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54 **Packaging vessel for liquid products.**

57 **Packaging vessel for liquid products, comprising a removable dispensing unit covering the said vessel, the said dispensing unit being characterized by the combination of three components:**

a) a first component (2), known per se, surrounding the mouth of the vessel (1) and permanently attached to the latter, the said first component comprising means for pouring the liquid, especially in the form of a spout or a beak (3);

b) a second component (4) removably attached to the first component (2) in order to close the mouth in the closed position and to free the pouring means in the open position, then enabling the liquid to be evacuated and;

c) a dispensing and/or distributing third component (5) removably attached to the second component.

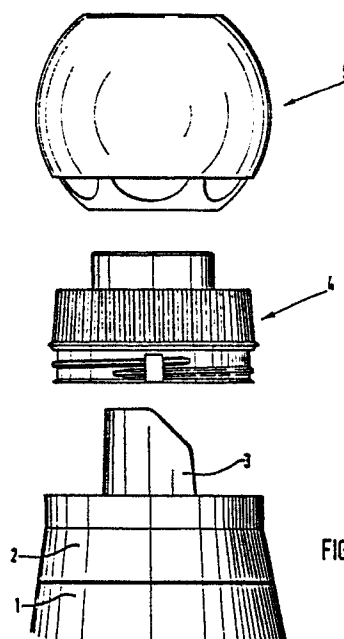


FIG.1

EP 0 261 713 A2

Packaging vessel for liquid products

The present invention belongs to the field of packaging liquid products. From one of its preferred angles, the invention also relates to the field of machine washing of linen, the particular subject being a packaging vessel intended for liquid detergent products.

It will first of all be pointed out that the Applicant Company is already the holder or the assignee of a number of patent applications which may be mentioned by way of reference in order to illustrate the state of the art.

Thus, the subject of the French application FR-84,06,151 (publication no. 2,563,250) filed on 18th April 1984 for "process for machine washing of linen with a liquid detergent and device for its application" is especially a device which can, in general, be refilled, which is first of all filled with the liquid detergent and then placed in the drum of the machine with the linen to be washed. The detergent contained in the device spreads gradually in the washing medium and into the linen which is present in the machine. In one embodiment, the device comprises a filler neck and vents for releasing the liquid to the linen during washing.

The subject of the French patent application FR-84/13,210 (publication no. 2,570,720) dated 24 August 1984 for "device for machine washing with a liquid detergent and process implementing the said device" is a device of the above kind which is more particularly characterized in that it is in an essentially spherical form. In one embodiment, the device comprises a body and an attached unit equipped with a central filler neck which may be present in the form of a column sinking into the body. A number of openings enable the liquid to be filled or dispensed and/or distributed.

The subject of the French patent application FR-85/05,069 dated 3 April 1985 (publication no. 2,579,956) for "packaging vessel with built-in dispensing unit, especially for liquid products" is a vessel comprising a removable dispensing unit cooperating with the stopping device with which the vessel is equipped in the usual manner. Advantageously, this dispersing device also serves as the distributor according to the teachings of the two patent applications mentioned above. A number of embodiments are described in order to illustrate the removable attachment of the dispensing and distributing device to the vessel containing the liquid product. Thus, although the vessel has the general appearance of a bottle with a neck, the upper part of which carries a stopper, the dispensing and distributing device may be brought by various means to cooperate with the neck and/or the stopper. The subject of the French patent ap-

plication FR 85/13,491 dated 11 September 1985 entitled "dispensing and distributing device, which can be incorporated into a vessel, especially for liquid products" is an improvement of the dispensing and distributing device mentioned above, the filler neck of which comprises a column sinking into the body of the said device. According to this improvement, the column used for dispensing and distributing the liquid also serves as the support, preventing any crushing of the device. To this end, the column extends substantially to the wall of the body opposite to its opening.

As relevant prior document, there may also be mentioned the European patent application EP-A-0,109,704 which describes a packaging vessel for liquid products, the mouth of which comprises means for pouring, especially in the form of a beak or a spout closed with a stopper. Such a device is very useful for the packaging of viscous liquid products, which are increasingly used at present in the field of machine washing of linen.

