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(56) References cited:
WO-A1-2006/002922 FR-A1- 2 886 275
GB-A- 2 322 123 KR-A- 20060 131 010
KR-B1- 100 677 922 US-A- 4 181 232
US-A- 4 666 052 US-A1- 2006 186 081
US-B1- 6 929 137

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Description

Technical Field

[0001] The present invention relates to a vessel sealed by a closure according to the preamble of claim 1 for opening and closing a vessel inlet, and more particularly, to a vessel sealed by a closure according to the preamble of claim 1 capable of enhancing a user's convenience by separating a sealing member sealed at a vessel inlet from a vessel together with the closure when the vessel is opened.

Background Art

[0002] FIG. 1 is a sectional view showing a vessel sealed by a closure according to the preamble of claim 1 in accordance with the conventional art.

[0003] Generally, a sealing member 152 for protecting contents stored in a vessel 150 is attached to a beverage vessel, a drug vessel, etc. The sealing member 152 is attached onto a vessel inlet 160 in an adhesion manner, etc. In order to prevent the sealing member 152 from being damaged due to an external impact or collision with objects, the sealing member 152 is covered with a closure of a vessel 154.

[0004] The closure of a vessel 154 is provided with a female screw portion 162 on an inner circumferential surface thereof, and a male screw portion 164 is formed at the vessel inlet 160. Under this configuration, once the closure of a vessel 154 is opened, the closure of a vessel 154 is detached from or mounted to the vessel inlet 160.

[0005] As a user grips and rotates the closure of a vessel 154, the closure of a vessel 154 is detached from the vessel inlet 160. Then, the sealing member 152 is removed from the vessel inlet 160, and contents inside the vessel are discharged out through the vessel inlet 160.

[0006] However, the conventional vessel sealed by a closure according to the preamble of claim 1 has the problem that after the closure of a vessel is separated from the vessel, the sealing member attached to the vessel inlet has to be removed by a user's hand, or additional tools such as a knife. Accordingly, a user's inconvenience may be caused.

[0007] Especially, when the sealing member is removed by a user's hand, the sealing member is not easily separated from the edge of the vessel inlet due to a strong adhesion force therebetween. Accordingly, the user has to remove the sealing member again, which may cause sanitary problems due to contact between the user's hand and the vessel inlet. A vessel sealed by a closure comprising all the technical features of the preamble of claim 1 is furthermore known from the document FR 2 886 275 A.

Disclosure of Invention

Technical Problem

[0008] Therefore, it is an object of the present invention to provide a vessel sealed by a closure according to the preamble of claim 1 capable of enhancing a user's convenience by additionally removing no sealing member, in which when the closure of a vessel is opened, a sealing member is separated from a vessel inlet thus to be stored in the closure of a vessel.

[0009] It is another object of the present invention to provide a vessel sealed by a closure, the closure capable of preventing environmental contamination by storing a sealing member removed from a vessel inlet when opening the closure, in the closure of a vessel not outside.

[0010] It is still another object of the present invention to provide a closure of a vessel capable of solving sanitary problems due to contact between a user's hand and a vessel inlet when removing a sealing member, by automatically removing the sealing member by a sealing member removing unit.

Technical Solution

[0011] To achieve these and other advantages and in accordance with the invention there is provided a vessel sealed by a closure, the closure, comprising: a body mounted to the vessel inlet through which contents inside a vessel are discharged out, and having a space therein; a sealing member mounted in the body, sealing the vessel inlet; and a sealing member separating unit formed on an inner circumferential surface of the body, for separating the sealing member from the vessel inlet when the vessel is opened, and storing the separated sealing member in the body, wherein a

[0012] groove at an outer circumferential surface of the vessel inlet is formed at the upper end of the vessel inlet. The sealing member is adhered to the upper surface of the vessel inlet, and has an edge extending outwardly from the upper end of the vessel inlet.

[0013] The sealing member may consist of an elastic supporting layer formed of paper or synthetic resin, etc. with its own elastic force, and adhered to the vessel inlet by being elastically transformed when closing the closure of a vessel; a metallic layer attached to a lower surface of the elastic supporting layer, and formed of aluminum; and an adhesive layer deposited onto a lower surface of the metallic layer, and adhering the sealing member to the vessel inlet.

[0014] The sealing member separating unit may be inwardly protruding from an inner circumferential surface of the body, inserted into a groove of the vessel inlet, and disposed on a lower surface of an edge of the sealing member, for lifting and separating the sealing member from the vessel inlet by being upwardly moved when the body is separated from the vessel inlet.

[0015] The sealing member separating unit may con-

sist of a supporting protrusion formed in the body in a circumferential direction, disposed on a lower surface of the sealing member, inserted into a groove of the vessel inlet, and supported by an edge of the sealing member; and a rotation protrusion disposed above the supporting protrusion with an interval therebetween, and locked by locking protrusions formed at the edge of the sealing member in a circumferential direction with the same interval, for rotating the sealing member so as to separate the sealing member from the vessel inlet when the body is rotated.

[0016] The closure may also comprise a sealing member locking unit formed at the body, and locked at an inner surface of the sealing member by penetrating the sealing member when being pressed.

[0017] The sealing member locking unit may consist of a pressing plate disposed in the body so as to be movable in upper and lower directions, and downwardly moving when pressed by a user; a locking portion disposed on a lower surface of the pressing plate, and locked at a lower surface of the sealing member by penetrating the sealing member when the pressing plate is pressed; and a connection portion connected between an outer circumferential surface of the pressing plate and an inner circumferential surface of the body, for guiding the pressing plate to be moved in upper and lower directions, and supporting the pressing plate that has moved to another position by its own elastic force.

[0018] One or more protrusions may be protruding from a coupling part between the sealing member and the vessel inlet at one of the sealing member and the vessel inlet, or at both of them.

[0019] The body may be provided with one or more protrusions or groove portions at a contact part to the sealing member, and the protrusions or the groove portions may be radially formed.

Advantageous Effects

[0020] The closure of a vessel of the present invention enhances a user's convenience because the sealing member is automatically removed from the vessel inlet when opening the closure, after pressing the pressing plate of the sealing member removing unit installed in the closure.

[0021] The closure of a vessel of the present invention can prevent environmental contamination by storing the sealing member removed from the vessel inlet when opening the closure, in the closure of a vessel not outside.

[0022] The closure of a vessel of the present invention can solve sanitary problems due to contact between a user's hand and the vessel inlet when removing the sealing member, by automatically removing the sealing member by the sealing member removing unit.

Brief Description of the Drawings

[0023] FIG. 1 is a sectional view showing a closure of

a vessel in accordance with the conventional art;

[0024] FIG. 2 is a sectional view showing a state that a closure of a vessel is mounted to a vessel according to a first embodiment of the present invention;

[0025] FIG. 3 is a sectional view showing a sealing member according to the present invention;

[0026] FIG. 4 is a view showing an operational state of a closure of a vessel according to a second embodiment of the present invention;

[0027] FIG. 5 is a sectional view showing a closure of a vessel according to a second embodiment of the present invention;

[0028] FIGS. 6 and 7 are sectional views taken along line 'A-A' in FIG. 5;

[0029] FIG. 8 is a sectional view showing a closure of a vessel according to a third embodiment of the present invention;

[0030] FIG. 9 is a perspective view showing a locking portion of a sealing member locking unit according to a third embodiment of the present invention;

[0031] FIGS. 10 and 11 are views showing an operational state of a closure of a vessel according to a third embodiment of the present invention;

[0032] FIG. 12 is an enlarged sectional view showing one coupled state between the vessel inlet and the sealing member according to the present invention;

[0033] FIG. 13 is an enlarged sectional view showing another coupled state between the vessel inlet and the sealing member according to the present invention;

[0034] FIG. 14 is a bottom view showing the sealing member of the closure of a vessel according to the present invention;

[0035] FIG. 15 is a top view showing the sealing member of the closure of a vessel according to the present invention;

[0036] FIG. 16 is an enlarged sectional view showing still another coupled state between the vessel inlet and the sealing member according to the present invention; and

[0037] FIG. 17 is an enlarged sectional view showing yet still another coupled state between the vessel inlet and the sealing member according to the present invention.

Mode for the Invention

[0038] Hereinafter, a closure of a vessel according to the present invention will be explained in more detail.

[0039] FIG. 2 is a sectional view showing a state that a closure of a vessel is mounted to a vessel according to a first embodiment of the present invention.

[0040] The closure of a vessel comprises: a body 16 mounted to a vessel inlet 12 through which contents inside a vessel 10 are discharged out, and having a space therein; a sealing member 18 mounted in the body 16, and sealed at the vessel inlet 12; and a sealing member separating unit formed on an inner circumferential surface of the body 16, for separating the sealing member

18 from the vessel inlet 12 when the body 16 is opened, and storing the separated sealing member 18 in the body 16.

