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(54) **REFRIGERANT RESERVOIR CONTAINER AND REFRIGERATION CYCLE APPARATUS INCLUDING THE REFRIGERANT RESERVOIR CONTAINER**

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CPC ***F25B 41/40*** (2021.01); ***F25B 1/00*** (2013.01); *F25B 2345/002* (2013.01)

(57) **ABSTRACT**

A refrigerant reservoir container includes: a container main body having a cylindrical body part and being a horizontal type, storing refrigerant including liquid refrigerant; an inflow pipe inserted into the container main body, having an inlet through which the refrigerant flows into the container main body; an outflow pipe inserted into the container main body, having an outlet through which the refrigerant flows out from the container main body; and a baffle plate having a first flat surface and being supported cantilevered on an inner wall of the container main body. The inlet is oriented sideways and faces the inner wall of the container main body. The outlet is located above the inlet in the container main body. The baffle plate is located below the inlet, and the first flat surface of the baffle plate faces the liquid refrigerant that flows in through the inlet and along the inner wall.

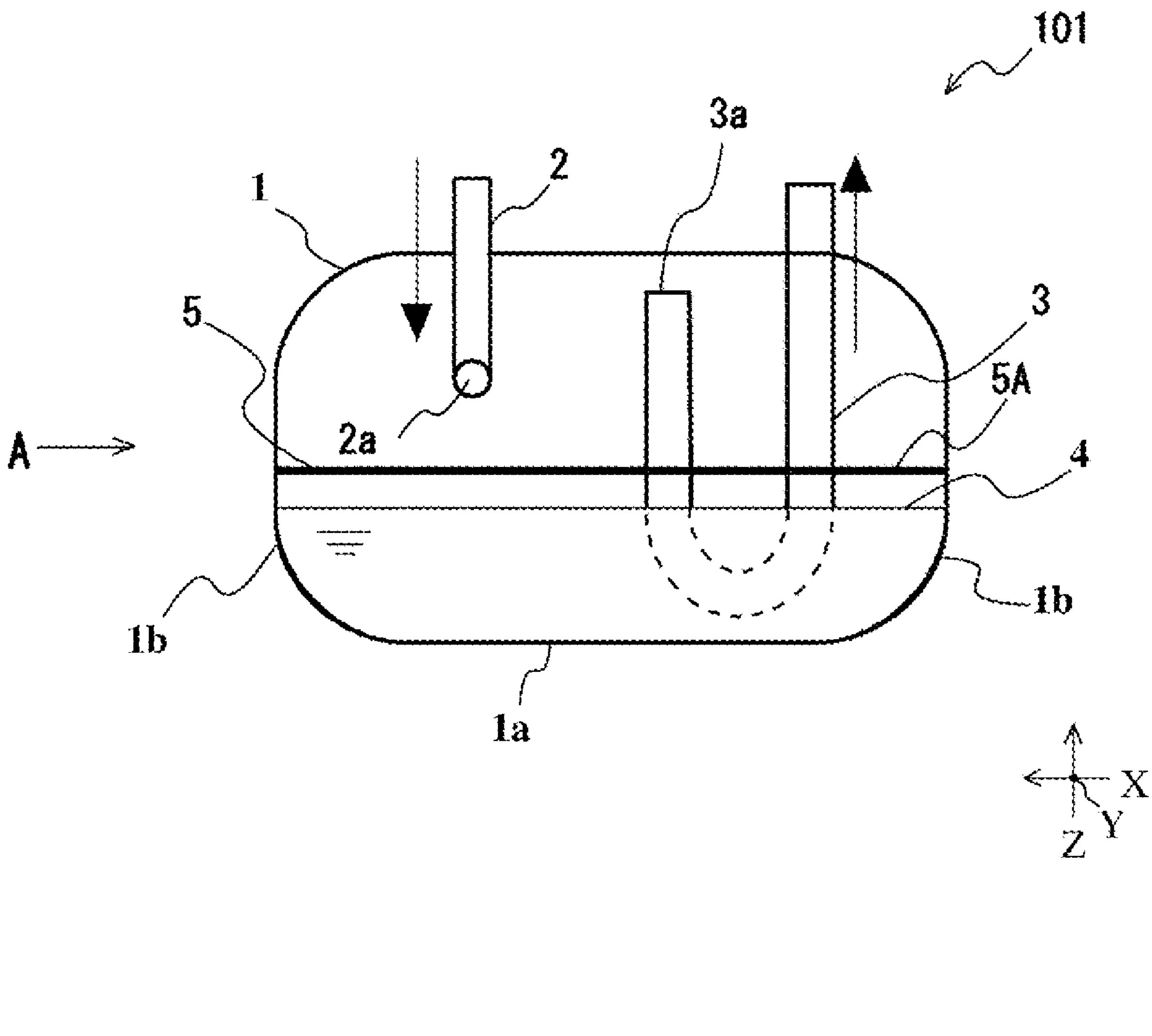

FIG. 1

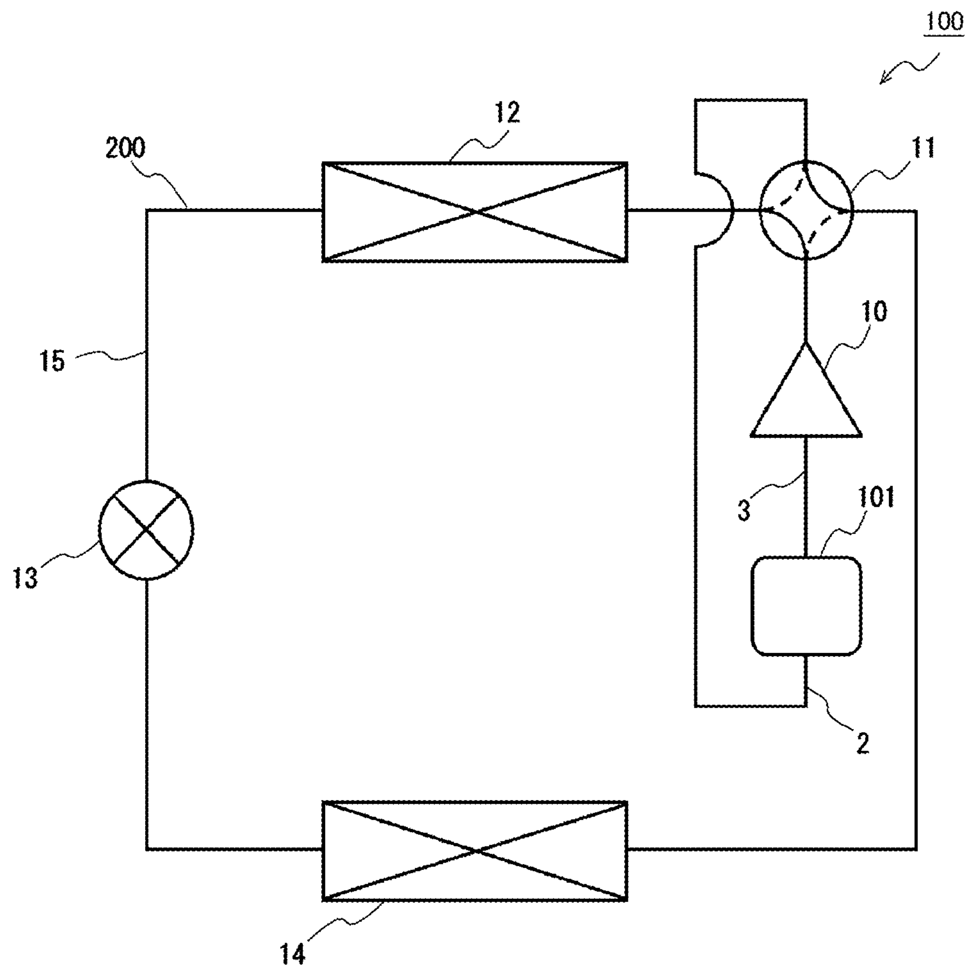

FIG. 2

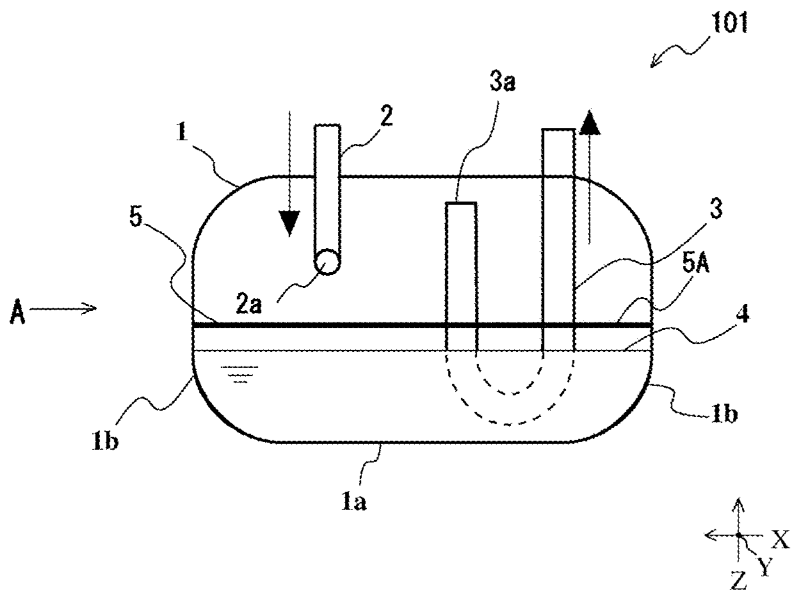
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FIG. 3

