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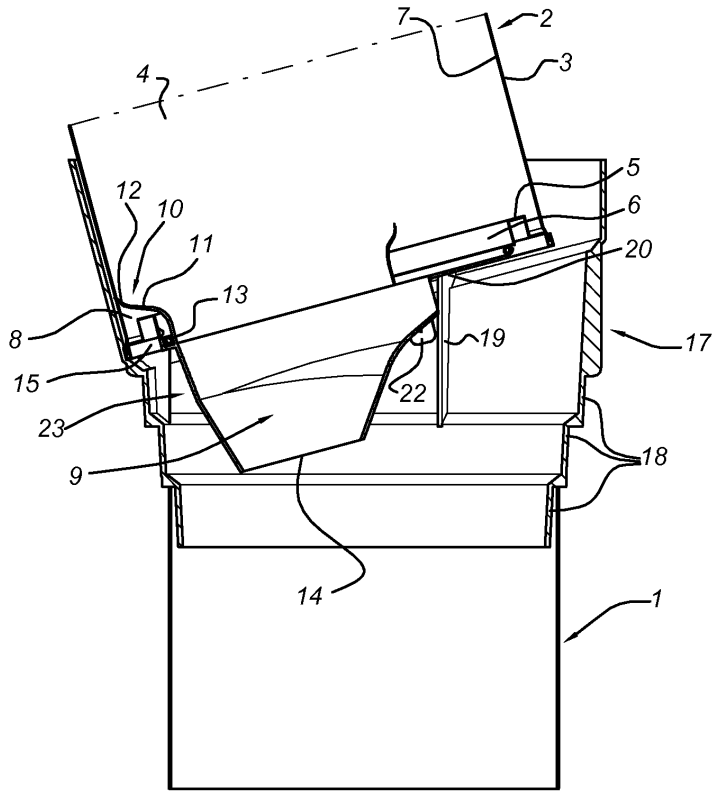
(54) **Pouring aid for emptying a container, such as a paint can**

(57) A container (2) for a liquid medium is combined with a pouring aid (9) which cooperates with the container for removing medium from the container by pouring. The container has a cylindrical container body (3) and a ring (5) which points inwards with respect to the container body and encloses the inlet opening (6) of the container. The pouring aid comprises a collecting flange (10) which rests against the internal surface (7) of the container body, and a pouring element (23) which extends from the collecting flange through the inlet opening of the container. Said pouring aid makes it possible to empty the container completely, and, in addition, to prevent spillage during pouring.

Fig 1



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Description

[0001] The invention relates to the field of liquid or pasty media, such as paint. In particular, the invention relates to emptying a container, such as can packaging which comprises a medium of this type, in a controlled manner. The problem with the present can packagings is that they cannot easily be emptied completely. In practice, it has proved to be cumbersome to empty the can packagings by pouring, as in that case, the medium, such as paint, is often spilled or wasted. As a result of the ring which surrounds the opening of the can packaging, the medium in addition cannot be poured out of the container in its entirety. The latter problem in particular results in significant financial drawbacks, as the costs of many raw materials for paint are high.

[0002] In practice, the can packaging is emptied as efficiently as possible by scraping. In some cases, a hole is also drilled in the bottom of the can packaging in order to still be able to use the last remainders of the medium. However, such actions are inefficient and are not suitable for solving the problem of waste and spillage.

[0003] It is therefore an object of the invention to provide an aid by means of which a medium, such as paint or paste, can be poured in a controlled fashion, that is to say without waste or spillage. It is also an object of the invention to design the aid in such a manner that the entire contents of, for example, a paint can can be emptied. These objects are achieved by a combination of a container for a liquid medium and a pouring aid cooperating with the container for removing the medium from the container by pouring, which container has a cylindrical container body and a ring which points inwards with respect to the container body and encloses the inlet opening, and which pouring aid comprises a collecting flange which rests against the internal surface of the container body, and a pouring element which extends from the collecting flange through the inlet opening of the container.

