(No Model.)

D. B. WHITEHILL.

VENTILATED BOOT.

No. 490,703. Patented Jan. 31, 1893.

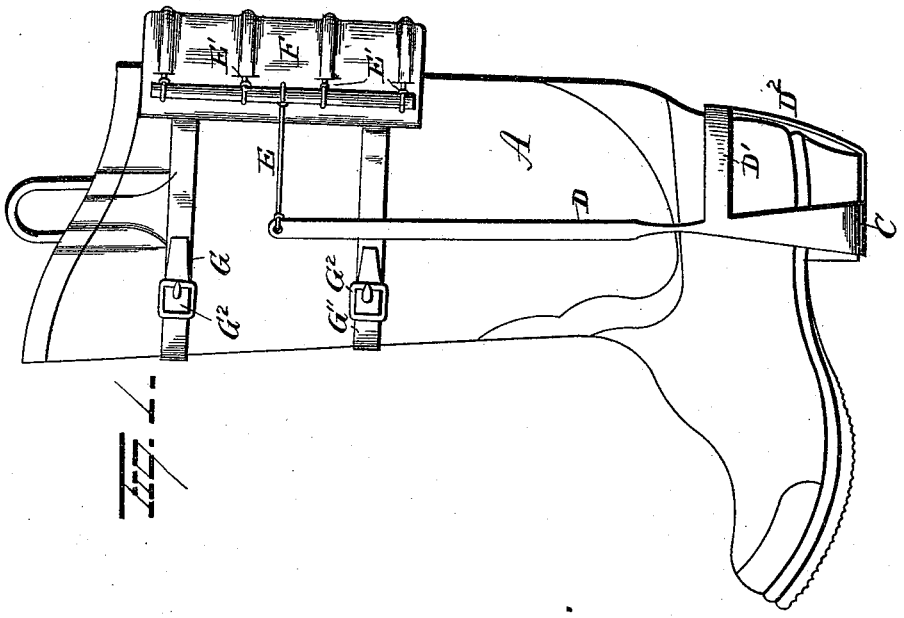

Fig. 1.

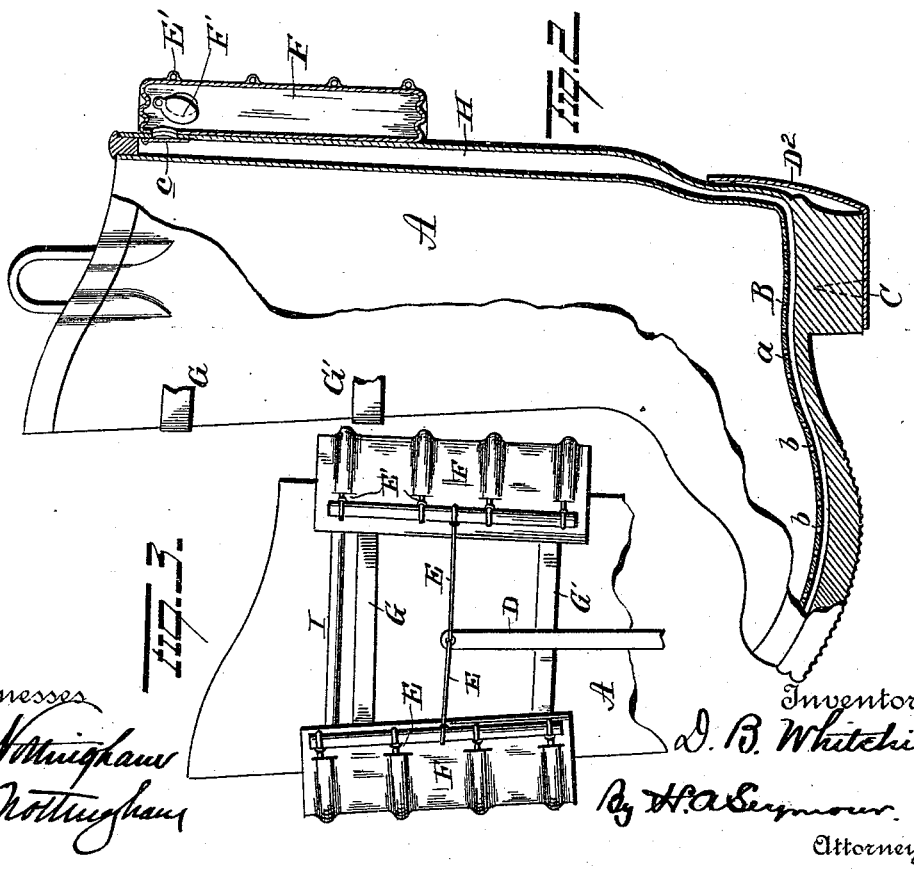

Fig. 2.

Fig. 3.

Witnesses
E. Nottingham
H. Nottingham

Inventor
D. B. Whitehill
By H. A. Seymour
Attorney

UNITED STATES PATENT OFFICE.

DAVID B. WHITEHILL, OF NORTH CLARENDON, PENNSYLVANIA.

VENTILATED BOOT.

