G. W. DAY.

Machine-Sewed Boots and Shoes.

No. 220,583. Patented Oct. 14, 1879.

Fig:1.

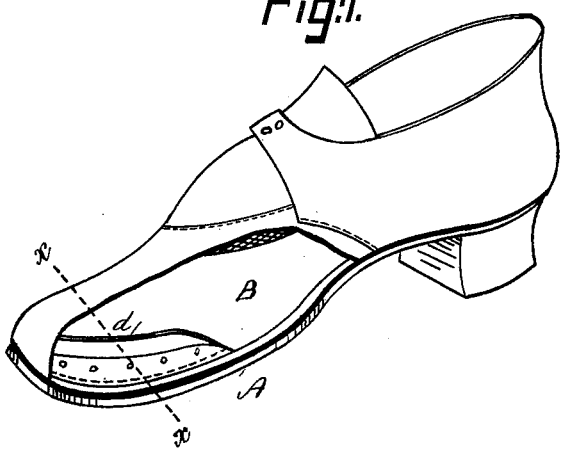


Fig:2.

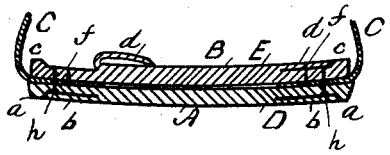


Fig:3.

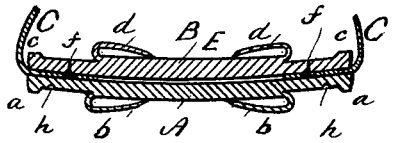
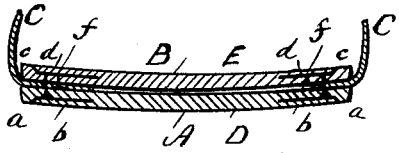


Fig:4.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE W. DAY, OF HAVERHILL, MASSACHUSETTS.

IMPROVEMENT IN MACHINE-SEWED BOOTS AND SHOES.

Specification forming part of Letters Patent No. **220,583**, dated October 14, 1879; application filed August 20, 1879.

To all whom it may concern:

Be it known that I, GEORGE W. DAY, of Haverhill, in the county of Essex and State of Massachusetts, have invented a certain new and useful improved Manufacture of Machine-Sewed Boots and Shoes; of which the following is a full, clear, and exact description.

Machine-sewed boots and shoes are composed of an outer and an inner sole and an upper, and the upper and inner sole are tacked together preparatory to being sewed, and then the outer and inner soles and the upper are sewed together in a sewing-machine—as, for instance, the "McKay Sewing-Machine," so known—the stitches passing through the two soles and the upper, all as is well known.

To conceal the stitches against being seen and worn at the treading-face of the outer sole, the sole at such treading-face is "channeled," as it is termed, by slitting the leather of the sole parallel, or nearly so, to its treading-face from a point at or near the edge and for a short distance therefrom, by which slitting a lip is produced that, during the sewing operation, is turned back, and then afterward laid and cemented over the stitches, covering and concealing them against view and wear.

Within the boot or shoe the stitches and nails are covered by applying a thin insole, which is independent of and separate from the inner sole, at the inside of the inner sole, and there cementing it in place in any proper manner, which insole is made of leather, cloth, or other suitable sheet material.

This improved manufacture of machine-sewed boots and shoes consists of a boot or shoe composed of an outer and an inner sole, each channeled around its edge by slitting the outer sole parallel, or nearly so, to its outer or treading surface, and by slitting the inner sole parallel, or nearly so, to its inner surface, and in each instance for a short distance from the edge of the sole, making thereby a lip to each sole, and of an upper; all of which, after being properly prepared, are fastened together in their proper relative positions with stitches made by sewing the same in a sewing-machine, as ordinarily, which stitches extend through the said slitted soles and said upper at the parts of said soles between their outer edges and the inner edges of their respective slits, but do not pass through those portions of the said slitted parts of the soles which make the said lips to each sole, and which stitches on the outside and inside of the boot or shoe are covered and concealed by the said lips, which are laid upon and over them, and cemented thereto and to the contiguous parts of their respective soles, all substantially as hereinafter described, and for the purposes set forth.

In the accompanying plate of drawings, Figure 1 is a perspective view of a shoe made in accordance with the present invention, with its upper broken out on one side and the stitches on the inside of the shoe at such part uncovered and exposed; Fig. 2, a cross-section on line *x x*, Fig. 1; Fig. 3, a cross-section of an inner sole, an outer sole, and an upper before being stitched; and Fig. 4 a cross-section of an inner sole, an outer sole, and an upper after being stitched and the stitches on the inside and outside of the shoe covered by the lips of the soles, which lips are respectively on the inside and outside of the shoe, and are cemented in such positions to their respective soles.

