

(No Model.)

H. FALKNER.
VENTILATED SHOE.

No. 426,495.

Patented Apr. 29, 1890.

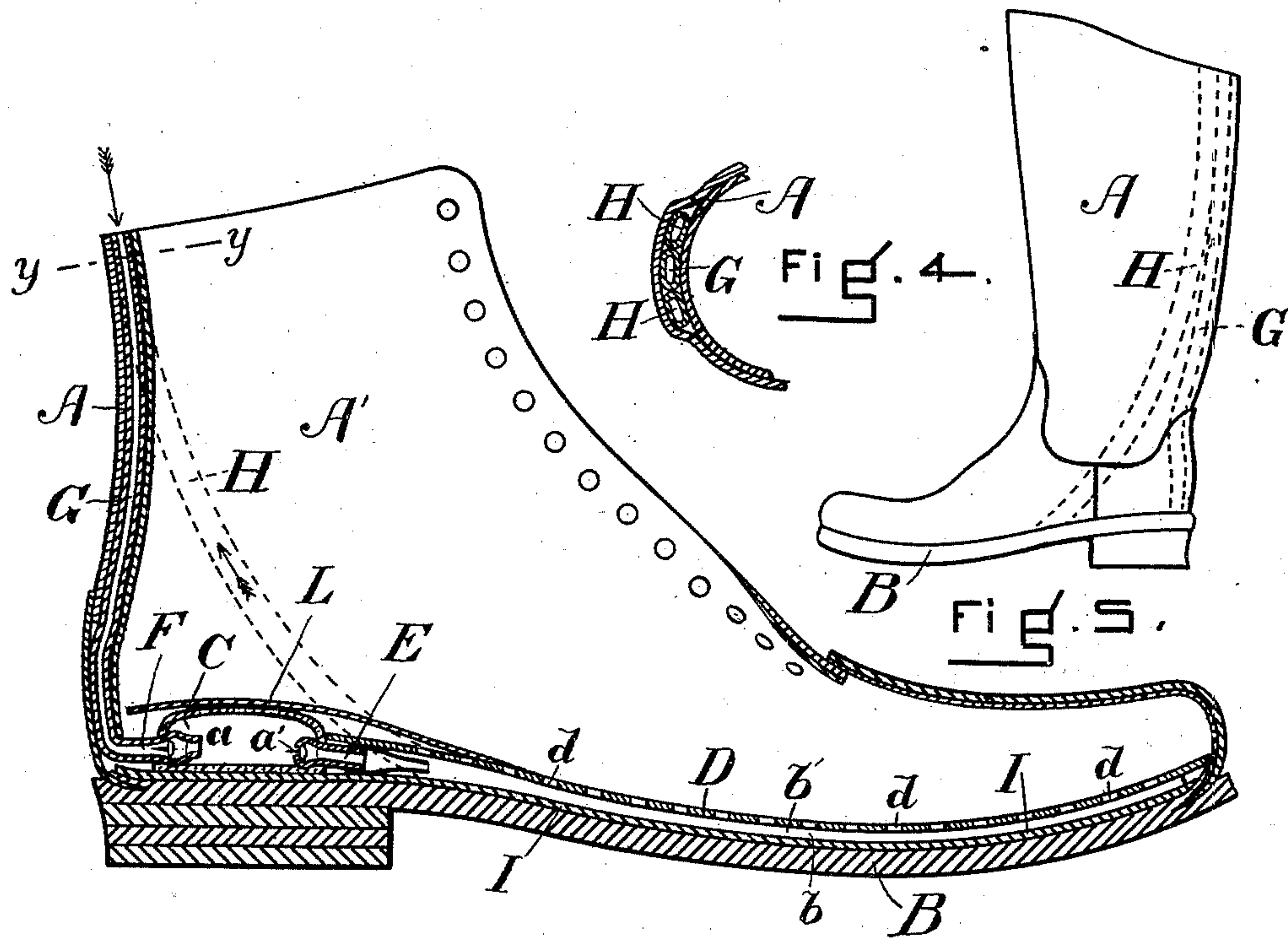


Fig. 1.

