

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 April 2008 (17.04.2008)

PCT

(10) International Publication Number
WO 2008/045313 A2

(51) International Patent Classification:
B65D 1/02 (2006.01)

(21) International Application Number:
PCT/US2007/021382

(22) International Filing Date: 5 October 2007 (05.10.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P 06 01 04419 6 October 2006 (06.10.2006) AR

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

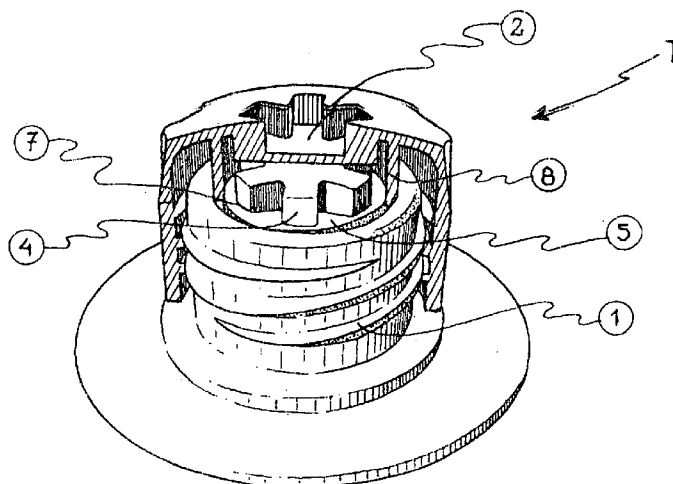
Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

Published:

- without international search report and to be republished upon receipt of that report

(54) Title: **THREADED CAP WITH OPENING DEVICE, APPLIED TO A FLEXIBLE CONTAINER THAT CONTAINS A SEMI-LIQUID PRODUCT**



(57) Abstract: A cap designed to be used in light and flexible containers of a plastic material that are used to provide ingredients for food and similar things, that have, for this purpose, a threaded neck (1), with its upper base closed, on which said cap acts. The cap has a connecting cavity (2) defined in its upper base, the format of which is designed similar and complementary to a connecting tab (4) that projects from a closing membrane (5) located corresponding to the mouth of the container, which defines said threaded neck at its end. The container has a crease (7) from which said connecting tab (4) projects to the outside. The connecting cavity (2) is defined on the outer face of the base of the cap, and in a preferred embodiment it will have a format like a star that has several diverging points, said cavity having a format equivalent to that of the connecting tab (4) that projects from the closing membrane located corresponding to the mouth of the container. The connecting cavity that the cap has is defined and enclosed by an inner cylindrical skirt (8) that projects toward the interior of the neck of the container, surrounding the mouth.

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THREADED CAP WITH OPENING DEVICE, APPLIED TO A FLEXIBLE
CONTAINER THAT CONTAINS A SEMI-LIQUID PRODUCT

The present invention patent has as its main object a threaded cap with an opening device, applied to a flexible container that contains a semi-liquid product, such as the containers that contain mayonnaise, mustard, some types of tomato sauces, and similar things that, because they involve products that are used as ingredients for food and are perishable, are marketed in vacuum containers, being kept very isolated during all previous steps until the user makes the initial opening for first consumption.

More specifically, the present invention patent covers a threaded cap that carries a new opening device, designed to be used in light and flexible plastic containers that are used to provide the ingredients mentioned for food.

Specifically, containers are involved that are specially designed so that the semi-liquid product they contain can be dispensed by means of manual pressure applied by the user to its body.

In all cases, the initial opening action should be performed by dividing a predetermined part of the tip of the dispenser in such a way that as this is done, said manual pressure on the walls of the container causes the contents to be dispensed by said shaped opening.

The invention is based on the fact that the cap itself is one that includes a new device with an action that cooperates with the tip of the dispenser or neck that the container possesses, designed so that the user himself/herself performs

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the first opening thereof without the use of auxiliary element.

Prior Art

5 The fact is known that containers to contain this type of viscous or semi-liquid products that are used as ingredients for food should be sealed hermetically to increase the durability of the contents without their organic characteristics being affected.

.0 Keeping the contents properly closed (preferably under vacuum), it is possible to achieve greater durability thereof under conditions such that they can be consumed by persons without causing problems.

