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(54) **BEVERAGE CONTAINER WITH A LID AND A SEAL**

(57) The invention relates to a beverage container with a lid for closing the beverage container and a seal, wherein the container comprises:
- a bottom wall;
- an upstanding wall arranged along the periphery of the bottom wall, wherein the upper edge of the upstanding wall defines a container opening;

wherein the lid comprises:
- a cover wall for covering the container opening;
- a sealing wall depending from the periphery of the cover wall

and wherein the seal is an annular seal arranged between the sealing wall of the lid and the inside of the upstanding wall of the container, wherein
an outflow depression is either provided in the inside of the upstanding wall of the container, which outflow depression extends from the upper edge downwards, or is provided in the sealing wall and extends from the top surface of the cover wall and downwards along the sealing wall;
wherein the annular seal is arranged on either the inside of the upstanding wall or the sealing wall and on the opposite wall of the wall in which the outflow depression is provided;
wherein in a first angular position of the lid relative to the container, the seal runs below the outflow depression sealing the inside of the container from the outflow depression and wherein in a second angular position of the lid relative to the container, the seal runs across the outflow depression such that a passage is formed from the inside of the container along the outflow depression towards the outside of the container.

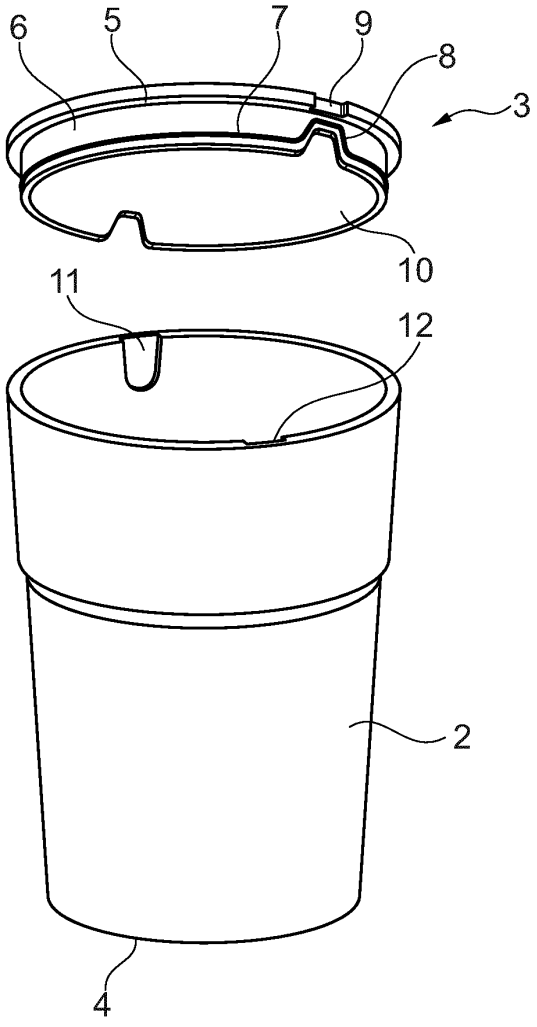

Fig. 2

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Description

[0001] The invention relates to a beverage container with a lid for closing the beverage container and a seal, wherein the container comprises:

- a bottom wall;
- an upstanding wall arranged along the periphery of the bottom wall, wherein the upper edge of the upstanding wall defines a container opening;

  wherein the lid comprises:

  - a cover wall for covering the container opening;
  - a sealing wall depending from the periphery of the cover wall

  and wherein the seal is an annular seal arranged between the sealing wall of the lid and the inside of the upstanding wall of the container.

[0002] Such beverage containers are widely known and used to transport a liquid beverage without any spillage. When a user wants to drink the beverage, the lid is removed and the beverage can be drunk from the container.

[0003] However, when one is on the move, for example walking or driving in a car, the beverage can easily spill from the container, when the lid is removed. To this end, lids are known, for example from WO 2021000009, having a drinking opening. The disadvantage of such lids is that the container cannot be fully sealed. Paper or plastic beverage containers, such as used at fast food restaurants, can be thrown into the garbage when empty.

[0004] Reusable containers however need to be taken along when empty, such that they can be cleaned and be reused. With such known lids having a drinking opening drops can still leak out of the container when the container is empty. This is undesired especially when the container is stored in a bag or the like.

