March 5, 1957 R. R. DUFFIELD 2,783,807

FORM FIT HEAT AND COLD APPLICATOR DEVICE

Filed April 20, 1955

Fig. 1.

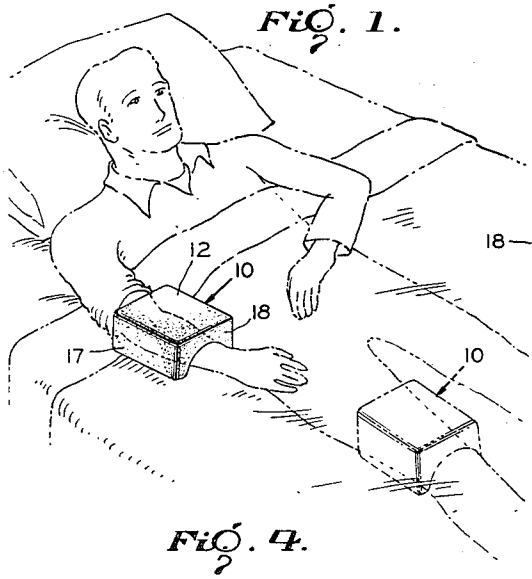


Fig. 2.

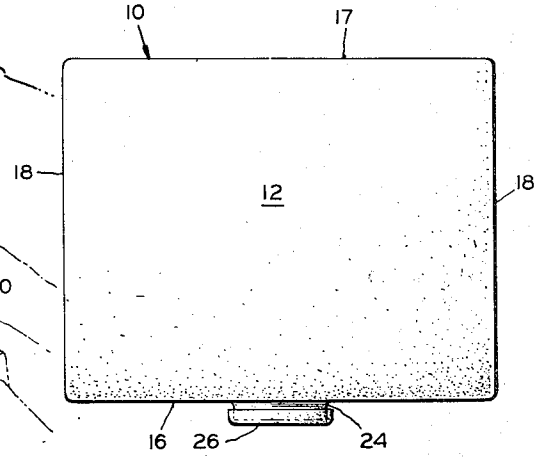


Fig. 4.

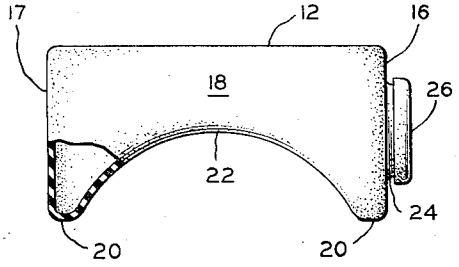


Fig. 3.

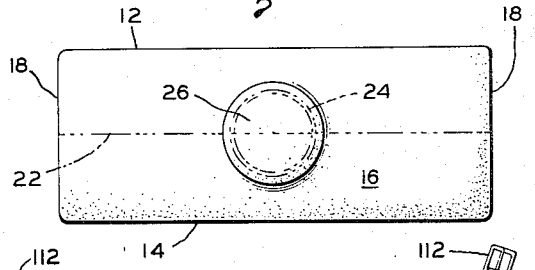


Fig. 5.

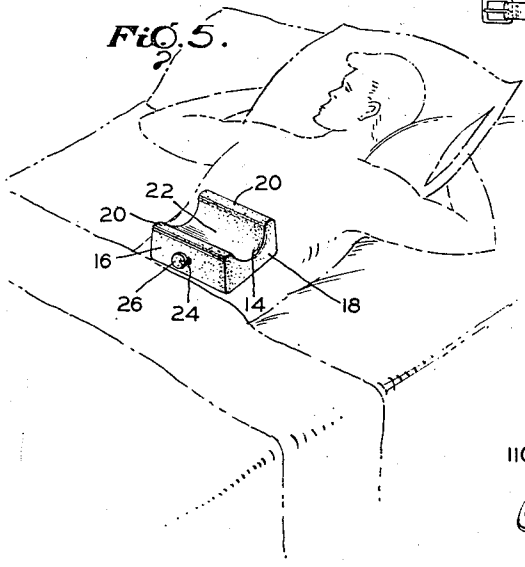
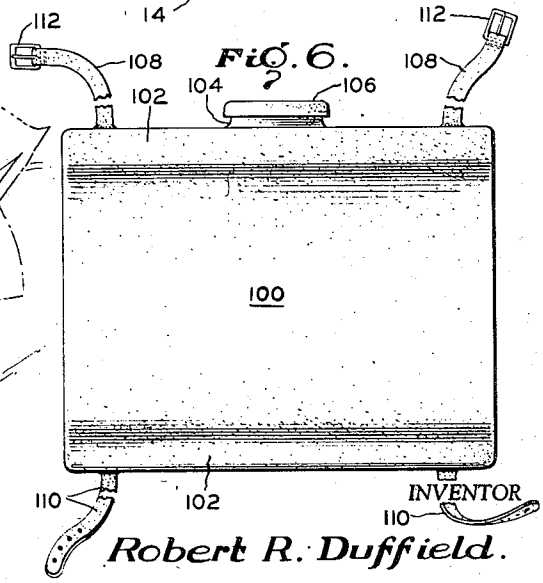


Fig. 6.



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2,783,807

FORM FIT HEAT AND COLD APPLICATOR DEVICE

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Application April 20, 1955, Serial No. 502,701

2 Claims. (Cl. 150—2.4)

This invention relates to a hot or cold applicator, and it particularly relates to an applicator of the inflatable type which may be filled with either a hot or cold fluid for applying heat or cold to a person's body.

