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(11)

EP 1 473 242 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.11.2004 Bulletin 2004/45

(51) Int Cl.7: **B65D 47/24**

(21) Application number: **04380098.6**

(22) Date of filing: **29.04.2004**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PL PT RO SE SI SK TR**
Designated Extension States:
AL HR LT LV MK

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(30) Priority: **29.04.2003 ES 200301053 U**
29.04.2004 ES 200401033 U

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(54) **Carafe tap-stopper**

(57) Incorporating a pourer (1, 100) that has a central closed sector (2, 200) that incorporates a horizontal projection (3), like a ring in which there are a number of openings (5) for the passing of the liquid stored in the carafe (35), a body (6, 600) that has an enwrapping flap (8) that joins externally to a vertical flap (16) of the pourer (1, 100); and having a central cylindrical area that

forms a pouring tube (7, 700), and a cap (11, 110) that is joined onto the pouring tube (7, 700). The base of the central sector (2, 200) of the pourer (1) incorporates a lower extension from which a number of inclined fins (30) oriented radially and outwards, project; to form contact surfaces for the liquid prior to its outflow through the openings (5), so that the liquid passes out through these latter in laminar state.

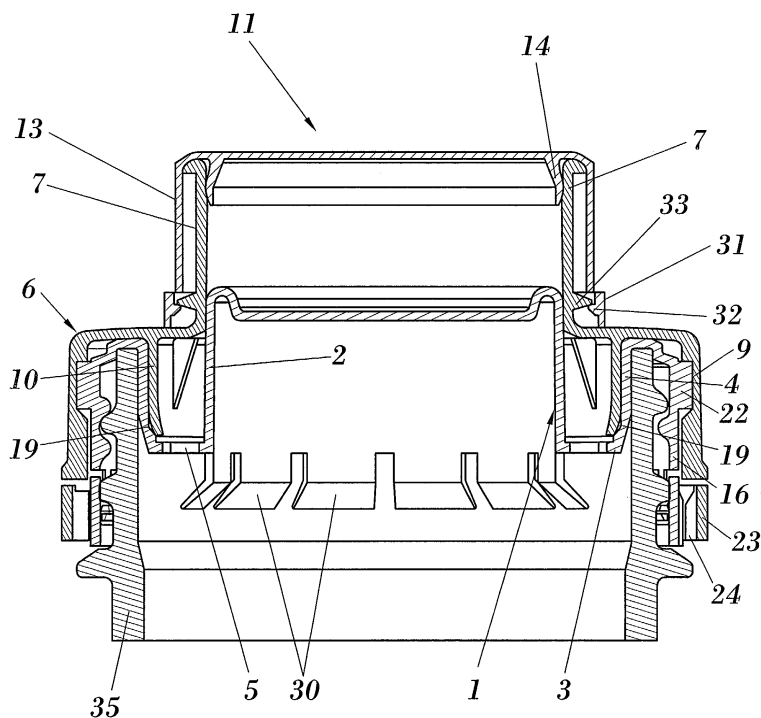


FIG. 1

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Description

OBJECT OF THE INVENTION

[0001] The present invention refers a tap stopper for carafes and similar of the type that basically has three parts, a pourer attached to the neck of the carafe, that incorporates a number of peripheral slots for the passing of the liquid, a body that is attached externally by threading onto the pourer and that internally incorporates a pouring tube, to which the pourer can move to allow the outlet of the liquid or to block its way, and a closing cap that covers the pouring tube.

[0002] It is an object of the invention that the tap stopper incorporates means intended to avoid turbulence in the liquid outflow, achieving a laminar state.

[0003] Means of tamper-proofing and of hermetic sealing that guarantee the conditions of closure between the cap and the pouring tube, as well as between the pourer and the body of the stopper, are likewise object of the invention.

BACKGROUND TO THE INVENTION

[0004] Tap stoppers for application in bottles or cans, as is the case of Invention Patent IT IS 2 180 395, essentially have a pourer fixed within the neck of the container, a stopper that threads onto said neck that has a pouring tube, and a cap hinged to the stopper.

In order to guarantee fixation between the pourer and the neck, the pourer, that fits at pressure into the mouth of the bottle, is externally prolonged in an internal projection that complements another projection provided in the upper part of the neck to establish mutual anchoring and to prevent the involuntary separation of the pourer.

[0005] In addition to the conventional pouring tube, this stopper is supplemented by a hinged cap that is fitted with a plug formed by a concentric neck fitted with an external projection that complements another internal one provided in the pouring tube to form a means of obstruction between both parts in the closed position of the cap.

[0006] In the Utility Model ES 1 034 112 called perfected dispenser stopper, that similarly has a pourer, stopper and cap, the pourer tightly fits at pressure in the neck and lacks the supplementary projections that link the neck with the pourer in the aforementioned Patent Invention.

[0007] However, similar to the Invention Patent ES 2 180 395, the Utility Model ES 1 034 112 incorporates a hinged cap that has an external projection in its inner neck, complementing another internal one for joining of the cap and the stopper.

[0008] Likewise in aforementioned Utility Model and Invention Patent the body of the stopper threads directly into the neck of the bottle, furthermore in both cases the stoppers are each supplemented with a tearable sealing

ring that similarly fits onto the neck.

DESCRIPTION OF THE INVENTION

[0009] The carafe tap stopper that is subject of this invention is of the type previously referred to, but with the particularity that it incorporates means that facilitate the controlled outflow of the liquid of the receptacle in a laminar way, as well as means to guarantee the tamper-proofing and the watertightness of the stopper.

[0010] The tap stopper fundamentally consists of: a pourer, which fits in the mouth of the receptacle, through an interior partition and an external flap and that has a central sector, like an inverted bowl, from whose lower edge a horizontal extension provided with windows or slots for the passing of the liquid stored in the receptacle extends; and a body that internally fits in the internal partition of the pourer and that externally is held onto the external flap of the pourer; the top of the body terminating in a pouring tube onto which a cap that closes the stopper attaches.

[0011] Therefore, the outflow of the liquid, through the pourer openings, in laminar flow, is obtained establishing a guided orientation of the liquid during its outflow from the aforementioned openings. For this the base of the central sector of the pourer has a lower extension that incorporates a series of inclined fins externally and radially orientated, which will form the contact surface prior to the outflow of the liquid through the openings, that will determine the stratification of the fluid and therefore its outflow in a laminar manner through said openings.

[0012] This laminar outflow of the fluid is especially advantageous in the case of using these types of stoppers in large carafes, in which the absence of a laminar condition implies a burbling uncontrolled outflow of the liquid, causing as well undesirable splattering.

[0013] The pourer has a number of teats on the exterior surface of its external flap that are housed and slide in channels provided in the internal surface of the enveloping flap of the body regulating the relative movement of these two parts, and therefore the rate of outflow between the closed and that of maximum opening position.

[0014] The body of the stopper has an internal dividing partition that has a perimeter projection that fits at pressure against the interior partition of the pourer, continuously sealing the joint between both parts, avoiding the outflow of liquid through the threaded area of the bottle.

[0015] Two possible configurations of the cap, of the pouring tube and of the means of closing between both, can be differentiated.

[0016] In a first embodiment the closing cap incorporates means of security that guarantee its tamper-proofing and that are formed by a lower band joined to its exterior wall by means of a number of tearable light partitions, the aforementioned band having a number of in-

terior peripheral grippers that are located under a perimeter projection of the pouring tube. Rotation of the cap for its opening causes the rupture of the light partitions, the lower band being retained by the bordering projection of the pouring tube and the freed cap.

[0017] Likewise, the cap has an interior partition concentric with the external wall that has a bend towards the outside, that fits at pressure against the interior wall of the mouth of the pouring tube to establish the closing between both parts.

[0018] The mouth of the pouring tube finishes in a pourer spout that facilitates the outflow of liquid without dripping, and that, when the cap is mounted on the pouring tube, remains fitted at pressure against the internal edge of the cap, forming a second sealing point between both parts.

[0019] Likewise, to guarantee watertightness in the closing between the central sector of the pourer and the pouring tube it is contemplated that the internal wall of the pouring tube is slightly wedged, in order to be fitted at pressure against the external wall of the central sector of the pourer.

[0020] In a second embodiment it is contemplated that the cap is attached by clipping to the pouring tube. To obtain the clipping effect between the cap and the pouring tube, in the external wall of the pouring tube and in the internal one of the cap, twin projections that assist in obtaining the aforementioned effect have been envisaged. Likewise certain watertightness between the cap and the pouring tube is achieved by means of a circumferential internal partition of the cap that acts at pressure against the internal surface of the pouring tube.

[0021] The cap that covers the pouring tube will preferably have an opening knob to facilitate its separation.