In order not to overload the present description, the teachings of the patent applications mentioned above are not repeated in full in the present specification, but they are, of course, incorporated therein, by way of reference. For the requirements of the description, they are mentioned only in an abbreviated form.

While pursuing its investigations in the field of packaging vessels, especially for concentrated liquid detergent, the Applicant Company has observed that there was a practical need for the development of a vessel comprising both pouring means and a dispensing and distributing device capable of being incorporated into the vessel. The object of the present invention is therefore to provide such a vessel by means of an adaptation and an original combination of means.

The subject of the invention is therefore a packaging vessel for liquid products, comprising a removable dispensing unit covering the said vessel, the said dispensing unit being characterized by the combination of three components:

a) a first component, known per se, surrounding the mouth of the vessel and permanently attached to the latter, the said first component comprising means for pouring the liquid, especially in the form of a spout or a beak;

b) a second component removably attached to the first component in order to close the mouth in the closed position and to free the pouring means in the open position, thereby enabling the liquid to be evacuated and;

c) a third dispensing and/or distributing component, removably attached to the second component.

In the combination according to the present invention, the first component is known. For example, it may be of the type described in the European patent application EP-A-0,109,704. Within the meaning of the present description, this first component which is permanently attached to the vessel and comprises means for pouring the liquid may be produced in one or more parts, according to the practical convenience of manufacture. By way of example, the embodiment described in European patent application EP-A-0,109,704 comprises two parts, one serving for the actual attachment to the neck of the vessel and the other comprising the spout or the beak for pouring. These two parts are designed to be made fully integral with each other. Thus, for the production of the first component mentioned above, the present invention takes advantage of the prior art.

The second component constitutes an essential means of the combination forming the subject of the present invention. In fact, it plays a dual role in the combination, namely, that of a stopper on the one hand, and that of an adaptor enabling the attachment of the third component, on the other.

The first role of the second component is conventional: it should be shaped to serve as the removable stopper. The attachment to the first component may be carried out in any manner: screwing, snap-fastening or other connecting procedure. In practice, it is preferred that the second component is screwed to the first, which offers the maximum safety for transport.

In addition to this function as stopper, the second component plays the role of an adaptor, enabling the third dispensing component to be removably attached. For this purpose, the second component may be shaped and/or have additional means complementary to those of the third component, so as to ensure a removable assembly of the second and the third component.

As regards the third component, which acts as the dispenser and/or distributor, it advantageously has any one of the structures described in the patent applications mentioned at the beginning of the present specification. Thus, the third component may be an essentially spherical shaped device, comprising a body and attached means, serving for dispensing and distributing. According to the present invention, this third component or device is shaped and/or comprises means which enable it to be removably attached to the second component. This attachment may therefore be carried out by means of the body of the device or, preferably, the dispensing and distributing means

are arranged so that they can cooperate with the second component. The attachment may then be carried out in any manner: screwing, snap-fastening and other connecting procedure.

The materials constituting the various components of the packaging vessels of the invention are chosen from materials which have suitable characteristics of mechanical strength and resistance to chemicals. Plastics such as polyethylene or polypropylene are preferably used. These materials are easy to process, for example, by injection moulding. Each of the components of the combination according to the invention, with their shapes or means which enable them to cooperate mutually, may thus be obtained in a single operation. For example, the members for screwing or for snap-fastening may be obtained directly during the manufacture, at the appropriate places, of each component in order to enable them to cooperate mutually. Such practical data are within the reach of the person skilled in the art and do not require to be explained in greater detail.

The invention finds a particularly advantageous application in the field of machine washing with a liquid detergent, especially of the type currently in use, namely, a viscous concentrated product. In the closed position of the vessel, the three components are integral with one another, and the arrangement obtained is especially compact. This is, of course, the situation with regard to transport and storage. For using, the second component and the third component are first disconnected from each other, the latter forming the dispensing and distributing device. The second component is then removed to free the mouth of the vessel. Because of the fact that the dispensing and distributing device is available independently, the desired quantity of liquid detergent is introduced thereto, using the pouring means provided at the mouth of the vessel. Once the dispensed quantity has been introduced, the vessel may be reclosed by attaching thereto the second component which plays the role of a stopper. The dispensing and distributing device, which is then filled with the detergent liquid, may then be placed in the drum of the machine with the linen to be washed. The advantages already pointed out in the patent applications mentioned above are thus achieved, by virtue of the fact that the detergent contained in the device gradually spreads in the washing medium and into the linen present in the machine.