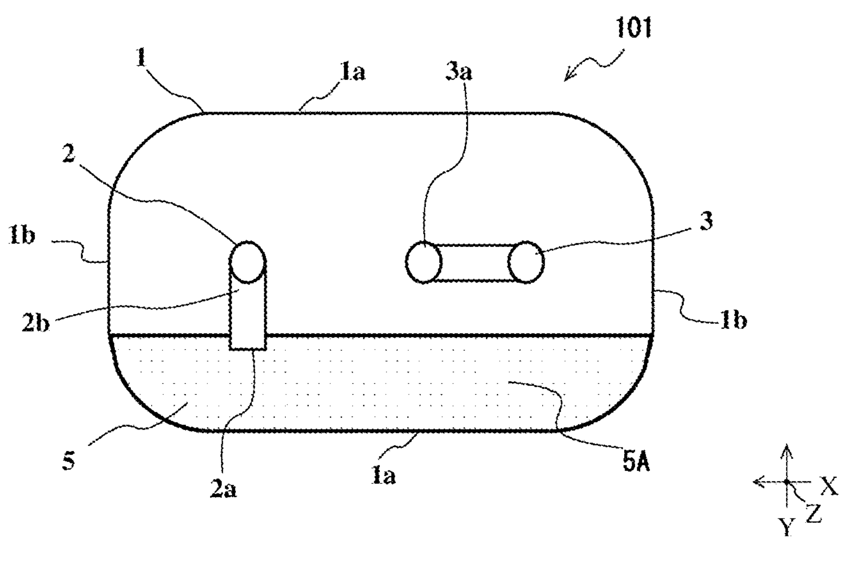
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FIG. 4

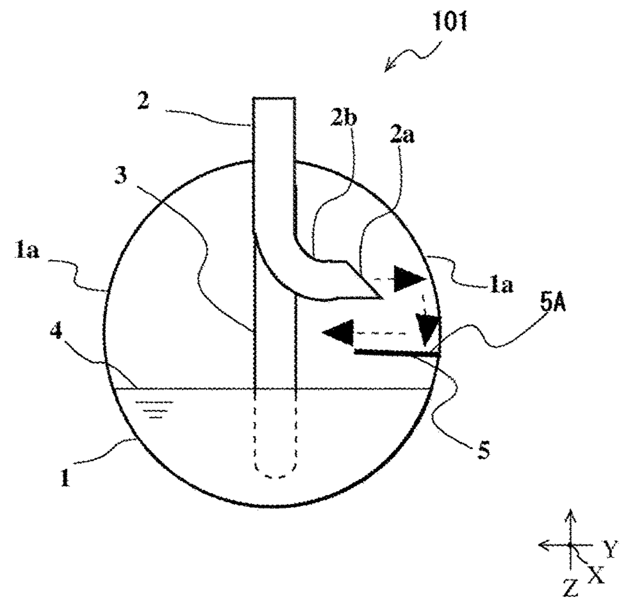

FIG. 5

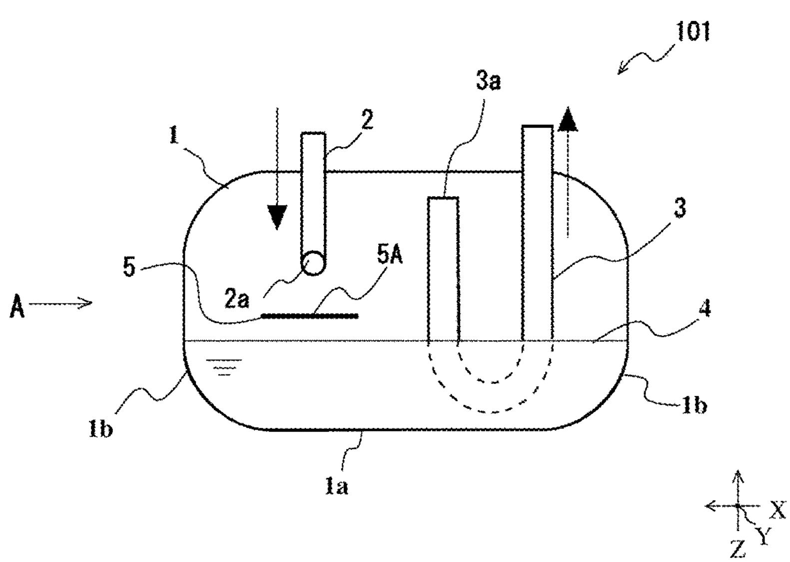

FIG. 6

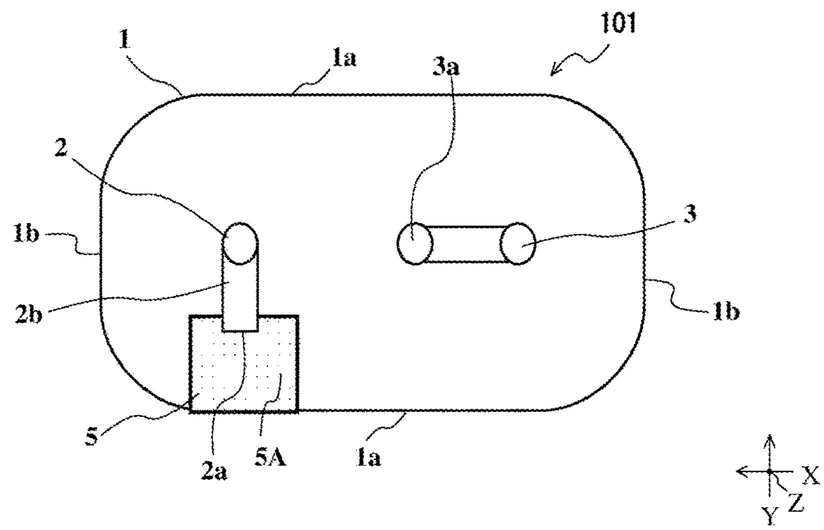

FIG. 7

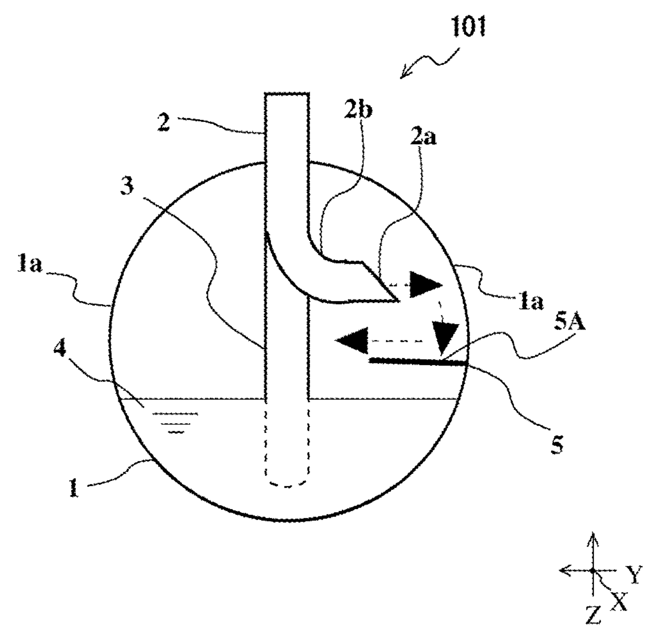

FIG. 8

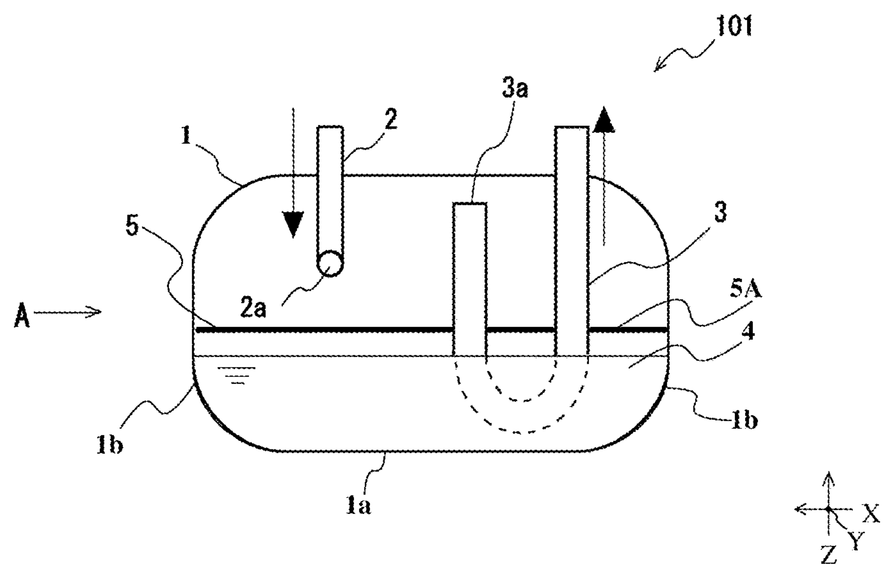
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FIG. 9

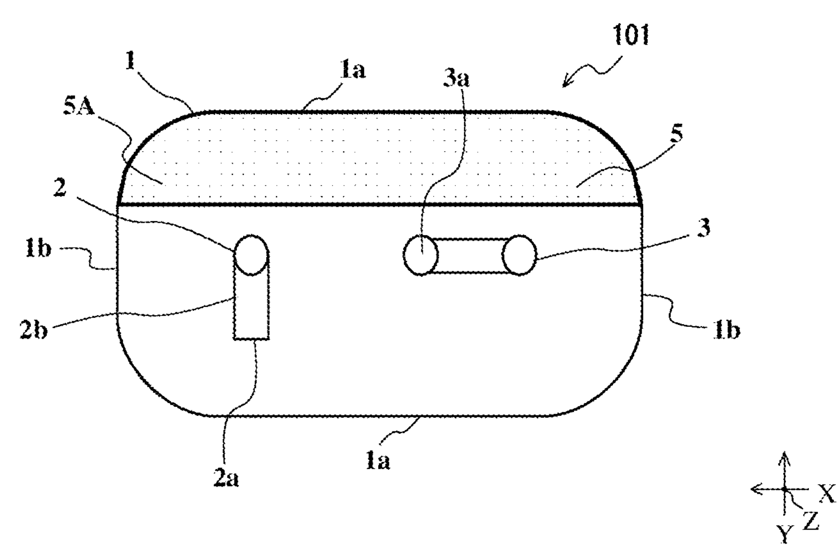
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FIG. 10

