welted shoe by the through-and-through or McKay process, but such shoe is clearly distinguished from the present invention in that the stitches therein pass but once through the insole, while in the present invention each stitch passes twice through the insole, entering and emerging from its lower face.

I therefore claim as novel and desire to secure by Letters Patent of the United States—

1. A shoe comprising an insole, upper and welt, united by a line of stitches, formed by a series of loops forced through the inner sole, from its under face adjacent the edges of the upper and welt, and thence through the insole, upper and welt, from the upper face of said insole, the loops being interlocked upon the welt, substantially as described.

2. A shoe comprising an insole, upper and welt united by a line of stitches each of which passes twice through the insole, and each comprising transverse bars or threads upon the inner surface of the insole and parallel longitudinal bars or threads upon the surface of the welt, substantially as described.

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

ALBERT LEACH.

Witnesses:
A. E. WHYTE,
A. O. ORNE.