April 19, 1949. B. STREZOFF 2,467,447

HOT-WATER BOTTLE

Filed March 6, 1945

Fig. 1

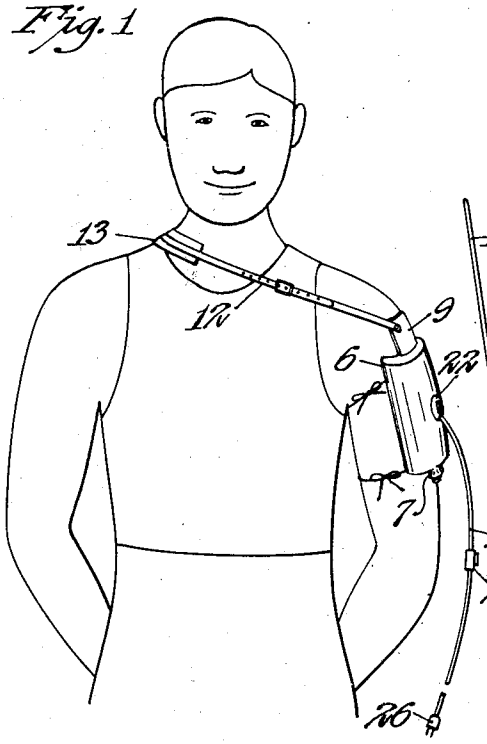


Fig. 2

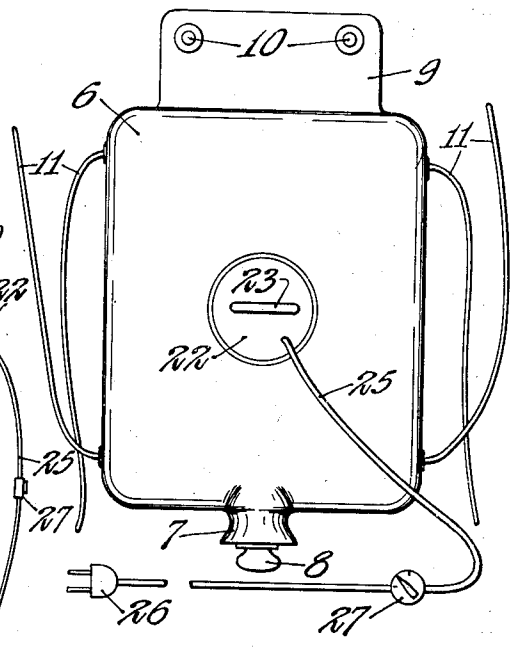


Fig. 3

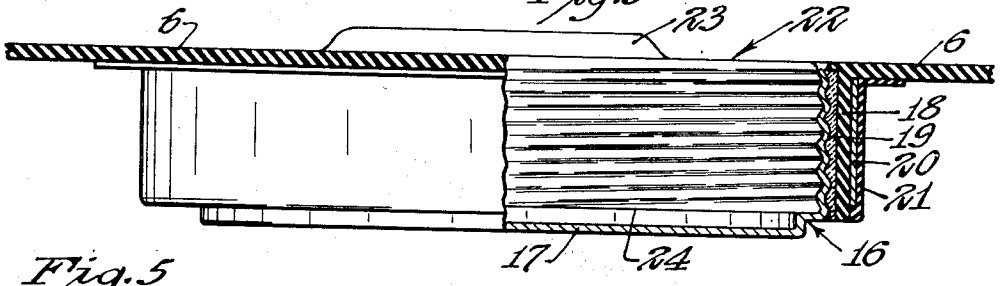


Fig. 5

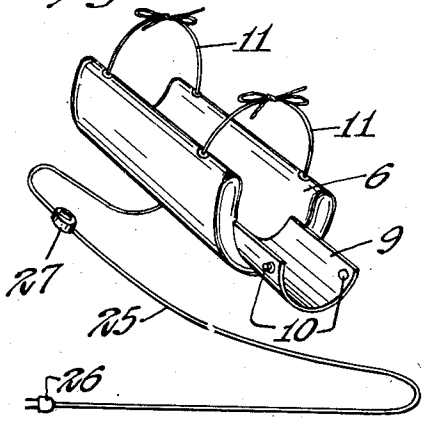
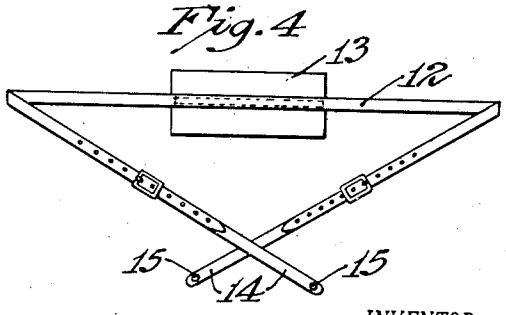


Fig. 4



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Patented Apr. 19, 1949 2,467,447

UNITED STATES PATENT OFFICE

2,467,447

HOT-WATER BOTTLE

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Application March 6, 1945, Serial No. 581,227

3 Claims. (Cl. 219—46)

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This invention relates to hot water bottles and the like.

It is an object of the invention to provide a hot water bottle with means for attaching the same to a portion of the body of the user such as an arm in such a manner that it can be retained in its desired position regardless of the position of the user.