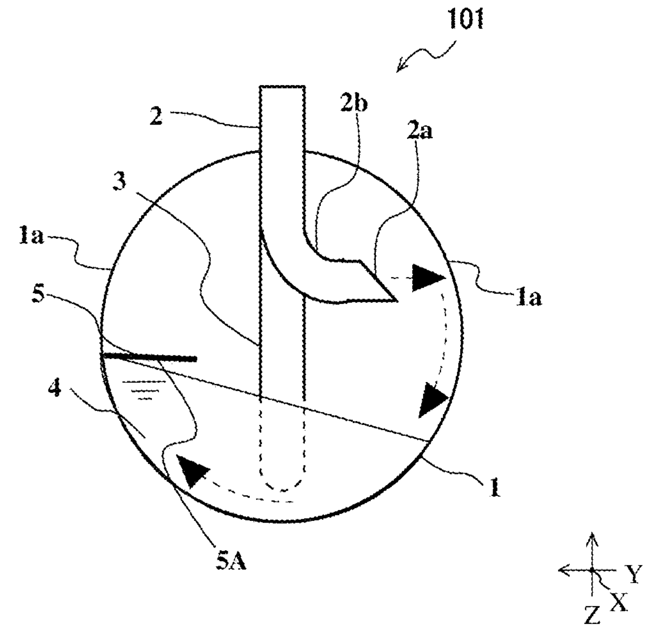

FIG. 11

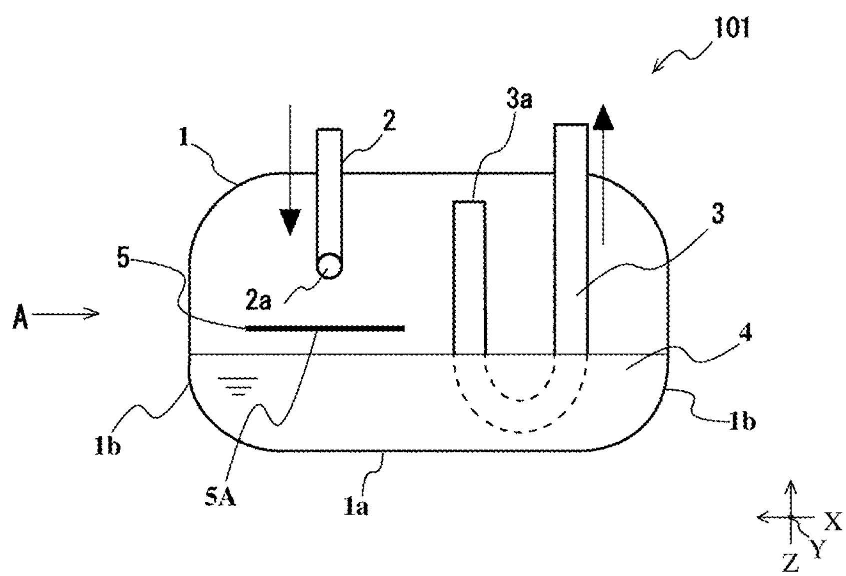

FIG. 12

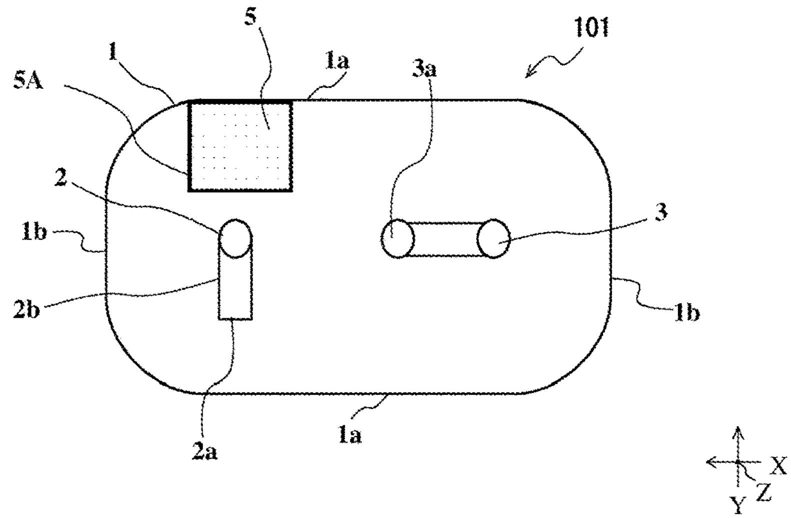

FIG. 13

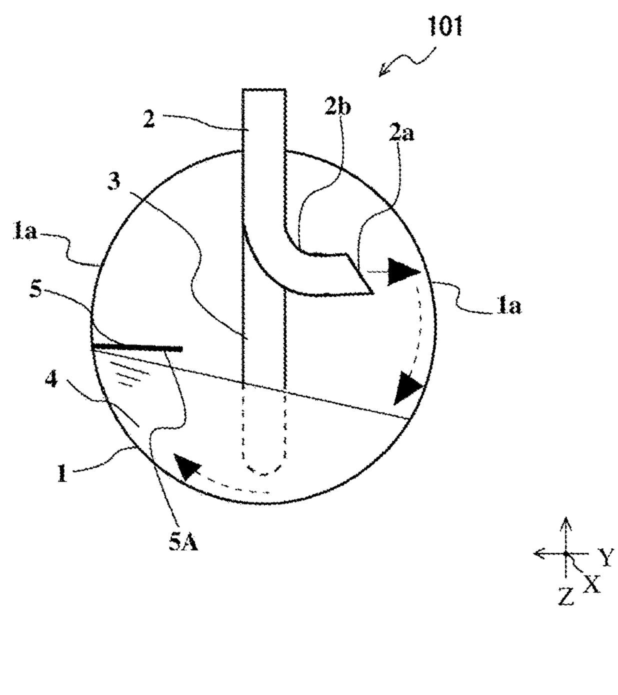

FIG. 14

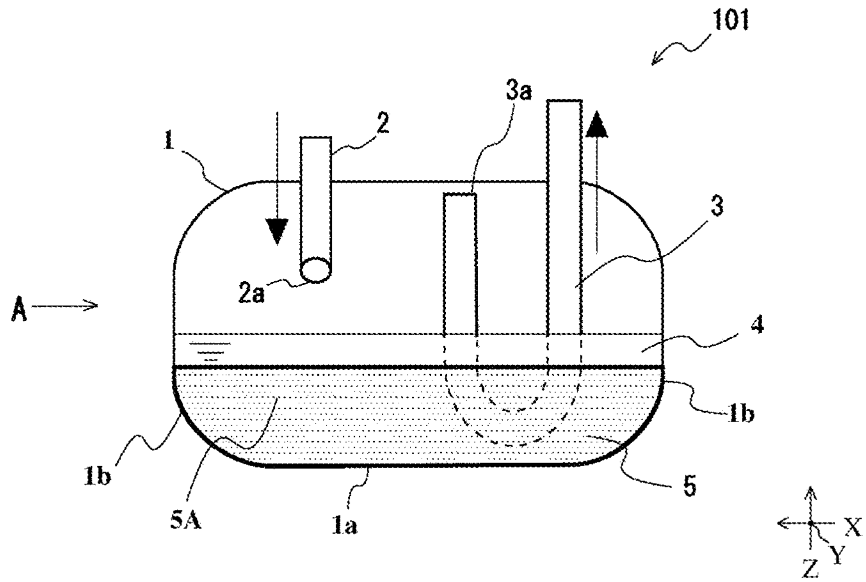
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FIG. 15

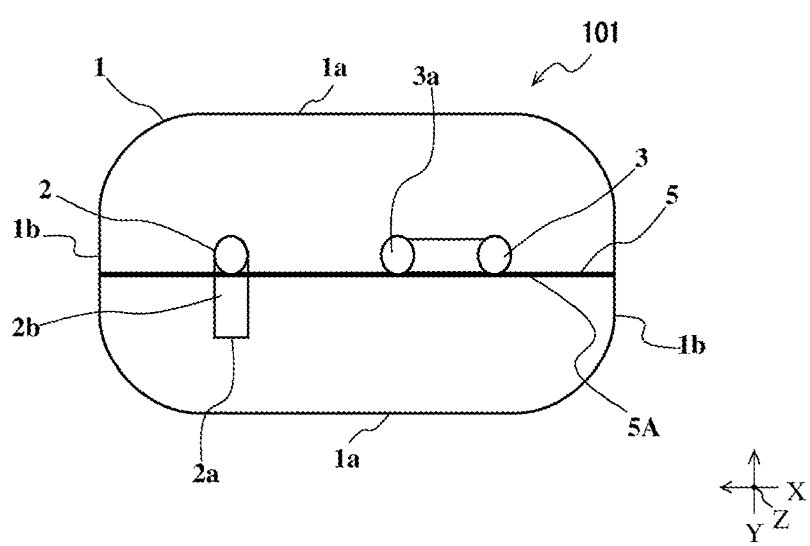
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FIG. 16