.5 Likewise, in all cases, the containers are of a plastic material that constitutes flexible walls, so that the user, by pressing on them manually, can transmit a pressure that causes the contents to exit through the tip of the dispenser.

10 It is for these reasons that when the container comes to the consumer who is going to use the product, a first opening should be made by means of a cutting, dividing, or puncturing action which, while eliminating the original hermetic sealing mentioned, forms an opening by which the exit of the contents will be produced. This exit opening can be closed by said threaded cap, insulating the contents for other subsequent
15 uses.

 In general, in order to make said initial opening, cutting elements are relied on for the end section of the tip or threaded neck of the container.

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In other cases, the same threaded neck of the container has a hermetic closing membrane that seals the mouth of the container. In this case, the threaded cap acts as a protective means for said seal and for later closing of the first opening.

For the case indicated, the user proceeds to remove the threaded cap and then, with a puncturing element, perforates the sealing membrane, releasing the contents, which can be dispensed by means of pressing on the walls of the container. At the time of the first use, the threaded cap is replaced to make a conventional hermetic closing.

In other cases, said threaded neck can have an end section defined by a cutting or tearing crease. The user pulls it, removes the free end, and thereby forms said exit mouth of the container.

If, however, an operating mode of mass use is involved, where numerous containers that contain mayonnaise and sauces of all kinds and sizes rely on this type of closing, which fact obliges the users to rely on external cutting elements to make the initial openings for each of them, there must be an irregular solution, which generates various problems.

In some cases, the cuts have been excessive, generating exaggerated openings that often cannot be closed well by the threaded caps. In other cases, these forced openings produce undesirable tears in the body of the top or dispensing neck, generating undesirable losses.

It should be taken into account that when products of massive use are involved, the means for their first opening

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must be accessible for an acceptable range of persons (women, children, large and small); consequently, it has to be efficient, simple, and easy to manipulate.

5 Summary Of The Invention

 In the present particular case, the threaded cap with an opening device applied to a flexible container, to which the present invention patent refers, proposes a solution that clearly surpasses everything that is currently known for this
.0 purpose.

 It involves a new constructive and functional solution designed to make the first opening of the container without a need to rely on an outside element. It is the cap itself that includes the means capable of producing the release of the
.5 hermetic seal that the container possesses, corresponding to the exit mouth of the product.

 Said means incorporated in the cap has an action that cooperates with the hermetic seal that the threaded neck of the container itself possesses.

10 In effect, the invention is based on the fact that, corresponding to the base of the threaded cap, a cavity is defined whose shape is equal and complementary to that of a tab defined in the hermetic closing membrane that the neck of the container possesses, with the feature that said tab from
15 a perimeter crease can be detached and removed by tearing by means of a rotary action.

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Specifically, said cavity possessed by the cap has a shape complementary to the tab defined in the membrane of the neck of the container, so that the user can insert and fit the cap itself into said tab of the neck and then, by means of a rotary movement produce said detachment by tearing. The presence of the cap is used to advantage in order for it to be utilized also as an opening means or device.

The functional principle that the present application discloses consists of the fact that the container's cap is itself a tool capable of producing the initial opening, by tearing, of the membrane that the neck of the container possesses as a means of hermetic closing, for which said cap includes a means of insertion that cooperates with another, complementary device defined in said membrane, so that when the fitting occurs, it is possible to make the initial opening of the container by manual rotations.

In a preferred embodiment, the insertion means that the cap possesses is a cavity defined in the outer face of its base, which will be able to correspond to a format such as a star with various points, or something equivalent, in which case the tab of the closing membrane of the container will also have the shape of a similar star, of smaller dimension, mounted in a position for manual detachment.

The constructive arrangement mentioned in the preceding paragraph has the advantage that, in addition to permitting detachment of the hermetic closing membrane of the container, by having complementary shapes, it retains said detached portion, which remains lodged in the body of the cap.

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Summary Description Of The Drawings

In order to specify the advantages that have been commented on briefly, to which users and those familiar with the field can add many others, and to facilitate understanding of the constructive, compositional, and functional features of the threaded cap of the invention, a preferred example embodiment will be described below, in which it is illustrated schematically and without a specific scale in the attached pages, with the specific clarification that specifically, since an example is involved, it is not appropriate to assign any limiting or exclusive character to the scope of protection of the present invention patent, but it has merely an explanatory and illustrative intention for the basic concept on which it is based.

