

Dec. 22, 1925.

1,566,987

L. SIMMONS

ELECTRIC WARMER FOR THE FEET

Filed May 19, 1925

2 Sheets-Sheet 1

Fig. 1.

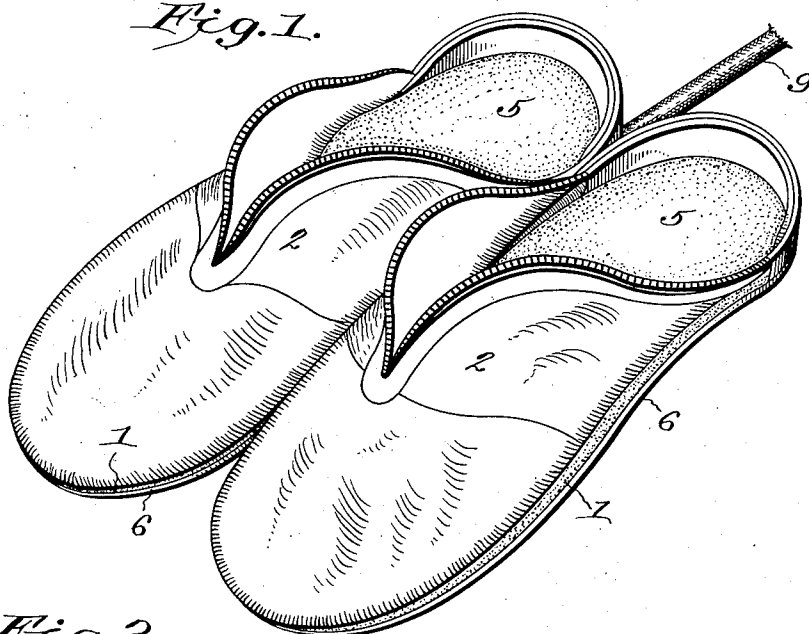
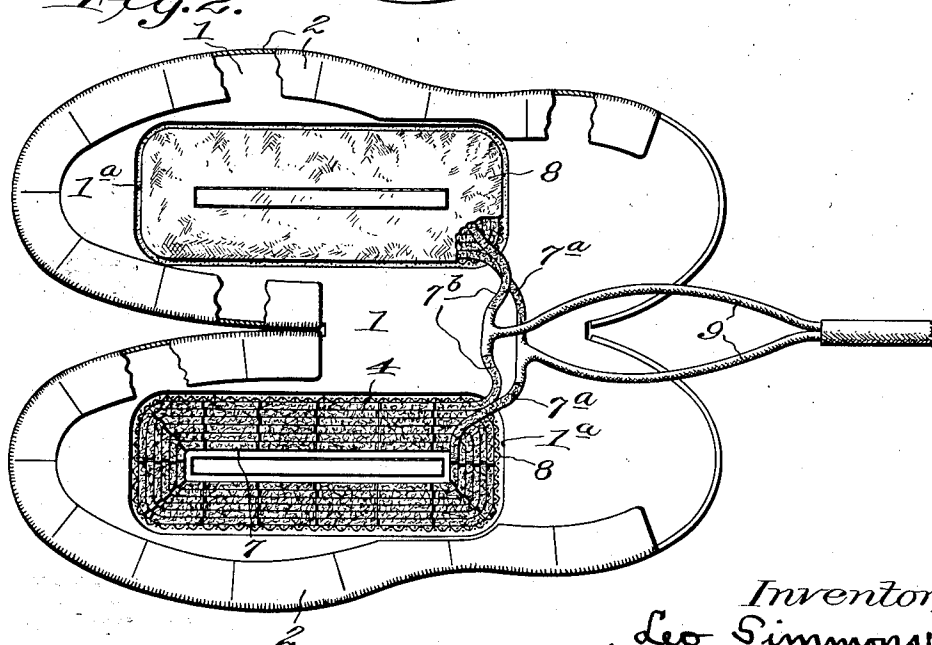


Fig. 2.



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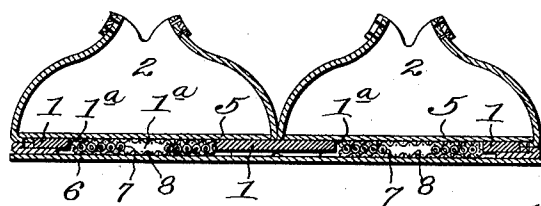


Fig. 3.

