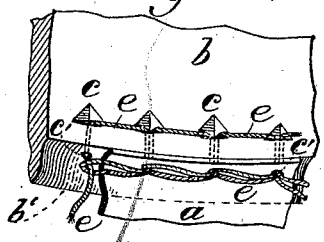
(No Model.)

J. C. IVORY.

MANUFACTURE OF BOOTS OR SHOES.

No. 382,878. Patented May 15, 1888.

Fig. 1.



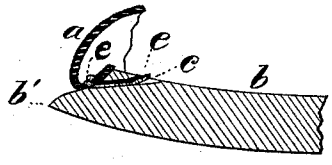


Fig. 3.

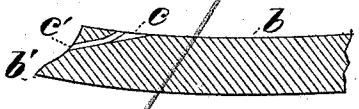


Fig. 2.

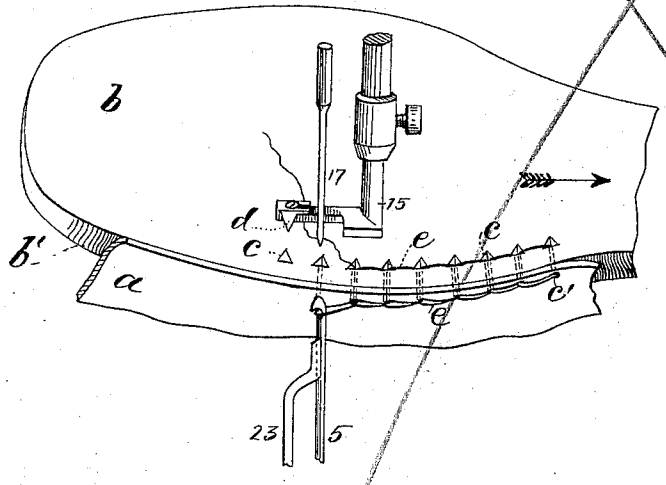


Fig. 4.

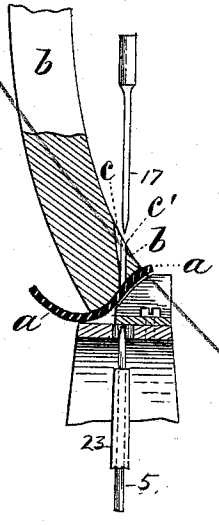


Fig. 5.

Witnesses.
H. E. Remick.
Henry E. Waite.

Inventor.
John C. Ivory.
by D. E. Kempster.
his Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

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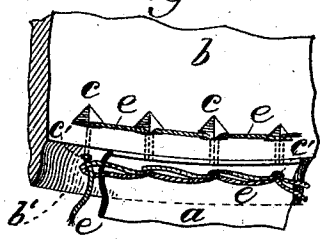

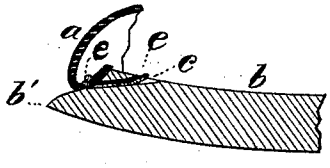

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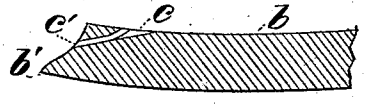

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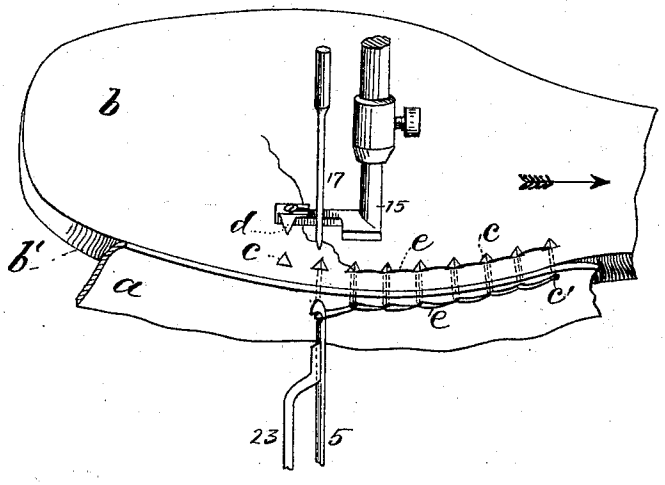

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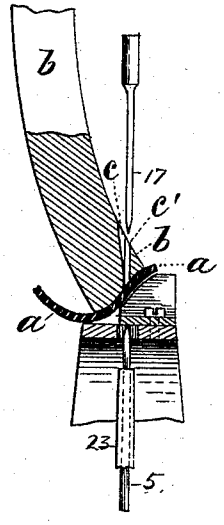

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UNITED STATES PATENT OFFICE.

