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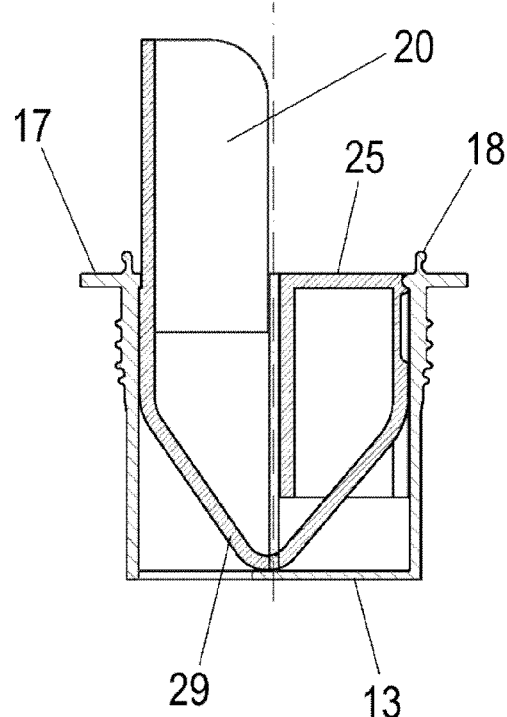
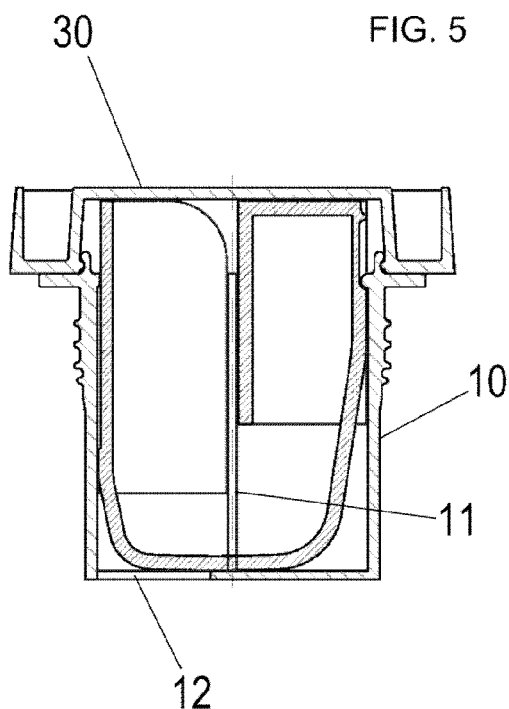
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(54) **Device for pouring the contents of a bottle and method for opening such a device**

(57) A device for pouring the contents of a bottle comprises a body (10) and a pourer (20) that is housed in said body and can axially slide therein. The pourer only occupies a region of the body and the device also comprises a button (25) that occupies another region of the body and can axially slide therein. The button is linked to the pourer in a way such that an axial displacement of the button produces a corresponding but opposite axial

displacement of the pourer. The device further comprises a lid (30) provided with a handgrip (32) and a closure (35) removably joined to the handgrip by some nubs (34), and said closure comprises a pull-tab (37) and a plug (36) that is inserted between the pourer and the button for shutting the former. A method for opening such a device comprises removing the closure from the handgrip by pulling the pull-tab and breaking the nubs.



Description

[0001] The present invention is related to a device for pouring the contents of a bottle, comprising a body intended to engage the neck of the bottle, and a pourer that is housed in said body and can axially slide therein. The device is manually actuated. The invention is also related to a method for opening such a device.

BACKGROUND ART

[0002] There are known bottles provided with a pourer that projects therefrom and facilitates the pouring of the liquid contents or, generally speaking, the pourable stuff contained in the bottle. But it is necessary to remove the pourer in order to close the bottle, which is tricky both because of the operation itself and because of the need to put the pourer someplace, and it is also tricky to place the pourer on the bottle after opening it and to keep the cap of the bottle someplace while the pourer is on the bottle.

[0003] There are also known bottles provided with an extensible pourer, which hides upon closing the bottle and automatically projects from the bottle upon opening it. The patent application WO 2004/113176 discloses a pourer of this kind which is driven by a spring; said spring contracts upon closing the bottle and extends upon opening it. A discoidal lid covers the pourer and connects it to the cap. This configuration is cumbersome and expensive.

SUMMARY

[0004] An object of the present invention is to provide a simple and effective pouring device for bottles.

[0005] In a first aspect, the device comprises a body that houses a pourer and the latter only occupies a region of the body, the device further comprising a button that occupies another region of the body and, like the pourer, can axially slide therein; the button is linked to the pourer in a way such that an axial displacement of the button produces a corresponding but opposite axial displacement of the pourer, and vice versa.

[0006] Thanks to the link between the pourer and the button, after opening the cap of the bottle the user can lift the pourer by simply pushing the button; after having poured the desired amount of oil or another liquid or pourable stuff, all the user has to do is to lower the pourer, for instance by placing the cap back on the bottle, thus moving the button back to its initial position.

[0007] Besides, the pourer and the button can be made in a simple way.

[0008] In some embodiments the button is linked to the pourer through a flexible joining strip (for example U-shaped), an end of which is connected to the bottom of the pourer and the other end of which is connected to the bottom of the button; additionally, the button, the pourer and the flexible joining strip may be integrally made in

one piece.

[0009] In this way, the button and the pourer can be reliably linked, ensuring that the displacement of one easily produces the displacement of the other, and the assembly can be cheaply made, even as one piece.

[0010] The body preferably comprises a bottom wall provided with at least one passageway, so that the pourer is located in correspondence with said passageway and the button is located in the region of the body that is substantially closed by said bottom wall.

[0011] In use, the bottom wall allows keeping the button region sufficiently isolated from the liquid being poured; besides, when the pourer and the button are linked through a flexible U-shaped joining strip, the bottom wall can be an abutment and a guide for the displacement of said joining strip.

[0012] In some embodiments the inner surface of the body comprises two axial ribs that define the regions occupied by the pourer and the button and cooperate in guiding the pourer and the button.

[0013] In this way the pourer and the button does not rub against each other when they are displacing, but each can be guided between the axial ribs and the inner surface of the body with less friction.