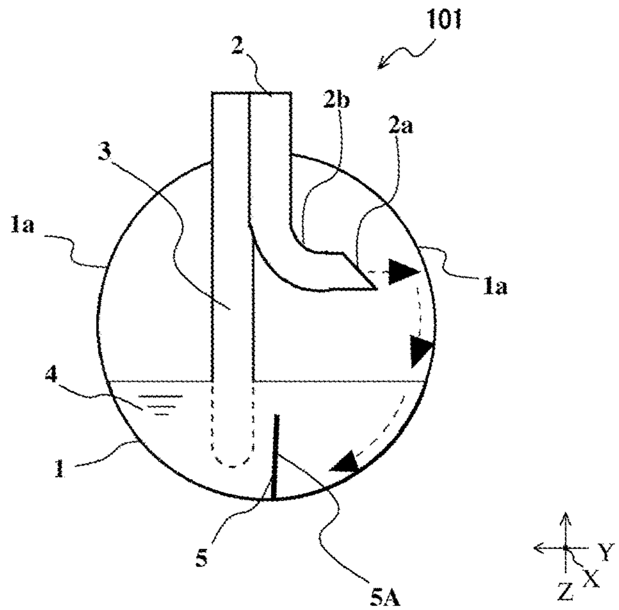

FIG. 17

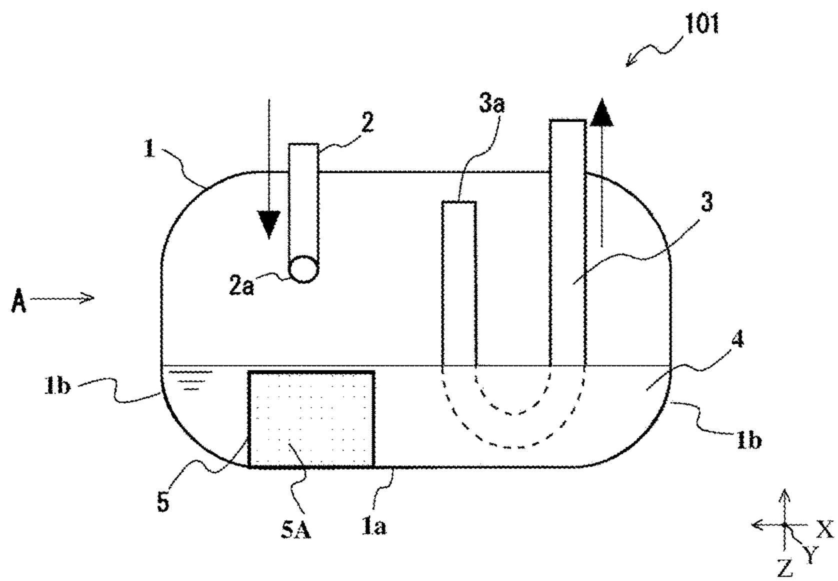

FIG. 18

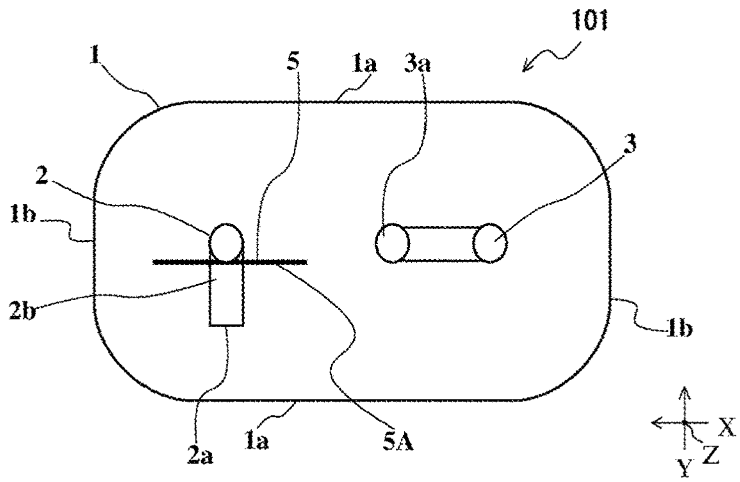

FIG. 19

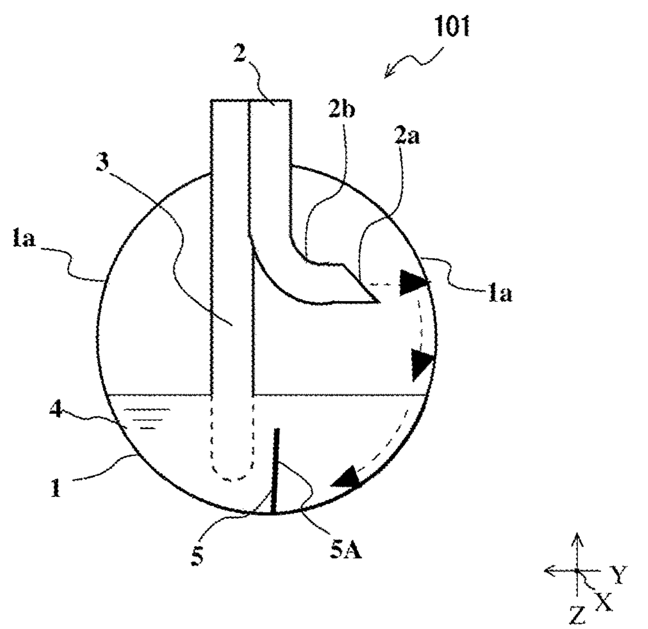

FIG. 20

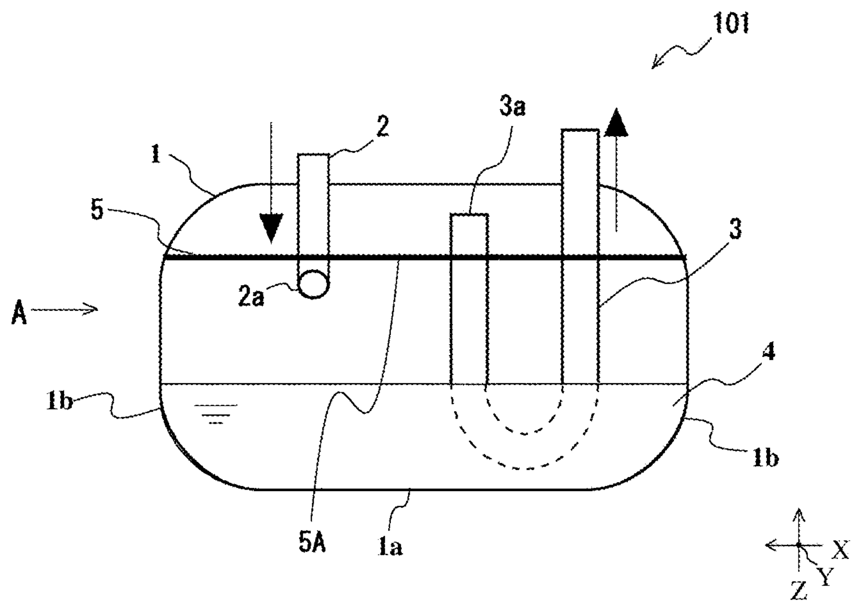
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FIG. 21

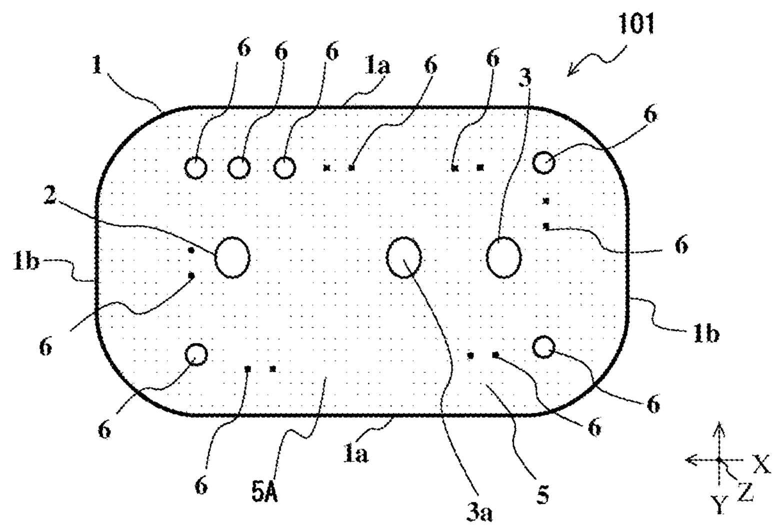
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FIG. 22

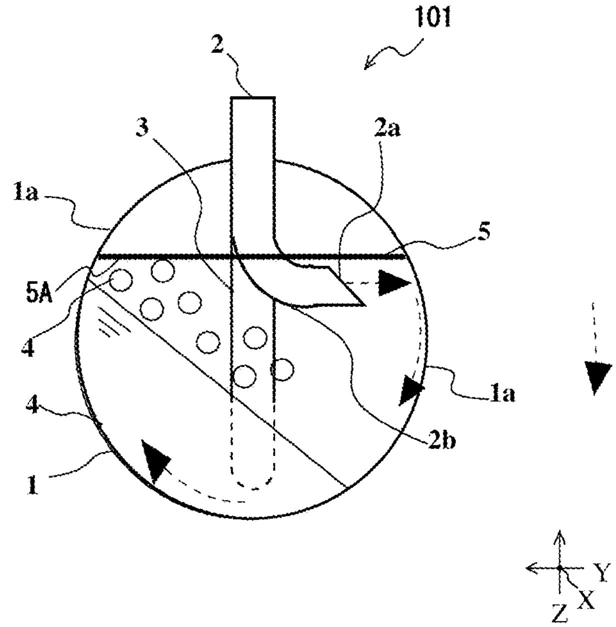
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FIG. 23

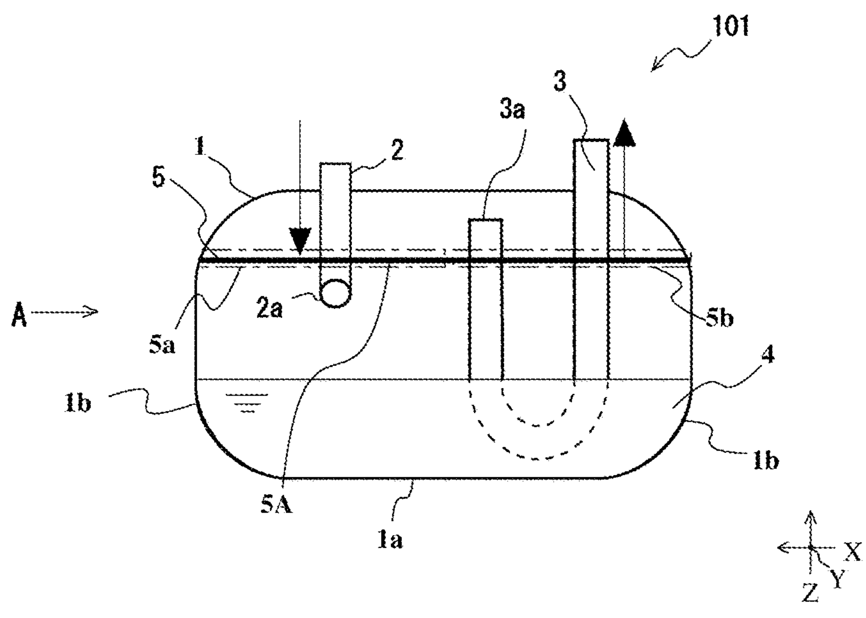
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FIG. 24

