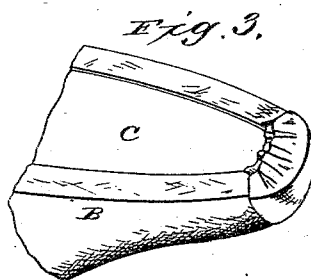
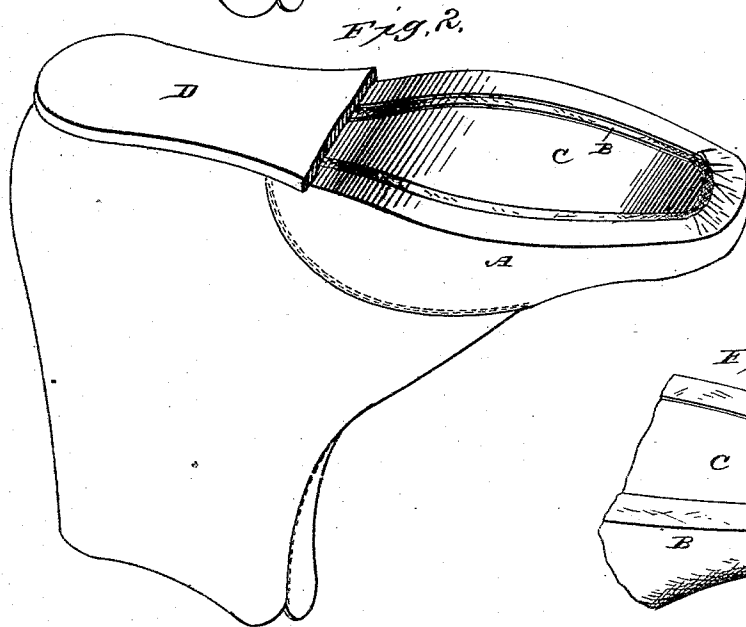
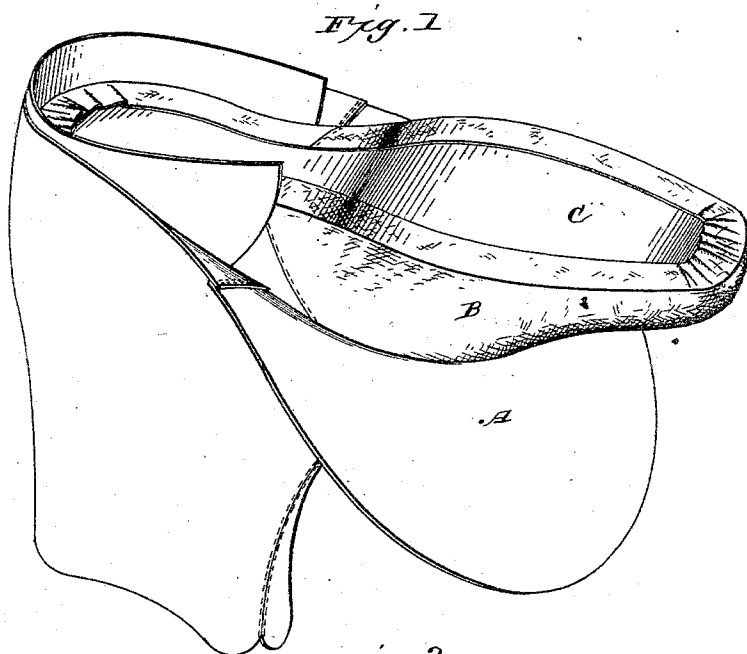


(No Model.)

L. VANALSTINE.
BOOT OR SHOE.

No. 425,353.

Patented Apr. 8, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

LYNUS VANALSTINE, OF ROCHESTER, NEW YORK.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 425,353, dated April 8, 1890.

Application filed November 14, 1889. Serial No. 330,305. (No model.)

To all whom it may concern:

Be it known that I, LYNUS VANALSTINE, of Rochester, in the county of Monroe and State of New York, have invented certain new and
5 useful Improvements in the Manufacture of Boots and Shoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of
10 this specification, and to the letters of reference marked thereon.

Heretofore in the manufacture of lined shoes and boots it has been the custom to simultaneously last the upper and lining and
15 confine their edges upon the insole preparatory to the application of the outer sole. Sometimes the upper and lining are confined together at or near their edges prior to lasting, and in others they are left free, but are
20 simultaneously grasped and drawn around the last by the same lasting devices, and are secured together to the insole either by pegs, tacks, stitches, or glue. Owing partially to the fact that the lining and upper are composed
25 of materials having different degrees of elasticity and one overlies the other, it is practically impossible to simultaneously draw them around the last and produce an exact fit—that is to say, so as to preserve the proper
30 proportions and disposition of the lining and upper and prevent either from wrinkling when the shoe or boot is removed from the last or placed upon the foot. Another source of failure is the circumstance that the lining
35 is entirely covered and concealed from view during the lasting process, and as, owing to its shape and composition, it not only does not have the same elasticity as the upper, but requires stretching on lines somewhat different
40 from those in which the upper requires the most tension, it frequently happens that when upper and lining are lasted simultaneously wrinkles are formed in the lining, or the latter is placed under excessive tension, or, the lining
45 being too loose in certain parts or offering too little resistance in one direction and too much in another, the lining or upper is ruptured, or the latter is placed under too much tension and its elasticity destroyed or permanently impaired. To overcome these and other
50 defects in the manufacture of shoes and boots,

and to produce such articles with the lining properly fitted and proportioned to the upper, so as to obviate the formation of wrinkles and produce a perfect-fitting shoe or boot, is the
55 main object of my present invention, which consists, primarily, in the new and improved method or process hereinafter described, and the novel features pointed out in the claims.