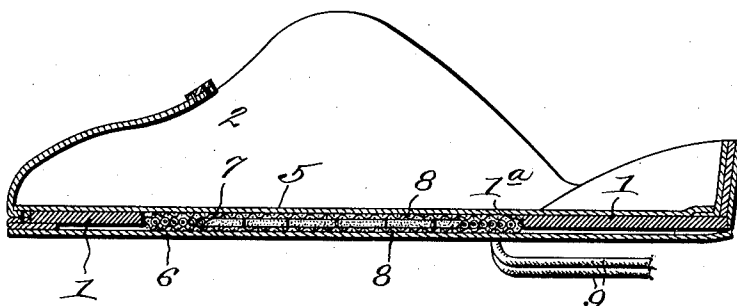


Fig. 4.

Inventor,
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UNITED STATES PATENT OFFICE.

LEO SIMMONS, OF WASHINGTON, DISTRICT OF COLUMBIA.

ELECTRIC WARMER FOR THE FEET.

Application filed May 19, 1925. Serial No. 31,356.

To all whom it may concern:

Be it known that I, LEO SIMMONS, a citizen of the United States of America, and a resident of Washington, District of Columbia, have invented certain new and useful Improvements in and Relating to Electric Warmers for the Feet, of which the following is a specification.

This invention provides a unitary electric means for simultaneously warming both feet of an individual, such as a patient, in home or hospital; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanations of the accompanying drawings that illustrate what I now believe to be the preferred mechanical expression or embodiment of my invention from among other forms, constructions and arrangements within the spirit and scope thereof.

It is an object of the invention to provide a unitary structure, to receive both feet, provided with electric resistance heating means simultaneously applying pleasant healthful warming heat to the feet.

With this and other objects in view, my invention consists in certain novel features in construction and in combinations and arrangements as more fully and particularly set forth and specified hereinafter.

Referring to the accompanying drawings forming a part hereof:

Fig. 1 is a perspective view of an embodiment of my invention.

Fig. 2 shows the same in bottom plan, with the bottom facing sheet removed and parts broken away.

Fig. 3 is a cross section.

Fig. 4 is a longitudinal section.

I provide a pair of housings or receivers for the feet of a human being and if so desired such housings can be formed to partially receive or enclose the ankles, and these housings are provided with electric resistance heat generating means designed to generate a pleasant blood circulating temperature within said housing, say a temperature of about 100° F. more or less, although I do not wish to so limit my invention. The circulation when thus stimulated by a pleasant healthful heat will disseminate such heat throughout the body.

One phase of the problem was to prevent the generation of an injurious or uncomfortably high temperature within the hous-

ings, by reason, for instance, of the use of heat generating means embodying an insufficient length of resistance wire, or by reason of the failure to provide for radiation or escape of surplus heat at the exterior of, say, the sole portions of the housing or housings for the heat. The space within the sole portion of a foot housing that can be utilized to receive a heating pad is limited, particularly if provision is made to permit some radiation or escape of heat at the exterior of such sole portion. I have found by use and experimentation, that a length of the fine asbestos covered pad wire of commerce, from about twelve feet to about sixteen feet long, is required to generate and maintain the circulation stimulating pleasant warmth that I desire. There is not sufficient space in the sole portion of a foot housing to receive a flat coil of such resistance wire twelve to sixteen feet in length. I have solved this difficulty by forming the approximately required length of the peculiarly covered resistance wire into twin coils or pads, each made up of, say, approximately one half the length of wire (say, each made up of seven feet of wire more or less), and locating the coils in the sole portions of the housings, respectively, with both coils in the one circuit to act electrically as a single length of resistance wire, although I do not wish to strictly so limit all features of my invention. The two, or twin, coils thus cooperate to generate the heat to attain approximately the desired temperature at the soles of the human feet in the two housings. To permit some escape or radiation of heat at the exterior of the housings, I preferably locate the flat heating coils or pads in recesses in or openings that extend through the sole portions of the housings, with a protective facing covering the outer sides of the coils, that will not absolutely insulate the outer sides of the pads against exterior escape of heat or heat exchange. This exterior protective covering is intended to permit exterior escape or radiation of surplus heat.

In the particular example illustrated, I show a base in the form of a flat strong flexible plate or sheet 1, such as a more or less heavy sheet of rubber or the like, fabric, or leather, and upon this base I erect a pair of parallel, more or less closely-arranged loose-fitting foot receiving housings or so-

called uppers 2, arranged on the upper side of the base. The flexible base sheet 1, is usually cut or otherwise formed to constitute the main soles of the two housings 2, and these two housings are connected together by the base sheet 1 which in this example, is in one piece so that said two main soles are integral, although I do not wish to so limit all features of my invention.