[0022] In this second embodiment the watertightness between the central sector of the pourer and the pouring tube is obtained based on that the aforementioned central sector of the pourer has, in its upper closed edge, an enlarged section that forms a circumferential projection that fits at pressure in the interior of the internal wall of the pouring tube, in the closed position of the stopper.

DESCRIPTION OF THE DRAWINGS

[0023] To supplement this description and with the aim of leading to a better understanding of the characteristics of the invention, in accordance with a preferred example of its practical embodiment, as an integral part of this description it is accompanied by a set of drawings where in an illustrative and non-limiting way, the following have been represented:

Figure 1.- Shows a section view of the carafe tap stopper in a closed situation in which its constitutive parts are seen, in accordance with a prime embodiment of the invention.

Figure 2.- Shows a section view of the body of the

tap stopper.

Figure 3.- Shows a section view of the pourer in which the fins that facilitate laminar outflow can be observed.

Figure 4.- Shows a plan view of the pourer likewise in which said wings, seen through the openings or slots for the passing of the liquid, are observed.

Figure 5.- Shows a cut-away view of the cap.

Figure 6.- Shows an opening sequence of the stopper subject of the invention.

Figure 7.- Shows a partially cut-away perspective view of the tap stopper in accordance with a second embodiment of the invention.

Figure 8.- Shows a partially cut-away lateral view of the tap stopper of Figure 7, in closed position.

Figure 9.- Shows a partially cut-away lateral view of the tap stopper in accordance with this second embodiment of the invention, in the open position once the stopper has been unsealed, after removing the cap and after rotating the body in the opening direction.

Figure 10.- Shows an upper perspective view of the pourer in accordance with the second embodiment of the invention.

Figure 11.- Shows a lower perspective view of the stopper body in accordance with the second embodiment of the invention.

PREFERABLE EMBODIMENT OF THE INVENTION.

[0024] In view of the figures it is observed that the carafe tap stopper subject of this invention is of the type that incorporate a pourer (1, 100), a body (6, 600) fitted with a pouring tube (7, 700) and a cap (11, 110).

[0025] In figures 1 to 6 a prime embodiment of the stopper has been shown; and in figures 7 to 11 a second embodiment of the stopper has been shown, with slight variations fundamentally relating to the shape of the cap (11, 110), of the pouring tube (7, 700) and of the means of attachment of the cap (11, 110) onto the pouring tube (7, 700).

[0026] The pourer (1, 100) has a internal vertical partition (4) and an external vertical flap (16), between which the mouth of the carafe (35) fits at pressure, having a closed central sector or area (2, 200), like an inverted bowl, from whose lower edge a horizontal extension (3) projects, provided with slots (5) for the passing of the liquid stored in the receptacle.

[0027] The body (6, 600) of the stopper has an internal

vertical section (10) and an enwrapping flap (8), between which a circumferential hollow to house the internal partition (4) and the vertical flap (16) of the pourer (1, 100) is formed, existing means for the sliding of the body (6, 600) with respect to the pourer (1, 100) that is integral with the neck of the carafe (35).

[0028] Therefore, based on these parts that comprise the tap stopper, the invention centres fundamentally in that the base of the central sector (2, 200) of the pourer (1, 100) incorporates a lower extension from which a number of inclined wings (30), radially and externally orientated, project, as is seen in Figure 1; that are formed into contact surfaces for the liquid prior to its outflow through the slots (5), so that the liquid passes out through these in a laminar state. In figure 4 the layout of the fins (30) below the openings or slots (5) of the pourer (1) is perfectly seen.

[0029] On the other hand it is to be emphasised that the pourer (1, 100) has a number of large teats (22) in the exterior surface of the flap (16) (three large teats (22) in the case of the pourer (100) shown in figure 10 or four large teats (22) in case of the pourer (1) shown one in figure 4), that slide in a channels (9) of the body (6, 600), to allow the rotation of said body (6, 600) and with that the movement of the latter in the closing or opening direction; that is, essentially to separate it with respect to the pourer (1, 100) with the aim of obtaining greater or lesser outflow of liquid or to bring it to the closing limit position.

[0030] In the internal vertical partition (10) of the body (6, 600) an enlarged section of material that determines a perimeter projection (19) has been planned, that, at all times, seals the joint of this internal vertical partition (10) and the wall (4) of the pourer (1, 100) on which it slides in the opening and closing operations of the stopper, thus avoiding the egress of liquid through the threaded area of the carafe (35).

[0031] The body (6, 600) has a guarantee ring or seal (23) attached the flap (8) of the aforementioned body (6, 600), by means of the classic ties appropriately separated to achieve a weakened connection. The ring (23) has a number of internal grippers (24) that mesh with equivalent external ones (25) formed in the end external surface of the exterior vertical flap (16) of the pourer (1, 100), in such a way that on opening the stopper for the first time the obligatory rotation of the body (6, 600) on the pourer (1, 100), fixed to the neck of the carafe (35) produces the rupture of the ties that join the guarantee ring (23) to the flap (8), producing the separation of the aforementioned ring from the body (6) or, what is the same, producing the unsealing of the stopper.

[0032] In a primary embodiment it is envisaged that the cap (11) has an external wall (13) that extends into a lower band (31) joined to the external surface of the wall (13) by means of a number of tearable light partitions (36), the aforementioned lower band (31) incorporating a number of internal peripheral grippers (32) that are placed below a perimeter projection (33) that ex-

tends externally from the pouring tube (7). In this way, the lower band (31) is retained by the bordering projection (33) once the light partitions (36) have been broken to liberate the cap (11), by means of rotation of this latter.

[0033] Likewise, the cap (11) has an interior partition (14) concentric with its external wall (13), that has an outwards oriented bend, through which it fits at pressure against the internal wall of the pouring tube (7), forming a means of closing of the cap (11).

[0034] In addition the mouth of the pouring tube (7) has a pourer spout (34) that facilitates the outflow of liquid without dripping, and that remains fitting at pressure against the lower face of the cap (11), in the closed position of this latter, forming a second point of watertightness between both pieces.

[0035] The pouring tube (7) has a smaller diameter in his upper area next to the outlet than in its lower area, causing a certain wedging that facilitates its attachment at pressure onto the external wall of the central sector (2) of the pourer (1), guaranteeing in this way watertightness between both pieces when the stopper is closed.

[0036] In a second embodiment of the stopper subject of this invention the cap (110) incorporates an opening knob (12) and it has a blocking partition (140) internally and concentrically with its external wall (130) that joins in contact with an internal wall (15) that is extended after a double bending from the pouring tube (700).

[0037] The cap (110) is joined to the pouring tube (700) of the stopper body (600) by clipping, which is achieved by means of twin circumferential projections (21) provided respectively in the external surface of the pouring tube (700) and in the interior of the cap (110).

[0038] In the top edge of the central sector (200) of the pourer (100) a circumferential projection (18) has been planned that fits at pressure against the internal surface of the pouring tube (700), in the closed position of the stopper, avoiding any escape of liquid between both pieces.

Claims

1. Carafe tap stopper of the type that incorporate:

- a pourer (1, 100) that has a closed central sector (2, 200), like an inverted bowl, that incorporates a horizontal projection (3), like a ring, that extends vertically into an internal partition (4) that, after a double bending, is extended at the bottom to form a vertical flap (16), the stopper remaining positioned, tightly, on the neck of the carafe (35), through the partition (4) and vertical flap (16), the horizontal projection (3) having a number of openings (5) for the passing of the liquid stored in the carafe (35),
- a body (6, 600) that is extended in its central area into a pouring tube (7, 700) and at its lower part into an internal vertical section (10) and an

enwrapping flap (8), between which a circumferential hollow to house the internal partition (4) and the vertical flap (16) of the pourer (1, 100) is formed.

- a cap (11, 110) that is joined onto the pouring tube (7, 700),

characterised in that the base of the central sector (2, 200) of the pourer (1) incorporates a lower extension from which a number of inclined fins (30), radially and externally orientated, project, to form contact surfaces for the liquid prior to its outflow through the openings (5), so that the liquid passes out through these latter in laminar state; likewise because the pourer (1, 100) has at least three large teats (22) placed on the exterior surface of the flap (16) that are housed and slide in channels (9) provided in the internal surface of the enwrapping flap (8) of the body (6, 600) the large teats (22) and the channels (9), forming a connection link between the pourer (1, 100) and the body (6, 600), and, at the same time, forming the means that allow the relative movement of these two pieces for regulating of the output flow of liquid.