[0004] The pouring aid according to the invention firstly has the advantage that the medium is collected by the collecting flange before it can reach the inwardly pointing ring when the container is turned. Via said collecting flange, the medium can then run out of the container in a controlled manner. Due to the fact that the medium is no longer able to reach the ring, medium is prevented from remaining behind in the container; as a result of this the container can be emptied completely. A further advantage of the pouring aid according to the invention is the fact that, a result of this collecting flange, the flow of the medium is even, so that dripping is prevented.

[0005] Complete emptying of the container is assisted further by the fact that the collecting flange is situated immediately behind the ring of the container. The desired sealing between the collecting flange and the inner surface of the container, which is required in order to ensure that no medium remains behind the ring, can be achieved by the collecting flange bearing against the internal surface of the container body under prestress.

[0006] The collecting flange can be designed in different ways. It is possible for the collecting flange to run all the way round, i.e. to be continuous. As a result of the flexibility of the collecting flange, the latter can be hooked behind the ring in a pinched, deformed state. However, preference is given to an embodiment in which the collecting flange, viewed in the peripheral direction of the cylindrical container body, extends over a part of the internal surface of the container body so as to leave the remaining part of said container body in the peripheral direction clear. According to a preferred embodiment, the collecting flange can extend over an arc having a size of between 180 degrees and 270 degrees.

[0007] The advantage of this variant is that the collecting flange can be hooked behind the ring in a very simple manner, with the collecting flange having to be deformed only to a small extent. After the collecting flange has been positioned behind the ring, the collecting flange is able to spring back on account of its inherent flexibility and reliably bear against the internal surface of the container body. As the container, during emptying, is not positioned vertically, but obliquely, such a collecting flange which only extends over a part of the container body is nevertheless sufficient in order to achieve the controlled pouring effect.

[0008] For the purpose of the stability of the position of the pouring aid, the latter is provided with at least one stop which, viewed in the peripheral direction of the cylindrical container body, is situated outside the flange and rests on the ring.

[0009] The collecting flange can, viewed in radial cross section, have different shapes. However, preference is given to a collecting flange which has a flanged ring extending essentially radially with respect to the container body. Furthermore, a flanged ridge turned in the direction of the bottom of the container may be provided which rests against the internal surface of the container body. Said flanged ridge improves the collecting effect and provides a good sealing so that the medium cannot reach the ring of the container.

[0010] Furthermore, on the radially innermost end of the flanged ring, there may be a pipe section which is turned away from the bottom of the container and extends outwards out of the container along the ring of the container, to which partial pipe section the pouring element is connected. The pouring element can also be designed in different ways. According to a first possibility, the pouring element is at least partially funnel-shaped; the collecting flange is connected to the funnel shape. However, preference is given to the embodiment in which the funnel shape, viewed in the peripheral direction of the container, is a complete funnel shape and opens into a pouring opening, the transverse dimensions of which are smaller than the transverse dimensions of the inlet opening of the container.

[0011] The advantage of such a complete funnel shape, which can also be used for a collecting flange which only extends over a part of the container, is that

the medium can be poured in a very controlled manner. There is no longer any splashing, but instead, an accurately controlled stream emerges from the funnel aperture.

[0012] Alternatively, the funnel shape, viewed in the peripheral direction of the container, may in certain cases be an incomplete funnel shape and open into a pouring spout or pouring nozzle, the transverse dimensions of which are smaller than the transverse dimensions of the inlet opening of the container. The pouring opening and/or the pouring spout are preferably eccentric with respect to the collecting flange. Such an embodiment is particularly suitable for use with a canister which is provided with a central mixing element. As a result of the eccentric position of the pouring opening or pouring spout, the medium then flows out next to the mixing element.

[0013] In order to provide further stabilisation, the exterior of the pouring aid may be provided with a hook which grips over the ring and the adjacent part of the outer surface of the container body.

[0014] The invention furthermore relates to a pouring aid for use in the combination described above.

[0015] In addition, the invention relates to a method for pouring a liquid from a container by means of the combination as described above, comprising the steps of:

- providing an open canister,
- placing a supporting sleeve on the canister,
- placing said combination on the supporting sleeve in such a manner that the inlet opening of the container points downwards,
- causing liquids to flow out of the container into the canister.

