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(54) **SHEET MEMBER CONTAINER**

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(52) **U.S. Cl.**

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(57) **ABSTRACT**

A sheet member container configured to include one or more sheet members including a bag-body forming sheet member including an outer film layer and an inner film layer that are stacked on each other. The sheet member container includes a container main body, an extending piece extending from the container main body, a containing portion that is formed continuously over an interior of the container main body and an interior of the extending piece, the containing portion storing contents, a filling port that communicates between a portion of the interior of the container main body in the containing portion and an external space of the sheet member container, and a bag body that is made out of the bag-body forming sheet member, the bag body surrounding the containing portion.

100

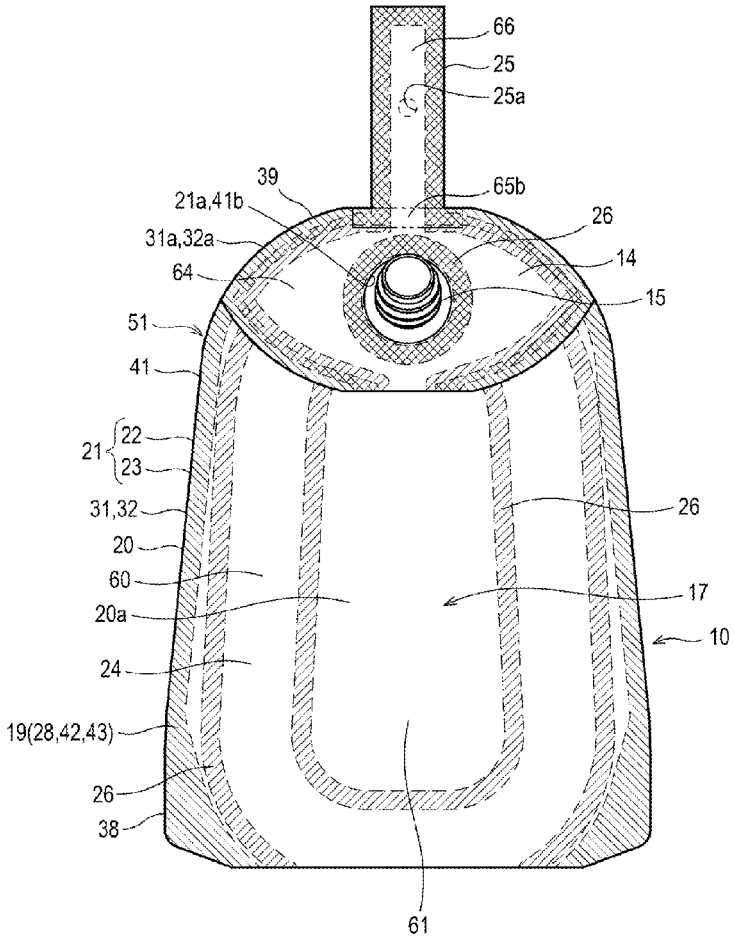


FIG.1

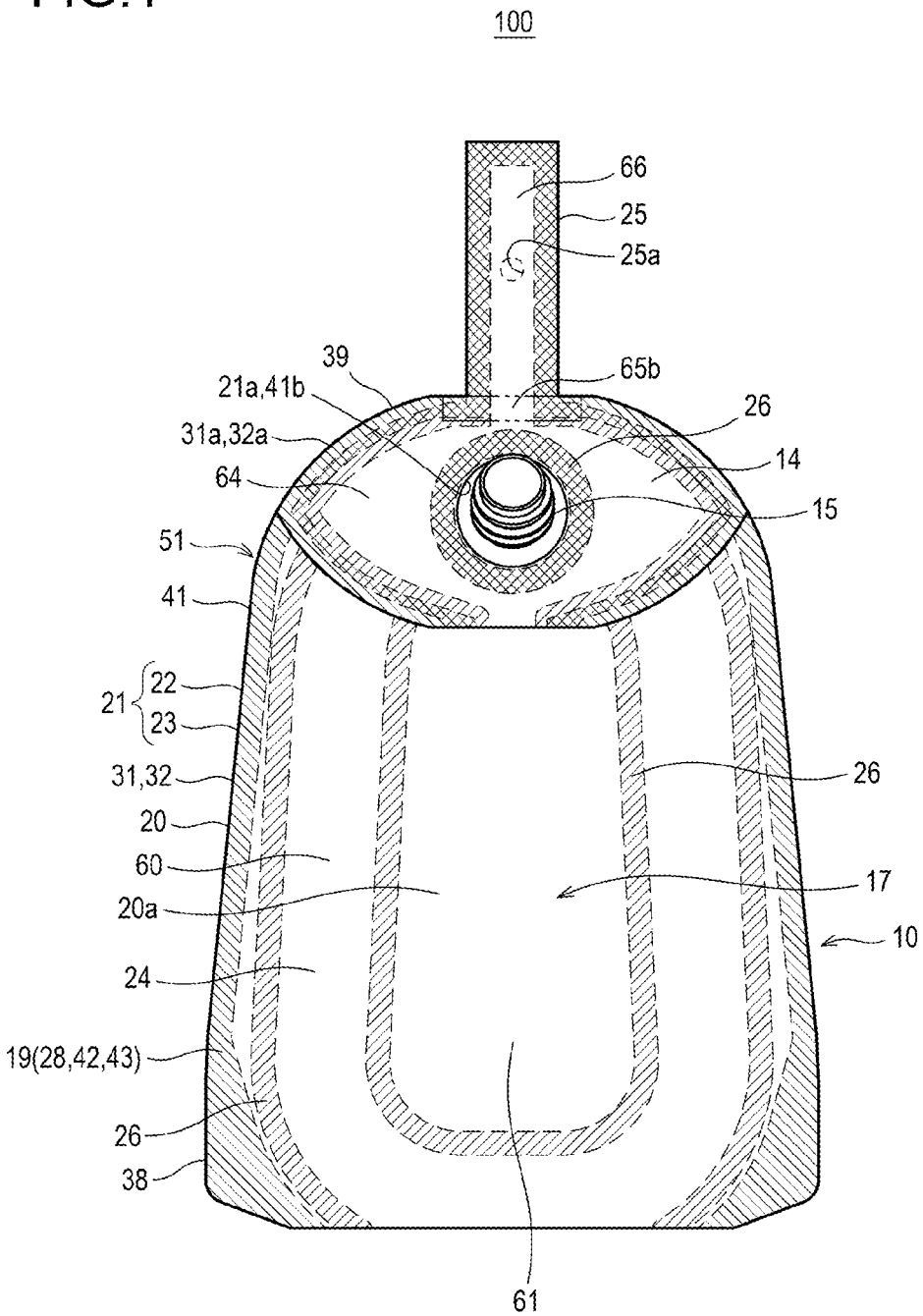

100
66
25
25a
39
21a,41b
65b
26
31a,32a
14
64
15
51
41
21
22
23
31,32
26
20
60
17
20a
10
24
19(28,42,43)
26
38
61

FIG.2

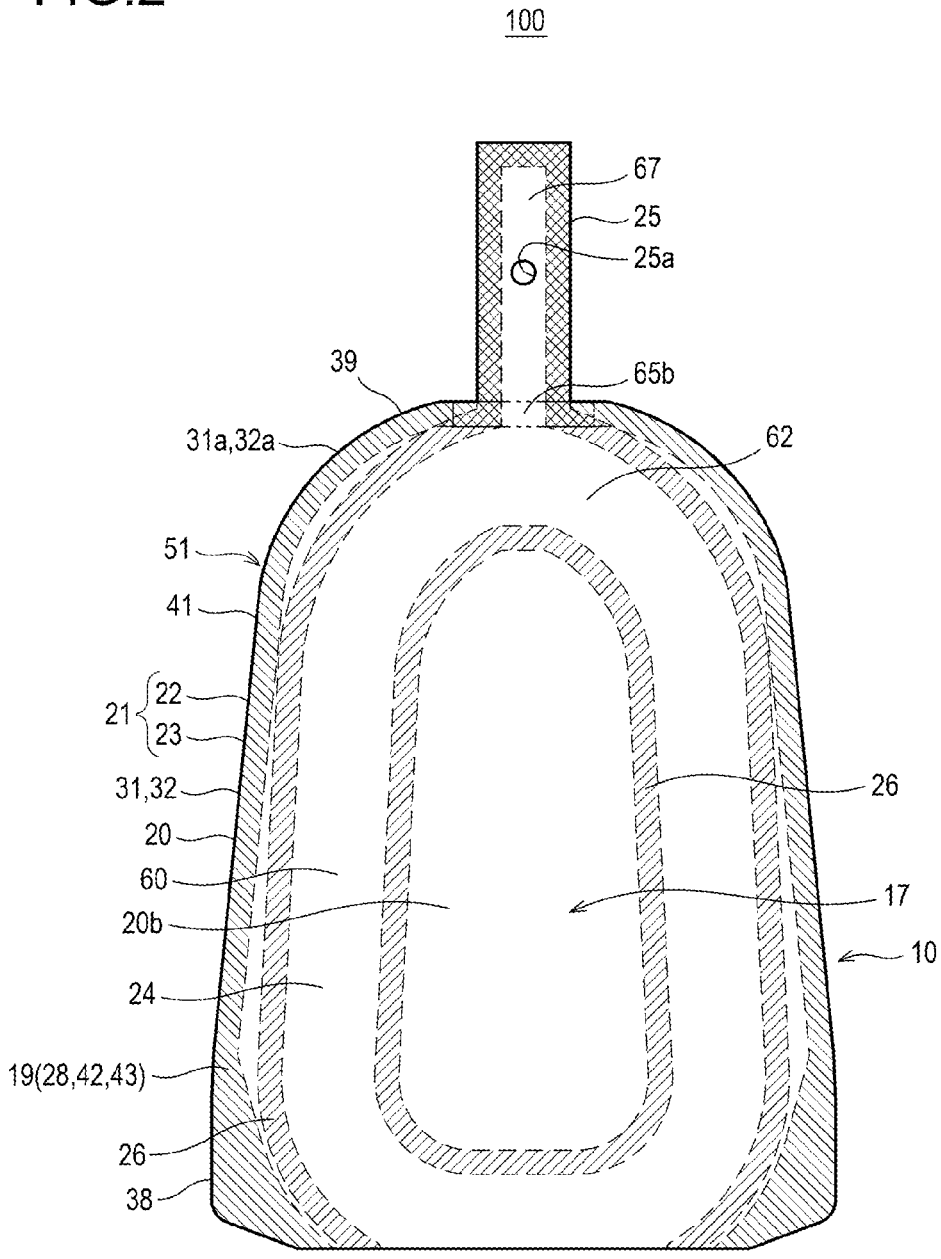

100
67
25
25a
39
65b
31a,32a
62
51
41
21
22
23
31,32
26
20
60
17
20b
10
24
19(28,42,43)
26
38

