D. A. McDONALD.
Boots and Shoes.

No. 226,532. Patented April 13, 1880.

Fig. 1.

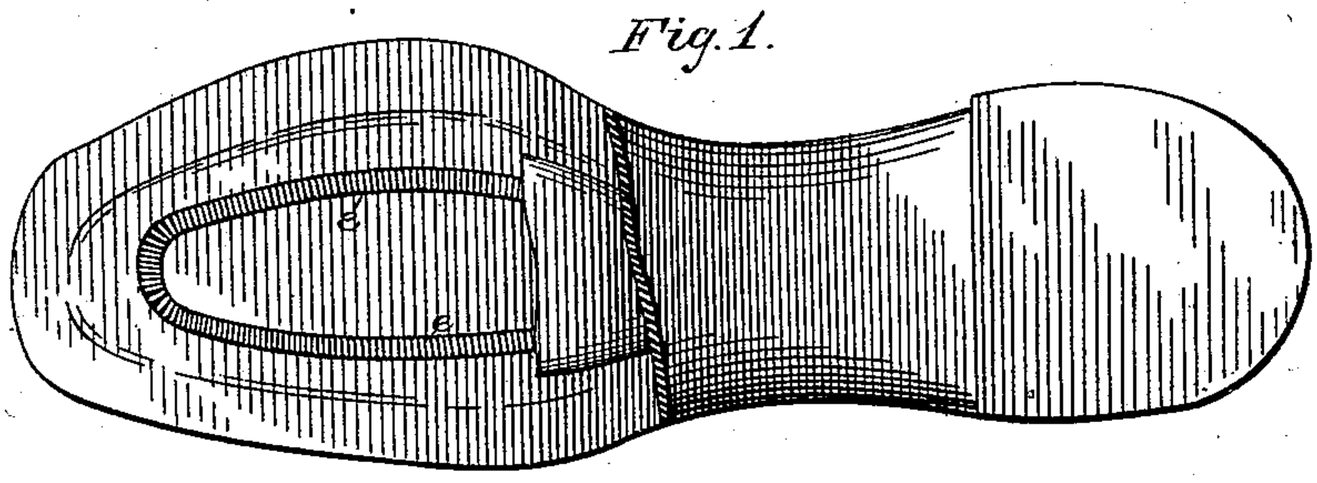


Fig. 2.

