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(54) STACKABLE CONTAINER WITH A TOP CHIME

STAPELBARER BEHÄLTER MIT KOPFRING

CONTENANT EMPILABLE POURVU D'UN PEIGNE SUPÉRIEUR

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Description

TECHNICAL FIELD OF THE INVENTION

[0001] This invention relates to containers, particularly kegs, which are suitable for holding beverages such as beer or fruit juices or other liquids.

BACKGROUND

[0002] Kegs for holding beverages such as beer are traditionally made of metal. After use the keg is cleaned and re-filled so that the keg may be used many times during its lifetime. Increasingly though, kegs are used to transport the contents for long distances, sometimes between continents, and transport costs can make it uneconomical to return the kegs for reuse. There is also an environmental cost to be considered in transporting heavy containers for long distances, and in disposing of containers which consume a large amount of energy in their manufacture. It is therefore becoming more common to manufacture containers from lightweight inexpensive materials such as plastics, which are cheaper to manufacture and transport.

[0003] Kegs are traditionally provided with top and bottom chimes secured to opposite ends of a container body. The top chime provides handles for handling the kegs while the bottom chime provides a stable base upon which the keg may stand. The chimes also provide protection for the container body which is easily dented or damaged, particularly if the container is moved by rolling it on its side.

[0004] In plastic kegs, e.g. WO 2010/120347 A2, upon which the preamble of claim 1 is based, the chimes are generally injection moulded and the container body is formed by blow moulding. Injection moulded chimes are strong and are capable of doing the same job as metal chimes. Furthermore, the top and bottom chimes can be designed to inter-engage with each other such that the kegs can be safely stacked during storage and transportation. However, manufacture of such chimes requires relatively expensive injection moulding tools and adds a significant amount to the cost.

[0005] The present invention seeks to provide a new and inventive form of keg or similar container which can be manufactured with reduced cost and energy consumption, which is easy to handle with low risk of damage, and which can stand in a stable condition, either alone or stacked with other similar kegs.

SUMMARY OF THE INVENTION

[0006] The present invention proposes a container in accordance with Claim 1.

[0007] In order to provide positive location with the top chime of another such container the ridges preferably include at least one foot-like projection which engages within the recessed area. The recessed area may be formed on the outer periphery of the chime or inset from its outer periphery.

[0008] The ridges and projections are formed by a moulding operation, requiring a minimum amount of additional material.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The following description and the accompanying drawings referred to therein are included by way of non-limiting example in order to illustrate how the invention may be put into practice. In the drawings:

Figure 1 is side view of two stacked kegs in accordance with the invention;

Figure 2 is an enlarged sectional detail of the stacked kegs, sectioned axially through the bottom ridges;

Figure 3 is an axial section through the bottom of one of the kegs in between the bottom ridges; and

Figure 4 is a sectional detail of a second form of keg in accordance with the invention, stacked one upon another.

DETAILED DESCRIPTION OF THE DRAWINGS

[0010] The drawings show two identical containers in the form of kegs for holding a pressurised beverage such as beer, which are stacked on upon the other. The kegs may be formed of plastics or other recyclable materials. As shown in **Fig. 1,** each keg comprises a keg body 1 and a top chime 2 which incorporates a valve assembly (not shown).

[0011] **Fig. 2** shows, in axial section, the bottom portion of the upper keg which is supported on the top portion of the lower keg. The body 1 of each keg is formed in one piece, e.g. by blow moulding, and incorporates a cylindrical side wall 10, a domed top wall 11 incorporating a central neck 12, and a bottom wall 13. The neck 12 receives a valve assembly 4 provided with a draw tube 5 which extends to the bottom of the keg allowing pressurised liquid to be withdrawn from the bottom of the keg. When the valve assembly is not engaged by a suitable fitting it closes under spring pressure in known manner to sealably retain pressurised liquid within the container. Referring now to **Fig.s 2 and 3,** the bottom wall 13 is moulded to form six co-planar ridges 14 which radiate outwardly from a central region 16, thus providing the bottom wall with a petaloid configuration (like the petals of a flower). When the channels which are formed between the ridges 14 are viewed in axial section as in **Fig. 3,** the deepest part of those channels meet at central region 16 such that they are conjoined to form a continuous domed region 15 which merges smoothly into the cylindrical side wall 10. Such a configuration ensures that the bottom wall of the keg is able to withstand internal

gas pressures with little or no outward distortion. The outermost end of each ridge 14 is formed with an integral downward projection 17, forming six integral feet which are capable of supporting the keg stably on a flat surface.