FIG.3

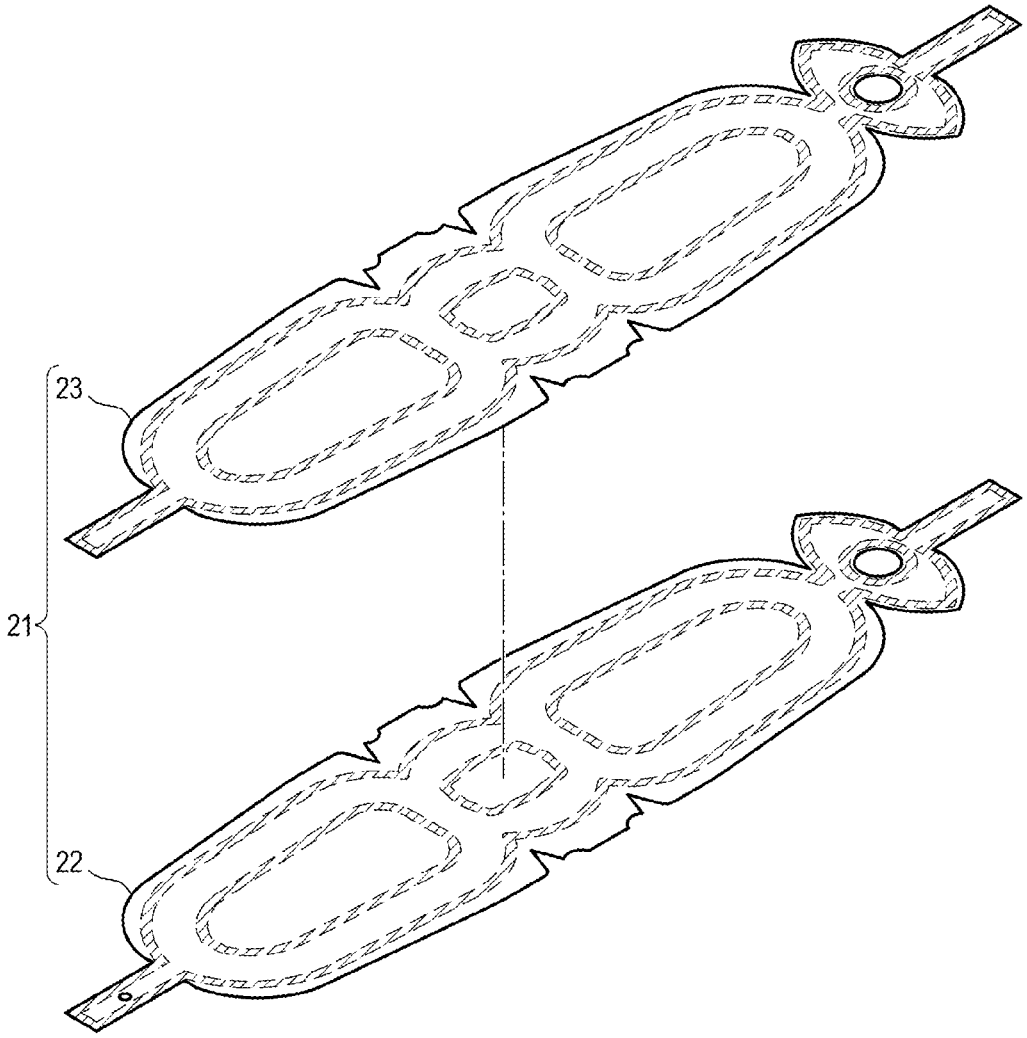


FIG.4

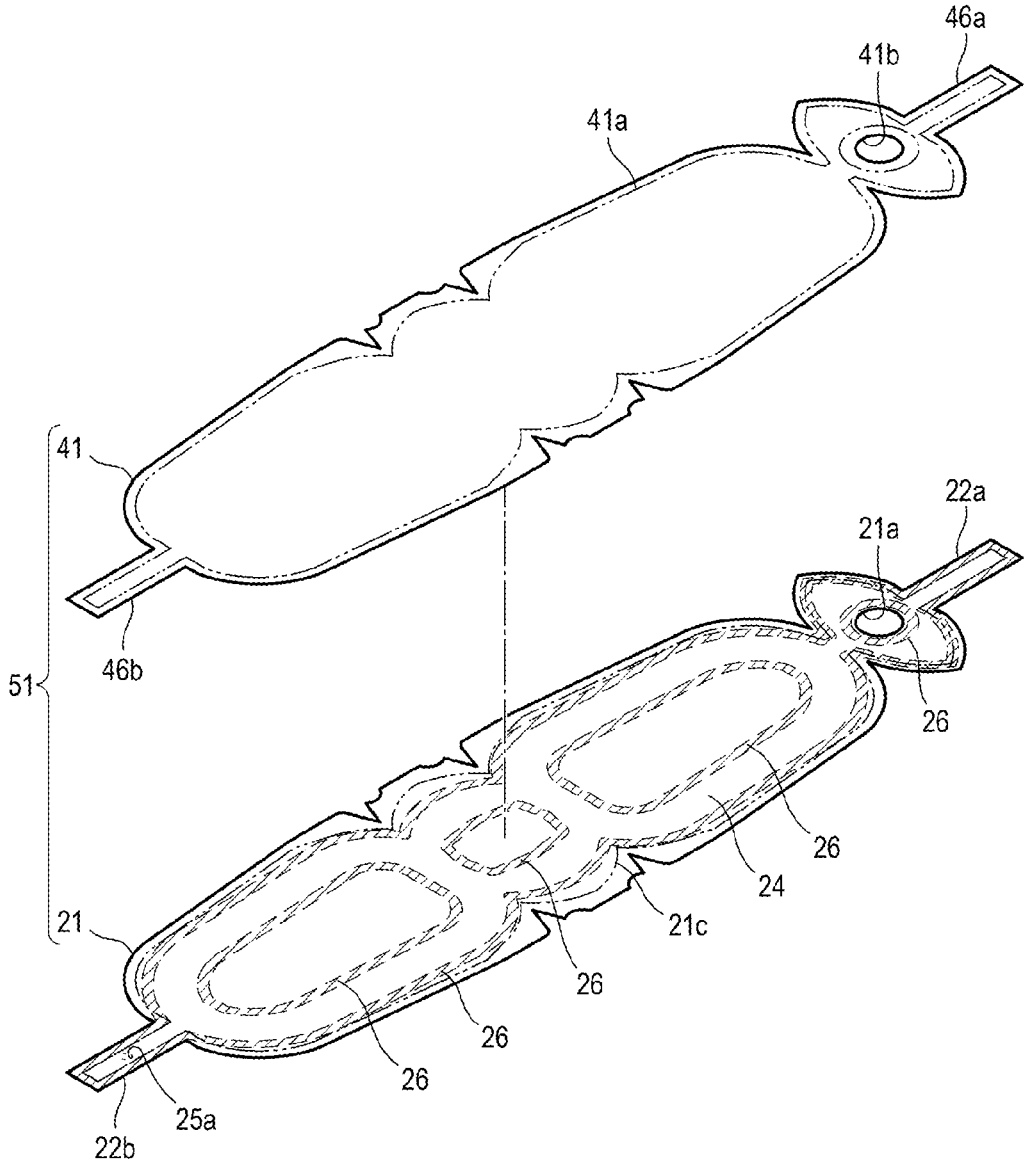


FIG.5

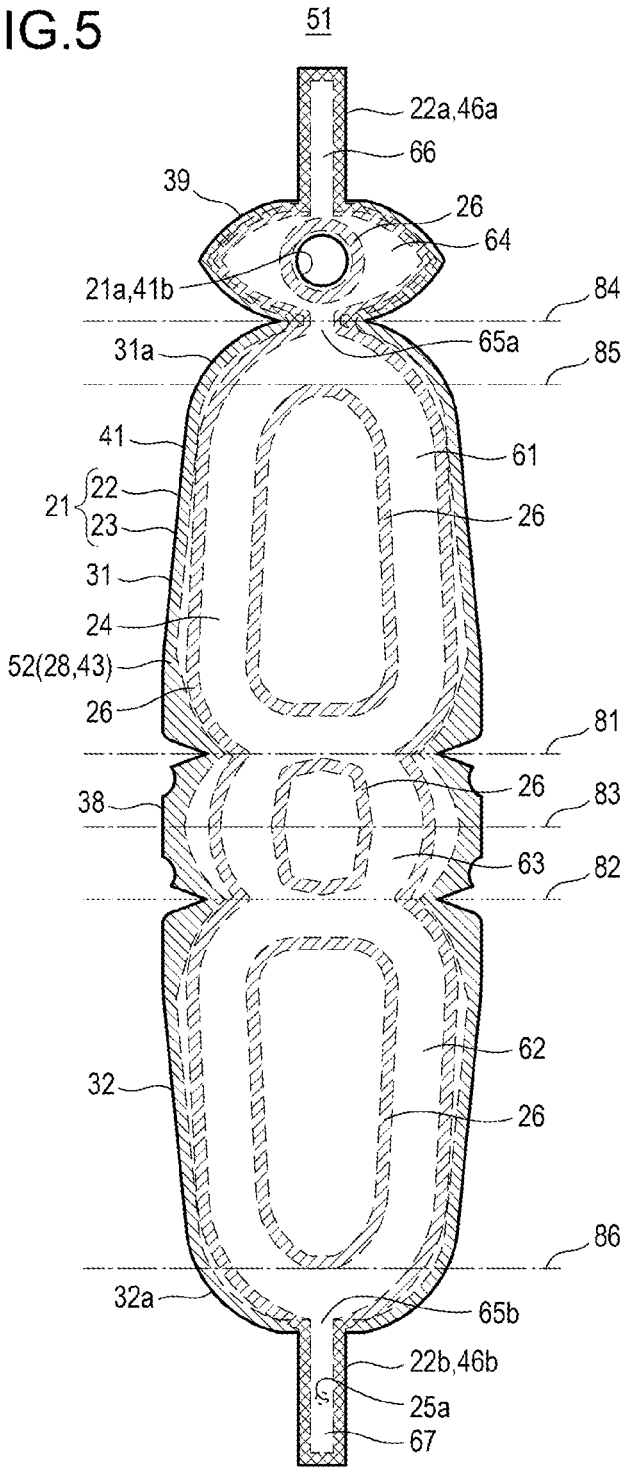

51
22a,46a
66
39
26
64
21a,41b
84
31a
65a
85
41
61
21
22
23
26
31
24
52(28,43)
26
81
26
38
83
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82
62
32
26
86
32a
65b
22b,46b
25a
67

FIG.6

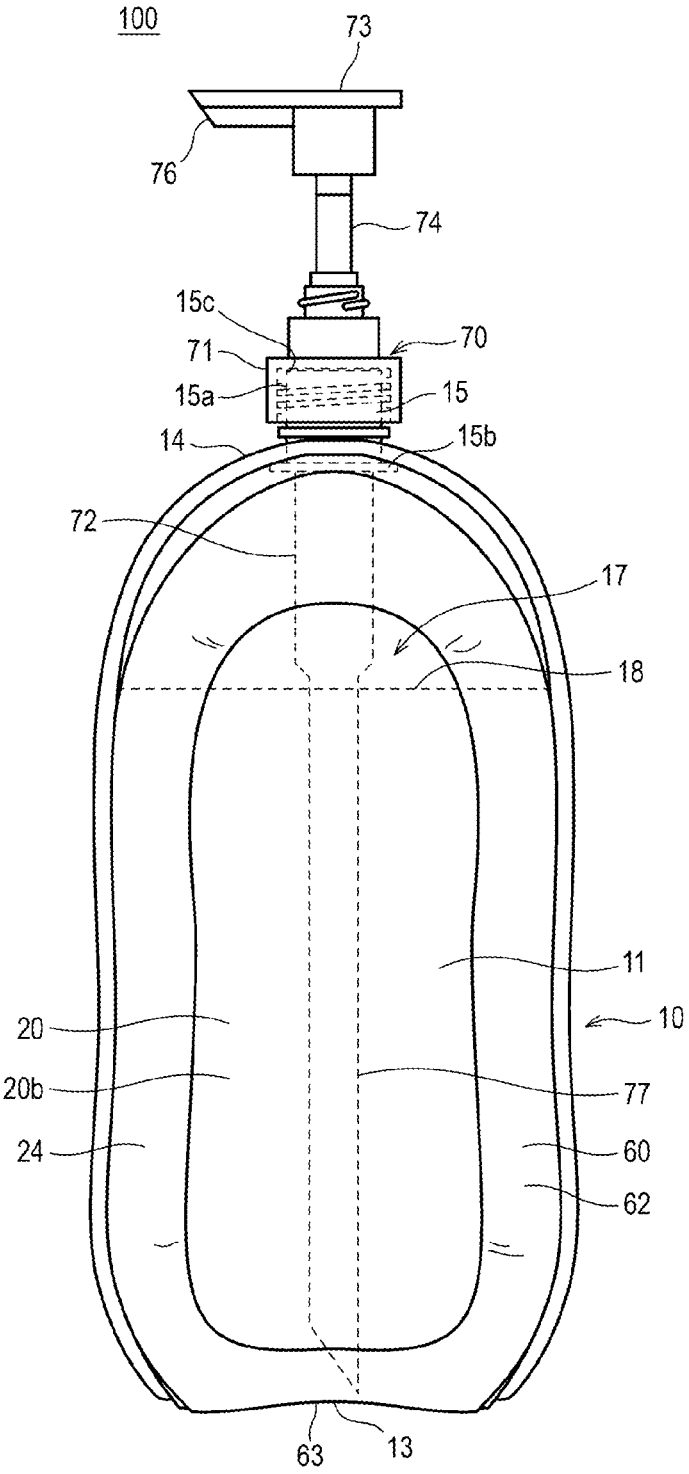

100
73
76
74
15c
70
71
15a
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14
15b
72
17
18
11
10
20
20b
77
24
60
62
63
13

FIG.7A

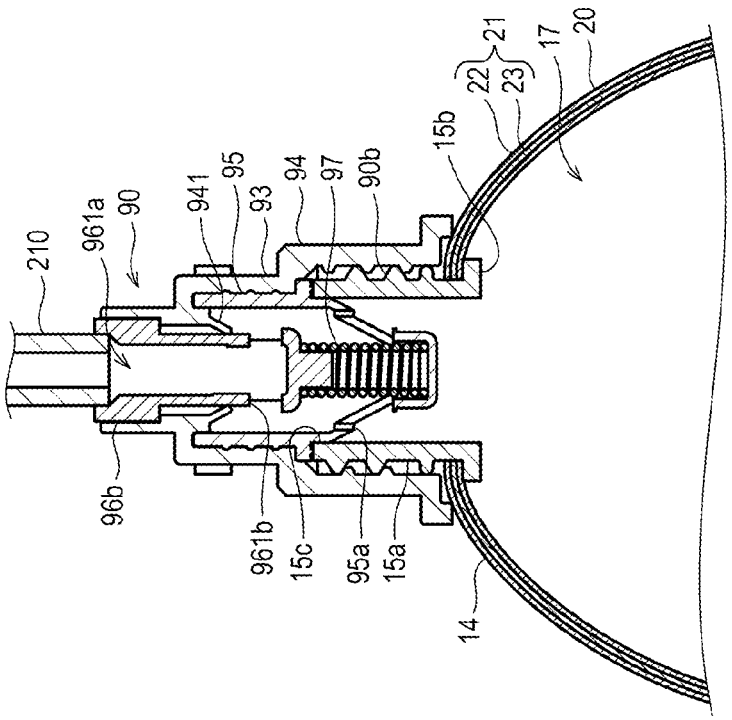

100
210
961a
90
941
95
93
94
97
90b
15b
22
21
23
17
20
96b
961b
15c
95a
15a
14

FIG.7B

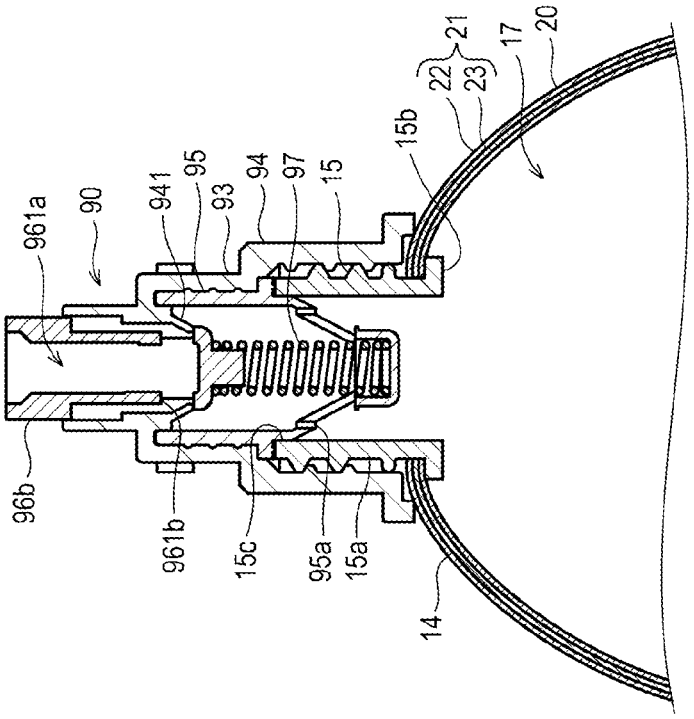

100
961a
90
941
95
93
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97
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15b
22
21
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17
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96b
961b
15c
95a
15a
14