[0005] To prevent leakage it is known to provide a separate closure for the drinking opening. These closures make the lid more complex, which complicates cleaning and increases the chance on failure, especially when containers are used in a deposit system.

[0006] It is an object of the invention to reduce or even remove the above mentioned disadvantages.

[0007] This object is achieved with a beverage container according to the preamble, which is characterized in that an outflow depression is either provided in the inside of the upstanding wall of the container, which outflow depression extends from the upper edge downwards, or is provided in the sealing wall and extends from the top surface of the cover wall and downwards along the sealing wall;

wherein the annular seal is arranged on either the inside of the upstanding wall or the sealing wall and on the opposite wall of the wall in which the outflow depression is provided;

wherein in a first angular position of the lid relative to the container, the seal runs below the outflow depression sealing the inside of the container from the outflow depression and wherein in a second angular position of the lid relative to the container, the seal runs across the outflow depression such that a passage is formed from the inside of the container along the outflow depression towards the outside of the container.

[0008] With the beverage container according to the invention it is possible to fully seal the container, by positioning the lid in the first angular position and to be able to drink from the beverage container, while still having the lid on the container, by positioning the lid in the second angular position. In this second angular position, the outflow depression provides for bypass channel past the seal, such that the beverage can flow from the container, through the outflow depression towards the outside.

[0009] A further advantage is that the container according to the invention can easily be cleaned as there are no through holes in the lid, but only an outflow depression. This depression can easily be reached with a brush or the like when cleaning.

[0010] Furthermore, due to the lack of any separate closures arranged to the lid, the chance of failure of the beverage container according to the invention is minimized, which allows for the use of the beverage container according to the invention in a deposit system.

[0011] In a preferred embodiment of the beverage container according to the invention the annular seal runs generally parallel to the upper edge of the upstanding wall, wherein the annular seal comprises at least one U-shaped loop extending in upward direction, which U-shaped loop crosses the outflow depression in the second angular position.

[0012] With the U-shaped loop of the seal a specific angular position is created at which the outflow depression provides a bypass channel along the seal. In all other angular positions, the seal will ensure that the lid fully seals the container and no beverage can leak out of the container.

[0013] A further preferred embodiment of the beverage container according to the invention further comprises a venting depression arranged in the same wall as the outflow depression and wherein in the first angular position of the lid, the seal runs below the venting depression sealing the inside of the container from the venting depression and wherein in the second angular position of the lid, the seal runs across the venting depression such that a passage is formed from the outside of the container along the venting depression towards the inside of the container.

[0014] With an additional venting depression the outflow of beverage via the outflow depression is improved

as the container can simultaneously be vented via the venting depression, when the lid is in the second angular position. This also allows for a shallower outflow depression as venting no longer needs to be done via the outflow depression.

[0015] Preferably, in the beverage container according to the invention the seal comprises a second U-shaped loop extending in upward direction, which second U-shaped loop crosses the venting depression in the second angular position.

[0016] This also ensures that the venting depression is opened at the specific second angular position, while at other angular positions the lid fully seals the container.

[0017] In a further preferred embodiment of the beverage container according to the invention the outflow depression and venting depression are arranged diametrically opposite each other. When drinking through the outflow depression, the venting depression will be positioned at the top most position of the container, such that the chance of the beverage leaking via the venting depression will be minimized.

[0018] In yet another embodiment of the beverage container according to the invention the cover wall of the lid extends at least on to the top of the upper edge of the upstanding wall and wherein at least one recess is arranged in the peripheral edge of the cover wall, wherein one recess is aligned with the outflow depression in the second angular position.

[0019] The cover wall of the lid extending on to the top of the upper edge of the upstanding wall provides a clear visible indication that the lid is position sufficiently deep into the container opening, such that sealing is ensured, when the lid is in the first angular position.

[0020] Preferably, the annular seal is formed as a rib arranged on the respective wall. By integrating the seal on the respective wall it is ensured that during the lifetime of the beverage container, the seal cannot get missing.

[0021] Furthermore preferred is when the annular seal is formed by 2K injection moulding. This allows for a relative rigid plastic to be used for the lid and the container, while the annular seal can be made of a flexible plastic.

[0022] These and other features of the invention will be elucidated in conjunction with the accompanying drawings.

Figure 1 shows in perspective view an embodiment of a beverage container according to the invention.
Figure 2 shows the container of figure 1 with the lid removed.
Figure 3 shows a cross-sectional view along the lines III-III shown in figure 1.
Figure 4 shows a cross-sectional view along the lines IV-IV shown in figure 1.