[0016] As has already been mentioned above, the container is preferably placed in an inclined position during pouring. The invention therefore also relates to the steps of:

- placing said combination on the supporting sleeve in such a manner that the centre axis of the container body is at a small angle which differs from zero to the vertical. In the latter case, a collecting flange is preferably used which only extends over part of the periphery of the container body. The invention therefore also relates to the step of:

- orienting said combination around the centre axis of the container body in such a manner that the collecting flange extends over the lowest part of the internal surface of the container body.

[0017] Finally, the invention also relates to a supporting sleeve for use with this method. In a preferred embodiment, this supporting sleeve comprises several supporting sleeve parts extending one behind the other in the axial direction and having a diameter or transverse dimensions which increases/increase in a stepped manner. Furthermore, the supporting sleeve may comprise oblique supports for supporting the container in the inclined position. These oblique supports may comprise ledges which are situated at a regular distance from one another in the peripheral direction of the supporting sleeve, each of which ledges determines an upper supporting end. Said supporting ends are situated in an inclined imaginary plane. Finally, the peripheral wall part which extends from the inclined imaginary plane may have, above the relatively low parts thereof, the shape of a part of an oblique cylinder.

[0018] Below, the invention will be explained in more detail with reference to an exemplary embodiment illustrated in the figures, in which:

Fig. 1 shows a cross section through an arrangement comprising a supporting sleeve, a can packaging and a pouring aid attached thereto;
Fig. 2 shows the arrangement of a supporting sleeve and a can packaging from Fig. 1 in side view;
Fig. 3 shows the pouring aid in perspective view;
Fig. 4 shows the pouring aid in side view;
Fig. 5 shows the pouring aid in front view;
Fig. 6 shows the pouring aid in bottom view;
Fig. 7 shows the supporting sleeve in perspective view.

[0019] The arrangement illustrated in Fig. 1 shows a canister 1 containing a medium, such as paint or paste, which is in the can packaging 2 has to be introduced. Said can packaging 2 comprises a cylindrical container body 3, a bottom 4 and a ring 5 which is opposite the bottom and delimits an inlet opening 6. The ring 5 projects inwards relative to the internal surface 7 of the container body 3. When the medium was being poured out, the space 8 defined between the ring 5 and the container body 3 could hitherto not be emptied properly as a result of the shape of the ring 5.

[0020] In order to permit emptying of the can packaging 2 in a controlled manner, that is to say without leaving residues of the medium behind, the pouring aid denoted by reference numeral 9 is provided. Said pouring aid 9, which is also illustrated in the various views in Figs. 3-6, comprises a collecting flange 10 and a pouring element 23 connected to said collecting flange 10. The collecting flange 10 comprises a flanged ring 11, on the outer edge of which the flanged ridge 12 is provided. Said flanged ridge 12 bears against the inner surface 3 of the container body 2, preferably under prestress. As a result thereof, it can be ensured that a medium, such as paint or paste, which drips down along the internal surface 7 of the container body 3, is diverted before it can reach the space 8 behind the ring 5. This ensures that the can packaging 2 is emptied completely.

[0021] On the inner edge of the flanged ring 11, the partial pipe section 13 is provided, to which the pouring

element 23 is attached. Said pouring element 23 has an opening 14 which is eccentric with respect to the canister 1, so that the medium ends up next to a central mixing element in the canister 1. As can be seen in the side view of Fig. 4, a hook 15 is provided on the pouring element 23, which hooks over the ring 5 for stability. Furthermore, stops 16 are provided which rest on the ring 5. Lips 22 provide good support with respect to the ring 5.

[0022] The can packaging 2 with the pouring aid 9 can be supported obliquely with respect to the canister 1 by means of the supporting sleeve 17, as shown in Figs. 1 and 2. Said supporting sleeve 17 has supporting sleeve parts 18 of different diameter, so that the supporting sleeve 17 can be supported on canisters having different diameters. As is illustrated in Figs.1 and 7, the supporting sleeve has a number of internal supporting ledges 19 which each have an upper supporting end 20. Said supporting ends 20 are in an inclined imaginary plane, so that the can packaging 2 can be supported thereon in an oblique manner, as is illustrated in Figs. 1 and 2.