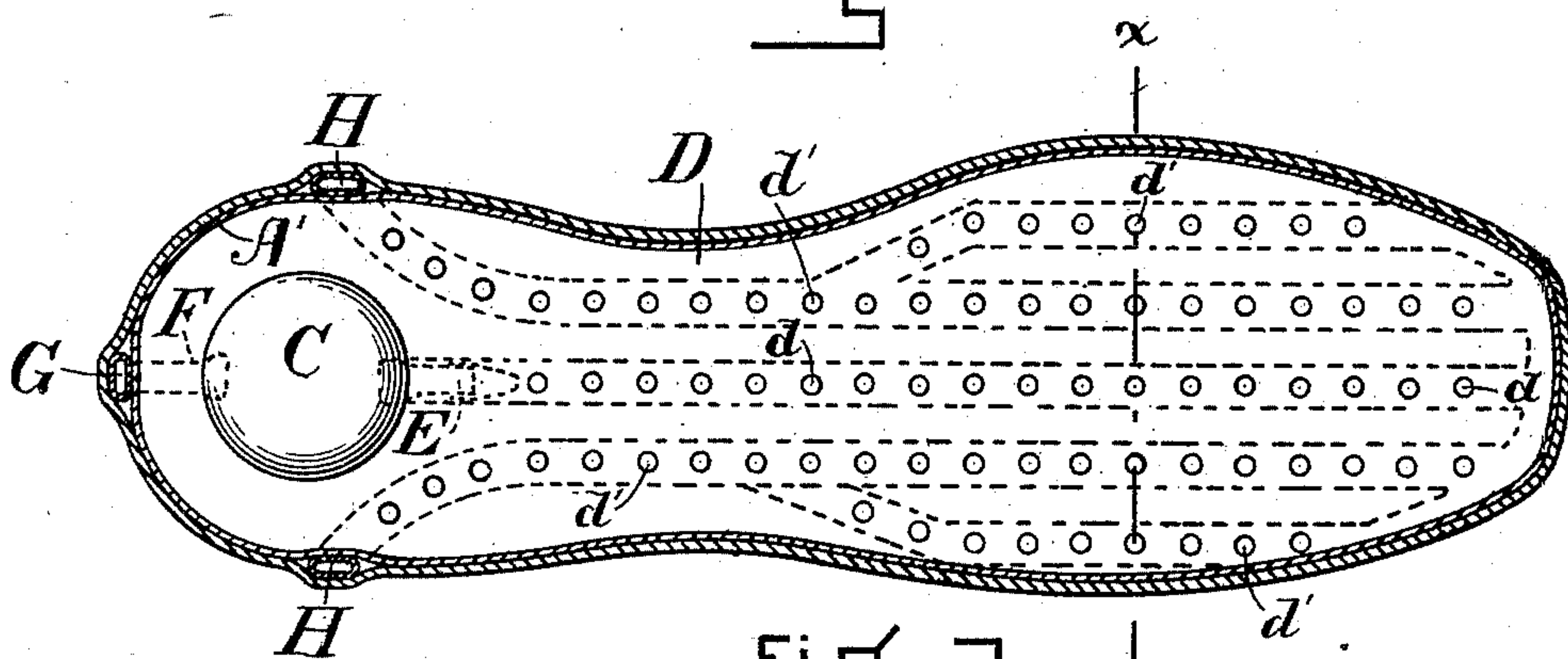


Fig. 2.

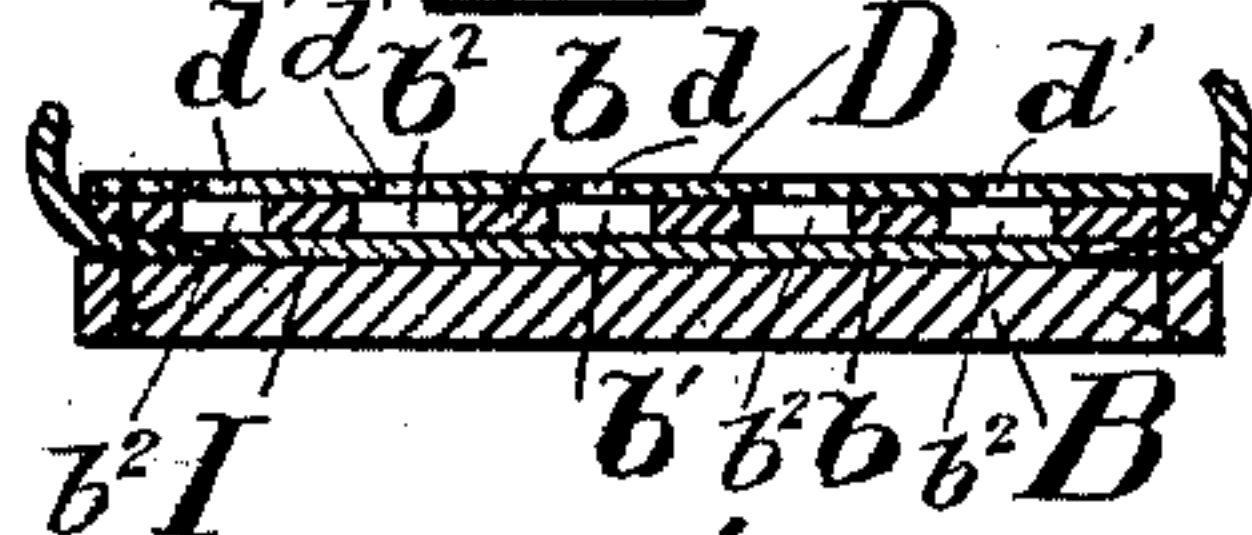


Fig. 3.