Figure 1 is a perspective view that shows the cap of this invention applied to a container of conventional plastic material, as it is arranged before its first opening is made.

Figure 2 is a perspective view similar to the previous one; in this case showing a container when the first opening had been made, and re-closed by the cap.

Figure 3 is a view of the cap divided by a vertical plane present on the neck of the container that it closes.

Figure 4 is a perspective view that shows the first functional step that is made for the first opening of the container according to the present invention.

Figure 5 is a perspective view that shows the second functional step for the first opening of the container according to the present invention.

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Figure 6 is a perspective view that shows the third functional step for the first opening of the container according to the present invention.

Figure 7 is a perspective view that shows how the closing of the container may begin after the first opening.

Figure 8 is a perspective view that shows the same container newly closed for later uses.

It is clarified that in all the drawings, the same reference numbers and letters correspond to the same or equivalent parts or elements composing the whole according to the example selected for the present explanation of the invented threaded cap.

Detailed Description Of A Preferred Example

As can be seen in Figure 1, the cap to which the present invention refers is a threaded cap, T, with an opening device applied to a flexible container, E, of the type that is used as a container of a semi-liquid product, such as ingredients for food (mayonnaise, mustard, various sauces, etc.).

This container, E, can be cylindrical or of different and various designs (see Fig. 2); the fundamental condition is that in all of them, a closing is defined corresponding to the mouth of the threaded neck, 1 (visible in Figure 3), on which said cap, T, acts.

In the present particular case, according to this preferred example, said cap, T, has a connecting cavity, 2, in the shape of a star, located in the center of its base and on the external face, the shape and dimensions of which are

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equivalent and complementary to the connecting tab, 4, that is possessed by the closing membrane, 5, located in the exit mouth of the neck, 1, of the container.

To facilitate the complete functioning of the action of opening the container, it is preferred that said connecting tab, 4, projects from a crease or detachment line, 7, which keeps it connected to the rest of the body of the membrane, 5.

If we observe Figures 4 through 8, it is possible to understand how said first opening of the container, E, is made with the opening device of the present invention.

In Figures 4 and 5, it is shown that said cap, T, is unscrewed and inverted, so that said connecting cavity with the shape of a star, 2, is placed opposite the connecting tab of complementary shape, 4.

Now observing Figures 6 and 7, it is shown that when the same cap, T, is connected to the connecting tab, 4, making a rotating movement, said tab is detached (by tearing), making said first opening of the container, E.

Specifically, in Figures 7 and 8, it is shown that the connecting tab, 4, remains lodged and retained in said connecting cavity, 2, of the cap, without its normal functioning being affected in any way.

As shown in Figure 3, in preferred embodiments, said connecting cavity, 2, possessed by the cap is defined and enclosed by an inner cylindrical skirt, 8, that projects toward the interior of the neck of the container; in this way, a second closing facing is obtained that keeps the container appropriately screwed.

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What Is Claimed Is:

1. A threaded cap with an opening device, applied to a flexible container that contains a semi-liquid product, designed to be used in light and flexible containers of a plastic material that are used to provide ingredients for food and similar things that have, for this purpose, a threaded neck (1), with its upper base closed, on which said cap acts, characterized in that in the cap upper base a connecting cavity (2) is defined, the format of which is designed similar and complementary to that of a connecting tab (4) that projects from a closing membrane (5) located corresponding to the mouth of the container, which is defined at the end of said threaded neck.

2. A threaded cap with an opening device, applied to a container, according to claim 1, characterized in that the closing membrane located corresponding to the mouth of the container is substantially disk-shaped and has a crease (7) from which said connecting tab (4) projects outward.

3. A threaded cap with an opening device, applied to a container, according to claim 1, characterized in that the connecting cavity (2) is defined on the outer face of the base of the cap.

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4. A threaded cap with an opening device, applied to a container, according to claim 1, characterized in that the connecting cavity (2) has a format that has several diverging points; said cavity having a format equivalent to that of the connecting tab (4) that projects from the closing membrane located corresponding to the mouth of the container.

5. A threaded cap with an opening device, applied to a container, according to claim 1, characterized in that the connecting cavity possessed by the cap is defined surrounded by an internal cylindrical skirt (8) that projects from the interior of the neck of the container, surrounding the mouth.

