

June 1, 1926.

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THERAPEUTIC THERMOPHORE

Original Filed June 1, 1921

Fig. 1.

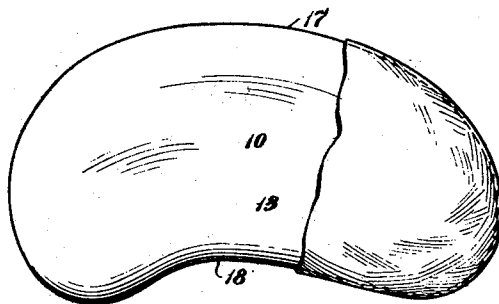


Fig. 2.

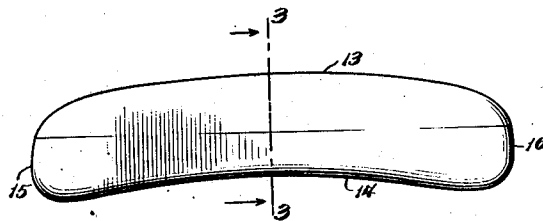


Fig. 3.

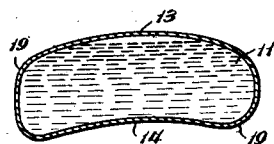


Fig. 4.

Fig. 5.

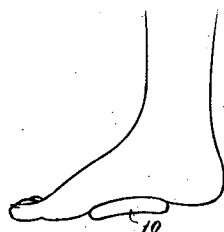


Fig. 6.



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UNITED STATES PATENT OFFICE.

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THERAPEUTIC THERMOPHORE.

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The invention relates to an improved form of therapeutic thermophore, which term is used to designate a heat containing body, such as hot water bags, electric heating pads and the like, employed for the purpose of applying heat locally to some portion of the human body.

It is generally true of such thermophores as hot water bags that they are not made of a configuration to fit snugly against the particular curved surfaces of the body to which the heat is desired to be applied. Such devices are further objectionable in that the contained water must be heated to relatively high temperatures in order to provide sufficient heat to last over a material length of time, and even when so heated, the usual large heat radiating surface and the comparatively low heat capacity of such devices causes them to cool rapidly with resulting necessity for constant reheating and natural deterioration results in a short life for such devices. Again it is frequently required that these hot water bag forms of thermophores require heating under conditions where the high temperature necessary to boil water is not available, they must be made bulky and as a result are too heavy for some uses.

Accordingly, one of the objects of the invention is to provide a simple form of thermophore or heat carrier which can be made rigid, of a set form and with relatively small cubical contents, thereby to minimize heat losses, while having capacity to absorb, retain and slowly dispense relatively large amounts of heat in small localized areas and which can be made sufficiently light so as not to cause inconvenience to the user.

Still another object of the invention is to provide a device of the class outlined, fashioned to provide a shape which will most conveniently conform to the maximum number of different convex and concave portions of the human body.

Still another object of the device is to provide a construction which will be self contained within its outlining shell and which will in this way eliminate the objectionable leakage which has rendered similar devices such as hot water bags unpopular in general household use.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in

the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

Referring to the accompanying drawings:—

Figure 1 is a plan view of a preferred embodiment of the invention showing part of an enclosing jacket broken away from one end thereof;

Figure 2 is a view in side elevation of the device shown in Figure 1;

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 3;

Figures 4, 5 and 6 are outline views of certain portions of the human body showing the device in different positions thereon.

In the following description and in the claim, parts will be identified by specific names for convenience of expression but they are intended to be as generic in their application to similar parts as the art will permit.

Referring to the device shown in Figure 1 it is noted that there is disclosed a kidney-shaped article of manufacture complete in itself and outlined by a single, continuous outer surface. The device includes an outlining shell 10 of thin metal, preferably copper, enclosing a heat receiving, storing and dispensing substance 11 hereinafter more fully described. The enclosed substance 11 is introduced into the shell and the shell hermetically sealed after which the device is ready for continuous use without replenishing its contents.

Referring to the shape of the outer dispensing surface it is noted from the side view shown in Figure 2 that there are two wide oppositely disposed sides with one side 13 constituting a long, flat, convex side and the opposite side 14 in the form of a relatively long, double concaved side, one rounding into the other by the curve ends 15 and 16.

It will be noted that the upper side 13 is only slightly convex in two directions at right angles to each other as shown in Figures 2 and 3, and that the corresponding lower side 14 is similarly formed concaved. Viewed in plan, as shown in Figure 1, one side edge 17 rounds into the sides 15 and 16 with a long, convex parabolic curve and the opposite edge 18 similarly rounds into the

sides 15 and 16 with a short, concaved parabolic curve. All surfaces round from one into the adjacent surfaces with rounded edges, as shown at 19. The device may be
5 contained in a fabric jacket 20 made of flannel or other insulating or partially insulating material.

It is the intent of this construction that the several surfaces be so curved as to fit
10 the maximum number of different surfaces of the body to which such device is to be applied. From the showing in Figure 4 it is noted that the device can extend lengthwise of the jaw bone with the projecting portion
15 of the face fitting against the long relatively flat side of the device. In the upper part of the showing in Figure 5 the short, curved side fits against the neck and in the lower part the short, concaved side is fitted against
20 the thigh. As a further illustration it is noted that the convex side can fit under the arch of the foot as shown at Figure 6.

It is obviously within the scope of this disclosure to provide special forms of this device to fit especial places of the body or combination of certain places and it is to be understood that the showing in the drawings is that of a conventional form of such device
25 intended for general use and to fit the maximum number of places. If desired a strap or harness (not shown) may be supplied to hold the device in its applied position for an indefinite time.

In operation and with the device heated to
35 any desired temperature needed for therapeutic application, the device is applied to the part of the body desired to be treated and left in contact with the body for any desired period of time.

40 A device of this character provides a self contained apparatus fashioned to fit the particular part of the body to be treated which

is permanently non-leakable as it contains no apertures of any kind. As the heat retaining and dispensing substance is a part of the
45 completed article, there is no necessity of providing a new charge for the device each time it is used. The device does not become worn out or need any recharging and when once constructed the device can be used repeatedly and in so far as is known will last
50 indefinitely.

While I have shown and described, and have pointed out in the annexed claim, certain novel features of my invention, it will
55 be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.
60

Having thus described my invention, I claim:—

A therapeutic thermophore, comprising a rigid permanently closed casing free of projections and with every part of the outlining
65 surface rounding into the adjacent surface, one of its sides having a long convex parabolic curve and the opposite side having a short concave parabolic curve united by
70 slightly curved faces, one being slightly convex and the other being slightly concave when considered in cross-section, said casing being adapted to fit against different depressions and protuberances of the human body
75 and containing a substance permanently concealed within the casing having capacity to receive, store and slowly dispense heat to the portion of the body in contact with the surface of the casing.
80

Signed at New York city, in the county of New York and State of New York this
28th day of May, A. D. 1921.

GEORGE AUSTIN WYETH.