[0014] In some embodiments the button is configured as a substantially semi-cylindrical piece closed at least at the top and sides, and the pourer is configured as a substantially semi-cylindrical piece. Usually, the cross-section of the joint cylinder is a circle or an ellipse.

[0015] These shapes are suitable for the user to comfortably push the button, and also to guide the oil or other liquids across the pourer.

[0016] Preferably, the device also comprises blocking means for the button in an operative position thereof, in which the button is substantially completely inside the body and the pourer is mostly outside the body; this blocking means for the button may comprise a peg and a corresponding seat, one being formed in the body and the other being formed on the button, said peg being for example releasably snappable in said seat.

[0017] When the user pushes the button and thus lifts the pourer, the pressure applied by the user activates the blockage (for example, the peg snaps into the seat) and the button is retained in this position, thus keeping the pourer in a position suitable to dispense the liquid, without the need for the user to keep the finger on the button. The blockage can also be released by applying a pressure.

[0018] The button preferably comprises an axial groove adjacent the blocking seat, the peg being able to slide within said groove during the displacement of the button; this groove prevents the peg from rubbing against the surface of the other piece during said displacement.

[0019] In some embodiments the body comprises a double outer wall defining a hollow region open at the bottom and limited at the top by an annular wall; this wall preferably presents a hole for the intake of air. In this way the pouring of liquid is facilitated because a low-pres-

sure area inside the bottle is avoided.

[0020] In some embodiments the bottom wall analogously presents a hole for the intake of air.

[0021] The device may further comprise a lid provided with a handgrip and a closure removably joined to the handgrip by at least one nub. Additionally, the closure may comprise a pull-tab and a plug, the latter being inserted between the pourer and the button before the closure has been removed, shutting the pourer.

[0022] In a second aspect, a method for opening a device as described above comprises the steps of:

- removing the closure from the handgrip by pulling the pull-tab and breaking the at least one nub;
- pushing the button in order to lift the pourer.

[0023] In a further aspect, the lid, upon being placed when the pourer and the button are in an operative position, may push the pourer into the body, thus levelling the top of the pourer and the top of the button. In this case, upon covering the body with the lid, the pourer is lowered again into the body without the need for the user to touch the pourer (but in other cases the user may push the pourer with a finger); the pressure applied through the lid and the displacement of the pourer release the blockage of the button and restore the button to the initial position, by virtue of the link between the pourer and the button, so that the bottle can be closed without the pourer occupying an additional height.

[0024] Other objects, advantages and features of the embodiments of the invention will be apparent to the skilled person from the detailed description below, or can be learned through the practice of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] Some particular embodiments of the present invention will be described in the following, only by way of non-limiting example, with reference to the appended drawings, in which:

figure 1 is a perspective view of a first embodiment of a device for pouring the contents of a bottle, shown in two positions;

figure 2 is an isolated perspective view of an element of figure 1, from above and from below;

figure 3 is an isolated perspective view of another element of figure 1;

figure 4 shows front cross-sectional views and top and bottom views of a body of the first embodiment;

figure 5 is a front cross-sectional view of the device of figure 1, shown in two positions too;

figure 6 is an enlarged view of a detail of figure 5;

figure 7 is a perspective view of a body of a second embodiment of the device;

figure 8 shows front cross-sectional views and top and side views of said body;

figure 9 is a perspective view of an element of the

second embodiment, from different sides; and

figure 10 is a perspective view of another element of the second embodiment, from different sides.

DETAILED DESCRIPTION OF EMBODIMENTS

[0026] In this description the directions are indicated as if the bottle were in an ordinary vertical position, with its axis in a vertical direction. Therefore, the "top portion" of an element located in the bottle's neck is a portion of said element oriented toward the outside of the bottle, whereas the "bottom portion" of an element located in the bottle's neck is a portion of said element oriented toward the inside of the bottle.

[0027] A first embodiment of a device for pouring the contents of a bottle is shown in figures 1-6. Said device comprises a body 10, a pourer 20 and a button 25, all made of a plastic material. The shape of the body 10 is generally cylindrical, with some variations, and the body comprises two axial ribs 11 that define two inner regions thereof. These regions are semi-cylinders when the ribs are diametrically opposed; if the ribs are not diametrically opposed said inner regions are other portions of the cylinder. One of said inner regions houses the pourer 20 and the other one houses the button 25. The body 10 can be fitted into a bottle's neck 100 by means of known engagements (for example the ribs/grooves 19/119 shown in fig. 6).

[0028] The body 10 is partially closed at its bottom side by a wall 13, which is provided with an offset opening 12 located below the pourer 20, so that said wall 13 substantially closes the bottom portion of the body under the button 25. When pouring, the contents of the bottle passes through the opening 12, whereby it directly reaches the pourer 20 and hardly reaches the button 25.

[0029] A couple of elongated slots 9 are provided on the wall 13, said slots extending to the portion that lies below the button 25 to allow the intake of air when the liquid in the bottle is poured.

[0030] The pourer 20 is trough-shaped and the button 25 is generally a semi-cylinder, at least in the shown embodiment, in which the ribs 11 are diametrically opposed. The bottom portion of the pourer 20 and the bottom portion of the button 25 are joined by a generally U-shaped flexible strip 29. When the button 25 is lowered into the body 10, the portion of the flexible strip 29 near the button tends to be lowered as well, but, since the body is closed under the button by the wall 13, the strip 29 cannot descend beyond this wall and hence has to ascend by the portion that is near the pourer 20, whereby the latter is lifted and ends up mostly projecting out of the body 10, thus adopting an operative position.

[0031] The device also comprises a generally discoid-shaped lid 30 that can be integrated in a bottle's cap (not shown). Upon closing the bottle, the lid 30 pushes the pourer 20 downward and the pourer 20, through the strip 29, drives the button upward, in a movement opposite the one described in the preceding paragraph, until both

are substantially levelled. The lid 30 tightly engages an elastic projection 18, provided on the body 10, through a complementary elastic projection 38 provided on the lid 30; both projections 18 and 38 cooperate in a way such that the lid 30 and the body 10 may be snapped onto each other, until a force enough to pull them apart is applied. Besides providing a satisfying snap-closure between the cap and the bottle, this feature facilitates the joint handling of the lid 30 and the body 10 during the operations for filling the bottle and placing the device on the bottle's neck.