[0012] The top chime 3 is formed in one piece by injection moulding and includes a ring-shaped handle 20 joined to a central hub 21 by radial spokes 22. The handle 20 is also provided with axially-extending channel-shaped members 23 which connect the handle to a peripheral skirt 24 which fits closely over the upper end of the keg body 1. The handle 20 is formed as a continuous upwardly-open double channel, comprising a bottom wall 25, two upstanding middle and inner walls 26 and 27, and a shorter upstanding outer wall 28 forming an external step-like recess between the outer wall 28 and the adjacent inner wall 26. The top chime 3 may be secured to the keg body via the peripheral skirt 24 and may also be held in place by the valve assembly 4.

[0013] When the keg is filled, the contents of the keg exert an outward pressure upon the petaloid bottom wall 13 which is resisted by the domed region 15. The internal pressure is also exerted on the integral ridges 14 and foot projections 17 to ensure that the ridges and projections are held rigid and provide stable firm support for the filled keg. When one keg is stacked upon another the middle and inner walls 26 and 27 of the handle 20 provide firm support for the radial ridges 14, and the projections 17 locate within the external recess formed by the walls 26 and 28 to radially locate the upper keg relative to the middle wall 26.

[0014] It will be appreciated that although six ridges and foot projections are preferred since this number provides the greatest strength and stability, a greater or smaller number could be used.

[0015] The configuration of the base wall shown in **Figs 1 to 3** provides maximum spacing between the projections 17 and provides the pressurised keg with a high level of stability when stood on a flat surface. **Fig. 4** shows an alternative arrangement in which the foot-like projections 30 are formed part-way along the length of the bottom ridges 14 so that they locate with a central recessed area of the top chime 2 which is bounded by the inner wall 27 of the handle 20. Although the keg may be slightly less stable when stood on a flat surface the projections produce less stretching of the plastic during blow moulding and may therefore reduce the risk of weakness in the wall of the container body.

Claims

1. A container which includes a container body (1) and a chime (2) secured to the container body and which is formed with a peripheral skirt (24) and an integral continuous peripheral handle (20), the container body is formed in one piece and includes a side wall (10), a top wall (11) which is received within the chime, and a bottom wall (13), **characterised in that** the bottom wall (13) of the container body (1) incorporates moulded ridges (14) which radiate outwards from a central region (16) in a petaloid configuration, the ridges being shaped to support the container stably on a flat surface and to engage a recessed area (26, 28) of the chime when one such container is stacked upon another in use.

2. A container according to Claim 1 in which the ridges (14) include foot-like projections (17; 30) which engage within the recessed area (26, 28; 27).

3. A container according to Claim 2 in which the projections (17) locate within a recessed area which is formed on the outer periphery (20) of the chime.

4. A container according to Claim 3 in which the recessed area (17) is bounded by the handle (20) of the chime.

5. A container according to Claim 2 in which the foot-like projections (30) locate within a recessed area (27) which is inset from the outer periphery of the chime.

6. A container according to Claim 5 in which the recessed area (30) is bounded by the handle (20) of the chime.

Patentansprüche

1. Behälter mit einem Behälterkörper (1) und einem Deckel (2), der an dem Behälterkörper befestigt ist und der mit einer Umfangsschürze (24) und einem integralen, kontinuierlichen Umfangsgriff (20) ausgebildet ist, wobei der Behälterkörper in einem Stück gebildet ist und eine Seitenwand (10), eine Oberwand (11), die innerhalb des Deckels aufgenommen ist, und eine Bodenwand (13) umfasst,
dadurch gekennzeichnet, dass die Bodenwand des Behälterkörpers (1) gegossene Rippen (14) enthält, die von einer zentralen Region (16) in einer blütenförmigen Gestaltung strahlenförmig nach außen verlaufen, wobei die Rippen so geformt sind, um den Behälter stabil auf einer flachen Oberfläche zu lagern und um in ein vertieftes Gebiet (26, 28) des Deckels einzugreifen, wenn ein solcher Behälter bei der Anwendung auf einen anderen gestapelt ist.