[0041] The vessel 10 may be implemented as a beverage vessel, a drug vessel, or an oil vessel for storing liquid or solid contents. The sealing member 18 for protecting contents stored in the vessel 10 by sealing the vessel inlet 12 is attached to the vessel inlet 12.

[0042] A concaved groove 20 at an outer circumferential surface of the vessel inlet 12 may be formed at an upper end of the vessel inlet 12. The sealing member 18 is disposed so that its edge can cover the groove 20 of the vessel inlet 12. That is, the edge of the sealing member 18 is disposed to be extending outwardly from the end of the vessel inlet 12, and is not adhered to the vessel inlet 12 by the groove 20 formed at the vessel inlet 12.

[0043] As shown in FIG. 3, the sealing member 18 consists of an elastic supporting layer 24 formed of paper or synthetic resin, etc. with its own elastic force, and adhered to the vessel inlet 12 by being elastically transformed when closing the closure of a vessel; a metallic layer 26 attached to a lower surface of the elastic supporting layer 24, and formed of a metallic material, especially, aluminum; and an adhesive layer 28 deposited onto a lower surface of the metallic layer 26, and adhering the sealing member 18 to the vessel inlet 12.

[0044] Under a state that the body 16 is mounted to the vessel inlet 12, once a magnetic field of a certain intensity is applied to the sealing member 18 (induction heating method), the sealing member 18 is attached to the vessel inlet 12 with the metallic layer 26 being heated and the adhesive layer 28 being melted.

[0045] A male screw portion 30 is formed on an outer circumferential surface of the vessel inlet 12, and a female screw portion 32 is formed on an inner circumferential surface of the body 16. Accordingly, once the body 16 is rotated, the closure of a vessel is mounted to the vessel inlet 12, or separated from the vessel inlet 12. A skirt 34 connected with the body 16 by a plurality of bridges that can be easily fractured is formed at a lower end of the body 16, thereby maintaining a mounted state of the body 16 to the vessel inlet 12. Here, as shown in FIG. 2, the skirt 34 is mounted to the vessel inlet 12 with a locked state by a protrusion of the vessel inlet 12. Once the body 16 is rotated, the skirt 34 serves to separate the body 16 and the vessel inlet 12 from each other by being torn away. A plurality of concaved protrusions 36 to facilitate rotation of the body 16 by a user's hand are formed on an outer circumferential surface of the body 16 in a circumferential direction.

[0046] The body 16 may be coupled to the vessel inlet 12 by a snap method to open the body 16 in a pressing manner, as well as by a screw coupling manner. A protrusion (not shown) protruding towards an outer side may be formed at the end of the vessel inlet 12, and may be coupled to the body 16. Under a state that the body 16 is coupled to the vessel inlet 12 by a snap method, when the body 16 is separated from the vessel inlet 12, the

sealing member 18 is separated from the vessel inlet 12 with a mounted state in the body 16.

[0047] Under a state that the body 16 is coupled to the vessel inlet 12 by a snap method, the sealing member 18 can be separated from the vessel inlet 12 by rotating the body 16 with respect to the vessel inlet 12.

[0048] The sealing member separating unit is implemented as a ring-shaped supporting protrusion 22 protruding from an inner circumferential surface of the body 16 towards inside of the body 16, and inserted into the groove 20 of the vessel inlet 12. The groove 20 of the vessel inlet 12 may not be necessarily formed with consideration of a plastic material, and may be formed in a gradually concaved or convexed curved line.

[0049] The supporting protrusion 22 is inserted into the groove 20 of the vessel inlet 12, and is disposed on a lower surface of the edge of the sealing member 18. Preferably, the sealing member 18 is formed to have a certain strength so as to be locked by the supporting protrusion 22 thereby to be separated from the vessel inlet 12, as the body 16 is rotated to be lifted up.

[0050] The supporting protrusion 22 is lifted up when the body 16 is lifted up, and pushes the sealing member 18 upwardly, thereby separating the sealing member 18 from the vessel inlet 12.

[0051] In a processes for mounting the closure of a vessel to the vessel inlet 12, firstly, the sealing member 18 composed of a plurality of stacked layers is inserted into the body 16. Once the sealing member 18 is pushed into the body 16, the sealing member 18 is bent by its own elastic force. Then, the sealing member 18 passes through the supporting protrusion 22 thus to be disposed on an upper inner surface of the body 16. The sealing member 18 is locked by the supporting protrusion 22 thus to be prevented from being discharged out.

[0052] Once the closure of a vessel having the sealing member 18 inserted therein is mounted to the vessel inlet 12, the adhesive layer 28 deposited onto a lower end of the sealing member 18 is adhered to an upper end of the vessel inlet 12. Under this state, a magnetic field having a certain intensity is applied to the closure of a vessel (induction heating method). As a result, heat is generated from the metallic layer 26, and thereby the adhesive layer 28 is melted to be attached to an upper surface of the vessel inlet 12, thereby protecting contents stored in the vessel 10.

[0053] Here, the supporting protrusion 22 of the body 16 is in an inserted state into the groove 20 of the vessel inlet 12, and the edge of the sealing member 18 is disposed above the supporting protrusion 22.

[0054] Hereinafter, processes for detaching the closure of a vessel mounted to the vessel inlet from the vessel inlet will be explained.

[0055] FIG. 4 is a view showing an operational state of a closure of a vessel according to a second embodiment of the present invention.

[0056] Once the body 16 is rotated in an open direction, the skirt 34 is torn away to inform that the body 16 is

separated from the vessel inlet 12. Then, the body 16 is lifted up.

[0057] Here, the supporting protrusion 22 formed on an inner surface of the body 16 applies force to the edge of the sealing member 18, with being lifted up together with the body 16. As a result, the adhesive layer 28 of the sealing member 18 is separated from the vessel inlet 12, and thus the sealing member 18 is separated from the vessel inlet 12. The sealing member 18 is locked by the supporting protrusion 22, and maintains a stored state inside the body 16.

[0058] Once the body 16 is rotated in an open direction, the sealing member 18 is separated from the vessel inlet 12 thus to be stored in the body 16. This allows a user not to additionally tear away the sealing member 18, thereby enhancing a user's convenience.

[0059] On the contrary, when the body 16 is rotated in a closed direction with respect to the vessel inlet 12, the sealing member 18 is adhered to the vessel inlet 12. Accordingly, contents stored in the vessel 10 can be protected.

[0060] FIG. 5 is a sectional view showing a vessel according to a second embodiment of the present invention, and FIGS. 6 and 7 are sectional views taken along line A-A' in FIG. 5.

[0061] The closure of a vessel according to the second embodiment is the same as that according to the first embodiment, except for the sealing member separating unit and the sealing member.

[0062] That is, the sealing member separating unit according to the second embodiment consists of a supporting protrusion 42 formed in the body 16 in a circumferential direction, disposed on a lower surface of the sealing member 40, inserted into the groove 12 of the vessel inlet 12, and supported by an edge of the sealing member 40; and a rotation protrusion 44 disposed above the supporting protrusion 42 with an interval therebetween, and locked by locking protrusions 46 formed at the edge of the sealing member 40 in a circumferential direction with the same interval, for rotating the sealing member 40 so as to separate the sealing member 40 from the vessel inlet 12 when the body 16 is rotated.

[0063] As shown in FIGS. 6 and 7, the sealing member 40 is provided with the locking protrusions 46 at an edge thereof arranged in a circumferential direction with the same interval therebetween. The locking protrusions 46 may be implemented in a concave-convex shape, or in a shape inclined in one direction, etc.

[0064] Preferably, the sealing member 40 is formed to have a certain strength so as to insert the rotation protrusion 44 and thereby to be rotated.

[0065] The operation of the closure of a vessel according to the second embodiment will be explained.

[0066] Once the body 16 is mounted to the vessel inlet 12, the supporting protrusion 42 formed on an inner circumferential surface of the body 16 is inserted into the groove 20 of the vessel inlet 12, and is disposed on a lower surface of an edge of the sealing member 40. And,

the rotation protrusion 44 is in a locked state by the locking protrusion 46 formed on an outer circumferential surface of the sealing member.

[0067] Under this state, once the body 16 is rotated, the rotation protrusion 44 is rotated with a locked state by the locking protrusion 46 of the sealing member 40, thereby pushing the locking protrusion 46 of the sealing member 40. As a result, the adhesive layer 28 of the sealing member 40 is torn away from the vessel inlet 12 due to the pushing force by the rotation protrusion 44. When the body 16 is further rotated, the supporting protrusion 42 is lifted up thereby to lift up the sealing member 40. As a result, the sealing member 40 is separated from the vessel inlet 12 with a locked state by the supporting protrusion 42, and maintains an accommodated state in the body 16.

[0068] According to the closure of a vessel of the second embodiment, as the rotation protrusion 44 rotates the sealing member 44, the adhesive layer 28 of the sealing member 40 is torn away from the vessel inlet 12. And, the supporting protrusion 42 separates the sealing member 40 from the vessel inlet 12 by lifting up the sealing member 40, and then stores the separated sealing member 40 in the body 16. Accordingly, the sealing member 40 can be more stably separated from the vessel inlet 12.

