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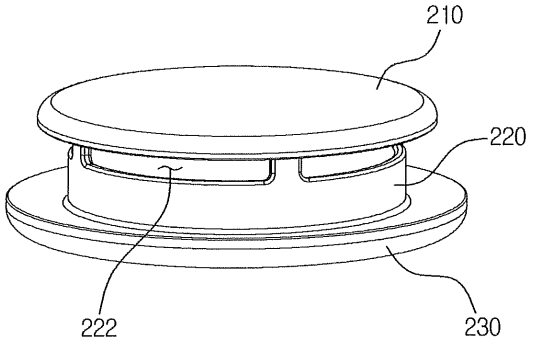
(54) BEVERAGE RECEPTACLE AND VALVE FOR INJECTION-VIA-BOTTOM BEVERAGE RECEPTACLE

(57) The present invention relates to a beverage receptacle and a valve for an injection-via-bottom beverage receptacle, and particularly to a beverage receptacle and a valve for an injection-via-bottom beverage receptacle, the valve comprising: a cover part for opening and closing an injection port; a blade part arranged on a lower part of the cover part; and an elastic part arranged between the cover part and the blade part and applying elastic force to the cover part in a direction in which the injection port is closed, wherein the elastic part has provided thereto a through-hole into which a nozzle is fitted, and injection holes which communicate with the through-hole, wherein the elastic part is formed from a soft elastic material, and thus the structure of the valve is greatly simplified, thereby enabling the easy washing and drying thereof, thus enabling the prevention of bacterial propagation, and maintenance and repair thereof is easy, and the assembly thereof is easy since the number of components is reduced, and a beverage is prevented from leaking between the nozzle and the valve when injecting same since the nozzle is fitted into the elastic part, and the cover part may be formed so as to maximize watertightness since the cover part does not have to be subject to elastic deformation when injecting the beverage.

Fig. 2



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Description

Technical Field

[0001] The present invention relates to a beverage receptacle and a valve for an injection-via-bottom beverage receptacle, and more particularly, to a beverage receptacle and a valve for an inj ection-via-bottom beverage receptacle, the valve including a cover part configured to open and close an injection port, a blade part disposed at a lower portion of the cover part, and an elastic part disposed between the cover part and the blade part to apply an elastic force to the cover part in a direction in which the injection port is closed, wherein the elastic part includes a through-hole into which a nozzle is fitted and an injection hole configured to communicate with the through-hole, and the elastic part is formed of a soft elastic material.

Background Art

[0002] As examples of receptacles in which beverages with bubbles are contained, beer glasses, which are most commonly used, are formed of transparent glass or synthetic resin. Generally, because a relatively large amount of beer is drunk at one time, beer glasses capable of holding 500 ml and 1,000 ml of beer are widely used.

[0003] The conventional beer glasses are configured to have a closed bottom and an open upper portion so that beverages may be injected through the upper opening.

[0004] In contrast to other beverages, a beverage such as draft beer, which is supplied through a beverage injection apparatus, is poured through an upper open portion, and thus a large amount of beer bubbles is generated due to an injection pressure. Accordingly, there is the inconvenience of having to remove bubbles each time after a beverage is injected into a receptacle such as a beer bottle.

[0005] Therefore, when draft beer is supplied to a beverage container using a conventional draft beer supply apparatus, there are problems in that, because draft beer is mostly supplied from an upper side, when the temperature is not right, a large amount of bubbles is generated and flows down, which may cause clothes to become wet or is not favorable in terms of hygiene, and the taste of draft beer is deteriorated due to too many bubbles.

[0006] In addition, when pouring beer in conventional beer glasses, there is a problem in that, due to contact between air and the beer, which causes the beer to be oxidized, the taste of the beer is deteriorated. Such a phenomenon is more pronounced when drinking draft beer.

[0007] When, in order to address the above problems, draft beer is supplied by forming a hole in a lower surface of a beverage receptacle, the amount of draft beer bubbles may be maintained to be moderate. However, even when attempting to apply such a method, there is a problem in that, because a method of sealing the hole in the bottom of the beverage receptacle after injecting draft beer through the hole is not appropriate, the method cannot be adopted.

[0008] Accordingly, the need for a beverage receptacle capable of improving such problems has come to the fore.

[0009] As a related art for addressing the above problems, Korean Patent Registration No. 10-1243382 (March 7, 2013), "Device for blocking inlet of beverage cup and manufacturing method thereof" (hereinafter referred to as Related Art 1) has been proposed. Related Art 1 includes an inlet formed to pass through inner and outer portions of a bottom of a beverage cup and configured to supply a beverage into the beverage cup through a nozzle of a beverage injection apparatus and a magnetic blocking part provided at each of a bottom outer surface and a bottom inner surface of the beverage cup and magnetically attached so as to seal the beverage cup after a beverage is forcibly injected through the nozzle of the beverage injection apparatus.

[0010] In Related Art 1, when injection of a beverage is completed in a state in which the inlet is open, the magnetic blocking part closes the inlet using a magnetic force. In this way, leakage of the beverage to the outside is prevented.

[0011] However, in Related Art 1, because the magnetic blocking part formed of a metal material which has a magnetic force is used, the beverage is prone to contact with the magnetic blocking part. Such contact has a great risk of causing a beverage to be spoiled when the beverage cup is used for a long period and the beverage cup becomes rusty or the like. Accordingly, there is a problem in that a beverage cup of Related Art 1 is not effective as a receptacle of a beverage directly drunk by a person and as a receptacle that is sanitary and harmless to the human body. Also, Related Art 1 has a problem in that, because a cup main body and a bottom in which an inlet is formed are integrally formed, the whole cup has to be discarded when the inlet or a blocking device is contaminated.