The portions of the base sheet forming said two main soles, have intermediate openings 1^a, therethrough, preferably elongated longitudinally of said sole portions that form elongated recesses to receive the flat electric heat generating pads 4 which are set in said openings, and secured and confined therein by any suitable inner soles 5, of the housings 2, that cover the upper sides of the pads, respectively, and any suitable facing sheet 6, secured to and covering the bottom face of the base sheet, and covering the under sides of the pads 4.

Each pad embodies a suitable length of asbestos covered thin flexible electric resistance heating wire 7, formed into a flat spiral coil secured to and between opposite fabric facing sheets 8. The opposite ends of the wire 7, extends from each pad to the exterior of, or through, the bottom facing sheet 6, and are electrically coupled to the opposite lead in flexible insulated wires 9. The wires 7 of the two coils are electrically coupled to the opposite lead in wires 9, in multiple to secure the electric circuit for heat generation. For instance, the flexible cable formed by the two wires 9, extends to the under side of the base sheet to a point between the two pads, and one wire 9, is coupled to the corresponding ends 7^a, of the two wires 7, of the two pads, and the other wire 9 is coupled to the two other ends 7^b of the two wires 7 of said pads.

The flexible cable formed by the two opposite wires 9, is of any suitable length and is preferably provided with a plug or other suitable connection (not shown) for connection to a socket of the power current wiring of a building to establish electric connection with the lighting system power current. The cable is also preferably equipped with a suitable rheostat switch for regulating the heat generated in the heating pads.

The heating pads are arranged and connected into the circuit for simultaneous and uniform heating, and to avoid an excessive or injuriously high temperature, as a circulation-stimulating, pleasant, healing, warming temperature is what is desired.

The separate housings 2, for the feet, mounted on and coupled together by the base sheet, are preferably composed of flexible material, to loosely receive and partially enclose or cover the feet, and hold the heating device.

The heat generated within the housings

by their respective pads, is approximately confined within the housings to prevent rapid loss of heat by conduction or otherwise. The housings or uppers 2, are preferably of large size, of flexible material, and open and cut low at the rear to readily and loosely accommodate human feet of any size, even when covered by slippers and to permit quick and easy withdrawal and insertion of the feet. The housings are preferably lined with soft woolen or other warm material. The device is particularly intended for hospital and home use, while the patient is seated on a chair or reclining in bed or on a couch, although I do not wish to so limit my invention.

The article of this invention is believed to be useful and advantageous in affording relief to those suffering from slow circulatory blood diffusion or poor circulation, and for other purposes.

It is evident that various changes, modifications and variations can be resorted to without departing from the spirit and scope of my invention and hence I do not wish to limit myself to the exact disclosures hereof.

What I claim is:

1. A device for the purposes substantially as described, embodying separate large-size substantially open loose housings for the human feet having a common base sheet provided with electric resistance warming pads each individually as a unit set down in the sole portions of said sheet.

2. A unitary structure for warming the human feet embodying a pair of large-size flexible open housings or uppers to receive the feet, with permanently connected sole portions, and heat generating electric resistance wire pads in said sole portions, each pad being individually complete as a unit and embodying an asbestos covered wire coil and top and bottom facings secured together and to the cord.

3. An electric warmer for the human feet embodying a common base sheet forming a pair of sole portions equipped with open housings or uppers for the feet, said sole portions provided with heat generating electric resistance wire pads set down in said sole portions and each individually complete as a unit.

4. An electric heat generating device for application to the human feet, embodying a pair of open housings or uppers for the feet, said housings being joined together side by side and having electric resistance wire warming pads connected together in multiple each pad being individually complete as a unit and embodying an asbestos wire covered coil and top and bottom facing sheets secured thereto.

5. An electric warmer for the human feet, with therapeutic tendencies, embodying double open flexible receiving inclosures for

the human feet and ankles; having a common supporting base forming the bottom or soles of said receiver housings, provided with electric resistance wire heat generating coils, confined in recesses through the base or soles of said housings, with means for connecting same to the ordinary electric light supply.

6. A warming device for the human feet or other parts, embodying cover means to hold the same thereto and asbestos covered electric resistance wire of the required length formed into flat twin coils connected and arranged to be included in the one electric circuit as a single wire, each coil being se-

cured to and between facing sheets to form an individually complete pad as a unit.

7. A warming device for the purposes substantially as set forth, embodying sole portions and housings, said sole portions having recesses exposed for exterior heat exchange, and an insulated electric resistance wire formed into heating coils arranged in said recesses, respectively, said coils electrically connected to act electrically as a single wire.

Signed at Washington, D. C., this 18th day of May, 1925.

LEO SIMMONS.