[0069] FIG. 8 is a sectional view showing a vessel according to a third embodiment of the present invention.

[0070] The closure of a vessel according to the third embodiment is the same as each closure of a vessel according to the first and second embodiments, except for a sealing member locking unit 70 for detaching the sealing member 60 from the vessel inlet 12.

[0071] The sealing member locking unit 70 consists of a pressing plate 72 disposed in the body 16 so as to be movable in upper and lower directions, and downwardly moving when pressed by a user; a locking portion 74 disposed on a lower surface of the pressing plate 72, and locked at a lower surface of the sealing member 60 by penetrating the sealing member 60 when the pressing plate 72 is pressed; and a connection portion 76 connected between an outer circumferential surface of the pressing plate 72 and an inner circumferential surface of the body 16, for guiding the pressing plate 72 to be moved in upper and lower directions, and supporting the pressing plate 72 that has moved to another position by its own elastic force.

[0072] The pressing plate 72 is formed in a disc shape having a diameter smaller than an inner diameter of the body 16.

[0073] As shown in FIG. 9, the locking portion 74 consists of a supporting rod 80 downwardly extending from a central part of a lower surface of the pressing plate 72, and penetrating the sealing member 60 when the pressing plate 72 is pressed; and one or more locking protrusions 82 formed on an outer circumferential surface of the end of the supporting rod 80, and locking the sealing member 60 so that the sealing member 60 can be stored in the body 16.

[0074] Here, the supporting rod 80 is formed in a cylindrical bar perpendicularly extending from a central part of the pressing plate 72 in a lower direction, and is provided with a punch portion 84 at the end thereof. The punch portion 84 has a sharp shape so as to penetrate the sealing member 60.

[0075] The locking protrusion 82 is formed to have an elastic transformation force so as to be upwardly bent. At the time of penetrating the sealing member 60, the locking protrusion 82 is upwardly bent thus to pass through a hole penetrated by the punch portion 84, and to be positioned at an inner side of the sealing member 60. Once the locking protrusion 82 is positioned at an inner side of the sealing member 60, it is extending to the original state thus to be locked at an inner side of the sealing member 60.

[0076] The locking protrusion 82 is formed so as to be perpendicularly extending from an outer circumferential surface of the supporting rod 80 by a certain length, and is formed on the outer circumferential surface of the supporting rod 80 in one or more in number. Preferably, one pair of locking protrusions 82 are formed on the outer circumferential surface of the supporting rod 80 with an interval of 180°.

[0077] As aforementioned, the sealing member 60 is composed of the elastic supporting layer 24, the metallic layer 26, and the adhesive layer 28. A through hole 78 for passing the locking portion 74 so that the sealing member 60 can be easily penetrated is provided at the elastic supporting layer 24.

[0078] More concretely, when the pressing plate 72 is pressed, the locking portion 74 penetrates the metallic layer 26 via the through hole 78 of the elastic supporting layer 24.

[0079] The connection portion 76 is formed between an outer circumferential surface of the pressing plate 72 and an inner circumferential surface of the body 16 as a thin film having a dome shape. The connection portion 76 is elastically transformed when the pressing plate 72 is pressed by a force more than a certain degree, thereby guiding the pressing plate 72 to be moved in a lower direction.

[0080] The connection portion 76 elastically maintains the current position of the pressing plate 72. More concretely, when the pressing plate 72 is upwardly protruding (not pressed state), the connection portion 76 maintains a convexed dome shape thereby to maintain the current position of the pressing plate 72. On the contrary, when the pressing plate 72 is pressed by a force more than a certain degree, the connection portion 76 is elastically transformed into a concaved shape thereby to maintain a pressed position of the pressing plate 72.

[0081] As another embodiment, the connection portion 76 is implemented as an 'S'-shaped guide rib between the pressing plate 72 and an inner surface of the body 16. Once the pressing plate 72 is downwardly moved, the connection portion 76 is extending to guide a downward motion of the pressing plate 72, and to maintain a

connected state of the pressing plate 72 to the body 16.

[0082] The operation of the closure of a vessel according to the third embodiment of the present invention will be explained.

5 **[0083]** FIGS. 10 and 11 are views showing an operational state of a vessel according to a third embodiment of the present invention.

10 **[0084]** Once the pressing plate 72 is downwardly pressed, the connection portion 76 is elastically transformed, and thus the pressing plate 72 is downwardly moved. Then, the supporting rod 80 of the locking portion 74 penetrates a central part of the sealing member 60. Here, the locking portion 74 can more easily penetrate the sealing member 60 due to the through hole 78 of the elastic supporting layer 24 of the sealing member 60.

15 **[0085]** When penetrating the sealing member 60, the locking protrusion 82 of the locking portion 74 is upwardly bent to penetrate a hole formed by the punch portion 84 of the supporting rod 80. Once being positioned at an inner side of the sealing member 60, the locking protrusion 82 is elastically transformed into the original state thereby to be positioned at an inner side of the sealing member 60 in an extending state.

20 **[0086]** Then, once the body 16 is rotated in an open direction, the supporting protrusion 22 formed on an inner surface of the body 16 applies force to an edge of the sealing member 60 with being upwardly moved together with the body 16. As a result, the adhesive layer 28 of the sealing member 60 is detached from the vessel inlet 12, and at the same time, the sealing member 60 is detached from the vessel inlet 12.

25 **[0087]** Since the sealing member 60 is in a locked state by the supporting portion, the sealing member 60 is detached from the vessel inlet 12 together with the body 16, and maintains a stored state in the body 16.

30 **[0088]** FIG. 12 is an enlarged sectional view showing one coupled state between the vessel inlet and the sealing member according to the present invention, FIG. 13 is an enlarged sectional view showing another coupled state between the vessel inlet and the sealing member according to the present invention, FIG. 14 is a bottom view showing the sealing member of the closure of a vessel according to the present invention, FIG. 15 is a top view showing the sealing member of the closure of a vessel according to the present invention, FIG. 16 is an enlarged sectional view showing still another coupled state between the vessel inlet and the sealing member according to the present invention, and FIG. 17 is an enlarged sectional view showing yet still another coupled state between the vessel inlet and the sealing member according to the present invention.

35 **[0089]** Preferably, the sealing member 18 of each closure of a vessel according to the first to third embodiments of the present invention is configured to be coupled to the vessel inlet 12 for sealing to prevent contents stored in the vessel 10 from being discharged out, and to be easily detached from the vessel inlet 12 when the closure is rotated.

[0090] Accordingly, the sealing member 18 of the closure of a vessel according to the present invention may be coupled to the vessel inlet 12 in various manners. Here, the sealing member 18 can be easily detached from the vessel inlet 12 by minimizing a coupling area between the sealing member 18 and the vessel inlet 12.

[0091] In order to minimize a coupling area between the sealing member 18 and the vessel inlet 12, as shown in FIGS. 12 and 13, the sealing member 18 may be provided with one or more ring-shaped protrusions 18a protruding from a coupling part between the sealing member 18 and the vessel inlet 12. As shown in FIG. 14, the protrusion 18a is preferably formed to have a circular shape. In order to complement a sealing state, the protrusion 18a may be formed in plurality in number.

[0092] In order to minimize a coupling area between the sealing member 18 and the vessel inlet 12, as shown in FIGS. 16 and 17, one or more protrusions 12a may be formed at a coupling part of the vessel inlet 12 with the sealing member 18, under a state the protrusion 18a has been formed or has not been formed.

[0093] Preferably, the protrusion 12a is formed to have a circular shape. Or, the protrusion 12a may be formed to face the protrusion 18a of the sealing member 18, or to be alternately arranged with the protrusion 18a as shown in FIG. 17.

[0094] Since the closure of a vessel has to be configured to be detached from the vessel inlet 12 with rotating the sealing member 18 and detaching the sealing member 18 from the vessel inlet 12, as shown in FIGS. 12 and 15, one or more protrusions 16a or groove portions may be formed on a lower surface of the body 16 of the closure of a vessel.

[0095] The protrusions 16a or groove portions may be configured in various patterns such as a rectangular shape, a circular shape, an wedge shape, etc., and are preferably formed at positions corresponding to a coupling parts between the sealing member 18 and the vessel inlet 12. Here, the sealing member 18 may be provided with groove portions 18b or protrusions corresponding to the protrusions 16a or the groove portions of the body 16. The sealing member 18 is formed with the groove portions 18b or protrusions corresponding to the protrusions 16a or groove portions of the body 16 due to its material characteristics. Accordingly, the groove portions 18b or the protrusions corresponding to the concaved portions 16a or the protrusions of the body 16 are not necessarily formed.

[0096] It will also be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope of the invention as defined by the appended claims.

