Jan. 5, 1926. 1,568,757

E. A. McINTYRE

THERAPEUTIC LEG AND FOOT WRAP

Filed Oct. 26, 1922 2 Sheets-Sheet 1

FIG. 1

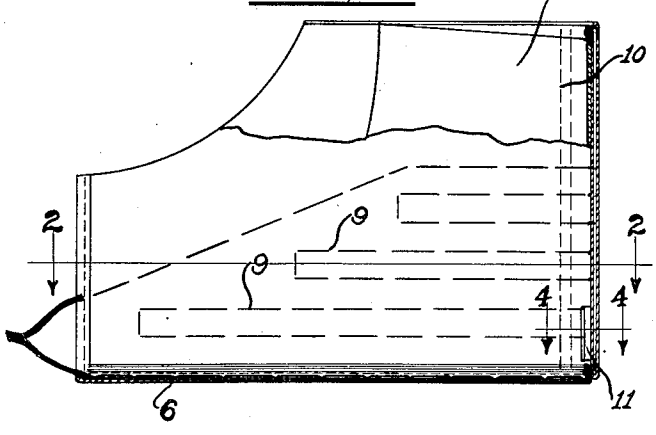


FIG. 3

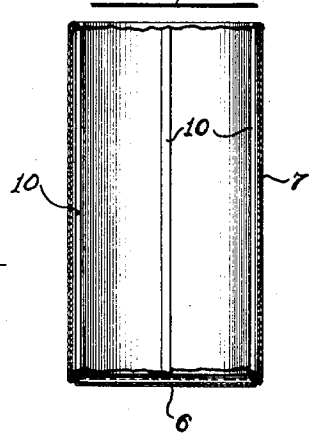


FIG. 2

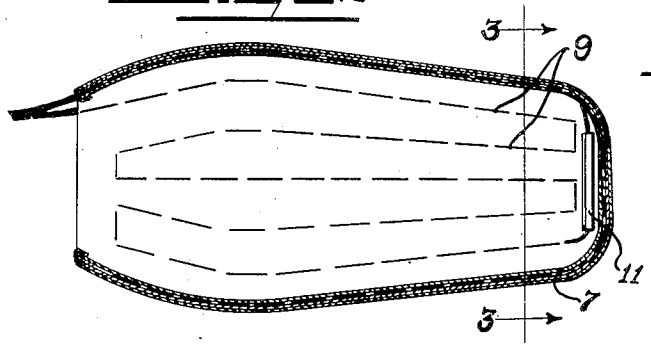


FIG. 4

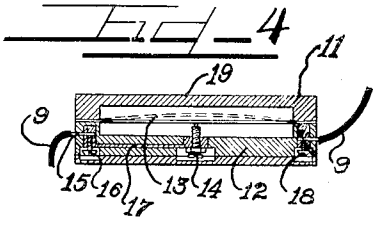


FIG. 5

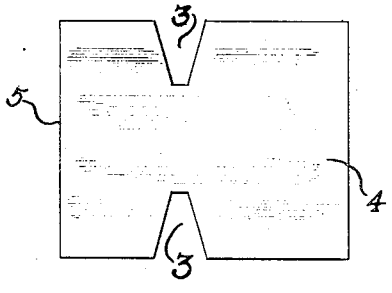
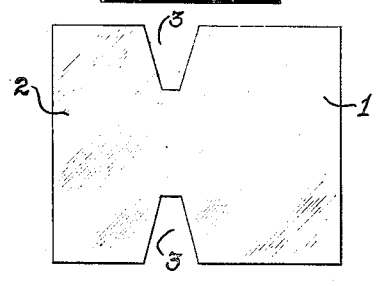


FIG. 6



Witnesses
M. Clifford.
Carlton Hill

Inventor
Edith A. McIntyre.
Charles Sumner Wells
Atty.

