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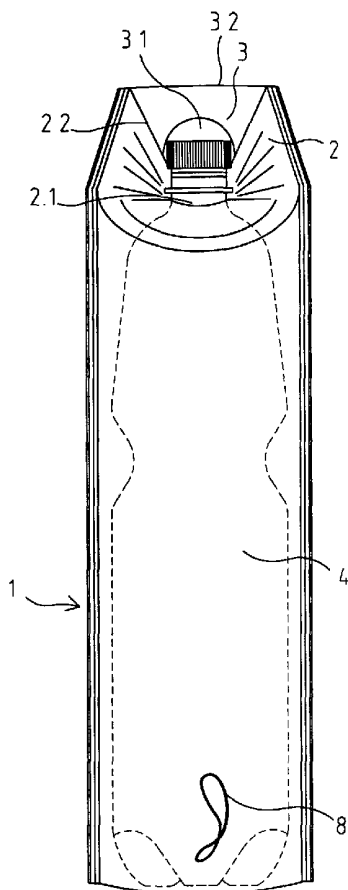
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(54) Title: ISOTHERMAL POCKET BAG FOR BOTTLES AND FOODSTUFFS



(57) Abstract: This invention consists in a flexible, very light and pocket-size container, which can keep the temperature of a liquid inside a bottle (4) even. The bag (1) is made by folding a rectangular foil in two and then welding two sides, leaving only one side open through which the bottle (4) or the food is inserted. The foil is made up of thermal-insulation, reflective and waterproof materials. Two holes (2.1, 3.1) having the same dimensions as a bottle neck (4) are located near the open shorter side. An elastic band (8) closes the isothermal bag (1) after rolling it up or folding it up thus making it compact and pocket-size. The bag (1) wraps up the bottle (4) completely but the holes (2.1, 3.1) enable users to drink without opening and closing the bag (1). Its closing device is functional, hygienic and user-friendly.



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Isothermal pocket bag for bottles and foodstuffs.

*Technical field*

This invention concerns an isothermal bag keeping the temperature of food and beverages inside even.

5 *Background Art*

People often feel like having cool food or drinks (e.g. water, tea, wine, soft drinks etc) within their reach especially when the weather is hot and no fridge is available, such as when they are on the beach, on a tennis court or during long journeys.

10 Today there are several systems to keep food and drinks cool without using a fridge, as widely known. These systems include thermoses, portable coolers and thermos flasks, which may however have some minor or major drawbacks for users. Thermoses are usually cumbersome and carrying them causes inconvenience once the drink is finished. Portable coolers (which are  
15 made cold by artificial ice) are cumbersome and heavy to carry. Thermos flasks are light but cumbersome, too. Therefore portable coolers and thermos flasks are only used when users carry both drinks and foodstuffs, thus accepting all the inconvenience related to their weight and dimensions.

But people often wish to have just one cool drink or some food kept in a  
20 small box or bowl (e.g. yoghurt, ice-cream, a sandwich etc.) within their reach, in which case they do not carry anyone of the above-mentioned cooling systems because of their inconveniences. Therefore, food and drinks become warm and unappetising after a short period of time, especially if they are under the sun.

25 Another solution consists in using specific bags for bottles, such as those described in U.S. Patents N. Des 403,926 and N. 5,890,809. However, these containers do not cover the bottle completely and reduce heat insulation. U.S. Patents N. Des 409,450 and N. 5,804,265 make reference to some other bags for bottles, which actually do cover bottles completely, but have  
30 no hole to drink directly from them. Indeed, users need to open and close the

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bag every time they want to drink, the which is uncomfortable and increases heat exchange between the inside and the outside. U.S. Patent N. Des 392,025 gives a rather effective solution because the bag covers the bottle up to its neck, thus enabling users to open the stopper without opening the  
5 bag too. Unfortunately though, the bag is closed by a string and is therefore vulnerable to dust, sand and other unhygienic conditions implying higher manufacturing costs.

*Summary of the invention*

This invention aims at providing users with a new a new isothermal bag,  
10 which can keep food or drink temperature even and does not have the same inconvenience as the above-mentioned cooling systems.