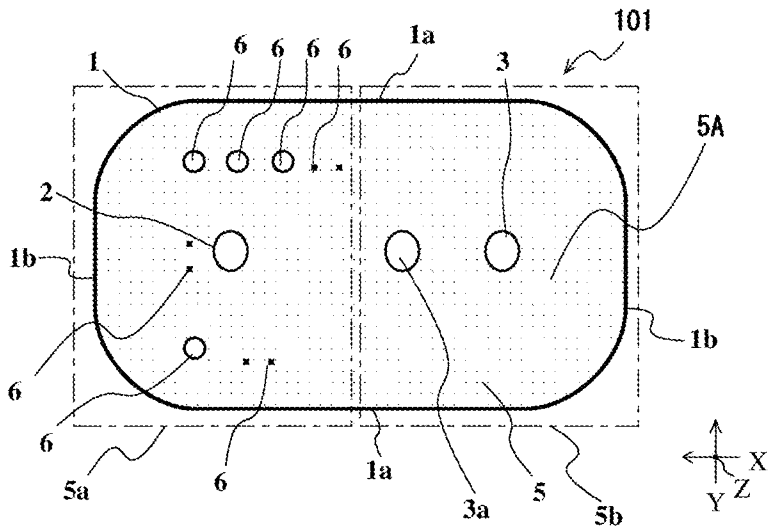
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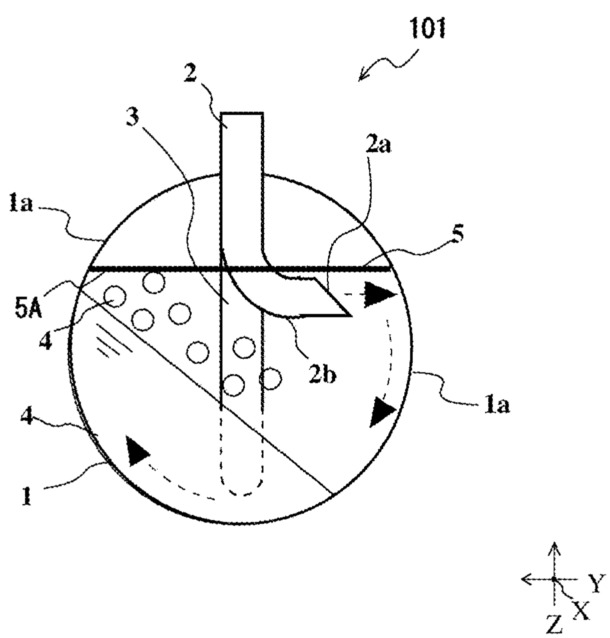
FIG. 25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REFRIGERANT RESERVOIR CONTAINER AND REFRIGERATION CYCLE APPARATUS INCLUDING THE REFRIGERANT RESERVOIR CONTAINER

TECHNICAL FIELD

[0001] The present disclosure relates to a refrigerant reservoir container that is a horizontal type and that stores refrigerant, and a refrigeration cycle apparatus including the refrigerant reservoir container.

BACKGROUND ART

[0002] In a compressor of a refrigeration cycle apparatus, suctioned liquid refrigerant causes dilution of a refrigerating machine oil in a shell, which can lead to seizure in sliding portions of the compressor. A proposed configuration to address this issue for a refrigeration cycle apparatus includes a refrigerant reservoir container provided upstream of a suction port through which a compressor suctions refrigerant. Two-phase gas-liquid refrigerant are separated into gas refrigerant and liquid refrigerant, and the liquid refrigerant is stored in the container. In Patent Literature 1, for example, by having an obliquely cut tip end opening of a refrigerant inflow pipe of a refrigerant reservoir container shape, the liquid refrigerant flowing into the refrigerant reservoir container slows down so that the amount of the refrigerant that comes into contact with and bounces off an inner wall of the refrigerant reservoir container reduces. In addition, in Patent Literature 1, a pipe tip end portion of the refrigerant inflow pipe faces a shoulder portion of the refrigerant reservoir container not to cause liquid refrigerant to directly flow into a refrigerant outflow pipe. This configuration flows the inflow liquid refrigerant along the inner wall of the refrigerant reservoir container. Accordingly, reduction in the amount of the liquid refrigerant, which has flowed in directly bouncing off a liquid surface of the liquid refrigerant accumulated in the refrigerant reservoir container, results. Therefore, the refrigerant reservoir container in Patent Literature 1 is capable of preventing the liquid refrigerant scattered from the liquid surface and the inner wall of the refrigerant reservoir container from reaching the refrigerant outflow pipe and flowing out from the refrigerant reservoir container.

CITATION LIST

Patent Literature

[0003] Patent Literature 1: Japanese Patent No. 3163312

SUMMARY OF INVENTION

Technical Problem

[0004] In Patent Literature 1, the liquid refrigerant that flows into the refrigerant reservoir container slows down and flows along the inner wall of the refrigerant reservoir container. However, in a horizontal-type refrigerant reservoir container, the liquid refrigerant stored therein vigorously swirls up to undulate the liquid surface. Thus, the amount of scattered liquid refrigerant may be increased. In addition, in Patent Literature 1, the liquid refrigerant that flows in directly comes into contact with the liquid refrigerant stored in the refrigerant reservoir container. Thus, the liquid refrigerant may be scattered from the liquid surface. Furthermore, when the inner wall of the refrigerant reservoir container has an arc shape, the flow of the liquid refrigerant that flows in along the inner wall may induce the liquid refrigerant stored therein to be undulated and scattered. As a result, the scattered liquid refrigerant may reach a refrigerant outflow pipe in the horizontal-type refrigerant reservoir container and flow into a compressor together with gas refrigerant.

[0005] The present disclosure is made in view of such a problem and provides a refrigerant reservoir container that inhibits liquid refrigerant from flowing out from the refrigerant reservoir container, and a refrigeration cycle apparatus including the refrigerant reservoir container.

Solution to Problem

[0006] A refrigerant reservoir container according to an embodiment of the present disclosure includes: a container main body having a cylindrical body part and being a horizontal type, the container main body storing refrigerant including liquid refrigerant; an inflow pipe inserted into the container main body, the inflow pipe having an inlet through which the refrigerant flows into the container main body; an outflow pipe inserted into the container main body, the outflow pipe having an outlet through which the refrigerant flows out from the container main body; and a baffle plate having a first flat surface and being supported cantilevered on an inner wall of the container main body. The inlet is oriented sideways and faces the inner wall of the container main body. The outlet is located above the inlet in the container main body. The baffle plate is located below the inlet, and the first flat surface of the baffle plate faces the liquid refrigerant that flows in through the inlet and along the inner wall.

[0007] A refrigerant reservoir container according to another embodiment of the present disclosure includes: a container main body having a cylindrical body part and being a horizontal type, the container main body storing refrigerant; an inflow pipe inserted into the container main body, the inflow pipe having an inlet through which the refrigerant flows into the container main body; an outflow pipe inserted into the container main body, the outflow pipe having an outlet through which the refrigerant flows out from the container main body; and a baffle plate having a first flat surface and a thickness surface, the thickness surface being supported on an inner wall of the container main body. The inlet is oriented sideways and faces the inner wall of the container main body. The outlet is located above the inlet and the baffle plate in the container main body. The baffle plate is located above the inlet, and the first flat surface of the baffle plate partitions an internal space of the container main body into an upper space and a lower space. The baffle plate has at least one through hole through which gas refrigerant included in the refrigerant passes.

[0008] A refrigeration cycle apparatus according to still another embodiment of the present disclosure includes: the refrigerant reservoir container; and a compressor connected to the refrigerant reservoir container via the outflow pipe.

Advantageous Effects of Invention

[0009] In each of the refrigerant reservoir containers according to the embodiments of the present disclosure, the baffle plate having the first flat surface facing the liquid refrigerant that flows along the inner wall is provided in the container main body. The liquid refrigerant comes into contact with the first flat surface, and the flow of the liquid refrigerant thus slows down. This inhibits scattering of the stored liquid refrigerant caused by the refrigerant that flows into the container main body through the inlet of the inflow pipe. Accordingly, in the horizontal-type container main body, the scattered liquid refrigerant is inhibited from reaching the outflow pipe, thus reducing the amount of the liquid refrigerant that flows into the compressor.

BRIEF DESCRIPTION OF DRAWINGS

[0010] FIG. **1** is a refrigerant circuit diagram of a refrigeration cycle apparatus including a refrigerant reservoir container according to Embodiment 1.

[0011] FIG. **2** is an internal configuration diagram of the refrigerant reservoir container according to Embodiment 1 when viewed from the front side.

[0012] FIG. **3** is an internal configuration diagram of the refrigerant reservoir container according to Embodiment 1 when viewed from the top side.

[0013] FIG. **4** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **2**.

[0014] FIG. **5** is an internal configuration diagram of a refrigerant reservoir container according to a first modification example of Embodiment 1 when viewed from the front side.

[0015] FIG. **6** is an internal configuration diagram of the refrigerant reservoir container according to the first modification example of Embodiment 1 when viewed from the top side.

[0016] FIG. **7** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **5**.

[0017] FIG. **8** is an internal configuration diagram of a refrigerant reservoir container according to Embodiment 2 when viewed from the front side.

[0018] FIG. **9** is an internal configuration diagram of the refrigerant reservoir container according to Embodiment 2 when viewed from the top side.

[0019] FIG. **10** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **8**.

[0020] FIG. **11** is an internal configuration diagram of a refrigerant reservoir container according to a first modification example of Embodiment 2 when viewed from the front side.

[0021] FIG. **12** is an internal configuration diagram of the refrigerant reservoir container according to the first modification example of Embodiment 2 when viewed from the top side.