FIG.8A

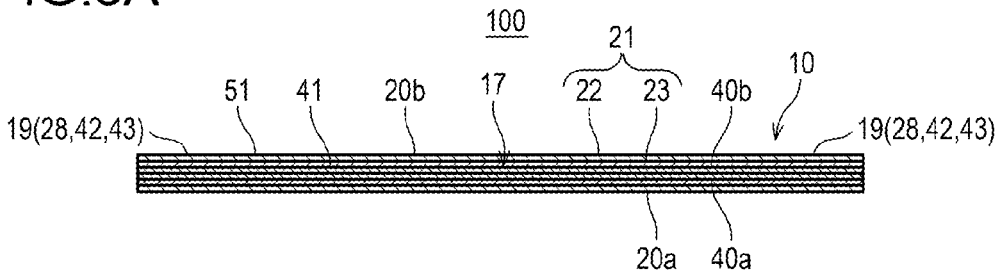


FIG.8B

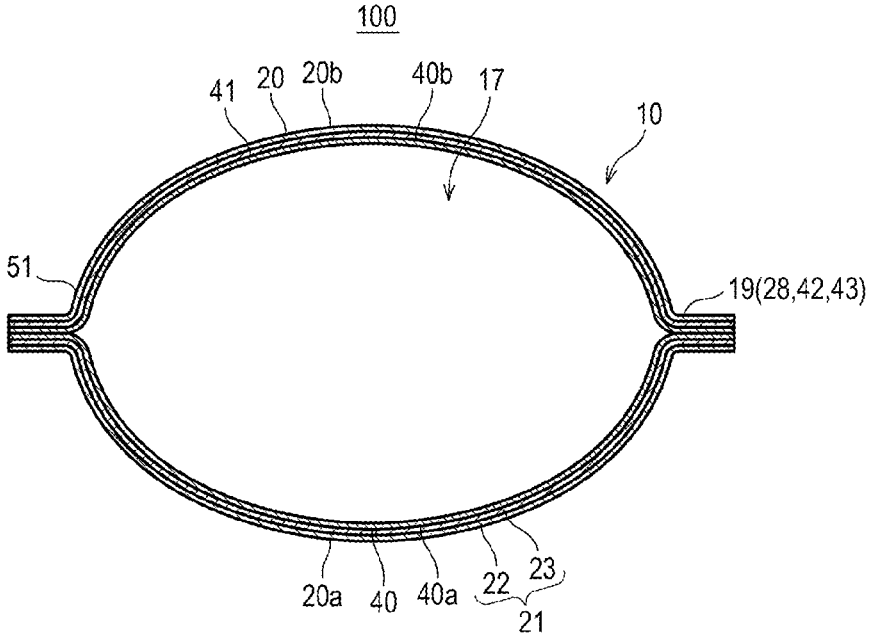


FIG.8C

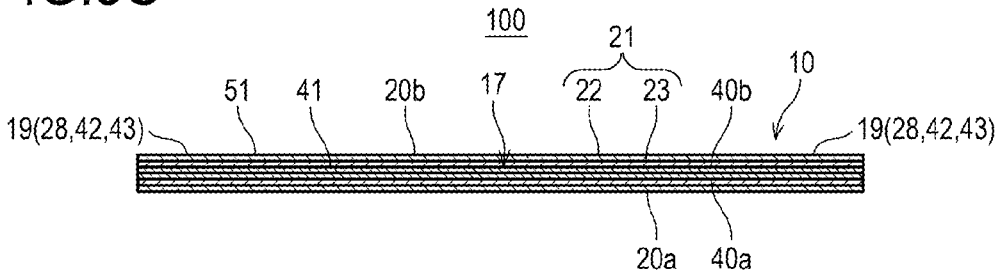


FIG.9A

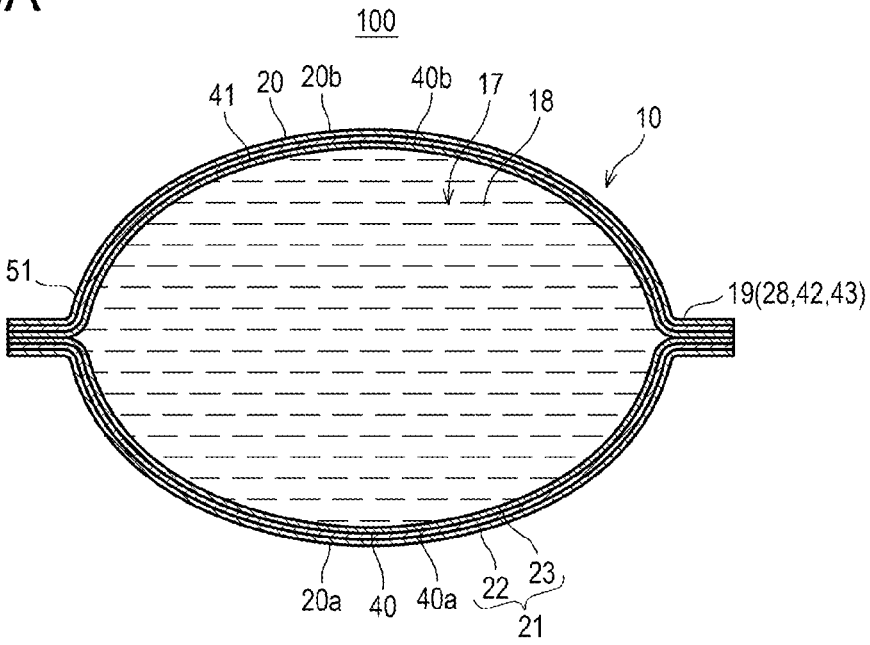

100
41
20
20b
40b
17
18
10
51
19(28,42,43)
20a
40
40a
22
23
21

FIG.9B

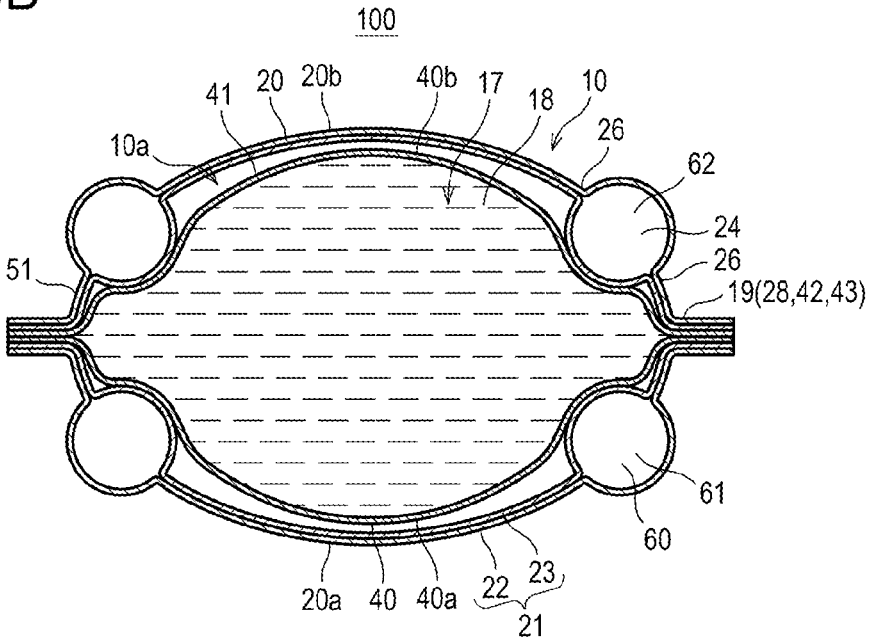

100
41
20
20b
40b
17
18
10
26
10a
62
24
26
51
19(28,42,43)
61
60
20a
40
40a
22
23
21