These goals are achieved by this flexible, isothermal and pocket-size bag. It is made by folding a rectangular foil in two which is then fixed by two sides joined by welding or any other method. The final product is a bag with just  
15 one opening on the shorter side. The opening is delimited by two flaps each of which has a hole that is approximately the same size as a bottle neck. The holes are located near the edges of the open shorter side. The edges of each hole may be elasticised or reinforced by welding or rings made up of different materials. The two holes are approximately coaxial.

20 The bag is approximately the same size as a bottle, so that the bag can perfectly wrap it up.

The foil is made up of three different layers of soft and flexible synthetic materials which are specifically used for foodstuffs. The external layer is reflective, the intermediate one has thermal-insulation characteristics and the  
25 internal one is waterproof and/or reflective. The foil may also be made up of four layers, in which case the external layer is reflective, the two intermediate ones have thermal-insulation characteristics, whereas the internal one is waterproof and/or reflective. It is also possible to use a foil with one single layer featuring thermal-insulation, waterproof and reflective characteristics.

30 The isothermal bag may have round corners and its bottom may be folded.

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An elastic band, a string or a ribbon may be fixed outside the bag, which may be rolled up or folded up before or after being used so as to become compact and pocket-size. The elastic band, the string or the ribbon keep the bag rolled or folded and prevent it from spreading out again.

5 An alternative solution is given by another hole on the closed shorter side, which is approximately the same size as a bottle neck, too. As an alternative, the bag may have just one hole on the closed shorter side. In this case, the edges of the shorter side can be provided with a closing device such as a minigrip or a handle.

10 The bag can also be made by joining two rectangular foils, which are fixed together along three sides, that is the two longer sides and the shorter one.

This isothermal bag has many of the advantages offered by other cooling systems but does not have their drawbacks. Indeed, it is handy and very light, it may be used again, it is hard to break, easy to carry and user-friendly.

15 It is a pocket-size bag and can therefore be put away very easily and with very little encumbrance.

Its weight is extremely low as the materials used are very light. However, although the materials are very light they are extremely resistant, so resistant that the bag can be used several times. On the other hand, the bag is very

20 cheap and users can throw it away after using it just one single time.

The holes on the bag may also be used as a handle so that users can easily carry the bottle by holding it with one finger.

Unlike usual thermal bags, this one wraps up bottles completely thus increasing heat insulation. Its holes enable users to drink straight from the  
25 bottle without opening and closing the bag every time they want to drink, thus reducing heat exchange between the inside and the outside. Its closing device is easy, functional and hygienic at the same time.

One of the main advantages of this bag lies in its hygienic characteristics. Indeed, it is made up of waterproof materials which are specifically used for  
30 food and drinks. Condensation (which is produced when cold bottles get in

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contact with warm air) is pretty much reduced by this invention, so that the bag can avoid unhygienic mixing between condensation and the materials (such as sand, seaweed, red earth, dust etc.) located on the surface where the bottle is placed. This way, users can avoid dirtying their hands or the  
5 container where the isothermal bag is placed, such as handbags, belt bags, rucksacks etc. Moreover, the bag can easily be washed as it is made up of waterproof materials.

#### *Brief Description of Drawings*

Further characteristics and advantages of the invention will be clarified in the  
10 description of some particular kind of embodiments of the above mentioned bag, which are preferable but not compulsory and are given for explanatory purposes only in the enclosed drawings, in which:

- figure 1 shows a frontal view of the bag manufactured according to a first embodiment;
- 15 - figure 2 shows a frontal view of the bag when the first flap wraps up the neck and the upper part of the bottle;
- figure 3 shows a frontal view of the bag when both flaps wrap up the neck and the upper part of the bottle;
- figure 4 shows a perspective view of the bag when it is rolled up;
- 20 - figure 5 shows a frontal view of the bag manufactured according to a second embodiment;
- figure 6 shows a frontal view of the bag manufactured according to a third embodiment.