[0032] The body 10 is provided with a peg 14 in the top portion of its inner surface, located at approximately 90° from each axial rib 11. The button 25 comprises a seat 26 for the peg 14, so that the engagement between the peg 14 and the seat 26 fixes the button 25 to the body 10 in a lower operative position of the former. The button 25 further comprises an axial groove 27 located just below the seat 26 but separated therefrom, in which the peg 14 can slide during the upward or downward movement of the button. In its downward movement, the groove 27 of the button 25 runs over the peg 14 of the body until the latter reaches the end of the groove; by applying a slightly bigger force, and by virtue of the flexibility of the material of the body or the button, the groove 27 leaves the peg 14 out but then the peg is immediately fitted in the seat 26, thus blocking the button 25 with respect to the body 10. The un-blocking is analogous but is effected upon applying a descending force on the pourer 20.

[0033] The body 10 comprises two cylindrical walls and a hollow tubular region 15 defined between them; said region is open at the bottom and is closed at the top by an annular wall. Said annular wall extends through a flange 17 which is an abutment for the top portion of the bottle's neck 100. The body 10 also comprises a small hole 16 which is defined on said annular wall and is in correspondence with the hollow region 15. Said hole is intended for the intake of air into the bottle.

[0034] A second embodiment of a device for pouring the contents of a bottle is shown in figures 7-10. Analogous elements are numbered as in figures 1-6. As with the first embodiment, the device of the second embodiment comprises a body 10, a pourer 20 and a button 25. The body comprises two inner axial ribs 11 that define two inner regions thereof. These regions are semi-cylinders of elliptical cross when the ribs are diametrically opposed; if the ribs are not diametrically opposed said inner regions are other portions of the elliptical cylinder. One of said inner regions houses the pourer 20 and the other one houses the button 25. The body 10 can be fitted into a bottle's neck by means of some outer ribs 19.

[0035] The body 10 is partially closed at its bottom side by a wall 13, which is provided with two offset openings 12 and 12' located below the pourer 20, so that said wall 13 substantially closes the bottom portion of the body under the button 25. The two openings 12 and 12' are separated by a strip 7 of the wall 13. When pouring, the

contents of the bottle passes through the openings 12 and 12', whereby it directly reaches the pourer 20 and hardly reaches the button 25.

[0036] A hole 8 is provided on the wall 13 to allow the intake of air when the liquid in the bottle is being poured.

[0037] The pourer 20 is trough-shaped and the button 25 is generally a semi-cylinder (albeit of elliptical cross-section), at least in the shown embodiment, in which the ribs 11 are diametrically opposed. The bottom portion of the pourer 20 and the bottom portion of the button 25 are joined by a flexible strip 29. When the button 25 is lowered into the body 10, the portion of the flexible strip 29 near the button tends to be lowered as well, but, since the body is closed under the button by the wall 13, the strip 29 cannot descend beyond this wall and hence has to ascend by the portion that is near the pourer 20, whereby the latter is lifted and ends up mostly projecting out of the body 10, thus adopting an operative position.

[0038] The central portion of the button 25 is mostly hollow but it is reinforced by an axial wall 24 oriented in the direction of the long axis of the ellipse. The button is solid on top in order to present a pushing surface, and is also solid on bottom and side (the side facing the pourer 20) for strengthening purposes.

[0039] The device also comprises a generally discoid-shaped lid 30 that can be integrated in a bottle's cap (not shown). Upon closing the bottle, the lid 30 pushes the pourer 20 downward and the pourer 20, through the strip 29, drives the button upward, in a movement opposite the one described above, until both are substantially levelled. The functions and workings of the lid are the same than with the first embodiment, but the lid 30 of the second embodiment comprises, besides a handgrip 32, a removable closure 35 that is provided with a plug 36 and a pull-tab 37. The closure 35 is initially joined to the handgrip 32 by one or more nubs 34, at least one them joining the pull-tab 34 to the rim of an opening 33 of the handgrip 32 that houses the closure 35; for example, another nub 34 can be arranged diametrically opposite said at least one nub. The lid is made of a plastic material.

[0040] Prior to use, the closure 35 is fixed to the lid 30 and the plug 36 is placed inside the pourer 20, shutting it. The closure has to be removed before using the pourer. This is done by pulling the pull-tab 37, breaking the nubs 34 and removing the closure 34 from the handgrip 32; the pouring device can then be used and the closure 35 can be dispensed with.

[0041] The body 10 is provided with a peg 14 in the top portion of its inner surface, located at approximately 90° from each axial rib 11. The button 25 comprises a seat 26 for the peg 14, so that the peg 14 can engage the seat 26 and the button 25 can remain more or less fixed with respect to the body 20 in a lower operative position of the former. The button 25 further comprises an axial groove 27 located just below the seat 26 but separated therefrom, in which the peg 14 can slide during the upward or downward movement of the button. In said downward movement, the groove 27 25 runs over the

peg 14 of the body until the latter reaches the end of the groove; by applying a slightly bigger force, and by virtue of the flexibility of the material of the body or the button, the groove 27 leaves the peg 14 out but then the seat 26 immediately engages the peg. By applying a descending force on the pourer 20, the seat 26 can be disengaged from the peg 14 and the groove 27 can slidably engage the peg.

[0042] The body 10 comprises a cylindrical part 5 and an elliptical part 6 downwardly protruding from the cylindrical part. A hollow disjoint region 15 is defined between said two parts; said region is open at the bottom and is closed at the top by an annular wall. Said annular wall extends through a flange 17 which is an abutment for the handgrip 32.

[0043] Although only particular embodiments of the invention have been shown and described in the present specification, the skilled man will be able to introduce modifications and substitute any technical features thereof with others that are technically equivalent, depending on the particular requirements of each case, without departing from the scope of protection defined by the appended claims.

