

J. J. CHRISTIAN & C. L. CHADEAYNE.
Boot-Ventilators.

No. 155,288.

Patented Sept. 22, 1874.

Fig. 1.

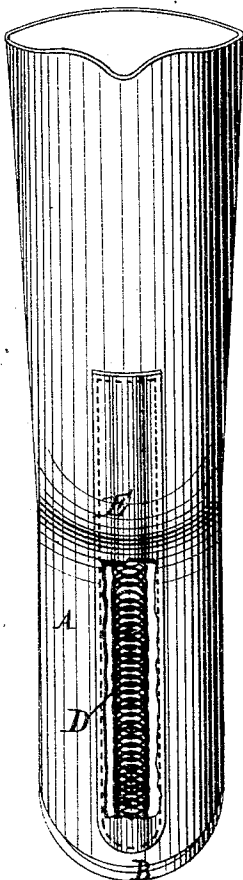


Fig. 2.

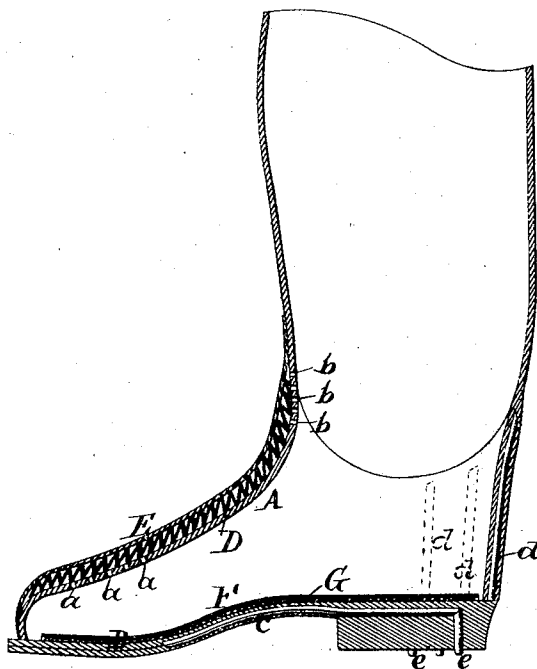


Fig. 4.

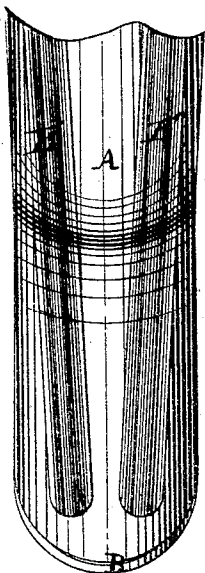
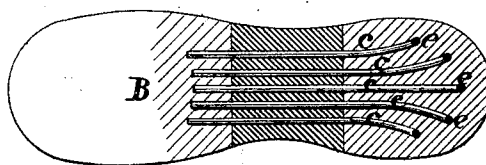


Fig. 3.



Inventors.

John J. Christian
Charles L. Chadeayne
pr
Van Santen & Hauff
attors

Witnesses.

Henry Gontmes
Char. Wickers.

UNITED STATES PATENT OFFICE.

JOHN J. CHRISTIAN AND CHARLES L. CHADEAYNE, OF YONKERS, N. Y.

IMPROVEMENT IN BOOT-VENTILATORS.

Specification forming part of Letters Patent No. **155,288**, dated September 22, 1874; application filed July 30, 1874.

To all whom it may concern:

Be it known that we, JOHN J. CHRISTIAN and CHARLES L. CHADEAYNE, both of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Boot and Shoe Ventilator, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a front view. Fig. 2 is a vertical section. Fig. 3 is an inverted plan, partly in section. Fig. 4 is a front view of a modification.

Similar letters indicate corresponding parts.