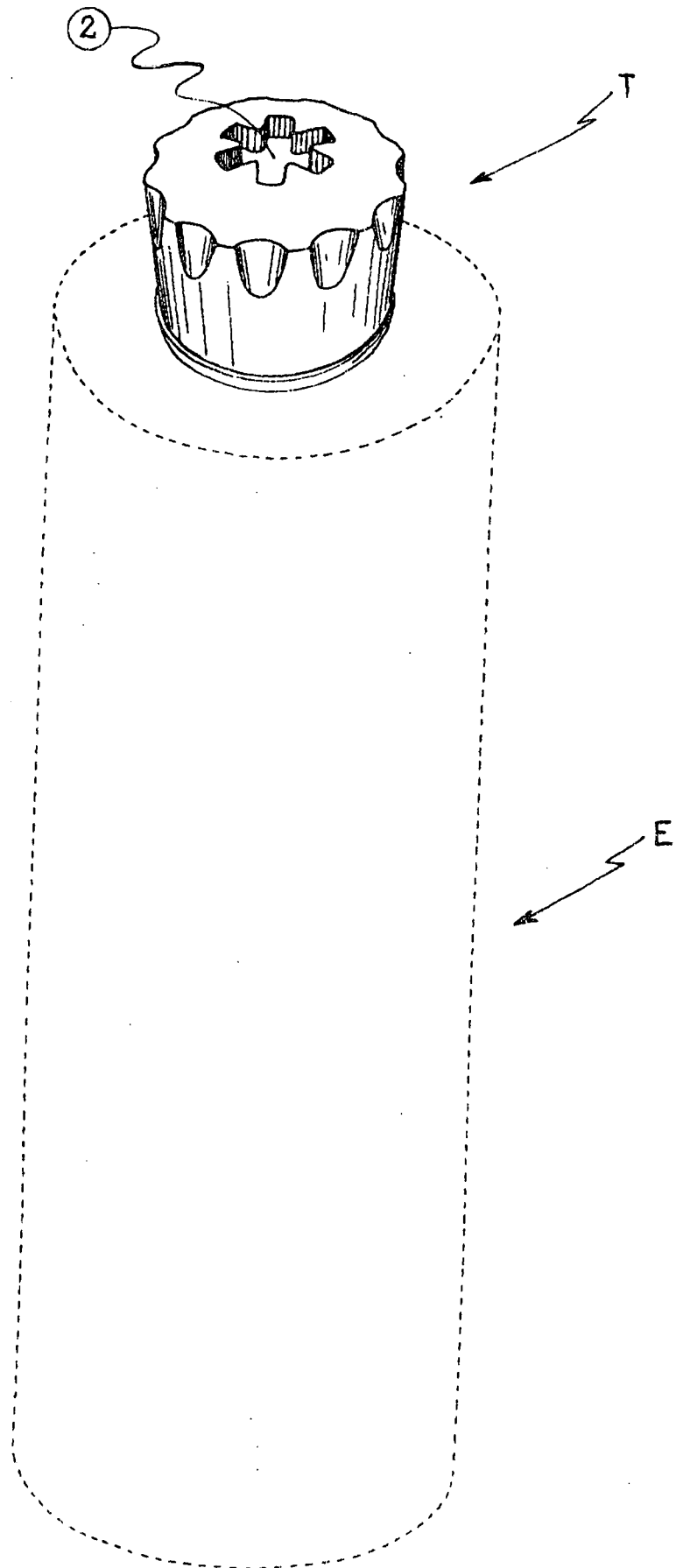


FIG. 1