by

Jan. 5, 1926. 1,568,757

E. A. McINTYRE

THERAPEUTIC LEG AND FOOT WRAP

Filed Oct. 26, 1922 2 Sheets-Sheet 2

Fig. 10

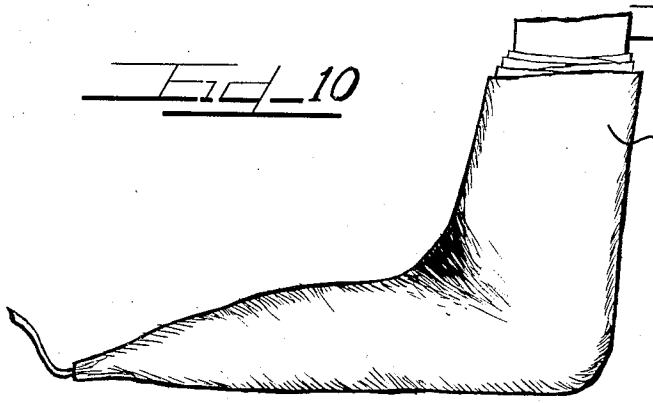


Fig. 11

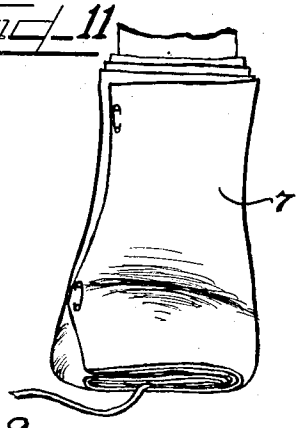


Fig. 9

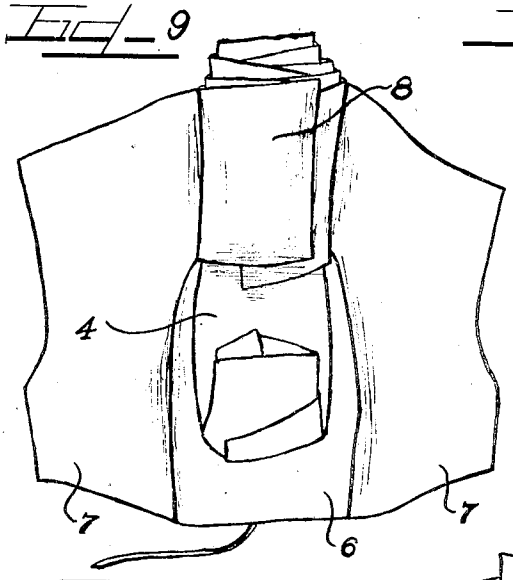


Fig. 8

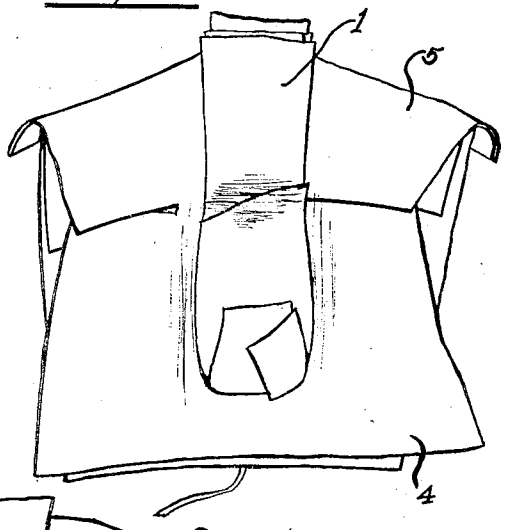
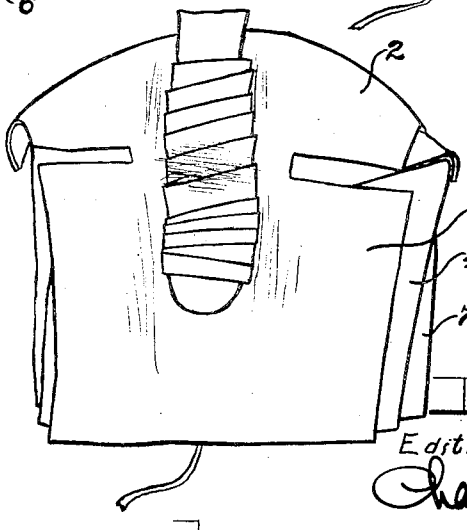


Fig. 7



Witnesses
M. Clifford.
Carlton Hill

Inventor
Edith A. McIntyre.
Charles W. Hills
Atty.

by

Patented Jan. 5, 1926. 1,568,757

UNITED STATES PATENT OFFICE.

EDITH A. McINTYRE, OF NEW YORK, N. Y.

THERAPEUTIC LEG AND FOOT WRAP.

Application filed October 26, 1922. Serial No. 597,197.

To all whom it may concern:

Be it known that I, EDITH A. McINTYRE, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in a Therapeutic Leg and Foot Wrap; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an electrically heated or therapeutic leg and foot wrap, and it is an object of this invention to provide a soft pliable wrap in which the heat is automatically controlled and which is simple, inexpensive and very efficient, and does not require the use of water for securing proper action.

With these and other objects in view which will become more apparent in the following description and disclosures, this invention comprises the novel structures hereinafter described and more particularly pointed out and defined in the appended claim.

In the accompanying drawings which illustrate a preferred embodiment of this invention and in which similar reference numerals refer to similar features in the different views:

Figure 1 is a vertical section through the wrap with one ply of the wrap broken away to show the electrical heating means.

Figure 2 is a section upon the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is an enlarged section upon the line 4—4 of Figure 1 showing the thermostat.

Figure 5 is a plan view of one element of the wrap upon a reduced scale.

Figure 6 is a plan view of another element of the wrap upon a reduced scale.

Figure 7 is a plan view of the wrap with a simulation of a bandaged foot and leg ready to be wrapped.

Figure 8 is a plan view similar to Figure 7 but with the first element wrapped around the foot and leg.

Figure 9 is a plan view similar to Figure 8 but with the second element and flap of the outer element wrapped around the leg.

Figure 10 is a side elevational view of the wrap when in use with the outer element in folded position.

