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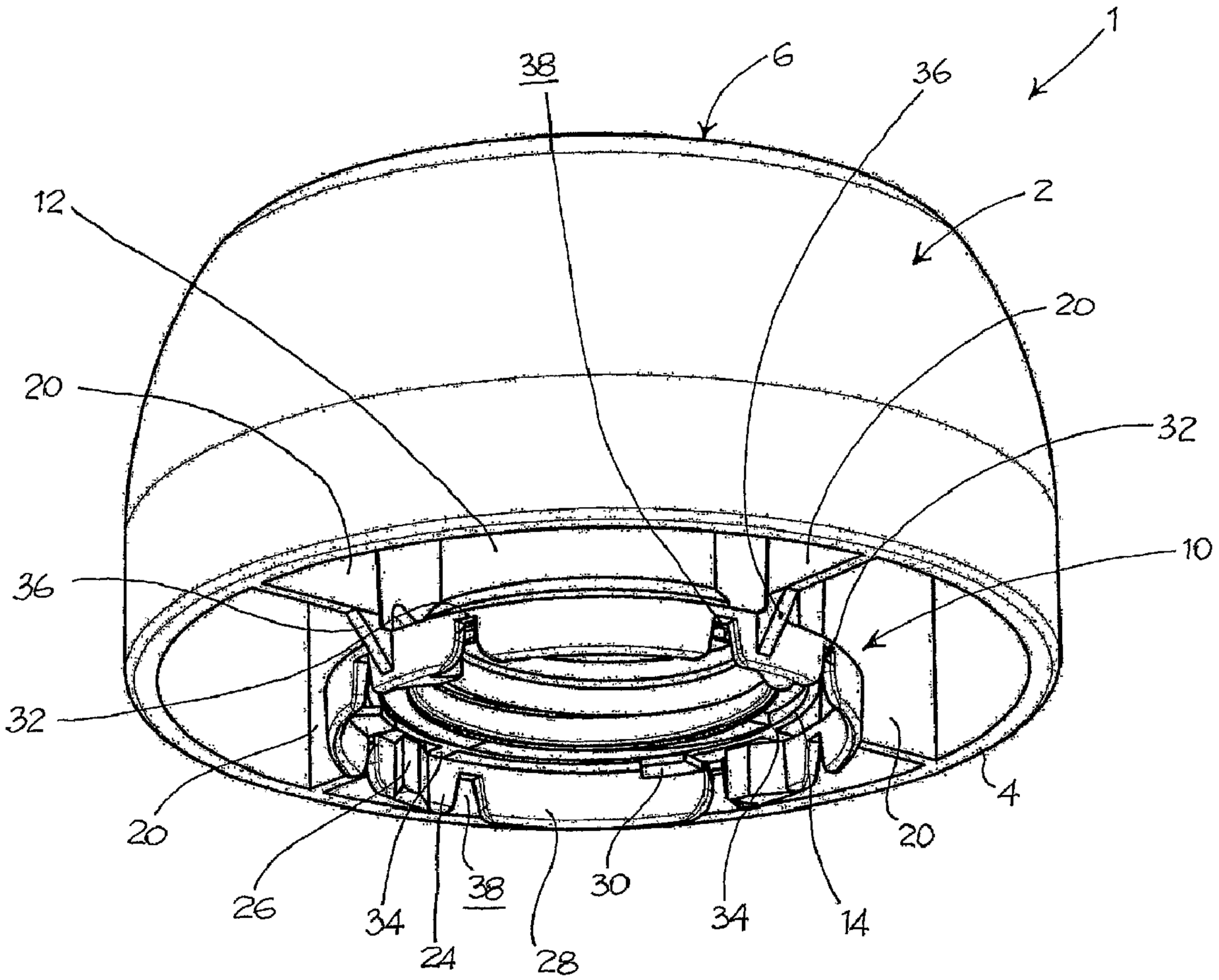
(54) Titre : CAPUCHON POUR RECIPIENT DOTE D'UN CACHET DE GARANTIE
(54) Title: A CAP FOR CONTAINER PROVIDED WITH GUARANTEE SEAL



(57) Abrégé/Abstract:
The object of the present invention is a cap (1) provided with a guarantee seal (10). The guarantee seal consists of guarantee portions comprising an engagement portion (24), a connecting portion (28). The seal further comprises bridges (32) for connecting

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(57) Abrégé(suite)/Abstract(continued):
adjacent guarantee portions to one another and a safety portion (34) that makes the engagement portion (24) integral with the handling portion (2). The safety portion (34) is structurally suitable for keeping the engagement portion (24) constrained in the broken seal configuration, for preventing the forming of dangerous spikes.

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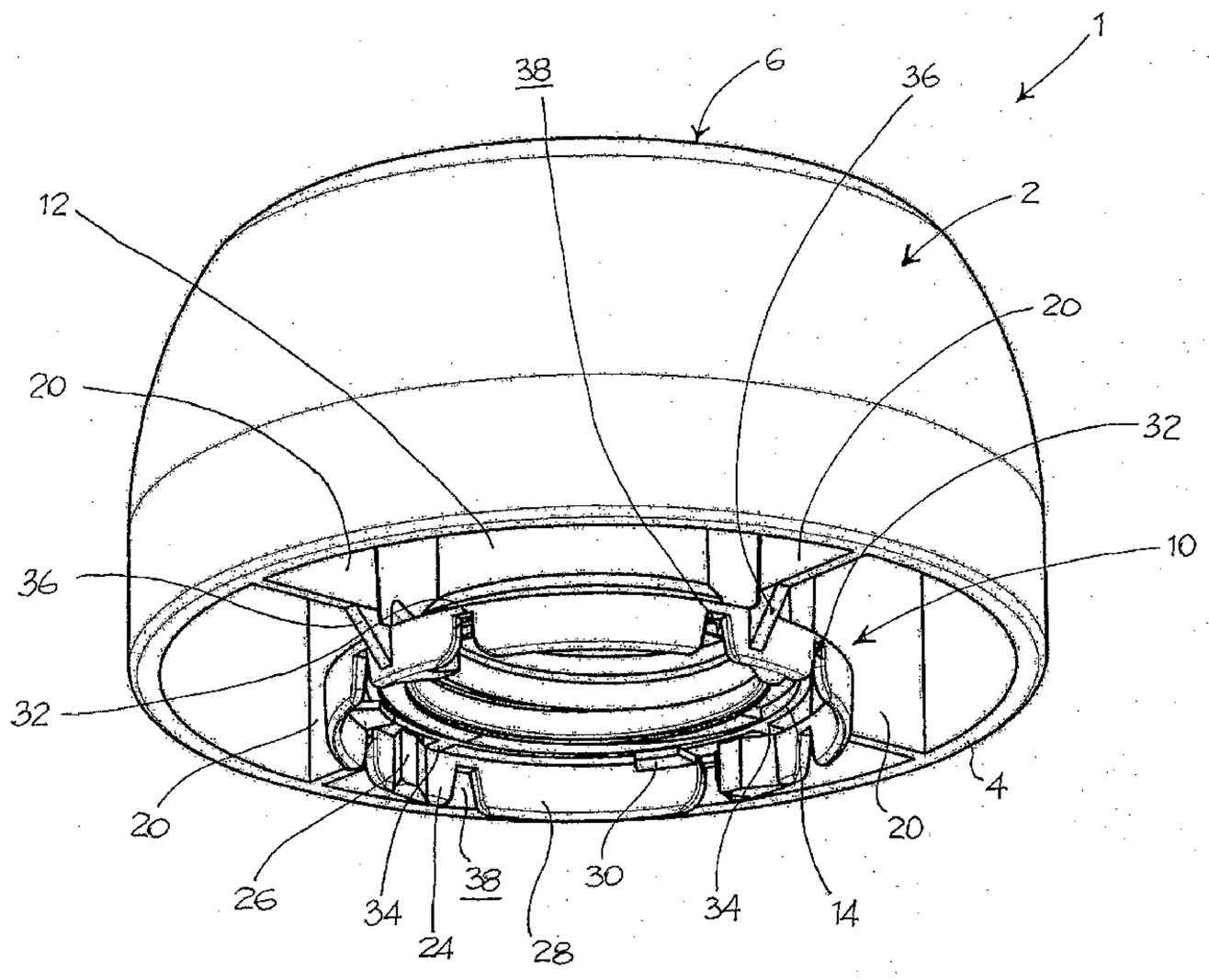
(54) Title: A CAP FOR CONTAINER PROVIDED WITH GUARANTEE SEAL