2. Behälter nach Anspruch 1, bei dem die Rippen (14) fußartige Vorsprünge (17; 30) aufweisen, die in die vertieften Gebiete (26, 28; 27) eingreifen.

3. Behälter nach Anspruch 2, bei dem die Vorsprünge (17) in einem vertieften Gebiet liegen, das an dem äußeren Umfang (20) des Deckels gebildet ist.

4. Behälter nach Anspruch 3, bei dem das vertiefte Gebiet (17) durch den Griff (20) des Deckels begrenzt wird.

5. Behälter nach Anspruch 2, bei dem die fußartigen Vorsprünge (30) in einem vertieften Gebiet (27) liegen, das von dem äußeren Umfang des Deckels nach innen versetzt ist.

6. Behälter nach Anspruch 5, bei dem das vertiefte Gebiet (30) von dem Griff (20) des Deckels begrenzt wird.

Revendications

1. - Contenant qui comprend un corps de contenant (1) et un peigne (2) fixé au corps de contenant et qui comporte une jupe périphérique (24) et une poignée périphérique continue d'un seul tenant (20), le corps de contenant est formé d'une seule pièce et comprend une paroi latérale (10), une paroi supérieure (11) qui est reçue à l'intérieur du peigne, et une paroi inférieure (13),
caractérisé par le fait que la paroi inférieure (13) du corps de contenant (1) incorpore des nervures moulées (14) qui s'étendent en rayons vers l'extérieur à partir d'une région centrale (16) dans une configuration en pétales, les nervures étant façonnées pour supporter le contenant de façon stable sur une surface plate et engager une zone renfoncée (26, 28) du peigne lorsqu'un tel contenant est empilé sur un autre en utilisation.

2. - Contenant selon la revendication 1, dans lequel les nervures (14) comprennent des saillies de type pied (17 ; 30) qui s'engagent à l'intérieur de la zone renfoncée (26, 28 ; 27).

3. - Contenant selon la revendication 2, dans lequel les saillies (17) sont situées à l'intérieur d'une zone renfoncée qui est formée sur la périphérie externe (20) du peigne.

4. - Contenant selon la revendication 3, dans lequel la zone renfoncée (17) est délimitée par la poignée (20) du peigne.

5. - Contenant selon la revendication 2, dans lequel les saillies de type pied (30) se situent à l'intérieur d'une zone renfoncée (27) qui est insérée depuis la périphérie externe du peigne.

6. - Contenant selon la revendication 5, dans lequel la zone renfoncée (30) est délimitée par la poignée (20) du peigne.