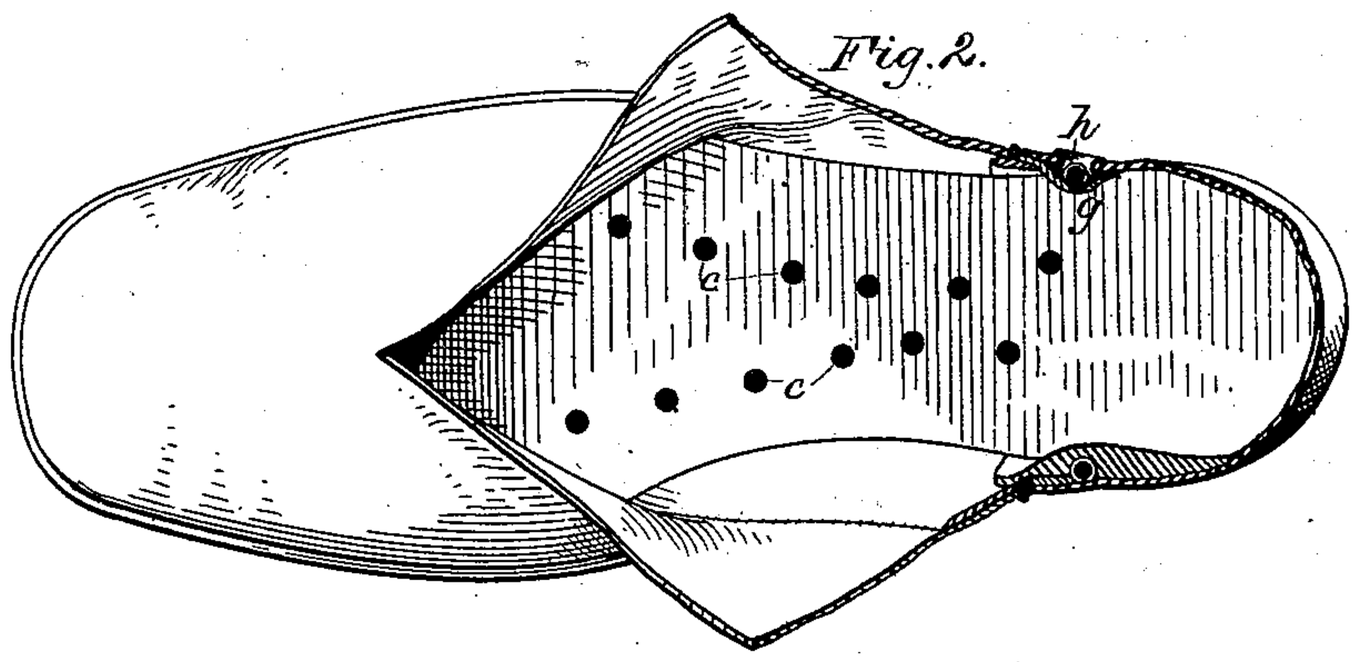
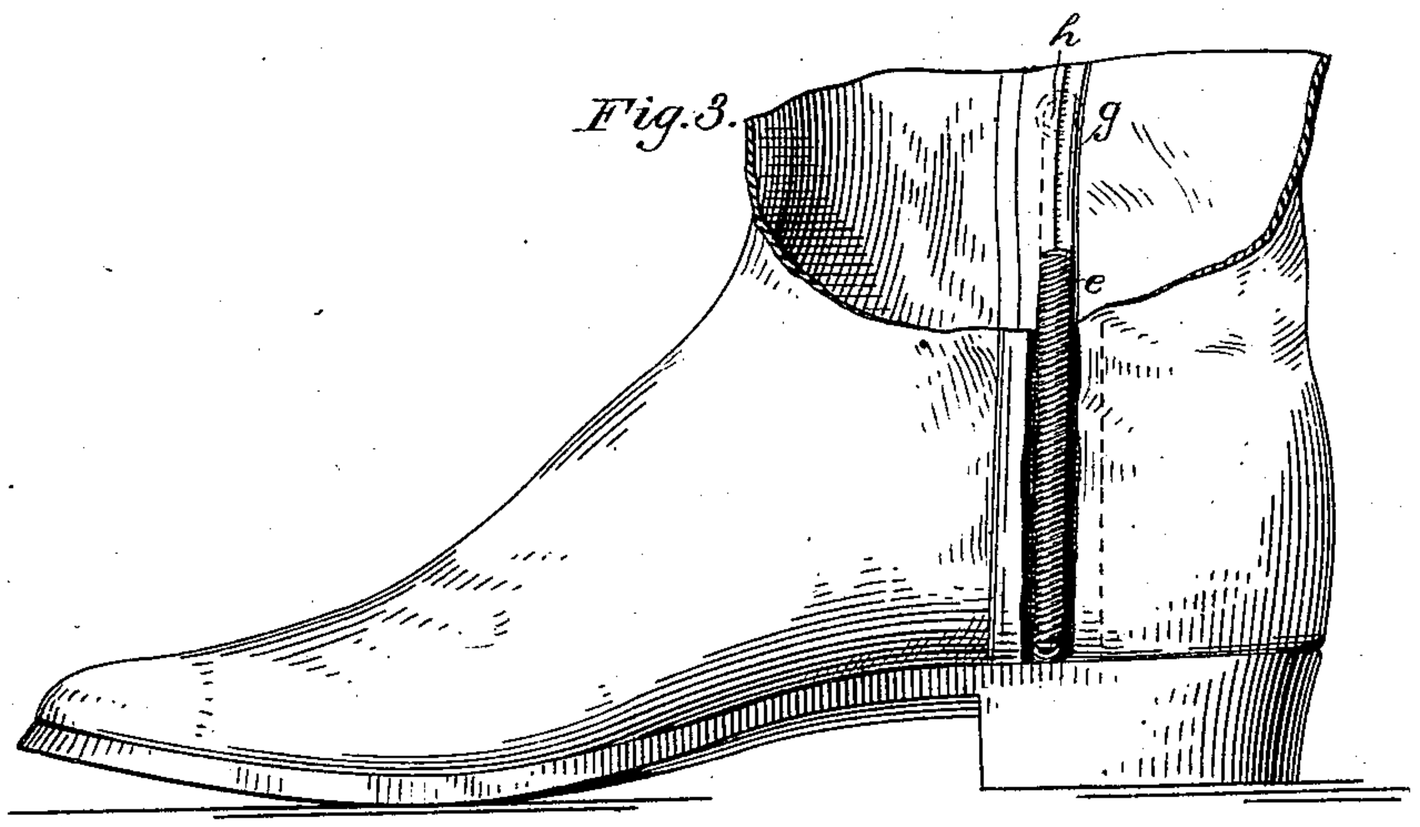