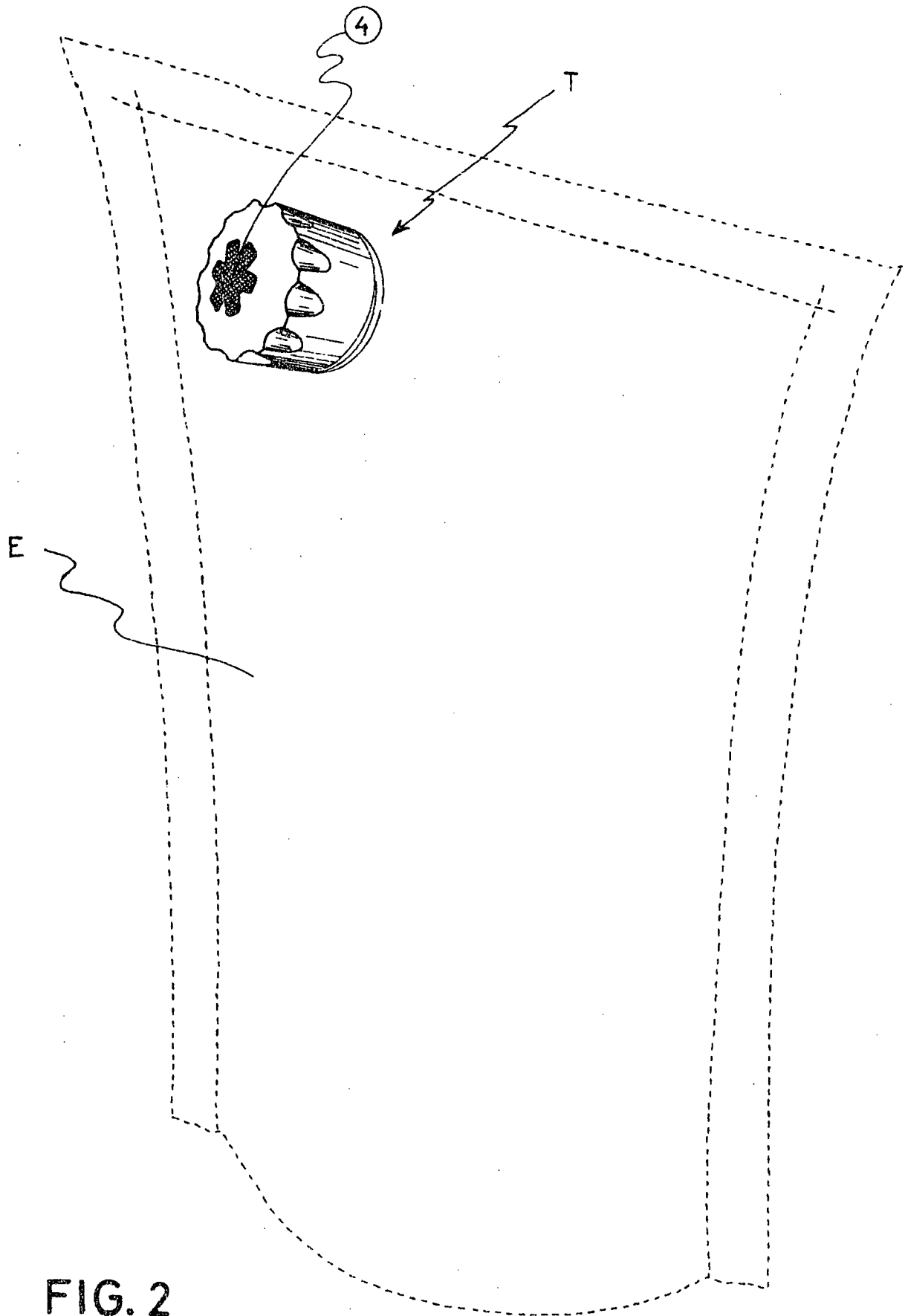
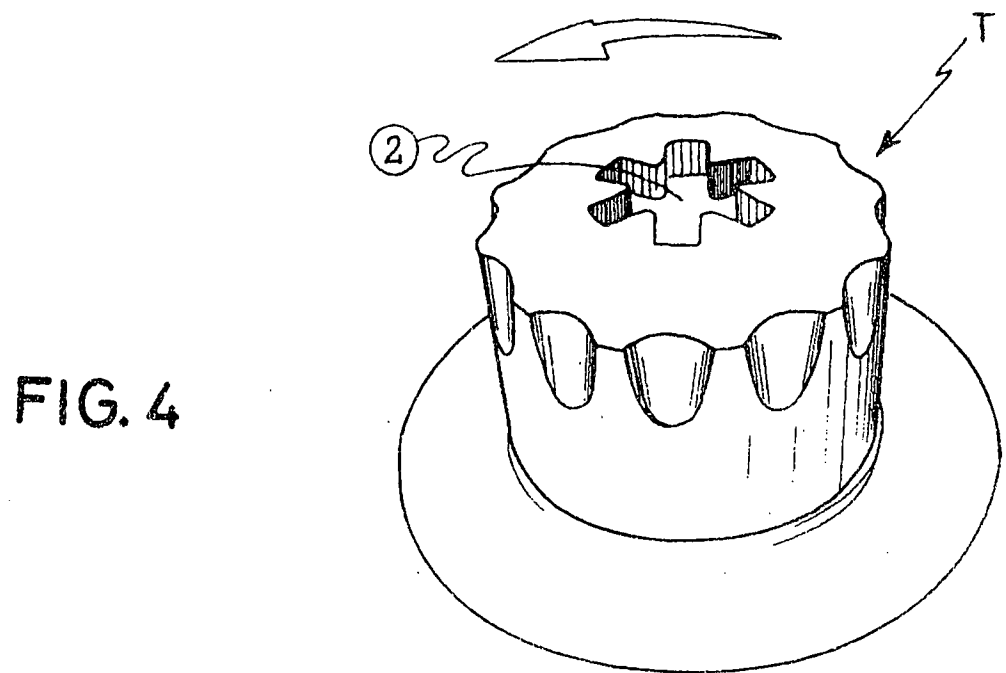
