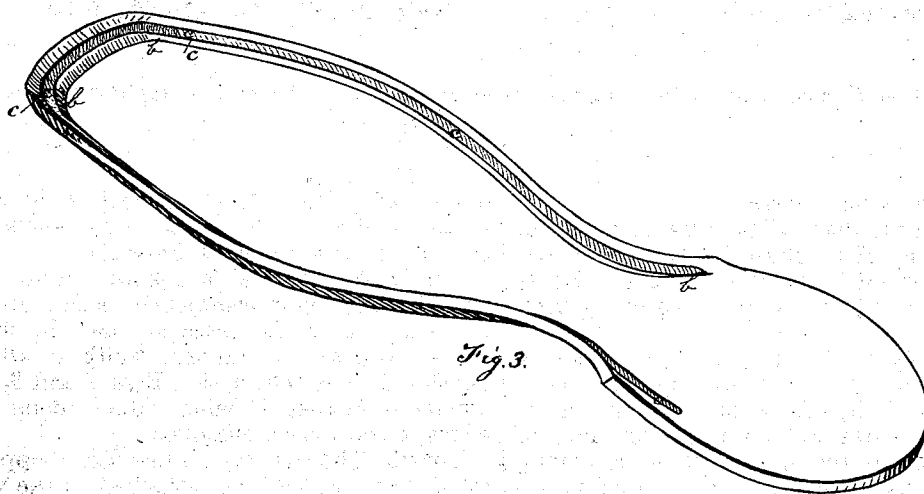


F. D. BALLOU.
Manufacture of Boots and Shoes.

No. 155,568.

Patented Oct. 6, 1874.



Witnesses,
Geo. W. Copeland.
Hebron Libbey

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UNITED STATES PATENT OFFICE.

FRANCIS D. BALLOU, OF ABINGTON, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **155,568**, dated October 6, 1874; application filed July 31, 1874.

To all whom it may concern:

Be it known that I, FRANCIS D. BALLOU, of Abington, Massachusetts, have invented an Improvement in the Manufacture of Boots and Shoes, of which the following is a specification:

In the manufacture of boots and shoes by machinery, in which the ordinary method of attachment of the sole to the welt by hand is followed, it is desirable to do the stitching of the sole close to the upper without removing the last, to use a deep vertical channel in the sole for the thread attaching the welt to the sole, and to be able to restore the sole to a smooth appearance readily. This I do by the following manipulations, to which the sole is submitted substantially in order.

Figure 1 shows a section of a channeled sole; Fig. 2, a section of a sole prepared to apply, ready for sewing. Fig. 3 is a perspective of the same.

First. The sole, properly wetted, so as to work readily, is channeled by a vertical channel, enlarged into a thread-cavity at the bottom, as shown at *a*, Fig. 1.

Second. An outwardly-extending flange is next turned down, including the channeled parts, as shown at *b*, Fig. 2, the sole being rounded either before, after, or at the time of turning the flange. The line on which the sole is turned should coincide very nearly with the line of stitches attaching the welt to the

upper when the sole is applied, as by this means there will be no slack in the welt when the sole is turned back in finishing.

Third. The channel is opened through its whole length, by crowding the leather of the channel-cover to the sides, so that the channel is practically of uniform width in all its depth. This is shown at *c*, Figs. 2 and 3, the displaced leather forming ridges along the edges of the opened channels.

Fourth. The sole thus prepared is applied to the boot or shoe and attached to the welt by a line of stitches laid in the channel by a wax-thread machine suitable for the purpose.

Fifth. The flange is rolled back, and the channel closed over the stitches by rolling, hammering, or other suitable way, and the sole is trimmed and the boot or shoe finished up in any usual way.

I claim—

As an improvement in the art of making boots and shoes by machinery, for the purpose of preparing a sole for attachment to the welt by wax-thread sewing mechanism, the three successive combined manipulations numbered 1 2 3, above set forth, substantially as described.

FRANCIS D. BALLOU.

Witnesses:

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