2. Carafe tap stopper according to claim 1, **characterised in that** in the internal vertical partition (10) of the body (6, 600) an enlarged section of material that forms a perimeter projection (19) has been planned that at all times seals the joint between this internal vertical partition (10) and the wall (4) of the pourer (1, 100) on which it slides in the opening and closing operations.

3. Carafe tap stopper according to claim 1, **characterised in that** the body (6, 600), in the lower extension of its enwrapping flap (8) has a guarantee sealing ring (23) joined to this by means of a number of weakened ties, a ring that incorporates a number of internal grippers (24) that mesh with equivalent external grippers (25) formed in the end of the flap (16) of the pourer (1, 100), so that when the body (6, 600) is rotated with respect to the pourer (1, 100) the connection ties shear, the stopper becoming unsealed.

4. Carafe tap stopper according to claim 1, **characterised in that** the pouring tube (7) has a smaller diameter in its upper area, next to the outlet, than in its lower area, causing a wedging that facilitates its joining at pressure against the external wall of the central sector (2) of the pourer (1) when the stopper is closed.

5. Carafe tap stopper according to claim 1, **characterised in that** in the top edge of the central sector (200) of the pourer (100) a circumferential projection (18) has been planned that fits, at pressure,

against the internal surface of the pouring tube (700), in the closed position of the stopper, avoiding any escape of liquid between both parts.

6. Carafe tap stopper according to claim 1, **characterised in that** the cap (11) incorporates a lower band (31) that is joined, by means of a number of tearable light partitions (36), to the lower edge of a vertical wall (13) of the cap (11), the lower band (31) having a number of internal peripheral grippers (32) that are placed below a perimeter projection (33) that extends externally from the pouring tube (7), the lower band (31) being retained by the perimeter projection (33) once the light partitions (36) have been broken, to liberate the cap (11).

7. Carafe tap stopper according to claim 1, **characterised in that** the cap (11) has an interior partition (14) that has a bend, oriented outwards, through which it fits at pressure against the interior wall of the pouring tube (7), to establish the closing between both parts.

8. Carafe tap stopper according to claim 1, **characterised in that** the mouth of the pouring tube (7) finishes in a pourer spout (34) that facilitates the outflow of liquid without dripping, and that is in contact at pressure against the lower face of the cap (11) when the cap (11) is in the closed position.

9. Carafe tap stopper according to claim 1, **characterised in that** the cap (110) incorporates an opening knob (12) and has a blocking partition (140) internally and concentrically with its external wall (130) that joins in contact with an internal wall (15) that is extended after a double bending from the pouring tube (700).

10. Carafe tap stopper according to claim 1, **characterised in that** the cap (110) is joined to the pouring tube (700) of the stopper body (600) by clipping, which is achieved by means of twin circumferential projections (21) provided respectively in the external surface of the pouring tube (700) and in the interior of the cap (110).

11. Carafe tap stopper according to claim 1, **characterised in that** the pourer (1, 100) incorporates four large teats (22) in the external flap (16).