(57) Abstract: The object of the present invention is a cap (1) provided with a guarantee seal (10). The guarantee seal consists of guarantee portions comprising an engagement portion (24), a connecting portion (28). The seal further comprises bridges (32) for connecting adjacent guarantee portions to one another and a safety portion (34) that makes the engagement portion (24) integral with the handling portion (2). The safety portion (34) is structurally suitable for keeping the engagement portion (24) constrained in the broken seal configuration, for preventing the forming of dangerous spikes.

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A CAP FOR CONTAINER PROVIDED WITH GUARANTEE SEAL

[0001] The present invention relates to a cap for container with guarantee seal, that is, a cap provided with a seal which upon the first opening, undergoes breakage, thus indicating the occurrence of the opening or tampering of the container.

[0002] Known in the art are the following US documents: 3,601,273; 3,767,077; 3,770,156; 3,812,991; 4,480,761; 4,529,096; 4,744,479; 4,744,480; 4,796,770; 4,813,562; 4,844,272; 5,040,692; 5,080,246; 5,249,704; 5,648,037; 5,853,095; 5,992,661; 6,202,871; 6,264,052 B1; 6,327,770 B1; 6,581,792 B1; 6,604,647 B1; 6,685,061 B2; 6,729,488 B2; 7,097,058 B2; 7,413,097 B1; 7,513,377 B1; 7,575,123 B2; 2002/0088814 A1; 2004/0200797 A1; 2005/0045578 A1; 2006/0043056 A1; and 2009/0152269 A1.

[0002a] Also known in the art are the following documents: EP 0,688,724 B1; EP 1,407,977 A1; EP 1 676 783 A1; JP 10-181758; JP 2002-104447; JP 2004-231229; JP 2004-331124; WO 2004/045977 A1; WO 2004/108545 A1.

[0002b] As known in the art, caps with guarantee seal have become much widespread since they allow the consumer to ensure that the container has not been already opened or tampered. Such guarantee is especially appreciated in the field of containers for alimentary pastas or liquids, for example fruit juices, wherein the opening of the container could cause the deterioration of the contents or sometimes, the introduction of undesired substances in the container.

[0003] Fruit juice containers, in particular, are normally used by children, so a set of more or less strict standards according to the Country, prescribe some safety requirements the caps must meet.

[0004] The standards usually impose some restrictions on the cap dimensions so as to prevent

the possibility that they are swallowed by the children.

[0005] For the caps currently known, once the cap is unscrewed the guarantee seal breaks into a set of portions that remain associated to the cap body, so the possibility that such portions are swallowed by the children should be substantially prevented.

[0006] However, besides being weakly associated to the cap body, they form spikes that dangerously protrude from the cap body. The spikes could harm hurt the child's eyes or they could be detached from the cap body with the teeth and swallowed.

[0007] The object of the present invention is to make a cap for containers provided with a guarantee seal which should be especially safe to be used even by children.

[0008] Such object is achieved by a cap such as the one described herein.

[0008a] More particularly, according to one aspect of the present invention, there is provided a cap suitable for being associated to a coupling portion of a container and suitable for being disconnected by rotation about an axis of rotation from said coupling portion,
wherein said coupling portion comprises resistant elements suitable for engaging said cap; and wherein said cap comprises:
- a handling portion suitable for being rotated by a user for disconnecting the cap from the container;
- a guarantee seal, integral with said handling portion and comprising a plurality of guarantee portions, wherein said seal exhibits breaks in a broken seal configuration;
wherein at least one of said guarantee portions comprises:
- an engagement portion having at least one engagement element suitable for engaging with said resistant elements of the coupling portion for preventing the rotation of the guarantee seal;
- a connecting portion, connected to said engagement portion, having at least one connecting

element which makes said connecting portion integral to the handling portion;
and wherein said guarantee seal comprises at least one bridge which connects adjacent guarantee portions to one another, said bridge being suitable for breaking by rotation of the handling portion relative to said guarantee seal;
said cap being characterised in that
said guarantee seal further comprises a safety portion that makes said engagement portion integral with said handling portion, said safety portion being structurally suitable for keeping the engagement portion constrained in the broken seal configuration.

[0008b] According to another aspect of the present invention, there is also provided a closing device for a container comprising:
- a coupling portion provided with a tubular straw, said coupling portion being suitable for being associated to said container;
- a cap such as the one described herein, associated to said coupling portion.

[0008c] According to yet another aspect of the present invention, there is also provided a container assembly comprising
- a container;
- a closing device such as the one described herein, coupled to said container.

