

(No Model.)

G. VALIANT.
BOOT OR SHOE.

No. 452,655.

Patented May 19, 1891.

Fig. 1.

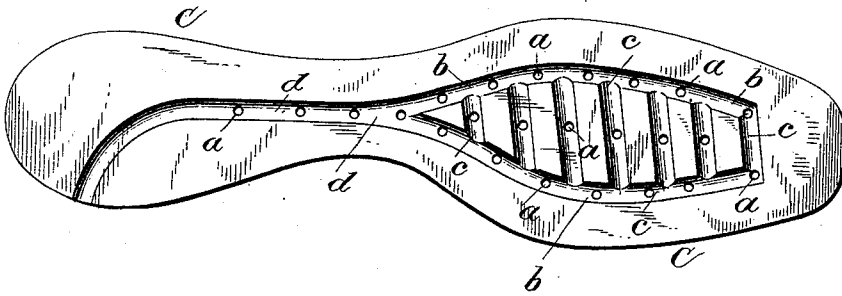


Fig. 2.

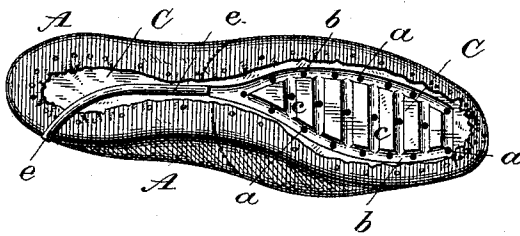
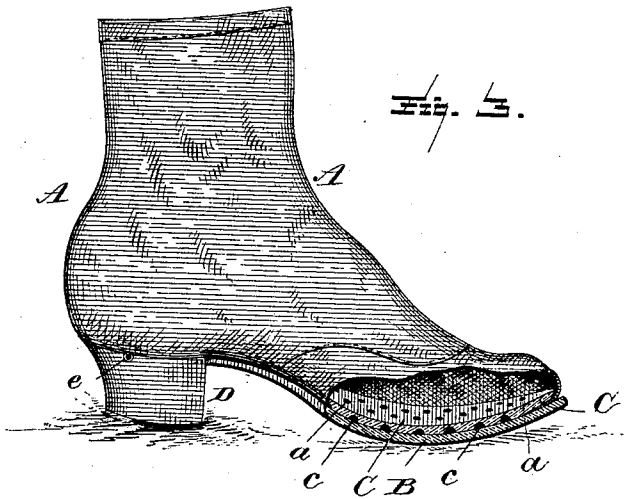


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE VALIANT, OF TORONTO, CANADA.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 452,655, dated May 19, 1891.

Application filed January 16, 1890. Serial No. 337,091. (No model.)

To all whom it may concern:

Be it known that I, GEORGE VALIANT, of Toronto, in the Dominion of Canada, have invented a new and useful Improvement in Boots and Shoes, of which the following is a specification.

The object I have in view is to produce a ventilated boot or shoe, the ventilation being accomplished through the medium of the inner sole. This, broadly considered, is not new with me.

My invention consists in the means employed by me for obtaining the ventilation. Under my invention the inner sole is grooved upon its outer face, both to provide ventilating-passages and also to impart the needed flexibility to the sole itself, and with these grooves communicate perforations which are made through the sole from one face to the other. The grooves preferably are cross-grooves, which communicate with a surrounding groove concentric with the edge of the sole, but at such distance therefrom as to leave intact the full substance of the insole for such width as required for the overlapping of the upper and the securing together of the insole, upper, and outer sole. The surrounding groove converges toward the shank and becomes a single passage or air-duct, which may communicate with the exterior air at any convenient point, preferably at the heel of the shoe; and this air-duct may, if desired, be formed of a metal pipe which serves not only as a ventilating-duct but also as a shank-stiffener.

The nature of my invention and the manner in which the same is or may be carried into effect will be readily understood by reference to the accompanying drawings, in which—

Figure 1 is a plan of the outer face of an inner sole grooved and perforated in accordance with my invention. Fig. 2 is a bottom plan of a partly-made shoe in which the upper has been lasted upon the prepared insole and the metal ventilating-pipe has been laid in place; and Fig. 3 is a side elevation of the completed shoe with a portion of the shoe in longitudinal section in order to show the ventilated inner sole.

The shoe shown in the drawings consists of the upper A, the outer sole B, the inner sole

C, and the heel D. It may be of any ordinary or suitable construction, except in the particulars which will now be referred to. The inner sole on its outer face is grooved both to provide ventilating-passages and to impart the needed flexibility to the ball portion of the sole, and has perforations *a* communicating with these grooves. The grooves consist of cross-grooves *c*, which at their ends communicate with a surrounding groove *b*, which is at such distance from the edge of the inner sole as to leave intact all around a sufficient margin to permit the inner sole to be secured in the customary way to the other parts of the shoe, such as the upper and the outer sole, to which it usually is attached.

Under my invention, with a view to ease and cheapness of manufacture, the grooves are in the inner sole alone, the outer sole B being plain and without groove, as usual. In order, however, to secure grooves of proper internal capacity it becomes necessary to have an inner sole of more than the usual thickness. This, on the score of durability, is not a disadvantage; but it is a material disadvantage in that it detracts decidedly from the flexibility of the shoe, particularly the ball portion thereof, and renders the sole much stiffer than is desirable or convenient for light shoes. By my system of grooving, however, while the grooves are confined to the inner sole exclusively, yet that sole is made very pliant and flexible at the needed points, while at the same time it remains solid and strong; and I am thus enabled to obtain a ventilated and thoroughly flexible shoe having a solid and durable inner sole.

The shoe shown in the drawings is a machine-sewed single-soled shoe. In the case, however, of "slip-soled" work so called, the slip or middle sole, for the purpose of my invention, may be considered as virtually part and parcel of the outer sole, and consequently will be plain and ungrooved. So in the case of welted work, a filling-piece is used at times between the out and inner soles to fill the space which otherwise might be left between them. This filling, however, for the purposes of my invention, may be considered as virtually a part of the outer sole, and therefore would be plain and ungrooved; and I desire to be understood as including these obvious varia-

tions in my claim. The surrounding groove *b*, as it approaches the shank portion of the inner sole, merges into a groove, duct, or passage *d*, which may be led to any suitable point where it can most safely communicate with the exterior air. In this instance this air-passage is led to the heel where it opens into the air on the side of the heel proper *D*, between heel-seat and outsole, as indicated. I prefer to form this passage of a small metal pipe *e*, (shown in Fig. 2,) which may take the place of and serve as the metal shank-stiffener sometimes employed. The outer end of this pipe on the finished shoe, Fig. 3, is barely perceptible.

What I claim, and desire to secure by Letters Patent, is—

A boot or shoe having an inner sole provided with perforations *a*, cross-grooves *c*, surrounding groove *b*, and duct or passage *d*, and a plain ungrooved outer sole applied directly to the inner sole, as shown and set forth.

In testimony whereof I have hereunto set my hand this 10th day of January, 1890.

GEORGE VALIANT.

Witnesses:

WM. M. PENTELOW,
J. J. HARTON.