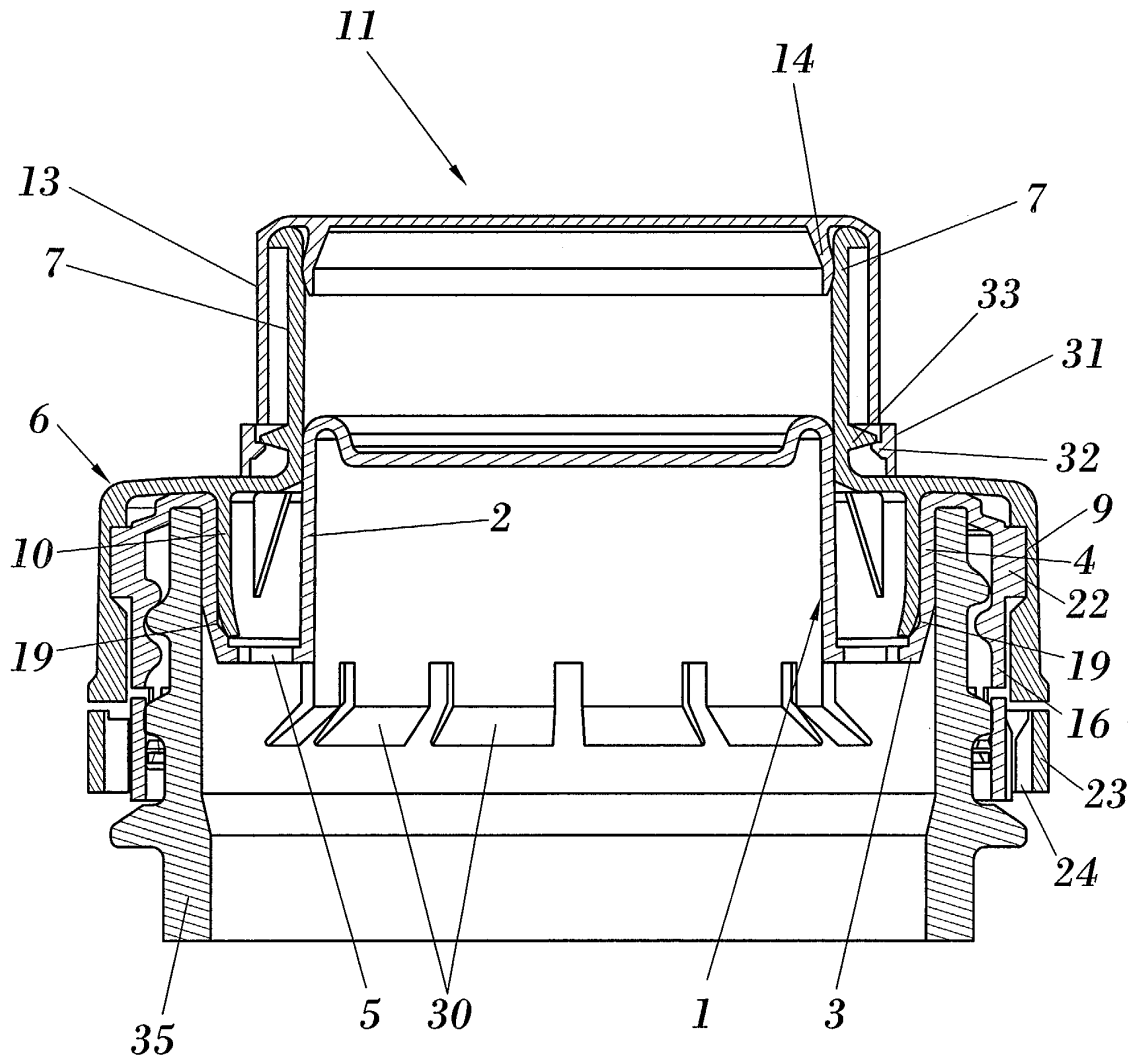


FIG. 1

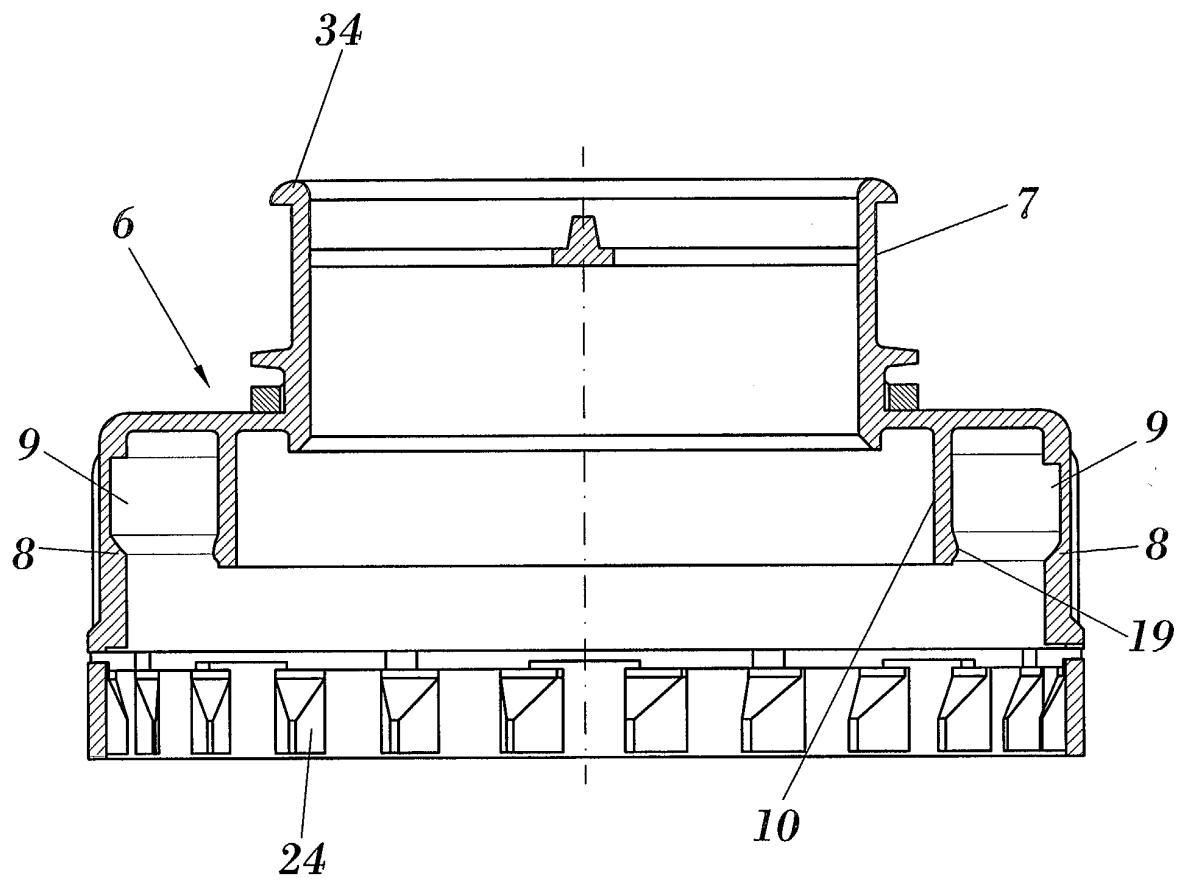


FIG. 2