#### *Best Mode for Carrying Out the Invention*

25 The isothermal bag 1 manufactured according to a first embodiment is made by folding a rectangular foil in two along the shorter side, which is then joined by welding the two longer sides. The final product is a bag with just one opening on the second shorter side. The opening is delimited by two flaps 2, 3. Each flap 2, 3 has a hole 2.1, 3.1 whose size is approximately the same  
30 size as a bottle neck 4. The holes 2.1, 3.1 are located near the edges 2.2,

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3.2 of the open shorter side.

The dimensions of the bag 1 are approximately the same as those of the bottle 4.

The rectangular foil is made up of three different layers of soft and flexible  
5 synthetic materials which are specifically used for foodstuffs, such as PET. The external layer is reflective, the intermediate one has thermal-insulation characteristics and the internal one is waterproof and/or reflective.

If the temperature of a bottle of cold water 4 is to be kept even as long as possible, even under the sun, the bottle is inserted into the isothermal bag 1.

10 Thanks to its size, the bag 1 is like a case perfectly and completely wrapping up the bottle 4.

The hole 2.1 of the first flap 2 has to coincide with the end of the bottle neck 4. The bottle neck is put inside the hole 2.1. Then the flap 2 is folded until it completely covers the upper part of the bottle 4. Now, the hole 3.1 of the  
15 second flap 3 has to coincide with the end of the bottle neck 4. The bottle neck is put inside the second hole 3.1, too. Then the second flap 3 is folded until it completely covers the first flap 2. Consequently, the upper part of the bottle 4 is completely covered by the bag 1 and it still is possible to drink from it without opening the flaps 2, 3 again as the bottle neck comes out of  
20 the two holes 2.1, 3.1.

The two flaps 2, 3 cannot be lifted as the edges of the two holes 2.1, 3.1 are stuck on the bottle neck 4.

The isothermal bag 1 manufactured according to a second embodiment also has a closed shorter side with a hole 5, which is approximately the same size  
25 as the bottle neck 4. In that case, the bottle 4 is to be inserted into the bag 1 and its neck is to pass through the hole 5. The two holes 2.1, 3.1 serve as handles to carry the bag 1 and the bottle 4 inside it.

The isothermal bag 1 manufactured according to a third embodiment does not have any holes 2.1, 3.1 on its open shorter side, whereas the closed  
30 shorter side has the above-mentioned hole 5. In that case, the open shorter

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side is provided with a closing device such as a minigrip 6 and a handle 7 to carry the bag 1 and the bottle 4 inside it.

The bag 1 is made up of very light materials so that users do not feel its weight while carrying the bottle 4. However, the characteristics of its  
5 materials allow to keep the temperature of the liquid inside the bottle 4 even in extremely hygienic conditions.

Once the bag 1 has been used, it can be rolled up so that it becomes compact and pocket-size. The string 8 prevents the bag 1 from spreading out again.



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## CLAIMS

- 1 - Isothermal pocket bag for bottles and foodstuffs having approximately the same size as a bottle (4); the bag (1) is made up of a soft and flexible rectangular foil with one or more layers of synthetic materials which are specifically used for foodstuffs; these materials can keep the temperature inside the bag (1) quite even as they have thermal-insulation, reflective and waterproof characteristics; said bag (1) is made by folding the above-mentioned rectangular foil in two, which is then fixed by two sides joined by welding or any other method; the final product is a bag with just one opening on the shorter side; said opening is delimited by two flaps (2, 3), each of which (2, 3) has a hole (2.1, 3.1) that is approximately the same size as a bottle neck (4); the holes (2.1, 3.1) are located near the edges (2.2, 3.2) of the open shorter side; these holes (2.1, 3.1) are approximately coaxial and the bottle neck (4) goes through them when the bag (1) is used; the edges of each hole (2.1, 3.1) may be elasticised or reinforced by welding or rings made up of different materials; an elastic band (8), a string or a ribbon may be fixed outside the isothermal bag (1) to close it after rolling it up or folding it up.
- 2 - Isothermal pocket bag, according to claim 1, characterised by the composition of the flexible foil, which is made up of three layers of different materials; the external layer is reflective, the intermediate one has thermal-insulation characteristics and the internal one is waterproof and/or reflective.
- 3 - Isothermal pocket bag, according to claim 1, characterised by the composition of the flexible foil, which is made up of four layers; the external layer is reflective, the two intermediate ones have thermal-insulation characteristics, whereas the internal one is waterproof and/or reflective.
- 4 - Isothermal pocket bag, according to claim 1, characterised by the composition of the flexible foil, which is made up of one single layer with thermal-insulation, reflective and waterproof characteristics.
- 5 - Isothermal pocket bag, according to claim 1, characterised by the fact that

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the elastic band (8), the string or the ribbon are not fixed onto the bag (1).