This invention relates mainly to an attachment for producing a circulation of air in boots and shoes, and also for imparting permanence of shape without impairing the elasticity of the article. Our invention consists in a distending spring and ventilating-pocket, combined with each other and with the upper of the boot or shoe, which upper is perforated in such a manner that a circulation of air is produced from the boot or shoe through the ventilating-pocket, while by means of the spring the pocket is kept distended so as to insure a free and constant circulation.

With the sole-wires and the heel of the boot or shoe are combined spurs, formed by bending out the sole-wires in such a manner that a rough surface is imparted to the heel, which constitutes a guard against slipping.

In the drawing, the letter A designates the vamp or upper of a boot or shoe, and B is its sole. D designates a wire-spring, which is arranged in a pocket extending up from a point at or near the toe of the upper, and terminating at a point somewhat above the instep. In a line with this spring D and with its pocket E in the upper are a series of holes or perforations, *a b*, which are situated mainly above and below the instep. These perforations allow of a passage and repassage of air above and below the instep; or, in other words, the air in the lower part of the boot or shoe, which is in the vicinity of the toes of the wearer, passes out through the lower series of perforations *a* into the pocket, through which it circulates and repasses to the boot or shoe through the upper series of perforations *b*. The heated air confined to the lower or toe

portion of the boot or shoe, by reason of the tightness of the instep, is thus carried off, the air, as it repasses by the perforations *b*—at which point the boot or shoe is loose—readily escaping upward and to the outer air. The ventilating-pocket E is formed by stitching or otherwise securing a strip of leather or other material upon the upper, or by stitching together the vamp or upper and its lining in such a manner as to form a pocket between them, and by means of the spring D the pocket is kept at all times distended without exerting any hurtful pressure on the feet of the wearer.

In Fig. 4 we have shown two springs arranged diagonally, in contradistinction to the single wire shown in Fig. 1, which is arranged in a straight line. The sole B is provided with elastic stiffening-wires *c*, which are embedded or let into its shank, and the counter or back F is provided with similar wires *d*, which are embedded or let into that portion of the boot or shoe.

The respective series of wires *c d* are independent or separate from each other, but if desired alternate wires may be added to those in the heel, and turned up so as to form the stiffening-wires for the back or counter. The effect of these wires *c d* is to preserve the shape of the boot or shoe, while its elasticity remains unimpaired, and also to add to its strength and durability.

The opposite ends of the sole-wires *c* extend under the heel and sole portions of the boot or shoe, and their rear ends are bent at right angles, or nearly so, outward, so as to form spurs *e*, which are made to protrude slightly on the surface of the heel. By this arrangement we dispense with the use of nails or screws for this purpose, which nails in rubber boots or shoes are liable to work through the inner lining, and by reason of the support obtained from the front ends of the wires the spurs are less liable to turn over or work loose than nails or screws.

By our invention the heels of rubber boots and shoes can be made higher and of smaller surface than heretofore, so as to impart to them a more elegant appearance, and the sole can be made much lighter, so as to economize in material.

E designates the ventilating-pocket, and G

the spring arranged on the inside of the sole B. This pocket is formed by means of a channel in the inner surface of the sole, and of a covering-strip of leather or other suitable material. The spring is flush, or nearly so, with the surface of the sole, so that it forms no impediment in walking. The pocket E, in this example, is open at both ends, and by the pressure of the feet in walking the pocket is alternately emptied and refilled with air, so that there is a constant ventilation in the boot or shoe.

What we claim as new, and desire to secure by Letters Patent, is—

1. The pocket E, constructed upon the vamp or upper A, and extending from the toe of

said vamp or upper to a point above the instep, as described, in combination with a distending-spring, D, inclosed by said pocket, substantially as described, for the purpose specified.

2. The combination, with the wires *c* and with the heel of a boot or shoe, of the spurs *e*, protruding from the said heel, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands and seals.

JOHN J. CHRISTIAN.

[L. S.]

CHARLES L. CHADEAYNE.

[L. S.]

Witnesses:

JOHN D. COMSTOCK,

SAMUEL ARCHER.