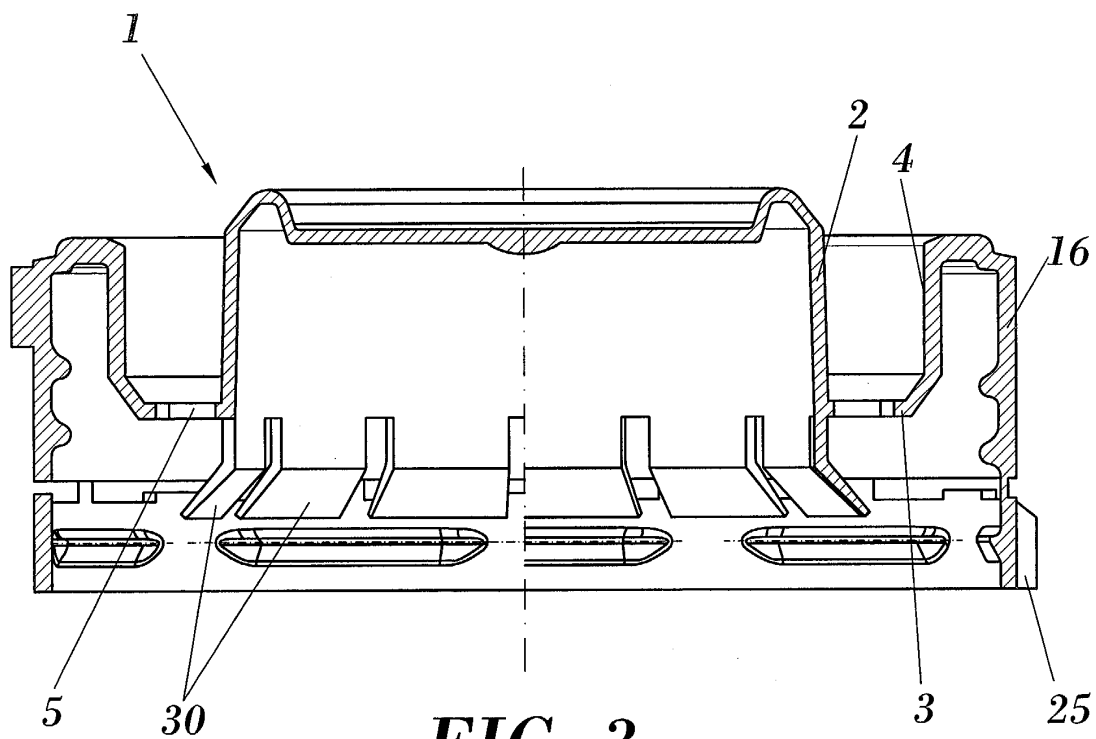


FIG. 3

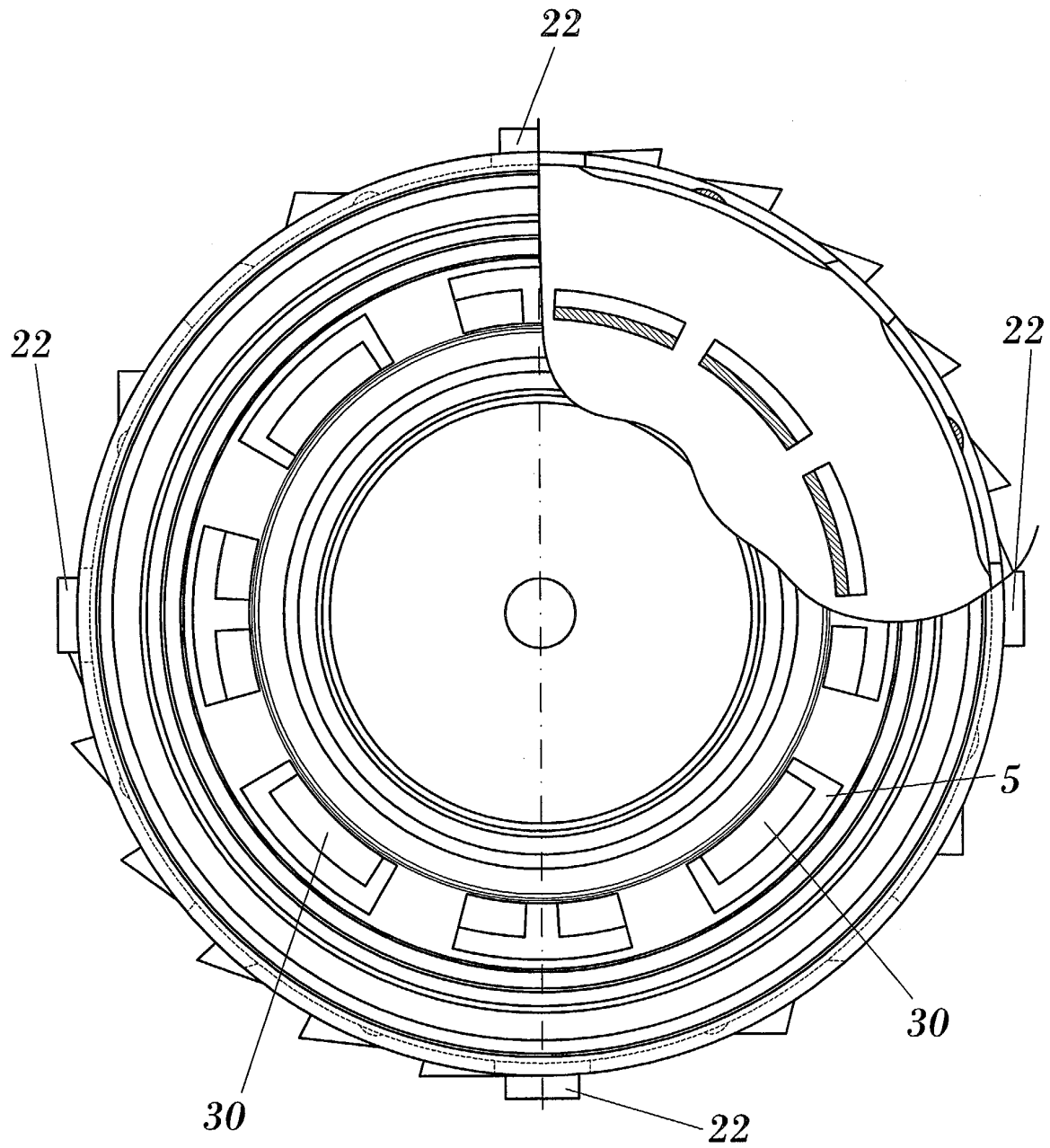
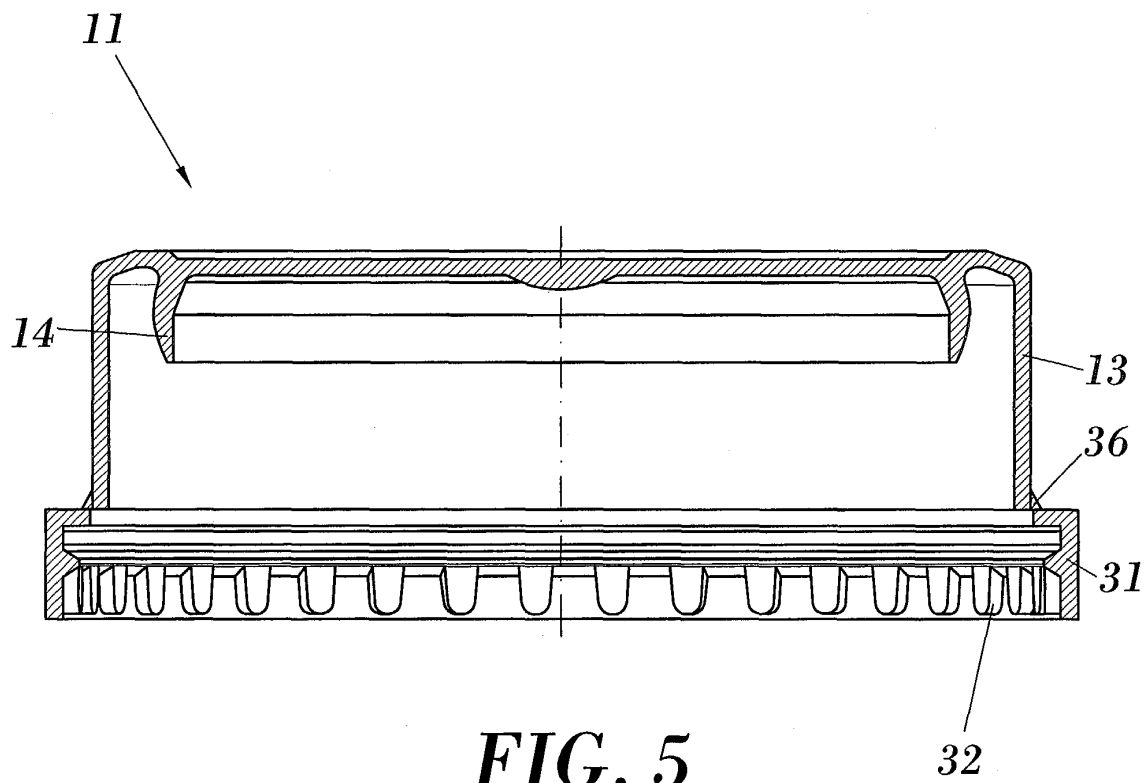