[0012] As another related art, U.S. Patent No. 8827106 (hereinafter referred to as Related Art 2) has been proposed. In Related Art 2, a diaphragm valve is installed at an inlet to prevent leakage of a beverage to the outside after the beverage is injected. In Related Art 2, a valve cap and a valve insert are separately required to install the diaphragm valve at the bottom of a bottle, and because a beverage can be injected only when the whole diaphragm is elastically deformed, the diaphragm valve has to be thin. Accordingly, there is a problem in that the durability is decreased, and thus the service life is shortened.

[0013] In addition, as still another related art, Korean Utility Model Registration No. 473800 (hereinafter referred to as Related Art 3) has been proposed. In Related Art 3, a blocking shield is installed at the center of an injection part, and the injection part is opened and closed by the blocking shield. Even in Related Art 3, because

the injection part has to be opened and closed by elastically deforming the blocking shield, a portion (edge) of the blocking shield adhered to a container has to be thin. Accordingly, there is a problem in that the durability is decreased.

[0014] In addition, as yet another related art, U.S. Patent No. 4750314 (hereinafter referred to as Related Art 4) has been proposed. In Related Art 4, there is a member configured to seal a lower inlet of compressed gas. Even in the sealing member of Related Art 4, an end of a sealing part is formed to be thin so that gas is injected by the end of the sealing part being elastically deformed when the gas is injected. Accordingly, Related Art 4 has the same problems as Related Arts 2 and 3.

[Related Art Documents]

[Patent Documents]

[0015]

(Patent Document 1) Korean Patent Registration No. 10-1243382
(Patent Document 2) U.S. Patent No. 8827106
(Patent Document 3) Korean Utility Model Registration No. 473800
(Patent Document 4) U.S. Patent No. 4750314

Summary of Invention

Technical Problem

[0016] The present invention has been devised to address the above-described problems, and it is an object of the present invention to provide a beverage receptacle and a valve for an inj ection-via-bottom beverage receptacle capable of simplifying a structure of the valve and effectively sealing the beverage receptacle.

Solution to Problem

[0017] To achieve the above-described objective, a beverage receptacle of the present invention includes a receptacle main body including a bottom surface in which an injection port is formed and a sidewall surrounding the bottom surface and includes a valve at which the injection port is installed, wherein the valve includes a cover part configured to open and close the injection port, a blade part disposed at a lower portion of the cover part, and an elastic part disposed between the cover part and the blade part to apply an elastic force to the cover part in a direction of closing the injection port, wherein the elastic part includes a through-hole into which a nozzle is fitted and an injection hole configured to communicate with the through-hole, and the elastic part is formed of a soft elastic material.

[0018] The cover part, the blade part, and the elastic part may be integrally formed, and the cover part and the blade part may also be formed of the soft elastic material.

[0019] A maximum outer diameter of the cover part may be formed to be larger than a maximum outer diameter of the elastic part.

[0020] The cover part may be formed to be convex upward.

[0021] A vertical thickness of the blade part may be formed to be larger than a vertical thickness of the cover part.

[0022] The blade part may be formed to be concave downward.

[0023] A lower end of the injection hole may be disposed higher than a lower surface of the bottom surface.

[0024] To achieve the above-described objective, a valve for an injection-via-bottom beverage receptacle includes a cover part configured to open and close an injection port, a blade part disposed at a lower portion of the cover part, and an elastic part disposed between the cover part and the blade part to apply an elastic force to the cover part in a direction of closing the injection port, wherein the elastic part includes a through-hole into which a nozzle is fitted and an injection hole configured to communicate with the through-hole, and the elastic part is formed of a soft elastic material.

Advantageous Effects of Invention

[0025] The above-described beverage receptacle and valve for an injection-via-bottom beverage receptacle of the present invention have the following effects.

[0026] The valve includes a cover part configured to open and close an injection port, a blade part disposed at a lower portion of the cover part, and an elastic part disposed between the cover part and the blade part to apply an elastic force to the cover part in a direction of closing the injection port, wherein the elastic part includes a through-hole into which a nozzle is fitted and an injection hole configured to communicate with the through-hole, and the elastic part is formed of a soft elastic material. Because a structure of the valve is extremely simplified and thus washing and drying thereof are facilitated, bacterial propagation can be prevented, maintenance and repair of the structure are facilitated, and assembly of the structure is facilitated because of the reduced number of components. Because the nozzle is fitted to the elastic part, a beverage is prevented from leaking between the nozzle and the valve when the beverage is injected, and because elastic deformation of the cover part is not necessary when a beverage is injected, an end of the cover part may be formed to be thick so that the beverage receptacle is more effectively sealed. Also, because the elastic part, which is a portion being elastically deformed, is separated from a beverage in the receptacle main body by the cover part, deformation of the elastic part due to the beverage is prevented.

[0027] Because the cover part, the blade part, and the elastic part are integrally formed, the cover part and the blade part are also formed of the soft elastic material, the

structure of the valve is extremely simplified, and a separate sealing member is not necessary, the number of components is reduced, and the beverage does not leak even when a lower portion of the valve is tapped. Also, because, when replacing or mounting the valve, the cover part or the blade part just have to be folded and withdrawn from or fitted into the injection port, the replacement is facilitated.

[0028] Because the maximum outer diameter of the cover part is formed to be larger than the maximum outer diameter of the elastic part, the injection hole of the elastic part can be effectively blocked, and the cover part is prevented from falling out downward due to an internal pressure of the beverage.

[0029] Because the cover part is formed to be convex upward, or the blade part is formed to be concave downward, the beverage receptacle can be more effectively sealed.

[0030] Because the vertical thickness of the blade part is formed to be larger than that of the cover part, the valve does not fall off into the beverage receptacle when a beverage is injected.