[0023] Figure 1 shows in perspective view an embodiment of a beverage container 1 according to the invention. The beverage container 1 has bottom wall 4 with an upstanding wall 2 and a lid 3.

[0024] Figure 2 shows the container 1 with the lid 3 removed. The lid 3 has a cover wall 5 and a sealing wall 6 depending from the periphery of the cover wall 5. An annular seal 7 is arranged on the sealing wall 6. This annular seal 7 is provided with a U-shaped loop 8, which extends in upward direction. The cover wall 5 is provided with an recess 9 arranged in the peripheral edge of this cover wall 5 aligned with the U-shaped loop 8. Furthermore the bottom edge 10 of the sealing wall 6 follows the curvature of the annular seal 7.

[0025] The inner surface of the upstanding wall 2 is provided with a venting depression 11 and an outflow depression 12. The lid 3 is positioned in the second angular position when the outflow depression 12 is aligned with the U-shaped loop 8 of the seal 7 and the recess 9. At the same time a second U-shaped loop will be aligned similarly with the venting depression 11 and the recess 13 in the lid 3 (see figure 1).

[0026] Figure 3 shows a cross-sectional view along the lines III-III as shown in figure 1. The lid 3 is arranged in the second angular position such that the U-shaped loop 8 of the seal 7 crosses the outflow depression 12. As a result a channel is formed along which a flow F of beverage can flow from the inside of the container 2 along the outflow depression 12, past the seal 8 and the recess 9 to the outside (see figure 4).

[0027] It is clear from figure 3, that when the lid 3 is rotated relative to the upstanding wall 2 of the container, such that the U-shaped loop 8 is no longer aligned with the outflow depression 12 (or venting depression 11), the annular seal completely seals the lid 3 relative to the container 2.

Claims

1. Beverage container with a lid for closing the beverage container and a seal, wherein the container comprises:

    - a bottom wall;
    - an upstanding wall arranged along the periphery of the bottom wall, wherein the upper edge of the upstanding wall defines a container opening;
    wherein the lid comprises:

        - a cover wall for covering the container opening;
        - a sealing wall depending from the periphery of the cover wall

    and wherein the seal is an annular seal arranged between the sealing wall of the lid and the inside of the upstanding wall of the container, **characterized in that**
    an outflow depression is either provided in the inside of the upstanding wall of the container, which outflow depression extends from the

upper edge downwards, or is provided in the sealing wall and extends from the top surface of the cover wall and downwards along the sealing wall;
wherein the annular seal is arranged on either the inside of the upstanding wall or the sealing wall and on the opposite wall of the wall in which the outflow depression is provided;
wherein in a first angular position of the lid relative to the container, the seal runs below the outflow depression sealing the inside of the container from the outflow depression and wherein in a second angular position of the lid relative to the container, the seal runs across the outflow depression such that a passage is formed from the inside of the container along the outflow depression towards the outside of the container.

2. Beverage container according to claim 1, wherein the annular seal runs generally parallel to the upper edge of the upstanding wall, wherein the annular seal comprises at least one U-shaped loop extending in upward direction, which U-shaped loop crosses the outflow depression in the second angular position.

3. Beverage container according to claim 1 or 2, further comprising a venting depression arranged in the same wall as the outflow depression and wherein in the first angular position of the lid, the seal runs below the venting depression sealing the inside of the container from the venting depression and wherein in the second angular position of the lid, the seal runs across the venting depression such that a passage is formed from the outside of the container along the venting depression towards the inside of the container.

4. Beverage container according to claim 2 and 3, wherein the seal comprises a second U-shaped loop extending in upward direction, which second U-shaped loop crosses the venting depression in the second angular position.

5. Beverage container according to claim 3 or 4, wherein the outflow depression and venting depression are arranged diametrically opposite each other.

6. Beverage container according to any of the preceding claims, wherein the cover wall of the lid extends at least on to the top of the upper edge of the upstanding wall and wherein at least one recess is arranged in the peripheral edge of the cover wall, wherein one recess is aligned with the outflow depression in the second angular position.

7. Beverage container according to any of the preceding claims, wherein the annular seal is formed as a rib arranged on the respective wall.

