(No Model.)

L. F. NORMAN.

MANUFACTURE OF BOOTS AND SHOES.

No. 292,503. Patented Jan. 29, 1884.

FIG. 4.

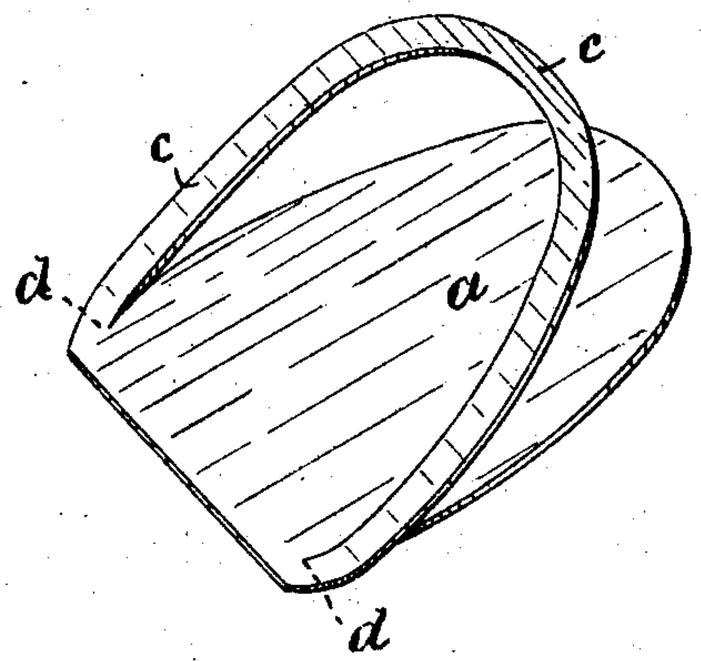


FIG. 1.

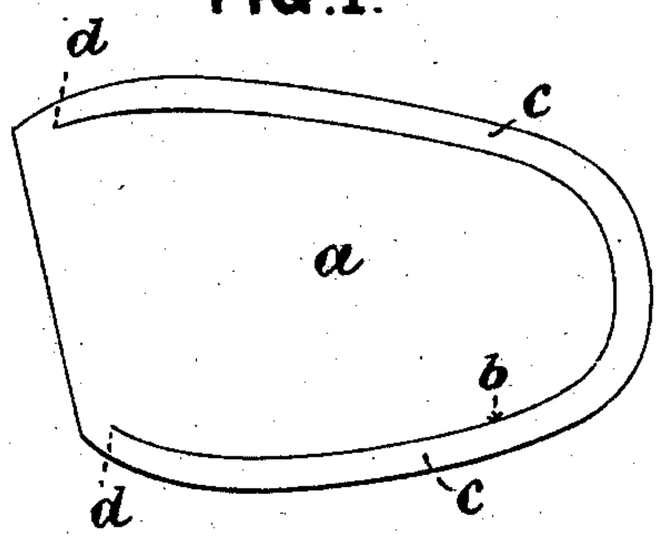


FIG. 2.

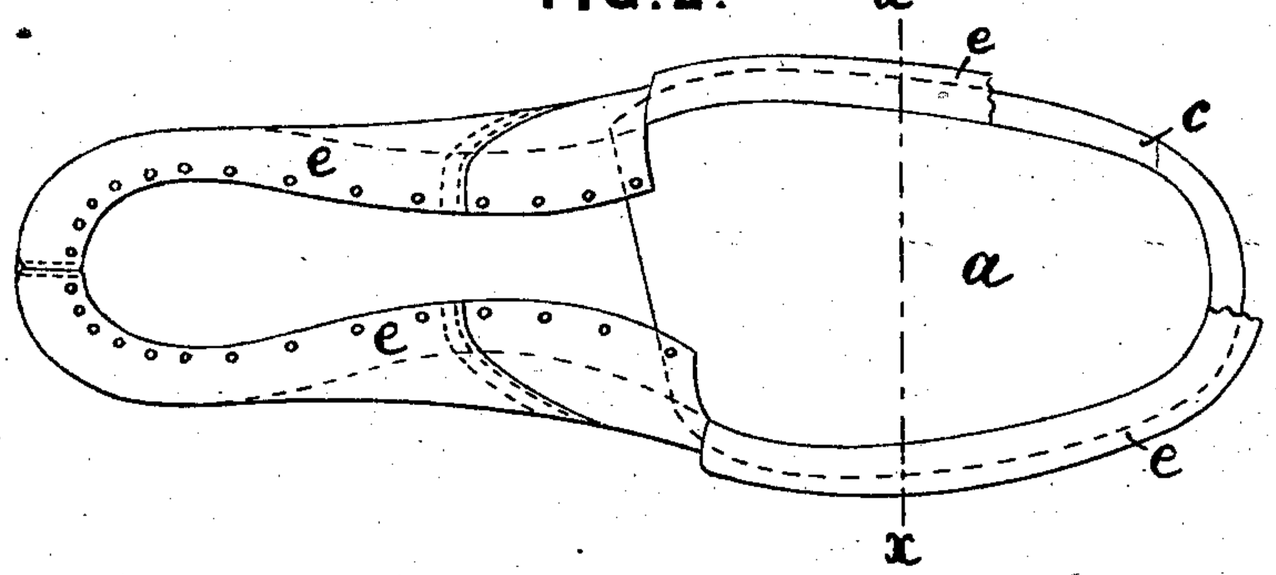
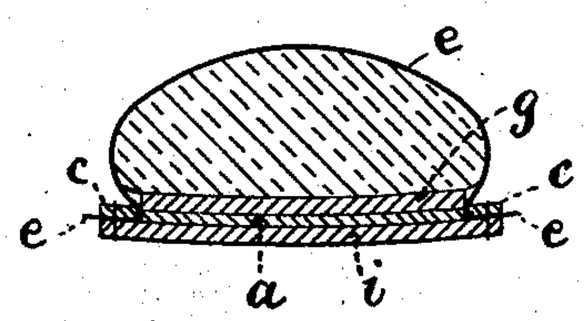


FIG. 3.