Claims

1. A vessel sealed by a closure, the closure comprising:

a body (16) mounted to the vessel inlet (12) through which contents inside the vessel (10) are discharged out, and having a space therein; a sealing member (18) mounted in the body (16), the sealing member (18) sealing the vessel inlet (12); and

a sealing member separating unit formed on an inner circumferential surface of the body (16), for separating the sealing member (18) from the vessel inlet (12) when the vessel (10) is opened, and storing the separated sealing member (18) in the body (16),

wherein a groove (20) at an outer circumferential surface is formed at the upper end of the vessel inlet (12),

characterized in that the sealing member (18) is adhered to the upper surface of the vessel inlet (12), and has an edge extending outwardly from the upper end of the vessel inlet (12).

2. The vessel of claim 1, wherein the sealing member (18) comprises:

an elastic supporting layer (24) formed of paper or synthetic resin, with its own elastic force, and adhered to the vessel inlet (12) by being elastically transformed when closing the vessel (10); a metallic layer (26) attached to a lower surface of the elastic supporting layer (24), and formed of aluminum; and

an adhesive layer (28) deposited onto a lower surface of the metallic layer (26), and adhering the sealing member (18) to the vessel inlet (12).

3. The vessel of claim 2, wherein the sealing member (18) is mounted to the vessel inlet (12) with an inserted state into the body (16), and adhesive layer of the sealing member (18) is adhered to the vessel inlet (12) by being heated.

4. The vessel of claim 1, wherein the sealing member separating unit is inwardly protruding from an inner circumferential surface of the body (16), inserted into a groove of the vessel inlet (12), and disposed on a lower surface of an edge of the sealing member (18), for lifting and separating the sealing member (18) from the vessel inlet (12) by being upwardly moved when the body (16) is separated from the vessel inlet (12).

5. The vessel of claim 1, wherein the sealing member separating unit comprises:

a supporting protrusion (22) formed in the body (16) in a circumferential direction, disposed on a lower surface of the sealing member (18), inserted into a groove (20) of the vessel inlet (12), and supported by an edge of the sealing mem-

- ber (18); and
 a rotation protrusion (44) disposed above the supporting protrusion (22) with an interval therebetween, and locked by locking protrusions (46) formed at the edge of the sealing member (18) in a circumferential direction with the same interval, for rotating the sealing member (18) so as to separate the sealing member (18) from the vessel inlet (12) when the body (16) is rotated.
6. The vessel of claim 5, wherein the sealing member (18) is provided with locking protrusions (46) arranged at an edge thereof in a circumferential direction with the same interval therebetween, and the locking protrusions (46) are implemented in a concave-convex shape, or in a shape inclined in one direction.
7. The vessel of claim 1, further comprising
 a sealing member locking unit formed at the body (16), and locked at an inner surface of the sealing member (18) by penetrating the sealing member (18) when being pressed.
8. The vessel of claim 7, wherein the groove (20) is a concaved groove (20) formed at the upper end of the vessel inlet (12).
9. The vessel of claim 8, wherein the sealing member (18) comprises:
 an elastic supporting layer (24) formed of paper or synthetic resin, etc. with its own elastic force, and adhered to the vessel inlet (12) by being elastically transformed when closing the vessel (10);
 a metallic layer (26) attached to a lower surface of the elastic supporting layer (24), and formed of aluminum; and
 an adhesive layer (28) deposited onto a lower surface of the metallic layer (26), and adhering the sealing member (18) to the vessel inlet (12), and
 wherein the elastic supporting layer (24) is provided with a through hole for passing the sealing member locking unit.
10. The vessel of claim 8, wherein the sealing member separating unit is inwardly protruding from an inner circumferential surface of the body (16), inserted into a groove (20) of the vessel inlet (12), and disposed on a lower surface of an edge of the sealing member (18), for lifting and separating the sealing member (18) from the vessel inlet (12) by being upwardly moved when the body (16) is separated from the vessel inlet (12).
11. The vessel of claim 7, wherein the sealing member locking unit comprises:
 a pressing plate (72) disposed in the body (16) so as to be movable in upper and lower directions, and downwardly moving when pressed by a user;
 a locking portion (74) disposed on a lower surface of the pressing plate (72), and locked at a lower surface of the sealing member (18) by penetrating the sealing member (18) when the pressing plate (72) is pressed; and
 a connection portion (76) connected between an outer circumferential surface of the pressing plate (72) and an inner circumferential surface of the body (16), for guiding the pressing plate (72) to be moved in upper and lower directions, and supporting the pressing plate (72) that has moved to another position by its own elastic force.
12. The vessel of claim 11, wherein the locking portion comprises:
 a supporting rod (80) downwardly extending from a central part of a lower surface of the pressing plate (72), and penetrating the sealing member (18) when the pressing plate (72) is pressed; and
 one or more locking protrusions (82) formed on an outer circumferential surface of an end of the supporting rod (80), and locking the sealing member (18) so as to store the sealing member (18) in the body (16).
13. The vessel of claim 11, wherein the connection portion (76) is formed between an outer circumferential surface of the pressing plate (72) and an inner circumferential surface of the body (16) as a thin film (82) having a dome shape, and is elastically transformed when the pressing plate (72) is pressed by a force more than a certain degree.
14. The vessel of claim 1 or 11, wherein one or more protrusions protruding from a coupling part between the sealing member (18) and the vessel inlet (12) are formed at either the sealing member (18) or the vessel inlet (12), or at both of them.
15. The vessel of claim 1 or 11, wherein the body (16) is provided with one or more protrusions or groove portions at a contact part to the sealing member (18).
16. The vessel of claim 15, wherein the protrusions or the groove portions are formed in a radial direction.

Patentansprüche

1. Mit einem Verschluss abgedichtetes Gefäß, wobei der Verschluss umfasst:

einen Grundkörper (16), der am Gefäßeinlass (12) befestigt ist, durch welchen im Gefäß (10) befindliche Inhalte entnommen werden können, und der einen lichten Raum aufweist;
 ein Versiegelungselement (18), das im Grundkörper (16) befestigt ist, wobei das Versiegelungselement (18) den Gefäßeinlass (12) abdichtet; und
 eine Versiegelungselement-Trenneinrichtung, die an einer inneren Umfangsfläche des Grundkörpers (16) ausgebildet ist, um das Versiegelungselement (18) vom Gefäßeinlass (12) zu trennen, wenn das Gefäß (10) geöffnet wird, und das abgetrennte Versiegelungselement (18) im Grundkörper (16) zu halten,
 wobei am oberen Ende des Gefäßeinlasses (12) an einer äußeren Umfangsfläche eine Ausnehmung (20) ausgebildet ist,
dadurch gekennzeichnet,
dass das Versiegelungselement (18) an der oberen Oberfläche des Gefäßeinlasses (12) anhaftet und eine sich über das obere Ende des Gefäßeinlasses (12) hinweg erstreckende Kante aufweist.

2. Gefäß nach Anspruch 1, wobei das Versiegelungselement (18) umfasst:

eine aus Papier oder Kunstharz mit Eigenelastizität ausgebildete elastische Tragschicht (24), welche beim Schließen des Gefäßes (10) durch elastische Verformung am Gefäßeinlass (12) anhaftet;
 eine metallische Schicht ((26), die an einer unteren Oberfläche der elastischen Tragschicht (24) angebracht ist und aus Aluminium ausgebildet ist; und
 eine Adhäsivschicht (28), die auf einer unteren Oberfläche der metallischen Schicht (26) aufgebracht ist und mittels der das Versiegelungselement (18) am Gefäßeinlass (12) anhaftet.

3. Gefäß nach Anspruch 2, wobei das Versiegelungselement (18) in einem in den Grundkörper (16) eingesetzten Zustand auf dem Gefäßeinlass (12) angebracht wird, und wobei die Adhäsivschicht des Versiegelungselement (18) durch Erhitzen am Gefäßeinlass (12) anhaftet.

4. Gefäß nach Anspruch 1, wobei die Versiegelungselement-Trenneinrichtung aus einer inneren Umfangsfläche des Grundkörpers (16) nach innen heraussteht, in eine Ausnehmung des Gefäßeinlasses

(12) eingesetzt und an einer unteren Oberfläche einer Kante des Versiegelungselements (18) angeordnet ist, um das Versiegelungselement (18) mittels einer Aufwärtsbewegung anzuheben und vom Gefäßeinlass (12) zu trennen, wenn der Grundkörper (16) vom Gefäßeinlass (12) entfernt wird.