Thus, the invention makes it possible to combine the advantages of vessels with pouring means, for example, of the spout type, and vessels fitted with dispensing and distributing devices. The combination according to the invention is particularly well suited for packaging concentrated liquid detergents.

The invention will be further illustrated, without in any way being limited, by the description which follows, made with reference to the drawings attached, on which:

Figure 1 shows, in exploded elevation, the three components of the dispensing unit covering the vessel;

Figure 2 is an axial section of the upper part of the vessel, showing the dispensing unit in the closed position;

Figure 3 is an elevation of the upper part of the vessel in the closed position corresponding to that of Figure 2.

Figures 1 to 3 represent only the upper part of a packaging vessel according to the invention. The latter is denoted by the general label 1. A first component 2, comprising a spout 3 is permanently attached to the vessel 1. A second component 4 may be screwed to the first component 2. A third component 5, or the dispensing and distributing device, is removably attached to the second component 4. The closed position of the packaging vessel is illustrated in Figure 3. Figure 1 is an exploded view showing the three components of the combination according to the invention and illustrating their mutual relationships.

Figure 2 is an axial section illustrating in greater detail the structure of the packaging vessel in the closed position. The attachment of the component 2 on the neck 1 of the vessel may be carried out in any known manner, for example, according to the teaching of the European patent application EP-A-0,109,704 mentioned above. The component 2 comprises pouring means in the form of a spout 3. The latter is advantageously formed from a wall 6 which is arranged obliquely if it is considered that the vessel is in a vertical position, being placed on a horizontal surface. With a view to pouring, the liquid contained in the vessel 1 passes through the opening 7. The preferential arrangements of European patent application EP-A-0,109,704 may be adopted. Moreover, the component 2 is supplied with an internal thread 8, intended to cooperate with a complementary thread of the component 4, as described below.

The component 4 is the second component of the combination according to the invention. At its lower part, it comprises an outer thread 9 intended to cooperate with the inner thread 8 mentioned above of the component 2. At its upper part, the component 4 is shaped and has means for fulfilling its dual function as stopper and adaptor. For this purpose, firstly it has a concave surface 10 starting from its outer periphery and ending in a vertical cylindrical wall 11, which ends with an upper horizontal wall 12. On the cylindrical wall 11, an outer rim 13 which serves as the snap-fastening means

as described below, is provided. In the closed position of the vessel, shown in Figure 2, the component 4 serves as stopper and also serves as adaptor to receive the third component 5.

The component 5 is a dispensing and distributing device comprising an essentially spherical body 14 and an attached part 15, of a type similar to the devices described and illustrated in the French patent applications mentioned at the beginning of the present specification. This device especially comprises an inner cylinder 16 comprising a groove 17 which, in the closed position, as shown in Figure 2, cooperates with the rim 13 of the component 4. Also, the shape of the device 15 enables it to become embedded in the concave surface 10 of the component 4. A very compact arrangement, as shown in Figure 2, is thereby obtained.

In order to use, it suffices to withdraw the component 5 by exerting a pull, which enables the rim 13 to be disconnected from the groove 17. The component 5 is thereby separated. The component 4 may then be unscrewed in order to gain access to the liquid in the vessel. This latter is inclined to enable the liquid to be poured through the spout 3. The liquid is received in the dispensing and distributing component 5 which then rests flat on its flat part 18, as described in the previous French patent applications mentioned above. The component 5 can be refilled. After being filled with the liquid, especially with the concentrated detergent, it is placed in the drum of the machine with the linen to be washed. When the washing operation is complete, the component 5 is recovered and it can once again be attached to the component 4 which, in the meantime, served for closing the vessel 1.