In the accompanying drawings, illustrating
60 in part the practical application of my improvements, Figure 1 is a view in perspective illustrating the first step in the process, and Fig. 2. a similar view showing the result of the second step. Fig. 3 is a view illustrating
65 the manner of forming a box-toe shoe.

Similar letters of reference in the several figures indicate the same parts.

Referring to the drawings, A designates the upper; B, the lining; C, the insole, and D the
70 outer sole. (Shown partially broken away in Fig. 2.)

In carrying out my invention, which is more particularly designed for the manufacture of ladies' and children's shoes, the upper and
75 lining are properly formed and associated together as usual, but without attachment at or near the edges to be applied to the sole.

The insole C is secured and held in position upon the last in any of the usual modes, and
80 the shoe-body, composed of upper and lining, is placed upon the last with the heel-stiffener in position. The shoe is now ready for lasting; but instead of grasping and drawing both the upper and lining, as is usual, the
85 lining alone is first drawn smooth and secured upon the face of the insole, preferably by means of suitable glue or cement. In performing this operation the lining is first drawn lengthwise of the last—that is to say,
90 at the heel and toe—to give the proper set and draw it into position, after which the lining is drawn snugly around and over the sides of the insole, and the entire margin of the lining is fastened securely by cement to the surface
95 of the insole.

While locating the position of and lasting the lining, the upper may be turned back, as indicated in Fig. 1, to expose the surface of the lining, so that the latter can expeditiously
100 and with certainty be drawn smooth upon the last and all wrinkles avoided.

In lasting the lining it should be drawn upward and forward or toward the toe rather than at right angles to the insole, thereby insuring an even tension all around the last.

5 The overlapping edge of the lining, having been cemented to the surface of the insole, is held in position until the cement has set sufficiently to retain it firmly in position, the lower margin of the heel-stiffener or counter

10 is pressed down into place upon the lining and insole, and if a box-toe shoe is to be formed the box is applied either by attaching a stiffening-piece properly shaped, or by applying a stiffening composition to the toe

15 portion of the lining. The shoe is now in condition for lasting the upper, which operation is performed by drawing the upper tightly and evenly over and around the smooth even surface of the lining, the latter being maintained under tension and in place by the attachment of its edges to the insole, hence offering

20 no obstruction to, but rather facilitating, the operation. As the upper is lasted it is secured by cement or otherwise upon the folded edge of the lining and held in place until the cement hardens, after which the outer sole is applied and preferably cemented to the insole, when it is ready for sewing in the usual manner.

30 As hereinbefore stated, one of the chief advantages of my present improved method is the celerity and exactness with which the upper and lining can be fitted to each other during or by the lasting process, thereby obviating almost entirely the wrinkling of the lining or upper when the shoe is worn, as the two members are independently fitted to the last and separately secured in place upon the insole.

40 I am aware that it has heretofore been proposed to manufacture rubber boots and shoes by first fitting a lining of fabric or leather over a last, securing the edges to the insole, and applying rubber solution to the entire surface of the lining, after which sheet-rubber is cemented upon the entire surface of the lining, as described in Patent No. 503, dated December 7, 1837; but my invention differs therefrom in several essential particulars, among which may be mentioned the

50 preliminary fitting and attachment of the lin-

ing to the upper, leaving the lower portion and edges free, after which the combined upper and lining is fitted and placed in position upon the last and the lining lasted and cemented at its edges to the insole. The upper is now separately lasted over and upon the previously-lasted lining to produce a close fit between them and give shape to the shoe, and the edges only of the upper are secured to the insole above the lining, leaving the lining and upper unattached between the sole and the points of attachment along the upper portion of the shoe.

Having thus described my invention, what I claim as new is—

1. The hereinbefore-described improvement in the art or method of manufacturing shoes and boots, the same consisting in first fitting the lining and upper together and attaching them along the upper portion, then lasting the lining and securing it by the edges to the insole, and subsequently lasting the upper over and around the lining while the latter is held taut and smooth upon the last by its attachment to the insole, and, finally, securing the edges of the upper in place upon the lining and insole, as and for the purpose set forth.

2. The hereinbefore-described improvement in the art or method of manufacturing boots and shoes, the same comprising the following steps: first, lasting the lining upon the insole, with the upper loose and unconfined at the lower edge, by drawing the front portion upward and forward around the last and securing the margin to the face of the insole; second, applying the toe-stiffener to the insole and lining; third, lasting the upper by drawing it over and around the stretched lining while still on the last and cementing the edges or margin of the upper upon the insole; fourth, applying the outer sole and securing it in position, and, finally, stitching or otherwise securing the insole and outer sole together by fastenings penetrating the upper and lining between the inner and outer soles, substantially as and for the purpose specified.

LYNUS VANALSTINE.

Witnesses:

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