[0031] Because the lower end of the injection hole is disposed higher than the lower surface of the bottom surface, when a beverage is injected, the injected beverage can be prevented from leaking to a portion below the bottom surface of the beverage receptacle. Also, by preventing contamination of the injection hole when the beverage receptacle is placed on the floor, the possibility of bacterial propagation can be minimized.

Brief Description of Drawings

[0032]

Fig. 1 is an exploded view of a beverage receptacle according to an exemplary embodiment of the present invention.

Fig. 2 is a perspective view of a valve for an injection-via-bottom beverage receptacle according to an exemplary embodiment of the present invention.

Fig. 3 is a cross-sectional view of the valve for an inj ection-via-bottom beverage receptacle according to an exemplary embodiment of the present invention.

Fig. 4 is a bottom perspective view of a beverage receptacle according to an exemplary embodiment of the present invention.

Fig. 5 is a cross-sectional view illustrating a state of the beverage receptacle according to an exemplary embodiment of the present invention before a beverage is injected therein

Fig. 6 is a cross-sectional view illustrating a state in which a beverage is injected into the beverage receptacle according to an exemplary embodiment of the present invention.

Detailed Description of Embodiment

[0033] Hereinafter, an exemplary embodiment of the present invention will be described in detail with reference to the accompanying drawings .

[0034] Among configurations of the present invention which will be described below, for those which are the same as the related art, reference should be made to the above-described related art, and detailed description thereof will be omitted herein.

[0035] As illustrated in FIGS. 1 to 6, a beverage receptacle of the present embodiment includes a receptacle main body 100 including a bottom surface 110 in which an injection port 111 is formed and a sidewall 120 surrounding the bottom surface 110, and a valve 200 at which the injection port 111 is installed, wherein the valve 200 includes a cover part 210 configured to open and close the injection port 111, a blade part 230 disposed at a lower portion of the cover part 210, and an elastic part 220 disposed between the cover part 210 and the blade part 230 to apply an elastic force to the cover part 210 in a direction of closing the injection port 111, wherein the elastic part 220 includes a through-hole 221 into which a nozzle 540 is fitted and an injection hole 222 configured to communicate with the through-hole 221, and the elastic part 220 is formed of a soft elastic material.

[0036] The receptacle main body 100 includes the bottom surface 110 in which the injection port 111 is formed and the sidewall 120 surrounding the bottom surface 110.

[0037] The receptacle main body 100 is formed in the shape of a cup with an open upper portion.

[0038] The bottom surface 110 is formed to be horizontal and has the injection port 111 formed in a central portion thereof.

[0039] The injection port 111 is formed to pass through the bottom surface 110 in a vertical direction.

[0040] A vertical thickness of the bottom surface 110 is formed to be larger than a horizontal thickness of the sidewall 120.

[0041] The sidewall 120 is formed to be tapered so that an outer diameter thereof gradually increases upward.

[0042] The bottom surface 110 is disposed between a lower end and an upper end of the sidewall 120 so that, when the receptacle main body 110 is placed on a floor, the bottom surface 110 is spaced apart from the floor.

[0043] The bottom surface 110 is disposed to be closer to the lower end of the sidewall 120.

[0044] In the sidewall 120, a portion disposed below the bottom surface 110 is formed to be thicker than a portion disposed above the bottom surface 110.

[0045] Further, a first locking part 101 to be locked to a beverage injection apparatus is formed at an outer circumferential surface of the sidewall 120 of the receptacle main body 100. The first locking part 101 is formed at the outer circumferential surface of the sidewall 120 so as to protrude outward.

[0046] The first locking part 101 is formed by a lower portion of the sidewall 120 being formed thicker than a

portion adjacent thereto.

[0047] The first locking part 101 is formed around the entire circumference of the receptacle main body 100. Accordingly, the first locking part 101 is formed in a circular shape. Unlike this, the first locking part 101 may also be formed in the shape of two or more arcs disposed to be spaced apart from each other.

[0048] The first locking part 101 is disposed below the bottom surface 110.

[0049] The valve 200 is installed in the injection port 111 to open and close the injection port 111.

[0050] The valve 200 includes the cover part 210 configured to open and close the injection port 111, the blade part 230 disposed at the lower portion of the cover part 210, and the elastic part 220 disposed between the cover part 210 and the blade part 230 to apply an elastic force to the cover part 210 in a direction of closing the injection port 111.

[0051] In the valve 200, the cover part 210, the blade part 230, and the elastic part 220 are integrally formed. The cover part 210, the blade part 230, and the elastic part 220 are formed of a soft elastic material.

[0052] For example, the cover part 210, the blade part 230, and the elastic part 220 may be formed of elastic and flexible materials such as silicone, elastomer, and natural rubber. Accordingly, since the valve 200 itself performs a sealing function, a separate sealing member such as an O-ring is not necessary.

[0053] The cover part 210 is formed in a disk shape, and an outer diameter thereof is formed to be larger than an inner diameter of the injection port 111. The cover part 210 is formed such that thicknesses of a central portion and an edge thereof are identical or similar.

[0054] An upper surface and a lower surface of the cover part 210 are formed to be convex upward such that the cover part 210 is formed to be convex upward as a whole. Accordingly, a height of an edge of the lower surface of the cover part 210 is formed to be lower than a height of a central portion thereof.

[0055] The cover part 210 is disposed at an upper portion of the bottom surface 110.

[0056] The blade part 230 is formed along an outer circumference of the elastic part 220 so as to protrude outward. The blade part 230 is formed along the entire circumference of the elastic part 220.

[0057] The blade part 230 is disposed at a lower portion of the cover part 210 to be spaced apart therefrom. Accordingly, a fitting groove into which the bottom surface 110 is fitted is formed between the blade part 230 and the cover part 210.

[0058] A vertical thickness of the blade part 230 is formed to be larger than that of the cover part 210.