It is axiomatic that the above description was given only by way of a non-limiting illustration. In fact, the manner in which components 2, 4 and 5 are fastened may vary without thereby departing from the scope of the invention. Thus, the component 4 may simply be snap-fastened to the component 2 and the component 5 may comprise additional means for screwing to the component 4.

Claims

1. Packaging vessel for liquid products, comprising a removable dispensing unit covering the said vessel, the said dispensing unit being characterized by the combination of three components:

a) a first component (2), known per se, surrounding the mouth of the vessel (1) and permanently attached to the latter, the said first component comprising means for pouring the liquid, especially in the form of a spout or a beak (3);

b) a second component (4) removably attached to the first component (2) in order to close the mouth in the closed position and to free the pouring means in the open position, then enabling it to evacuate the liquid and;

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c) a third dispensing and/or distributing component (5) removably attached to the second component.

2. Vessel according to Claim 1, characterized in that the second component (4) plays a dual role, that of a stopper and that of an adaptor, enabling the third component (5) to be attached.

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3. Vessel according to one of Claims 1 or 2, characterized in that the second component (4) is shaped and attached to the first component (2) to serve as the removable stopper, it being possible for the attachment to be carried out in any manner: screwing (8, 9), snap-fastening or other connecting procedure.

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4. Vessel according to any one of Claims 1 to 3, characterized in that the second component (4) is shaped (10, 11) and/or has means (13) complementary to those (17) of the third component (5) thereby ensuring a removable assembly.

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5. Vessel according to any one of Claims 1 to 4, characterized in that the third component (5) is shaped (16) and/or has means (17) enabling it to be removably attached to the second component (4), it being possible for the attachment to be carried out in any manner: screwing, snap-fastening (13, 17) or other connecting procedure.

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6. Vessel according to any one of Claims 1 to 5 for liquid detergents, characterized in that the third component (5) is arranged in the form of a dispensing and distributing device which can be placed, after being filled with a dispensed quantity of detergent, in the drum of a washing machine for linen.