[0022] FIG. **13** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **11**.

[0023] FIG. **14** is an internal configuration diagram of a refrigerant reservoir container according to Embodiment 3 when viewed from the front side.

[0024] FIG. **15** is an internal configuration diagram of the refrigerant reservoir container according to Embodiment 3 when viewed from the top side.

[0025] FIG. **16** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **14**.

[0026] FIG. **17** is an internal configuration diagram of a refrigerant reservoir container according to a first modification example of Embodiment 3 when viewed from the front side.

[0027] FIG. **18** is an internal configuration diagram of the refrigerant reservoir container according to the first modification example of Embodiment 3 when viewed from the top side.

[0028] FIG. **19** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **17**.

[0029] FIG. **20** is an internal configuration diagram of a refrigerant reservoir container according to Embodiment 4 when viewed from the front side.

[0030] FIG. **21** is an internal configuration diagram of the refrigerant reservoir container according to Embodiment 4 when viewed from the top side.

[0031] FIG. **22** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **20**.

[0032] FIG. **23** is an internal configuration diagram of a refrigerant reservoir container according to a first modification example of Embodiment 4 when viewed from the front side.

[0033] FIG. **24** is an internal configuration diagram of the refrigerant reservoir container according to the first modification example of Embodiment 4 when viewed from the top side.

[0034] FIG. **25** is an internal configuration diagram of the refrigerant reservoir container when viewed in an A direction illustrated in FIG. **23**.

DESCRIPTION OF EMBODIMENTS

[0035] Refrigerant reservoir containers and refrigeration cycle apparatuses including the respective refrigerant reservoir containers according to embodiments of the present disclosure will be described below with reference to the drawings. The present disclosure is not limited to the following embodiments, and various modifications can be made without departing from the gist of the present disclosure. In addition, the present disclosure includes all feasible combinations of configurations in the following embodiments and modification examples. In addition, the configurations of the illustrated refrigerant reservoir containers and refrigeration cycle apparatuses are examples, and the illustrated refrigerant reservoir containers and refrigeration cycle apparatuses do not limit the configurations of the present disclosure. In addition, in the following description, terms that mean directions (for example, "up", "down", "right", "left", "front", and "rear") are used as appropriate to make the description easy to understand. These terms are used for description and do not limit the present disclosure.

[0036] In addition, in the drawings, components having the same reference signs are the same or corresponding components, and this applies to the entire description. For example, the relative size relationships or the shapes of the components in the drawings may differ from those of actual ones. In addition, in the drawings, an X direction represents the left-right direction of the refrigerant reservoir containers, that is, the right-to-left direction with an arrow. A Y direction represents the front-rear direction of the refrigerant reservoir containers, that is, the front-to-rear direction with an arrow. A Z direction represents the up-down direction of the refrigerant reservoir containers, that is, the down-to-up direction with an arrow. The Z direction is a vertical direction.

Embodiment 1

Refrigeration Cycle Apparatus 100

[0037] A refrigeration cycle apparatus **100** including a refrigerant reservoir container **101** according to Embodiment 1 will be described with reference to FIG. **1**. FIG. **1** is a refrigerant circuit diagram of the refrigeration cycle apparatus **100** including the refrigerant reservoir container **101** according to Embodiment 1. As illustrated in FIG. **1**, the refrigeration cycle apparatus **100** according to Embodiment 1 includes a compressor **10**, a flow switching device **11**, an outdoor heat exchanger **12**, an expansion mechanism **13**, an indoor heat exchanger **14**, and the refrigerant reservoir container **101**. The compressor **10**, the flow switching device **11**, the outdoor heat exchanger **12**, the expansion mechanism **13**, the indoor heat exchanger **14**, and the refrigerant reservoir container **101** are connected by refrigerant pipes **15**. Thus, a refrigerant circuit **200**, in which refrigerant circulates in the refrigerant pipes **15**, is formed.

[0038] In the refrigeration cycle apparatus **100**, the refrigerant reservoir container **101** is connected to the compressor **10** via an outflow pipe **3**, which is one of the refrigerant pipes **15**. The compressor **10** compresses suctioned refrigerant into high-temperature, high-pressure refrigerant and discharges the high-temperature, high-pressure refrigerant. The compressor **10** is, for example, an inverter compressor. The refrigerant discharged from the compressor **10** flows into the outdoor heat exchanger **12** or the indoor heat exchanger **14** via the flow switching device **11**.

[0039] The flow switching device **11** has a function of switching between refrigerant passages. The flow switching device **11** switches between a cooling operation and a heating operation. In the cooling operation, the refrigerant discharged from the compressor **10** flows in the outdoor heat exchanger **12**, the expansion mechanism **13**, the indoor heat exchanger **14**, and the refrigerant reservoir container **101** in this order and returns to the compressor **10**. On the other hand, in the heating operation, the refrigerant discharged from the compressor **10** flows in the indoor heat exchanger **14**, the expansion mechanism **13**, the outdoor heat exchanger **12**, and the refrigerant reservoir container **101** in this order and returns to the compressor **10**. That is, in the cooling operation for an indoor space, the outdoor heat exchanger **12** functions as a condenser, and the indoor heat exchanger **14** functions as an evaporator. On the other hand, in the heating operation for an indoor space, the indoor heat exchanger **14** functions as a condenser, and the outdoor heat exchanger **12** functions as an evaporator. The flow switching device **11** is, for example, a four-way valve. In addition, the flow switching device **11** may be formed by combining two-way valves or three-way valves.

[0040] The expansion mechanism **13** is a pressure reducing device configured to decompress and expand the refrigerant that flows in the refrigerant circuit **200**. For example, the expansion mechanism **13** is formed by an electronic expansion valve whose opening degree is controlled to be adjustable.

[0041] In the refrigeration cycle apparatus **100**, the refrigerant to be suctioned into the compressor **10** is preferably superheated gas. However, the state of the refrigerant to be suctioned into the compressor **10** depends on the refrigerant distribution in the refrigerant circuit **200**. Accordingly, refrigerant including liquid refrigerant may be suctioned into the compressor **10**. When liquid refrigerant is suctioned into the compressor **10**, a refrigerating machine oil in a shell of the compressor **10** is diluted. Thus, seizure of sliding portions of the compressor **10** may occur. To address this, in the refrigeration cycle apparatus **100**, the refrigerant reservoir container **101** is set upstream of the compressor **10** in the direction in which refrigerant flows. The two-phase gas-liquid refrigerant that has flowed out from the evaporator and passed through the flow switching device **11** flows into the refrigerant reservoir container **101** through an inflow pipe **2**, which is one of the refrigerant pipes **15**. The two-phase gas-liquid refrigerant that has flowed into the refrigerant reservoir container **101** is separated into gas refrigerant and liquid refrigerant, and the liquid refrigerant remains in the refrigerant reservoir container. The gas refrigerant flows out from the refrigerant reservoir container **101** through the outflow pipe **3** and is suctioned into the compressor **10**. Accordingly, in the refrigeration cycle apparatus **100** according to Embodiment 1, the liquid refrigerant is separated from the two-phase gas-liquid refrigerant and stored in the refrigerant reservoir container **101**. Thus, it is possible to inhibit the liquid refrigerant from being suctioned into the compressor **10**.

[0042] The refrigeration cycle apparatus **100** is not limited to such an air-conditioning apparatus capable of switching between a cooling operation and a heating operation. The refrigerant reservoir container **101** may be applied to refrigeration cycle apparatuses such as a dehumidifier and a refrigerator-freezer.

Refrigerant Reservoir Container 101

[0043] The refrigerant reservoir container **101** according to Embodiment 1 will be described with reference to FIGS. **2** to **4**. FIG. **2** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 1 when viewed from the front side. Solid arrows illustrated in FIG. **2** schematically represent a refrigerant flow. FIG. **3** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 1 when viewed from the top side. In FIG. **3**, a baffle plate **5** is represented by a dot pattern. FIG. **4** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **2**. Dashed arrows illustrated in FIG. **4** schematically represent a flow of liquid refrigerant **4**. The A direction is a direction that corresponds to the longitudinal direction of a container main body **1** and that is the same as the X direction.

[0044] As illustrated in FIG. **2**, the refrigerant reservoir container **101** includes the container main body **1**, the inflow pipe **2**, the outflow pipe **3**, and the baffle plate **5**. The container main body **1** has a cylindrical body part **1*a*** and is a horizontal type. In other words, the refrigerant reservoir container **101** is set such that the longitudinal direction of the body part **1*a*** of the container main body **1** is horizontal. The liquid refrigerant **4**, which flows in through the inflow pipe **2**, is stored in the container main body **1**. When the container main body **1** is set horizontally, a section, in the vertical direction, of the body part **1*a*** of the container main body **1** has an arc shape. As illustrated in FIG. **4**, for example, the section of the body part **1*a*** of the container main body **1** has a perfect circular shape. However, the shape of the section of the body part **1***a* of the container main body **1** is not limited to the perfect circular shape. Although not illustrated, the shape of the section of the body part **1***a* of the container main body **1** may be an elliptical shape. In addition, the section of the body part **1***a* of the container main body **1** may have a quadrilateral shape having rounded comers. In addition, end portions **1***b* of the container main body **1**, which are provided at respective ends of the body part **1***a* in the longitudinal direction, have a shape including an arc shape. As illustrated in FIG. **2**, when the refrigerant reservoir container **101** is viewed in front view, the upper and lower corners of the end portions **1***b* of the container main body **1** have an arc shape. In addition, as illustrated in FIG. **3**, when the refrigerant reservoir container **101** is viewed in top view, the front and rear corners of the end portions **1***b* of the container main body **1** have an arc shape. In addition, in FIGS. **2** and **3**, a part of each of the end portions **1***b* is straight, but the end portion **1***b* does not have to have such a straight part. The end portion **1***b* may have a spherical dome shape.