[0059] An upper surface and a lower surface of the blade part 230 are formed to be concave downward such that the blade part 230 is formed to be concave downward as a whole. Accordingly, a height of an edge of the upper surface of the blade part 230 is formed to be higher than a height of a central portion thereof.

[0060] An outer diameter of the blade part 230 is formed to be larger than an outer diameter of the cover part 210.

[0061] The blade part 230 is disposed at a lower portion of the bottom surface 110. That is, the blade part 230 is locked to the receptacle main body 100. Accordingly, when a beverage is injected, the blade part 230 prevents the valve 200 from falling off into the receptacle main body 100.

[0062] In addition, when the beverage is injected, the blade part 230 serves to seal the beverage receptacle so that the beverage does not leak between the receptacle main body 100 and the valve 200. Also, the blade part 230 serves to prevent the beverage from leaking between the nozzle 540 of the beverage injection apparatus and the valve 200.

[0063] The blade part 230 is adhered to the lower surface of the bottom surface 110 by an elastic force of the elastic part 220.

[0064] A protrusion may be formed at the lower surface of the cover part 210 or the upper surface of the blade part 230. The protrusion may be formed in a circular shape so as to surround the elastic part 220. Due to such a protrusion, the cover part 210 or the blade part 230 may be prevented from being too tightly attached to the receptacle main body 100, and thus beverage injection or replacement of the valve 200 may be facilitated.

[0065] The elastic part 220 is fitted into the injection port 111. That is, the elastic part 220 is disposed inside the injection port 111.

[0066] Accordingly, a maximum outer diameter of the elastic part 220 is formed to be smaller than a maximum outer diameter of the cover part 210.

[0067] The cover part 210 is connected to an upper end of the elastic part 220, and the blade part 230 is connected to a lower end thereof.

[0068] The through-hole 221 into which the nozzle 540 is fitted and the injection hole 222 communicating with the through-hole 221 are formed in the elastic part 220.

[0069] The through-hole 221 is formed in the vertical direction such that the elastic part 220 is formed in a cylindrical shape.

[0070] The horizontal thickness of the elastic part 220 is formed to be smaller than the vertical thickness of the blade part 230.

[0071] An upper portion of the through-hole 221 is blocked by the cover part 210, and a lower portion thereof is open.

[0072] The injection hole 222 is formed in an upper portion of a side portion of the elastic part 220.

[0073] Two or more injection holes 222 are formed, and the injection holes 222 are disposed in a circumferential direction to be spaced apart from each other.

[0074] The injection hole 222 is formed to pass through the elastic part 220 in the horizontal direction.

[0075] A lower end of the injection hole 222 is disposed higher than the lower surface of the bottom surface 110.

[0076] When a beverage is not injected, an upper end

of the injection hole 222 is disposed at a height that is identical or similar to the height of the upper surface of the bottom surface 110 or slightly lower than the same. When a beverage is not injected, since even when the upper end of the injection hole 222 is slightly higher than the height of the upper surface of the bottom surface 110 the height of the lower surface of the cover part 210 is formed to be gradually smaller from the center to the edge thereof, the beverage receptacle may be easily sealed. That is, the injection hole 222 of the elastic part 220 is disposed to be spaced apart from the lowest end of the cover part 210 inward.

[0077] The nozzle 540 of the beverage injection apparatus of the present embodiment is formed in a cylindrical shape with a blocked upper portion. The nozzle 540 is formed perpendicularly in the vertical direction. Accordingly, the nozzle 540 may easily cause the cover part 210 to be spaced above and apart from the bottom surface 110.

[0078] The nozzle 540 is inserted into the through-hole 221 of the elastic part 220.

[0079] A discharge part 545 is formed at an upper portion of the nozzle 540 by being cut in the circumferential direction . The discharge part 545 is provided in plural (e.g., three), and the plurality of discharge parts 545 are disposed to be spaced apart from each other in the circumferential direction. The discharge part 545 through which a beverage is discharged communicates with the injection hole 222.

[0080] The nozzle 540 includes a small diameter portion 541 and a large diameter portion 542 disposed at a lower portion of the small diameter portion 541. Due to the large diameter portion 542, a nozzle locking step is formed at an outer circumferential surface of the nozzle 540. The nozzle locking step is formed to protrude outward along the entire circumference of the nozzle 540. When a beverage is injected, the nozzle locking step pushes (presses) the blade part 230 such that the valve 200 is prevented from falling off into the receptacle main body 100.

[0081] An outer diameter of the small diameter portion 541 is formed to be smaller than that of the large diameter portion 542.

[0082] A vertical length of the small diameter portion 541 is formed to be larger than a vertical thickness of the bottom surface 110.

[0083] The outer diameter of the small diameter portion 541 is formed to be slightly smaller than an inner diameter of the elastic part 220.

[0084] The outer diameter of the large diameter portion 542 is formed to be larger than an outer diameter of the elastic part 220. Accordingly, when the nozzle 540 is fitted into the elastic part 220, the lower surface of the elastic part 220 and the blade part 230 are locked to the large diameter portion 542.

[0085] An upper surface of the nozzle 540 is formed to be slightly convex upward or formed to be flat. Accordingly, the nozzle 540 may easily lift the disk-shaped cover part 210.

[0086] In the small diameter portion 541, which is an upper portion of the nozzle 540, a tapered portion is formed such that the outer diameter gradually decreases upward. The tapered portion is formed by an upper corner of the nozzle 540 being formed to be rounded. By the nozzle 540 being formed in this way, the beverage receptacle may be easily fitted to or withdrawn from the nozzle 540 even when the beverage receptacle is slightly tilted instead of being upright.

[0087] A sealing member such as an O-ring is installed at the outer circumferential surface of the nozzle 540 so that the sealing member is disposed between the large diameter portion 542 and the blade part 230.