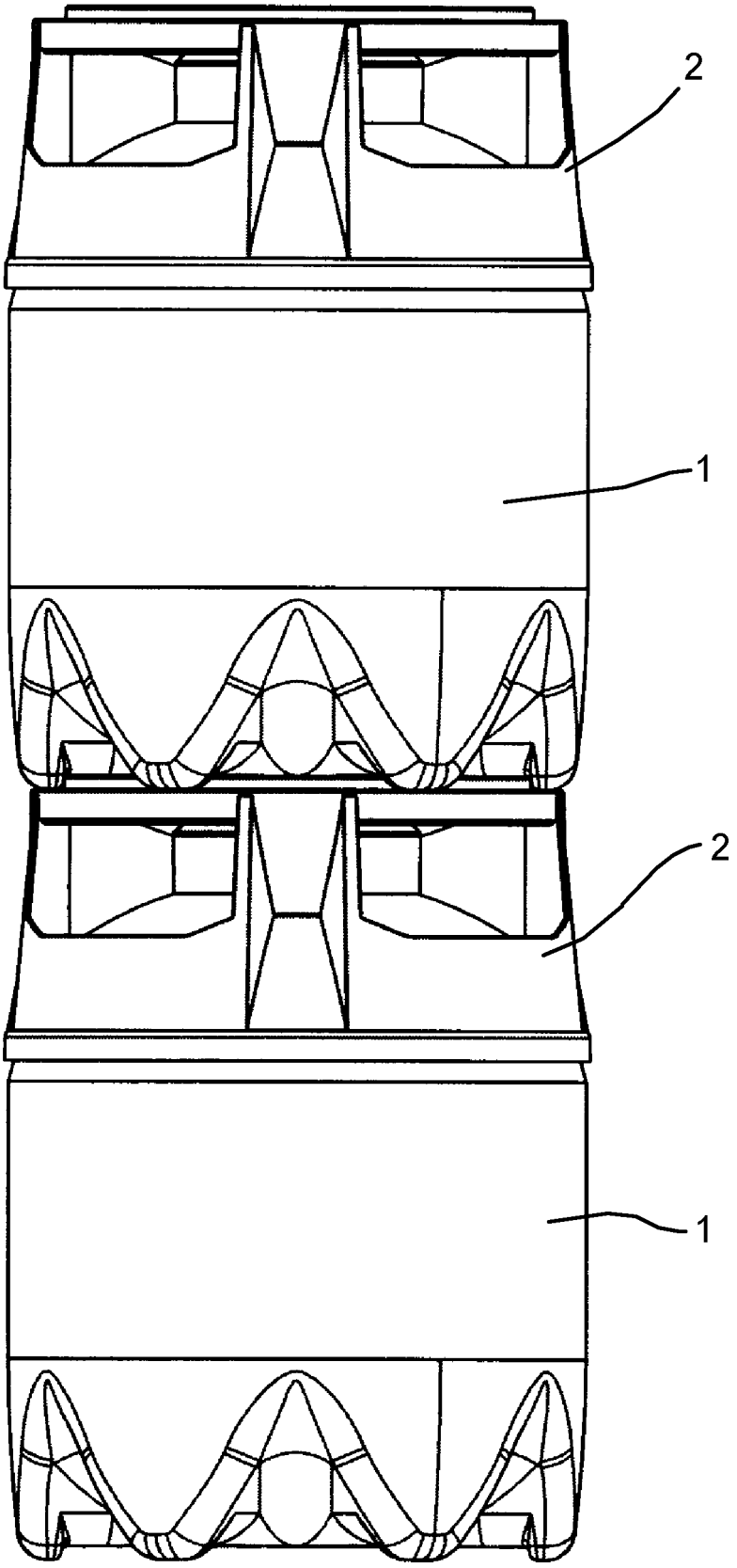


Fig. 1

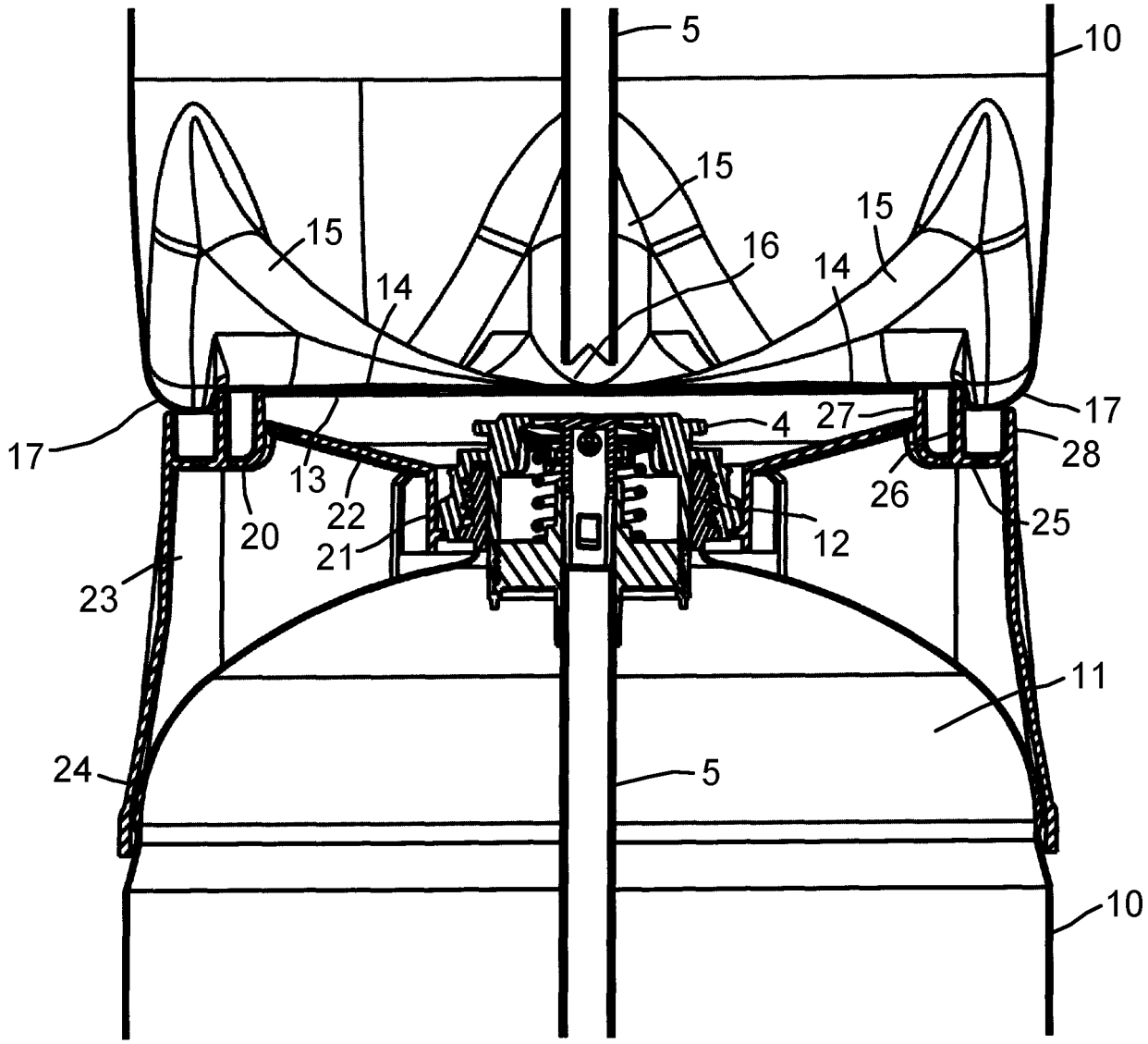


Fig. 2