6 - Isothermal pocket bag, according to claim 1, characterised by a hole (5) having the same size as a bottle neck (4), located on the closed shorter side, with two holes (2.1, 3.1) near the edges (2.2, 3.2 ) of the open shorter side.

5 7 - Isothermal pocket bag, according to claim 1, characterised by one single hole (5) located on the closed shorter side and whose dimensions are approximately the same as a bottle neck (4).

8 - Isothermal pocket bag, according to claims 1 and 7, characterised by an opening on the shorter side provided with a closing device such as a minigrip  
10 (6) and a handle (7).

9 - Isothermal pocket bag, according to claim 1, characterised by round corners and whose bottom may be folded.

10 - Isothermal pocket bag, according to claim 1, which is made by joining two rectangular foils, which are fixed together along three sides, that is the  
15 two longer sides and the shorter one.

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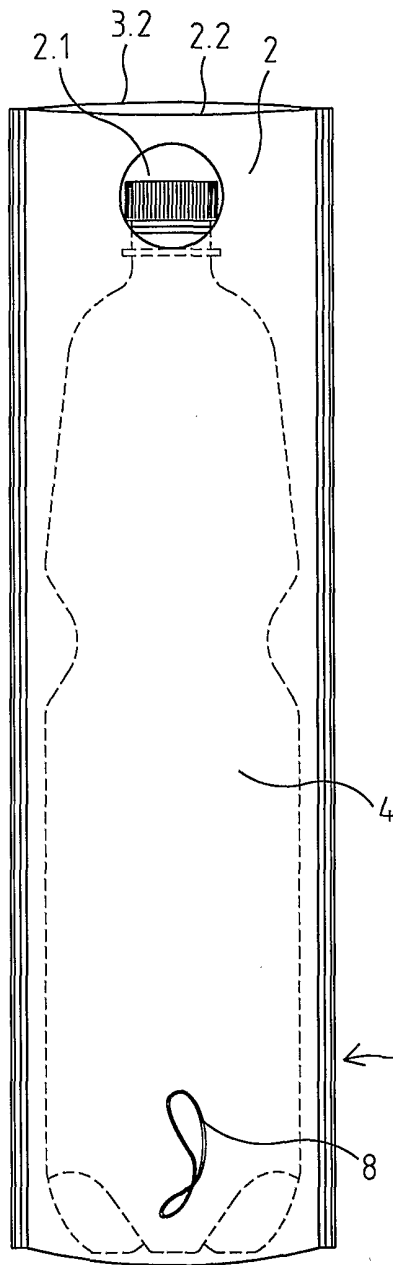