[0088] In the beverage injection apparatus of the present embodiment, a gripper 530 is disposed along a circumference of each of both sides of the nozzle 540. The grippers 530 are installed in the beverage injection apparatus so as to be slidable in the horizontal direction so that a gap between the grippers 530 at both sides may be widened. The grippers which are spaced apart by a wider gap may be restored to their original positions by a magnetic force or an elastic force.

[0089] A second locking part 532, to which the first locking part 101 is locked, is formed at an inner side of the gripper 530. The first locking part 101 and the second locking part 532 are locked to each other in the vertical direction.

[0090] The second locking part 532 is formed to be inclined so that an inner diameter thereof gradually decreases downward. The second locking part 532 is formed at a lower portion of an inner side of an upper surface 531.

[0091] The second locking part 532 is formed to be curved in an arc shape. By causing an R-value at a middle portion to be smaller than an R-value at an end portion, the beverage receptacle may be more easily withdrawn as compared with when the beverage receptacle is tilted and withdrawn.

[0092] Hereinafter, actions of the present embodiment having the above-described configuration will be described.

[0093] For the nozzle 540 of the beverage injection apparatus to be inserted into the elastic part 220 of the beverage receptacle, the beverage receptacle is lowered toward the nozzle 540. Thus, the nozzle 540 is inserted into the elastic part 220, and the first locking part 101 of the receptacle main body 100 is locked to the second locking part 532 of the gripper 530. Accordingly, the locking between the first locking part 101 and the second locking part 532 is stably maintained by the elastic force of the elastic part 220, and the blade part 230 is adhered to the large diameter portion 542 so that sealing between the nozzle 540 and the receptacle main body 100 is performed effectively.

[0094] In addition, due to the nozzle 540 being inserted into the elastic part 220, the nozzle 540 lifts the cover part 210. Thus, the lower portion of the elastic part 220

is fixed by the blade part 230, and the upper portion of the elastic part 220 is lifted together with the cover part 210 such that the elastic part 220 is elastically deformed in the vertical direction. In this way, the elastic part 220 is stretched, and the injection hole 222 is also enlarged. The height of the upper end of the injection hole 222 becomes higher than the height of the upper surface of the bottom surface 110. Accordingly, a beverage injected through the nozzle 540 is injected into the receptacle main body 100 through the bottom surface 110.

[0095] When the beverage receptacle is tilted and withdrawn because the injection of the beverage is finished, the first locking part 101 is withdrawn from the second locking part 532, and the nozzle 540 is detached from the valve 200. Thus, the elastic part 220 is restored to its original state, and the vertical length of the elastic part 220 is reduced. Accordingly, the cover part 210 is adhered to the upper surface of the bottom surface 110 due to the elastic force of the elastic part 220 and a pressure of the beverage inside the receptacle main body 100. A gap between the cover part 210 and the blade part 230 is reduced. Thus, the injection port 111 is blocked by the cover part 210. Also, because the blade part 230 also receives the elastic force of the elastic part 220, leakage of the beverage is prevented even when the valve 200 is tapped after the beverage is injected.

[0096] The present invention has been described above with reference to the exemplary embodiment thereof, but those of ordinary skill in the art should be able to practice the present invention by modifying or changing the present invention in various ways within the scope not departing from the idea and scope of the present invention described in the claims below.

[Description of reference numerals]

[Description of reference numerals of main parts in the drawings]

[0097]

100:	receptacle main body
110:	bottom surface
111:	injection port
120:	sidewall
200:	valve
210:	cover part
220:	elastic part
221:	through-hole
222:	injection hole
230:	blade part

Claims

1. A beverage receptacle comprising:

a receptacle main body including a bottom surface, in which an injection port is formed and a sidewall surrounding the bottom surface; and
a valve at which the injection port is installed, wherein:

the valve includes a cover part configured to open and close the injection port, a blade part disposed at a lower portion of the cover part, and an elastic part disposed between the cover part and the blade part to apply an elastic force to the cover part in a direction of closing the injection port;
the elastic part includes a through-hole into which a nozzle is fitted and an injection hole configured to communicate with the through-hole; and
the elastic part is formed of a soft elastic material.

2. The beverage receptacle of claim 1, wherein:

the cover part, the blade part, and the elastic part are integrally formed; and
the cover part and the blade part are also formed of the soft elastic material.

3. The beverage receptacle of claim 1 or 2, wherein a maximum outer diameter of the cover part is formed to be larger than a maximum outer diameter of the elastic part.

4. The beverage receptacle of claim 1 or 2, wherein the cover part is formed to be convex upward.

5. The beverage receptacle of claim 1 or 2, wherein a vertical thickness of the blade part is formed to be larger than a vertical thickness of the cover part.

6. The beverage receptacle of claim 1 or 2, wherein the blade part is formed to be concave downward.

7. The beverage receptacle of claim 1 or 2, wherein a lower end of the injection hole is disposed higher than a lower surface of the bottom surface.

8. A valve for an injection-via-bottom beverage receptacle, the valve comprising:

a cover part configured to open and close an injection port;
a blade part disposed at a lower portion of the cover part; and
an elastic part disposed between the cover part and the blade part to apply an elastic force to the cover part in a direction of closing the injection port, wherein:

the elastic part includes a through-hole into

which a nozzle is fitted and an injection hole configured to communicate with the through-hole; and
the elastic part is formed of a soft elastic material.