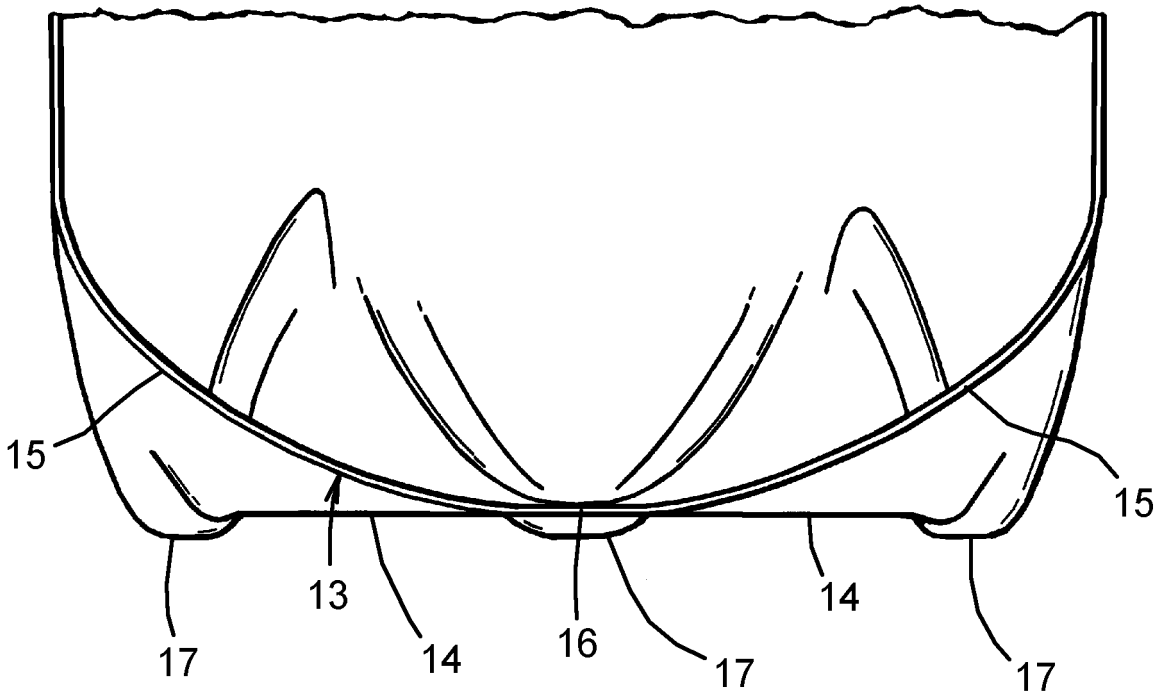


Fig. 3

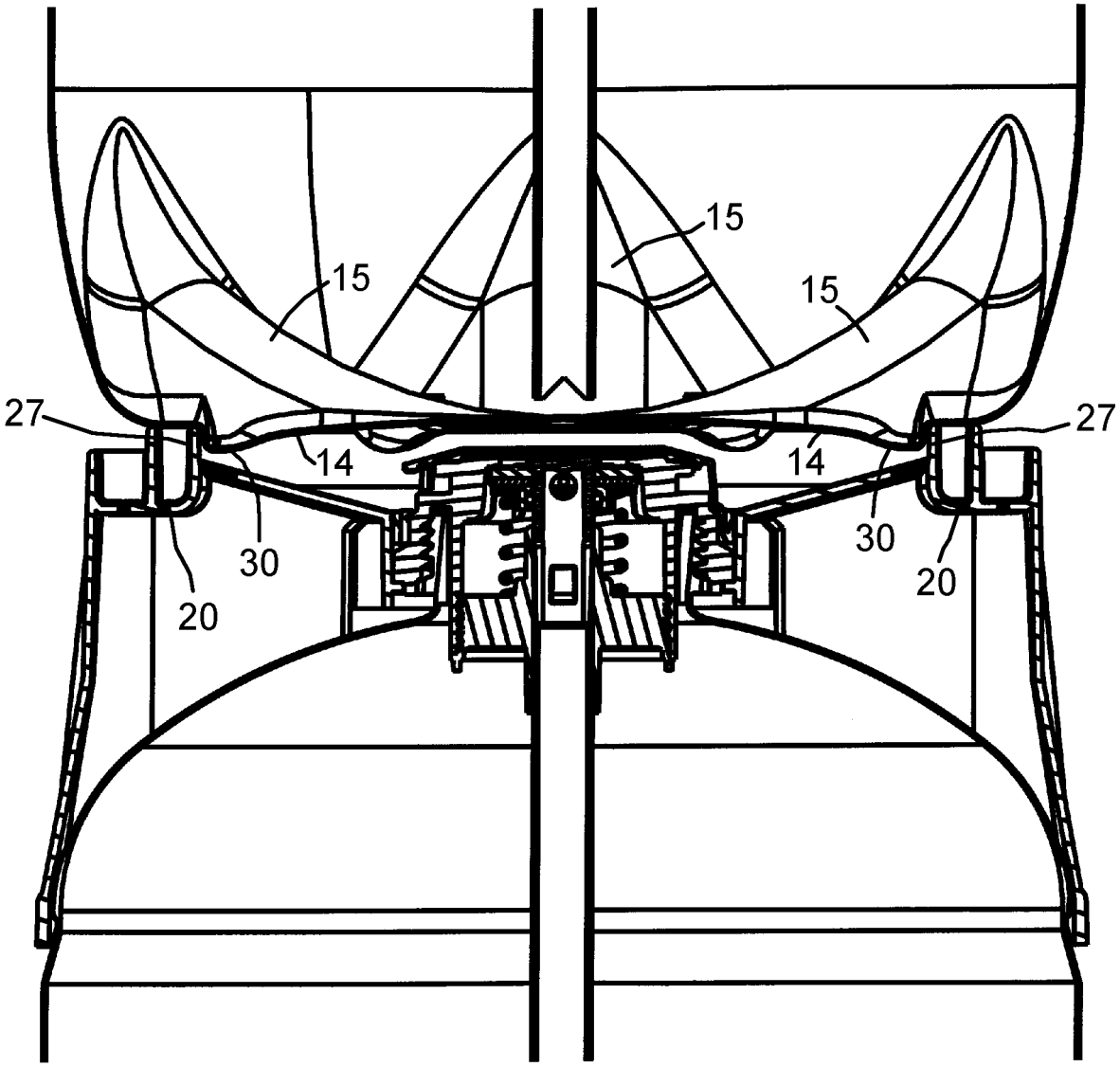


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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