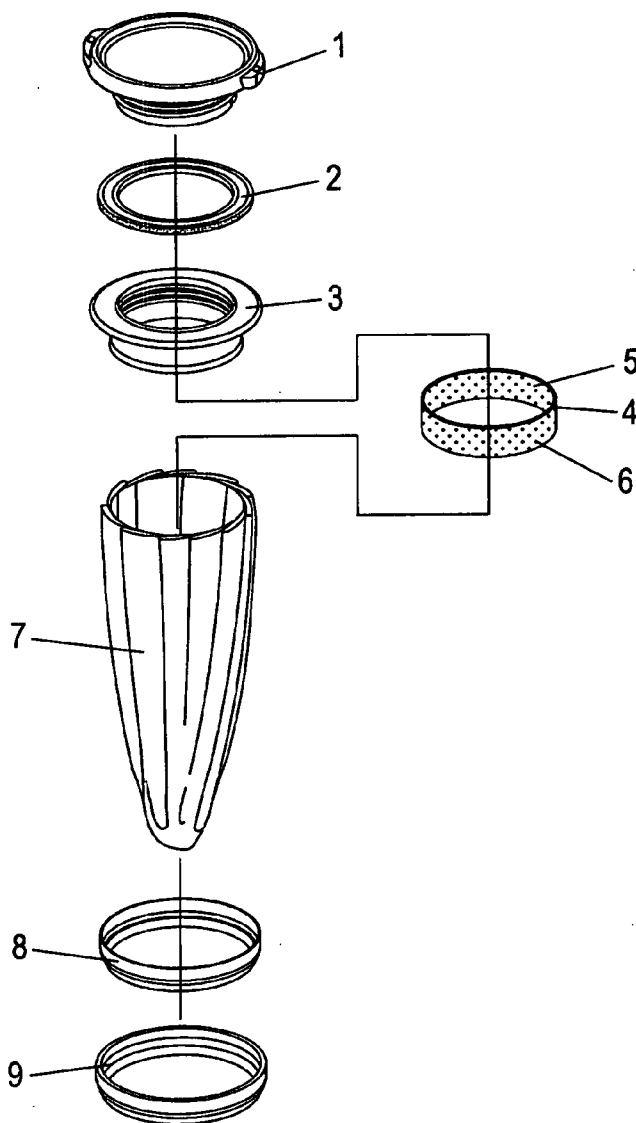




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(19) **United States**(12) **Patent Application Publication**
Chang(10) **Pub. No.: US 2007/0292054 A1**(43) **Pub. Date: Dec. 20, 2007**(54) **COMPOUND THERMAL KEEPING BAG**(52) **U.S. CL. 383/80; 383/110; 383/901**(76) **Inventor: Shu-Fen Chang, Taipei Hsien**
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Taipei(21) **Appl. No.: 11/455,846**(22) **Filed: Jun. 20, 2006****Publication Classification**(51) **Int. Cl.**
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B65D 81/38 (2006.01)(57) **ABSTRACT**

A compound thermal keeping bag comprises an upper cover having outer threads and at least one ear for rotating the cover; a silica gel washer enclosing; a sleeve having inner threads; the sleeve can be locked to the upper cover and lock the washer; a center of the sleeve having an opening; a waterproof sealing ring having double face films at two sides of the waterproof sealing ring; the outer double face film serves to be combined with a water and heat proof cloth; the water and heat proof cloth formed as a bag for receiving ice bricks or hot water so as to provide the function of warm keeping; a buckling ring arranged at an outer surface of the water and heat proof cloth; and a heat endurable rubber ring arranged at an outer surface of the buckling ring.