Claims

1. Device for pouring the contents of a bottle, comprising a body (10) intended to engage the neck (100) of the bottle, and a pourer (20) that is housed in said body and can axially slide therein, **characterized in that** the pourer only occupies a region of the body, and **in that** the device further comprises a button (25) that occupies another region of the body and can axially slide therein, the button being linked to the pourer in a way such that an axial displacement of the button produces a corresponding but opposite axial displacement of the pourer, and vice versa.
2. Device according to claim 1, wherein the button (25) is linked to the pourer (20) through a flexible joining strip (29), an end of which is connected to the bottom of the pourer and the other end of which is connected to the bottom of the button.
3. Device according to claim 2, wherein the button (25), the pourer (20) and the flexible joining strip (29) are integrally made in one piece.
4. Device according to any of the preceding claims, wherein the body (10) comprises a bottom wall (13) provided with at least one passageway (12; 12'), so that the pourer (20) is located in correspondence with said passageway and the button (25) is located in the region of the body (10) that is substantially closed by said bottom wall.
5. Device according to any of the preceding claims,

wherein the inner surface of the body (10) comprises two axial ribs (11) that define the regions occupied by the pourer (20) and the button (25) and cooperate in guiding the pourer and the button.

6. Device according to any of the preceding claims, wherein the pourer (20) is configured as a substantially semi-cylindrical piece.
7. Device according to any of the preceding claims, comprising blocking means (14, 26) for the button (25) in an operative position thereof, in which the button is substantially completely inside the body (10) and the pourer (20) is mostly outside the body.
8. Device according to claim 7, wherein the blocking means for the button (25) comprise a peg (14) and a corresponding seat (26), one being formed in the body and the other being formed on the button.
9. Device according to claim 8, wherein the button (25) comprises an axial groove (27) adjacent the seat (26), the peg (14) being able to slide within said groove during the displacement of the button (25).
10. Device according to any of the preceding claims, wherein the body (10) comprises a double outer wall defining a hollow region (15) open at the bottom and limited at the top by an annular wall.
11. Device according to claim 10, wherein the annular wall presents a hole (16) for the intake of air.
12. Device according to any of claims 4 to 11, wherein the bottom wall (13) presents a hole (8) for the intake of air.
13. Device according to any of the preceding claims, further comprising a lid (30) provided with a handgrip (32) and a closure (35) removably joined to the handgrip by at least one nub (34).
14. Device according to claim 13, wherein the closure (35) comprises a pull-tab (37) and a plug (36), the latter being inserted between the pourer (20) and the button (25).
15. Method for opening a device according to claim 14, comprising the steps of:
 - removing the closure (35) from the handgrip (32) by pulling the pull-tab (37) and breaking the at least one nub (34);
 - pushing the button (25) in order to lift the pourer (20).