More specifically it is an object of the invention to provide a hot water bottle with tie means, such as means for encircling the arm of the user to secure it to the arm and additional tie means which may be extended across and around the body of the wearer and over the opposite shoulder of the body from the arm to which the bottle is applied to give vertical support to the bottle when the user is in an erect position.

Another object of the invention is to provide a hot water bottle having the usual filler spout enclosure therefor and also having means whereby the water in the bottle can be kept at a constant temperature over any desired period of time.

Another object of the invention is to provide a hot water bottle with an electrical heating element for keeping the water in the bottle at a desired temperature, and wherein the heating element can be readily detached from the bottle in order that the latter may, if desired, be used as a conventional hot water bottle without the heating element.

These and other objects and advantages of the invention will more fully appear from the following description made in connection with the accompanying drawings, wherein like reference characters refer to the same parts throughout the views, and, in which:

Figure 1 is a front view of the upper body portion of a person with the device attached to one of the upper arms;

Figure 2 is a plan view of the apparatus spread flat;

Figure 3 is an enlarged fragmentary detail partially in section of the heating element and the socket provided therefor;

Figure 4 is a plan view of a portion of the bottle securing harness; and

Figure 5 is a perspective view of the device showing the position it assumes in partially encircling a portion of the body of the user.

The bottle includes a container 6 preferably of a flexible water proof material such as rubber. The lower end of the container 6 is provided with a filler spout 7 having a removable plug 8 such as is commonly used in devices of this type. The upper end of the container 6 has a flexible flap 9 ex-

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tending therefrom and the outer corners of said flap have snap fastener elements 10 mounted thereon. Pairs of tie strings 11 extend laterally from the corners of the container 6.

In Figure 4 there is shown tie means in the form of a main strap 12 having a relatively wide pad 13 secured intermediate its ends and having extension straps 14 adjustably secured to the ends thereof. The extension straps 14 have snap fastener elements 15 adapted to cooperate with the snap fastener elements 10 on the container flap 9.

In Figure 3 one of the walls of the container 6 is shown provided with an internally threaded socket 16 whose outer portion preferably lies flush with the outer surface of the container 6 as illustrated. The socket 16 has an integral bottom 17. The container 6 is provided with an inwardly directed flange 18 in which the socekt 16 is located, and interposed between the circumferential threaded wall of the socket 16 and the flange 18 is a suitable heat insulating material 19 which preferably is of a water proof material. About the flange 18 is a metallic strap 20 to tighten the flange 18 about the heat insulating material 19 to form a water proof joint and, if desired, the metal band 20 may be provided with a rubber cover 21.

Removably threaded into the socket 16 is a heating element 22, the interior details of which are not shown since any suitable type of electrical resistance may be used for the purpose. The heating element on its outer face is provided with a rib 23 to assist in turning the same when it is mounted in or removed from the socket 16. It will be noted in Figure 3 that the bottom edge 24 of the heating element 22 is spaced somewhat from the bottom 17 of the socket 16. The air space provided between these two members is to prevent direct heat conduction from the heating element into the socket bottom 17.

An electric conductor extends from the heating element 22 and its end is pivoted with a suitable connector such as a pronged plug 26. Interposed in the electrical conductor 25 is a variable resistance circuit maker 27 which permits making or breaking of the circuit through the conductor 25 and also permits control of the degree of heat produced by the heating element 22.

It will be seen that I have provided a hot water bottle which is adapted to be secured to various portions of the body of the user in such a way that the user can keep it in place even though he is moving about or while he is asleep. In Figure 5 there is shown a perfected shape for the device

which, as shown, is generally U-shaped in cross section so that it will more naturally adapt itself to various body contours such as the limbs of the user.

In addition I have provided means for electrically heating water in the container **6** and by means of the variable resistance switch **27** it is possible to vary the degree of heat in the heating element **22** so that a desired even temperature can be maintained over any period of time. However, if the user is moving about to such an extent that the electrical conductor **25** would otherwise confine his movements it is possible to quickly remove the heating element **22** by unscrewing it from the socket **16** and the device can then be used in the manner of an ordinary hot water bottle by refilling with preheated water at intervals.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What I claim is:

1. In a hot water bottle, a container, a socket in said container and having the outer portion thereof substantially flush with the wall of said container, the interior of said socket being sealed from the interior of said container, and an electrical heating element removably mounted in said socket and having its exposed portion lying substantially flush with the outer surface of said container.

2. In a hot water bottle, a container of flexible water-proof material having end and side edges, a flexible attachment flap of considerable surface area extending from an end edge of said container, a tie device having its ends detachably secured to said attachment flap, additional tie means secured to said container at a side edge portion thereof and directed outwardly therefrom, said tie device and said tie means being adapted to encircle portions of a human body to retain said container in a desired position on the body of the user.

3. In a hot water bottle, a water container having a filler opening therein and a removable closure therefor, said container having a wall portion with a recess therein spaced from the edges thereof, the interior of said recess being sealed from the interior of said container, a heating element removably received in said recess and having a separable interlock with an inner wall portion of the recess, and the exposed portion of said heating element being substantially flush with the outer surface of said wall portion of said container.

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