The type of hot or cold applicators now in general use comprise a bottle or bag of either flat or formless shape which does not fit comfortably anywhere on a person's body and which tends to fall off at the slightest movement. This is especially troublesome in the case of treatment of an arm, leg, or other curved or rounded part of the anatomy where no steady support is available. It is also troublesome in the event a person being treated falls asleep and rolls or turns over. In such a case, the bottle or bag invariably falls off the part being treated and its effect is entirely lost.

It is one object of the present invention to overcome the above noted difficulties of prior types of applicators by providing an applicator which fits snugly to the contour of the part being treated so that it maintains itself in position, and may be securely fastened in such position.

Another object of the present invention is to provide an applicator which is adapted to fit the contours of the various differently shaped parts of a person's body.

Other objects of the present invention are to provide an improved applicator, of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

Fig. 1 is a view of a device embodying the present invention, showing it in one position of use.

Fig. 2 is a top plan view of the device shown in Fig. 1.

Fig. 3 is a front elevational view of the device shown in Fig. 1.

Fig. 4 is an end view of the device of Fig. 1.

Fig. 5 is a view of the device of Fig. 1 shown in use in an alternate position.

Fig. 6 is a bottom plan view of a modified form of the device.

Referring now in greater detail to the drawing wherein similar reference characters refer to similar parts, there is shown a container **10**, shown in full line in Fig. 1 as applied to an arm, and in dotted outline as applied to a person's leg. The container **10** comprises a flat top wall **12**, a substantially curved bottom wall **14**, a front wall **16**, a rear wall **17**, and a pair of end walls **18** which are substantially flat. The bottom wall **14** consists of a pair of oppositely disposed flat edge portions **20** and a concave center portion **22** between the flat edges.

Extending outwardly from the front wall **16** is a filling nozzle **24** through which hot or cold water, ice cubes, or any other desirable temperature regulating material is adapted to be inserted. A cap **26** is provided for closing the nozzle after filling has taken place. The nozzle and cap are both preferably constructed of natural or

synthetic rubber, polyethylene or other resilient material as is also the body of the container itself. The material of the container is generally of inflatable material; however, it is possible to construct the nozzle and cap of metal or rigid plastic material, if desired, although they are preferably of the same material as the container body. The cap **26** may be screw-threadedly engaged with the nozzle or it may be friction-fitted, or provided with a bayonet slot type of connection or any other desirable type of connecting means which permits of a generally good fluid seal.

In use, if a hot or cold application is to be applied to an arm or leg, the container is placed on the limb with the curved bottom surface encompassing the limb, as illustrated in Fig. 1. The limb remains cupped within the curved bottom wall of the container which fits it closely enough to frictionally embrace it. In this manner, there is practically no tendency for the container to slip off even when the limb is moved from one position to another. Even if the person should fall asleep and turn over, the container would tend to remain fitted on the limb to which it is applied. It should be noted that the flat edge portions **20** provide a lateral support surface for the covered portion.

If a relatively flat portion of the body is being treated, such as the chest or back, the flat top surface of the container is placed in contact with the body surface, as illustrated in Fig. 6. In this manner, not only does the device fit the flat body contour but its maximum area is used for the treatment.

Although the container **10** has been illustrated with only one curved surface and the rest being flat, it is within the scope of the present invention to make it of any desired contour to fit any particular body contour. For example, the various surfaces may be made of varying contours, one to fit the neck, another the head, another the side, another the elbow, another the underarm portion, etc. In this manner parts of the body which are very difficult to treat because of their peculiar shapes, such as the elbow or neck portion, may have specially shaped applicator surfaces which snugly embrace them and apply the maximum treatment.

The nozzle portion, although illustrated on the front wall surface **16**, may also be used on any one of the various other surfaces of the device within the scope of the invention.

In Fig. 6 a modified form of the device is shown wherein the parts are substantially similar to those of the applicator **10**, including a concavely curved bottom portion **100** bounded by oppositely positioned flat edges **102**, and having a filling nozzle **104** to which is adapted to be applied a nozzle cap **106**. This form of the invention, however, also includes a plurality of strap portions **108** and **110** adjacent each corner of the bottom wall. Each strap portion **108** is provided with a buckle **112** adapted to receive the ends of the strap portions **110**.

This modified form of the invention, as shown in Fig. 6, permits the applicator to be strapped in position so that there is no possibility of the applicator falling off even if the patient should roll violently in his sleep. The curved configuration of the bottom wall **100**, which fits the contour of the body portion to which it is applied, prevents the straps from binding too tightly.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A body portion form fitting temperature applicator comprising a liquid container of preshaped contour, said

container having an uninterrupted relatively flat rectangular wall surface, said flat surface being bounded by four relatively flat edge portions extending substantially perpendicular thereto, and an uninterrupted concavely curved partly cylindrical wall surface extending between said four edge portions and opposite to said flat wall surface, whereby two of said opposite edge portions are substantially rectangular and two intermediate edge portions have one edge each substantially concavely curved corresponding to the curvature of said concavely curved wall surface.

2. The temperature applicator as set forth in claim 1, and releasable strap means connected to and extending from said two opposite substantially rectangular edge portions of said applicator, said stray means being adapted releasably to embrace a body portion with either said relatively flat wall surface or said opposite concavely curved wall surface in contour contact with the body portion.

References Cited in the file of this patent

UNITED STATES PATENTS

97,265	Armstrong	Nov. 30, 1869
981,388	Deans et al.	Jan. 10, 1911
1,313,021	Scott	Aug. 12, 1919
1,433,303	Sampson	Oct. 24, 1922
1,433,304	Sampson	Oct. 24, 1922
1,525,594	Sesser	Feb. 10, 1925
1,605,141	Pyle	Nov. 2, 1926

FOREIGN PATENTS

8,353	Great Britain	Apr. 21, 1899