FIG. 1

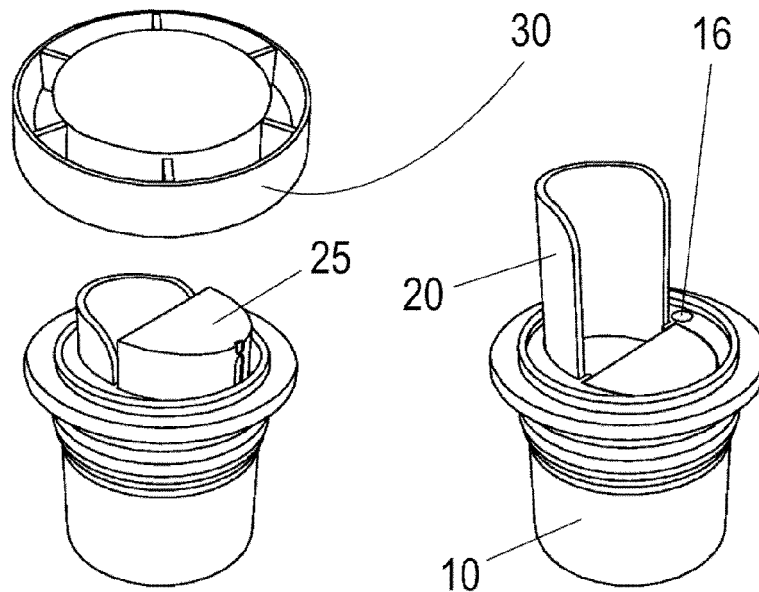


FIG. 2

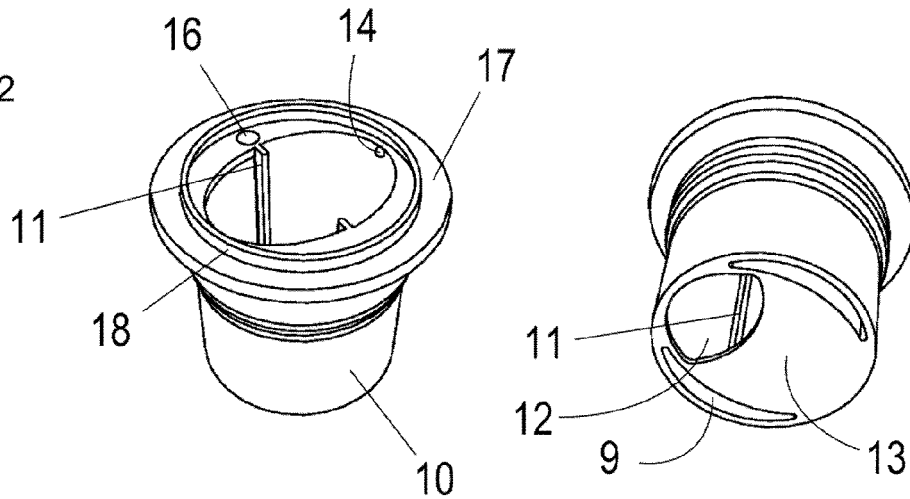
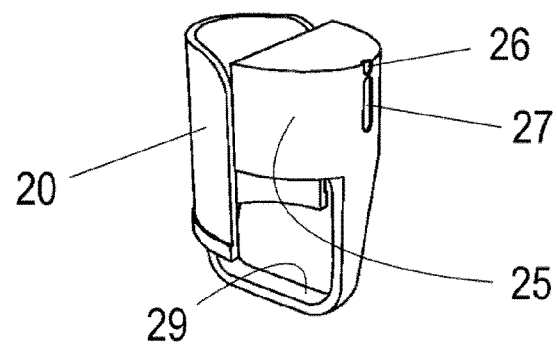
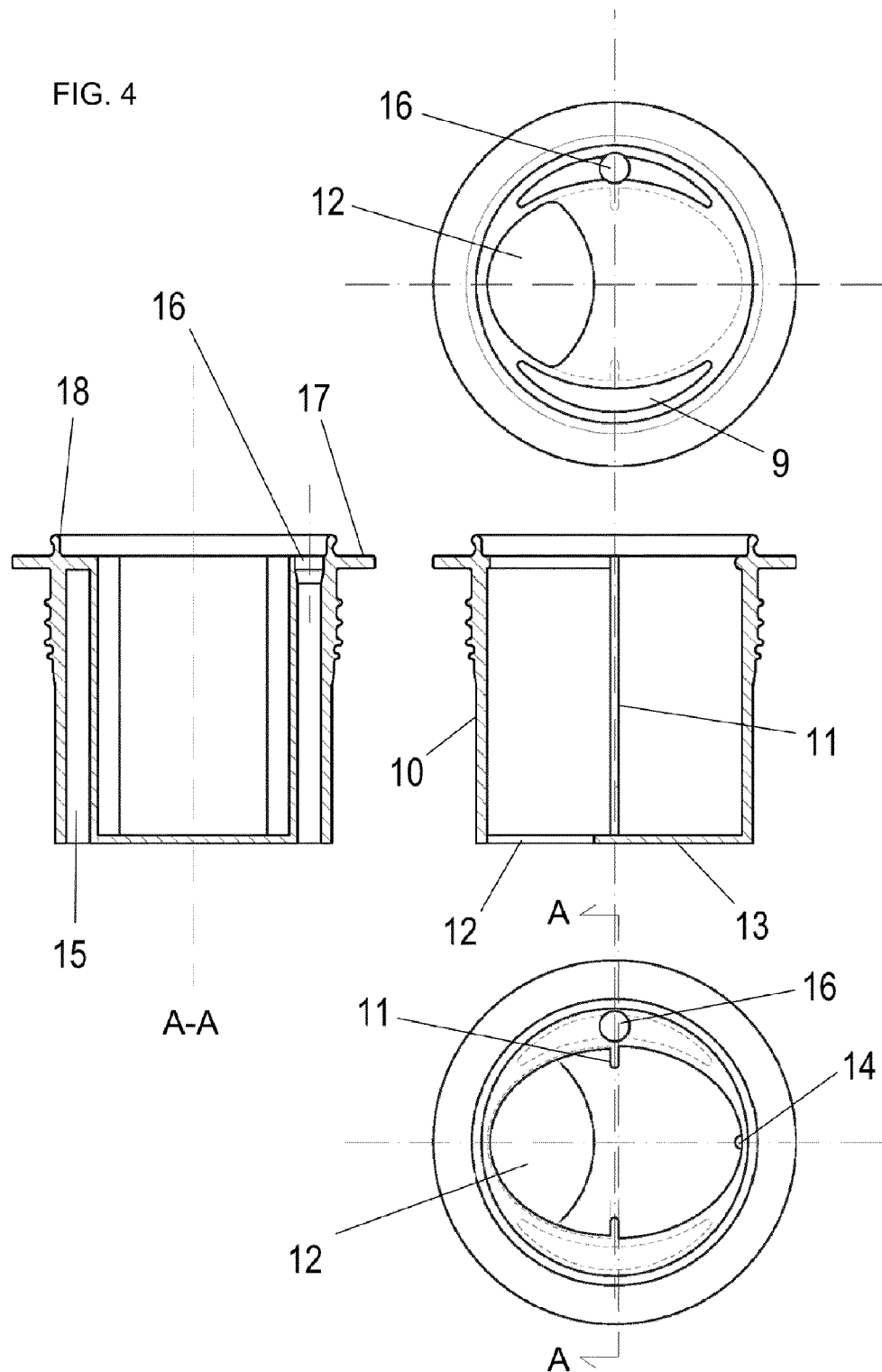