FIG.10A

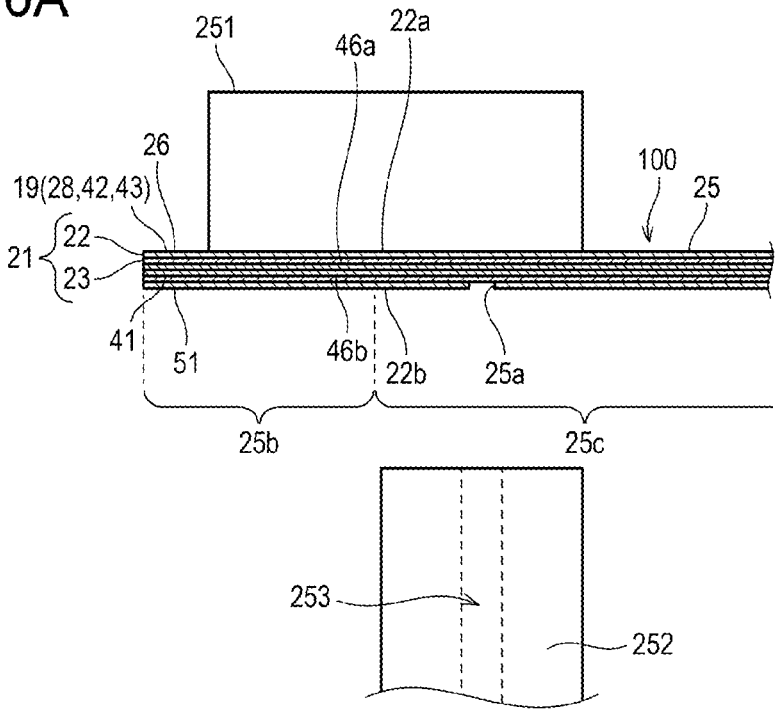


FIG.10B

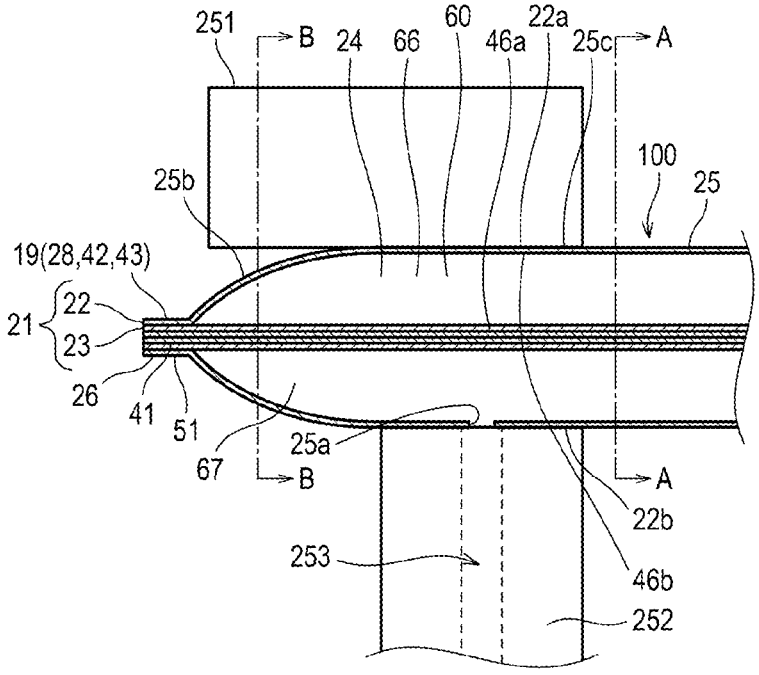


FIG.11A

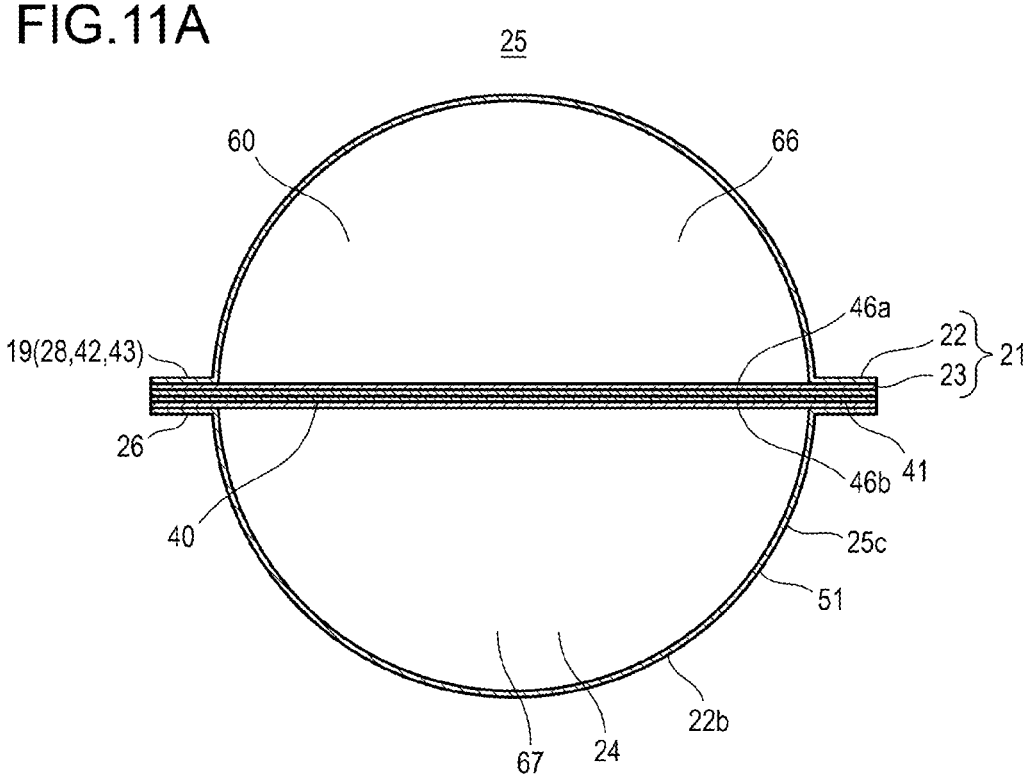


FIG.11B

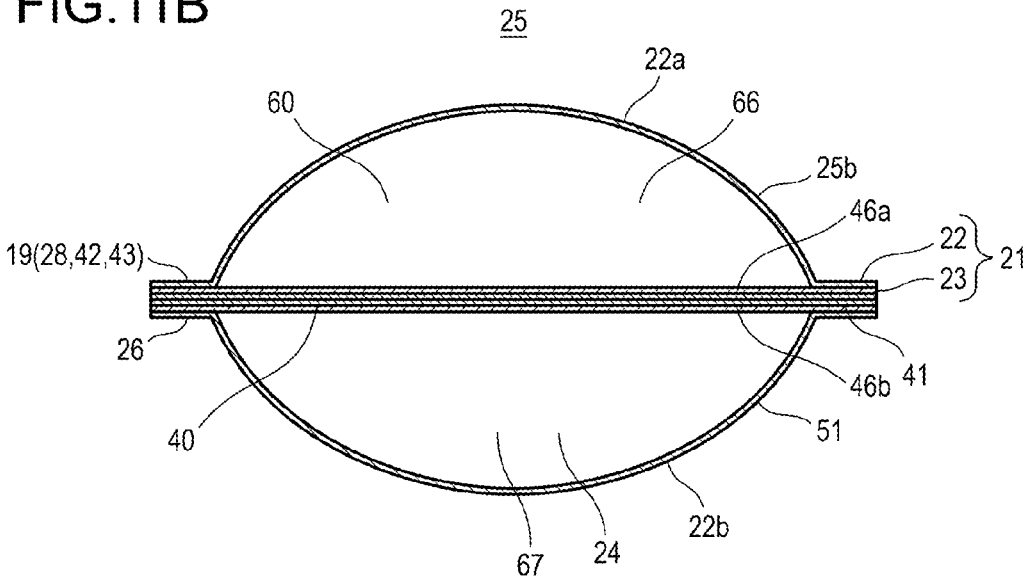


FIG.12A

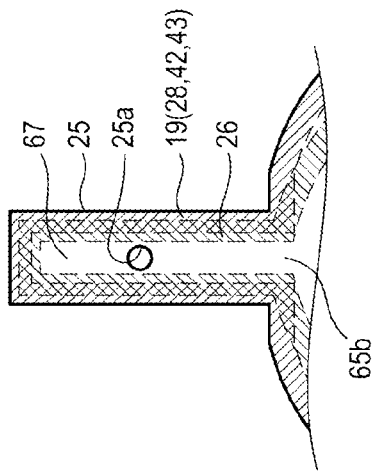


FIG.12B

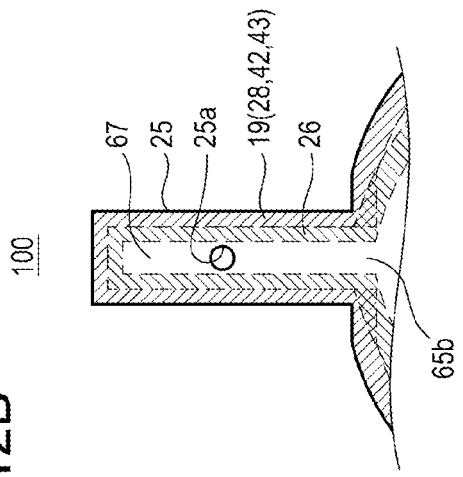


FIG.12C

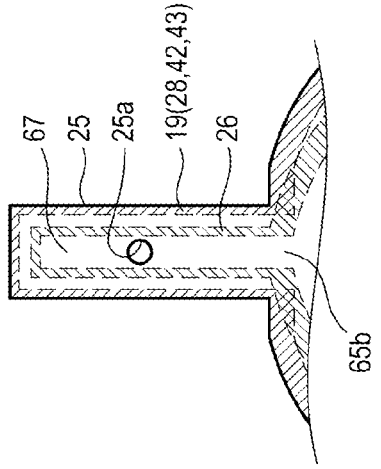


FIG.12D

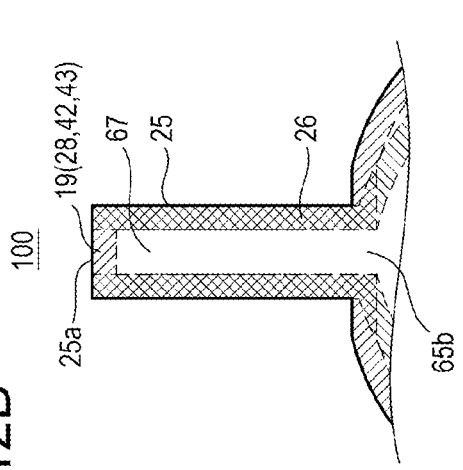
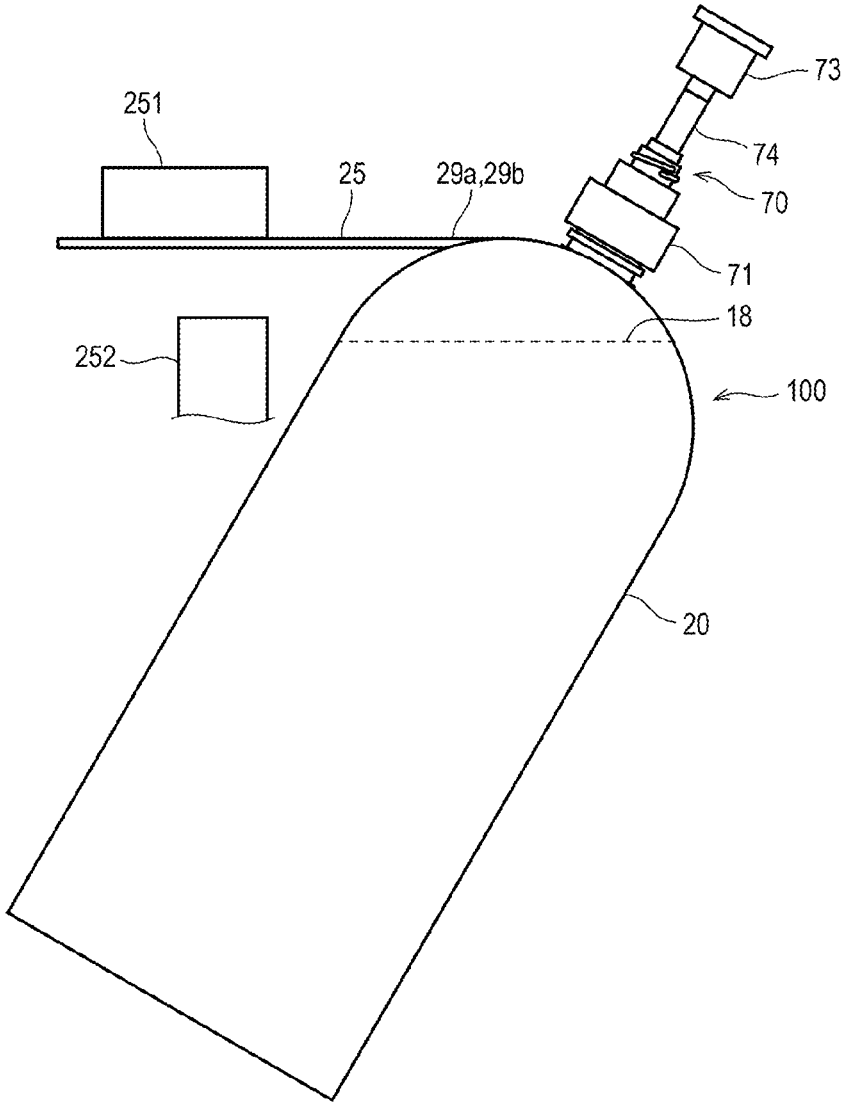


FIG.13



SHEET MEMBER CONTAINER

TECHNICAL FIELD

[0001] The present invention relates to a sheet member container and a manufacturing method of a contents-containing sheet member container.

[0002] BACKGROUND ART

[0003] For example, Patent Document 1 describes a sheet member container having a structure in which a plurality of films are stacked and a filler such as air is contained between layers of the films. The sheet member container of Patent Document 1 includes a container including a containing portion that accommodates contents, a bag body that covers the container (described as a cover body in the same document), a bag-body forming sheet member **21** that constitutes the bag body (described as a cover body forming sheet member in the same document), and an extending piece extending from the container.

[0004] The bag-body forming sheet member includes an attached portion in which the plurality of film layers are attached together (described as a film region in the same document) and a non-attached region in which a plurality of film layers are partially not attached (described as a filler containing portion in the same document). The filler is contained between layers of the plurality of film layers in the non-attached region to form a filling portion, and the extending piece includes an inlet through which the filler is inputted into the filling portion.

[0005] In the sheet member container of Patent Document 1, the containing portion and an external space of the sheet member container communicate to each other at a base end of the extending piece.

CITATION LIST

Patent Document

[0006] Patent Document 1: Japanese Patent No. 6193535

SUMMARY OF THE INVENTION

[0007] The present invention relates to a sheet member container configured to include one or more sheet members including a bag-body forming sheet member including an outer film layer and an inner film layer that are stacked on each other, the sheet member container including: a container main body, an extending piece extending from the container main body, a containing portion that is formed continuously over an interior of the container main body and an interior of the extending piece, the containing portion storing contents, a filling port that communicates between a portion of the interior of the container main body in the containing portion and an external space of the sheet member container, and a bag body that is made out of the bag-body forming sheet member, the bag body surrounding the containing portion, in which the bag-body forming sheet member includes a bag-body sealing portion that is a portion in which the outer film layer and the inner film layer are attached together, and a non-attached region where the outer film layer and the inner film layer are partially not attached, the bag-body forming sheet member also including a filling portion that allows a filler to be contained between layers of the outer film layer and the inner film layer in the non-attached region, the extending piece includes an inlet through which the filler is inputted into the filling portion, the sheet member container includes a peripheral edge sealing portion in which the one or more sheet members are folded and in which peripheral edge portions of a sheet member of an innermost layer included in the one or more sheet members are attached to each other, the peripheral edge sealing portion defines the containing portion, the peripheral edge sealing portion has a portion disposed in a region outside the inlet in the extending piece, and the containing portion is sealed from the external space except for the filling port.

[0008] The present invention also relates to a method of manufacturing a contents-containing sheet member container, including a preparation step of preparing, as the sheet member container, the sheet member container of the present invention, a preliminary step of performing, for the containing portion, at least one of a degassing treatment, and a purging treatment using an inert gas, a contents filling step of filling the containing portion with the contents, and a filler filling step of putting the filler between layers of the outer film layer and the inner film layer in the non-attached region, the steps being performed in this order.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. **1** is an elevation view illustrating a sheet member container according to an exemplary embodiment.

[0010] FIG. **2** is a back elevation view of the sheet member container according to the exemplary embodiment.

[0011] FIG. **3** is an exploded perspective view illustrating an outer film layer and inner film layer of a bag-body forming sheet member.

[0012] FIG. **4** is an exploded perspective view illustrating an inner-bag forming sheet member and the bag-body forming sheet member.

[0013] FIG. **5** is a plane view illustrating a container forming sheet member including the inner-bag forming sheet member and the bag-body forming sheet member that are stacked on each other.

[0014] FIG. **6** is a back elevation view illustrating a state where the sheet member container according to the exemplary embodiment is filled with contents.

[0015] FIGS. **7**A and **7**B are views for explaining a manufacturing method of the sheet member container according to the exemplary embodiment, in which FIG. **7**A illustrates a state where a valve part is located at a top dead center, and FIG. **7**B illustrates a state where the valve part is located at a bottom dead center.

[0016] FIGS. **8**A, **8**B and **8**C are views illustrating a series of steps in the manufacturing method of the sheet member container according to the exemplary embodiment, in which FIGS. **8**A and **8**C illustrate a state where a containing portion is degassed, and FIG. **8**B illustrates a state where the containing portion is filled with an inert gas.

[0017] FIGS. **9**A and **9**B are views illustrating a series of steps in the manufacturing method of the sheet member container according to the exemplary embodiment, in which FIG. **9**A illustrates a state where the containing portion is filled with the contents, and FIG. **9**B illustrates a state where a filling portion is filled with filler.

[0018] FIGS. **10**A and **10**B are views for explaining the manufacturing method of the sheet member container according to the exemplary embodiment, in which FIG. **10**A illustrates a state immediately before the filling portion is filled with the filler, and FIG. **10**B illustrates a state where the filling portion is filled with the filler.

[0019] FIG. **11**A is a cross-sectional view taken along the line A-A illustrated in FIG. **10**B, and FIG. **11**B is a cross-sectional view taken along the line B-B illustrated in FIG. **10**B.

[0020] FIGS. **12**A, **12**B, **12**C and **12**D are plane views illustrating an extending piece and a peripheral structure of the piece, in which FIG. **12**A illustrates Modification 1, FIG. **12**B illustrates Modification 2, FIG. **12**C illustrates Modification 3, and FIG. **12**D illustrates Modification 4.

[0021] FIG. **13** is a view for explaining a manufacturing method of a sheet member container according to Modification 5 of the exemplary embodiment.

DESCRIPTION OF THE EMBODIMENTS

[0022] According to study by the present inventors, in a sheet member container described in Patent Document 1, there is room for improvement in terms of a structure that suppresses deterioration (degradation) of contents.

[0023] The present invention relates to a sheet member container that makes it possible to more reliably suppress the deterioration (degradation) of the contents, and a manufacturing method of a contents-containing sheet member container.

[0024] Below, preferred exemplary embodiments of the present invention will be described with reference to the drawings. Note that, in all the drawings, the same reference characters are attached to similar constituent components, and detailed explanation will not be repeated. Also, FIGS. **8**A to **9**B illustrate a state of a sheet member container **100** in each manufacturing step with a cross section at a position corresponding to the line A-A illustrated in FIG. **1**. Also, FIGS. **10**A and **10**B illustrate an extending piece **25** in a cross section along an extending direction of the extending piece **25**.

[0025] The sheet member container **100** according to the present exemplary embodiment is a sheet member container configured to include one or more sheet members including a bag-body forming sheet member **21** including an outer film layer **22** and an inner film layer **23** that are stacked on each other. The sheet member container includes a container main body **20**, the extending piece **25** extending from the container main body **20**, a containing portion **17** that is formed continuously over an interior of the container main body **20** and an interior of the extending piece **25**, the containing portion **17** storing contents, a filling port **15***c* that communicates between a portion of the interior of the container main body **20** in the containing portion **17** and an external space of the sheet member container **100**, and a bag body **10** that is made out of the bag-body forming sheet member **21** and that surrounds the containing portion **17**.

[0026] The bag-body forming sheet member **21** includes a bag-body sealing portion **26** that is a portion in which the outer film layer **22** and the inner film layer **23** are attached together, and a non-attached region **24** in which the outer film layer **22** and the inner film layer are partially not attached, and also includes a filling portion **60** that allows a filler to be contained between layers of the outer film layer **22** and the inner film layer **23** in the non-attached region **24**.

[0027] The extending piece **25** includes an inlet **25***a* through which the filler is inputted into the filling portion **60**.

[0028] The sheet member container **100** includes a peripheral edge sealing portion **42** in which the one or more sheet members are folded and in which peripheral edge portions of a sheet member of an innermost layer included in the one or more sheet members are attached to each other. The peripheral edge sealing portion **42** defines the containing portion **17**, the peripheral edge sealing portion **42** has a portion disposed in a region outside the inlet **25***a* in the extending piece **25**, and the containing portion **17** is sealed from the external space except for the filling port **15***c*.

[0029] When filling the containing portion **17** with contents **18**, oxygen is suctioned from the containing portion **17** before the containing portion **17** is filled with the contents **18**. This can suppress deterioration (degradation) of the contents **18** contained in the containing portion **17** due to contact with oxygen.

[0030] Here, according to the present exemplary embodiment, since the containing portion **17** is sealed from the external space except for the filling port **15***c*, the containing portion **17** can be sufficiently degassed by suctioning through the filling port **15***c* before the filler is contained in the filling portion **60**. This can more reliably suppress the deterioration (degradation) of the contents **18** contained in the containing portion **17** due to contact with oxygen retained in the containing portion **17**.

[0031] Furthermore, according to the present exemplary embodiment, the peripheral edge sealing portion **42** has a portion disposed in the region outside the inlet **25***a* in the extending piece **25**, and the containing portion **17** is sealed from the external space except for the filling port **15***c*. Therefore, the containing portion **17** of the sheet member container **100** before the filler is contained in the filling portion **60** can be suitably filled with the contents **18** through the filling port **15***c*. Consequently, the contents **18** can be contained in the containing portion **17** while sufficiently expanding the containing portion. Therefore, the containing portion **17** can be smoothly filled with the contents **18**.

[0032] In the present invention, types of contents **18** are not specifically limited. The contents **18** include, for example, shampoo, conditioner, body soap, detergent, bleach, softener, beverage, and food, and also include engine oil, chemical agent, and the like.

[0033] In addition, the contents **18** may be a liquid (including a form of paste or a form of foam), or may be a solid (for example, in a form of particles (including a form of grains) or in a form of powder).

[0034] In the case of this exemplary embodiment, the contents **18** are, for example, liquid.

[0035] In a case where the contents **18** are liquid, the viscosity of the contents **18** at, for example, 30° C. preferably falls in a range of equal to or more than 1 mPa·s and equal to or less than 120000 mPa·s (measured by a B-type viscometer (for example, viscometer TV-10 or viscometer TVB-10 made by Toki Sangyo Co., LTD. or the like)), and more preferably falls in a range of equal to or more than 1 mPa·s and equal to or less than 60000 mPa·s.

