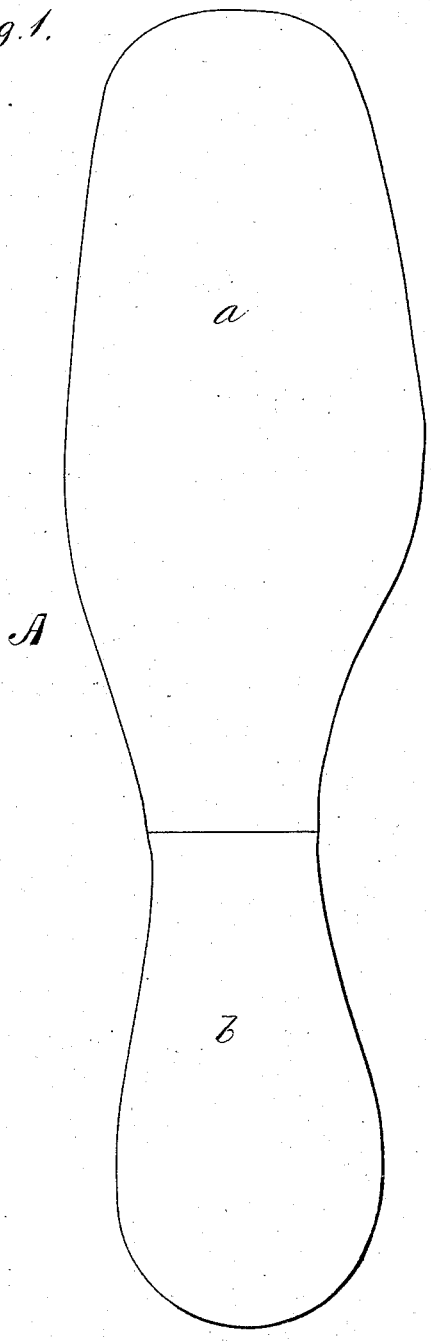
P. T. SMITH & R. L. COCHRAN.

INSOLES FOR BOOTS AND SHOES.

No. 194,184. Patented Aug. 14, 1877.

Fig. 1.



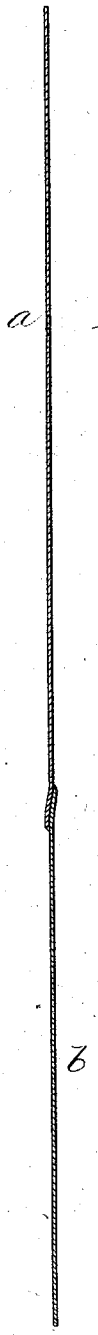


Fig. 2.

WITNESSES

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PIERCE T. SMITH AND RICHARD L. COCHRAN, OF BURLINGTON, IOWA; SAID COCHRAN ASSIGNOR TO SAID SMITH.

IMPROVEMENT IN INSOLES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **194,184**, dated August 14, 1877; application filed July 9, 1876.

To all whom it may concern:

Be it known that we, P. T. SMITH and R. L. COCHRAN, of Burlington, in the State of Iowa, have invented a new and valuable Improvement in Insoles for Boots and Shoes; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of our improved shoe-sole, and Fig. 2 is a longitudinal central section thereof.

This invention has relation to improvements in insoles for boots and shoes.

The object of the invention is to provide an insole which, being non-absorbent, will not become offensive from having taken up perspiration from the foot; which will be practically indestructible, and of such rigidity as to prevent bending or crinkling when placed in, removed from, or in position in a boot or shoe; which will protect the entire sole of the foot from the injurious effects of outside moisture; and, finally, which, being made of two thin pieces of different metals, combined in such relation to each other as to have a lengthened bearing on the ball and heel portions of the foot, respectively, and produce a long electro-magnetic current, will prevent the contraction of colds, produce a gentle, stimulating effect, and remove, palliate, or prevent rheumatic or neuralgic pains, as will be hereinafter more fully explained.

In the annexed drawings, the letter A designates our improved insole, the anterior part *a* of which will be preferably made of copper, and the posterior portion *b* of zinc. This insole will be of the usual form and of the various sizes required to cover the inside of the shoe-sole, and parts *a b* may be rigidly or flexibly jointed together, as we may elect, though in general we prefer to have them rigidly connected, since, being made of thin flexible sheets, they will bend sufficiently to permit their introduction into any boot or shoe.

For convenience of carriage in small compass, they may sometimes be flexibly jointed, so that the parts *a b* may be folded, the one upon the other, and carried in a side pocket or short sheath.

It is evident that parts *a b* may be reversed, so as to bring the zinc part under the ball of the foot, and the copper part under the heel thereof, without changing the nature of the invention.

It will be also evident that the plate A may be introduced between two thicknesses of leather, constituting a thick shoe-sole, during the making of the shoe, or between an outer and inner sole in thin shoes; but we prefer to use it between the foot and insole, as by this means the exudations from the former are prevented from being taken up and accumulated in the pores of the latter and gradually becoming offensive, while exterior moisture is prevented from soaking into the sole and reaching the foot.

Insole A being in contact with the foot, and being composed of two metals, (copper and zinc,) an electric current will necessarily be produced when moisture is brought in contact therewith, either by soaking through the sole or by the natural perspiration of the foot. This current will be mild, but continuous throughout the whole length of the foot, and will, by its stimulating effects, keep the feet warm, prevent the contracting of colds, rheumatic pains, or neuralgia. It will also keep up the circulation of the blood, prevent congestion, and palliate, when it does not entirely remove, the pains arising from cramps or other causes.

We are aware that it has been proposed to apply wires or plates of copper and zinc to insoles, and to the interior of the bottoms of boots and shoes; and hence we do not claim such invention, broadly.

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

The flexible sheet-metal insole herein described, consisting of the zinc portion *a*, ex-

tending the entire length of the ball of the foot, and the copper portion *b*, extending the entire length of the heel, said portions being secured together in contact at the narrow middle of the insole, and each having its extended bearing on the foot to set up a current the entire length of the sole, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

PIERCE T. SMITH.
RICHARD L. COCHRAN.

Witnesses:
C. D. LEFFLER,
T. C. WHITELEY.