Figure 11 is a front elevational view of the wrap when in use.

As shown on the drawings:

In the drawings I have shown one embodiment of my invention which comprises a plurality of elements. The first element preferably consists of rubber or some similar material that is adapted to be wrapped around the leg and foot which, in the present instance, is shown as wrapped in a bandage. The second element may consist of canton flannel or a similar material which is soft and pliable, that is also wrapped around the foot and leg. The third or outer element is in the form of a boot open at its top and at its forward end, and may be made of canton flannel, felt or any suitable material. These separate elements will now be described and their function more fully pointed out.

The first element which consists of rubber is best illustrated in Figure 6. It is formed of a suitable piece of rubber having a lower portion 1 for encompassing the foot and an upper portion 2 for encompassing an ankle and a portion of a leg with V-shaped cut out portions 3 at the juncture thereof where the break at the ankle occurs, in order that the same may be readily folded. This rubber element is for the purpose of retaining the heat and for gently producing perspiration with as little over-activity and forcing of the sweat glands as possible.

The second element is best illustrated in Figure 5. It consists preferably of a piece of canton flannel or the like having a lower foot engaging portion 4 and an upper leg engaging portion 5 with V-shaped cut out portions 3 at the juncture where the break at the ankle occurs in order that the same may be more readily folded with less bulkiness. This second element serves to impart warmth to the foot.

The third or outer element is best shown in Figures 1, 2, 3 and 9, and consists of the boot proper which is made of two separate plies of cloth such as canton flannel or the like. The boot is constructed by taking a sole portion 6 of two separate plies such as is indicated in Figure 9, and attaching the upper portion 7 in the form of two separate plies upon the sides and rear margin thereof, leaving the front end open. A flap 8 (Fig-

ure 9) is preferably attached along its center line to the rear upper part of the upper portion so that the same may be wrapped around the leg. The inner side of the outer ply of the boot is preferably lined with some suitable lining for attaching the electrical heating medium thereto, which is illustrated as consisting of insulated resistance wires 9 which are connected in series and which are strung over the bottom and around the lateral sides and rear part of the upper portion of the boot to a suitable height, as shown in Figures 1 and 2. The wires on the lateral sides of the boot preferably terminate a sufficient distance from the front thereof in order not to interfere with the front portions which are usually folded inwardly when the foot is in use.

In order to impart a certain rigidity to the top, vertical reinforcing strips 10 of leather or the like may be secured at proper intervals along the inner side of the inner ply of the top, as shown in Figure 3. When in use, this outer element is properly folded over the foot or leg and secured by a safety pin or the like.

It is frequently desirable and often necessary to maintain a substantially constant temperature in the boot, and for this purpose I have inserted a thermostat 11 in series with the resistance wires 9. The thermostat, which is preferably secured to the rear part of the boot just above the bottom, is illustrated in Figure 4. It consists of a base 12 having raised supports at its ends upon which a resilient expansible bar 13 is supported. An adjustable contact screw 14 extends through the base and into contact with the bar 13. The current enters through the wire 9 and post 15 in the base, which is in contact with a screw 16 in a conductor 17 leading to the screw 14, through which the electrical current passes to the expansible bar 13. One end of the bar 13 is in contact with a terminal 18 which is in electrical connection with the wire 9 through which the current emerges from the thermostat. A cover 19 may be placed over the base to form an inclosed hollow casing for the thermostat.

It will be understood that the current must pass through the thermostat and if the heat rises above a predetermined point, the bar 13 will expand and flex upwardly, thereby breaking its contact with the screw 14 to stop or reduce the flow of current. When the temperature cools off sufficiently, the bar 13 will contract and automatically reestablish the contact through the screw 14 whereby the current will flow again. It will therefore be apparent that the thermostat automatically regulates the temperature and maintains the same substantially constant. By adjusting the screw 14 to raise or lower the contact point, it is possible to vary the temperature at which the circuit is broken.

In use, the foot which it is desired to treat and which may be wrapped in a bandage is placed within the rubber element which forms the inner element of the boot. The rubber element is then wrapped around the foot and lower portion of the leg. The intermediate element 4 of canton flannel is then wrapped around the foot and leg over the rubber wrapper. The flap 8 is then wrapped around the leg and the outer element or boot member is then properly folded to conform to the wrapped foot and leg and fastened by a pin or clasp.

It is characteristic of this invention that the different elements are separable and that the inner elements are replaceable with respect to the outer element, and that the heat is automatically controlled.

From the foregoing, it will be apparent that a very simple and efficient therapeutic foot wrap has been provided in which the desired temperature may be regulated and maintained, which may be readily applied to the foot or removed therefrom without causing any pain.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

In a therapeutic foot and leg wrap, a flexible element formed of separate plies and comprising a sole portion and an upper extending around the sides and rear of said sole portion but open at its front, a flap attached along its center line to the rear portion of said upper and adapted to be wrapped around the leg only, and electrical heating means disposed between the plies of said flexible element.

In testimony whereof I have hereunto subscribed my name.

EDITH A. McINTYRE.