5. Gefäß nach Anspruch 1, wobei die Versiegelungselement-Trenneinrichtung umfasst:

einen Haltevorsprung (22), der am Grundkörper (16) in einer Umfangsrichtung ausgebildet, an einer unteren Oberfläche des Versiegelungselements (18) angeordnet, in eine Ausnehmung (20) des Gefäßeinlasses (12) eingesetzt und von einer Kante des Versiegelungselements (18) abgestützt ist; und
 einen Rotationsvorsprung (44), der mit Zwischenräumen zwischen sich oberhalb des Haltevorsprungs (22) angeordnet und mittels Riegelvorsprüngen (46) verriegelt ist, die an der Kante des Versiegelungselements (18) mit denselben Zwischenräumen in einer Umfangsrichtung angeordnet sind, um das Versiegelungselement (18) zu drehen, so dass das Versiegelungselement (18) vom Gefäßeinlass (12) getrennt wird, wenn der Grundkörper (16) gedreht wird.

6. Gefäß nach Anspruch 5, wobei das Versiegelungselement (18) mit Sicherungsvorsprüngen (46) versehen ist, die an einer seiner Kanten in einer Umfangsrichtung mit denselben Zwischenräumen angeordnet sind und in einer konkav-konvexen Form oder in einer in eine Richtung abgeschrägten Form verwirklicht sind.

7. Gefäß nach Anspruch 1, weiterhin umfassend:

eine Versiegelungselement-Einrasteinrichtung, die am Grundkörper (16) angeordnet ist und an einer Innenfläche des Versiegelungselements (18) mittels Durchdringen des Versiegelungselements (18) eingerastet wird, wenn sie gedrückt wird.

8. Gefäß nach Anspruch 7, wobei die Ausnehmung (20) eine konkav geformte Ausnehmung (20) ist und am oberen Ende des Gefäßeinlasses (12) angeordnet ist.

9. Gefäß nach Anspruch 8, wobei das Versiegelungselement (18) umfasst:

eine aus Papier oder Kunstharz etc. mit Eigenelastizität ausgebildete elastische Tragschicht (24), welche beim Schließen des Gefäßes (10) durch elastische Verformung am Gefäßeinlass

- (12) anhaftet;
eine metallische Schicht (26), die an einer unteren Oberfläche der elastischen Tragschicht (24) angebracht ist und aus Aluminium ausgebildet ist; und
eine Adhäsivschicht (28), die auf einer unteren Oberfläche der metallischen Schicht (26) angebracht ist und mittels der das Versiegelungselement (18) am Gefäßeinlass (12) anhaftet, und wobei die elastische Tragschicht (24) mit einer Durchbrechung zum Durchlassen der Versiegelungselement-Einrasteinrichtung versehen ist.
10. Gefäß nach Anspruch 8, wobei die Versiegelungselement-Trenneinrichtung von einer inneren Umfangsfläche des Grundkörpers (16) nach innen hervorsteht, in eine Ausnehmung (20) des Gefäßeinlasses (12) eingesetzt und an einer unteren Oberfläche einer Kante des Versiegelungselements (18) angeordnet ist, um das Versiegelungselement (18) durch Nach-Oben-Bewegen anzuheben und vom Gefäßeinlass (12) zu trennen, wenn der Grundkörper (16) vom Gefäßeinlass (12) entfernt wird.
11. Gefäß nach Anspruch 7, wobei die Versiegelungselement-Einrasteinrichtung umfasst:
- eine Drückplatte (72), die solcherart im Grundkörper (16) angeordnet ist, dass sie aufwärts und abwärts bewegbar ist und sich abwärtsbewegt, wenn sie von einem Nutzer gedrückt wird; ein Einrastteil (74), das an einer unteren Fläche der Drückplatte (72) angeordnet ist und an einer unteren Oberfläche des Versiegelungselements (18) einrastet, und zwar mittels Durchdringen des Versiegelungselements (18), wenn die Drückplatte (72) gedrückt wird, und ein Verbindungsteil (76), das zwischen einer äußeren Umfangsfläche der Drückplatte (72) und einer inneren Umfangsfläche des Grundkörpers (16) befestigt ist und die Drückplatte (72) führt, um nach oben und nach unten bewegt zu werden, sowie die Drückplatte (72) hält, wenn sie durch innewohnende elastische Kräfte in eine andere Position bewegt wurde.
12. Gefäß nach Anspruch 11, wobei das Einrastteil umfasst:
- einen Haltestab (80), der sich von einem Mittelteil einer unteren Oberfläche der Drückplatte (72) nach unten erstreckt und das Versiegelungselement (18) durchdringt, wenn die Drückplatte (72) gedrückt wird; und
einen oder mehrere Riegelvorsprünge (82), die an einer äußeren Umfangsfläche eines Endes des Haltestabs (80) ausgebildet sind und das Versiegelungselement (18) halten, so dass das
- Versiegelungselement (18) im Grundkörper (16) gehalten wird.
13. Gefäß nach Anspruch 11, wobei das Verbindungsteil (76) zwischen einer äußeren Umfangsfläche der Drückplatte (72) und einer inneren Umfangsfläche des Grundkörpers (16) als konisch geformter dünner Film (82) ausgebildet ist und elastisch umgeformt wird, wenn die Drückplatte (72) mit einer Kraft oberhalb eines gewissen Werts gedrückt wird.
14. Gefäß nach Anspruch 1 oder 11, wobei ein oder mehrere Vorsprünge, die aus einem Kontaktbereich zwischen dem Versiegelungselement (18) und dem Gefäßeinlass (12) hervorstehen, entweder am Versiegelungselement (18) oder am Gefäßeinlass (12), oder an beiden ausgebildet sind.
15. Gefäß nach Anspruch 1 oder 11, wobei der Grundkörper (16) an einem Kontaktbereich mit dem Versiegelungselement (18) mit einem oder mehreren Vorsprüngen oder Ausnehmungsabschnitten versehen ist.
16. Gefäß nach Anspruch 15, wobei die Vorsprünge oder die Ausnehmungsabschnitte in radialer Richtung ausgebildet sind.
- Revendications**
1. Récipient fermé par un bouchon, le bouchon comprenant :
- un corps (16) monté sur l'entrée du récipient (12) à travers lequel les contenus à l'intérieur du récipient (10) sont évacués, et ayant un espace dans celui-ci, un élément d'étanchéité (18) monté dans le corps (16), l'élément d'étanchéité (18) fermant l'entrée du récipient (12), et une unité de séparation d'élément d'étanchéité formée sur une surface circonférentielle intérieure du corps (16), pour séparer l'élément d'étanchéité (18) de l'entrée du récipient (12) lorsque le récipient (10) est ouvert, et stocker l'élément d'étanchéité séparé (18) dans le corps (16), dans lequel une rainure (20) au niveau d'une surface circonférentielle extérieure est formée sur l'extrémité supérieure de l'entrée du récipient (12),
- caractérisé en ce que** l'élément d'étanchéité (18) adhère à la surface supérieure de l'entrée du récipient (12), et a un bord qui s'étend vers l'extérieur depuis l'extrémité supérieure de l'entrée du récipient (12).
2. Récipient selon la revendication 1, dans lequel l'élé-

ment d'étanchéité (18) comprend :

une couche de support élastique (24) formée de papier ou de résine synthétique, ayant sa propre force élastique, et collée à l'entrée du récipient (12) en étant élastiquement transformée lors de la fermeture du récipient (10), une couche métallique (26) fixée à une surface inférieure de la couche de support élastique (24), et constituée d'aluminium, et
une couche adhésive (28) déposée sur une surface inférieure de la couche métallique (26), et faisant adhérer l'élément d'étanchéité (18) à l'entrée du récipient (12).

3. Récipient selon la revendication 2, dans lequel l'élément d'étanchéité (18) est monté sur l'entrée du récipient (12) avec un état inséré dans le corps (16), et une couche adhésive de l'élément d'étanchéité (18) adhère à l'entrée du récipient (12) en étant chauffée.

4. Récipient selon la revendication 1, dans lequel l'unité de séparation d'élément d'étanchéité fait saillie vers l'intérieur depuis une surface circonférentielle intérieure du corps (16), insérée dans une rainure de l'entrée du récipient (12), et disposée sur une surface inférieure d'un bord de l'élément d'étanchéité (18), pour soulever et séparer l'élément d'étanchéité (18) de l'entrée du récipient (12) en étant déplacé vers le haut lorsque le corps (16) est séparé de l'entrée du récipient (12).

5. Récipient selon la revendication 1, dans lequel l'unité de séparation d'élément d'étanchéité comprend :

une saillie de support (22) formée dans le corps (16) dans une direction circonférentielle, disposée sur une surface inférieure de l'élément d'étanchéité (18), insérée dans une rainure (20) de l'entrée de récipient (12), et supportée par un bord de l'élément d'étanchéité (18), et
une saillie de rotation (44) disposée au-dessus de la saillie de support (22) avec un intervalle entre elles, et verrouillée par des saillies de verrouillage (46) formées au niveau du bord de l'élément d'étanchéité (18) dans une direction circonférentielle avec le même intervalle, pour mettre en rotation l'élément d'étanchéité (18) de manière à séparer l'élément d'étanchéité (18) de l'entrée de récipient (12) lorsque le corps (16) est mis en rotation.