[0009] The features and advantages of the cap according to the present invention will appear more clearly from the following description, made by way of an indicative and non-limiting example with reference to the annexed figures, wherein:

[0010] - figure 1 shows a perspective bottom view of the cap according to the present invention, provided with a guarantee seal in an intact seal configuration;

[0011] - figure 2 shows a further perspective view of the cap of figure 1;

[0012] - figure 3 shows a plan side view of the cap of figure 2;

[0013] - figure 4 shows a closing device comprising the cap according to the present invention and a coupling portion to the container, wherein the guarantee seal is in an incipient breakage configuration;

[0014] - figure 5 shows the closing device of figure 4 in an intact seal configuration;

[0015] - figure 6 shows a section view obtained according to line VI-VI of figure 5; and

[0016] - figure 7 shows a perspective view of the cap according to the present invention, in a broken seal configuration.

[0017] With reference to the annexed figures, reference numeral 1 globally indicates a cap suitable for being associated to a coupling portion 100 of a container, preferably deformable.

[0018] The coupling portion 100 of the container is generally provided with a tubular straw 102, for dispensing the contents from the container, to which the cap is associable.

[0019] At the base of straw 102, the coupling portion 100 comprises at least one

resistant element 104 suitable for engaging the cap for preventing the rotation thereof, at least upon the first opening of the container.

[0020] According to a preferred embodiment, the coupling portion 100 further comprises welding walls 106 for welding portion 100 to the container walls.

[0021] Cap 1 is suitable for being disconnected from the coupling portion 100 of the container, generally by rotation about an axis of rotation Z-Z, and comprises a guarantee seal 10 which, upon the first opening of the container, that is, upon the first unscrewing of cap 1 from the coupling portion 100, undergoes breakage that proves the occurrence of the opening.

[0022] Cap 1 comprises a handling portion 2 suitable for being rotated by a user for disconnecting cap 1 from the container.

[0023] According to a preferred embodiment, the handling portion 2 extends axially from a bottom edge 4, close to the guarantee seal 10, to an upper edge 6. In particular, the guarantee seal 10 axially protrudes underneath the lower edge 4 of the handling portion 2.

[0024] Preferably, moreover, the lower edge 4 of the handling portion 2 radially extends externally to the guarantee seal 10.

[0025] According to a preferred embodiment, moreover, cap 1 comprises an inner annular wall 12, for example internally threaded for allowing the screwing and/or unscrewing of cap 1 from the coupling portion 100.

[0026] The inner annular wall 12 axially extends between a lower edge 14, close to the guarantee seal 10, and an upper edge 16.

[0027] Cap 1 further comprises a closing bottom 18, arranged at the upper edge 16 of the inner annular wall 12, for closing thereof and thereby the container.

[0028] According to a preferred embodiment, moreover, cap 1 comprises at least

one tongue 20, for example flat, arranged on a longitudinal plane passing by the axis of rotation Z-Z of the cap. In particular, cap 1 comprises four tongues 20, arranged angularly equally spaced.

[0029] Said tongues 20 connect the handling portion 2 to the inner annular wall 12.

[0030] According to a preferred embodiment, said cap comprises safety passages 21 passing through the outer enclosure of the cap, for example through the handling portion 2.

[0031] Advantageously, said safety passages allow the passage of air through the handling portion in the event the cap, while meeting the strictest standards envisaged on this subject, is accidentally swallowed.

[0032] According to a preferred embodiment, said safety passages 21 are obtained between said tongues 20 for the connection between the handling portion 2 and the inner annular wall 12.

[0033] The guarantee seal 10, which extends as a tape annularly about said axis of rotation Z-Z, comprises a plurality of guarantee portions 22, connected to one another in an intact seal configuration, that is, prior to the first opening of the container, and separate from each other in a broken seal configuration, that is, after the first opening of the container.

[0034] The guarantee portion 22 comprises an engagement portion 24 having at least one engagement element 26 suitable for engaging with said resistant elements 104 of the coupling portion 100, for preventing the rotation of the guarantee seal.

[0035] Moreover, the guarantee portion 22 comprises a connecting portion 28, connected to said engagement portion 24 and having at least one connecting element 30 which makes said connecting portion 28 integral to the handling portion

2.

[0036] Moreover, the guarantee seal comprises at least one bridge 32 that connects said guarantee portions 22 to one another. Said bridge 32 is suitable for breaking by rotation of the handling portion 2 relative to said guarantee seal 10.

[0037] The guarantee seal 22 further comprises a safety portion 34 that makes the engagement portion 24 integral with the handling portion 2. The safety portion 34 is structurally suitable for keeping the engagement portion 24 connected to the handling portion 2 in the broken seal configuration.

[0038] In other words, even when the guarantee seal undergoes breakage, thus indicating the occurrence of the opening of the container, the safety portion 34 keeps the engagement portion 24 constrained, so as not to form dangerous spikes.

[0039] Moreover, for higher safety, according to a preferred embodiment, the safety portion 34 comprises a reinforcing element 36 that connects said safety portion 34 to tongue 20.

[0040] Preferably, moreover, a loop 38 is obtained between the engagement portion 24 and the connecting portion 28, which advantageously allows settling the engagement portion 24 and the connecting portion 28 in the broken seal configuration.

[0041] Innovatively, the cap according to the present invention is especially safe, especially to be used by children.

[0042] In particular, even when detached from one another due to the tearing undergone by the bridges which makes them break, the guarantee portions maintain a limited length, so as not to form dangerous spikes.

[0043] Advantageously, moreover, the guarantee portions are strongly constrained to the inner annular wall, so as to not be torn away, for example with the mouth.

[0044] It is clear that a man skilled in the art can make changes and adjustments to the cap described above in order to meet specific and incidental needs, all falling within the scope of protection defined in the following claims.

Claims

1. A cap (1) suitable for being associated to a coupling portion (100) of a container and suitable for being disconnected by rotation about an axis of rotation (Z-Z) from said coupling portion,

wherein said coupling portion comprises resistant elements (104) suitable for engaging said cap;

and wherein said cap comprises:

- a handling portion (2) suitable for being rotated by a user for disconnecting the cap from the container;

- a guarantee seal (10), integral with said handling portion and comprising a plurality of guarantee portions (22), wherein said seal exhibits breaks in a broken seal configuration;

wherein at least one of said guarantee portions comprises:

- an engagement portion (24) having at least one engagement element (26) suitable for engaging with said resistant elements (104) of the coupling portion (100) for preventing the rotation of the guarantee seal;

- a connecting portion (28), connected to said engagement portion (24), having at least one connecting element (30) which makes said connecting portion (28) integral to the handling portion (2);

and wherein said guarantee seal comprises at least one bridge (32) which connects adjacent guarantee portions to one another, said bridge being suitable for breaking by rotation of the handling portion (2) relative to said guarantee seal (10);

said cap being characterised in that

said guarantee seal further comprises a safety portion (34) that makes said engagement portion (24) integral with said handling portion (2), said safety portion

(34) being structurally suitable for keeping the engagement portion (24) constrained in the broken seal configuration.