Witnesses.

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Atty.

UNITED STATES PATENT OFFICE.

LAWRENCE F. NORMAN, OF BOSTON, MASSACHUSETTS.

MANUFACTURE OF BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 292,503, dated January 29, 1884.

Application filed February 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, LAWRENCE F. NORMAN, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Boots and Shoes, of which the following is a specification.

The object of my invention is to produce a boot or shoe in which the fore part of the inner sole is free from wax-thread stitches, nails, pegs, or screws, and in which the sole shall be very flexible.

My improvements relate especially to that class of boot or shoe in which the edge of the fore part of the upper is turned outward, and in connection with a shoe of such kind I employ a sole and a surrounding welt, the latter being, however, cut from sole-leather in the form that the welt is to have in the completed boot or shoe, thus avoiding the employment of a welt cut as a straight strip, and subsequently bent into sole shape. A welt, the curvature of which is determined by cutting rather than bending, as heretofore, will be free from wrinkles or puckers, so that such a welt, when being stitched to the upper and the latter to the outer sole below it, will lie more closely to the upper, and so avoid the formation of gaps between the welt and upper, and produce a more symmetrical welted edge.

In the practice of my invention, the sole-shaped welt is preferably cut as represented in the drawings, where the welt is shown as formed by slitting the half-sole near its border, thus making a welt entirely about that part of the sole which directly receives the foot against it.

Referring to the accompanying drawings, Figure 1 represents a half-sole, showing a slit cut near the edge to form the welt. Fig. 2 is a view of the under side of a shoe in process of manufacture, showing the half-sole with the edge of the upper drawn through the slot or within the inner edge of the welt and turned outward. Fig. 3 is a section on line *x x* of Fig. 2. Fig. 4 represents the half-sole with the marginal welt raised.

In the process of the manufacture of the boot or shoe, the upper *e* is turned in and fastened in the usual manner at the heel and shank portion, as indicated in Fig. 2. The inner sole, *a*, Fig. 1, has a slit, *b*, cut through it near its edge, the said slit, as shown, being extended entirely around the toe and along the sides thereof to the points *d d*, near the edge which crosses the shank portion of the shoe, thus leaving a separate edge which forms a welt, *c*, cut from the sole and cut in the form that the said welt will ultimately assume in the completed boot or shoe, thus avoiding the employment of a bent welt. The shank part *g* of the inner sole, with the edge of the upper laid over it, is secured as usual to the outer sole, *i*. The edge of the upper is cut or slitted at each side near the shank, thus permitting its rear portion to be turned in upon the heel and shank portion of the inner sole, while the forward portion of the upper is passed inside the inner edge of the welt and turned outward beyond the said welt, as best shown in Figs. 2 and 3, after which the outer sole, *i*, is applied, and the welt, upper, and outer sole are attached by means of stitches, screws, nails, or other fastenings passing through the same, the said fastenings not, however, entering the part *a*, and, owing to the fact that the front and side edges of the latter are free, the shoe is left very soft and flexible in the sole in advance of the shank. The edges of the several parts are then cut and trimmed in the usual manner, and the welt being free from puckers, as would not be the case were it a straight strip of leather bent about the last, enables the production of a smoother edge.

By means of my invention I dispense with the ordinary bent welt applied to the out-turned edge of the upper, and supply its place by the welt *c*, formed in the shape that it is ultimately to retain, the same extending about the half-sole or the fore part of the inner sole, thus effecting a saving in the cost of manufacture, and improving the quality of the boot and shoe.

In accordance with the method herein shown and described, I am enabled to make a boot or shoe possessing all the advantages of a hand-made welted-shoe, and at a cost not exceeding that of a boot or shoe having nails, tacks, or wax-thread in the inside of the fore part of the inner sole.

What I claim as my invention is—

1. In a boot or shoe, a sole or half-sole, *a*, circumferentially cut or slit from or near the

shank entirely around its sides and toe portion, thus leaving a separated welt or margin, an upper having the edges of the fore part passed down at the inner side of the said welt, or through such cut or slit, and having its edge turned outward underneath such welt, and an outer sole united to the welt and out-turned upper by suitable fastenings, the said sole *a* being disconnected from the outer sole and upper, as described, and for the purposes set forth.

2. In a boot or shoe having an outer sole and out-turned upper, as described, a welt cut from leather, substantially in the form which the welt is to ultimately assume in the completed boot or shoe, the upper crossing the inner edge of and being extended outward under the said welt, and the welt, upper, and outer sole being united by fastenings outside the body portion of the upper, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LAWRENCE F. NORMAN.

Witnesses:

J. H. ADAMS,

E. PLANTA.