FIG. 1

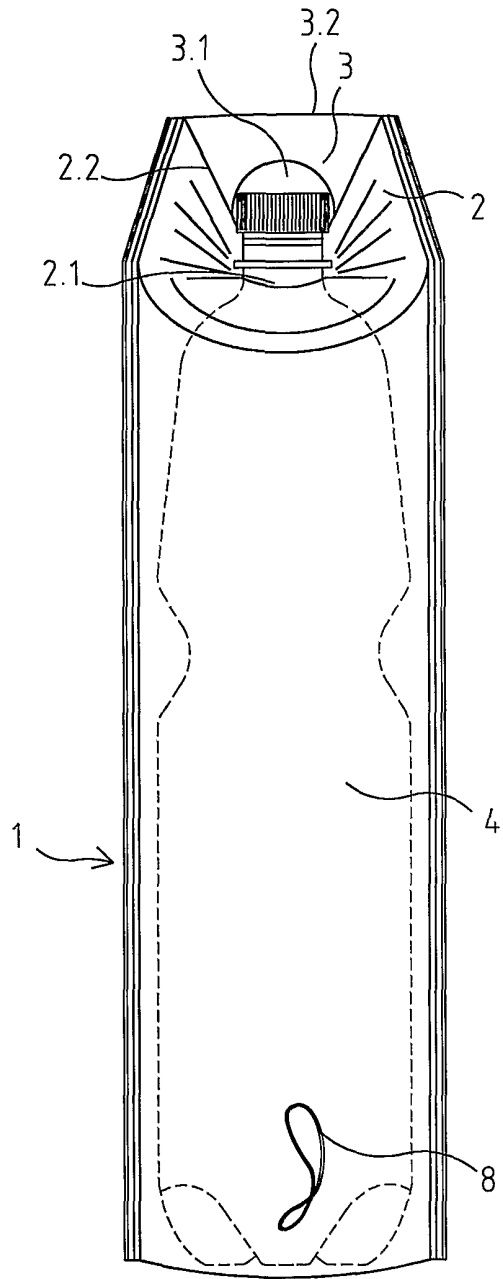


FIG. 2

2/3

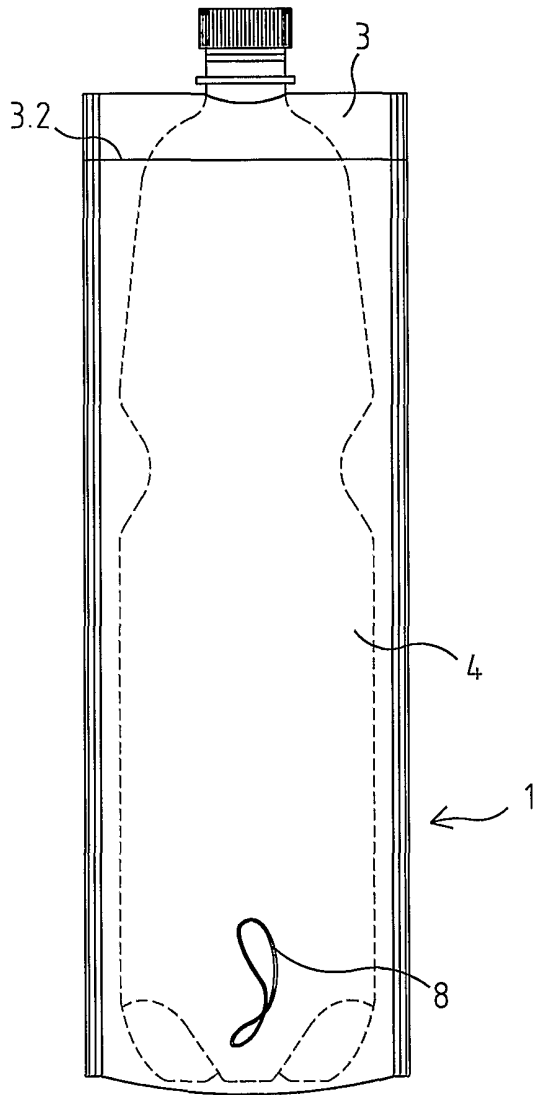


FIG. 3

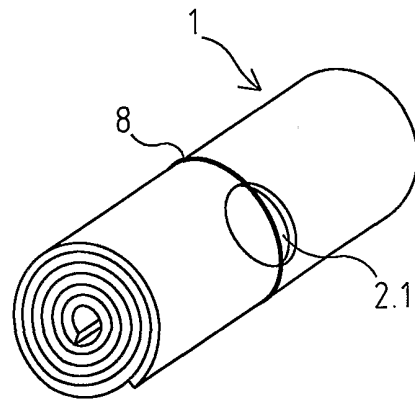