JOHN C. IVORY, OF SOMERVILLE, MASSACHUSETTS.

MANUFACTURE OF BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 382,878, dated May 15, 1888.

Application filed July 1, 1887. Serial No. 243,064. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. IVORY, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Boots or Shoes; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to the manufacture of "turned" boots or shoes of that class shown in United States patents granted April 27, 1869, and November 10, 1885, and numbered 89,504 and 330,289, respectively. In said patents a sole is made use of prepared with a series of indentations around its edge, instead of the customary channel therein. Heretofore in this class of work it has been necessary to first prepare the plain soles by operating upon them to produce the indentations, then last the soles and uppers together, and then stitch the soles and uppers together upon a waxed-thread sewing-machine.

My invention has for its object to provide an improved process of manufacture, whereby the separate operation of indenting the soles is dispensed with and the plain sole and upper are lasted and stitched directly together, thereby greatly reducing the cost, as the sole-indenting machines are entirely dispensed with and the cost of their operation is saved.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a top or flesh side view of a portion of a boot or shoe sole and upper stitched together in accordance with my invention. Fig. 2 represents a section of a portion of a sole before the upper is attached. Fig. 3 represents a section of a portion of sole and upper after being stitched together and the work turned. Fig. 4 represents the indenting point or spur attached to the sewing-machine presser-foot; also shows the awl, needle, and cast-off on said machine and the position of the boot or shoe while being stitched thereby, as seen from the rear end of the machine. Fig. 5 represents a section of a boot or shoe in position on or against the rest or gage on the work-plate of the sewing-machine, as seen from the front side thereof.

Similar letters of reference indicate corresponding parts in all the figures.

a is the upper, and *b* the sole, of a boot or shoe. Said sole is preferably formed with the beveled edge *b'*.

c are indentations formed diagonally in the flesh side or inner surface of the sole, and *c'* are awl-holes formed from the bottom of said indentations, and in continuation thereof, extending diagonally edgewise to the outer or beveled edge of the sole and terminating near the upper surface thereof. Said holes are only of sufficient size to receive two thicknesses of the waxed thread *e*, used in stitching the upper and sole together.

d is an indenting point or spur, which may be adjustably attached to the machine presser-foot 15, said point being located the proper distance in advance of the awl 17 and needle 5 to insure its producing the indentations *c* the right distance apart to coincide with the length of stitch or feed of the machine.

12 is the adjustable rest or gage fastened on the work-plate 22, and 23 is the thread cast-off, all plainly shown in Figs. 4 and 5.

The operation is as follows: The boot or shoe is lasted wrong side out in the usual manner, excepting the sole is left perfectly plain and free from any kind of cuts, grooves, or indentations, as heretofore provided in said soles before they and their uppers were lasted. The lasted boot or shoe is then placed upon the work-plate of an ordinary waxed-thread sewing-machine, said machine being provided with an indenting-point, *d*, and a suitable rest or gage, 12, and while being held at an angle (see position shown in Fig. 5) the work is fed along in the direction of the arrow in Fig. 4, the point or spur on the presser-foot being forced diagonally into the sole by the action of the presser-bar, thus forming indentations. The work feeds along until the awl is exactly over the center of said indentations, when said awl passes through and forms the hole in the sole and upper, the presser-foot holding the work securely in position on or against the rest or gage on the machine, and the point being

driven into the sole, thus forming another indentation ahead of the awl and needle, preparatory to the next stitch, and as the stitching progresses in the ordinary manner with this class of machine the sole and upper are strongly united by the waxed thread, forming a chain-stitch in the usual manner.

I do not desire in this application to make any claim to the improvements described and shown relating to sewing-machines, but reserve the right to file another application claiming said improvements; neither do I make any claim to indenting soles instead of channeling them, as it is shown by Patent No. 89,504 to be old in the art; but I believe myself to be the first to invent the process herein described; and

Therefore I desire to claim—

In the manufacture of turned boots or shoes, that improvement which consists in uniting the soles and uppers by first lasting the upper to an unchanneled sole, then indenting and perforating the soles at different points simultaneously, as set forth, whereby an indentation is made successively in advance of each perforation, and finally stitching the parts together, all substantially as shown and described.

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

JOHN C. IVORY.

Witnesses:
D. E. KEMPSTER,
GEORGE T. BRIGGS.