[0036] The filler contained in the filling portion **60** includes a fluid (gas or liquid), a solid (for example, a powder-granular material, resin pellets, or the like), or a semi-solid (for example, blowing agent or the like), and is preferably a compressible fluid such as air.

[0037] In this exemplary embodiment, the positional relationship (up-down relationship or the like) of each constituent component of the sheet member container **100** is described in terms of a positional relationship in a state where the sheet member container **100** is caused to stand independently as illustrated in FIG. **6**, unless otherwise specified. However, the positional relationship in this

description does not necessarily match the positional relationship at the time of using or manufacturing the sheet member container **100**.

[0038] Additionally, in connection with the positional relationship of respective constituent components of the sheet member container **100**, the positional relationship illustrated in each of the drawings may be described.

[0039] The front side (side toward a viewer of a paper surface in FIG. **1**) of the sheet member container **100** is referred to as a forward direction; the back side (side away from the viewer of the paper surface in FIG. **1**) of the sheet member container **100** is referred to as a rearward direction; the left side (left side in FIG. **1**) as viewed from the front surface of the sheet member container **100** is referred to as a leftward direction; and the right side (right side in FIG. **1**) as viewed from the front surface of the sheet member container **100** is referred to as a rightward direction. Furthermore, the left-right direction of the sheet member container **100** may be referred to as a widthwise direction (width direction).

[0040] In the case of this exemplary embodiment, the container main body **20** is formed into a bag shape and includes a body portion **11**, a top portion **14** disposed on an upper side of the body portion **11**, and a bottom portion **13** disposed on a lower side of the body portion **11**. However, the present invention is not limited to this example, and the container main body **20** does not have to include the top portion **14** or does not have to include the bottom portion **13**. As illustrated in FIG. **6**, in a state where the filling portion **60** is filled with the filler, the sheet member container **100** can stand independently with the bottom portion **13** being disposed on a horizontal mounting surface.

[0041] The container main body **20** surrounds the containing portion **17** (surrounds an after-mentioned inner bag **40** in the case of this exemplary embodiment). The container main body **20** constitutes a shell of the sheet member container **100**. Below, the body portion **11**, top portion **14** and bottom portion **13** of the container main body **20** may be referred to as the body portion **11**, top portion **14** and bottom portion **13** of the sheet member container **100**.

[0042] As illustrated in FIGS. **1** and **2**, the body portion **11** includes a first main surface portion **20***a* (front panel) and a second main surface portion **20***b* (rear panel), which are opposed to each other with the containing portion **17** being disposed therebetween. The first main surface portion **20***a* is located on a front side, and the second main surface portion **20***b* is located on a back side.

[0043] The first main surface portion **20***a* is formed, for example, in left-right symmetry, and the second main surface portion **20***b* is also formed, for example, in left-right symmetry.

[0044] The container main body **20** is formed by folding a container forming sheet member **51** (see FIG. **5**) and attaching peripheral edge portions of this container forming sheet member **51** to each other (attaching the portions to each other through an inner-bag forming sheet member **41** that constitutes the inner bag **40** in the case of this exemplary embodiment).

[0045] Also, in the case of this exemplary embodiment, the extending piece **25** extends from an upper end of the container main body **20**. More specifically, a portion of the extending piece **25** on the front side extends, for example, upward from an upper end of the second main surface portion **20***b* of the body portion **11**. A portion of the extending piece **25** on the back side extends, for example, upward from an upper end of the top portion **14**. In other words, the extending piece **25** extends from a boundary between the body portion **11** and the top portion **14**.

[0046] A widthwise dimension of the extending piece **25** is, for example, substantially constant in an up-down direction. Alternatively, the widthwise dimension of the extending piece **25** may vary depending on a position in the up-down direction.

[0047] Further, in the case of this exemplary embodiment, the sheet member container **100** further includes the inner bag **40** disposed inside the bag body **10**, and the inner bag **40** is made out of the inner-bag forming sheet member **41** that is a sheet member of the innermost layer included in the one or more sheet members that constitute the sheet member container **100**. Therefore, in the case of this exemplary embodiment, the peripheral edge sealing portion **42** in which the peripheral edge portions of the sheet member of the innermost layer are attached to each other is a sealing portion in which the peripheral edge portions of the inner-bag forming sheet member **41** are attached to each other.

[0048] More specifically, the inner bag **40** is formed, for example, by attaching portions in the peripheral edge portions of the inner-bag forming sheet member **41** (see FIG. **4**) to each other. That is, the bag-shaped inner bag **40** is formed by folding the inner-bag forming sheet member **41** and attaching the peripheral edge portions of the inner-bag forming sheet member **41** to each other. As described above, the inner bag **40** is covered with the container main body **20**. The inner bag **40** includes the containing portion **17** in the interior of the inner bag **40**.

[0049] The shape of the inner bag **40** is not specifically limited. However, in the case of this exemplary embodiment, the inner bag **40** is formed into a shape similar to that of the container main body **20**. Alternatively, the shape of the inner bag **40** may be smaller than that of the container main body **20**.

[0050] As illustrated in FIG. **8**B, the inner bag **40** includes a first surface **40***a* located on the front side and a second surface **40***b* located on the back side with the containing portion **17** being disposed between the surfaces.

[0051] The sheet member container **100** includes a spout member **15** including a discharge port that allows the contents **18** to be discharged from the containing portion **17**, and the discharge port also serves as the filling port **15***c*.

[0052] More specifically, the spout member **15** is provided, for example, so as to penetrate through the top portion **14**.

[0053] For example, as illustrated in FIGS. **7**A and **7**B, the spout member **15** includes a cylindrical outlet cylinder portion **15***a* through which the contents **18** are passed, and a plate-shaped plate portion **15***b* provided at one end (lower end) of the outlet cylinder portion **15***a* in an axial direction so as to be perpendicular to this axial direction, the portions being provided in an integral manner. Threads are formed on an outer peripheral surface of the outlet cylinder portion **15***a*, and the outlet cylinder portion **15***a* has an external thread shape. The outlet cylinder portion **15***a* penetrates through the top portion **14** in the up-down direction and protrudes upward from the top portion **14**.

[0054] The plate portion **15***b* overhangs like a flange from a lower end of the outlet cylinder portion **15***a* to the

periphery. A planar shape of the plate portion **15***b* is not specifically limited, and an example of the shape is a substantially square shape.

[0055] For example, on the inner-bag forming sheet member **41**, the plate portion **15***b* is provided on an inner surface or an outer surface and at a portion of the body portion **11** disposed along the top portion **14**. For example, the plate portion **15***b* is attached to the inner surface (lower surface) of the inner-bag forming sheet member **41** in the top portion **14**. Consequently, the plate portion **15***b* is attached to the bag-body forming sheet member **21** through the inner-bag forming sheet member **41**. However, the present invention is not limited to this example, and the plate portion **15***b* may be attached directly to the inner film layer **23** of the bag-body forming sheet member **21**. An attached portion between the plate portion **15***b* and the inner-bag forming sheet member **41** circularly surrounds the periphery of the outlet cylinder portion **15***a* in planar view. The attached portion between the plate portion **15***b* and the inner-bag forming sheet member **41** is formed, for example, in a region that overlaps with the bag-body sealing portion **26** (see FIG. **5**) having a circular ring shape and located around an insert hole **21***a*.

[0056] An opening in the outlet cylinder portion **15***a* on an upper end side is a discharge port through which the contents **18** are discharged from the containing portion **17**, the port also serving as the filling port **15***c*. Therefore, a portion of the interior of the container main body **20** in the containing portion **17** and the external space of the sheet member container **100** communicate to each other through the opening in the outlet cylinder portion **15***a* on the upper end side.

[0057] Also, in the plate portion **15***b*, an opening is formed coaxially with an inner space of the outlet cylinder portion **15***a*. The contents **18** in the containing portion **17** are discharged to outside through the opening in the plate portion **15***b* and the filling port **15***c*.

[0058] The shape of the filling portion **60** is not specifically limited. For example, as illustrated in FIGS. **1**, **2** and **5**, the filling portion includes a first filling portion **61** that is formed circularly along a peripheral edge portion of the first main surface portion **20***a*, a second filling portion **62** that is formed circularly along a peripheral edge portion of the second main surface portion **20***b*, a third filling portion **63** that is formed circularly along a peripheral edge portion of the bottom portion **13**, and a fourth filling portion **64** formed circularly around the outlet cylinder portion **15***a* in the top portion **14**.

[0059] The first filling portion **61** is connected to the fourth filling portion **64**, and also connected to the third filling portion **63**. The second filling portion **62** is connected to the third filling portion **63**.

[0060] The sheet member container **100** includes the filling portion **60** thus entirely formed in an integrated manner. In the state where the filling portion **60** is filled with the filler, structural strength is sufficiently obtained substantially over the whole container main body **20**.

[0061] Alternatively, in the present invention, the sheet member container **100** may include a plurality of filling portions **60** that are independent of one another.

[0062] Further, in the case of this exemplary embodiment, the filling portion **60** includes a first extending filling portion **66** disposed on one side and a second extending filling portion **67** disposed on the other side with the containing portion **17** of the interior of the extending piece **25** being disposed between the extending filling portions in a thickness direction of the extending piece **25**.

[0063] In the case of this exemplary embodiment, the first extending filling portion **66** and the fourth filling portion **64** are connected via an interfacial connecting portion **65***a*, and the second extending filling portion **67** and the second filling portion **62** are connected via an interfacial connecting portion **65***b*.

[0064] More specifically, a lower edge of the first extending filling portion **66** is connected to an upper edge of the fourth filling portion **64**, and a lower edge of the second extending filling portion **67** is connected to an upper edge of the second filling portion **62**.

[0065] Here, for example, the inlet **25***a* is formed in a portion of the outer film layer **22** that defines at least one of the first extending filling portion **66** and the second extending filling portion **67**.

[0066] In the case of this exemplary embodiment, for example, as illustrated in FIG. **2**, the inlet **25***a* is disposed in a central position of the outer film layer **22** in the widthwise direction of the second extending filling portion **67**, the position corresponding to a central position in an extending direction of the second extending filling portion **67**.

[0067] Alternatively, for example, in the outer film layer **22**, the inlet **25***a* may be formed in the portion that defines the first extending filling portion **66**, or may be formed in both of the portion that defines the first extending filling portion **66** and the portion that defines the second extending filling portion **67**.

[0068] As illustrated in FIG. **3**, the bag-body forming sheet member **21** is formed by stacking on each other and attaching to each other, the outer film layer **22** that constitutes an outer surface side of the container main body **20** and the inner film layer **23** that constitutes an inner surface side of the container main body **20**. That is, as one example, in the case of this exemplary embodiment, the bag-body forming sheet member **21** includes two layers of film layers of the outer film layer **22** and the inner film layer **23**. However, the present invention is not limited to this example, and the bag-body forming sheet member **21** may include a film layer, other than the outer film layer **22** and the inner film layer **23**.

[0069] In the case of this exemplary embodiment, the outer film layer **22** and the inner film layer **23** are formed into the same shape as each other. However, the present invention is not limited to this example, and the outer film layer **22** and the inner film layer **23** may have shapes different from each other. In the case of the different shapes, it is preferable that the outer film layer **22** has a shape larger than that of the inner film layer **23**.

[0070] In the outer film layer **22** and the inner film layer **23**, an insert hole is formed, into which the outlet cylinder portion **15***a* of the spout member **15** is inserted.

[0071] In the bag-body forming sheet member **21**, the non-attached region **24** (see FIG. **5**) is formed, in which the outer film layer **22** and the inner film layer **23** are partially not attached. For example, a non-attaching treatment is partially applied to a surface of either one of or both of the outer film layer **22** and the inner film layer **23**, this surface facing a surface of the other one. The non-attaching treatment can be easily formed by applying a non-attaching agent (so-called adhesion inhibiting agent) to bring an adhesion inhibiting state. For the adhesion inhibiting agent, any agent may be used, provided that it can prevent the outer film layer

22 and the inner film layer 23 from being attached together. For the adhesion inhibiting agent, it is possible to preferably use, for example, printing ink, medium ink, ink dedicated to adhesion inhibition, or the like used in offset printing, flexography, and letterpress printing (relief printing). Alternatively, thermosetting ink or UV curable ink may be preferably used. A range in which the non-attaching treatment is applied is to be the non-attached region 24. The filler is contained in the non-attached region 24 to form the filling portion 60. However, the bag-body sealing portion 26 is not limited to be formed by the non-attaching treatment, and may be formed by heat sealing by use of a mold having a shape of the bag-body sealing portion 26.

[0072] The filling portion 60 is not necessarily formed in the whole non-attached region 24 and may be formed in some of a plurality of non-attached regions 24.

[0073] In FIGS. 3 and 4, a region of the bag-body sealing portion 26 formed by attaching the outer film layer 22 and the inner film layer 23 to each other is provided with right-rising hatching for the sake of convenience.

[0074] In FIG. 5, in the container forming sheet member 51, a region where the outer film layer 22 and the inner film layer 23 are attached to each other to define the non-attached region 24, that is, a region where the bag-body sealing portion 26 is formed is provided with right-rising hatching for the sake of convenience.

[0075] Further, FIG. 4 illustrates, with a double-dashed chain line, a seal boundary line 21*c* that is a boundary line between a seal region of a peripheral edge portion of the bag-body forming sheet member 21 and a region other than the seal region. In the case of this exemplary embodiment, in a region outer than the seal boundary line 21*c* of the bag-body forming sheet member 21, the outer film layer 22 and the inner film layer 23 are attached to each other, and the inner film layer 23 and the inner-bag forming sheet member 41 are attached to each other when formed into a bag.

[0076] As for a method of attaching the outer film layer 22 and the inner film layer 23 together, as one example, heat sealing, ultrasonic sealing, attaching with adhesive, or the like may be used.

[0077] In the case of this exemplary embodiment, each of the outer film layer 22 and the inner film layer 23 has a layer structure including a plurality of resin layers. Also, the inner-bag forming sheet member 41 also has a layer structure including a plurality of resin layers.

[0078] The bag-body forming sheet member 21 and the inner-bag forming sheet member 41 preferably include one type of resin layer based on polyethylene, polypropylene, polyester, or polyamide.

[0079] A material of the resin layer is not specifically limited. For example, it is preferable from the viewpoint of recyclability that the material is any one of a polyethylene material such as high-density polyethylene (HDPE), medium-density polyethylene (MDPE), low-density polyethylene (LDPE), linear low-density polyethylene (LLDPE), ultra-low density polyethylene (ULDPE), or ethylene-vinyl alcohol copolymer (EVOH); a polypropylene material such as stretched polypropylene (OPP), unstretched polypropylene (CPP), isotactic PP, syndiotactic PP, atactic PP, random PP, or block PP; a polyester material such as polyethylene terephthalate (PET), amorphous polyethylene terephthalate (amorphous PET), polybutylene terephthalate (PBT), polyethylene naphthalate (PEN), or polybutylene naphthalate (PBN); and a polyamide material such as stretched nylon (ONy), unstretched nylon (CNy), nylon 6, nylon 66, nylon 11, nylon 12, and MXD6. Among these materials, the above polyethylene material is particularly preferable.

