No. 871,479. PATENTED NOV. 19, 1907.

A. R. COOPER.

ELECTROGENIC BODY DEVICE.

APPLICATION FILED FEB. 14, 1907.

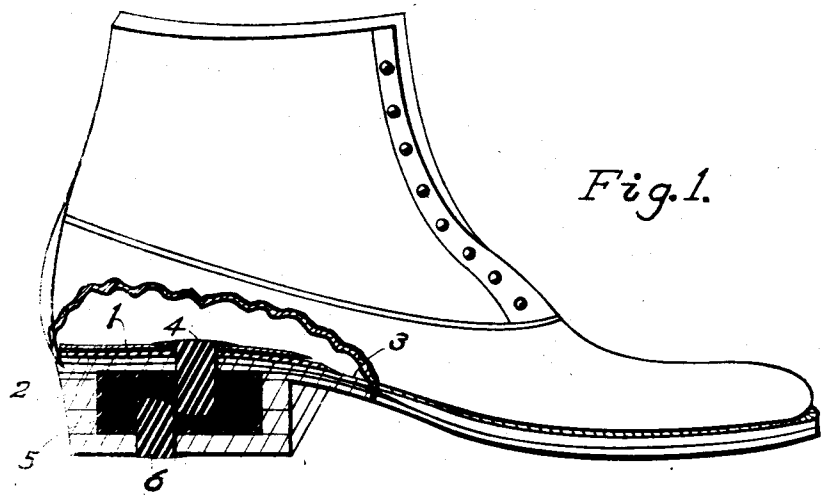

Fig. 1.

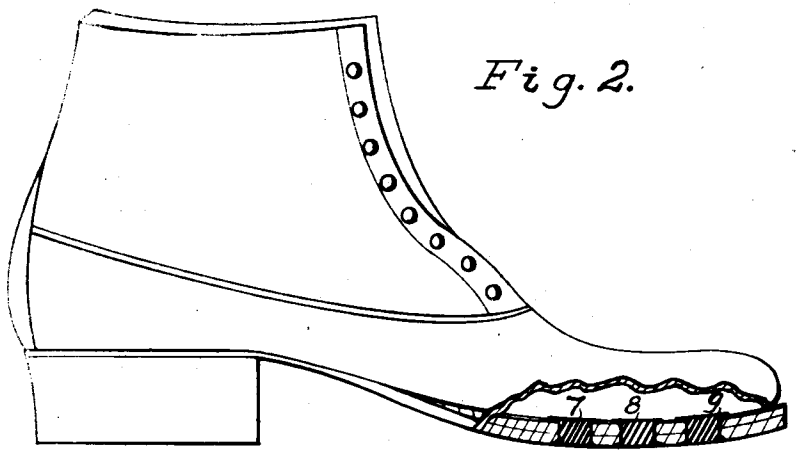

Fig. 2.

Witnesses.
S. P. Nigh
W. F. Gray.

Inventor.
Albert R. Cooper.
By L. Howard Jones,
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UNITED STATES PATENT OFFICE.

ALBERT R. COOPER, OF FINDLAY, OHIO.

ELECTROGENIC BODY DEVICE.

No. 871,479. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed February 14, 1907. Serial No. 357,305.

To all whom it may concern:

Be it known that I, ALBERT R. COOPER, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented a new and useful Improvement in Electric Shoes, of which the following is a specification.

My invention relates to improvements in shoes provided with electro-galvanic body devices as applicable in the art of therapeutics, and consists of a pair of shoes provided with such devices so disposed therein as to be in electrical contact with the bottom of the feet and electrically communicate with the earth therebelow.

The novelty of my invention consists in constructing in the heel of a shoe a device comprising a galvanic pair and an insulated cell suitable for the retention of an electro-excitant, as acetic acid having immersed therein a quantity of carbon and copper, and means of connecting such electro-excitant with the external circuit.

The object of my invention is to electrify and deëlectrify the human body for the purpose of aiding in the treatment, relief, and cure of diseases. I attain this object with the device herein described, and illustrated in the accompanying drawing, in which—

Figure 1 indicates a shoe disclosing a vertical section of a shoe heel and a sectional view of my device as arranged therein. Fig. 2 indicates the mate to Fig. 1 and discloses a longitudinal section of a shoe sole as provided with deëlectrifying conductors.