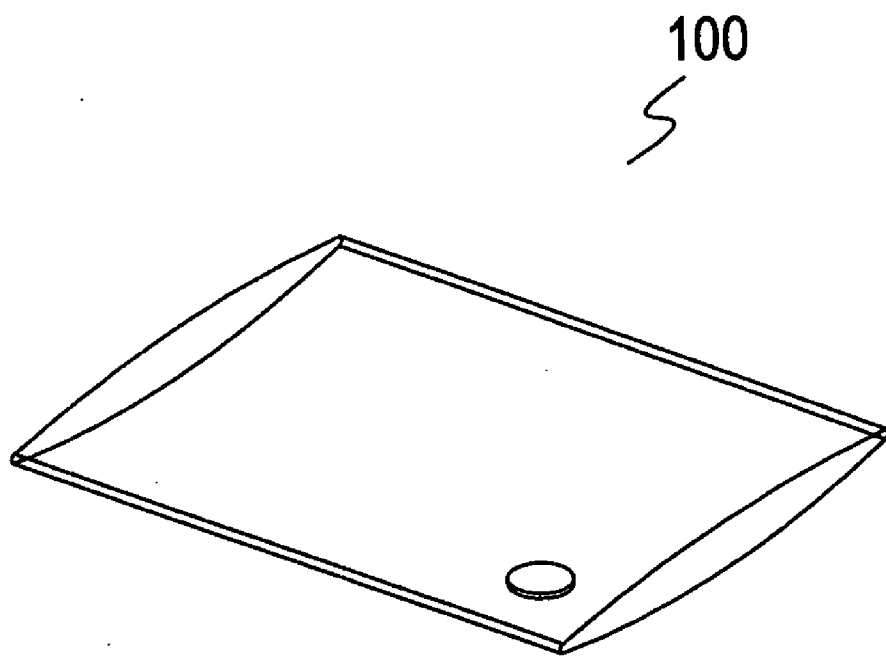


FIG.1

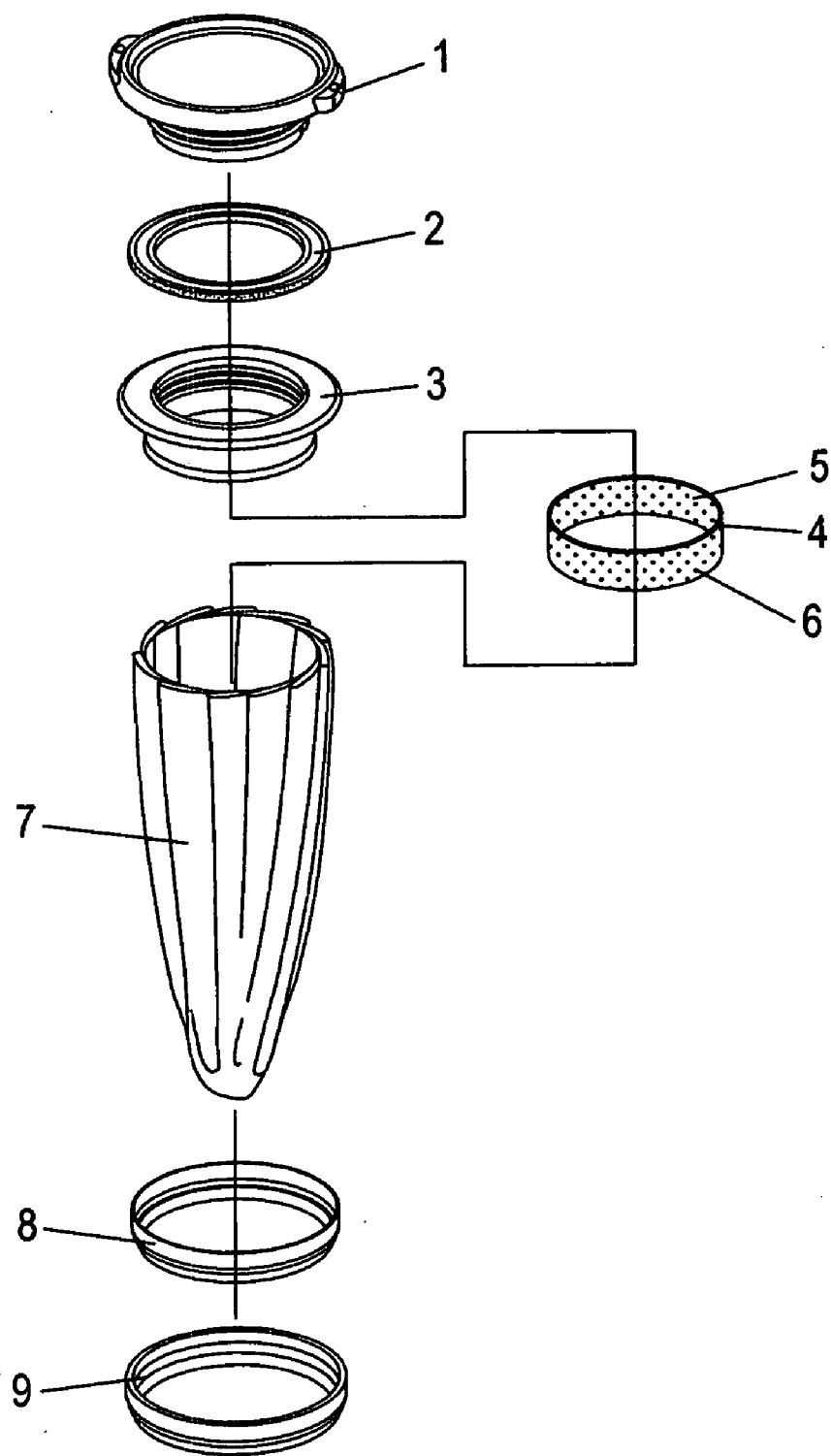


FIG.2

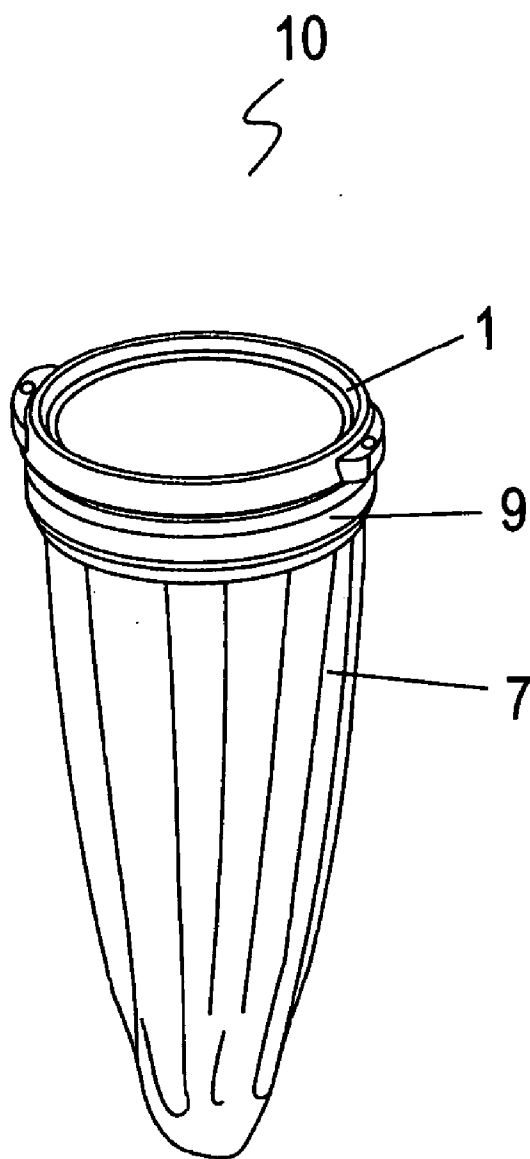


FIG.3

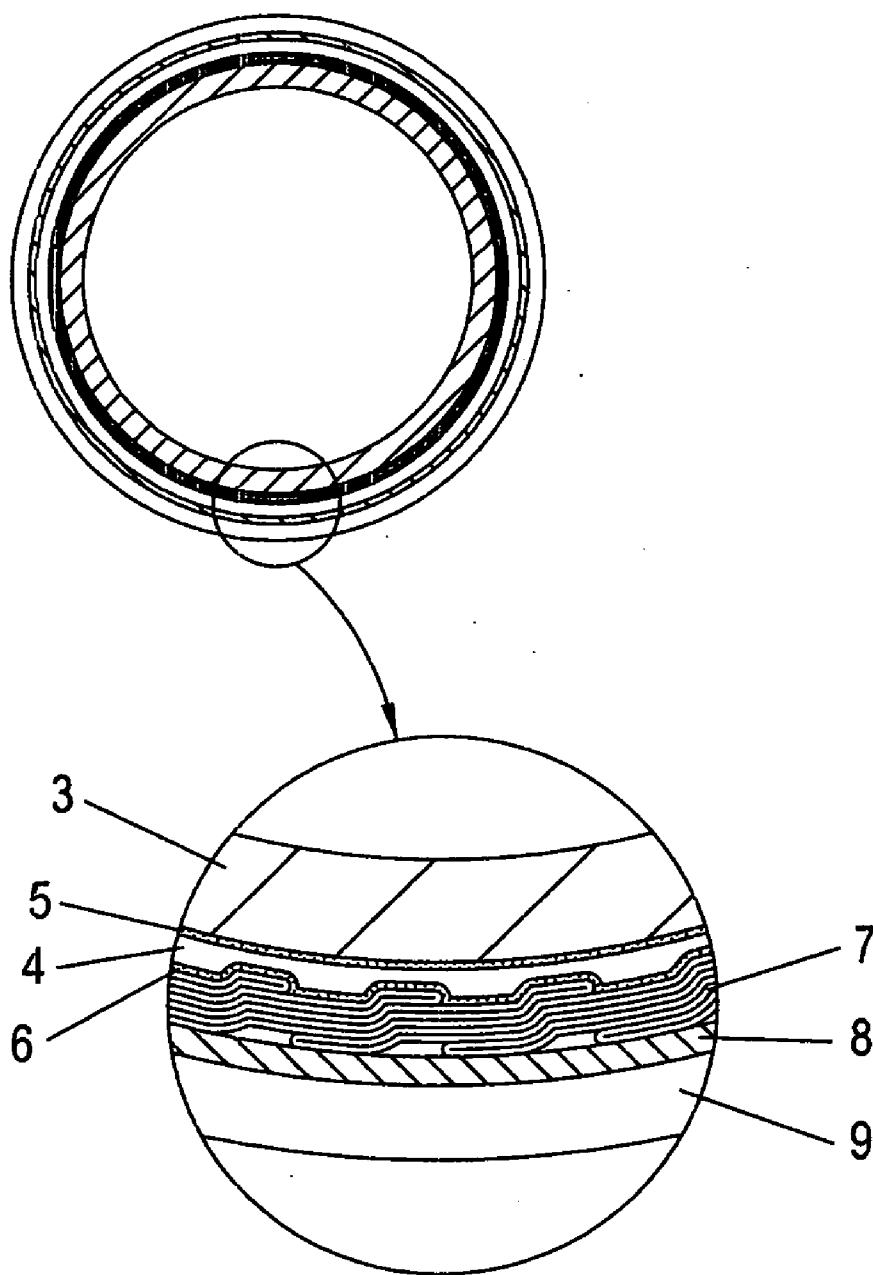


FIG.4

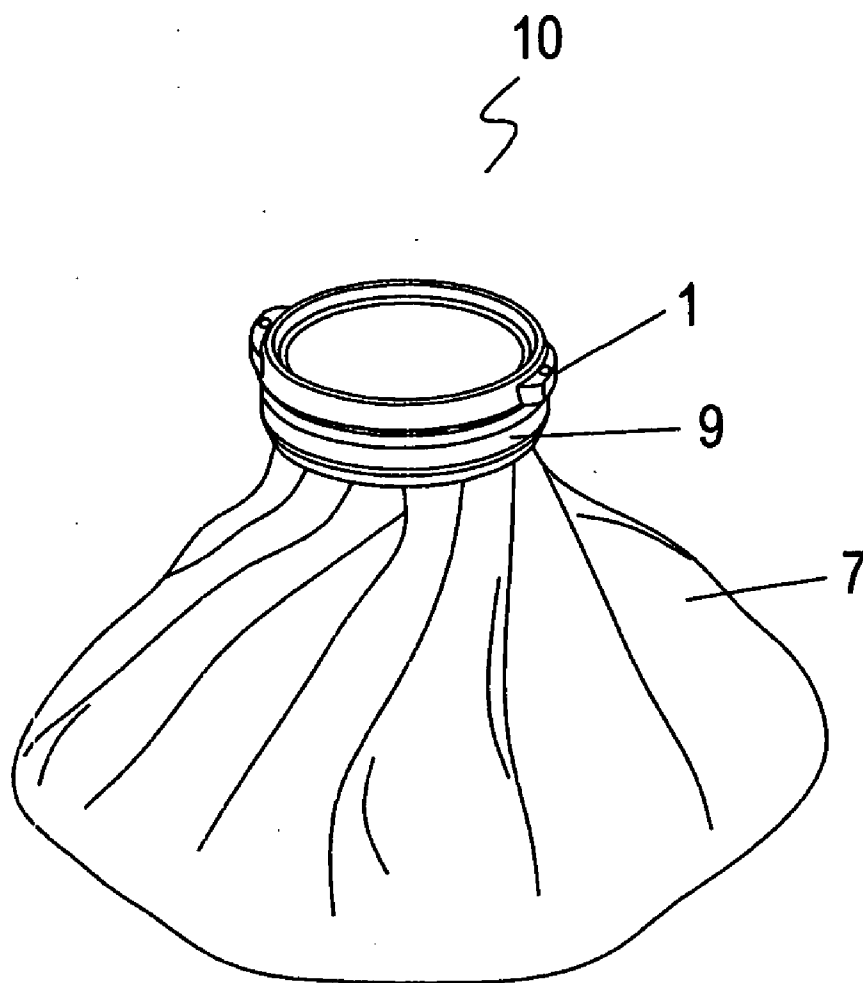


FIG.5

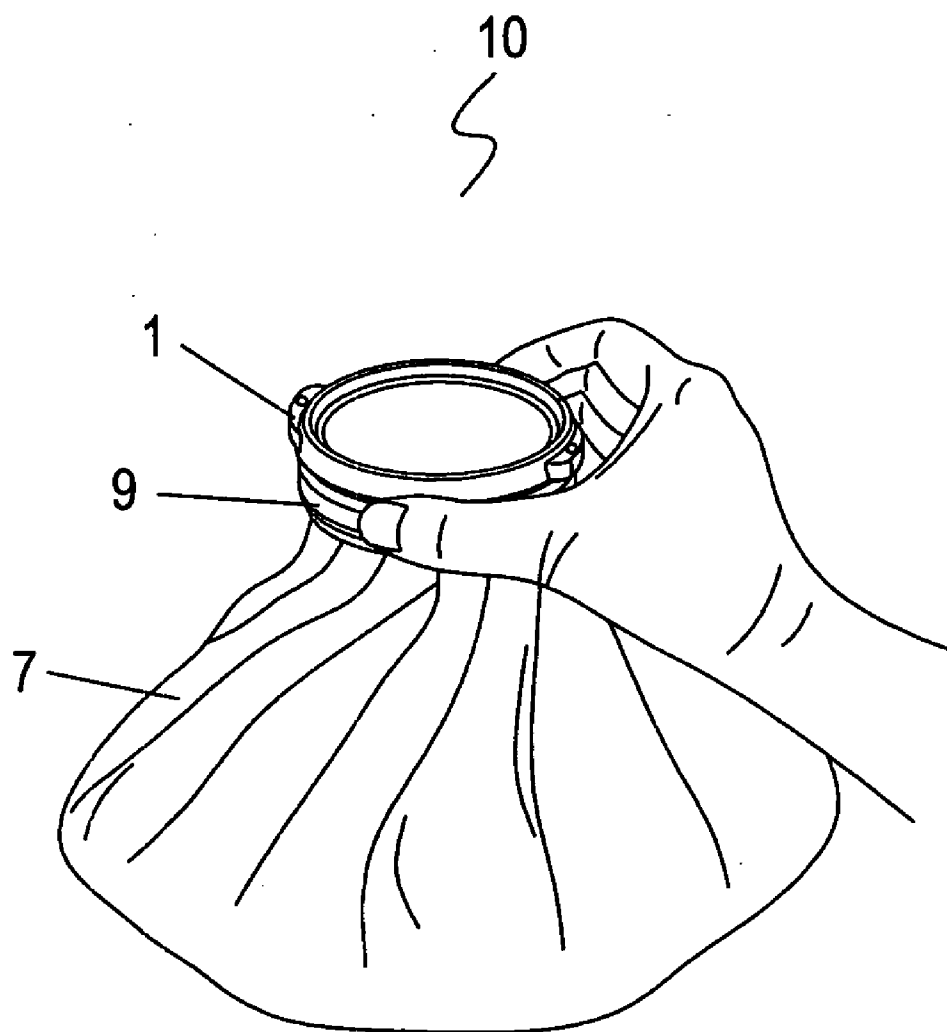


FIG.6

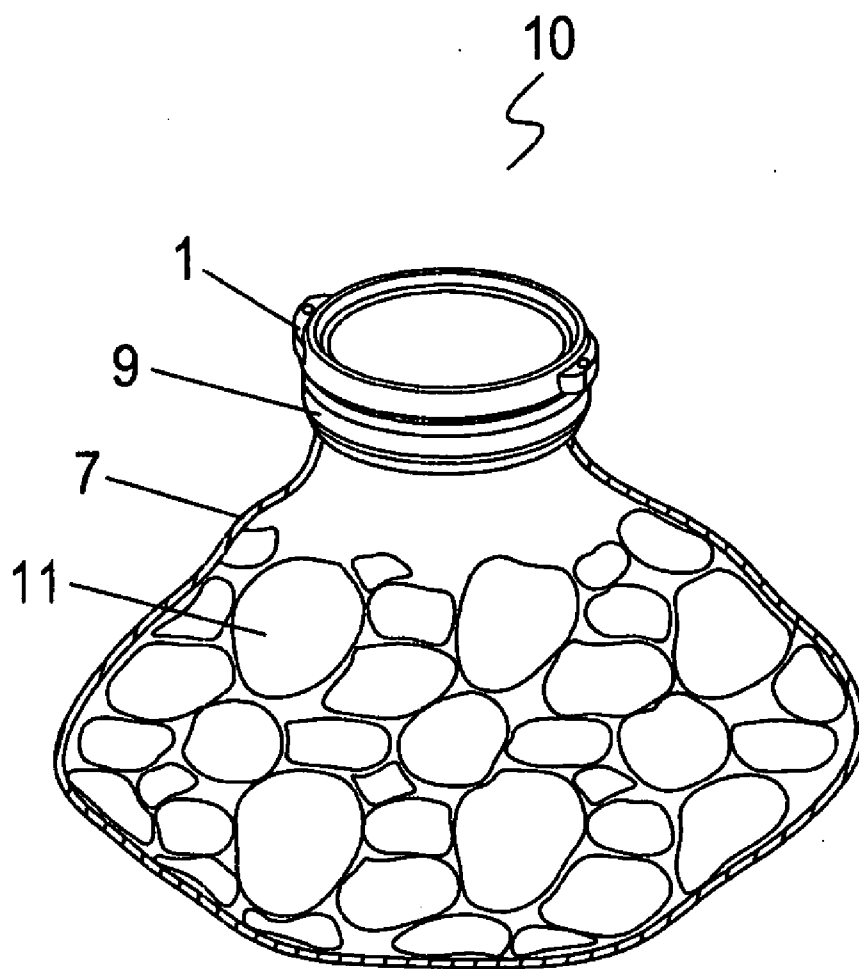


FIG.7



FIG.8

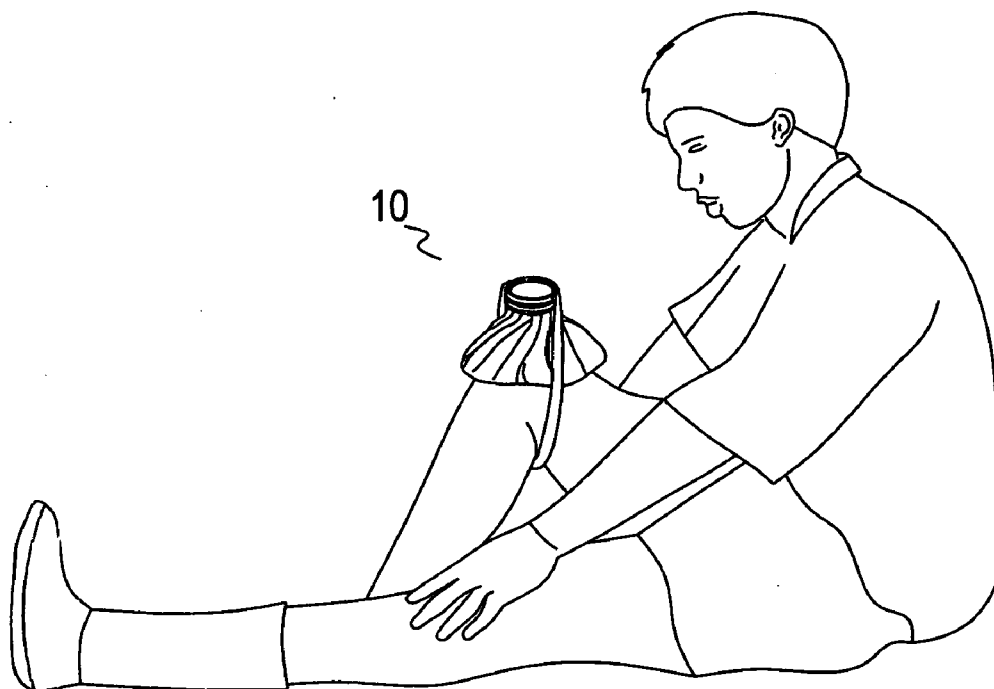


FIG.9

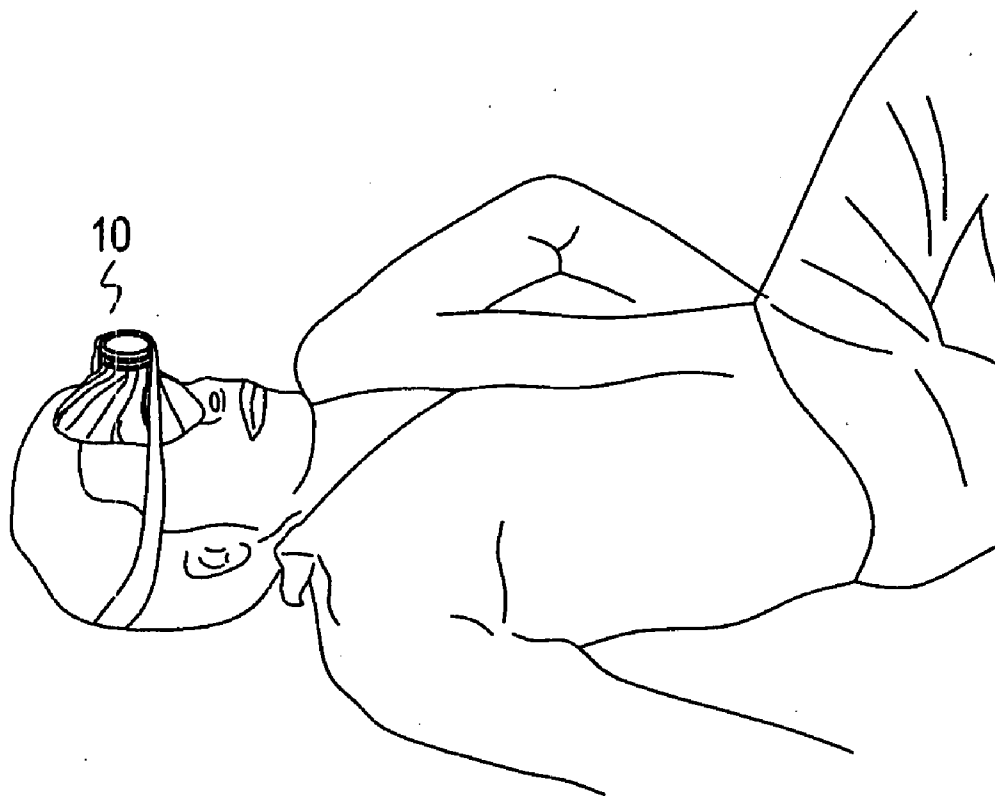


FIG.10



FIG.11

COMPOUND THERMAL KEEPING BAG

FIELD OF THE INVENTION

[0001] The present invention relates to thermal keeping bags, and in particular to a compound thermal