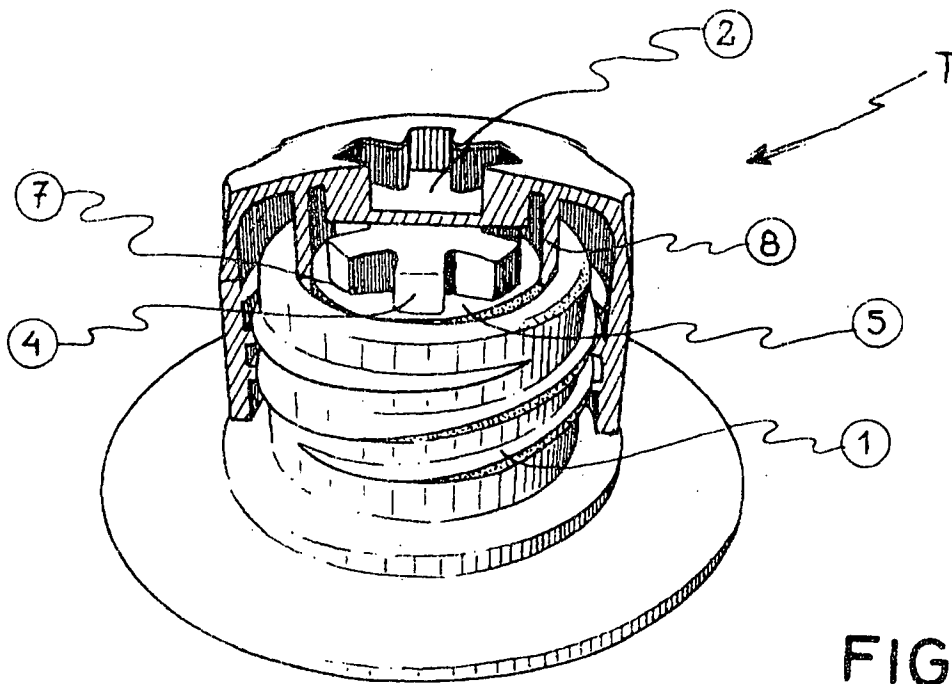