FIG. 4

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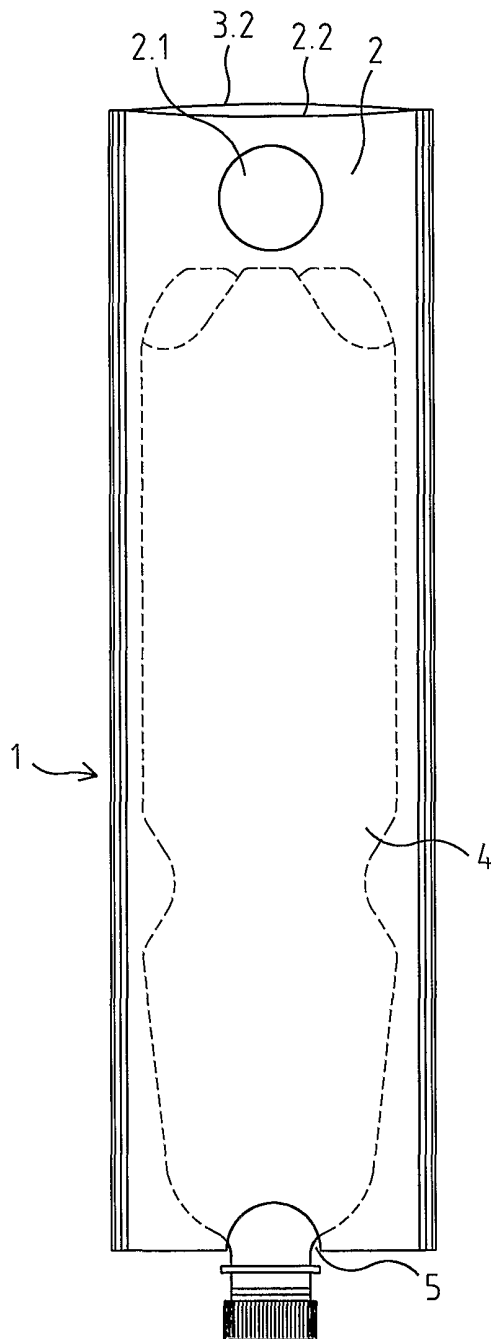


FIG. 5

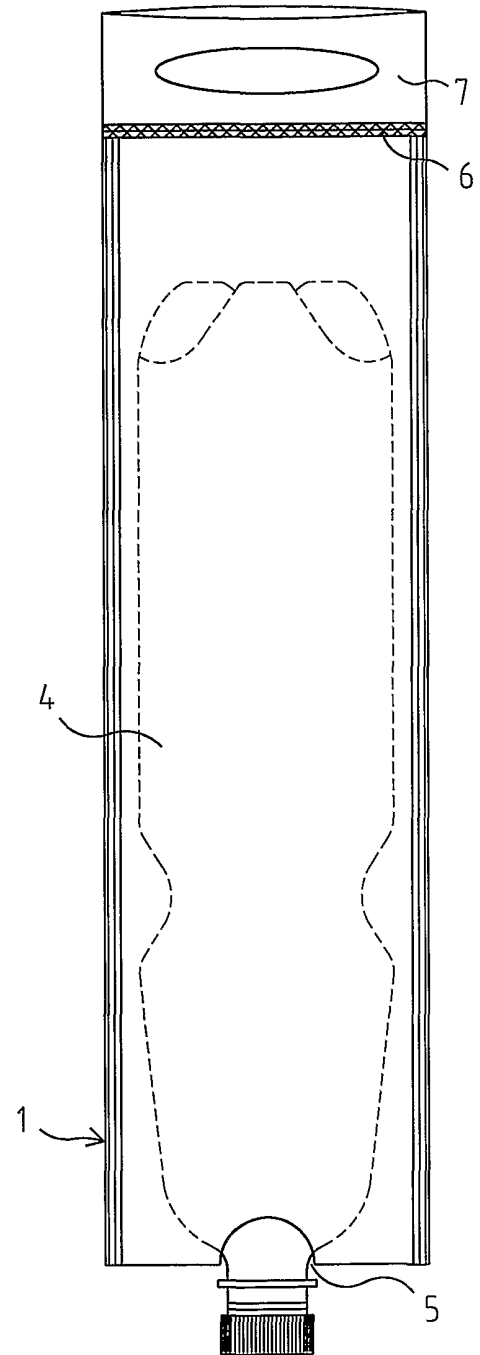


FIG. 6