keeping bag, where heat can be isolated effectively so that the temperature of the thermal keeping bag can be retained for a long time with fading. Thereby a ring is used so that user can hold the bag without being hurt. Thereby the thermal keeping bag is matched to the requirement of environment protection and is cost-saved.

BACKGROUND OF THE INVENTION

[0002] Referring to FIG. 1, a prior art thermal keeping bag 100 is illustrated. An elastic metal plate and sodium acetic acid are received in the bag. The elastic metal plate will cause the sodium acetic acid to generate heat. In use, the bag covers upon the body or hand to keep warm with temperature between 40 to 45° C. However in this design, the temperature cannot be retained in a longer time period. Thereby the thermal keeping bag 100 is used only a few times before being deserted. Not only the cost is high and it has the problem of environmental protection. Furthermore, the thermal keeping bag 100 has a large cloth which is folded and then is enclosed by a ring so as to be further combined with a cover. There are some gaps formed in the folded portions, and the size of the ring is changeable due to temperature variation. As a result the water therein will drain out. The ring is a metal ring and thus heat will accumulate therein. However the user will feel hot as the hand hold thereon. Thus, a heat endurable plastic pad is used. However all these defects are necessary to be improved.

SUMMARY OF THE INVENTION

[0003] Accordingly, the primary object of the present invention is to provide a compound thermal keeping bag, where heat can be isolated effectively so that the temperature of the thermal keeping bag can be retained for a long time without fading. Thereby a ring is used so that user can hold the bag without being hurt. Thereby the thermal keeping bag is matched to the requirement of environment protection and is cost-saved.

[0004] To achieve above objects, the present invention provides a compound thermal keeping bag which comprises an upper cover having outer threads and at least one ears for rotating the cover; a silica gel washer enclosing the threads of the upper cover having the effect of drainproof; a sleeve having inner threads; the sleeve can be locked to the upper cover and lock the washer; a center of the sleeve having an opening; a waterproof sealing ring having double face films at two sides of the waterproof sealing ring; wherein when the waterproof sealing ring is combined to the sleeve, the waterproof sealing ring will not slide out; the outer double face film serves to be combined with a water and heat proof cloth; a water and heat proof cloth formed as a bag for receiving ice bricks or hot water so as to provide the function of warm keeping; a buckling ring arranged at an outer surface of the water and heat proof cloth so that the water and heat proof cloth is tightly engaged to the sleeve; the waterproof sealing ring serves to fill the gaps induced from the water and heat proof cloth and the buckling ring; and a heat endurable rubber ring arranged at an outer surface of the buckling ring.