6. Récipient selon la revendication 5, dans lequel l'élément d'étanchéité (18) est muni de saillies de verrouillage (46) disposées au niveau d'un bord correspondant dans une direction circonférentielle avec le même intervalle entre elles, et les saillies de ver-

rouillage (46) sont mises en oeuvre selon une forme convexe - concave, ou selon une forme inclinée dans une direction.

- 5 7. Récipient selon la revendication 1, comprenant en outre :

une unité de verrouillage d'élément d'étanchéité formée au niveau du corps (16), et verrouillée au niveau d'une surface intérieure de l'élément d'étanchéité (18) en pénétrant l'élément d'étanchéité (18) lorsqu'elle est soumise à une pression.

- 10 8. Récipient selon la revendication 7, dans lequel la rainure (20) est une rainure concave (20) formée au niveau de l'extrémité supérieure de l'entrée du récipient (12).

- 20 9. Récipient selon la revendication 8, dans lequel l'élément d'étanchéité (18) comprend :

une couche de support élastique (24) formée de papier ou de résine synthétique, etc. ayant sa propre force élastique, et collée à l'entrée du récipient (12) en étant élastiquement transformée lors de la fermeture du récipient (10),
une couche métallique (26) fixée à une surface inférieure de la couche de support élastique (24), et constituée d'aluminium, et
une couche adhésive (28) déposée sur une surface inférieure de la couche métallique (26), et faisant adhérer l'élément d'étanchéité (18) à l'entrée du récipient (12), et
dans lequel la couche de support élastique (24) est munie d'un trou traversant pour faire passer l'unité de verrouillage d'élément d'étanchéité.

- 35 10. Récipient selon la revendication 8, dans lequel l'unité de séparation d'élément d'étanchéité fait saillie vers l'intérieur depuis une surface circonférentielle intérieure du corps (16), insérée dans une rainure (20) de l'entrée du récipient (12), et disposée sur une surface inférieure d'un bord de l'élément d'étanchéité (18), pour soulever et séparer l'élément d'étanchéité (18) de l'entrée du récipient (12) en étant déplacé vers le haut lorsque le corps (16) est séparé de l'entrée du récipient (12).

- 40 11. Récipient selon la revendication 7, dans lequel l'unité de verrouillage d'élément d'étanchéité comprend :

une plaque de pression (72) disposée dans le corps (16) de manière à être mobile dans des directions supérieure et inférieure, et se déplaçant vers le bas lorsqu'elle est soumise à une pression par un utilisateur,
une partie de verrouillage (74) disposée sur une

surface inférieure de la plaque de pression (72),
 et verrouillée à une surface inférieure de l'élé-
 ment d'étanchéité (18) en pénétrant l'élément
 d'étanchéité (18) lorsque la plaque de pression
 (72) est soumise à une pression, et 5
 une partie de connexion (76) reliée entre une
 surface circonférentielle extérieure de la plaque
 de pression (72) et une surface circonférentielle
 intérieure du corps (16), pour guider la plaque
 de pression (72) à se déplacer dans des direc- 10
 tions supérieure et inférieure, et supporter la pla-
 que de pression (72) qui a été déplacée vers
 une autre position par sa propre force élastique.

12. Récipient selon la revendication 11, dans lequel la 15
 partie de verrouillage comprend :

une tige de support (80) s'étendant vers le bas
 depuis une partie centrale d'une surface infé-
 rieure de la plaque de pression (72), et pénétrant 20
 l'élément d'étanchéité (18) lorsque la plaque de
 pression (72) est soumise à une pression, et
 une ou plusieurs saillies de verrouillage (82) for-
 mées sur une surface circonférentielle extérieu-
 re d'une extrémité de la tige de support (80), et 25
 verrouillant l'élément d'étanchéité (18) de ma-
 nière à stocker l'élément d'étanchéité (18) dans
 le corps (16).

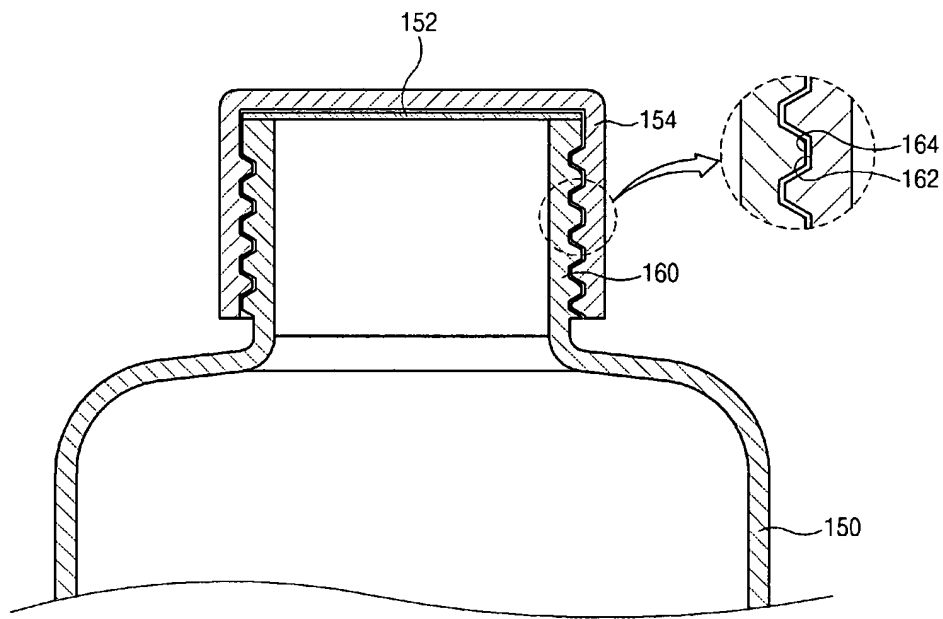
13. Récipient selon la revendication 11, dans lequel la 30
 partie de connexion (76) est formée entre une sur-
 face circonférentielle extérieure de la plaque de
 pression (72) et une surface circonférentielle inté-
 rieure du corps (16) sous forme d'un film mince (82)
 ayant une forme de dôme, et est élastiquement 35
 transformée lorsque la plaque de pression (72) est
 soumise à une pression par une force supérieure à
 un degré particulier.

14. Récipient selon la revendication 1 ou 11, dans lequel 40
 une ou plusieurs saillies faisant saillie depuis une
 partie de couplage entre l'élément d'étanchéité (18)
 et l'entrée du récipient (12) sont formées au niveau
 de l'élément d'étanchéité (18) ou au niveau de l'en-
 trée du récipient (12), ou au niveau des deux. 45

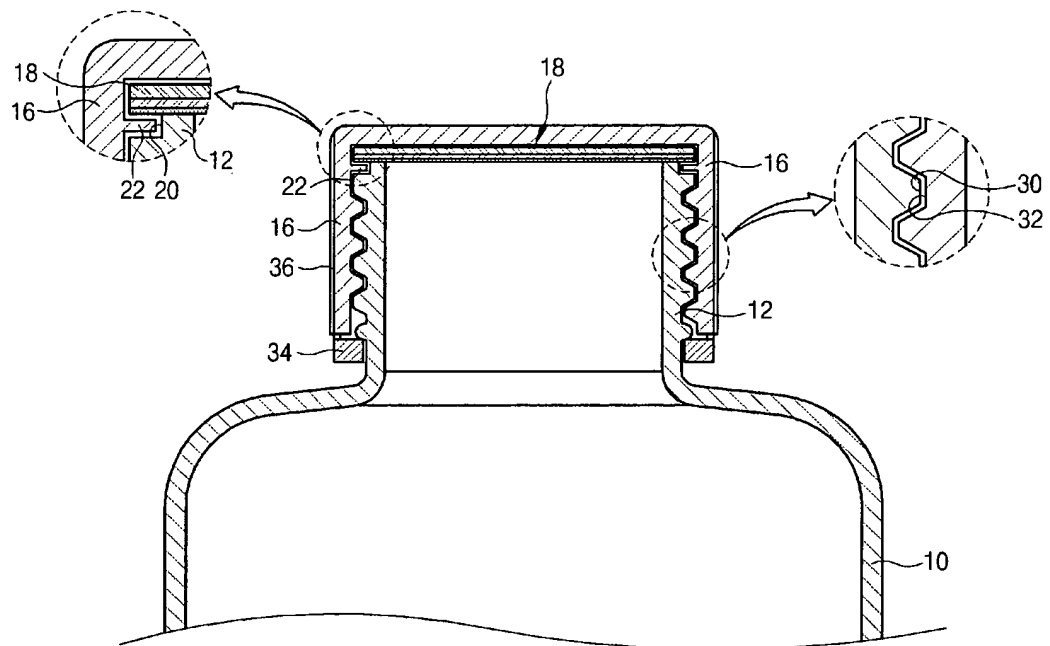
15. Récipient selon la revendication 1 ou 11, dans lequel
 le corps (16) est muni d'une ou plusieurs saillies ou
 de parties de rainure au niveau d'une partie de con-
 tact avec l'élément d'étanchéité (18). 50