[0023] Furthermore, the supporting sleeve 17 comprises a peripheral wall part 21 which also runs obliquely and is at right angles to said imaginary plane.

Claims

1. Combination of a container (2) for a liquid medium and a pouring aid (9) cooperating with the container (2) for removing the medium from the container (2) by pouring, which container has a cylindrical container body (3) and a ring (5) which points inwards with respect to the container body (3) and encloses the inlet opening (6), and which pouring aid (9) comprises a collecting flange (10) which rests against the internal surface (7) of the container body (3), and a pouring element (23) which extends from the collecting flange (10) through the inlet opening (6) of the container (2).

2. Combination according to Claim 1, in which the collecting flange (10) is situated immediately behind the ring (5) of the container (2).

3. Combination according to Claim 1 or 2, in which the collecting flange (10) bears against the internal surface (7) of the container body (3) under prestress.

4. Combination according to one of the preceding claims, in which the collecting flange (10), viewed in the peripheral direction of the cylindrical container body (3), extends over a part of the internal surface (7) of the container body (3) so as to leave the remaining part of said container body (3) in the peripheral direction clear.

5. Combination according to Claim 4, in which the pouring aid (9) is provided with at least one stop (16) which, viewed in the peripheral direction of the cylindrical container body (3), is situated outside the collecting flange (10) and rests on the ring (5).

6. Combination according to Claim 4 or 5, in which the collecting flange (10) extends over an arc having a size of between 180 degrees and 270 degrees.

7. Combination according to one of the preceding claims, in which the collecting flange (10) has a flanged ring (11) extending essentially radially with respect to the container body (3).

8. Combination according to one of the preceding claims, in which a flanged ridge (12) turned in the direction of the bottom (4) of the container (2) is provided which rests against the internal surface (7) of the container body (3).

9. Combination according to Claim 7 or 8, in which, on the radially innermost end of the flanged ring (11), there is a partial pipe section (13) which is turned away from the bottom (4) of the container (2) and extends outwards out of the container along the ring (5) of the container (2), to which partial pipe section (13) the pouring element (23) is connected.

10. Combination according to one of the preceding claims, in which the pouring element (23) is at least partially funnel-shaped and the collecting flange (10) is connected to the funnel shape.

11. Combination according to Claim 10, in which the funnel shape, viewed in the peripheral direction of the container (2), is a complete funnel shape and opens into a pouring opening (14), the transverse dimensions of which are smaller than the transverse dimensions of the inlet opening (6) of the container (2).

12. Combination according to Claim 10, in which the funnel shape, viewed in the peripheral direction of the container (2), is an incomplete funnel shape and opens into a pouring spout, the transverse dimensions of which are smaller than the transverse dimensions of the inlet opening (6) of the container.

13. Combination according to Claim 11 or 12, in which the pouring opening and/or the pouring spout are eccentric with respect to the collecting flange.

14. Combination according to one of the preceding claims, in which the exterior of the pouring aid (9) is provided with a hook (15) which grips over the ring (5) and/or the adjacent part of the outer surface of the container body (3).

15. Pouring aid (9) for use in the combination according to one of the preceding claims.

16. Method for pouring a liquid from a container (2) by means of the combination according to one of Claims 1-14, comprising the steps of:

- providing an open canister (1),
- placing a supporting sleeve (17) on the canister (1),
- placing said combination on the supporting sleeve (17) in such a manner that the inlet opening of the container (2) points downwards,
- causing liquids to flow out of the container into the canister.

17. Method according to Claim 16, comprising the step of:

- placing said combination on the supporting sleeve (17) in such a manner that the centre axis of the container body (3) is at a small angle, which differs from zero, to the vertical.

18. Method according to Claim 16 using the combination according to one of Claims 4-6, comprising the step of:

- orienting said combination around the centre axis of the container body (3) in such a manner that the collecting flange (10) extends over the lowest part of the internal surface (7) of the container body (3).

