A. Stocker,

Shoe Sole,

No. 44,467, Patented Sept. 27, 1864

Fig: 1.

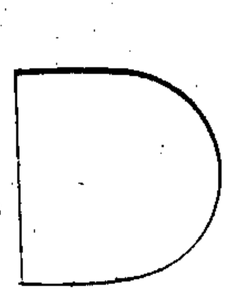


Fig: 2.

Fig: 3.

Fig: 4.

Fig: 5. Fig: 6. Fig: 7.

Fig: 12. Fig: 13.

Fig: 8.

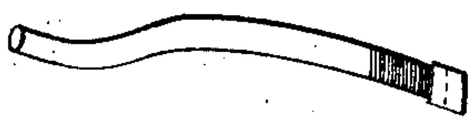


Fig: 14.

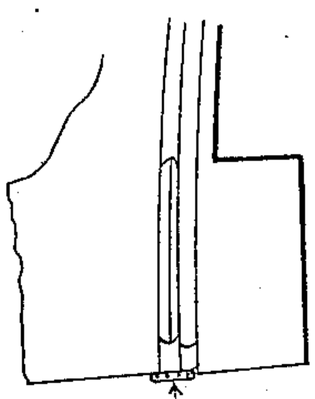


Fig: 15.

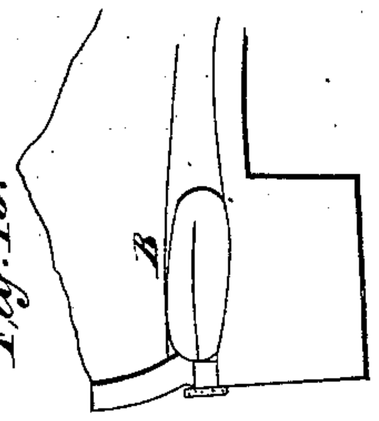


Fig: 16.

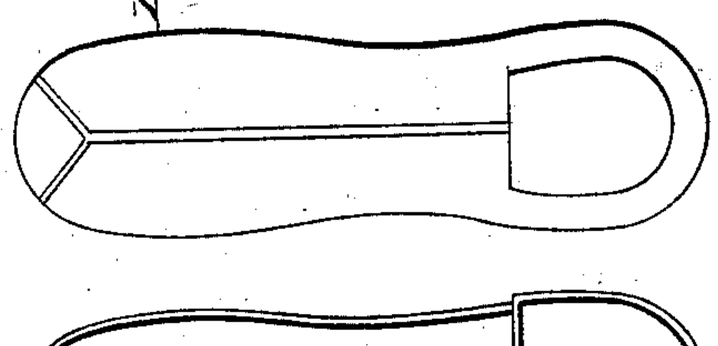


Fig: 17.

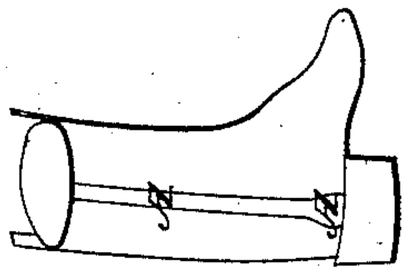


Fig: 11.

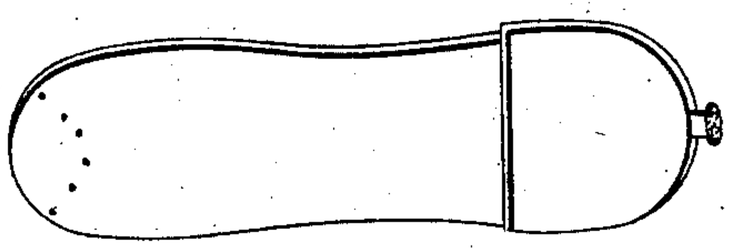


Fig: 10.

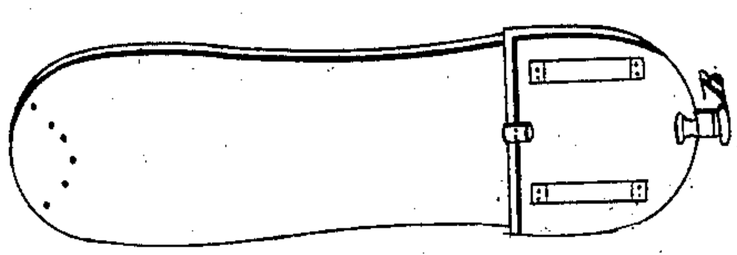
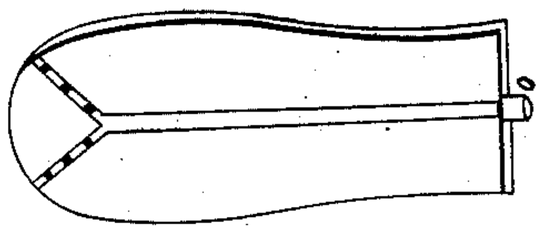


Fig: 9.