Fig. 1

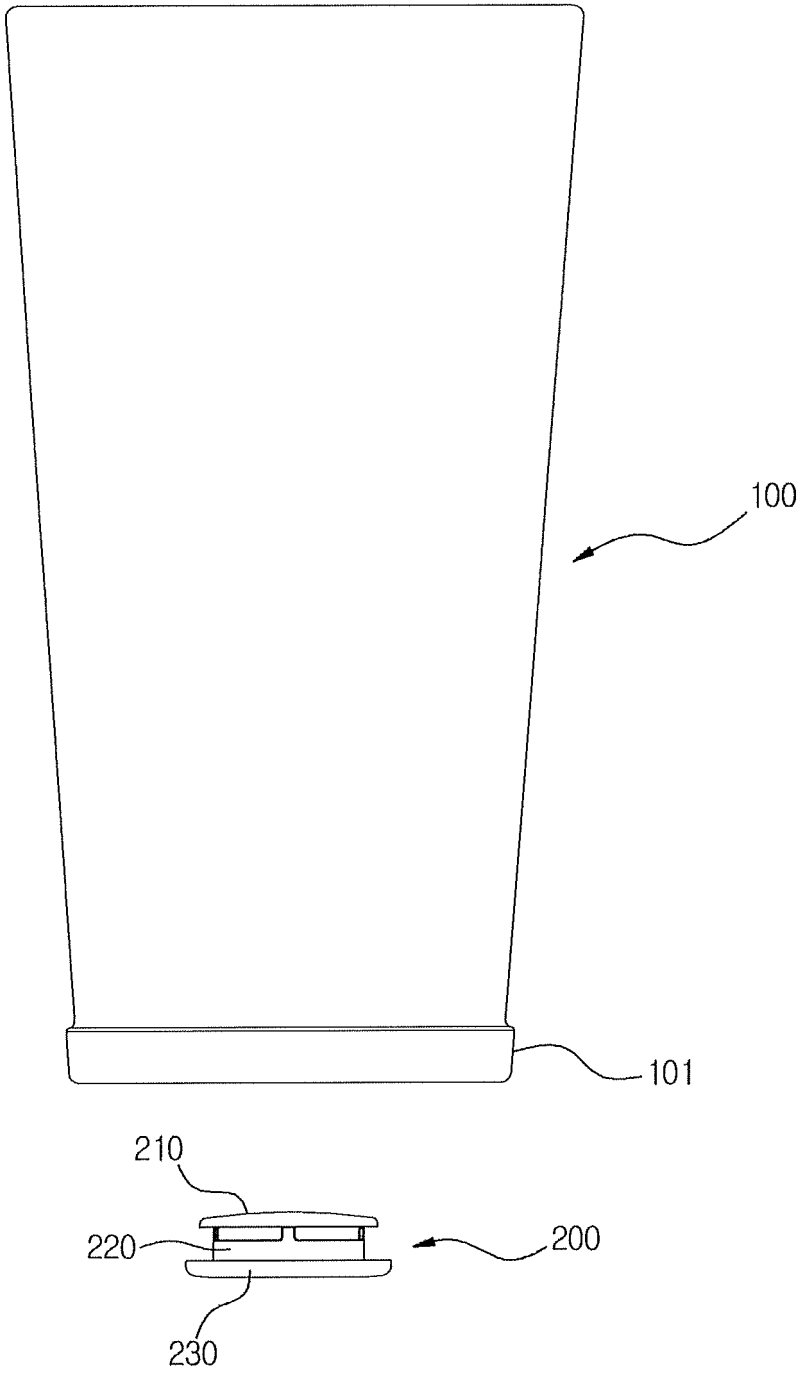


Fig. 2

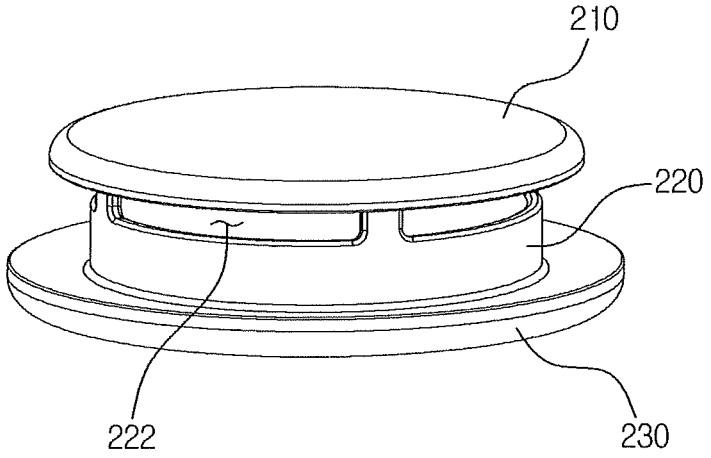


Fig. 3

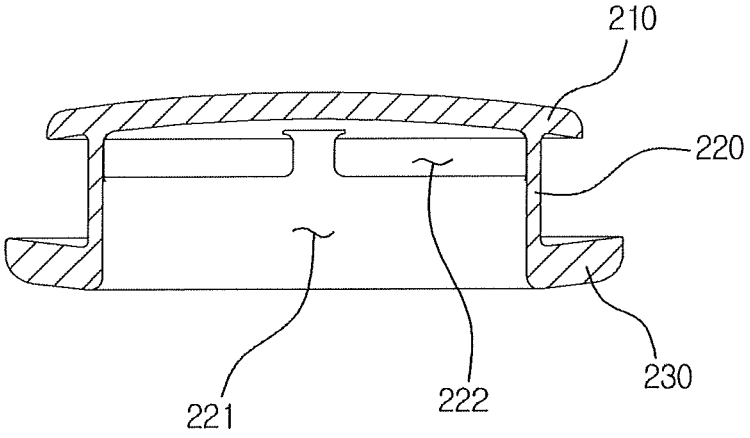


Fig. 4

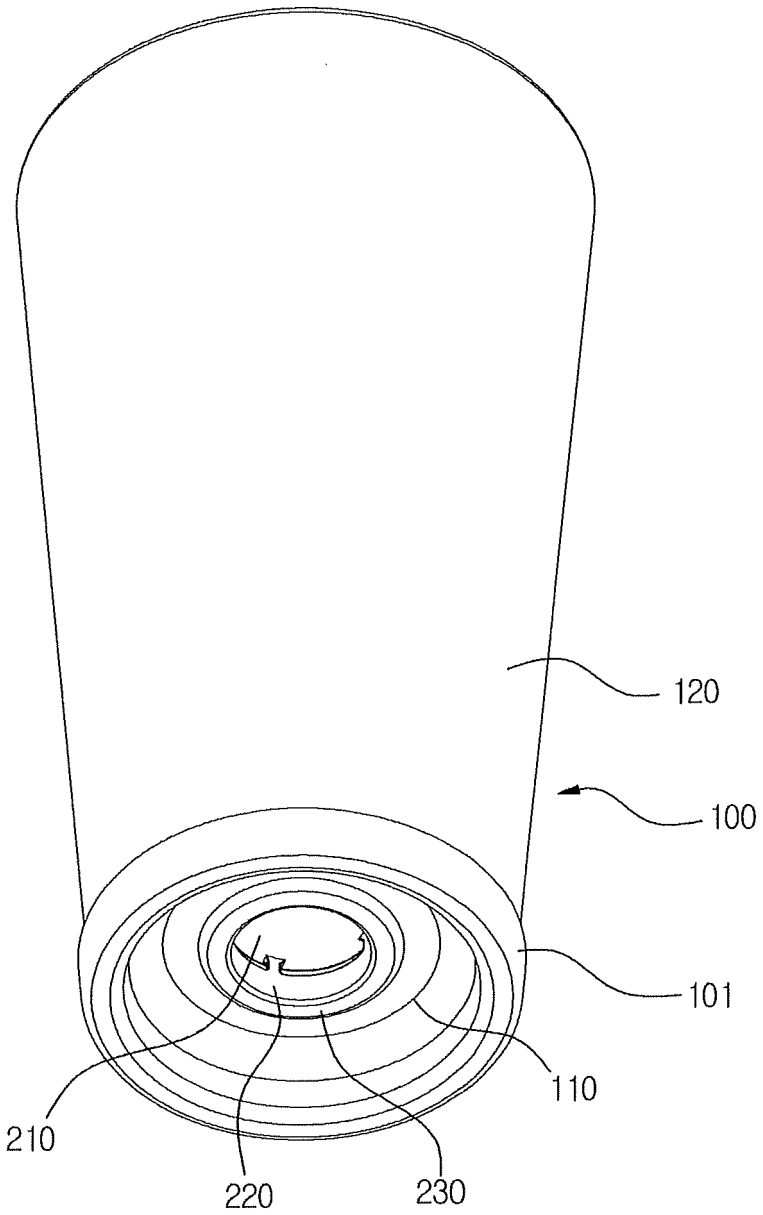


Fig. 5

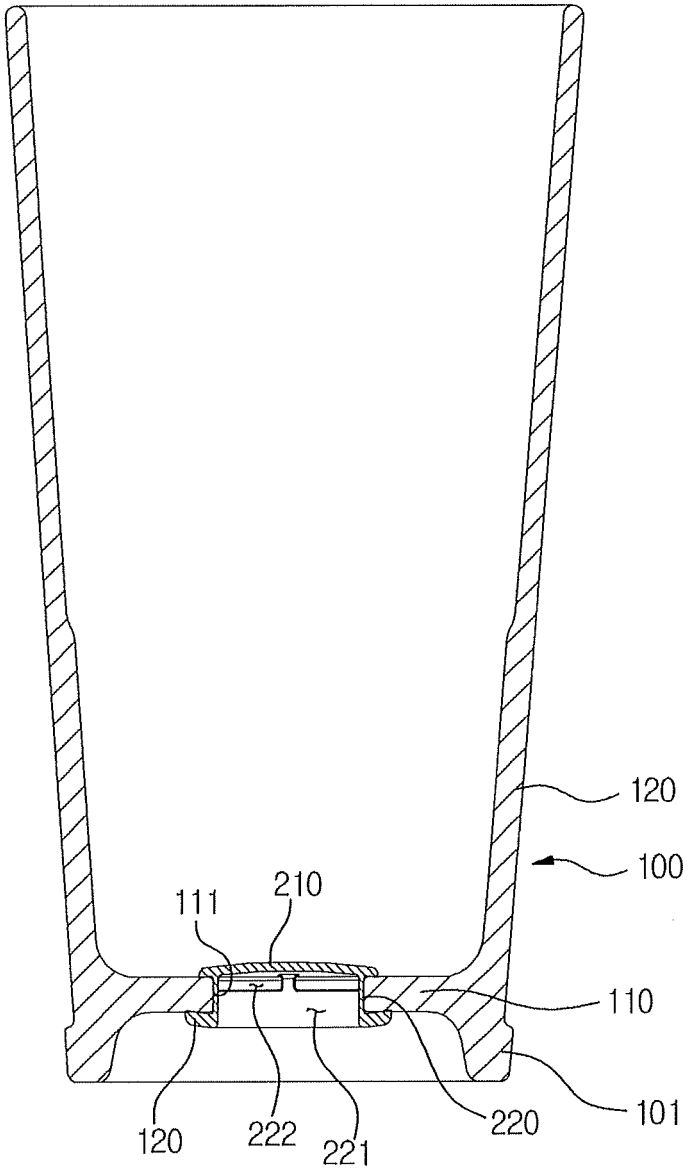
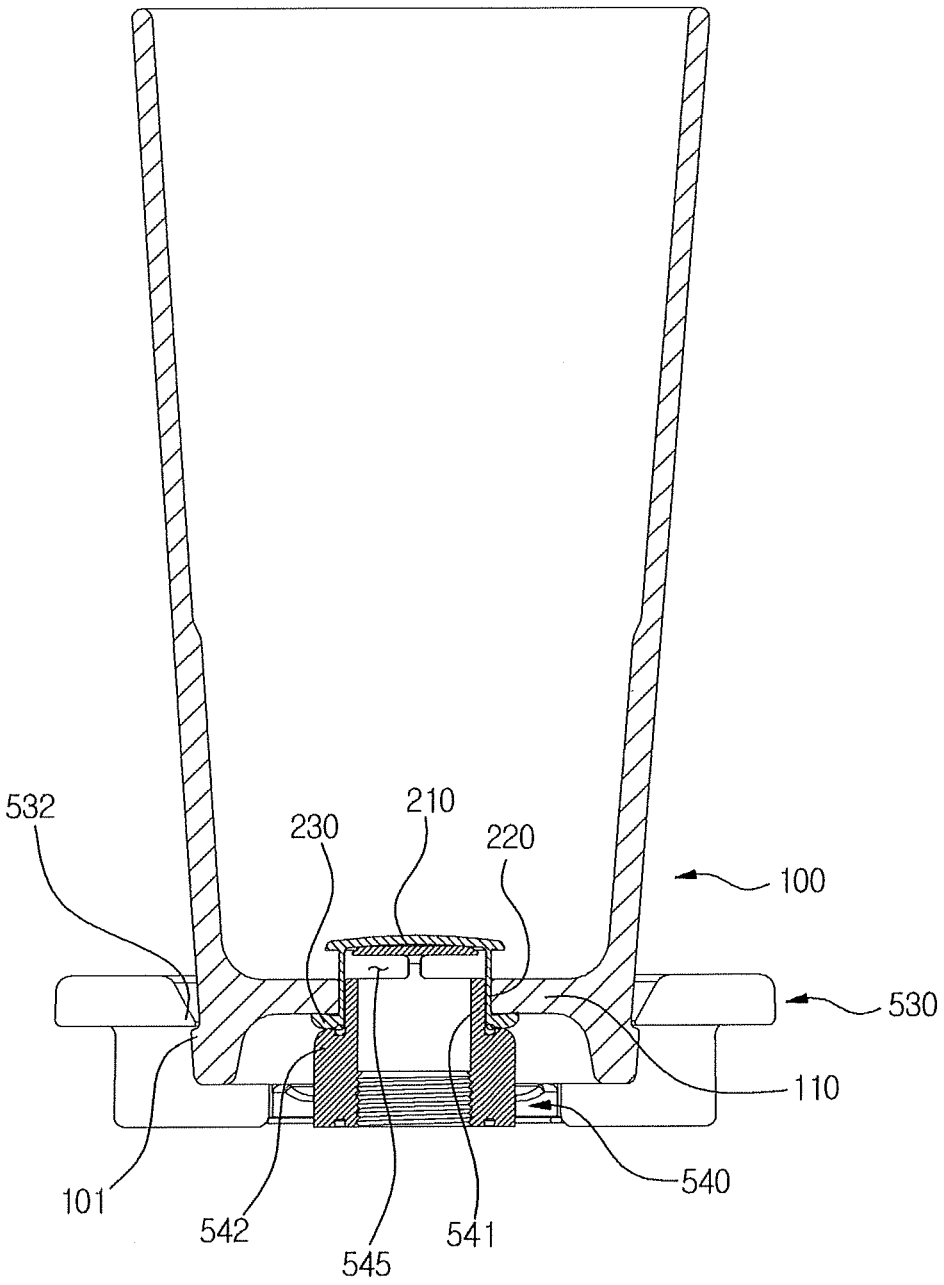


Fig. 6



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2016/014649

A. CLASSIFICATION OF SUBJECT MATTER

B65D 1/20(2006.01)i, B65D 1/06(2006.01)i, B65D 1/26(2006.01)i, B65D 81/38(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D 1/20; B65D 47/20; B67D 3/04; B65D 53/00; B65D 47/06; B65D 25/00; A47G 19/22; B65D 1/06; B65D 1/26; B65D 81/38

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Utility models and applications for Utility models: IPC as above