In the drawings, A represents an outer sole, B an inner sole, and C an upper, to a shoe.

The outer sole, A, at its outer edge, *a*, and in a line parallel, or nearly so, to its treading-face D, is slit for a short distance from a point near its outer edge, *a*, making a lip, *b*, at the treading-face of the sole.

The inner sole at its outer edge, *c*, and in a line parallel, or nearly so, to its inner face, E, is slit for a short distance from a point near its said outer edge, *c*, making a lip, *d*, at the inner face of the sole.

Preparatory to sewing the above-described outer and inner soles and the upper together in a sewing-machine the upper and the inner soles are first secured together by tacks *f*, which tacks are driven through the two from the then outside face of the inner sole, and in being so driven are located so as to come within that part of the inner sole which has been slit as aforesaid, and so as not to interfere with the after sewing of the inner sole, outer sole, and upper together, and so as not to pass through the said lip *d* of the inner sole. The inner sole and upper thus being tacked together, the

outer sole and said tacked inner sole and upper are then sewed together in a sewing-machine as ordinarily, the stitches of which sewing extend through the thickness of the upper and of the two soles at the slitted portions of each of the said soles, but do not pass through the thickness of the lips *d b* to said soles, made by slitting them as aforesaid; after which sewing of the several parts of the boot as above each lip *d b* is laid over and upon the parts of the stitches which are not within the soles and upper, and there secured by any suitable cement properly applied to the same, which, with a proper hammering or other manipulation of the outer sole, with the shoe lasted, to secure an even and smooth laying and an adherence of each of said lips, completes the manufacture of a shoe in accordance with the present invention; the manufacture of a boot being, as is obvious, similar, and therefore needing no particular description herein.

Heretofore the lip has been formed from the grain portion of the sole, and on being turned back during the process of sewing, and afterward brought into its original position, it is caused to stretch, so as to extend beyond the edge of the insole. This has the tendency to cut the upper, because the grain portion hardens and curls up by reason of perspiration from the foot, and hence is uncomfortable to the wearer.

By my invention I make a channel near to but not at the edge of the material, and apply cement to this channel, lip, or both, before the sole is sewed, so that when it is returned to its original position and the shoe hammered or beat out, the parts remain permanently secure, and cannot turn up.

In the manufacture of boots and shoes as above described the last used in lasting the boot or shoe previous to its being sewed is adapted, by channeling the same, for the lip on the inner sole to be laid and held away from the tacks driven through the upper and inner sole to secure the same together preparatory to sewing the boot or shoe on a sewing-machine.

The lip to the inner sole, or the inner sole proper, or both, are prepared with cement previous to the tacking and the sewing operations, so that, after the sewing operation, the said lip, by being then turned over and laid against the part of the inner sole from which it was separated or slit, can be secured thereto. And in such cases it is preferable to use a cement which will not adhere to or be removed by contact with the last. This inner sole it is best to prepare with cement prior to tacking it to the upper, as aforesaid, instead of after, as, obviously, it can be done in the most convenient manner, and most readily, and without risk of soiling the inside of the boot or shoe, which would be the case were it done after the upper and inner soles were tacked together, or after the boot or shoe had been sewed; and, again, after either the tacking or the sewing operation, obviously, some portions, especially at the toe and thereabout, could not be prepared with cement at all.

While the inner sole may be slitted or channeled, as above described, for the whole contour of its edge, still, as the outer and inner soles and upper are very seldom sewed together at the heel portion, but nailed together by the same nails which fasten the heel in place, the inner sole at its heel portion need not be slit and channeled as aforesaid. In such case the tack-points at each part of the inner sole may be covered in various ways, as, for instance, by splitting the heel portion of the inner sole for its whole width and length and turning up the upper split out of the way, and then, after the nailing of the heel, as above described, is finished, turning down and cementing such split piece in place over the sole.

Machine-sewed boots or shoes, in addition to the merits heretofore possessed by them, when made as herein described, obviously have no exposed tack-points or stitches on the inside of the sole; have a smooth inner surface on the inner sole for the stocking of the wearer; require no insole or lining to the inside of the inner sole; and, in addition, are otherwise superior to machine-sewed boots and shoes made as heretofore.

I am aware of the patent granted to J. E. Wheeler, dated June 27, 1876, No. 179,145, and hereby disclaim the construction therein shown and described, as such is not my invention.

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

A machine-stitched boot or shoe having an outer sole, A, and an inner sole, B, each channeled at a distance from its outer edge, forming a lip, and an upper, C, the whole secured together by stitches passing through the two soles, the stitching being concealed by means of the lip formed at the channeled portions of the sole, said lip being turned down and cemented over the stitches, leaving an uncut margin in both outer and inner soles, substantially as shown and described.

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Witnesses:
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