2. A cap according to claim 1 , comprising:

- an inner annular wall (12) axially extended between a lower edge (14), close to the guarantee seal, and an upper edge (16);

- a closing bottom (18) arranged at the upper edge (16), for closing said inner annular wall (12);

wherein said inner annular wall is integral with said handling portion and said lower edge (14) of the inner annular wall is radially internal to said guarantee seal (10).

3. A cap according to claim 2, wherein the inner annular wall (12) is internally threaded for allowing the screwing and/or unscrewing from said coupling portion of the container.

4. A cap according to claim 2 or 3, wherein said safety portion (34) connects said engagement portion (24) of the guarantee seal with said inner annular wall (12).

5. A cap according to claim 4, wherein said safety portion (34) connects said engagement portion (24) of the guarantee seal with the lower edge (14) of said inner annular wall (12).

6. A cap according to any one of claims 2 to 5, wherein said handling portion (2) extends annularly about said inner annular wall (12), radially spaced therefrom, and axially between a bottom edge (4), close to the guarantee seal, and an upper edge (6).

7. A cap according to claim 6, wherein said lower edge (4) radially extends externally to said guarantee seal (10).

8. A cap according to claim 6 or 7, comprising at least one tongue (20) which connects said handling portion (2) to said inner annular wall (12).

9. A cap according to claim 8, wherein said tongue is flat and laying on a longitudinal plane passing through said axis of rotation.

10. A cap according to claim 8 or 9, wherein said tongues are in a number of four, angularly equally spaced.

11. A cap according to any one of claims 8 to 10, wherein said safety portion (34) of the guarantee seal (10) comprises a reinforcing element (36) that connects said engagement portion (24) to said tongue (20).

12. A cap according to any one of the claims 1-11, wherein a loop (38) is provided between said engagement portion (24) and said connecting portion (28) of the guarantee seal (10).

13. A cap according to any one of the claims 1-12, comprising safety passages (21) passing through the outer enclosure of the cap.

14. A cap according to claim 13, wherein said safety passages (21) are provided on the handling portion (2).

15. A closing device for a container comprising:
- a coupling portion (100) provided with a tubular straw (102), said coupling portion being suitable for being associated to said container;
- a cap (1) made according to any one of the claims 1-14, associated to said coupling portion (100).

16. A device according to claim 15, wherein said coupling portion (100) comprises welding walls (106) for welding the coupling portion to the container walls.

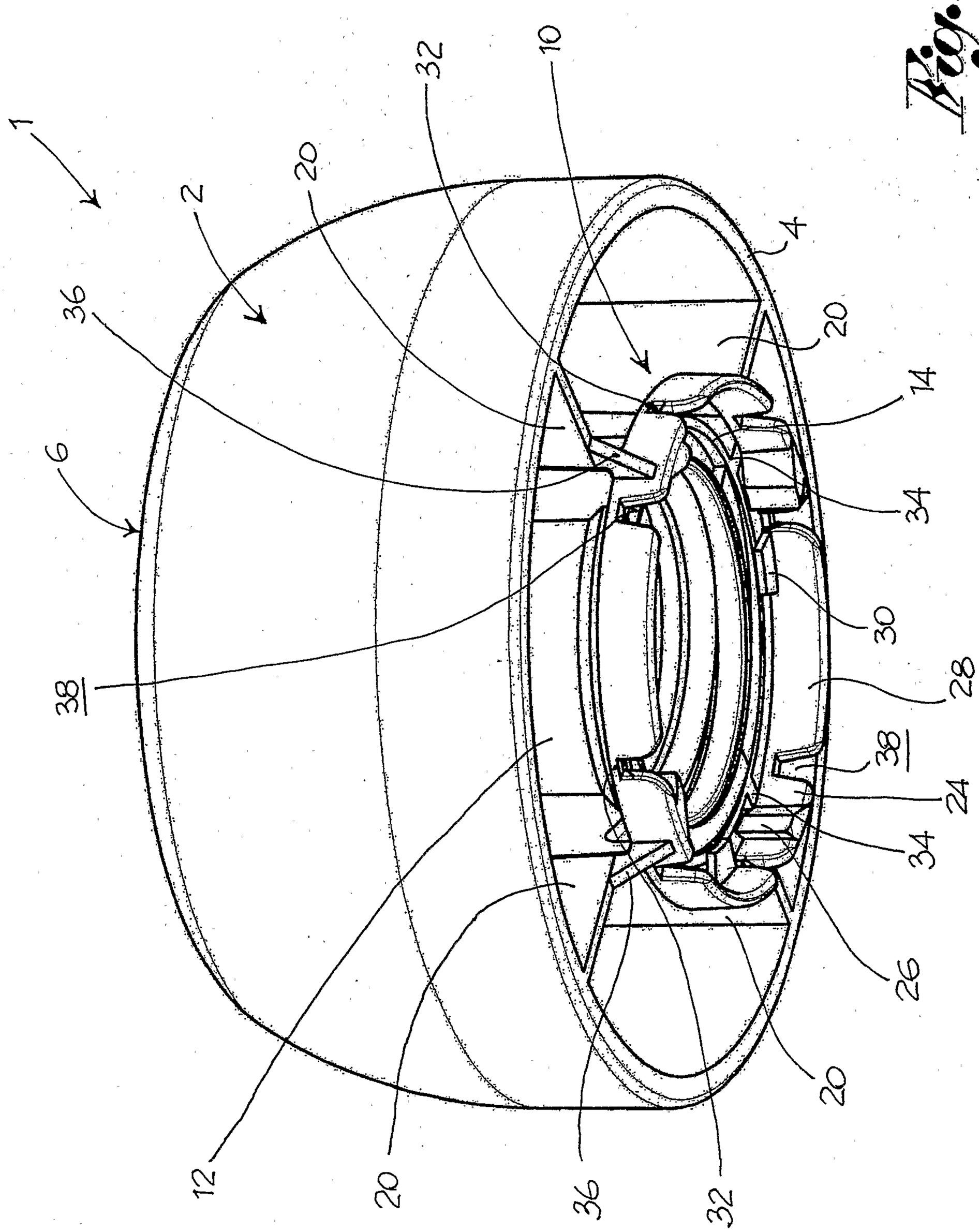
17. A container assembly comprising:

- a container;

- a closing device according to claim 15 or 16, coupled to said container.