Witnesses:

Jesse S. Walton

Geo. C. Lum Leight.

Inventor:

Amos Stocker.

UNITED STATES PATENT OFFICE.

AMOS STOCKER, OF WATERTOWN, NEW YORK.

VENTILATING BOOTS AND SHOES.

Specification forming part of Letters Patent No. **44,467,** dated September 27, 1864.

To all whom it may concern:

Be it known that I, AMOS STOCKER, of Watertown, in the county of Jefferson, in the State of New York, 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, reference being had to accompanying drawings and the letters of reference marked thereon.

The nature of my invention consists in providing a boot or shoe with a bellows, operated by the foot, sufficiently large to draw all of the damp air from within the boot, or force fresh air in, which will drive the damp air out.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I first cut a piece of leather, in the form of Figure 1, that will fit the inside of the boot at the heel. I now cut pieces from very thin spring sheet-brass, about three and half inches long, and between one-half an inch and one inch in width, with holes in their ends, as seen in Fig. 10. I then bend them in the form of Fig. 3. They are used to keep the top and bottom of the bellows apart when not operated by the foot. I then rivet or sew the springs onto the leather, as represented in Fig. 4, which forms the bottom of the bellows. It may be found preferable to use india-rubber for the bellows instead of leather, thereby dispensing nearly or altogether with the use of metallic springs to keep the bellows open. I then take a tube of about one-eighth of an inch diameter of bore, and about one-half an inch long, and another tube about three-eighths of an inch long, and just large enough to slip over the end of the small tube first spoken of. It has holes around near its center (see Fig. 5) and is adjusted on the small tube as shown in Fig. 6. I then make a valve suitable to play within the larger tube and large enough to cover the orifice of the small tube, so that the air may pass between the edges of valve and inside of large cylinder, (see Fig. 3,) and to the center of valve. I secure one end of a piece of india-rubber or other spring, the other end being secured to a pin in the center of the bore, so as to keep the valve up against the end of the small tube when not forced back by the air passing into the bellows. (See cross-section view, Fig. 7.) I then attach a tube of flexible material to one end of the small tube, referred to above, air-tight, the said tube being of the right length to reach to within one inch of the front end of the insole, which I cut to fit the boot, deducting from its length at heel the leather, (see Fig. 1,) less one-fourth of one inch. I then cut a groove in the center of insole to within about one inch of the toe, where it branches off, and in each branch I cut or punch two or three holes entirely through the insole, for the damp air or water to pass down through in grooves or tubes, Figs. 9, 10, and 11. I then place the flexible tube, Fig 8, in the single groove, Fig. 9. I next make another valve and tube as before described, and as seen in Fig. 6, with the following-described addition, viz: I make a cap with small holes in its center, and formed so that it will screw or slide on over the outward end of large tube full one-eighth of an inch, air-tight, and at the opposite end of small tube I form a rim or flange turned outward for the purpose of preventing the bellows from slipping off when the valve-tube is being drawn outward by the cap A, Fig. 12, as it is forced up against the heel or counter air-tight, Figs. 14 and 15. I now place the tube, Fig. 12, on the back part of leather, Fig. 10, at B, with the small end inward. I then place the sole, Fig. 9, on the same leather, their straight ends lapping about one-fourth of an inch, the grooves and tubes being on the under side of sole and next to the leather, Figs. 4 and 10. I now cut another leather the same shape and size as Fig. 4, and place it resting on the springs, as seen in Fig. 10, so that their straight edges are one over the other, and the straight-end edge of sole in between them, with its tube *o*, Fig. 9. I now sew their circle-edges together, which secures the valve-tube between them air-tight, as I sew across their straight ends, down through the insole, being all air-tight, except through its valves when the bellows is in motion. I now cut a round hole through the center of the boot, near the center, on a level with the upper edge of the regular insole of the boot or shoe, just large enough to admit the end of the rear tube without its cap quite snugly or air-tight through the inner side of counter. I then place the insole and bellows, Fig. 11, in the boot, and insert said tube in and nearly through the hole in the counter.

I then adjust the cap A over the outward end of large tube, and drive or screw it on air-tight against the back of the counter of the boot, as seen at A, Fig. 14.

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

1. A boot or shoe in combination with a bellows acted upon by the foot, for the purpose of changing or causing fresh air to pass through the inside of a boot or shoe, as set forth.

2. The air-tube passing through the insole, with the air-holes at the toe, as described.

AMOS STOCKER.

Witnesses:
A. J. SHEW,
SAMUEL MUCKLE.