[0080] As illustrated in FIGS. 4 and 5, the inner-bag forming sheet member 41 is stacked on the bag-body forming sheet member 21, and as illustrated in FIG. 5, a peripheral edge portion of the inner film layer 23 and the peripheral edge portion of the inner-bag forming sheet member 41 are attached to each other, and a peripheral edge portion of the outer film layer 22 and the peripheral edge portion of the inner film layer 23 are attached to each other. Consequently, the bag-body forming sheet member 21 and the inner-bag forming sheet member 41 constitute the container forming sheet member 51.

[0081] Here, a sealing portion of the peripheral edge portion of the container forming sheet member 51 is referred to as a peripheral edge sealing portion 52. The peripheral edge sealing portion 52 includes a sealing portion (hereinafter, an inner-outer sealing portion 43) between the peripheral edge portion of the inner film layer 23 and the peripheral edge portion of the inner-bag forming sheet member 41, and a sealing portion (hereinafter, a main-body peripheral edge sealing portion 28) between the peripheral edge portion of the outer film layer 22 and the peripheral edge portion of the inner film layer 23.

[0082] In FIG. 5, a region where the peripheral edge sealing portion 52 is formed is provided with left-rising hatching. Also, in FIG. 5, left-rising hatching overlaps with right-rising hatching in a region in which the region where the peripheral edge sealing portion 52 is formed overlaps with the region where the bag-body sealing portion 26 is formed.

[0083] As for a method of forming the peripheral edge sealing portion 52, as one example, heat sealing, ultrasonic sealing, attaching with adhesive, or the like may be used.

[0084] As illustrated in FIG. 5, the bag-body forming sheet member 21 includes, for example, a first sheet portion 31 that is a portion that constitutes the first main surface portion 20*a*, a second sheet portion 32 that is a portion that constitutes the second main surface portion 20*b*, a bottom forming sheet portion 38 that is a portion that constitutes the bottom portion 13, and a top forming sheet portion 39 that is a portion that constitutes the top portion 14.

[0085] The insert hole 21*a* into which the outlet cylinder portion 15*a* of the spout member 15 is inserted is formed in the top forming sheet portion 39.

[0086] In the case of this exemplary embodiment, the non-attached region 24 is formed into a shape that corresponds to the shape of the filling portion 60 of the sheet member container 100.

[0087] Here, in the case of this exemplary embodiment, as illustrated in FIG. 4, the bag-body forming sheet member 21 includes a first extending portion 22*a* disposed on one side and a second extending portion 22*b* disposed on the other side with the containing portion 17 of the interior of the extending piece 25 being disposed between the extending portions in the thickness direction of the extending piece 25.

[0088] The first extending portion 22*a* includes, for example, the outer film layer 22 and the inner film layer 23 and extends outward from the top forming sheet portion 39. The second extending portion 22*b* includes, for example, the outer film layer 22 and the inner film layer 23 and extends outward from the second sheet portion 32. The first extending portion 22*a* and the second extending portion 22*b* are

formed, for example, into the same shape with the same dimension as each other. The planar shape of each of the first extending portion **22***a* and the second extending portion **22***b* is not specifically limited, and each extending portion is formed, for example, into a substantially rectangular shape that is long in one direction.

[0089] In a state where the bag-body forming sheet member **21** is developed (the state illustrated in FIGS. **4** and **5**), the first extending portion **22***a* extends upward from a central portion of the top forming sheet portion **39** in the width direction at an edge portion opposite to a side on which the top forming sheet portion **39** is connected to the first sheet portion **31**, for example. Similarly, the second extending portion **22***b* extends downward from a central portion of the second sheet portion **32** in the width direction at an edge portion opposite to a side on which the second sheet portion **32** is connected to the bottom forming sheet portion **38**, for example.

[0090] Further, in the case of this exemplary embodiment, the inner-bag forming sheet member **41** includes a third extending portion **46***a* disposed on one side and a fourth extending portion **46***b* disposed on the other side with the containing portion **17** of the interior of the extending piece **25** being disposed between the extending portions in the thickness direction of the extending piece **25**.

[0091] More specifically, the inner-bag forming sheet member **41** is formed into the same shape as that of the bag-body forming sheet member **21**. The third extending portion **46***a* is a portion that corresponds to the first extending portion **22***a* (portion that overlaps with the first extending portion **22***a*). The fourth extending portion **46***b* is a portion that corresponds to the second extending portion **22***b* (portion that overlaps with the second extending portion **22***b*). Then, the extending piece **25** is formed by attaching respective peripheral edge portions of the first extending portion **22***a* to the fourth extending portion **46***b* to each other. Further specifically, the respective peripheral edge portions of the first extending portion **22***a* and the third extending portion **46***a* are attached to each other, the respective peripheral edge portions of the second extending portion **22***b* and the fourth extending portion **46***b* are attached to each other, and the respective peripheral edge portions of the third extending portion **46***a* and the fourth extending portion **46***b* are also attached to each other.

[0092] In addition, FIG. **4** illustrates a seal boundary line **41***a* of the inner-bag forming sheet member **41** with a double-dashed chain line for the sake of convenience. The seal boundary line **41***a* is a boundary line between a region where the inner-bag forming sheet member **41** is attached (sealed) to the bag-body forming sheet member **21** and another region in the inner-bag forming sheet member **41**, and is also a boundary line between a region where the inner-bag forming sheet members **41** are attached to each other and another region in the inner-bag forming sheet member **41**, when the sheet member container **100** is formed by using the container forming sheet member **51**.

[0093] In the case of this exemplary embodiment, a position of the seal boundary line **41***a* and a position of the seal boundary line **21***c* correspond to each other (overlap with each other).

[0094] In a portion of the inner-bag forming sheet member **41** that overlaps with the top forming sheet portion **39**, an insert hole **41***b* is formed, into which the outlet cylinder portion **15***a* of the spout member **15** is inserted.

[0095] The plate portion **15***b* of the spout member **15** is attached, for example, to an inner surface of the portion of the inner-bag forming sheet member **41** that overlaps with the top forming sheet portion **39**. The outlet cylinder portion **15***a* protrudes to an outer surface side of a sheet through the insert hole **41***b* of the inner-bag forming sheet member **41** and the insert hole **21***a* of the top forming sheet portion **39**.

[0096] Here, in the case of this exemplary embodiment, the sheet member container **100** includes a valve part **90** mounted to the filling port **15***c* (see FIGS. **7**A and **7**B). The valve part **90** is switchable to an opened state where the containing portion **17** communicates to the external space through the filling port **15***c* and a closed state where the containing portion **17** and the external space are isolated from each other.

[0097] More specifically, the valve part **90** includes an operating portion **92**, a holding portion **93** that holds the operating portion **92** slidably in the up-down direction, and a spring member **97** that biases the operating portion **92** upward.

[0098] In the case of this exemplary embodiment, the holding portion **93** is, for example, detachably mounted to the outlet cylinder portion **15***a* of the spout member **15**.

[0099] The holding portion **93** includes a first member **94** that is a cylindrical portion having an internal thread shape and detachably screwed into the outlet cylinder portion **15***a* of the spout member **15**, and a second member **95** supporting the spring member **97**.

[0100] The first member **94** is formed, for example, into a cylindrical shape in which the up-down direction is the axial direction. Each of an inner diameter and an outer diameter of the first member **94** reduces in three stages as being upward.

[0101] Furthermore, the first member **94** includes a protrusion **941** configured to close a second inflow portion **961***b* of an after-mentioned piston member **96***b*. The protrusion **941** closes the second inflow portion **961***b* in a state where the piston member **96***b* is pressed downward.

[0102] The second member **95** is formed, for example, into a substantially cylindrical shape in which the up-down direction is the axial direction.

[0103] The second member **95** fits, for example, into a lumen of the first member **94**. Also, a lower end of the spring member **97** is inserted into a lumen in a lower end of the second member **95**.

[0104] The second member **95** includes, for example, an inflow portion **95***a* that communicates between the containing portion **17** and an internal space of the second member **95**.

[0105] The operating portion **92** includes the piston member **96***b* inserted into the lumen of the first member **94** and the lumen of the second member **95**, and a lumen of the piston member **96***b* constitutes an internal flow path **961***a*.

[0106] Also, the second inflow portion **961***b* is formed in a lower end of the piston member **96***b*. In a state where the second inflow portion **961***b* and the protrusion **941** of the first member **94** are in contact with each other, the internal flow path **961***a* and the internal space of the second member **95** are isolated from each other, and in a state where the second inflow portion **961***b* and the protrusion **941** of the first member **94** are separated from each other, the internal flow path **961***a* and the internal space of the second member **95** communicate to each other.

[0107] The lower end of the piston member **96***b* is mounted to an upper end of the spring member **97**. More specifically, for example, the spring member **97** supports the piston member **96***b* and biases the piston member **96***b* upward. When the piston member **96***b* is pressed downward, the piston member **96***b* lowers against a biasing force of the spring member **97**, and when the operation of pressing the piston member **96***b* is canceled, the piston member **96***b* rises according to the biasing force of the spring member **97**.

[0108] In the case of this exemplary embodiment, an operation of pushing the piston member **96***b* toward a body portion **11** side can switch the valve part **90** to the opened state where the containing portion **17** communicates to the external space through the filling port **15***c*.

[0109] More specifically, when the operation of pressing the piston member **96***b* is performed, the piston member **96***b* lowers toward a bottom dead center (position of the piston member **96***b* illustrated in FIG. **7**B) against the biasing force of the spring member **97**. Also, when the operation of pressing the piston member **96***b* is canceled, the piston member **96***b* rises to a top dead center (position of the piston member **96***b* illustrated in FIG. **7**A) according to the biasing force of the spring member **97**. In addition, the present invention is not limited to an example where a pressing direction in the pressing operation is downward (body portion **11** side), and a direction in which the piston member **96***b* is moved may be, for example, a horizontal direction or the like.

[0110] When the second inflow portion **961***b* of the piston member **96***b* is pressed to be lower than the protrusion **941** of the first member **94** by the operation of pressing the piston member **96***b,* the internal space of the second member **95** and the internal flow path **961***a* communicate to each other, and the containing portion **17** and the external space further communicate to each other. That is, in the case of this exemplary embodiment, an operation of opening the operating portion **92** is a pressing operation of lowering the second inflow portion **961***b* of the piston member **96***b* to a bottom dead center side below the protrusion **941** of the first member **94**.

[0111] Further, canceling of the pressing operation of the piston member **96***b* can switch the valve part **90** to the closed state where the containing portion **17** and the external space are isolated from each other.

[0112] More specifically, the rising of the piston member **96***b* brings the state where the second inflow portion **961***b* of the piston member **96***b* and the protrusion **941** of the first member **94** are in contact with each other, the internal space of the second member **95** and the internal flow path **961***a* are isolated from each other, and the containing portion **17** and the external space are further isolated from each other. That is, in the case of this exemplary embodiment, an operation of closing the operating portion **92** is the canceling of the pressing operation. The closing operation raises the second inflow portion **961***b* of the piston member **96***b* to a top dead center side above the protrusion **941** of the first member **94**.

[0113] Below, a method of manufacturing a contents-containing sheet member container **300** according to the present exemplary embodiment (hereinafter referred to also as the present method) will be described with reference to FIGS. **7**A to **11**B. Note that in FIGS. **7**A and **7**B, a part other than an upper part in the sheet member container **100** is not shown.

[0114] First, the above described sheet member container **100** is prepared. More specifically, the peripheral edge portions of the container forming sheet member **51** (inner-bag forming sheet members **41**) are attached to each other, in a state where a folding line **81**, a folding line **82** and a folding line **84**, illustrated in FIG. **5**, of the container forming sheet member **51** are folded as valley fold, and a folding line **83** and a folding line **85** are folded as mountain fold. Thus, the container forming sheet member **51** is formed into a bag shape with a two-layer structure. Here, the valley fold means a way of folding in which it protrudes toward the side going away from the viewer of FIG. **5**, and the mountain fold means a way of folding in which it protrudes toward the viewer of FIG. **5**.

[0115] That is, the peripheral edge portions of the inner-bag forming sheet member **41** are attached to each other to form the peripheral edge sealing portion **42**. Thus, using the inner-bag forming sheet member **41**, the inner bag **40** is formed. This forms the container main body **20** having the bag shape that covers the inner bag **40**.

[0116] In this way, as illustrated in FIGS. **1** and **2**, the container forming sheet member **51** is formed into a double bag shape to obtain the sheet member container **100**. In the states illustrated in FIGS. **1** and **2**, since the containing portion **17** does not yet expand and the filling portion **60** is not filled with the filler, the sheet member container **100** has a flat shape (see FIG. **8**A).

[0117] As for a method of attaching the inner-bag forming sheet members **41** to each other, as one example, heat sealing, ultrasonic sealing, attaching with adhesive, or the like may be used.

[0118] In the case of this exemplary embodiment, the main-body peripheral edge sealing portion **28**, the peripheral edge sealing portion **42** and the inner-outer sealing portion **43** are arranged at positions that correspond to one another (positions that overlap with one another). The main-body peripheral edge sealing portion **28**, the peripheral edge sealing portion **42** and the inner-outer sealing portion **43** are collectively referred to as a peripheral edge sealing portion **19** (the peripheral edge sealing portion **19** includes the main-body peripheral edge sealing portion **28**, the peripheral edge sealing portion **42** and the inner-outer sealing portion **43**).

[0119] In FIGS. **1** and **2**, a region where the peripheral edge sealing portion **19** (the main-body peripheral edge sealing portion **28**, the peripheral edge sealing portion **42** and the inner-outer sealing portion **43**) is formed is provided with a left-rising hatching. Also, in FIGS. **1** and **2**, a region in which the region where the peripheral edge sealing portion **19** is formed overlaps with the region where the bag-body sealing portion **26** is formed, left-rising hatching overlaps with right-rising hatching.

[0120] In the first sheet portion **31**, a portion closer to a side of the top forming sheet portion **39** than the folding line **85** is a first overlap portion **31***a*. The first overlap portion **31***a* is disposed to overlap with one half of the top forming sheet portion **39** in a state before the non-attached region **24** is filled with the filler.

[0121] In the second sheet portion **32**, a portion located farther from a side of the bottom forming sheet portion **38** than a folding line **86** is a second overlap portion **32***a*. The second overlap portion **32***a* is disposed to overlap with the other half of the top forming sheet portion **39** in the state before the non-attached region **24** is filled with the filler.

[0122] Here, in the case of this exemplary embodiment, as illustrated in FIGS. **1** and **2**, an inner edge of the peripheral edge sealing portion **42** in the extending piece **25** is aligned with an inner edge of the bag-body sealing portion **26** in the extending piece **25**. More specifically, when viewed in the thickness direction of the extending piece **25**, a substantially entire region where the peripheral edge sealing portion **42** is formed in the extending piece **25** and a substantially entire region where the bag-body sealing portion **26** is formed in the extending piece **25** overlap with each other.