18. An assembly according to claim 17, wherein said container is deformable.

Fig. 1



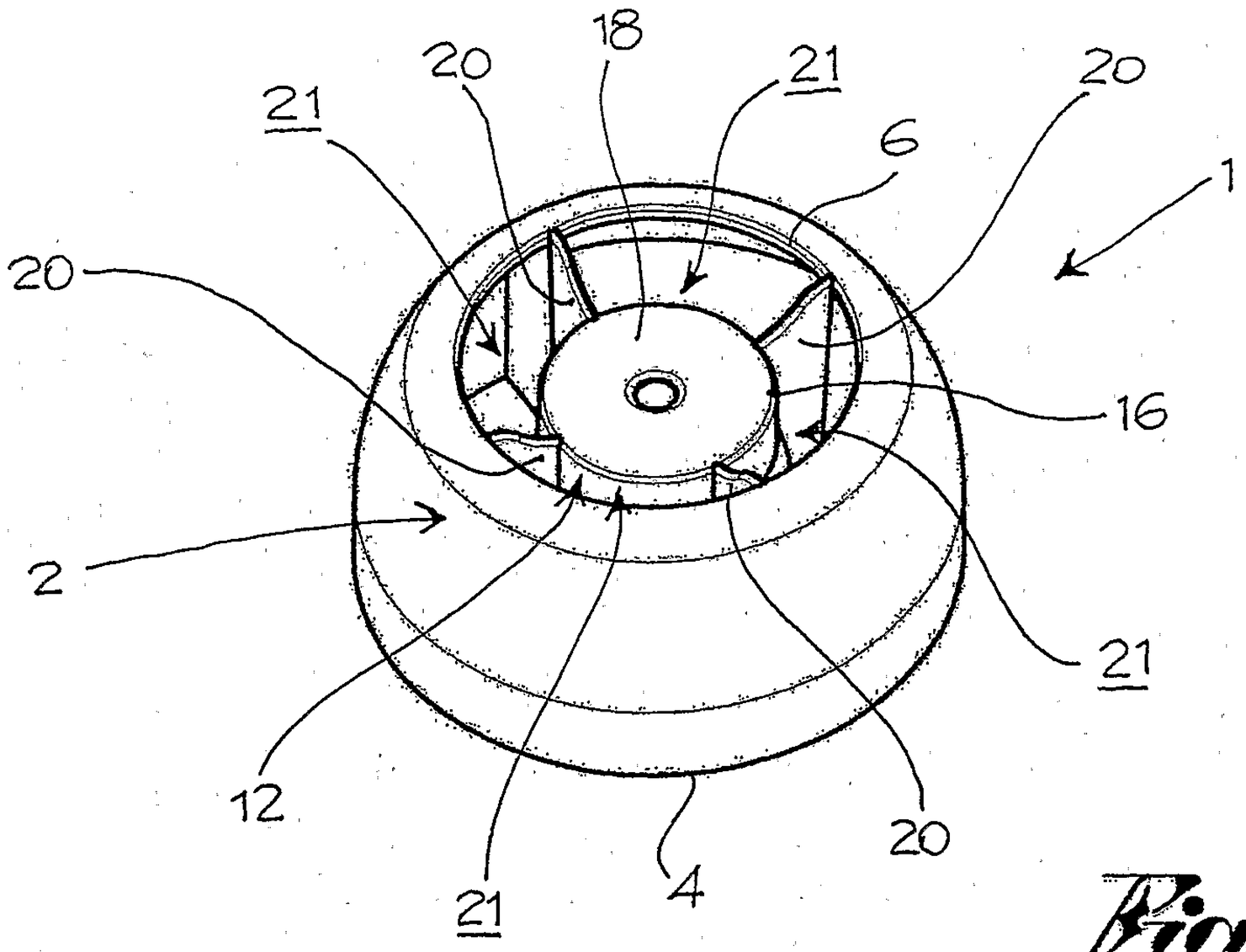


Fig. 2