WITNESSES.

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HENRY FALKENER, OF CAMBRIDGE, MASSACHUSETTS.

VENTILATED SHOE.

SPECIFICATION forming part of Letters Patent No. 426,495, dated April 29, 1890.

Application filed August 28, 1889. Serial No. 322,195. (No model.)

To all whom it may concern:

Be it known that I, HENRY FALKENER, a citizen of the United States, residing at Cambridge, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Ventilated Shoes, of which the following is a full specification.

Referring to the accompanying drawings, Figure 1 is a sectional elevation of my improved shoe. Fig. 2 is a sectional plan view of the same. Fig. 3 is a section on xx , Fig. 2. Fig. 4 is a section on yy , Fig. 1; and Fig. 5 shows in elevation a boot fitted with my improvements.

My invention consists of an improved boot or shoe having air-passages between the material of the body of the shoe and the lining thereof, communicating through a bulb in the heel with passages between the outer and perforated inner soles in such a manner that fresh air is automatically drawn into the shoe and foul air discharged therefrom at every step of the wearer. A shoe thus constructed is especially healthful for persons having various troubles with the feet—such as chilblains, cramps, habitually moist or cold feet, &c.—the air constantly circulating through the shoe acting in a very beneficial manner on the foot to keep it dry and in healthy condition.

A represents the material of the body of the shoe, and A' the lining thereof.

B is the outer sole, above which is preferably laid an inner sole I , made of thin metal, to prevent moisture from entering the shoe. The material b between the metal sole I and the inner sole D , or, if the metal sole is not used, between the outer sole B and the inner sole D , is cut to form passage-ways $b' b^2 b^3$, running longitudinally, the inner sole D being perforated with holes $d d'$, arranged in rows, communicating with said passage-ways, as clearly shown in Figs. 2 and 3.

C is a bulb, made preferably of rubber or any suitable flexible material and fixed within the boot over the heel thereof and directly under the heel of the wearer.

G is the fresh-air tube, which is open at the top and passes down the back of the shoe, terminating in a valve-case F , communicating with the bulb C , and containing the valve a , opening inward toward the bulb.

E is another valve-case connecting the bulb C with the central air-passage b' and containing the valve a' , opening outward from the bulb. These valves $a a'$ are of any approved construction to keep the circulation of the air in the right direction.

$H H$ are the outlet air-tubes, communicating with the outer passage-ways $b^2 b^3$, as shown in Fig. 2; on each side of the heel, and thence passing upward and around to the back of the shoe, terminating at the top, preferably on either side of the central fresh-air tube G .

L is a lining half-sole, the object of which is to cover the bulb C and conceal it from sight. It is omitted in Fig. 2, so as to show the bulb in place.

The operation of my improved shoe is as follows: At every step of the wearer in walking the heel of the foot rises within the shoe sufficiently to allow the bulb C to expand to its full size, thereby drawing the fresh air by suction through the inlet-tube G into said bulb. When the heel is again pressed down, the bulb is depressed, forcing the air past the valve a' into the central passage b' , and through the perforation d into the shoe. Thus at every step a bulbful of air is pumped in, the foul air and moisture being expelled through the holes d' into the outer passage-ways b' , and thence through the outlet-tubes H into the outer air, the air moving in the direction indicated by the arrows.

This construction of shoe does not interfere in the least with the comfort of the wearer, the bulb C being very shallow and the slightest movement of the heel of the foot within the shoe in walking being sufficient to create the circulation of air therein in the manner described. The same construction may be equally well applied to a boot, being especially desirable in rubber boots, which are generally so hot and uncomfortable.

In Fig. 5 I have shown a rubber boot fitted with my improved ventilating devices.

The ventilated boot or shoe is especially adapted for dry hot climates, where ordinary foot-wear is very burdensome. If desired, in extremely cold weather the air-admitting and air-expelling tubes may be closed, and the shoe will then be as tight as those ordinarily worn.

I claim—

1. A ventilated boot or shoe having, in combination, a perforated inner sole, and air-admitting and air-expelling tubes between the outer material and the lining of the upper, a
5 separate and independent system of longitudinal passage-ways between the inner and the outer sole communicating with each of said tubes, and an operating-bulb in the heel, all arranged and operating substantially as and
10 for the purposes described.

2. A ventilated boot or shoe provided between the inner and the outer soles with a central longitudinal air-admitting passage-way b' and independent air-expelling pas-

sage-ways b^2 on either side thereof, in combination with a bulb C and an air-admitting tube G, communicating with said central passage-way b' , and provided with suitable valves, a perforated inner sole, and air-expelling tubes H, communicating with the passage-ways b^2 , all arranged and operating substantially as and for the purposes described. 15 20

In witness whereof I have hereunto set my hand.

HENRY FALKENER.

Witnesses:

ALBERT E. LEACH,
E. H. GILMAN.