[0045] The inflow pipe **2** and the outflow pipe **3** are inserted into an upper part in the container main body **1**. As illustrated in FIG. **2**, for example, the inflow pipe **2** and the outflow pipe **3** are inserted from the top of the container main body **1**. However, it is sufficient that the inflow pipe **2** and the outflow pipe **3** be inserted into the upper part in the container main body **1**. Thus, the inflow pipe **2** and the outflow pipe **3** do not have to be inserted from the top of the container main body **1**. The inflow pipe **2** and the outflow pipe **3** may be inserted from any of the front, rear, left, and right surfaces of the container main body **1**.

[0046] The refrigerant in a two-phase gas-liquid state passes through the inflow pipe **2** and flows into the container main body **1** through an inlet **2***a* of the inflow pipe **2**. The liquid refrigerant **4**, which has flowed in through the inlet **2***a*, falls onto the bottom of the container main body **1** by gravity and remains in the container main body **1**. The gas refrigerant that has flowed into the container main body **1** through the inlet **2***a* flows into the outflow pipe **3** through an outlet **3***a*. The gas refrigerant that has flowed into the outflow pipe **3** flows out from the container main body **1** through the outflow pipe **3** and is suctioned into the compressor **10**.

[0047] The inlet **2***a* of the inflow pipe **2** is oriented in a direction other than the upward vertical direction and the downward vertical direction. That is, the inlet **2***a* is open toward the part of an inner wall of the container main body **1** located to be inclined relative to the crest of the bottom of the container main body **1** and the crest of the top of the container main body **1**. The inlet **2***a* may be oriented in a horizontal direction or may be oriented obliquely upward or downward relative to the horizontal direction. Such a state in which the inlet **2***a* is oriented in a direction other than the upward vertical direction and the downward vertical direction is represented by the expression "the inlet **2***a* is oriented sideways". In FIGS. **2** to **4**, the inlet **2***a* faces the part of the inner wall located at the front side of the body part **1***a*. In addition, as illustrated in FIGS. **2** to **4**, the inflow pipe **2** has a bent portion **2***b*, which has a curved shape. The inlet **2***a* is located at the tip end of the bent portion **2***b*. However, the inflow pipe **2** does not have to have the bent portion **2***b* as long as the inflow pipe **2** can be provided such that the inlet **2***a* is oriented sideways.

[0048] The inlet **2***a* of the inflow pipe **2** is located below the outlet **3***a* of the outflow pipe **3** in the container main body **1**. FIGS. **2** to **4** illustrate the outflow pipe **3**, which has a U shape. However, the outflow pipe **3** does not have to have a U shape and may have a straight shape. In addition, as illustrated in FIGS. **3** and **4**, when the container main body **1** is viewed in the longitudinal direction (X direction), a part of the inflow pipe **2** and a part of the outflow pipe **3** overlap each other. However, the positional relationship between the inflow pipe **2** and the outflow pipe **3** is not limited as long as the outlet **3***a* is located above the inlet **2***a* in the container main body **1**.

Baffle Plate **5**

[0049] Next, the baffle plate **5** will be described. The baffle plate **5** has a flat portion and has a plate-like shape. The part whose area is largest of the flat portion is a first flat surface **5**A. The baffle plate **5** is provided in the container main body **1** and is located below the inlet **2***a* and the outlet **3***a*. The baffle plate **5** is supported cantilevered on the inner wall of the container main body **1**. Here, the state in which the baffle plate **5** is supported cantilevered on the inner wall of the container main body **1** is a state in which one of thickness surfaces of the baffle plate **5** is connected to the inner wall of the container main body **1** and in which the thickness surface opposite to the connected thickness surface is a free end. The baffle plate **5** is located below the inlet **2***a* and the outlet **3***a* and is thus not supported on the part of the inner wall of the container main body **1** located at the top side. In other words, the baffle plate **5** is supported on the part of the inner wall of the container main body **1** other than that located at the top side. In addition, the baffle plate **5** is provided such that the first flat surface **5**A faces the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall. Thus, the liquid refrigerant **4**, which flows along the inner wall of the container main body **1**, comes into contact with the first flat surface **5**A of the baffle plate **5**.

[0050] As illustrated in FIGS. **2** and **3**, the baffle plate **5** in Embodiment 1 is provided to extend in the longitudinal direction of the container main body **1**. As illustrated in FIGS. **2** and **3**, when the part of the inner wall of the body part **1***a* that the inlet **2***a* faces is the part of the inner wall of the container main body **1** located at the front side, one of the thickness surfaces of the baffle plate **5** in the longitudinal direction is supported on the part of the inner wall of the container main body **1** located at the front side. The baffle plate **5** and the part of the inner wall of the body part **1***a* supporting the baffle plate **5** are equal in length in the longitudinal direction of the container main body **1**. In addition, as illustrated in FIGS. **3** and **4**, the baffle plate **5** projects from the part of the inner wall of the body part **1***a* such that the first flat surface **5**A is horizontal. The baffle plate **5** does not have to be provided such that the first flat surface **5**A is horizontal. Although not illustrated, the baffle plate **5** may project radially from the part of the inner wall of the body part **1***a*. In addition, as described in Embodiment 3 below, the baffle plate **5** may project from the part of the inner wall of the body part **1***a* such that the first flat surface **5**A is vertical.

[0051] In addition, as illustrated in FIG. **4**, the baffle plate **5** in Embodiment 1 is provided at a position where the liquid refrigerant **4**, which flows in through the inlet **2***a* and flows downward along the part of the inner wall of the body part **1***a*, faces the first flat surface **5**A. In addition, as illustrated in FIGS. **3** and **4**, the baffle plate **5** extends to a position overlapping the inlet **2***a* when the container main body **1** is viewed in the vertical direction. The liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the part of the inner wall of the body part **1***a* facing the inlet **2***a*, flows downward along the inner wall, and thereafter comes into contact with the first flat surface **5**A of the baffle plate **5**. The liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the baffle plate **5** and slows down, thus inhibiting the liquid refrigerant **4** from being scattered when the liquid refrigerant **4** comes into contact with the liquid refrigerant **4** remaining in the container main body **1**.

[0052] The refrigerant reservoir container **101** according to Embodiment 1 includes: the container main body **1** having the cylindrical body part **1***a* and being a horizontal type, the container main body **1** storing refrigerant including the liquid refrigerant **4**; the inflow pipe **2** inserted into the container main body **1**, the inflow pipe **2** having the inlet **2***a*, through which the refrigerant flows into the container main body **1**; the outflow pipe **3** inserted into the container main body **1**, the outflow pipe **3** having the outlet **3***a*, through which the refrigerant flows out from the container main body **1**; and the baffle plate **5** having the first flat surface **5**A and being supported cantilevered on the inner wall of the container main body **1**. The inlet **2***a* is oriented sideways and faces the inner wall of the container main body **1**. The outlet **3***a* is located above the inlet **2***a* in the container main body **1**. The baffle plate **5** is located below the inlet **2***a*, and the first flat surface **5**A of the baffle plate **5** faces the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall.

[0053] In this configuration, the container main body **1** is a horizontal type, thus enabling a reduction in the height of the refrigerant reservoir container **101**. In addition, the liquid refrigerant **4**, which flows in through the inlet **2***a*, flows along the inner wall of the container main body **1** and comes into contact with the first flat surface **5**A of the baffle plate **5**. Thus, it is possible to inhibit scattering of the liquid refrigerant **4** remaining in the container main body **1** caused by the liquid refrigerant **4**, which flows in along the inner wall. Accordingly, even when the container main body **1** is a horizontal-type container main body in which the remaining liquid refrigerant **4** vigorously swirls up, it is possible to inhibit the liquid refrigerant **4** from flowing out through the outflow pipe **3**.

[0054] In addition, in the configuration of the refrigerant reservoir container **101** according to Embodiment 1, the inlet **2***a* is open to face the part of the inner wall of the body part **1***a*, and the baffle plate **5** is supported on the part of the inner wall of the body part **1***a*.

[0055] In addition, in the configuration of the refrigerant reservoir container **101** according to Embodiment 1, the baffle plate **5** is provided at a position where the first flat surface **5**A faces the liquid refrigerant **4**, which flows downward along the part of the inner wall of the body part **1***a*. In this configuration, the liquid refrigerant **4**, which has flowed in through the inlet **2***a*, is highly likely to come into contact with the first flat surface **5**A of the baffle plate **5**. Accordingly, the flow of the liquid refrigerant **4**, which flows in through the inlet **2***a*, slows down, thus inhibiting the liquid refrigerant **4** remaining in the container main body **1** from being undulated. As a result, it is possible to inhibit scattering of the liquid refrigerant **4** remaining in the container main body **1**.

[0056] In addition, in the configuration of the refrigerant reservoir container **101** according to Embodiment 1, the baffle plate **5** is supported on the inner wall such that the first flat surface **5**A is horizontal. In this configuration, the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall of the container main body **1**, flows horizontally when coming into contact with the first flat surface **5**A. Thus, the flow of the liquid refrigerant **4** slows down. Accordingly, it is possible to inhibit the liquid refrigerant **4** remaining in the container main body **1** from being undulated and scattered.

[0057] In addition, in the configuration of the refrigerant reservoir container **101** according to Embodiment 1, the baffle plate **5** is provided to extend to both ends in the longitudinal direction of the body part **1***a*. In this configuration, the liquid refrigerant **4**, which flows in through the inlet **2***a*, is highly likely to come into contact with the first flat surface **5**A of the baffle plate **5**, and the flow of the liquid refrigerant **4** is thus highly likely to slow down. Accordingly, it is also possible to highly likely inhibit the liquid refrigerant **4** remaining in the container main body **1** from being undulated and scattered.

[0058] In addition, the configuration of the refrigeration cycle apparatus **100** according to Embodiment 1 includes the refrigerant reservoir container **101** and the compressor **10** connected to the refrigerant reservoir container **101** via the outflow pipe **3**. In this configuration, it is possible to inhibit the liquid refrigerant **4** from being suctioned from the refrigerant reservoir container **101** into the compressor **10** via the outflow pipe **3**. Accordingly, it is possible to reduce the possibility that the refrigerating machine oil in the compressor **10** is diluted to cause seizure of the sliding portions of the compressor.