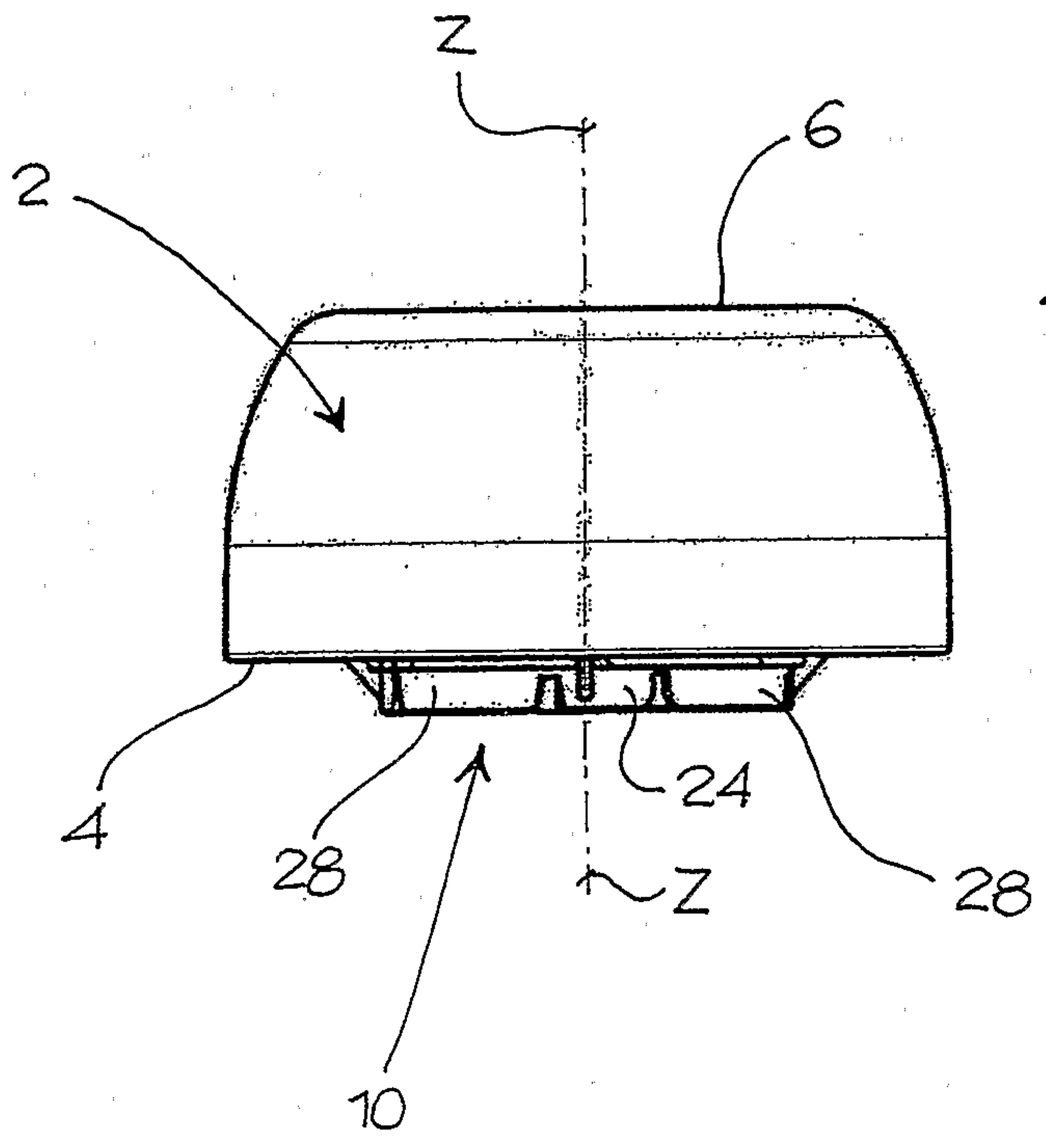


Fig. 3

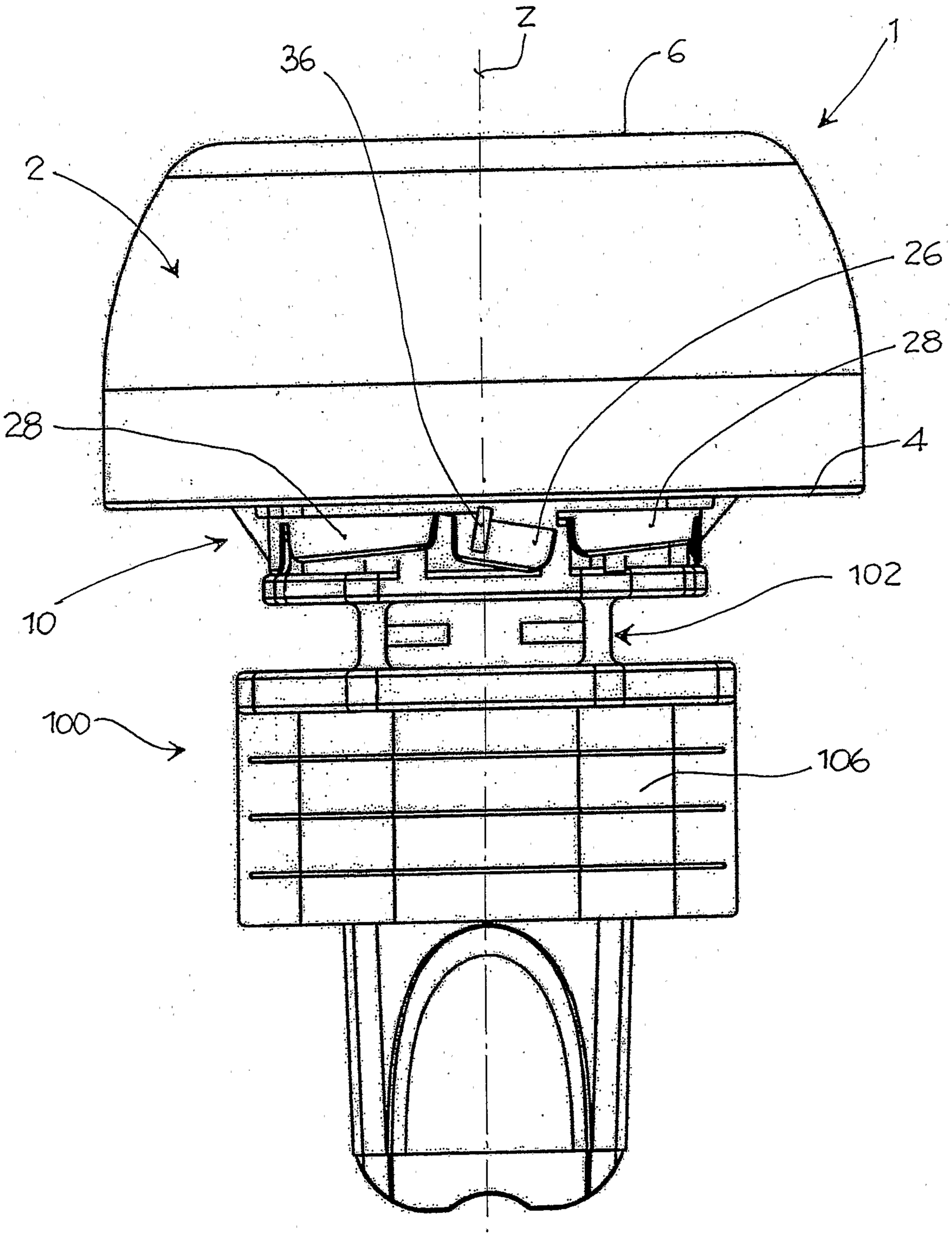


Fig. 4

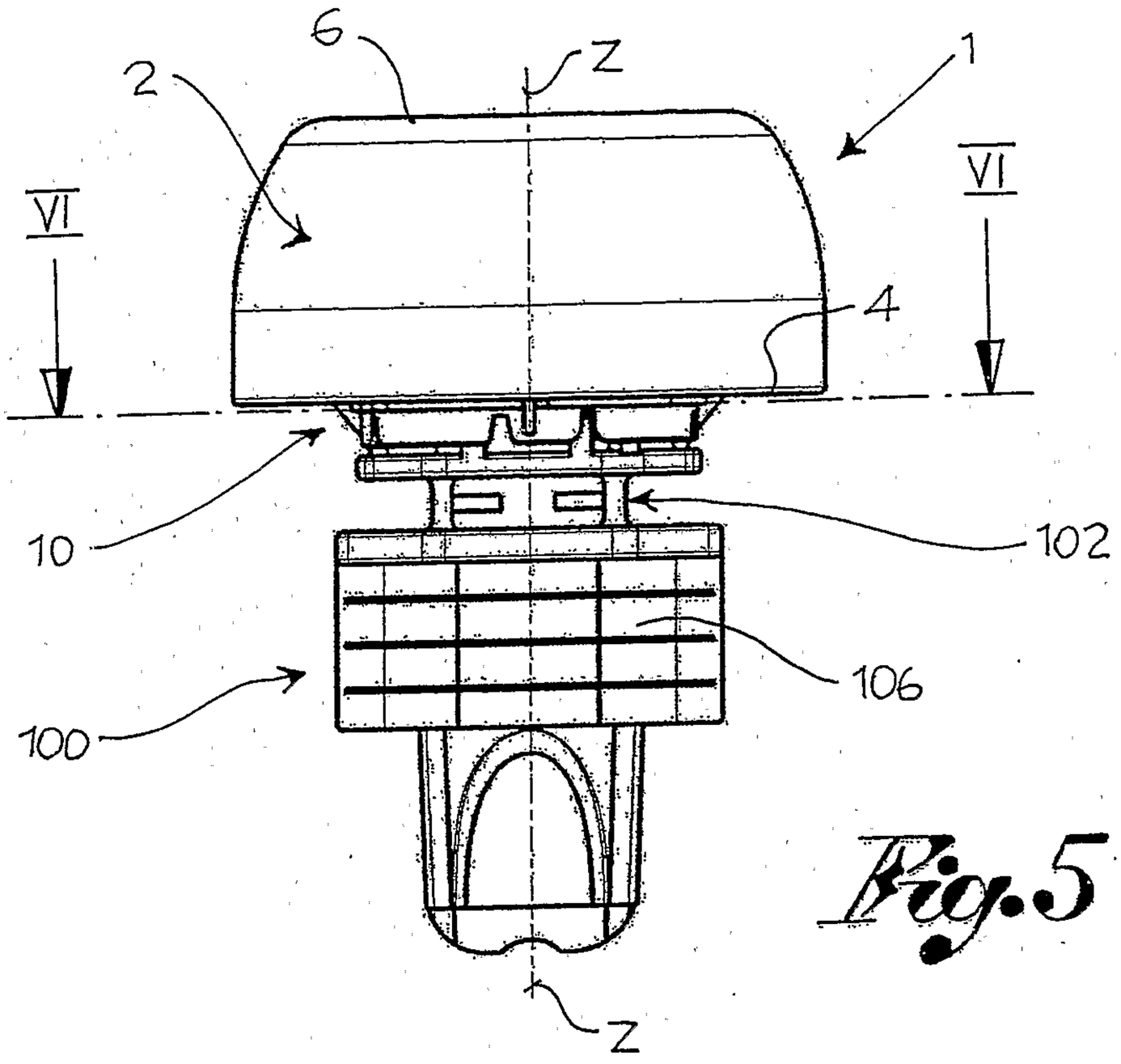