[0005] The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 shows a prior art thermal keeping bag.

[0007] FIG. 2 is an exploded perspective view of the present invention.

[0008] FIG. 3 is an assembled view of the present invention.

[0009] FIG. 4 is a cross sectional view showing the water and heat proof cloth according to the present invention.

[0010] FIG. 5 shows one application of the present invention.

[0011] FIG. 6 is another application of the present invention.

[0012] FIG. 7 shows a further application of the present invention.

[0013] FIG. 8 shows a yet application of the present invention.

[0014] FIG. 9 shows a fifth application of the present invention.

[0015] FIG. 10 shows a sixth application of the present invention.

[0016] FIG. 11 shows a seventh application of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0017] In order that those skilled in the art can further understand the present invention, a description will be described in the following in details. However, these descriptions and the appended drawings are only used to cause those skilled in the art to understand the objects, features, and characteristics of the present invention, but not to be used to confine the scope and spirit of the present invention defined in the appended claims.

[0018] Referring to FIGS. 2, 3, and 4, the structure of the present invention is illustrated.

[0019] An upper cover 1 has outer threads and at least one ear.

[0020] A silica gel washer 2 encloses the threads of the upper cover 1 having the effect of drainproof.

[0021] A sleeve 3 has inner threads. The sleeve can be locked to the upper cover 1 and lock the washer 2. A center of the sleeve 3 has an opening.

[0022] A waterproof sealing ring 4 are arranged with double face films 5 at two sides of the waterproof sealing ring 4. When the waterproof sealing ring 4 is combined to the sleeve 3, the waterproof sealing ring 4 will not slide out. The outer double face film 6 serves to be combined with a water and heat proof cloth 7.

[0023] A water and heat proof cloth 7 is formed as a bag for receiving ice bricks or hot water so as to provide the function of warm keeping.

[0024] A buckling ring 8 is arranged at an outer surface of the water and heat proof cloth 7 so that the water and heat proof cloth 7 is tightly engaged to the sleeve 3. The waterproof sealing ring 4 serves to fill the gaps induced from the water and heat proof cloth 7 and the buckling ring 8.

[0025] A heat endurable rubber ring **9** is arranged at an outer surface of the buckling ring **8** so that the user can hold the thermal keeping bag **10** (referring to FIG. **10**) without hurting the hand of user.

[0026] Referring to FIGS. **3** and **5**, in the present invention, the thermal keeping bag **10** can be carried conveniently or placed in a handbag (referring to FIG. **11**). In use, ice bricks **11** (referring to FIG. **7**) or hot water is filled in the water and heat proof cloth **7**, and then the thermal keeping bag **10** can be used to touch the hands, face or body of the user (referring to FIGS. **8**, **9** and **10**). The temperature of the bag can be retained for a longer time. The cost is low and the present invention is matched to the requirement of environment protection.

[0027] The present invention is thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the present invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

What is claimed is:

1. A compound thermal keeping bag comprising:
an upper cover having outer threads and at least one ear for rotating the cover;
a silica gel washer enclosing the threads of the upper cover having the effect of drainproof;

a sleeve having inner threads; the sleeve can be locked to the upper cover and lock the washer; a center of the sleeve having an opening;

a waterproof sealing ring having double face films at two sides of the waterproof sealing ring; wherein when the waterproof sealing ring is combined to the sleeve, the waterproof sealing ring will not slide out;

a water and heat proof cloth formed as a bag for receiving ice bricks or hot water so as to provide the function of warm keeping; and the outer double face film serves to be combined with a water and heat proof cloth;

a buckling ring arranged at an outer surface of the water and heat proof cloth so that the water and heat proof cloth is tightly engaged to the sleeve; the waterproof sealing ring serves to fill the gaps induced from the water and heat proof cloth and the buckling ring; and

a heat endurable rubber ring arranged at an outer surface of the buckling ring; and

wherein the thermal keeping bag can be carried conveniently or placed in a handbag, in use, ice bricks or hot water is filled in the water and heat proof cloth, and then the thermal keeping bag can be used to touch the hands, face or body of the user; the temperature of the bag can be retained for a longer time.

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