FIG. 3





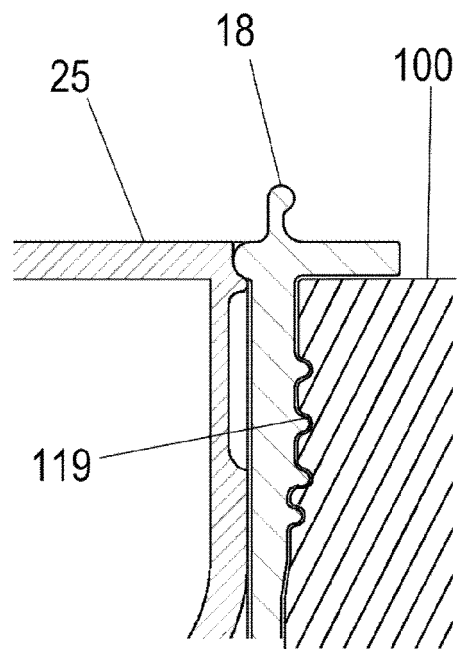
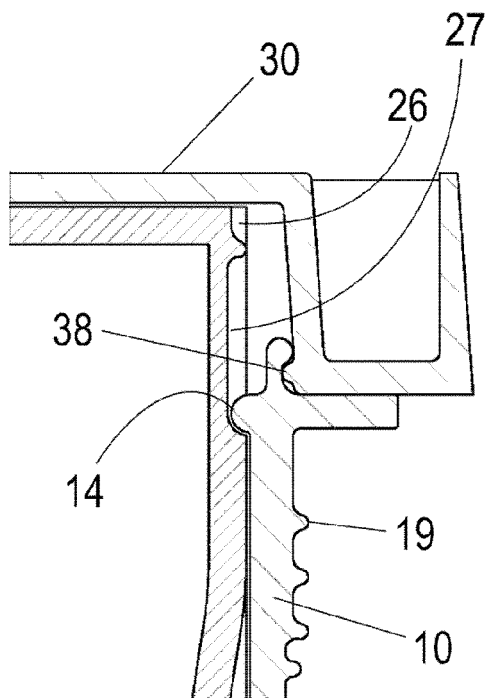
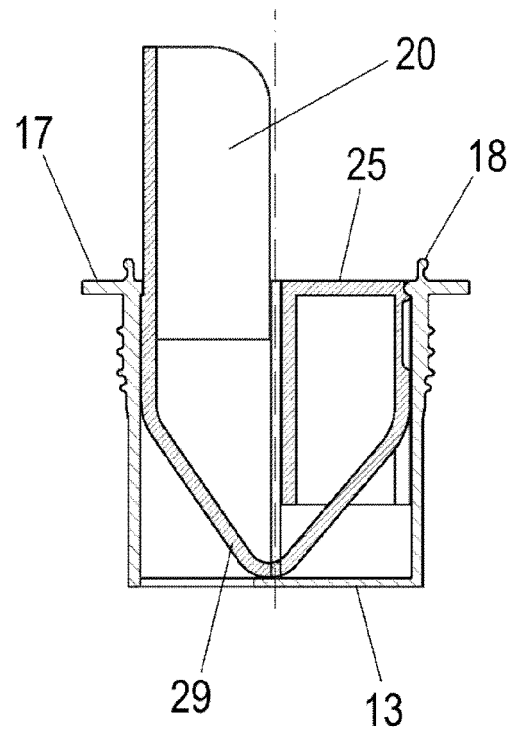
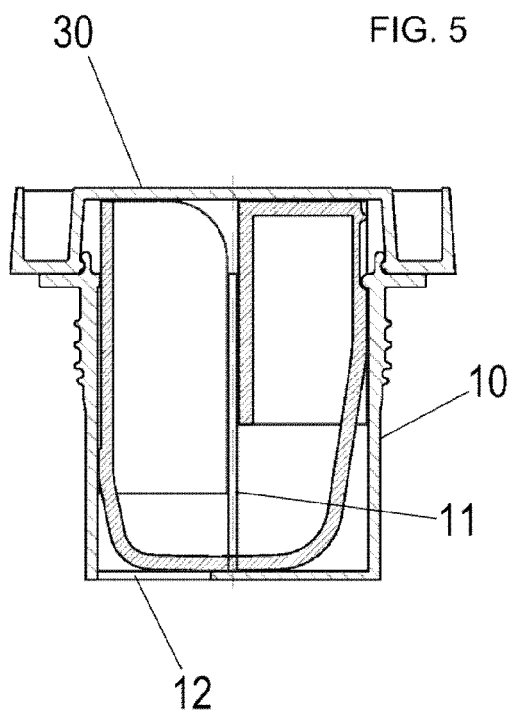