FIG. 2



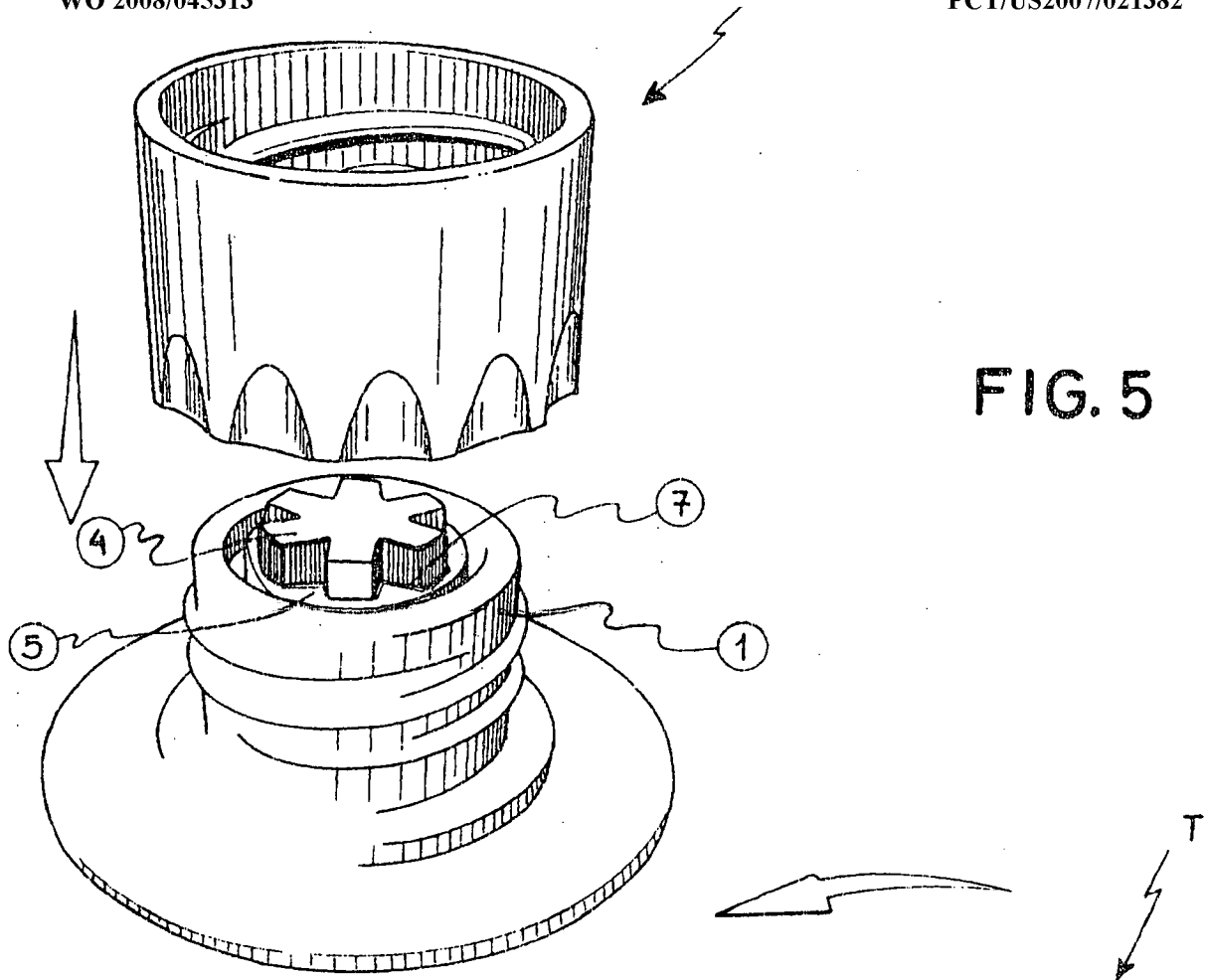
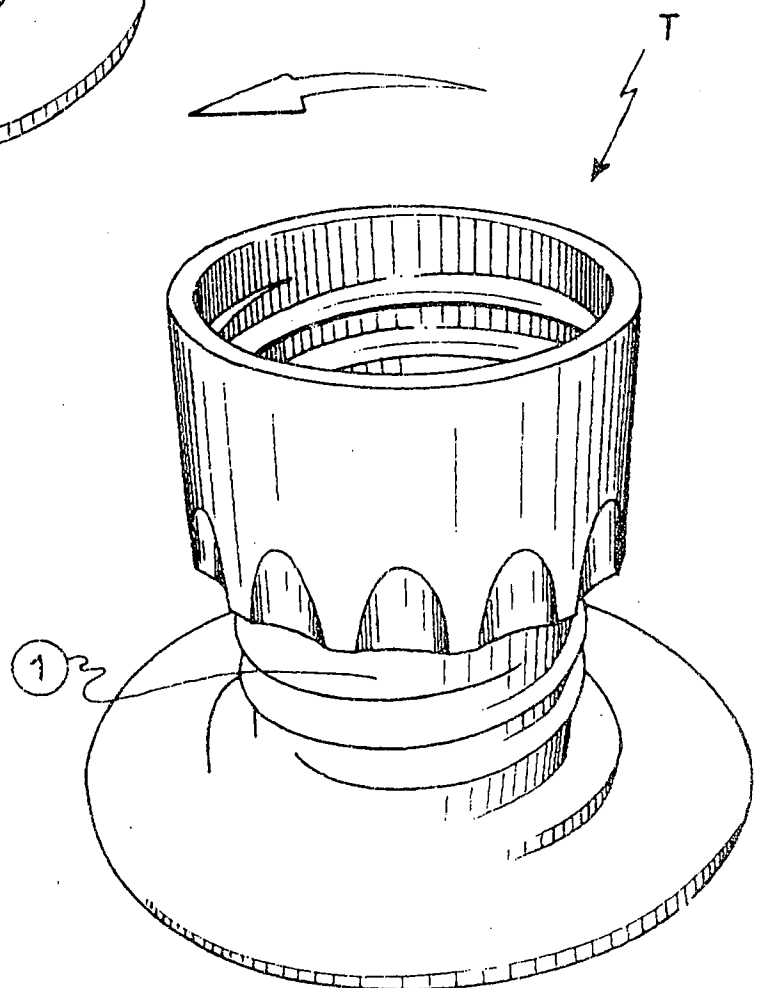