Japanese Utility models and applications for Utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS (KIPO internal) & Keywords: injection hole, bottom surface, valve, cover part, wing part, elastic part

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-1498251 B1 (JRP CORPORATION) 09 March 2015 See abstract, paragraphs [0053]-[0070] and figures 1-4.	1-8
A	KR 10-1577386 B1 (NEX_IN TECHNOLOGIES CO., LTD.) 14 December 2015 See abstract, paragraphs [0014]-[0022] and figure 1.	1-8
A	KR 10-1243382 B1 (MUN, Ha Gyu) 21 March 2013 See abstract, paragraphs [0037]-[0064] and figures 1-3.	1-8
A	KR 20-0473800 Y1 (KIM, Jin Won et al.) 31 July 2014 See abstract, paragraphs [0016]-[0025] and figures 1, 2.	1-8
A	KR 10-2004-0108795 A (SIG TECHNOLOGY LTD.) 24 December 2005 See abstract, claim 1 and figures 1-3.	1-8

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 APRIL 2017 (25.04.2017)	**25 APRIL 2017 (25.04.2017)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 189 Seonsa-ro, Daejeon 302-701, Republic of Korea Facsimile No. +82-42-481-8578	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2016/014649

Patent document cited in search report	Publication date	Patent family member	Publication date
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		CN 105555676 A	04/05/2016
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KR 10-1243382 B1	21/03/2013	NONE	
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REFERENCES CITED IN THE DESCRIPTION

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- US 8827106 B **[0012] [0015]**
- KR 473800 **[0013]**
- US 4750314 A **[0014] [0015]**
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