Fig. 3.



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UNITED STATES PATENT OFFICE.

DOMINICK A. McDONALD, OF ROCKLAND, MAINE.

BOOT AND SHOE.

SPECIFICATION forming part of Letters Patent No. 226,532, dated April 13, 1880.

Application filed February 14, 1880.

To all whom it may concern:

Be it known that I, DOMINICK A. McDONALD, of Rockland, in the county of Knox and State of Maine, have invented a new and useful Improvement in Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to the ventilation of boots and shoes. The object of it is to provide air-passages through and beneath the inner sole, and leading to the outside of the boot or shoe at a point sufficiently high to avoid the introduction of water, and in connection with this arrangement to avoid any interference with the ordinary elasticity of the boot or shoe.

The device is shown as applied to a boot, but is applicable as well to shoes and gaiters.

The construction is hereinafter fully described, and the particular parts indicated in the claims.

In the drawings hereunto attached, Figure 1 shows the bottom of a boot having my improved ventilating device with the outer sole partly removed. Fig. 2 is a view of the inner sole, the upper being partly removed. Fig. 3 is a side elevation.

In carrying out my invention I form on the outside of the inner sole a groove, preferably of the shape shown in Fig. 1, extending in the figure of a loop from the side seam on one side back to the side seam on the other. In this groove I place a small spiral coil, *e*, of, preferably, brass wire closely coiled, but still having interstices to allow free passage of air laterally through the coils. The coil at each end is brought back, as before stated, to the side seam, and is carried up by the side of said seam, as shown in Fig. 3, two or three inches above the counter. Usually a narrow strip of calf-skin, *g*, is used as a stay to strengthen the side seam. One edge of it is sewed into the seam and the other edge left loose or pasted to the leather. This strip, however, in my construction, is made to cover the coil of wire, and is sewed down over it. A hole, *h*, is made in the boot-leg at the upper extremity of the coil on each side, so as to give communication between the tubular passage in the wire and the outer air. This hole may be secured neatly by an eyelet.

The coil serves not only as an air-passage, but also stiffens the leg and prevents it from wrinkling down, as is apt to be the case with light boots.

In low-cut shoes and gaiters the wire may be put between the linings of the quarters. The air introduced through this outer hole is permitted to pass through the wire coil beneath the inner sole, and thence into the interior of the boot or shoe through perforations *c c*, made in the inner sole directly over the wire coil.

After the wire coil is placed in the groove it may be covered with leather or rubber cloth cemented on with rubber cement, and over this is placed the outer sole.

The wire coil does not interfere with the motion of the boot or shoe, and serves to keep the channel open and clear for the passage of air. The motion of the foot in walking, as the heel lifts, tends to create a vacuum, which causes the air from the outside to rush into the interior of the boot, and when the heel comes back again into its place when the foot is set upon the ground the air is expelled, and thus the boot or shoe is constantly ventilated in the act of walking.

Having thus described my invention, what I claim is—

1. In a boot or shoe, an insole having a channel on its under side, in which is coiled a spring, such insole being perforated to form a communication between such channel and the interior of the boot or shoe, as set forth.

2. In a boot or shoe, the combination of the perforated insole, the channel between the soles communicating with a vertical passage within the counter, terminating in an air-outlet opening, and a continuous coiled spring, all substantially as described and shown.

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

DOMINICK A. McDONALD.

Witnesses:

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H. S. LAWRY.