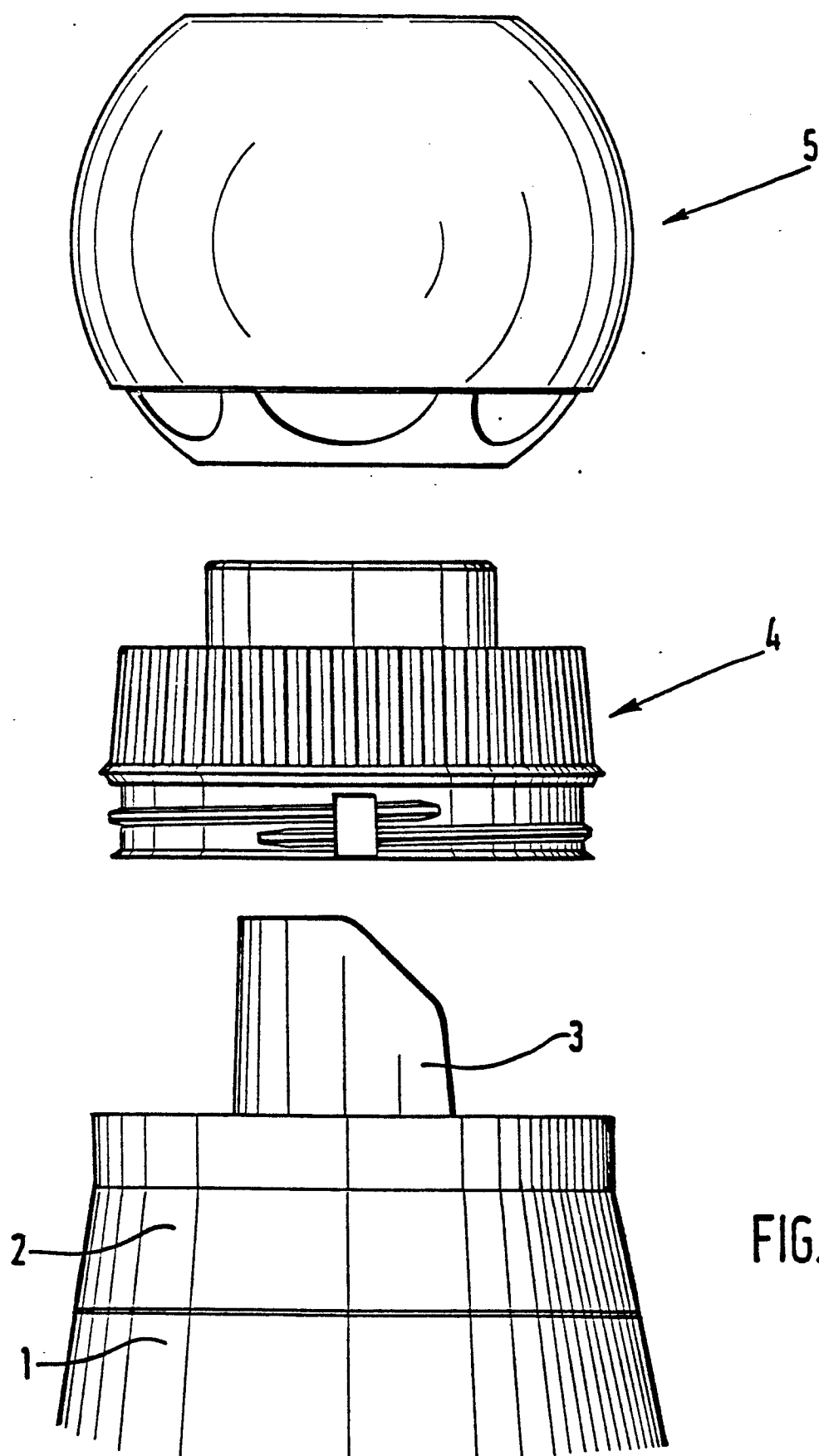
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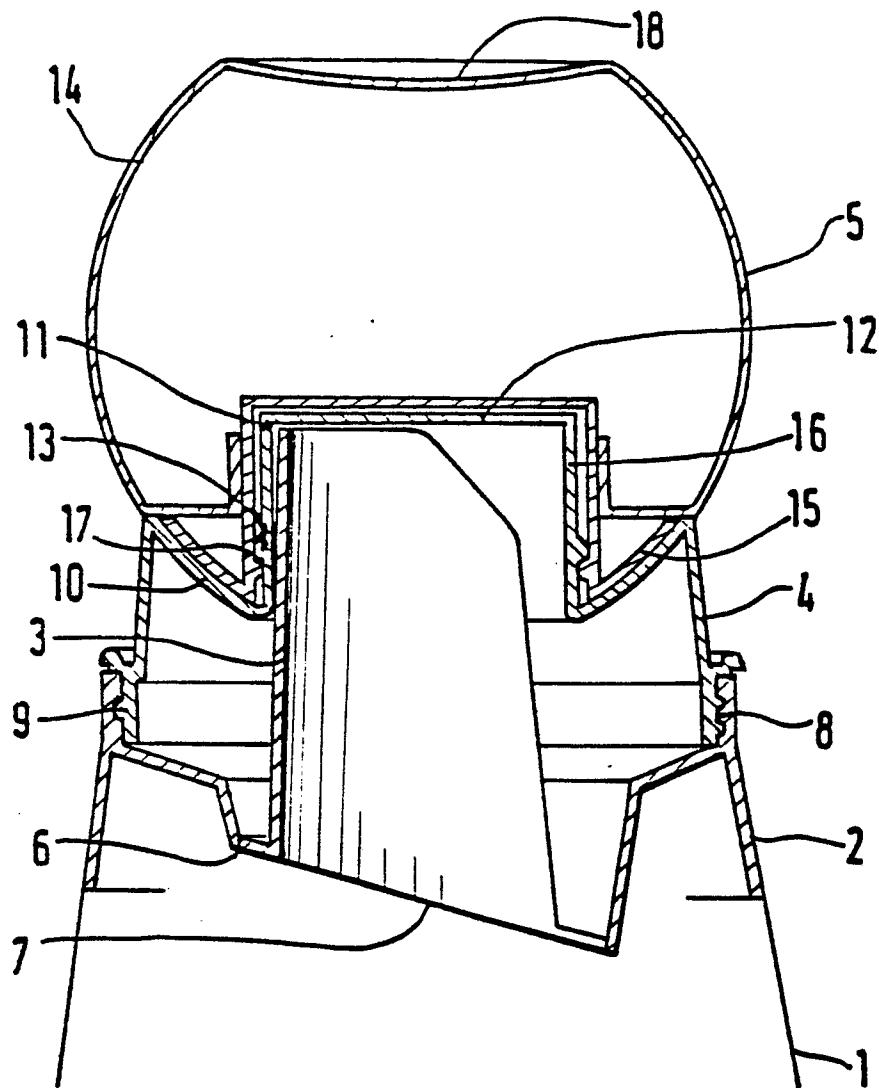