[0123] Thereby, a dimension of the extending piece **25** can be set smaller than that in a case where the peripheral edge sealing portion **42** and the bag-body sealing portion **26** are formed at different positions in the extending piece **25**.

[0124] More specifically, in the extending piece **25**, each of the peripheral edge sealing portion **42** and the bag-body sealing portion **26** is formed continuously along a peripheral edge portion of the extending piece **25**.

[0125] A portion of the peripheral edge sealing portion **42** on a front side of the extending piece **25** is connected to a portion of the peripheral edge sealing portion **42** in the top forming sheet portion **39**. The peripheral edge sealing portion **42** on the front side of the extending piece **25** is formed avoiding the interfacial connecting portion **65***a*. Similarly, a portion of the peripheral edge sealing portion **42** on a back side of the extending piece **25** is connected to a portion of the peripheral edge sealing portion **42** in the second sheet portion **32**. The peripheral edge sealing portion **42** on the back side of the extending piece **25** is formed avoiding the interfacial connecting portion **65***b*.

[0126] A portion of the bag-body sealing portion **26** on the front side of the extending piece **25** is connected to a portion of the bag-body sealing portion **26** in the top forming sheet portion **39**. The bag-body sealing portion **26** on the front side of the extending piece **25** is formed avoiding the interfacial connecting portion **65***a*. Similarly, a portion of the bag-body sealing portion **26** on the back side of the extending piece **25** is connected to a portion of the bag-body sealing portion **26** in the second sheet portion **32**. The bag-body sealing portion **26** on the back side of the extending piece **25** is formed avoiding the interfacial connecting portion **65***b*.

[0127] Subsequently, the above valve part **90** is mounted to the spout member **15** of the sheet member container **100** formed into the bag shape. Thereby, the sheet member container **100** including the valve part **90** mounted to the filling port **15***c* can be prepared, in which the valve part **90** can be switched to the opened state where the containing portion **17** communicates to the external space through the filling port **15***c*, and to the closed state where the containing portion **17** and the external space are isolated from each other.

[0128] Next, a preliminary step of performing, for the containing portion **17**, at least one of a degassing treatment, and a purging treatment using an inert gas is performed.

[0129] In the case of this exemplary embodiment, in the preliminary step, for the containing portion **17**, the purging treatment and the degassing treatment are performed at least once in this order. More specifically, in the preliminary step, for example, a degassing treatment, a purging treatment and another (second) degassing treatment are performed in this order.

[0130] As illustrated in FIG. **7**A, when executing the degassing treatment, the valve part **90** is switched to the opened state by the operation of pressing the piston member **96***b*.

[0131] More specifically, a tube member **210** is inserted into the piston member **96***b*, and the tube member **210** is relatively lowered to the spout member **15** until the second inflow portion **961***b* and the protrusion **941** of the first member **94** are separated from each other. Thereby, a lumen of the tube member **210** and the containing portion **17** mutually conduct. In this state, oxygen retained in the containing portion **17** is suctioned (degassed) through the tube member **210**. Thereby, as illustrated in FIG. **8**A, the first surface **40***a* and the second surface **40***b* of the inner bag **40** are sufficiently in close contact with each other, and the containing portion **17** is collapsed (deflated).

[0132] Subsequently, the purging treatment is performed. First, the valve part **90** is switched to the opened state in the same manner as when executing the degassing treatment. In this state, the containing portion **17** is filled with an inert gas (for example, nitrogen) through the tube member **210**. When the filling with the inert gas is started, the inert gas flows through the lumen of the tube member **210** and into the containing portion **17** through the filling port **15***c*. Thereby, as illustrated in FIG. **8**B, the containing portion **17** is filled with the inert gas, and the inner bag **40** is sufficiently expanded.

[0133] After stopping the filling with the inert gas, the degassing treatment is performed again by suctioning a gas containing the inert gas contained in the interior of the containing portion **17** through the tube member **210**. Thereby, as illustrated in FIG. **8**C, the first surface **40***a* and the second surface **40***b* of the inner bag **40** are sufficiently in close contact with each other, and the containing portion **17** is collapsed.

[0134] Thus, in the case of this exemplary embodiment, the preliminary step is performed before performing a filler filling step of filling the filling portion **60** with the filler. That is, the preliminary step is performed before structural strength of the container main body **20** is obtained by the filling portion **60** filled with the filler.

[0135] Therefore, when performing the purging treatment, the inert gas can be distributed to a region adjacent to the filling portion **60** in the containing portion **17**. Therefore, the oxygen retained in the containing portion **17** can be diluted by the inert gas, and hence deterioration (degradation) of the contents **18** can be suppressed.

[0136] Further, when performing the degassing treatment, the containing portion **17** can be sufficiently collapsed, and hence oxygen can be suctioned more reliably from the containing portion **17**.

[0137] Additionally, in the preliminary step, for example, either one of the degassing treatment or the purging treatment does not have to be performed. However, when performing the purging treatment, it is preferable to perform the degassing treatment after the purging treatment.

[0138] Next, a contents filling step of filling the containing portion **17** with the contents **18** is performed. In the contents filling step, the filling with the contents **18** is started from a state where the containing portion **17** is collapsed by the degassing treatment. When filling with the contents **18**, the contents filling step is performed in a state where the valve part **90** is opened in the same manner as in the purging treatment and the degassing treatment. At this time, a tube

member inserted into the piston member **96***b* may be the same as the tube member **210** used in the degassing treatment and the purging treatment, or may be a separate member. In a state where the tube member is inserted into the piston member **96***b* and the second inflow portion **961***b* and the protrusion **941** of the first member **94** are separated from each other, the contents **18** are inputted into the containing portion **17** through the tube member. Thereby, as illustrated in FIG. **9**A, the containing portion **17** is expanded by the contents **18**.

[0139] After filling the containing portion **17** with a desired amount of contents **18**, the tube member is raised relative to the spout member **15** and the tube member is removed from the valve part **90**. Thereby, as illustrated in FIG. **7**B, the piston member **96***b* rises, and the second inflow portion **961***b* of the piston member **96***b* and the protrusion **941** of the first member **94** are in contact with each other. The containing portion **17** and the external space are isolated from each other.

[0140] Next, the filler filling step of putting the filler between the layers of the outer film layer **22** and the inner film layer **23** in the non-attached region **24** is performed.

[0141] The filler is inputted into the non-attached region **24** through the inlet **25***a* formed in the extending piece **25**.

[0142] As illustrated in FIG. **10**A, the extending piece **25** is disposed between a jig member **251** and a filling nozzle **252** disposed below the jig member **251**. In a state before disposing the extending piece **25** between the jig member **251** and the filling nozzle **252**, a space (opposed space) between the jig member **251** and the filling nozzle **252** is larger in the up-down direction than in the state illustrated in FIG. **10**A. Thereby, when disposing the extending piece **25** between the jig member **251** and the filling nozzle **252**, the extending piece **25** can be inhibited from interfering with the jig member **251** and the filling nozzle **252**. Then, after disposing the extending piece **25** between the jig member **251** and the filling nozzle **252**, the jig member **251** and the filling nozzle **252** are brought close to each other in the up-down direction to obtain the state illustrated in FIG. **10**A.

[0143] A lower surface of the jig member **251** is, for example, in contact with the first extending filling portion **66**, and an upper surface of the filling nozzle **252** is opposed to the second extending filling portion **67**. A lumen of the filling nozzle **252** constitutes an internal flow path **253** through which the filler flows, and in the up-down direction, the inlet **25***a* and an opening in the filling nozzle **252** on a tip side are opposed to each other. Further, for example, an annular silicon ring (not shown in the drawings) is provided at a tip of the filling nozzle **252**.

[0144] Here, in the case of this exemplary embodiment, the extending piece **25** includes portions of the inner-bag forming sheet member **41** (the third extending portion **46***a* and the fourth extending portion **46***b*). Thereby, rigidity of the extending piece **25** can be sufficiently obtained, which makes it easy to dispose the extending piece **25** so that the lower surface of the jig member **251** abuts on the first extending filling portion **66**.

[0145] The filler is injected through an opening in the internal flow path **253** of the filling nozzle **252** on the tip side and further sprayed into the inlet **25***a* to fill the filling portion **60**. More particularly, the filler sprayed into the inlet **25***a* flows through the second extending filling portion **67**, the second filling portion **62**, the third filling portion **63**, the first filling portion **61**, and the fourth filling portion **64** in this order, to flow into the first extending filling portion **66**. At this time, the extending piece **25** is displaced upward by spraying the filler, which is regulated by the jig member **251**.

[0146] As the filling portion **60** is filled with the filler, the first extending filling portion **66** and the second extending filling portion **67** expand, and as illustrated in FIG. **10**B, while maintaining a contact state of a portion of the first extending filling portion **66** with the jig member **251**, a peripheral edge portion of the inlet **25***a* in the second extending filling portion **67** is in close contact with a silicon ring in an airtight manner. Thereby, in a state where the inlet **25***a* is airtightly closed with the silicon ring, the internal flow path **253** and the containing portion **17** mutually conduct, so that the filling portion **60** can be suitably filled with the filler.

[0147] Here, during the filling of the filling portion **60** with the filler, in a tip **25***b* of the extending piece **25**, each of the first extending filling portion **66** and the second extending filling portion **67** has a thickness dimension gradually increasing toward a base end side of the extending piece **25**, and in a base end **25***c* of the extending piece **25** that is located closer to the base end side than the tip, each of the first extending filling portion **66** and the second extending filling portion **67** has a thickness dimension substantially constant. Then, the inlet **25***a* is formed, for example, in the base end **25***c*.

[0148] In the case of this exemplary embodiment, the thickness dimension of each of the first extending filling portion **66** and the second extending filling portion **67** herein is a separation distance between the outer film layer **22** and the inner film layer **23** in the thickness direction of the extending piece **25**.

[0149] Thereby, during the filling of the filling portion **60** with the filler, the inlet **25***a* is formed in a portion in which the outer film layer **22** and the inner film layer **23** are sufficiently separated from each other in the extending piece **25**, and hence the filling portion **60** can be smoothly filled with the filler.

[0150] Furthermore, as described above, in the case of this exemplary embodiment, the inlet **25***a* is disposed at a central position of the outer film layer **22** in the width direction of the second extending filling portion **67**.

[0151] Thereby, the inlet **25***a* is located in a central portion of expansion in the second extending filling portion **67** during the filling of the filling portion **60** with the filler. Therefore, the filling portion **60** can be more smoothly filled with the filler.

[0152] In addition, a pressure inside the filling portion **60** is not particularly limited, but is preferably higher than atmospheric pressure, and may be, for example, equal to or more than 10 kPa and equal to or less than 500 kPa (gauge pressure).

[0153] Also, in the filler filling step, after filling, with the filler, a space between the outer film layer **22** and the inner film layer **23** in the non-attached region **24**, the outer film layer **22** and the inner film layer **23** are attached together to form a filling portion sealing seal **29***a* that seals the filling portion **60**. At the same time and the same location as in the filling portion sealing seal **29***a*, sheet members of an innermost layer are attached to each other to form a containing portion sealing seal **29***b*. Additionally, FIGS. **1** and **2** illustrate, with a double-dashed chain line, respective regions where the filling portion sealing seal **29***a* and the containing portion sealing seal **29***b* are formed.

[0154] Thereby, the filling portion **60** filled with the filler is sealed, and the containing portion **17** is sealed except for the filling port **15***c*.

[0155] More specifically, in the case of this exemplary embodiment, the filling portion sealing seal **29***a* is formed in the interfacial connecting portions **65***a* and **65***b*. Therefore, with the filling portion sealing seal **29***a,* the outer film layer **22** and the inner film layer **23** in the interfacial connecting portion **65***a* are attached to each other, and the outer film layer **22** and the inner film layer **23** in the interfacial connecting portion **65***b* are attached to each other. Therefore, with the filling portion sealing seal **29***a,* a communicating portion (interfacial connecting portion **65***a*) between the first extending filling portion **66** and the fourth filling portion **64** is closed, and a communicating portion (interfacial connecting portion **65***b*) between the second extending filling portion **67** and the second filling portion **62** is closed.

[0156] Similarly, the containing portion sealing seal **29***b* is formed in the interfacial connecting portions **65***a* and **65***b*. Therefore, with the containing portion sealing seal **29***b,* the inner-bag forming sheet members **41** in the interfacial connecting portion **65***a* are attached to each other, and the inner-bag forming sheet members **41** in the interfacial connecting portion **65***b* are attached to each other.

[0157] Subsequently, in the case of this exemplary embodiment, after the filler filling step of filling with the filler, a step of cutting off the extending piece **25** is performed. More specifically, for example, at the base end of the extending piece **25**, the extending piece **25** is cut off from the container main body **20**, and most of the filling portion sealing seal **29***a* and the containing portion sealing seal **29***b* is retained in the container main body **20**. Remaining portions in the filling portion sealing seal **29***a* and the containing portion sealing seal **29***b* are cut off together with the extending piece **25** from the container main body **20**. Alternatively, for example, the extending piece **25** may be cut off in the vicinity of each of the filling portion sealing seal **29***a* and the containing portion sealing seal **29***b,* and each of the filling portion sealing seal **29***a* and the containing portion sealing seal **29***b* may be entirely retained in the container main body **20**.

[0158] Thus, the contents-containing sheet member container **300** can be obtained in which the filling portion **60** is filled with the filler (see FIG. **6**). Alternatively, even in the state of the contents-containing sheet member container **100** in which the filling portion **60** is filled with the filler, the extending piece **25** may be retained without being cut off.

[0159] Thus, the manufacturing method of the sheet member container **300** according to the present exemplary embodiment is a method of manufacturing the contents-containing sheet member container **300**, and includes the preparation step of preparing the above sheet member container **100** as the sheet member container, the preliminary step of performing, for the containing portion **17**, at least one of the degassing treatment, and the purging treatment using the inert gas, the contents filling step of filling the containing portion **17** with the contents **18**, and the filler filling step of filling, with the filler, the space between the outer film layer **22** and the inner film layer **23** in the non-attached region **24**, the steps being performed in this order.

[0160] Here, the contents-containing sheet member container **300** may further include, for example, a cap part **70** (see FIG. **6**) that is mounted (for example, detachably mounted) to the spout member **15**. In this case, for example, in and after the filler filling step, the valve part **90** is removed from the spout member **15**, and the cap part **70** is mounted to the spout member **15** instead. The cap part **70** includes, for example, a mounting portion **71** that is a cylindrical portion having an internal thread shape and detachably screwed into the outlet cylinder portion **15***a*, a pump portion **72** fixed to the mounting portion **71**, a dip tube **77** extending downward from the pump portion **72**, and a head portion **73** that is held in the pump portion **72** so that the portion can be raised and lowered with respect to the pump portion **72**. When the head portion **73** is pushed (pressed down) toward the pump portion **72**, the contents **18** are discharged through a discharge port **76** by action of the pump portion **72**.