FIG. 4



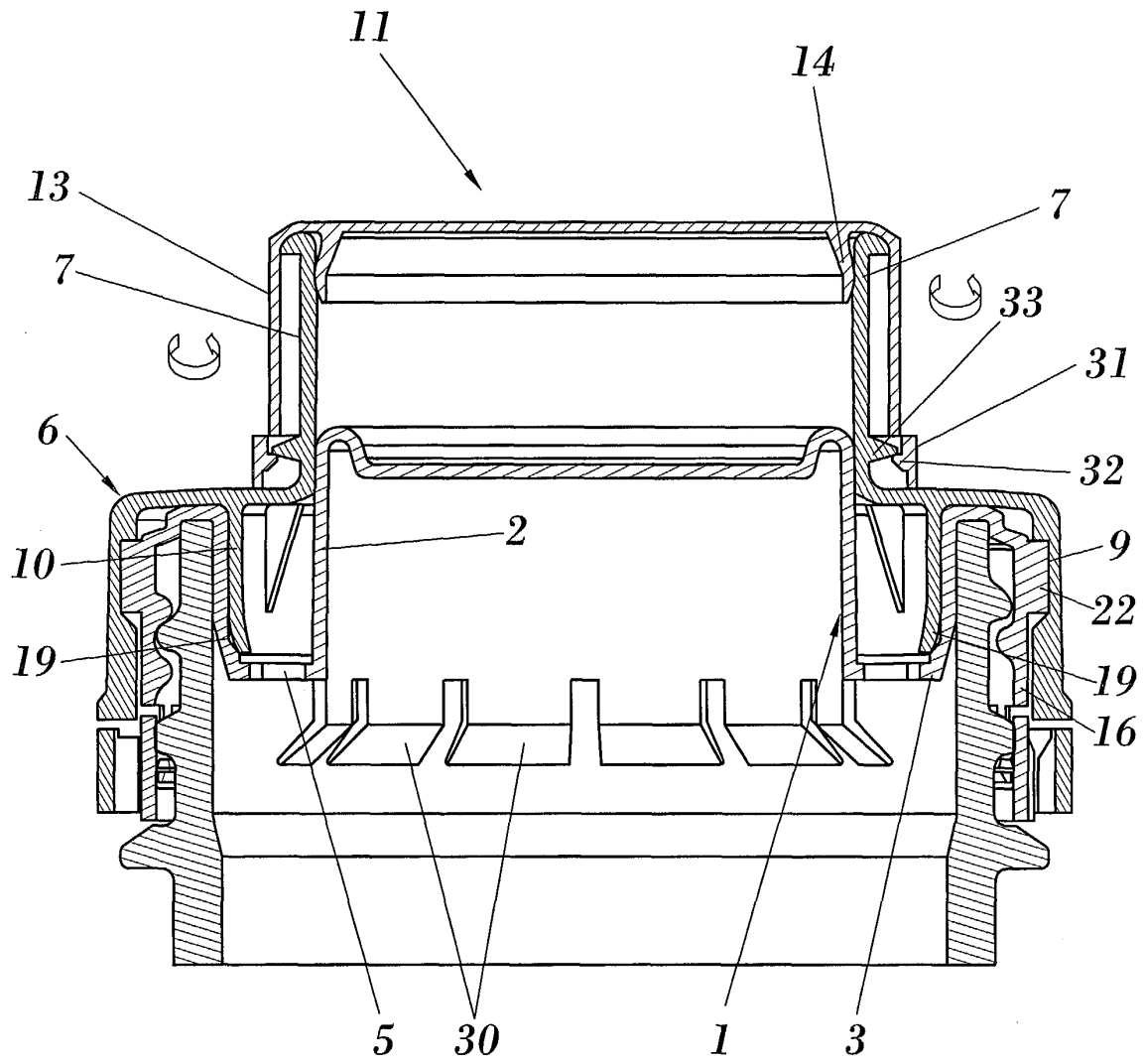


FIG. 6

A

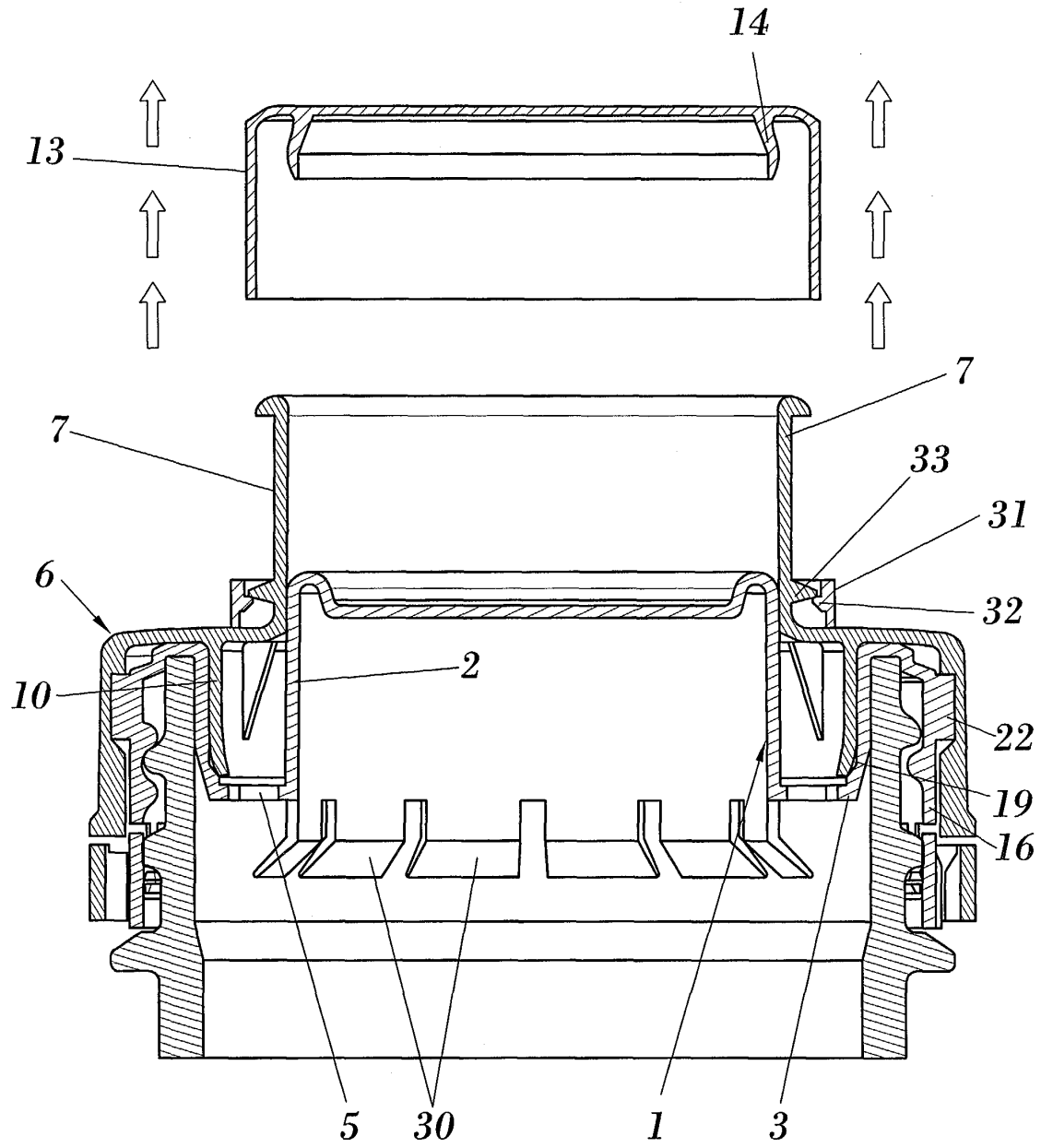


FIG. 6

B

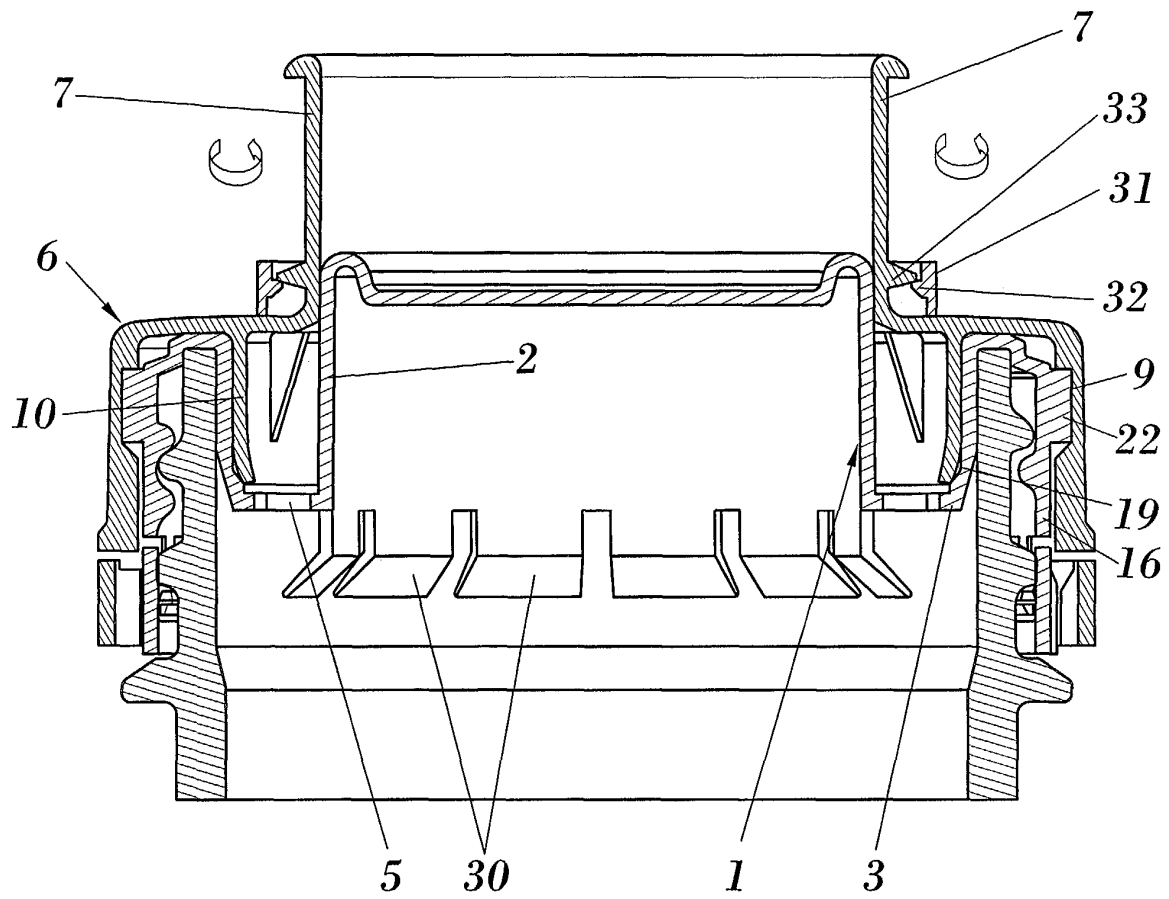


FIG. 6
C

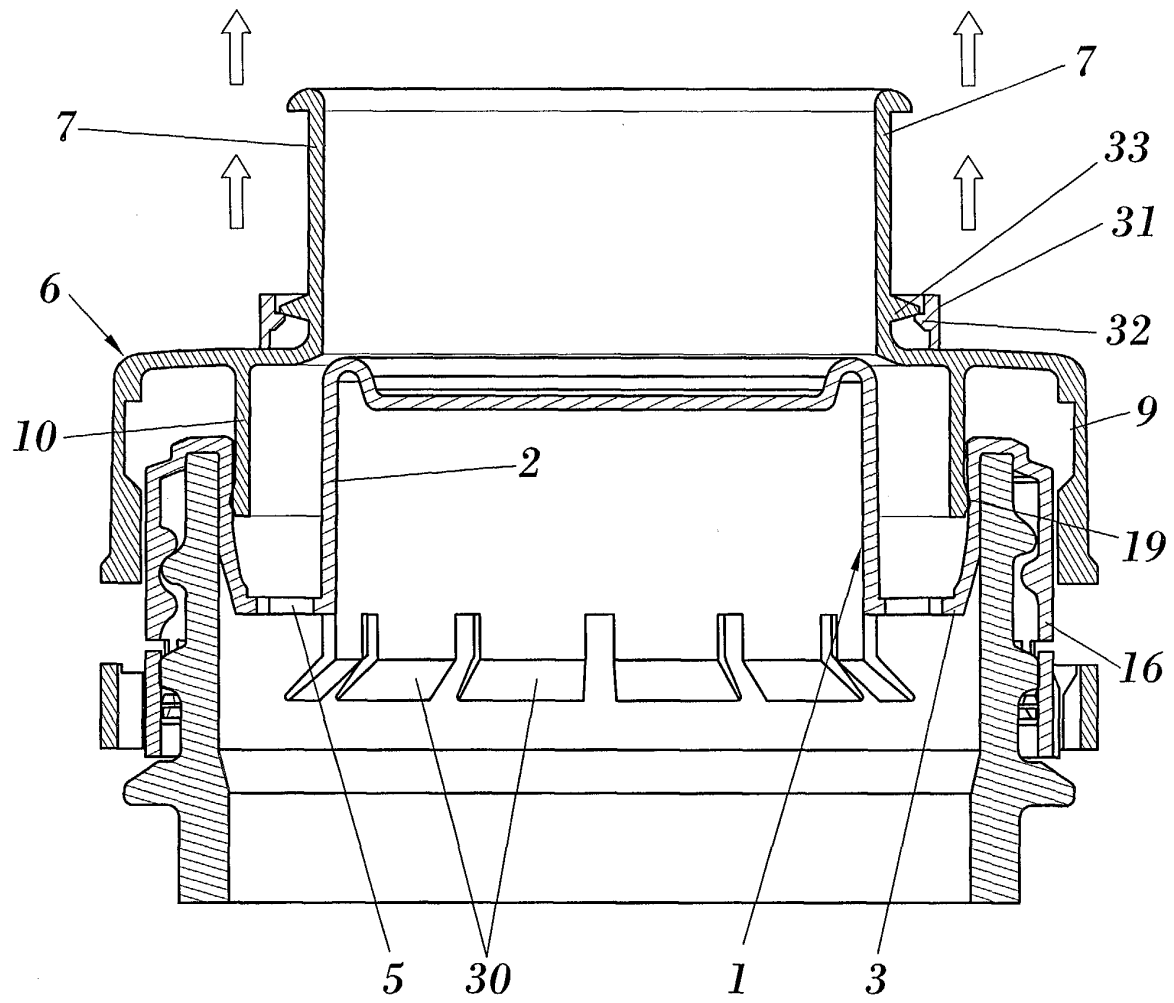


FIG. 6

D

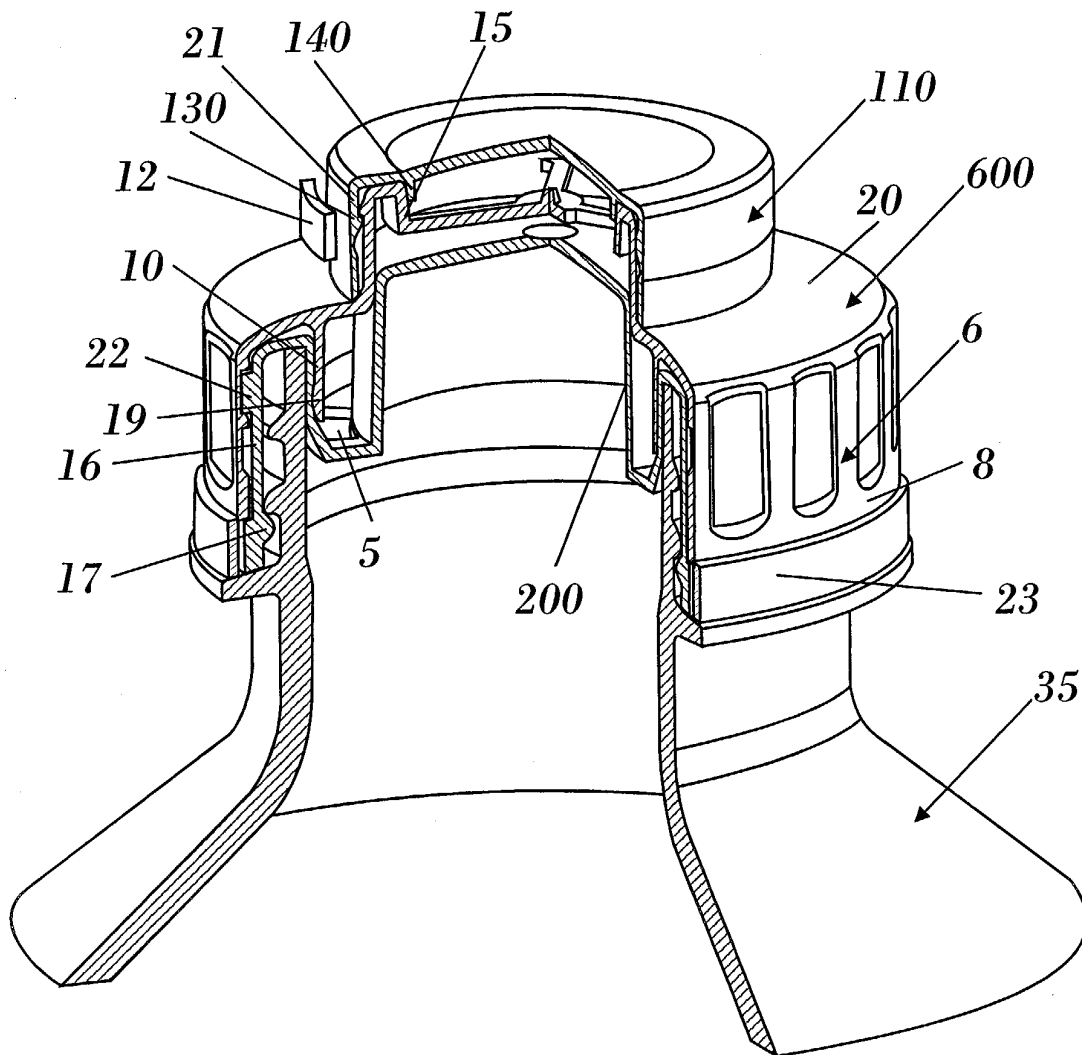


FIG. 7

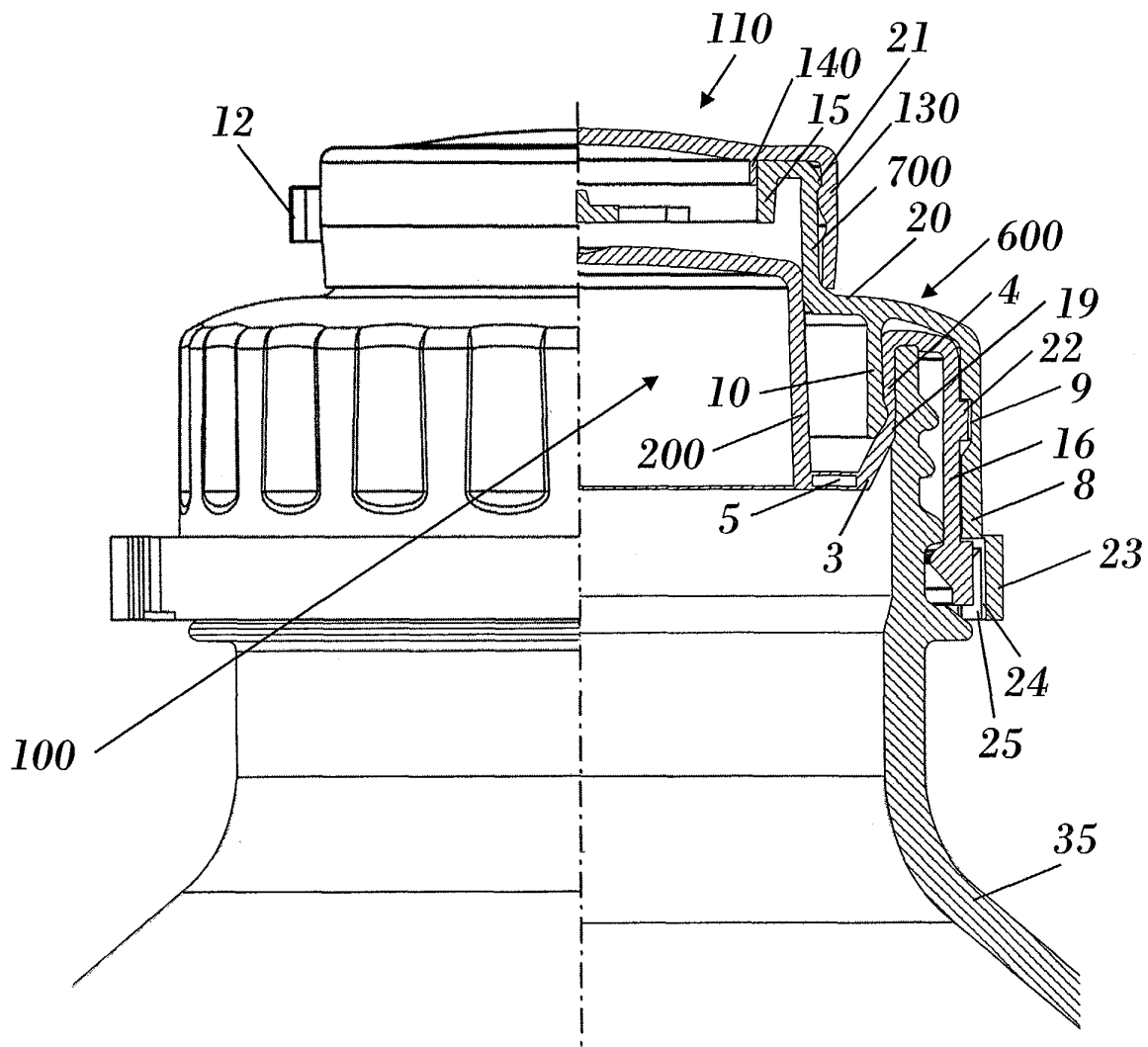