In the construction of shoes provided with my device a galvanic pair comprising a zinc plate 1 and a copper plate 2 is attached to the insole 3 at the heel. About the center of the body portion of said galvanic pair a circular recess or opening is provided for the reception of a disk-headed conductor 4 inserted therein and extending therethrough so that the flange of the disk-head will overlap the edge of said recess and rest upon the surface of the zinc plate. The end of said conductor is adapted to project downward into the heel of the shoe through a recess provided for that purpose. Around the projecting end and body portion of said conductor 4 an insulated cavity or cell 5 is provided for the retention of an electro-excitant. This cavity or cell is formed by cutting away a portion of the interior of the shoe heel around the projecting end and body portion of the conductor 4 and insulating the wall of the cavity thus formed with a coating of cement made of para rubber, or with other suitable insulating material. The cavity thus insulated is then filled with an electro-excitant, which may be composed of copper, carbon, and acetic acid, and sealed with a layer of heel tap having the part next to the cavity coated with the insulating material. Said electro-excitant is adapted to excite the galvanic pair, electrically, and is electrically connected therewith by means of the conductor 4.

The numeral 6 indicates a copper conductor driven into the bottom of the shoe heel through a suitable opening provided for that purpose, and is adapted to form electrical connection between the contents of the cell 5 and the earth.

The numerals 7, 8, and 9 indicate a plurality of deëlectrifying or ground conductors made to extend through the sole of the opposite shoe for the purpose of completing the circuit with the earth, and deëlectrify the body, when the shoes are upon the feet and the wearer is standing upon the ground. These conductors should be made of copper and provided with large disk heads to insure good contact with the bottom of the foot, and flattened at the other ends to insure good contact with the earth.

The device as shown is adapted to charge or electrify the human body through contact with the galvanic pair at the bottom of the foot, and to discharge or deëlectrify the human body through a circuit formed with the earth by the conductors at the bottom of the shoes.

The life and usefulness of the device may be prolonged by frequently polishing the surface of the zinc plate with sand-paper, and occasionally withdrawing the conductor 4 and refilling the cell with common vinegar of good quality, then sand-paper the conductor and re-insert it in its place.

I am aware of the existence of various electro-therapeutic devices for connecting the human body with the earth at the bottom of the feet. I therefore disclaim all others now known except as herein described.

Having fully described my invention, I claim:

1. A device of the character described, comprising the combination of a shoe, a galvanic pair, a galvanic cell in the interior of the heel of the shoe, means of electrical connection between said galvanic pair and said

galvanic cell, and means of electrical connection between the terminals of said galvanic cell, which means consists of a circuit formed of the human body and the earth, wherein, when the shoes are upon the feet and the wearer is standing upon the ground, one foot is in contact with a terminal of said cell in the interior of one shoe, and the opposite foot is in contact with suitable conductors extending through the sole of the shoe thereon, and these conductors are in contact with the earth therebelow, and the earth completes the circuit by contact with the other terminal of said cell at the bottom of the shoe heel.

2. In a device of the character described, the combination of a shoe, a galvanic pair in the interior of the said shoe, a galvanic cell consisting of an insulated cavity in the interior of the shoe heel and an electro-excitant composed of copper, carbon, and acetic acid, means of electrical connection between said galvanic pair and said galvanic cell, and means of electrical connection between the terminals of said galvanic cell, which means consists of a circuit formed of the human body and the earth, wherein, when the shoes are upon the feet and the wearer is standing upon the ground, one foot is in contact with a terminal of said cell in the interior of one shoe, and the opposite foot is in contact with suitable conductors extending through the sole of the shoe thereon, and these conductors are in contact with the earth therebelow, and the earth completes the circuit by contact with the other terminal of said cell at the bottom of the shoe heel.

In witness whereof I have hereunto affixed my signature in the presence of two witnesses this 18th day of January, 1907.

ALBERT R. COOPER.

Witnesses:
WILLIAM L. DAVID,
FRANK M. CARPENTER.

Correction in Letters Patent No. 871,479.

It is hereby certified that in Letters Patent No. 871,479, granted November, 19, 1907, upon the application of Albert R. Cooper, of Findlay, Ohio, the title of the invention was erroneously written and printed "Electrogenic Body Devices," whereas the said title should have been written and printed *Electric Shoes;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 17th day of December, A. D., 1907.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.