No. 811,512. PATENTED JAN. 30, 1906.

F. B. LEE.

FOOT ARCH SUPPORTER.

APPLICATION FILED JUNE 9, 1903.

Fig. I.

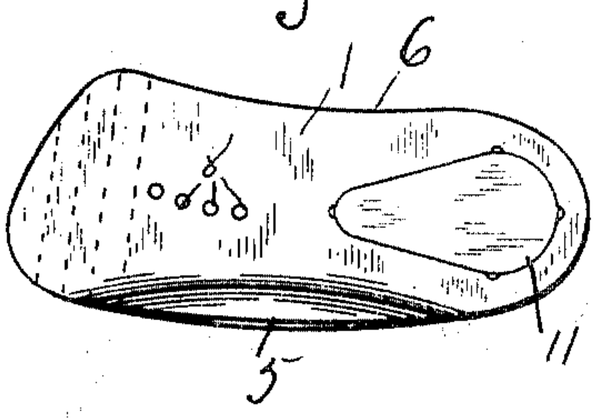


Fig. II.

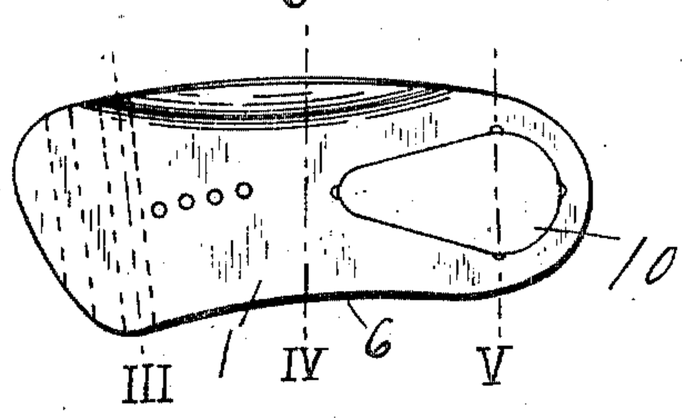


Fig. III.

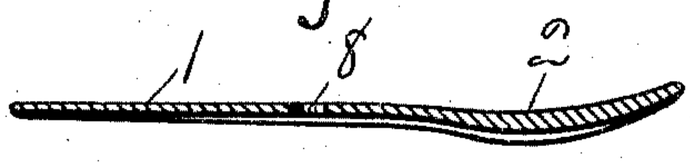


Fig. IV.

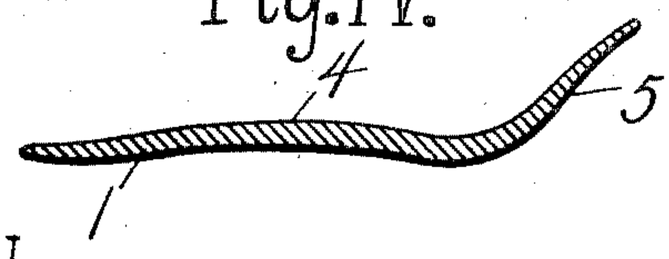


Fig. VI.

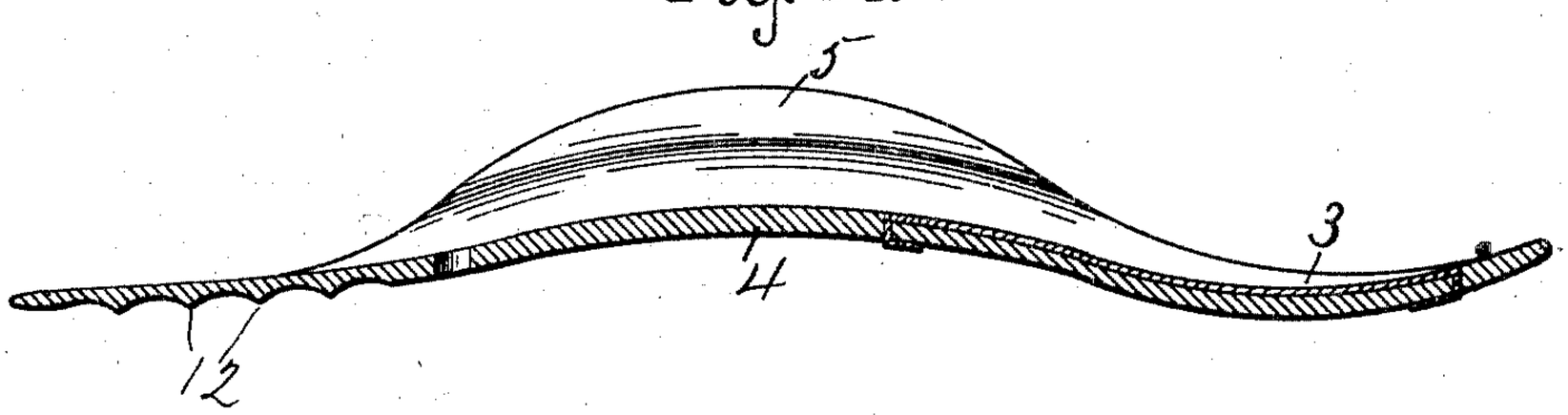
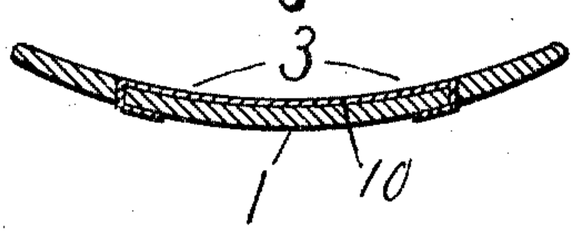


Fig. V.