FIG. 8

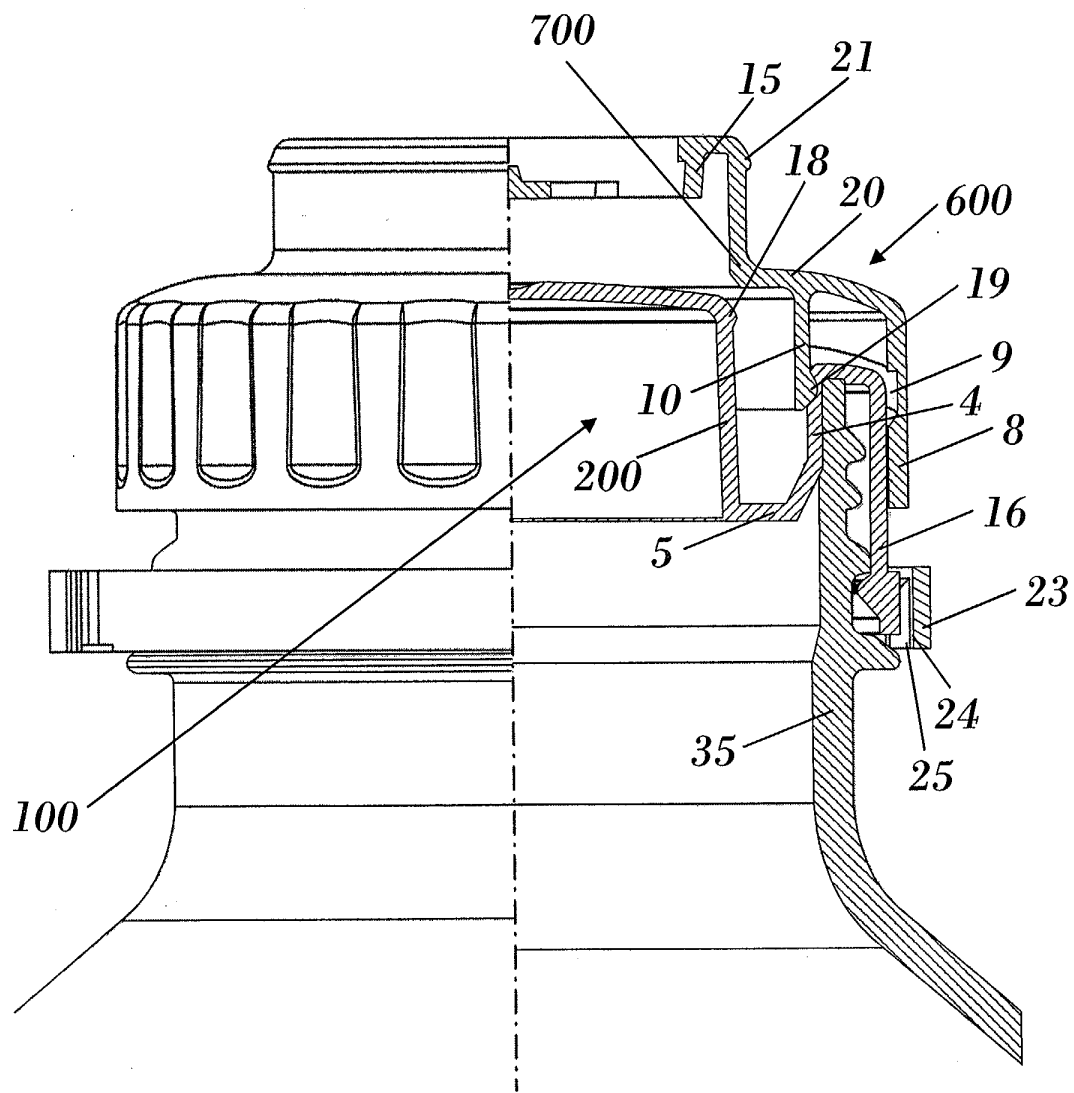


FIG. 9

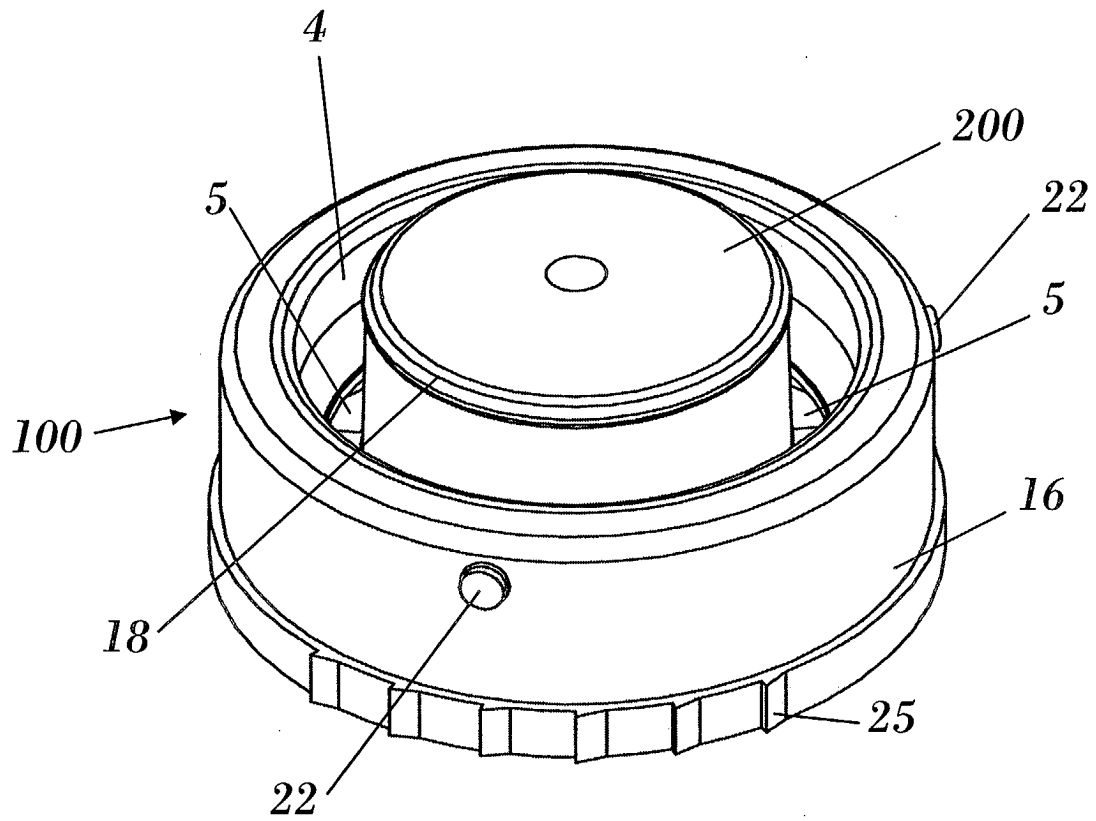


FIG. 10

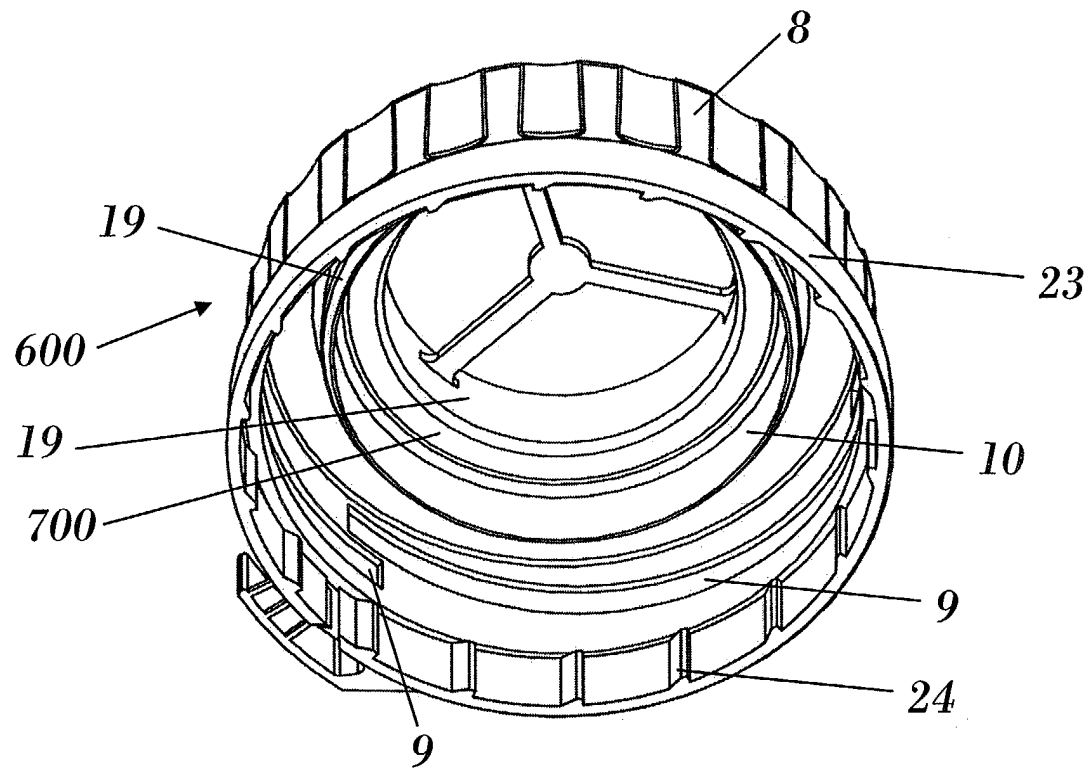


FIG. 11



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 04 38 0098

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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D
Place of search		Date of completion of the search	Examiner
The Hague		20 August 2004	Fournier, J
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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20-08-2004

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