FIG. 2

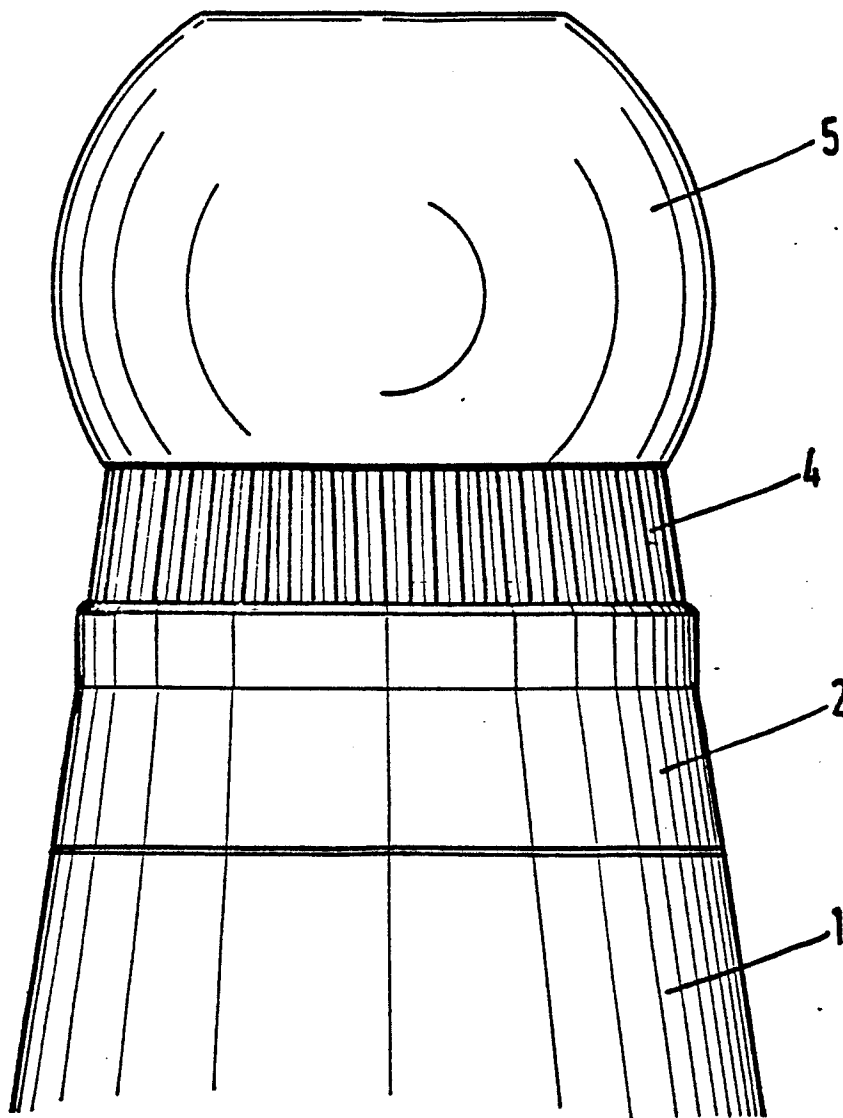


FIG.3