WITNESSES:

C. C. Schornecker.
M. E. Gagon.

INVENTOR
Frank B. Lee
BY
Alfred Wilkinson
ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANK B. LEE, OF BUFFALO, NEW YORK, ASSIGNOR TO LEE ELECTRIC INSOLE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

FOOT-ARCH SUPPORTER.

No. 811,512. Specification of Letters Patent. Patented Jan. 30, 1906.

Application filed June 9, 1903. Serial No. 160,715.

To all whom it may concern:

Be it known that I, FRANK B. LEE, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Foot-Arch Supporters; 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.

My invention relates to a support for the arch of the foot, and has for its object to provide a sufficiently firm but slightly elastic foot-arch supporter preferably formed of aluminium, so that it may be easily shaped and adapted to fit the contour of the particular foot in question, by which the instep-arch is well supported without interfering with the action of the toes.

To this end my invention consists of a pair of aluminium foot-arch supporters fitted to right and left feet, substantially three-quarters the length of the foot and terminating just in front of the ball of the foot in a horizontally-inclined end, so that the toes are not impeded.

My invention will be understood by reference to the drawings herewith, in which the reference-numerals of the specification indicate the corresponding parts in all the figures.

Figures I and II are top plans, respectively, of the arch-supporters for the right and left feet. Figs. III, IV, and V are respectively cross-sections, enlarged, on lines III, IV, and V of Fig. II. Fig. VI is a longitudinal section.

In the figures, 1 indicates the arch-supporter, formed with a suitable concavity 2 to fit the ball and a corresponding concavity 3 to fit the heel, the supporter at these points being slightly thickened and substantially of the same thickness, so that the foot is evenly supported. At 4 the supporter is made thicker and stronger and elevated to support the arch, being curved up inwardly to form the flange 5 and slightly cut out at 6 on the outer edge. It terminates just in front of the ball in the inclined and slightly-curved front edge, preferably beveled to avoid an uncomfortable thick edge or ridge, and is provided with vent-holes 8 in the front portion or elsewhere, if desired. The margin of the front portion of the supporter is preferably beveled to avoid a ridge, but at the heel, where firmness and solidity is especially required, is preferably rounded or semicircular.

While it is evident that my supporter may be made of any suitable metal or material, yet I much prefer aluminium. It seems to assist in producing the beneficial effect resulting from the use of my supporter and at the same time is best adapted mechanically for the purpose. It is sufficiently firm to give a good support to the foot and yet have a very slight elasticity—therefore not too hard and unyielding, so that the supporter from its material and form may be worn with great comfort and scarcely be noticed by the wearer. It may be bent, fitted, and formed to any foot, such as a deformed foot, by pincers, &c., without the use of expensive plaster casts and without mechanical adjusting appliances attached to the supporter itself. It is very simple and economical to construct and to fit and may be easily applied and altered for feet of various contours. The aluminium being smooth and non-corrosive is easily kept clean, and there is no danger of injuring or poisoning the foot.

In the heel portion of each supporter is formed a cavity to receive a metallic plate, preferably having a semicircular rear and an elongated front, as here shown, to give a large surface of contact with the heel of the wearer. In the supporters of each pair these plates are respectively of copper 10 in one and of zinc 11 in the other and may be secured in position by any suitable means. Their function is to generate currents of electricity, which have a beneficial effect on the nerves, cure rheumatic pains, and have other desirable effects, as more particularly described and claimed in another application heretofore filed by me. 12 indicates the cross corrugations or projections on the under surface of the supporter to prevent its slipping forward by engaging with the sole of the shoe.

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

1. A foot-arch supporter adapted to fit the sole of the foot, being of greatest thickness and upwardly arched, substantially at its center to support the arch of the foot and being of substantially equal thickness and concaved at front and rear to receive the ball

and the heel respectively, and terminating in a beveled edge around its front portion and with an edge semicircular in cross-section around its heel portion.

2. An aluminium foot-arch supporter to fit the sole of the foot, being of greatest thickness and arched at its center to sustain the arch of the foot, of substantially equal thickness and concaved at front and rear to receive the ball and heel respectively, and being formed with a flange outwardly and upwardly curved from the arched portion to sustain the inner edge of the foot and with a slight incurve opposite the flange, and having its greatest forward extension in front of the ball and terminating at its front in an inclined edge arranged at about the bases of the toes.

3. An aluminium foot-arch supporter to fit the sole of the foot, being of greatest thickness and arched at its center to sustain the arch of the foot, of substantially equal thickness and concaved at front and rear to receive the ball and heel respectively, and being formed with a flange outwardly and upwardly curved from the arched portion to sustain the inner edge of the foot and with a slight incurve opposite the flange, and having its greatest forward extension in front of the ball and terminating at its front in an inclined edge arranged at about the bases of the toes, the supporter being provided with a longitudinal row of ventilating-holes in its front portion, and a series of parallel sharpened cross-ribs on the under surface of its front.

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

FRANK B. LEE.

Witnesses:

C. C. SCHOENECK,

M. E. GAGON.