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Fig.5

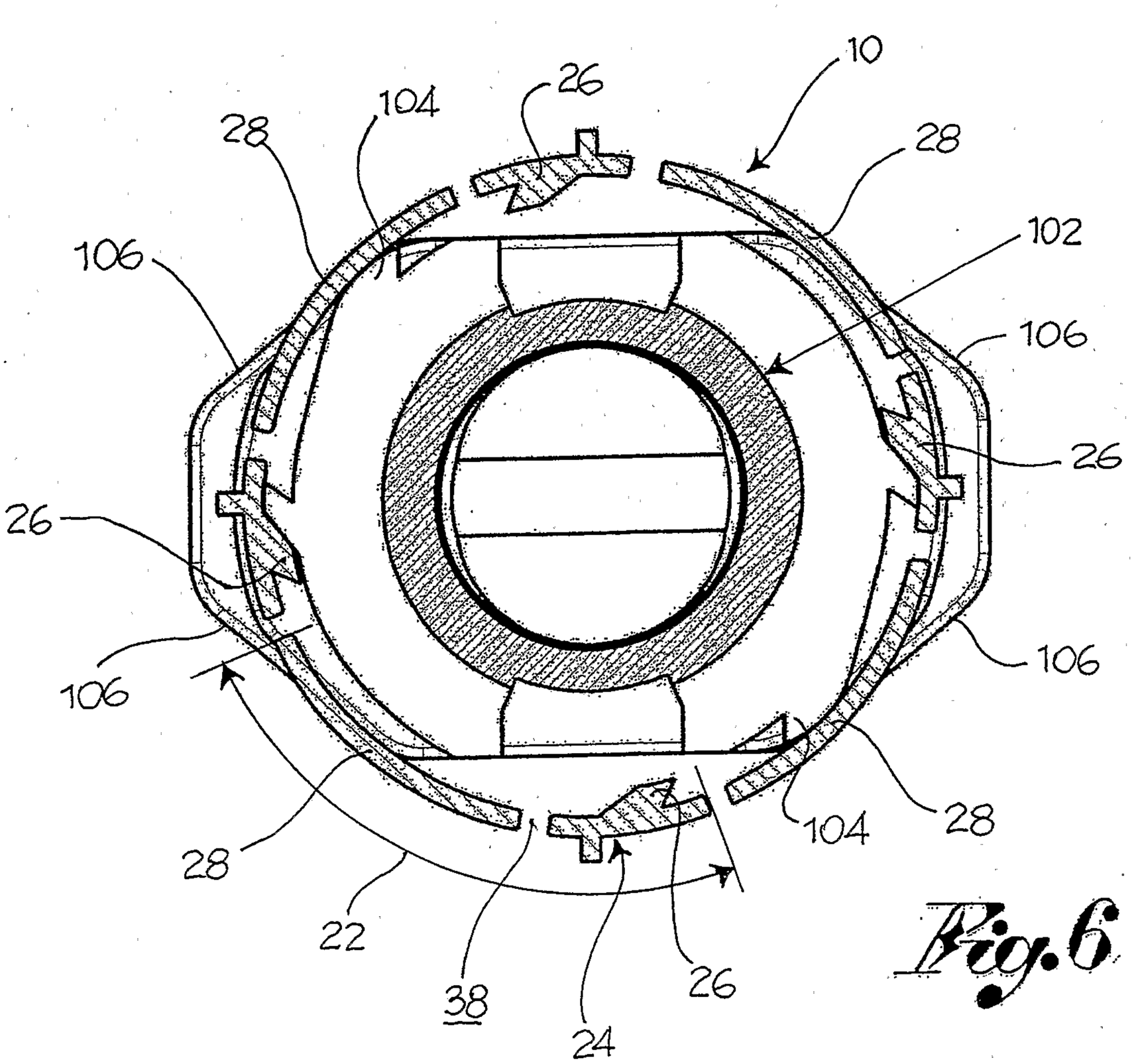
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Fig.6