8. Beverage container according to claim 7, wherein the annular seal is formed by 2K injection moulding.

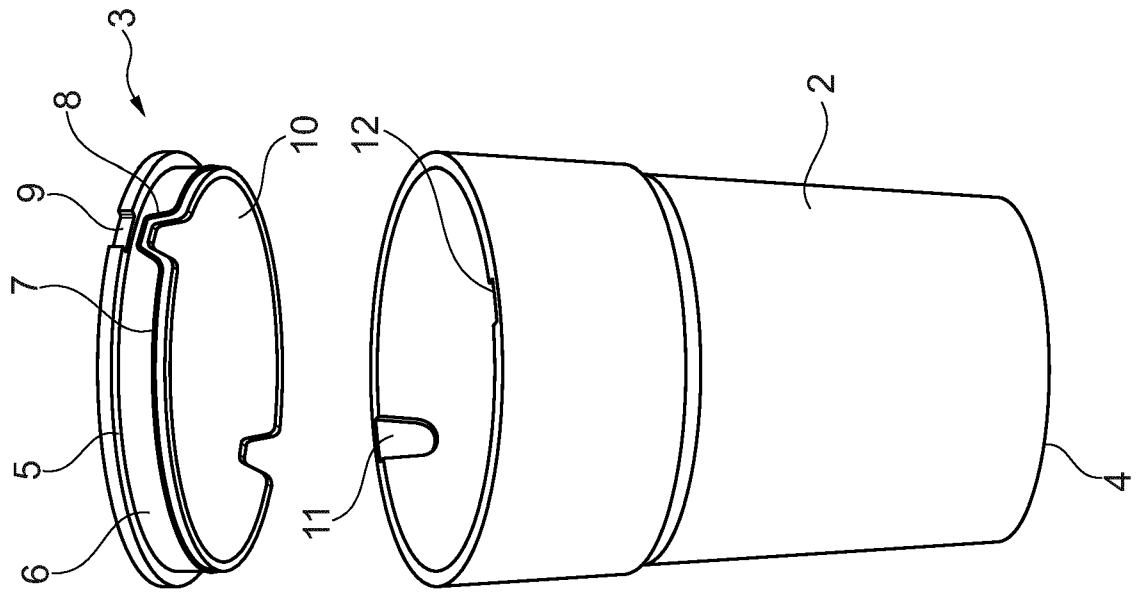

Fig. 2

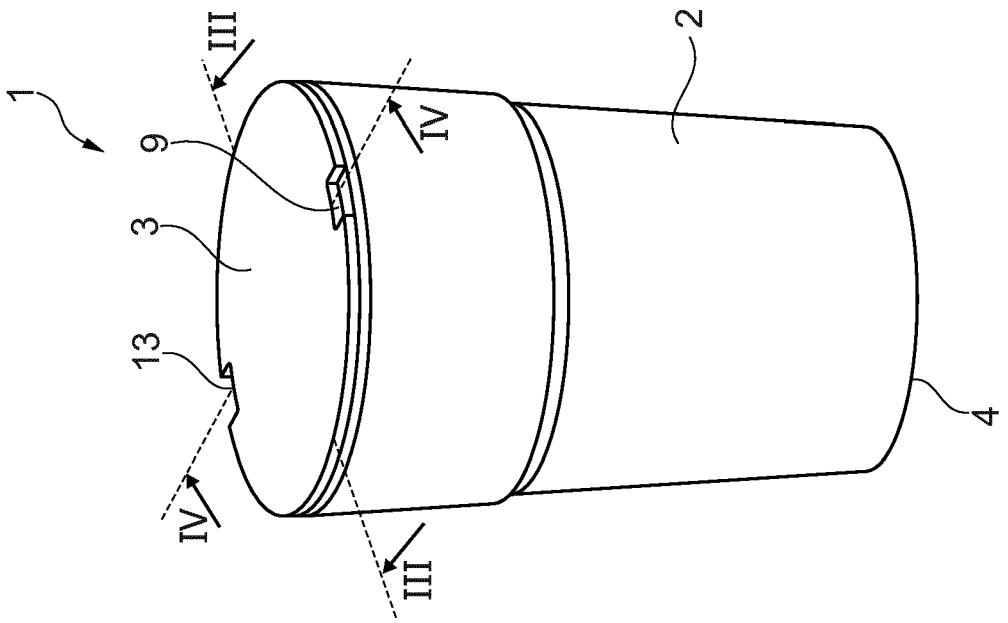

Fig. 1

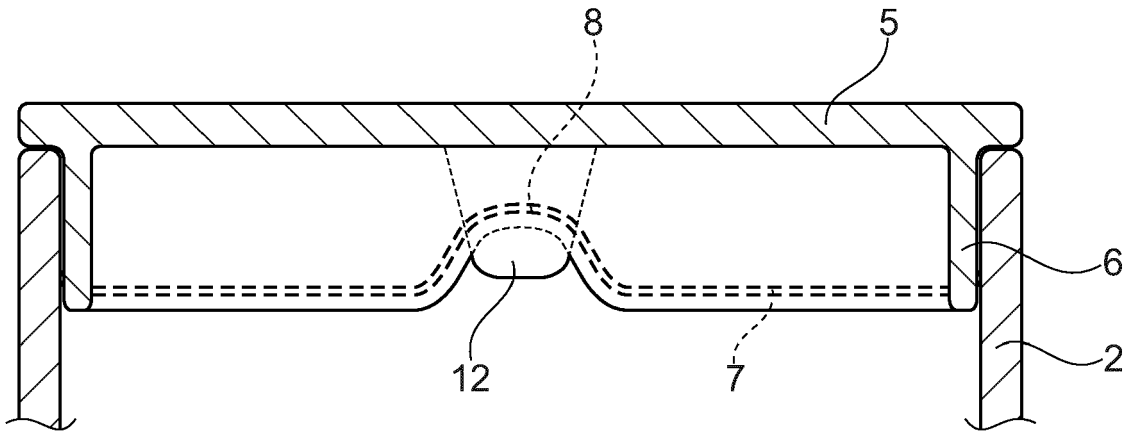

Fig. 3

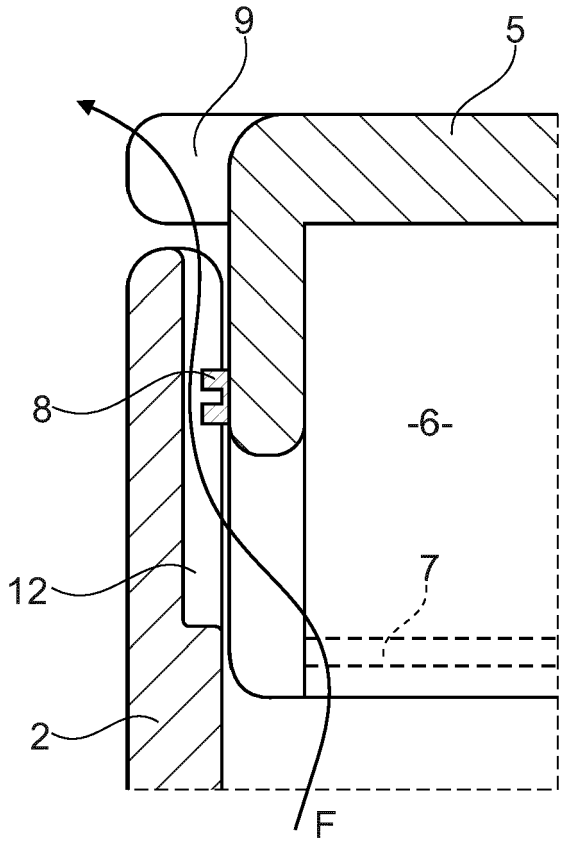

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 23 18 9006

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2018/265265 A1 (HANNIGAN MICHAEL J [US]) 20 September 2018 (2018-09-20) * abstract; figures 1,2 *	1-8	INV. B65D43/02 B65D47/32
A	US 1 747 591 A (ARLINGTON MOORE) 18 February 1930 (1930-02-18) * figures 1-5 *	1-8	
A	KR 2022 0000117 A (MAENG HYUN BAE [KR]) 3 January 2022 (2022-01-03) * figures 2,3,5 *	1-8	
A	FR 1 084 897 A (FABRE ELISE) 25 January 1955 (1955-01-25) * figures 1-4 *	1-8	

TECHNICAL FIELDS SEARCHED (IPC)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	14 December 2023	Tempels, Marco

CATEGORY OF CITED DOCUMENTS

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14-12-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2018265265 A1	20-09-2018	NONE	
US 1747591 A	18-02-1930	NONE	
KR 20220000117 A	03-01-2022	NONE	
FR 1084897 A	25-01-1955	NONE	

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Patent documents cited in the description

- WO 2021000009 A **[0003]**