FIG. 6

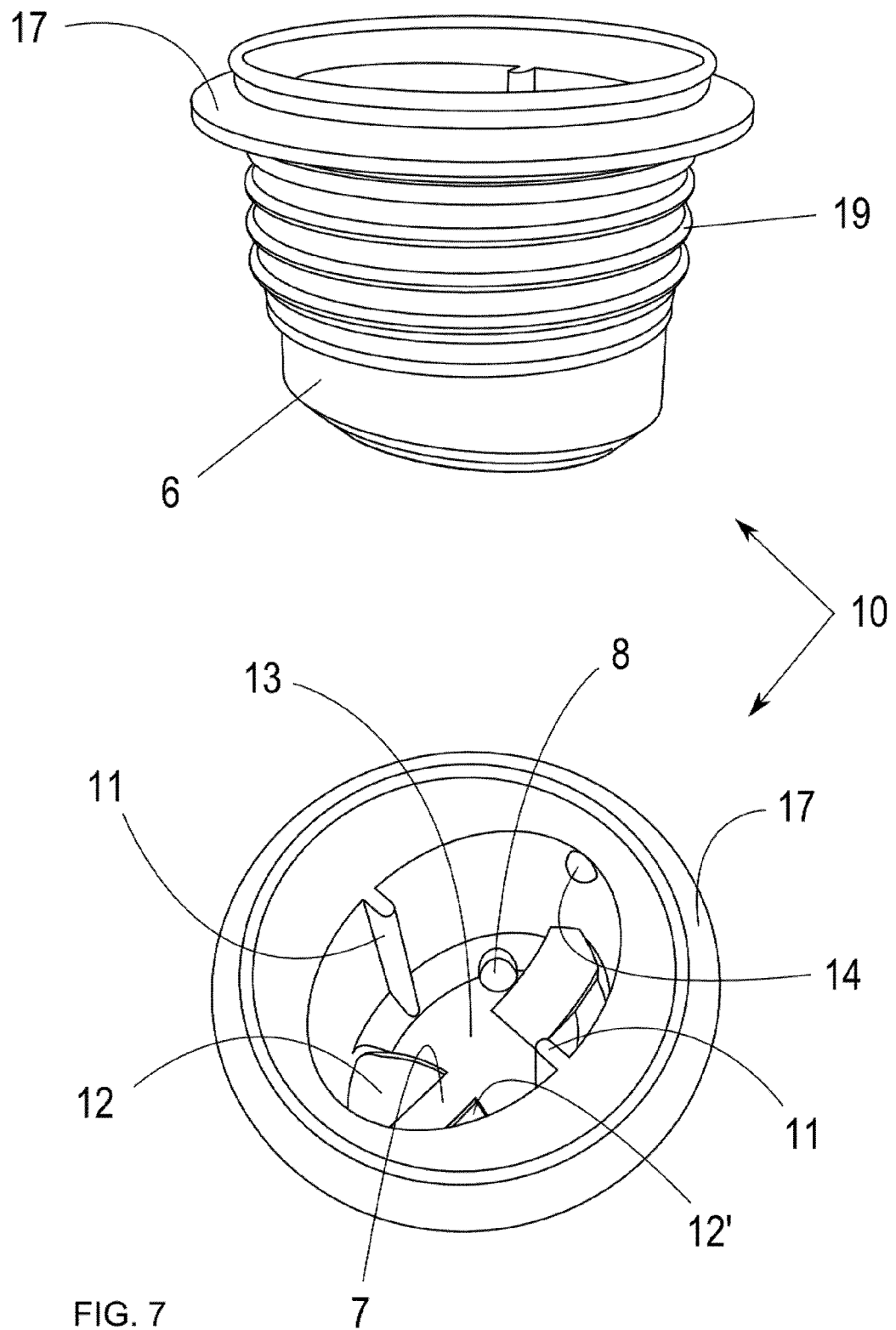


FIG. 7

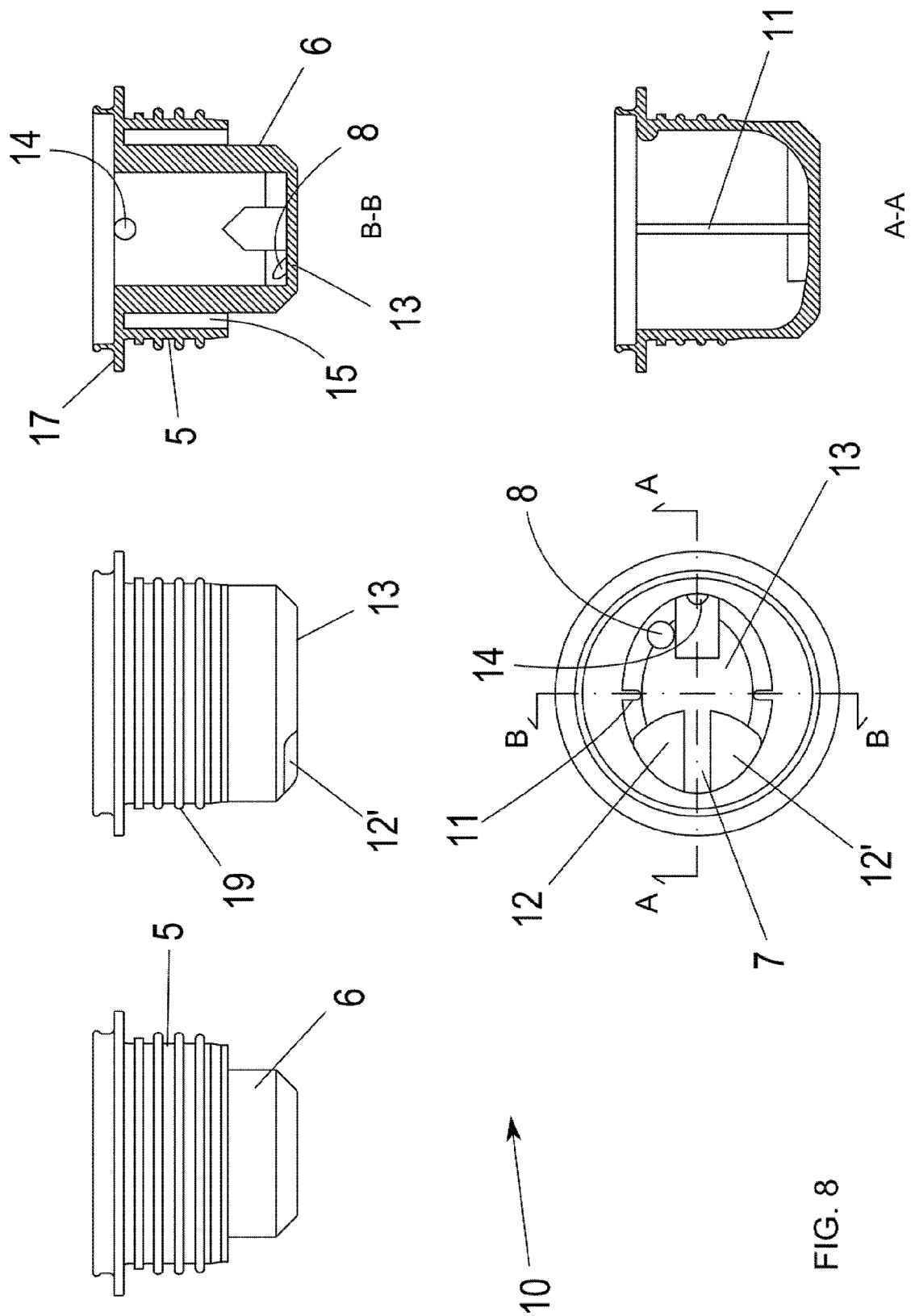


FIG. 8

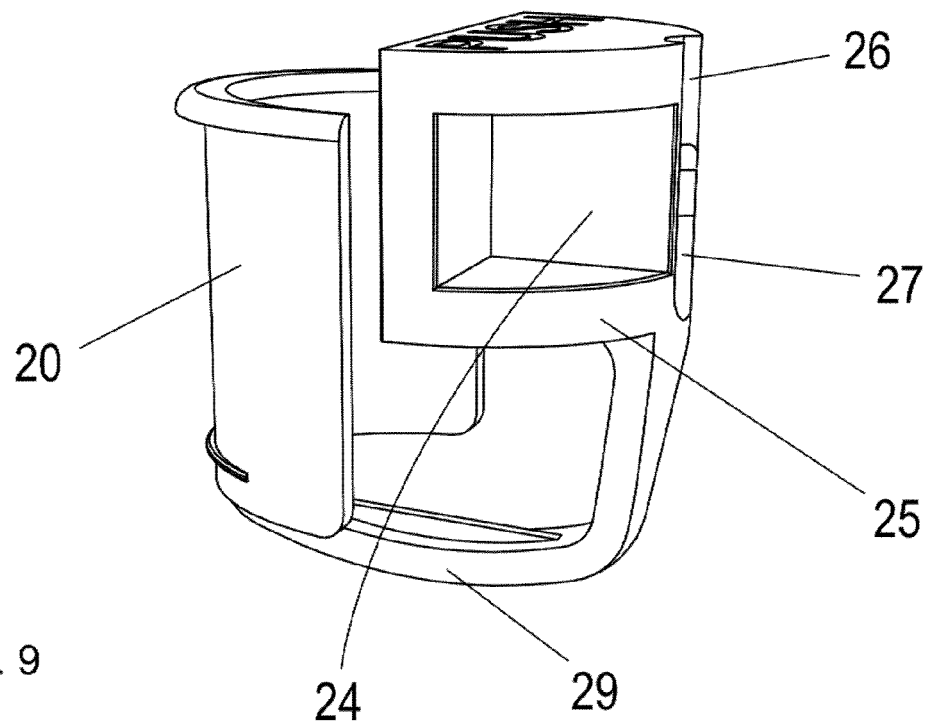