16. Récipient selon la revendication 15, dans lequel les
 saillies ou les parties de rainures sont formées dans
 une direction radiale. 55

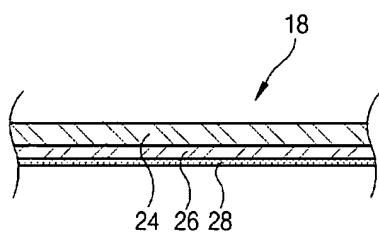
[Fig. 1]



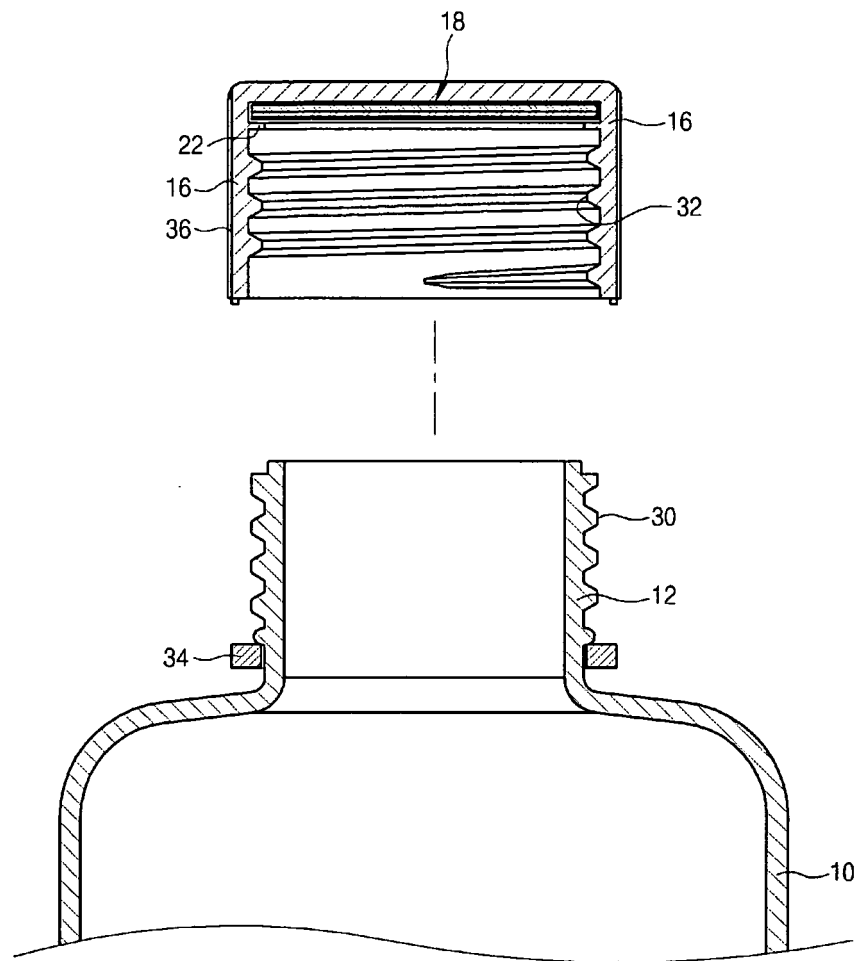
[Fig. 2]



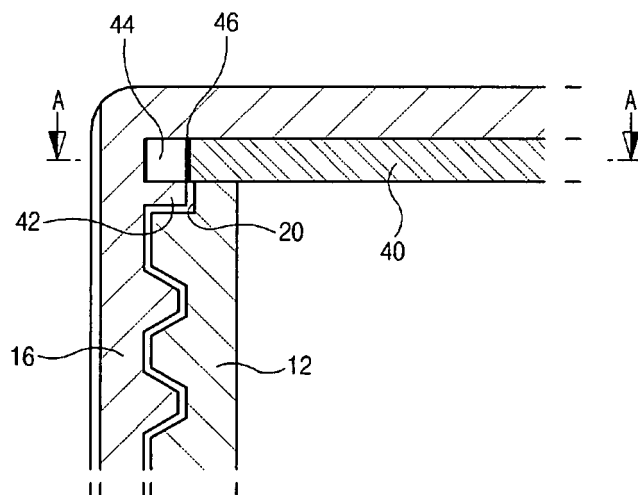
[Fig. 3]



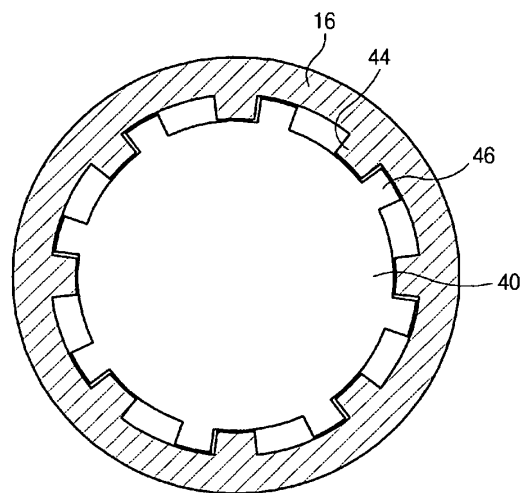
[Fig. 4]



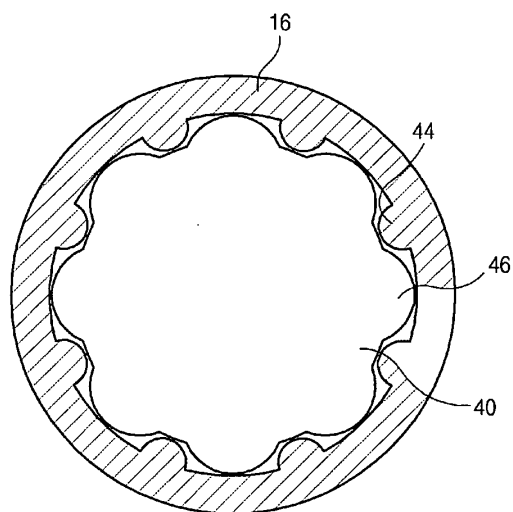
[Fig. 5]



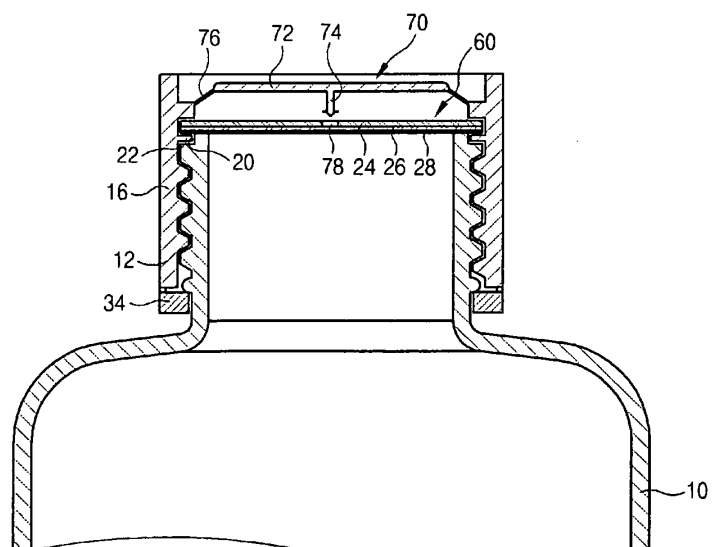
[Fig. 6]



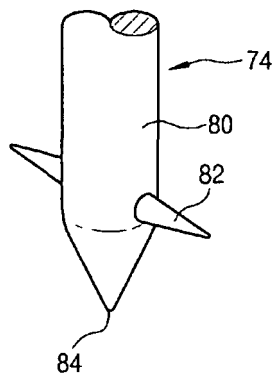
[Fig. 7]



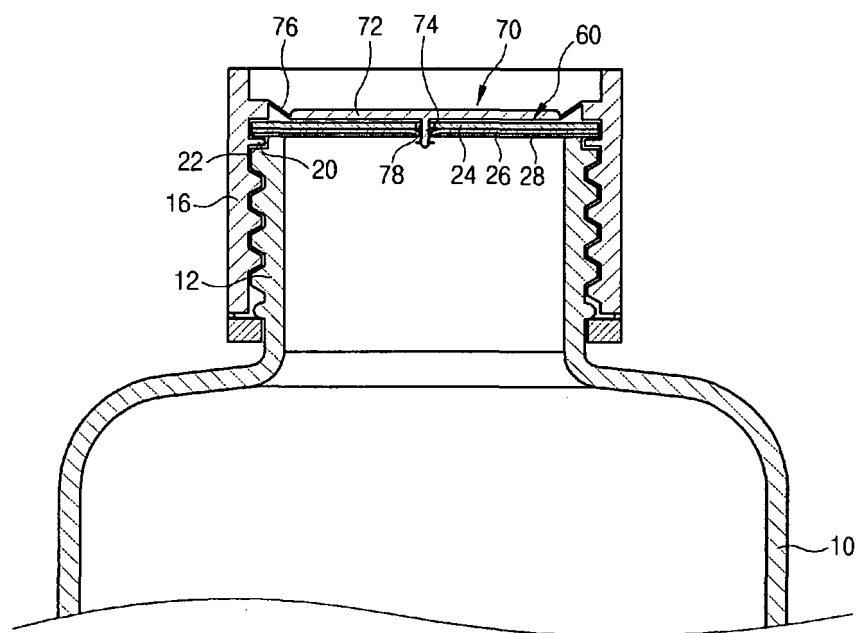
[Fig. 8]