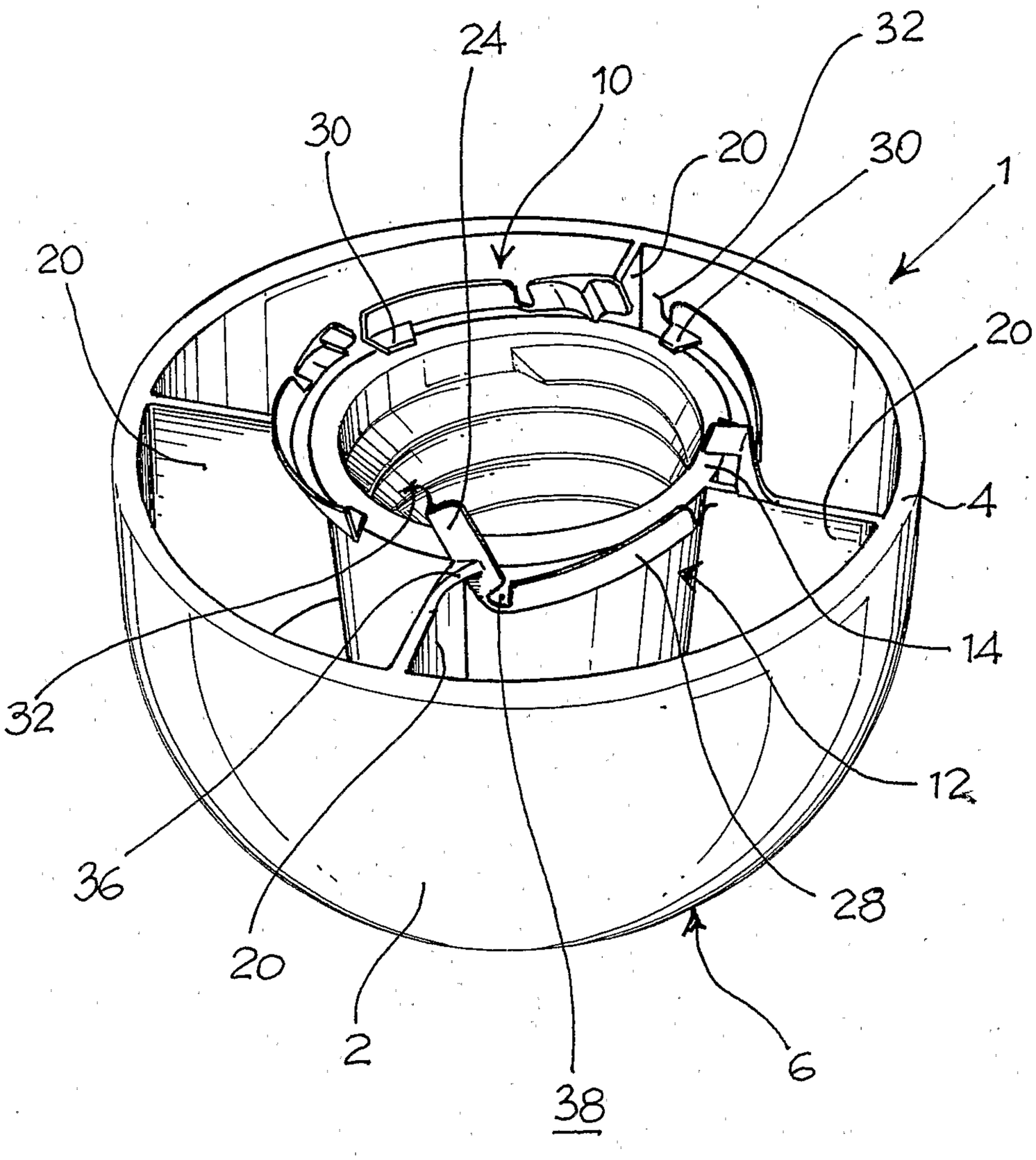
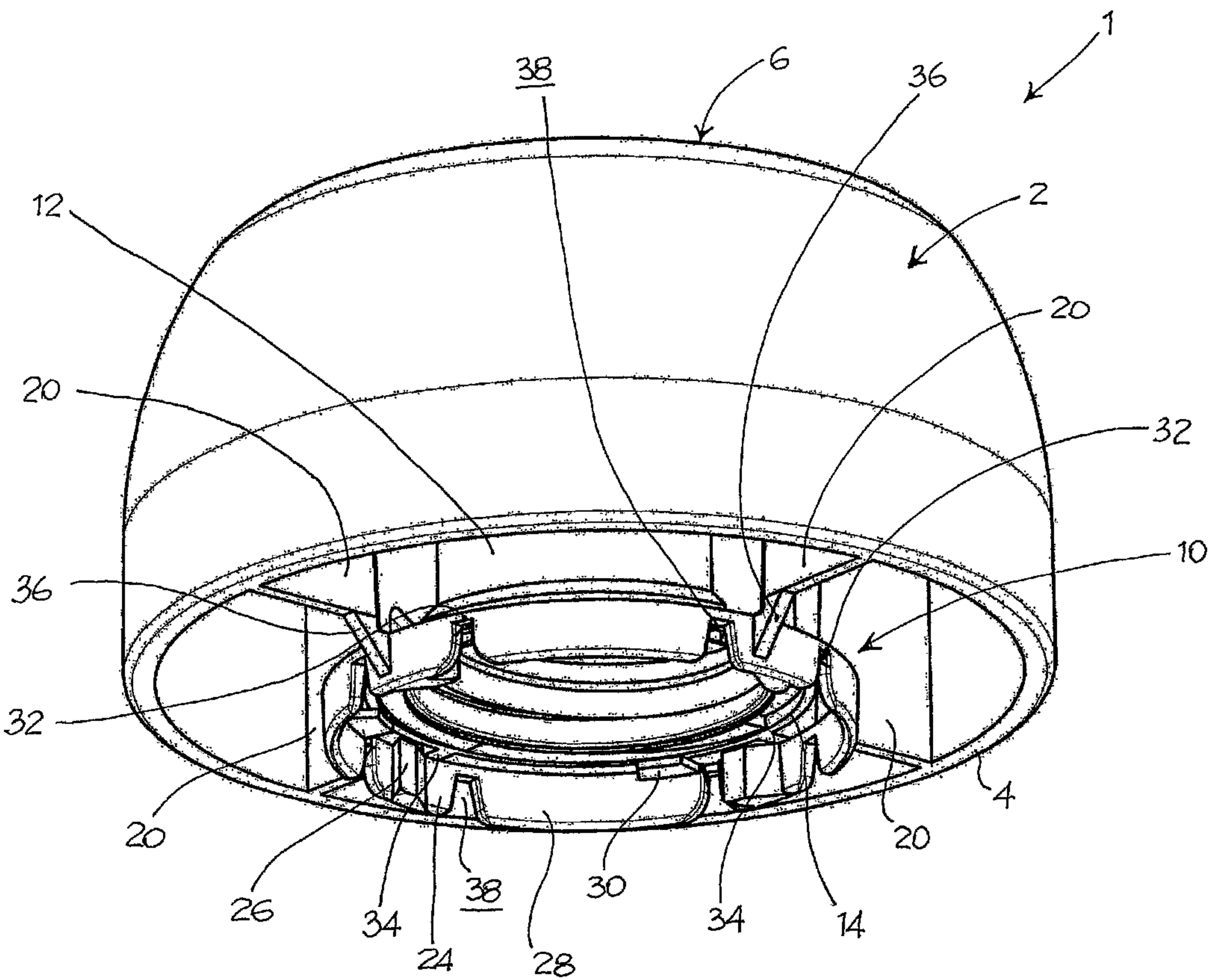


Fig. 7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