[0161] Alternatively, in and after the filler filling step, the valve part **90** may remain mounted to the spout member **15** and a pump portion (not shown in the drawings) may be attached to the valve part **90**. In this case, when the piston member **96***b* is pushed (pressed downward) to the body portion **11** side, the contents **18** are discharged through the discharge port by action of the pump portion.

Modifications 1 to 4

[0162] Next, Modification 1, Modification 2, Modification 3 and Modification 4 of the exemplary embodiment will be described with reference to FIGS. **12**A to **12**D. A sheet member container according to each modification differs from a sheet member container **100** according to the exemplary embodiment described above in terms of the point described below. In other points, the container is configured in a manner similar to the sheet member container **100** according to the exemplary embodiment described above.

[0163] In Modification 1, as illustrated in FIG. **12**A, an inner edge of a peripheral edge sealing portion **42** in an extending piece **25** is disposed on an outer side than an inner edge of a bag-body sealing portion **26** in the extending piece **25**. For example, the inner edge of the peripheral edge sealing portion **42** in the extending piece **25** is disposed on an inner side than an outer edge of the bag-body sealing portion **26** in the extending piece **25**. That is, when viewed in a thickness direction of the extending piece **25**, a portion of the extending piece **25** on an inner edge side of the peripheral edge sealing portion **42** and a portion of the extending piece **25** on an outer edge side of the bag-body sealing portion **26** overlap with each other. On the other hand, when viewed in the thickness direction of the extending piece **25**, a portion of the extending piece **25** on an inner edge side of the bag-body sealing portion **26** and the peripheral edge sealing portion **42** in the extending piece **25** do not overlap with each other.

[0164] With this configuration, for example, when the bag-body sealing portion **26** and the peripheral edge sealing portion **42** are each formed by heat sealing, the forming of the peripheral edge sealing portion **42** can inhibit a portion of the extending piece **25** that does not overlap with a region where the bag-body sealing portion **26** is formed from being reheated. That is, heat history can be reduced, and hence strength of the bag-body sealing portion **26** in the extending piece **25** can be obtained.

[0165] Further, when viewed in the thickness direction of the extending piece **25**, the portion of the extending piece **25** on the inner edge side of the peripheral edge sealing portion **42** and the portion of the extending piece **25** on the outer

edge side of the bag-body sealing portion **26** overlap with each other, and hence a dimension of the extending piece **25** can be set smaller.

[0166] In Modification 2, as illustrated in FIG. **12**B, an inner edge of a peripheral edge sealing portion **42** in an extending piece **25** is aligned with an outer edge of a bag-body sealing portion **26** in the extending piece **25**. That is, when viewed in a thickness direction of the extending piece **25**, the substantially whole bag-body sealing portion **26** in the extending piece **25** does not overlap with the substantially whole peripheral edge sealing portion **42** in the extending piece **25**.

[0167] With this configuration, when the bag-body sealing portion **26** and the peripheral edge sealing portion **42** are each formed by heat sealing, the forming of the peripheral edge sealing portion **42** can inhibit a substantially entire region where the bag-body sealing portion **26** is formed in the extending piece **25** from being reheated. Therefore, heat history can be further reduced, and hence strength of the bag-body sealing portion **26** in the extending piece **25** can be sufficiently obtained.

[0168] In Modification 3, in an example illustrated in FIG. **12**C, an inner edge of a peripheral edge sealing portion **42** in an extending piece **25** is separated from an outer edge of a bag-body sealing portion **26** in the extending piece **25**. That is, a gap is formed between the inner edge of the peripheral edge sealing portion **42** in the extending piece **25** and the outer edge of the bag-body sealing portion **26** in the extending piece **25**.

[0169] With this configuration, when the bag-body sealing portion **26** and the peripheral edge sealing portion **42** are each formed by heat sealing, the forming of the peripheral edge sealing portion **42** can more reliably inhibit an entire region where the bag-body sealing portion **26** is formed in the extending piece **25** from being reheated. Therefore, heat history can be further reduced, and hence strength of the bag-body sealing portion **26** in the extending piece **25** can be sufficiently obtained.

[0170] In Modification 4, as illustrated in FIG. **12**D, a central portion of a tip of an extending piece **25** in a width direction (an end opposite to a side of a second sheet portion **32**) is locally a region where a bag-body sealing portion **26** is not formed. That is, in the tip of the extending piece **25**, an outer film layer **22** and an inner film layer **23** are not attached to each other, and a portion in which the layers are not attached together constitutes an inlet **25***a* through which a filler is inputted.

[0171] Also, according to Modifications 1 to 4 described above, a containing portion **17** is sealed from an external space except for a filling port **15***c,* and hence the containing portion **17** can be sufficiently degassed by suctioning through the filling port **15***c* before putting the filler into a filling portion **60**. This can more reliably inhibit the contents **18** contained in the containing portion **17** from being deteriorated (degraded) due to contact with oxygen retained in the containing portion **17**.

Modification 5

[0172] Next, Modification 5 of the exemplary embodiment will be described with reference to FIG. **13**. A manufacturing method of a contents-containing sheet member container according to the present modification differs from a manufacturing method of a contents-containing sheet member container **300** according to the above exemplary embodiment in terms of a point described below. In other points, the method is similar to the manufacturing method of the contents-containing sheet member container **300** according to the above exemplary embodiment. In addition, FIG. **13** schematically illustrates a shape of a sheet member container **100**.

[0173] In the case of this modification, as illustrated in FIG. **13**, a contents filling step is performed so that a liquid level of contents **18** after the filling in the contents filling step is a position lower than a containing portion sealing seal **29***b* (region where the containing portion sealing seal **29***b* is formed in an extending piece **25**). More preferably, the contents filling step is performed in a state where the sheet member container **100** is tilted so that the liquid level of the contents **18** after the filling in the contents filling step is the position lower than the containing portion sealing seal **29***b*.

[0174] With this configuration, when forming the containing portion sealing seal **29***b,* the contents **18** can be inhibited from being interposed between layers of innermost layer sheet members (inner-bag forming sheet members **41**) in the region where the containing portion sealing seal **29***b* is formed in the extending piece **25**. Therefore, in the region where the containing portion sealing seal **29***b* is formed in the extending piece **25**, the inner-bag forming sheet members **41** can be more reliably attached to each other, so that the containing portion **17** can be suitably sealed.

[0175] Further, in the case of this modification, the extending piece **25** extends from an upper end of a container main body **20** in the same manner as in the exemplary embodiment.

[0176] For this reason, it is easy to maintain a state where the sheet member container **100** is tilted so that the liquid level of the contents **18** is the position lower than the containing portion sealing seal **29***b*. Therefore, when forming the containing portion sealing seal **29***b,* the contents **18** can be more reliably inhibited from being interposed between the layers of the innermost layer sheet members (inner-bag forming sheet members **41**) in the region where the containing portion sealing seal **29***b* is formed in the extending piece **25**.

[0177] In addition, various constituent components of the sheet member container **100** and the contents-containing sheet member container **300** do not have to exist independently of one another, and it is allowed that a plurality of constituent components are formed as one member, one constituent component is formed of a plurality of members, a constituent component is a part of another constituent component, a part of a constituent component overlaps with a part of another constituent component, or the like.

[0178] Further, for example, in each of the above exemplary embodiments, an example where the sheet member container **100** (or the contents-containing sheet member container **300**) includes the inner bag **40** has been described, but the present invention is not limited to this example, and the sheet member container **100** (or the contents-containing sheet member container **300**) does not have to include the inner bag **40**. When the sheet member container **100** (or the contents-containing sheet member container **300**) does not include the inner bag **40**, the containing portion **17** is configured by the container main body **20**. That is, in the peripheral edge sealing portion **42**, portions of the inner film layer **23** of the bag-body forming sheet member **21** are attached to each other to form the container main body **20** and also constitute the containing portion **17**.

[0179] Even when manufacturing the sheet member container **300** that does not include the inner bag **40**, a manufacturing method is the same as in the above exemplary embodiment.

EXPLANATION OF REFERENCE CHARACTERS

[0180] **10** bag body
[0181] **11** body portion
[0182] **13** bottom portion
[0183] **14** top portion
[0184] **15** spout member
[0185] **15***c* filling port
[0186] **17** containing portion
[0187] **18** contents
[0188] **20** container main body
[0189] **21** bag-body forming sheet member
[0190] **22** outer film layer
[0191] **23** inner film layer
[0192] **24** non-attached region
[0193] **25** extending piece
[0194] **25***a* inlet
[0195] **26** bag-body sealing portion
[0196] **40** inner bag
[0197] **41** inner-bag forming sheet member
[0198] **51** container forming sheet member
[0199] **60** filling portion
[0200] **100** sheet member container
[0201] **210** tube member
[0202] **300** sheet member container (contents-containing sheet member container)

1. A sheet member container configured to include one or more sheet members including a bag-body forming sheet member including an outer film layer and an inner film layer that are stacked on each other, the sheet member container comprising:

a container main body,

an extending piece extending from the container main body,

a containing portion that is formed continuously over an interior of the container main body and an interior of the extending piece, the containing portion storing contents,

a filling port that communicates between a portion of the interior of the container main body in the containing portion and an external space of the sheet member container, and

a bag body that is made out of the bag-body forming sheet member, the bag body surrounding the containing portion,

wherein

the bag-body forming sheet member includes a bag-body sealing portion that is a portion in which the outer film layer and the inner film layer are attached together, and a non-attached region where the outer film layer and the inner film layer are partially not attached, the bag-body forming sheet member also including a filling portion that allows a filler to be contained between layers of the outer film layer and the inner film layer in the non-attached region,

the extending piece includes an inlet through which the filler is inputted into the filling portion,

the sheet member container comprises a peripheral edge sealing portion in which the one or more sheet members are folded and in which peripheral edge portions of a sheet member of an innermost layer included in the one or more sheet members are attached to each other,

the peripheral edge sealing portion defines the containing portion,

the peripheral edge sealing portion has a portion disposed in a region outside the inlet in the extending piece, and

the containing portion is sealed from the external space except for the filling port.

2. The sheet member container according to claim **1**, wherein the filling portion includes a first extending filling portion disposed on one side and a second extending filling portion disposed on the other side with the containing portion of the interior of the extending piece being disposed between the extending filling portions in a thickness direction of the extending piece, and

the inlet is formed in a portion of the outer film layer that defines at least one of the first extending filling portion and the second extending filling portion.

3. The sheet member container according to claim **1**, wherein an inner edge of the peripheral edge sealing portion in the extending piece is aligned with an inner edge of the bag-body sealing portion in the extending piece, or disposed on an outer side than the inner edge of the bag-body sealing portion in the extending piece.

4. The sheet member container according to claim **1**, wherein an inner edge of the peripheral edge sealing portion in the extending piece is aligned with an outer edge of the bag-body sealing portion in the extending piece.

5. The sheet member container according to claim **1**, wherein an inner edge of the peripheral edge sealing portion in the extending piece is separated from an outer edge of the bag-body sealing portion in the extending piece.

6. The sheet member container according to claim **1**, wherein in a tip of the extending piece, the outer film layer and the inner film layer are not attached to each other, and a portion in which the layers are not attached constitutes the inlet.

7. The sheet member container according to claim **1**, further comprising:

an inner bag disposed inside the bag body, wherein the inner bag is made out of an inner-bag forming sheet member that is a sheet member of an innermost layer included in the one or more sheet members.

8. The sheet member container according to claim **7**, wherein the inner-bag forming sheet member is formed into the same shape as a shape of the bag-body forming sheet member.

9. The sheet member container according to claim **1**, further comprising:

an inner bag disposed inside the bag body, wherein the inner bag is made out of an inner-bag forming sheet member that is a sheet member of an innermost layer included in the one or more sheet members,

the bag-body forming sheet member includes a first extending portion disposed on one side and a second extending portion disposed on the other side with the containing portion of the interior of the extending piece being disposed between the extending portions in a thickness direction of the extending piece,

the inner-bag forming sheet member includes a third extending portion disposed on one side and a fourth extending portion disposed on the other side with the containing portion of the interior of the extending piece

being disposed between the extending portions in the thickness direction of the extending piece, and

the extending piece is formed by attaching respective peripheral edge portions of the first extending portion, the second extending portion, the third extending portion and the fourth extending portion to each other.

10. The sheet member container according to claim **9**, wherein the filling portion includes a first extending filling portion disposed on one side and a second extending filling portion disposed on the other side with the containing portion of the interior of the extending piece being disposed between the extending filling portions in the thickness direction of the extending piece, and

the inlet is formed in a portion of the outer film layer that defines at least one of the first extending filling portion and the second extending filling portion.

11. The sheet member container according to claim **1**, wherein the container main body includes a body portion and a bottom portion, and

the extending piece extends from an upper end of the container main body.

12. The sheet member container according to claim **1**, wherein the container main body includes a body portion, a top portion and a bottom portion, and

the extending piece extends from a boundary between the body portion and the top portion.

13. The sheet member container according to claim **1**, further comprising:

a valve part mounted to the filling port, wherein the valve part is switchable to an opened state where the containing portion communicates to the external space through the filling port and a closed state where the containing portion and the external space are isolated from each other.

14. A method of manufacturing a contents-containing sheet member container, comprising:

preparing, as the sheet member container, the sheet member container according to claim **1**,

performing, for the containing portion, at least one of a degassing treatment, and a purging treatment using an inert gas,

of filling the containing portion with the contents, and

putting the filler between layers of the outer film layer and the inner film layer in the non-attached region, wherein the preparing, performing, filling and putting are performed in this order.

15. The manufacturing method of the contents-containing sheet member container according to claim **14**, wherein in performing, the purging treatment and the degassing treatment are performed at least once in this order, and

the filling with the contents is started from a state where the containing portion is collapsed by the degassing treatment.

16. The manufacturing method of the contents-containing sheet member container according to claim **14**, wherein in the preparing, a sheet member container comprising a valve part mounted to the filling port is prepared, the valve part being switchable to an opened state where the containing portion communicates to the external space through the filling port and a closed state where the containing portion and the external space are isolated from each other, and

when executing the degassing treatment or the purging treatment the valve part is switched to the opened state.

17. The manufacturing method of the contents-containing sheet member container according to claim **14**, wherein in the putting,

after filling, with the filler, a space between the outer film layer and the inner film layer in the non-attached region,

the outer film layer and the inner film layer are attached together to form a filling portion sealing seal that seals the filling portion, and at the same time and the same location as in the filling portion sealing seal, sheet members of the innermost layer are attached to each other to form a containing portion sealing seal.

18. The manufacturing method of the contents-containing sheet member container according to claim **17**, wherein the contents are liquid, and

the filling is performed so that a liquid level of the contents after the filling is a position lower than the containing portion sealing seal.

19. The manufacturing method of the contents-containing sheet member container according to claim **18**, wherein the filling is performed in a state where the sheet member container is tilted.

20. The manufacturing method of the contents-containing sheet member container according to claim **15**, further comprising, after the putting, cutting off the extending piece.

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