FIG. 6



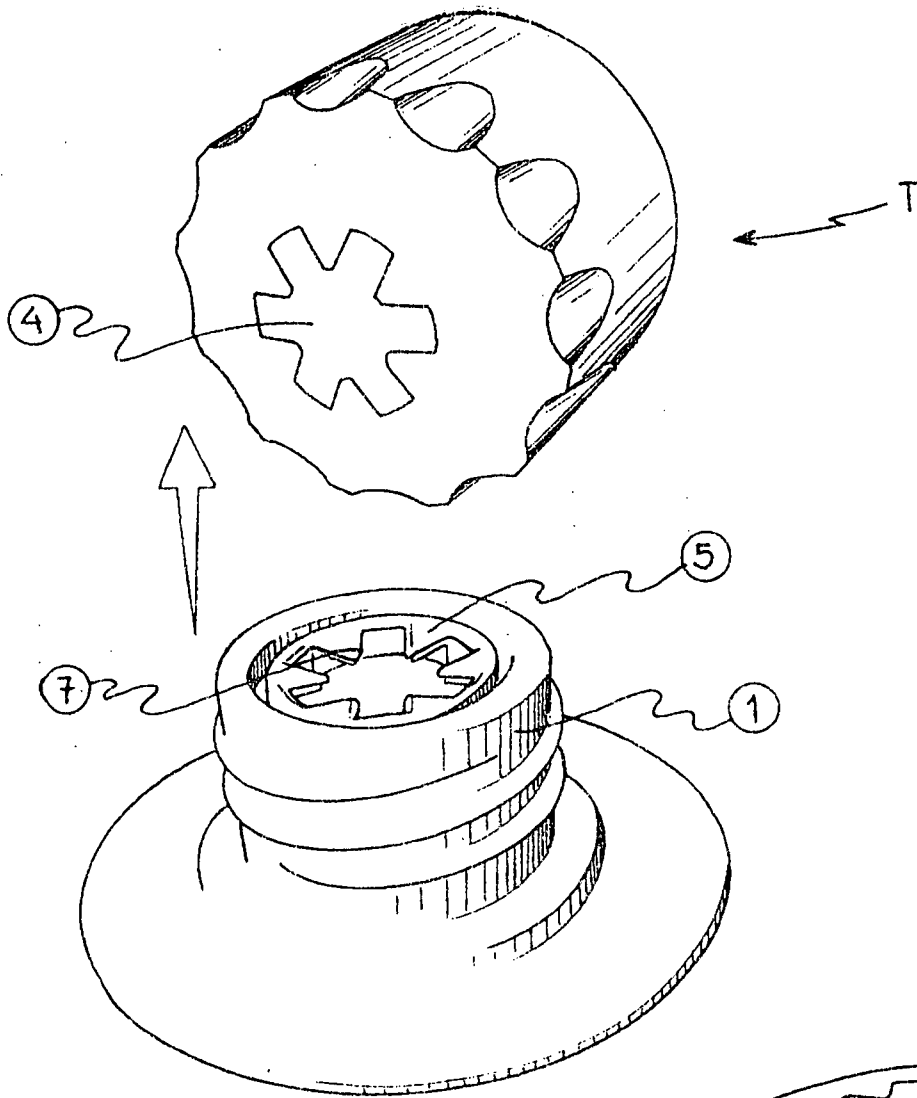


FIG. 8

