

CHARLES E. LINS.

VENTILATED GUM BOOT.

118138

PATENTED AUG 15 1871

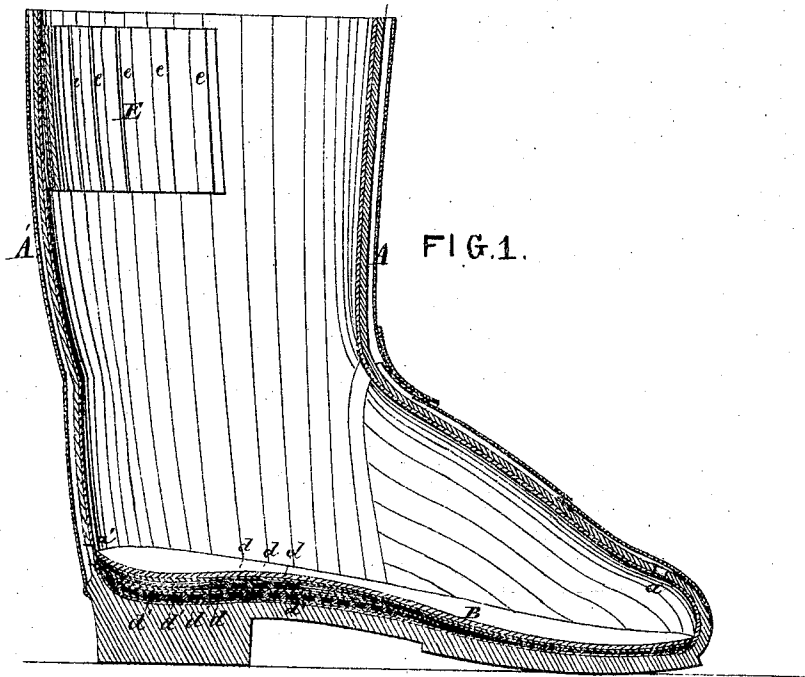
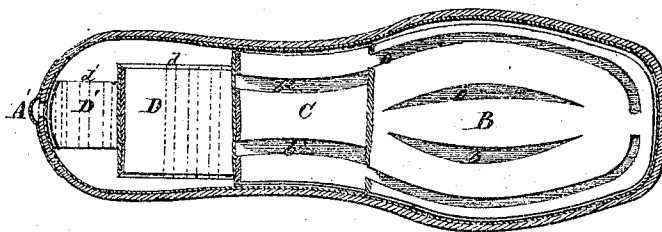


FIG. 2.



WITNESSES.

H. C. Elliott
Wm. H. Brewster, Jr.

INVENTOR.

Chas. E. Lins
By J. Knight, atty.

UNITED STATES PATENT OFFICE.

CHARLES E. LINS, OF ASHLAND, PENNSYLVANIA.

IMPROVEMENT IN RUBBER BOOTS.

Specification forming part of Letters Patent No. 118,138, dated August 15, 1871.

To all whom it may concern:

Be it known that I, CHARLES E. LINS, of Ashland, in the county of Schuylkill and State of Pennsylvania, have invented a new and Improved Ventilated Gum Boot, of which the following is a specification:

My improvement consists in making an India-rubber boot with tubes or air-passages opening externally at or near the top of the leg and communicating with smaller air-passages formed by corrugations in the lining and, by elongated openings made in the insole of the boot.

The tubes may be located at front and rear of the leg, on its sides, or in other convenient position, so that by the motion of the foot in walking air will be alternately drawn in and expelled, and, circulating through the corrugations of the lining and openings of the insole, will tend to prevent the discomfort and inconvenience occasioned by wearing rubber coverings for the feet when the same have no outlet for the escape of moisture, &c.

Figure 1 is a central vertical longitudinal section through the boot. Fig. 2 is a top view of the sole, the insole and lining being partly removed so as to show the ramifications of the lower air-passages.

A A' are tubes or passages, opening exteriorly at or near the top of the leg of the boot, and interiorly at points *a a'* near the toe and heel, respectively; or said passages may be located at the sides, communicating with the interior of the boot near the toe and heel, as in the former construction. B, Fig. 2, represents the insole, and C the sub-lining, each having longitudinal apertures *b b' b'' b'''* cut or otherwise made therein, so as to constitute a series of ventilating-passages running from toe to heel and communicating at each end with the vertical air-passages A A'. Two additional insoles and sub-linings, D D', are placed toward the rear of the boot; these give a greater elevation to the heel, and are each provided with transverse ventilating-passages *d d'*, which communicate at their ends with the vacant spaces at the sides and thence with the vertical air-tube A' at the heel. They also communicate indirectly, through the interspaces at the sides, with the longitudinal passages of the insole and sub-lining and the vertical exteriorly-opening passage A at front. The upper lining of the boot is made with corrugations running in a generally longitudinal direction throughout the whole length of the foot and leg, both at front and rear, and near the top of the leg behind is a second

interior lining, E, provided with vertical strips or corrugations *e*. This is capable of removal, and may be dispensed with, if so desired by the wearer. The tubes A A' at front and rear may be molded with the boot, which mode of construction I prefer, though it is obvious that they may also be made on the outside of and attached to the boot, communicating with the interior thereof by apertures pierced through its surface. It is further apparent that the construction and arrangement of the different communicating air-passages may be varied without substantially affecting the principle of my invention, and also that a variety of materials may be employed in the construction of the different parts of the boot.

The act of lifting the foot in walking tends to cause the air to enter the exterior opening of the tube A which leads to the toe of the boot and passes down the same to fill the partial vacuum thus occasioned at front. On planting the toes on the ground in putting down the foot the air thus drawn in is forced backward by the pressure, part passing along the openings *b b' b'' b'''* of the insole and sub-lining, thence upwardly through the tube A' at rear, and part passing along the interspaces at the sides, and through the transverse passages *d d'* of the duplicate sub-linings D D' at the rear, and making its escape through the passage A' and spaces *e e* of the interior lining E, at the top of the boot-leg. Another part of the in-drawn air is at the same time drawn up into the corrugations on the under surface of the upper lining of the foot and escapes at the top of the leg.

It will seen that this arrangement constitutes a complete system of ventilation for the interior of the boot, every portion of the foot being reached by the fresh air from without, which, as it is gradually changed and carried off, takes with it the vapor and moisture of the perspiration, both sensible and insensible, and prevents the foot from becoming damp and heated.

I claim—

The arrangement, in a rubber boot, of vertical air-tubes A A' at front and rear having their external openings at or near the top of the leg, duplicate insoles B and sub-lining C provided with longitudinal and transverse air-passages *b b' D D'*, and a lining having longitudinal and vertical corrugations, as and for the purpose specified.

Witnesses:

I. H. YOCUM,
M. M. MOCK.

CHARLES E. LINS.