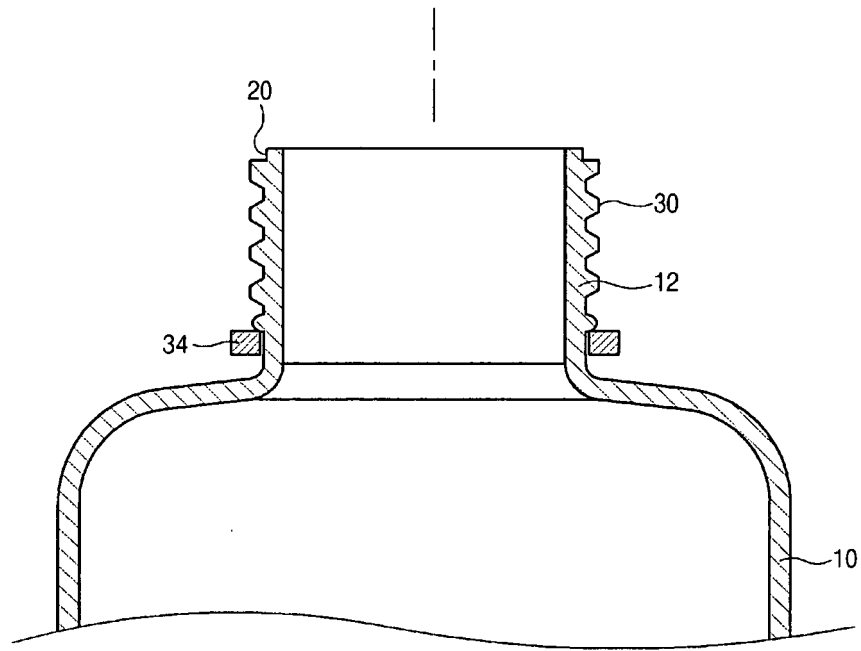
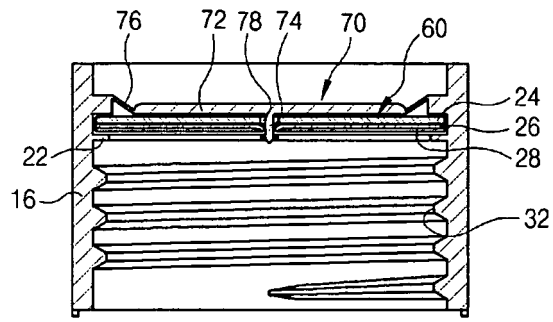
[Fig. 9]



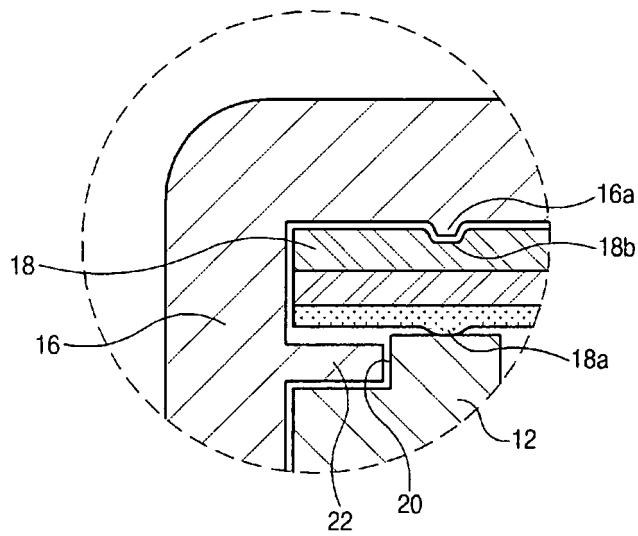
[Fig. 10]



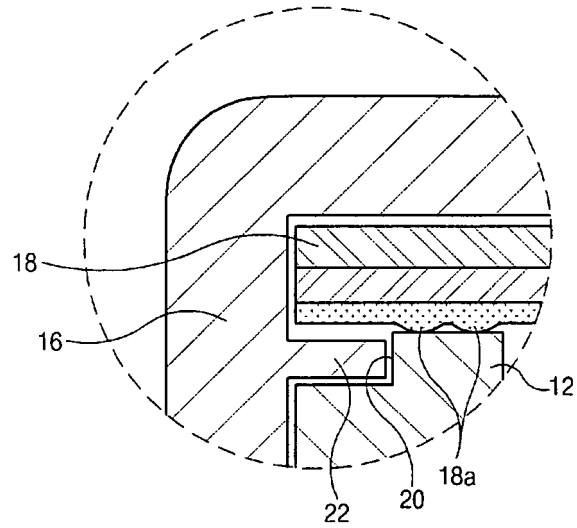
[Fig. 11]



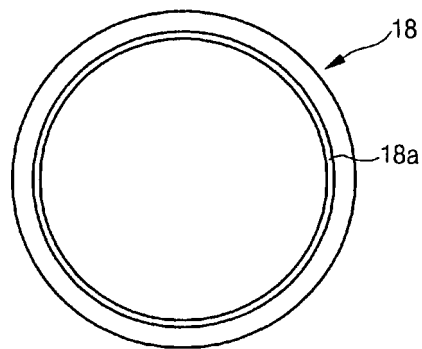
[Fig. 12]



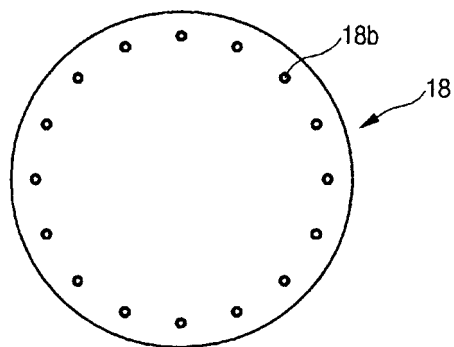
[Fig. 13]



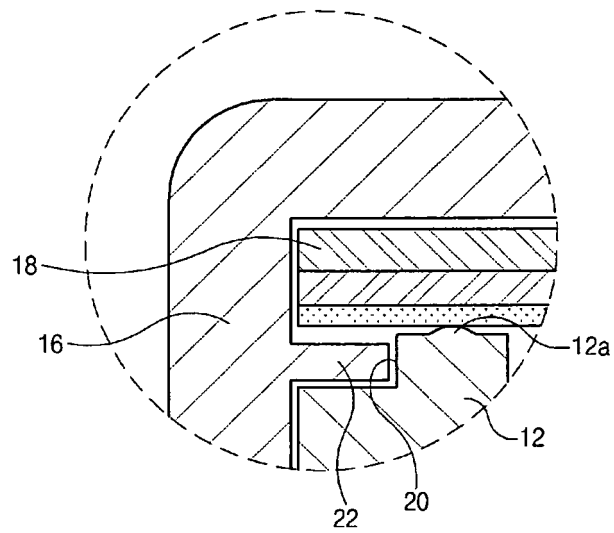
[Fig. 14]



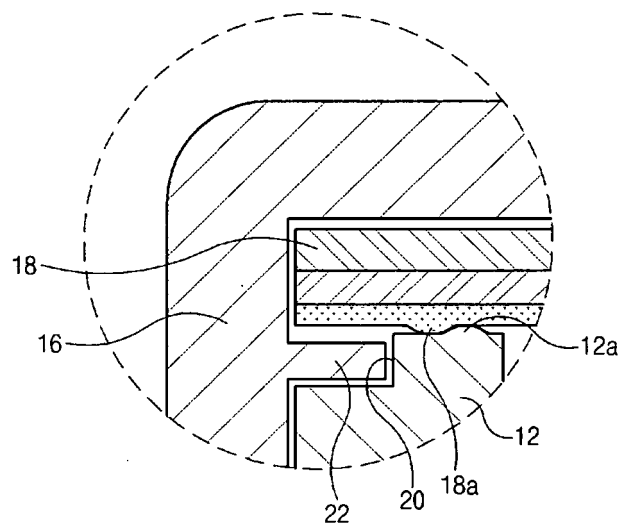
[Fig. 15]



[Fig. 16]



[Fig. 17]



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- FR 2886275 A [0007]