(No Model.)

M. E. THOMAS.

VOLTAIC INSOLE.

No. 444,735. Patented Jan. 13, 1891.

Fig. 1.

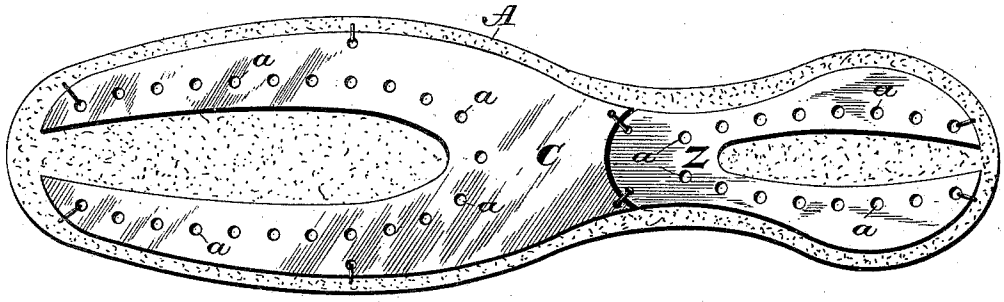
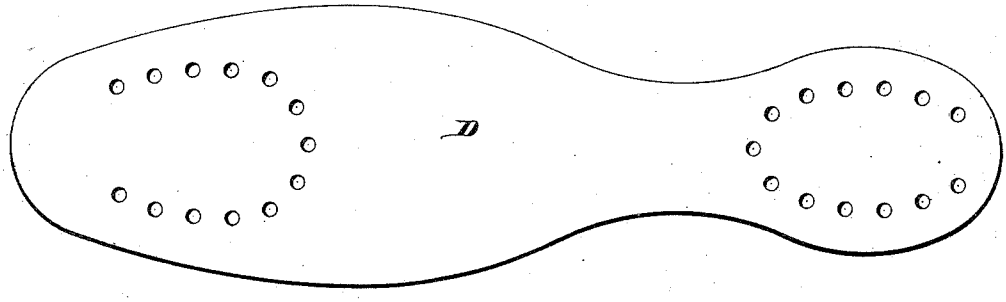


Fig. 2.



Witnesses
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by
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARY E. THOMAS, OF CARDINGTON, OHIO.

VOLTAIC INSOLE.

SPECIFICATION forming part of Letters Patent No. 444,735, dated January 13, 1891.

Application filed November 6, 1890. Serial No. 370,491. (No model.)

To all whom it may concern:

Be it known that I, MARY E. THOMAS, a citizen of the United States of America, residing at Cardington, in the county of Morrow and State of Ohio, have invented certain new and useful Improvements in Insoles; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in voltaic insoles for boots and shoes.

The object of the invention is to provide an insole with metallic plates which are suitably connected to each other, so that the perspiration from the foot will provide the exciting element, the plates being so constructed and attached to the insole that they will not impair the flexibility thereof.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of an insole constructed in accordance with my invention. Fig. 2 is a plan view of the cover.

A refers to an insole of ordinary construction, to which is secured metallic plates Z and C, which form the elements of a voltaic pile. These plates are suitably connected to each other by any conducting means at about the center of the shank and at suitable points to the insole A. The contour of the element plates corresponds with that of the insole, the ends being cut away inwardly, as shown. One of the element plates, or that located at the heel portion of the insole, is much smaller than that which extends from the shank to the toe. As before stated, the element plates are cut away to present U-shaped ends; but solid portions are left at the shank portion of the shoe, and around the margin of the U-shaped openings the said plates are perforated as shown at *a*. After the plates are secured to an insole of ordinary construction they are covered by a piece of leather D, which is perforated to correspond with the perforations in the plates. A voltaic insole thus constructed possesses all the advantages of voltaic insoles that have heretofore come to my notice, and in addition thereto the insole described is rendered stiff at the shank portion, where there is no movement, and by cutting away the center portions of the elements or metallic plates the pliability of the insole at these portions is not impaired. The perforations not only permit ventilation, but also allow the perspiration to pass to the absorbent portion of the sole A, so that said perspiration, which is the exciting element, will keep the pad upon which the elements Z and C are secured moist. It will also be observed that the major portion of the plates are located near the edge of the insole, so as to lie above the welt of the shoe when placed thereon, so that there will not be undue bending of the metal.

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

1. In a voltaic or electro-galvanic insole for boots and shoes, the combination of the elements C and Z, electrically connected to each other and secured to the insole, said plates Z and C being cut away to provide U-shaped plates, substantially as set forth.

2. In a voltaic or electro-galvanic insole, the combination of an insole A, metallic plates C and Z, having solid portions adjacent to the shank, said plates being connected to each other, the central portion of the ends being cut away, a series of perforations *a*, and a cover D, having perforations above the plates, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

MARY E. THOMAS.

Witnesses:

C. W. COATES,

A. B. FRENCH.