19. Supporting sleeve (17) for use with the method according to one of Claims 16-18.

20. Supporting sleeve (17) according to Claim 19, comprising several supporting sleeve parts (18) extending one behind the other in the axial direction and having a diameter or transverse dimensions which increases/increase in a stepped manner.

21. Supporting sleeve (17) according to Claim 19 or 20 for use with the method according to Claim 17 or 18, comprising oblique supports (19) for supporting the container (2) in the inclined position.

22. Supporting sleeve (17) according to Claim 21, in which the oblique supports comprise supporting ledges (19) which are situated at a regular distance from one another in the peripheral direction of the supporting sleeve, each of which supporting ledges (19) determines an upper supporting end (20), which supporting ends (20) are situated in an inclined imaginary plane.

23. Supporting sleeve (17) according to Claim 22, in which the peripheral wall part (21) which extends from the inclined imaginary plane has, above the relatively low parts thereof, the shape of a part of an oblique cylinder.

24. Supporting sleeve (17) according to Claim 23, in which the peripheral wall part (21) extends at right angles to the imaginary plane.

Fig 1

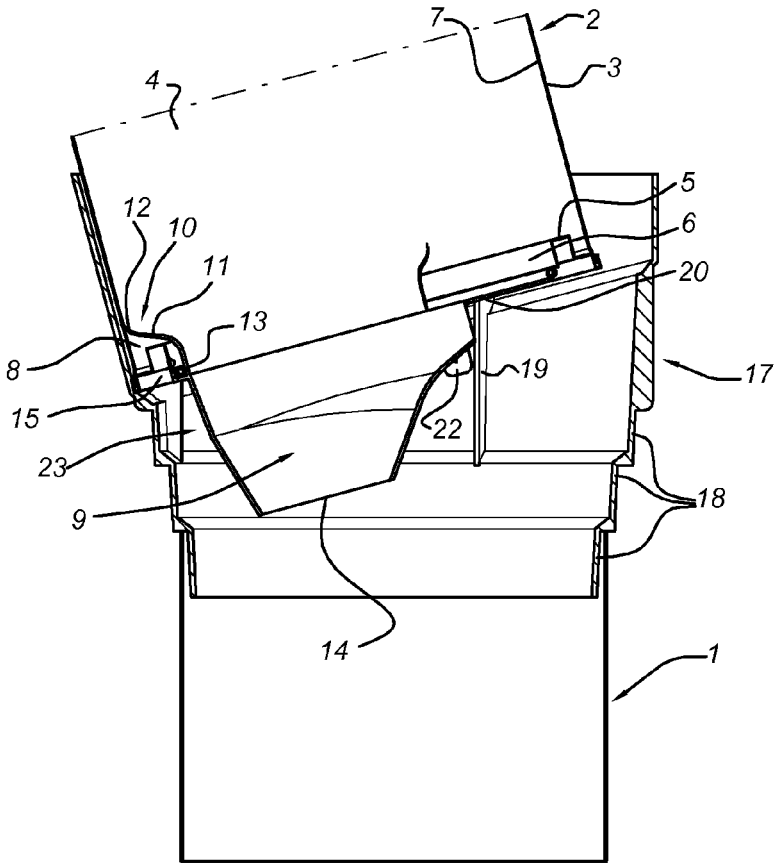


Fig 2

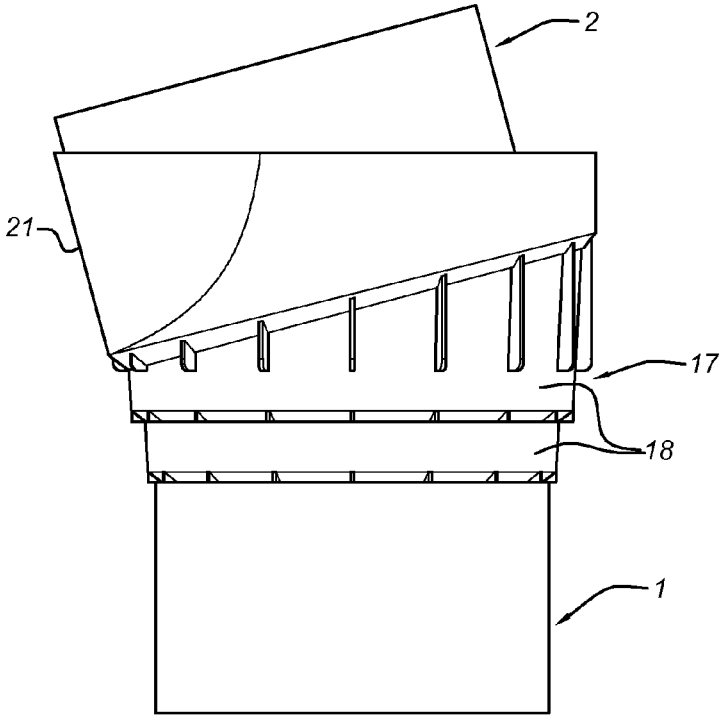


Fig 3

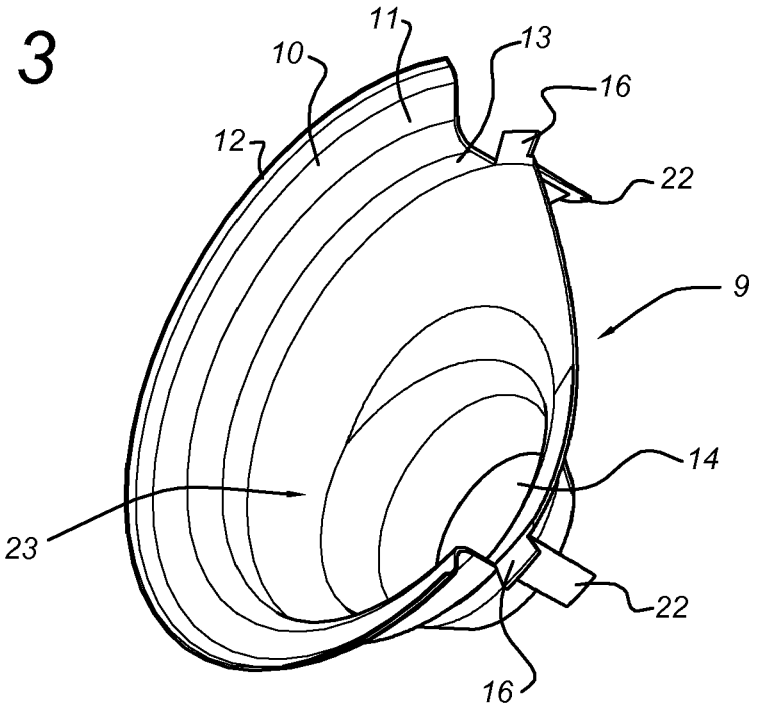


Fig 4

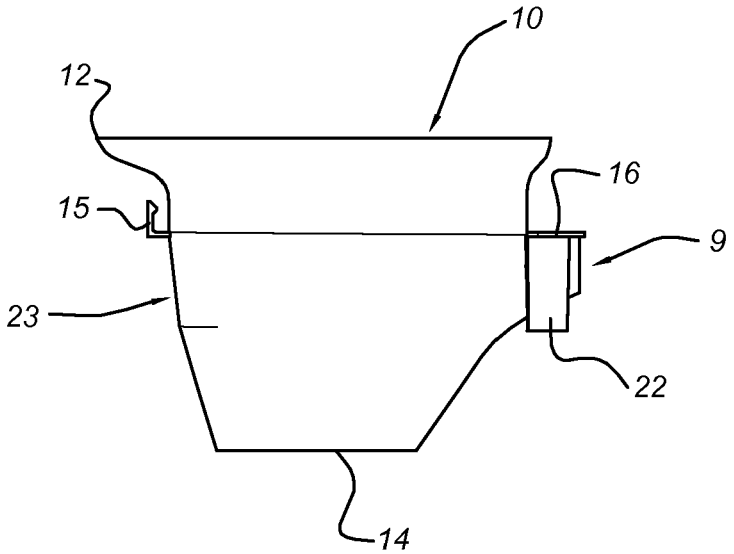


Fig 5

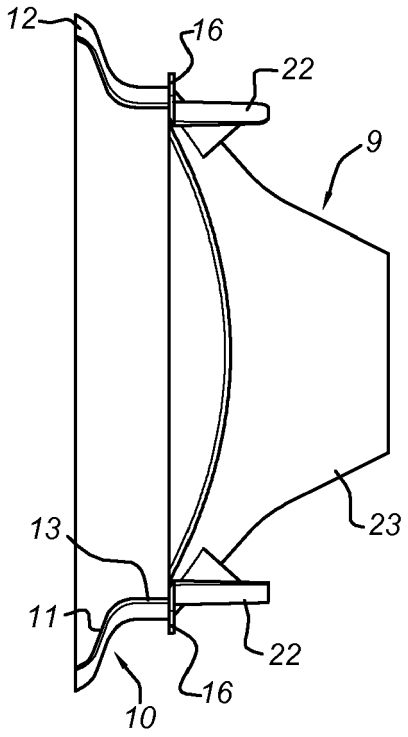


Fig 6

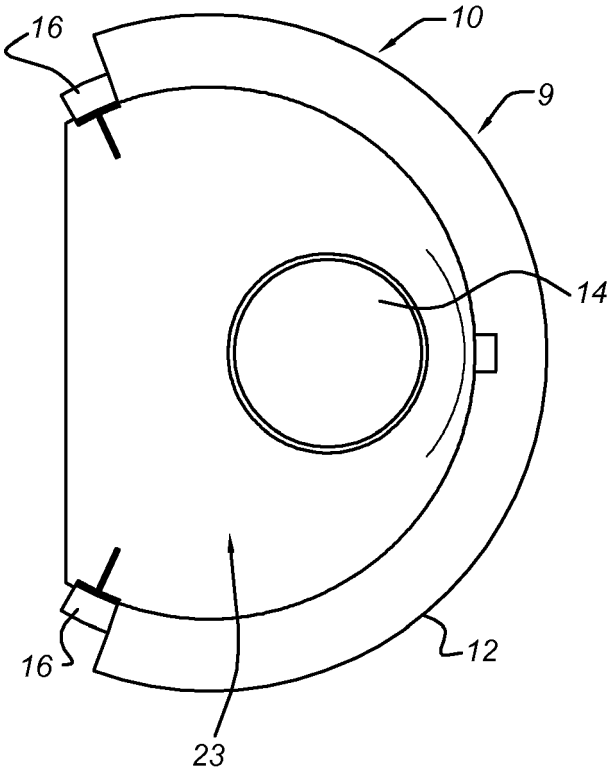
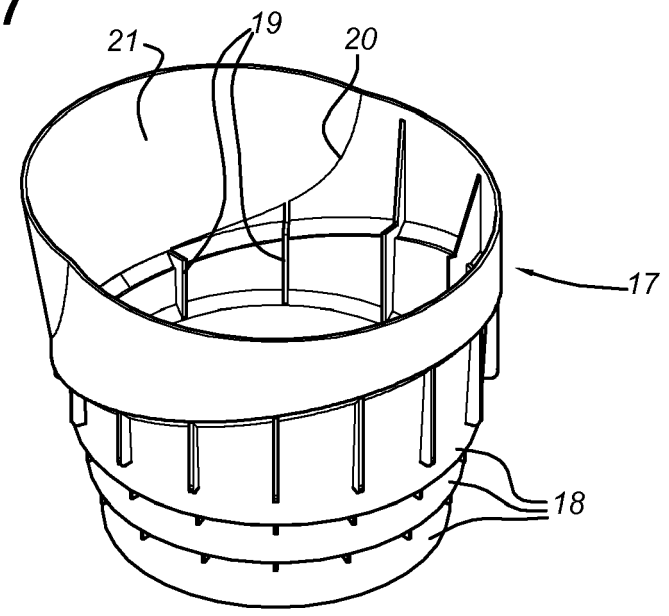


Fig 7



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EUROPEAN SEARCH REPORT

Application Number
EP 08 15 1752

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	2 July 2008	Dindorf, Jochen

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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