SPECIFICATION forming part of Letters Patent No. 490,703, dated January 31, 1893.

Application filed October 1, 1892. Serial No. 447,512. (No model.)

To all whom it may concern:

Be it known that I, DAVID B. WHITEHILL, of North Clarendon, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Ventilating Boots; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in boots,—the object being to produce simple and efficient means for ventilating the same.

A further object is to provide a boot with devices whereby air will be positively forced into the foot of the boot when in use.

With these objects in view the invention consists in certain features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is a view of a boot having my improvements applied thereto. Fig. 2 is a vertical sectional view. Fig. 3 is a view of a modification.

A represents a boot, preferably of rubber. In the foot of the boot a supplemental insole B is provided and so disposed as to leave a space *a* between it and the insole proper of the shoe,—said supplemental insole being provided with perforations *b*, whereby to admit air to the foot of the wearer, the air being supplied to the space *a* in a manner presently explained. A plate C is secured to the heel of the boot and at each end of said plate arms or bars D project upwardly parallel with the boot leg, said arms or bars being preferably made of spring metal and adapted to yield slightly when the device is in use. In order to further insure the rigidity of the attachment of the arms or bars D to the boot, a metallic strap D′ extends from one of the arms D to the other preferably in proximity to the ankle portion of the boot. A plate or brace D^2 extends from the metallic strap D′ to the plate C on the bottom of the heel of the boot.

To the upper ends of the arms or bars D, rods or arms E are attached and, extending rearwardly, are connected with the upright rods of a frame E′, which latter has secured to it, a bellows F having an inlet valve F′. Straps G, G′ having buckles G^2 are secured to the bellows and adapted to extend around the front of the boot leg where they may be buckled to suit the convenience of the wearer.

Located between the layers of the material constituting the boot leg, is a tube H, preferably of yielding material, said tube communicating at its lower end with the space *a* in the foot portion of the boot and in proximity to its upper end communicates with the bellows F, at which point of communication a valve *c* is provided. From this construction and arrangement of parts it will be seen that the rear portion of the bellows F will be maintained practically stationary by the arms or bars D, said arms or bars only yielding slightly to relieve the ankle of the wearer of undue strain. Thus it will be seen that when the upper portion of the boot is moved forward by the wearer in walking, the inner portion of the bellows will be carried forward with it and become inflated with air which enters through the valved opening F′. Now as the top of the boot moves backwardly the air in the bellows will be forced through the valve *c* into the tube H, through which it will be forced to the space *a* in the foot of the boot and finally through the perforations *b* to the foot of the wearer. By the employment of the devices above described it will be seen that the air will be positively forced to the foot of the wearer as the latter walks and thus maintains the foot thoroughly ventilated and prevents the collection of perspiration.

It is evident that two bellows may be employed instead of one, as shown in Fig. 3, in which case one bellows will be attached to the back portion of the boot leg and the other to the front portion, so that air can be forced to the foot of the wearer at both the forward and backward movements of the boot leg, said bellows thus operating alternately. When two bellows are used, a tube or tubes I will be employed and communicate with the bellows at the front of the boot leg and with the tube H which leads to the foot portion. It is also evident that instead of employing the straps G, G′, the bellows may be secured directly to the boot leg in the manufacture thereof.

The device is very simple in construction, cheap to manufacture and effectual in the performance of its functions.

Various slight changes might be made in

the details of construction of my invention without departing from the spirit thereof or limiting its scope, hence I do not wish to restrict myself to the precise details of construction herein set forth, but,

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. The combination with a boot leg and the foot portion thereof, of a bellows attached to the leg portion, a tube leading from said bellows to the foot portion of the boot and arms connected to said bellows and boot substantially as described so that air will be positively forced to the foot portion of the boot when the latter is in use, substantially as set forth.

2. The combination with a boot, and a supplemental insole having perforations, said supplemental insole being constructed substantially as described so as to leave a space beneath it, of a bellows attached to the leg portion of the boot, a tube communicating with said bellows and the space beneath the supplemental insole, and arms connected to said bellows and the heel portion of the boot, substantially as set forth.

3. The combination with a boot, of arms secured to the heel portion thereof, a bellows connected with the upper ends of said arms, straps connecting said bellows with the boot leg, and a tube communicating with said bellows and the foot of the boot, substantially as set forth.

4. The combination with a boot, of arms rigidly secured to the heel portion thereof, a metallic strap secured at its ends to the said arms in proximity to the ankle portion of the boot, a plate or brace secured at one end to said strap and at the other end to the heel of the boot, a bellows connected with the upper ends of said arms, a tube connecting said bellows with the foot of the boot, and a valve between said bellows and tube, substantially as set forth.

5. The combination with a boot, of arms secured to the heel portion thereof and extending upwardly parallel with the leg of the boot, a frame, arms connecting said frame with the first mentioned arms, a bellows supported by said frame and adapted to lie against the leg of the boot, and a tube communicating with said bellows and with the foot portion of the boot, substantially as set forth.

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

DAVID B. WHITEHILL.

Witnesses:
R. S. FERGUSON,
V. E. HODGES.