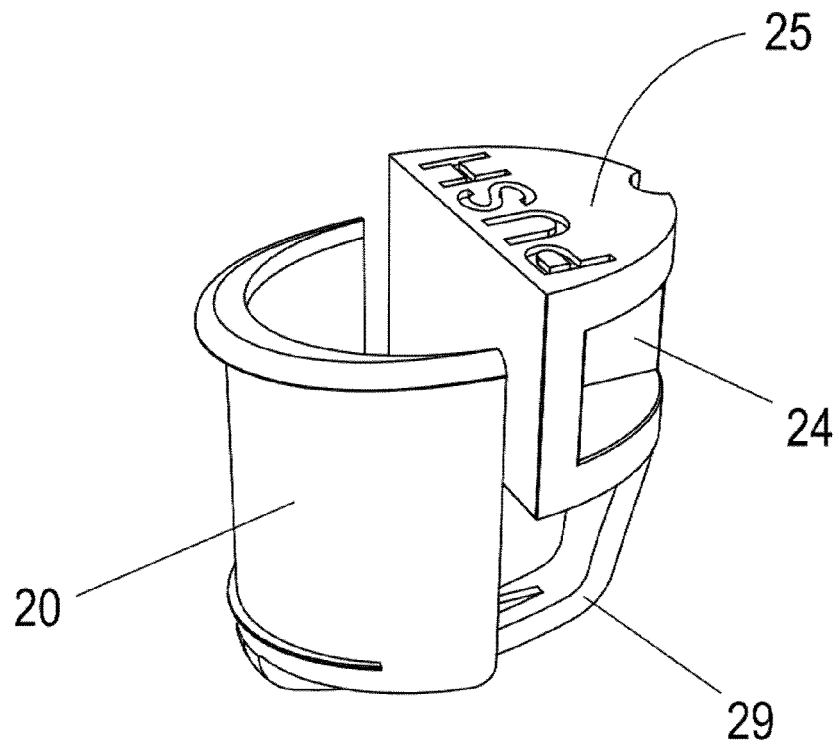
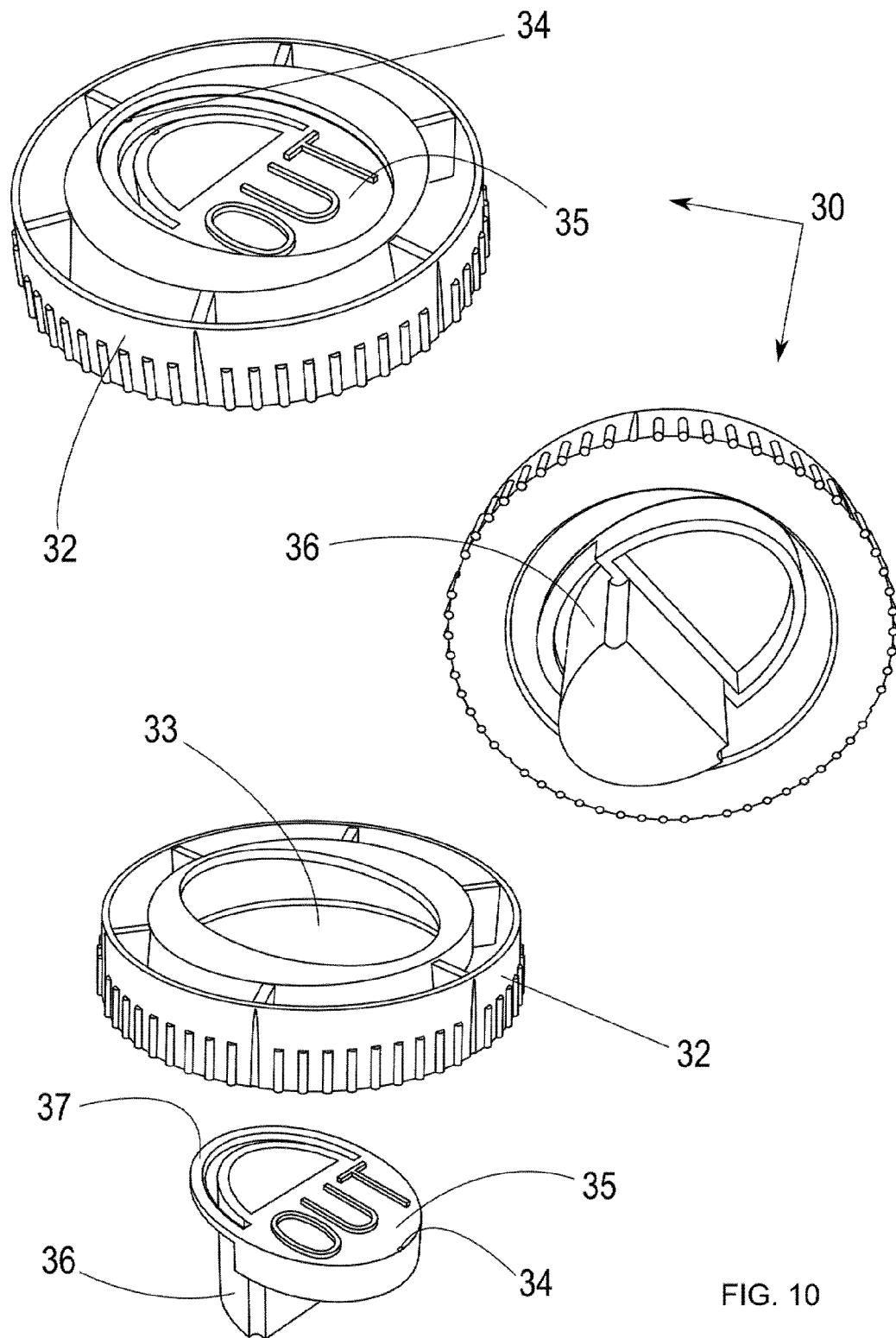


FIG. 9



REFERENCES CITED IN THE DESCRIPTION

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