First Modification Example of Embodiment 1

[0059] Next, a first modification example of Embodiment 1 will be described with reference to FIGS. **5** to **7**. FIG. **5** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 1 when viewed from the front side. Solid arrows illustrated in FIG. **5** schematically represent a refrigerant flow. FIG. **6** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 1 when viewed from the top side. In FIG. **6**, the baffle plate **5** is represented by a dot pattern. FIG. **7** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **5**. Dashed arrows illustrated in FIG. **7** schematically represent a flow of the liquid refrigerant **4**. FIGS. **7** and **4** are diagrams in which the refrigerant reservoir container **101** is viewed in the A direction. Thus, FIGS. **7** and **4** appear to be the same but differ in the length of the baffle plate **5** in the A direction. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0060] The baffle plate **5** of the refrigerant reservoir container **101** according to the first modification example differs from the baffle plate **5** in Embodiment 1 in length in the longitudinal direction. As illustrated in FIGS. **5** and **6**, the baffle plate **5** in the first modification example is partially provided in the longitudinal direction of the container main body **1**. The length of the baffle plate **5** in the longitudinal direction of the container main body **1** is smaller than the length of the part of the inner wall of the body part **1***a* supporting the baffle plate **5** in the longitudinal direction of the container main body **1**.

[0061] In addition, the baffle plate **5** in the first modification example is provided at a position where the first flat surface **5**A faces the liquid refrigerant **4**, which flows downward along the part of the inner wall of the body part **1***a*. As illustrated in FIGS. **6** and **7**, the baffle plate **5** extends to a position overlapping the inlet **2***a* when the container main body **1** is viewed in the vertical direction. Accordingly, as illustrated in FIG. **7**, the liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the part of the inner wall of the body part **1***a* facing the inlet **2***a* and thereafter flows downward along the inner wall. Then, the liquid refrigerant **4** comes into contact with the baffle plate **5** provided below the inlet **2***a*. That is, similarly to the baffle plate **5** in Embodiment 1, the baffle plate **5** in the first modification example enables the liquid refrigerant **4**, which flows in through the inlet **2***a*, to slow down. As a result, when the liquid refrigerant **4**, which has flowed in through the inlet **2***a*, comes into contact with the liquid refrigerant **4** remaining in the container main body **1**, the refrigerant is inhibited from being scattered from the liquid surface. The difference between the first modification example and Embodiment 1 is solely the length of the baffle plate **5** in the longitudinal direction, other configurations and operations are the same as those of Embodiment 1, and descriptions thereof are thus omitted herein.

[0062] In the first modification example, the baffle plate **5** partially provided in the longitudinal direction of the container main body **1** enables the liquid refrigerant **4**, which flows into the container main body **1**, to slow down. Accordingly, the liquid refrigerant **4** is inhibited from being scattered from the liquid surface of the liquid refrigerant **4**. Thus, the configuration of the refrigerant reservoir container **101** according to the first modification example enables both a reduction of materials forming the refrigerant reservoir container **101** and provision of the refrigerant reservoir container **101** capable of inhibiting the scattered liquid refrigerant **4** from reaching the refrigerant outflow pipe.

Embodiment 2

[0063] The refrigerant reservoir container **101** according to Embodiment 2 will be described. The difference between Embodiment 2 and Embodiment 1 is the positional relationship between the baffle plate **5** and the inlet **2***a*. The positional relationship between the baffle plate **5** and the inlet **2***a* in Embodiment 2 will be described below with a focus on the difference between Embodiment 2 and Embodiment 1. The respective configurations of the refrigerant reservoir container **101** and the refrigeration cycle apparatus **100** in Embodiment 2 are similar to those in Embodiment 1 other than the positional relationship between the baffle plate **5** and the inlet **2***a*, and descriptions thereof are thus omitted. In addition, the same components as those in Embodiment 1 have the same reference signs, and descriptions thereof are omitted as appropriate.

[0064] The positional relationship between the baffle plate **5** and the inlet **2***a* in Embodiment 2 will be described with reference to FIGS. **8** to **10**. FIG. **8** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 2 when viewed from the front side. Solid arrows illustrated in FIG. **8** schematically represent a refrigerant flow. FIG. **9** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 2 when viewed from the top side. In FIG. **9**, the baffle plate **5** is represented by a dot pattern. FIG. **10** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **8**. Dashed arrows illustrated in FIG. **10** schematically represent a flow of the liquid refrigerant **4**. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0065] As illustrated in FIG. **8**, similarly to the baffle plate **5** in Embodiment 1, the baffle plate **5** in Embodiment 2 is provided on the part of the inner wall of the body part **1***a* to extend in the longitudinal direction of the container main body **1**. In addition, similarly to Embodiment 1, in Embodiment 2, one of the thickness surfaces of the baffle plate **5** in the longitudinal direction is supported on the part of the inner wall of the body part **1***a*. However, Embodiment 2 differs from Embodiment 1 in place in the inner wall on which the baffle plate **5** is supported cantilevered. As illustrated in FIGS. **9** and **10**, the baffle plate **5** in Embodiment 2 is provided at a position where the liquid refrigerant **4**, which flows in through the inlet **2***a* and flows upward along the part of the inner wall of the body part **1***a*, comes into contact with the first flat surface **5**A.

[0066] As illustrated in FIGS. **9** and **10**, the baffle plate **5** projects from the part of the inner wall of the body part **1***a* such that the first flat surface **5**A is horizontal. The baffle plate **5** is provided at a position where the liquid refrigerant **4**, which flows in through the inlet **2***a* and flows upward along the part of the inner wall of the body part **1***a*, comes into contact with the first flat surface **5**A. In other words, the baffle plate **5** projects from the part of the inner wall of the body part **1***a* opposite to the part of the inner wall of the body part **1***a* that the inlet **2***a* faces. As illustrated in FIGS. **9** and **10**, when the part of the inner wall of the body part **1***a* that the inlet **2***a* faces is the part of the inner wall of the container main body **1** located at the front side, the baffle plate **5** is provided on the part of the inner wall of the container main body **1** located at the rear side. When the container main body **1** is viewed in the vertical direction, the baffle plate **5** and the inlet **2***a* do not overlap each other.

[0067] As illustrated in FIG. **10**, the liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the part of the inner wall of the body part **1***a* facing the inlet **2***a*, flows downward along the inner wall, and thereafter flows into the liquid refrigerant **4** remaining in the container main body **1**. The flow of the liquid refrigerant **4**, which flows in along the inner wall, may induce the part of the liquid surface located at the rear side of the liquid refrigerant **4** remaining in the container main body **1** to rise along the inner wall. However, since the baffle plate **5** in Embodiment 2 is provided on the part of the inner wall of the container main body **1** located at the rear side, as illustrated in FIG. **10**, the part of the liquid surface that has risen along the inner wall comes into contact with the first flat surface **5**A of the baffle plate **5**. This inhibits the rise of the liquid surface of the liquid refrigerant **4** remaining in the container main body **1** caused by the liquid refrigerant **4** flowing in through the inlet **2***a*.

[0068] In the configuration of the refrigerant reservoir container **101** according to Embodiment 2, the baffle plate **5** is provided at a position where the first flat surface **5**A faces the liquid refrigerant **4**, which flows upward along the part of the inner wall of the body part. In this configuration, the liquid refrigerant **4**, which has flowed in through the inlet **2***a*, flows along the inner wall of the container main body **1** without immediately coming into contact with the baffle plate **5**. Accordingly, the liquid refrigerant **4**, which has flowed in, slows down by flowing along the inner wall. Then, the liquid refrigerant **4** comes into contact with the first flat surface **5**A of the baffle plate **5** in the state in which the liquid refrigerant **4** slows down, thus inhibiting the liquid refrigerant **4** from being scattered when the liquid refrigerant **4** comes into contact with the baffle plate **5**. In addition, the baffle plate **5** inhibits the rise of the liquid surface of the liquid refrigerant **4** remaining in the container main body **1**, thus inhibiting the remaining liquid refrigerant **4** from swirling up. As a result, the liquid refrigerant **4** is also inhibited from being scattered from the liquid surface.

First Modification Example of Embodiment 2

[0069] Next, a first modification example of Embodiment 2 will be described with reference to FIGS. **11** to **13**. FIG. **11** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 2 when viewed from the front side. Solid arrows illustrated in FIG. **11** schematically represent a refrigerant flow. FIG. **12** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 2 when viewed from the top side. In FIG. **12**, the baffle plate **5** is represented by a dot pattern. FIG. **13** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **11**. Dashed arrows illustrated in FIG. **13** schematically represent a flow of the liquid refrigerant **4**. FIGS. **13** and **10** are diagrams in which the refrigerant reservoir container **101** is viewed in the A direction. Thus, FIGS. **13** and **10** appear to be the same but differ in the length of the baffle plate **5** in the A direction. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0070] The baffle plate **5** of the refrigerant reservoir container **101** according to the first modification example differs from the baffle plate **5** in Embodiment 2 in length in the longitudinal direction. As illustrated in FIGS. **10** and **11**, the baffle plate **5** in the first modification example is partially provided in the longitudinal direction of the container main body **1**. The length of the baffle plate **5** in the longitudinal direction of the container main body **1** is smaller than the length of the part of the inner wall of the body part **1***a* supporting the baffle plate **5** in the longitudinal direction of the container main body **1**.

[0071] In addition, the baffle plate **5** in the first modification example is provided at a position where the first flat surface **5**A faces the liquid refrigerant **4**, which flows upward along the part of the inner wall of the body part **1***a*. In addition, as illustrated in FIGS. **12** and **13**, when the container main body **1** is viewed in the vertical direction, the baffle plate **5** and the inlet **2***a* do not overlap each other. Assuming that the liquid refrigerant **4** does not remain in the container main body **1** and that the liquid refrigerant **4** flowing in through the inlet **2***a* does not slow down, the baffle plate **5** is provided such that the liquid refrigerant **4**, which flows in through the inlet **2***a* and flows upward along the inner wall, comes into contact with the first flat surface **5**A. Accordingly, as illustrated in FIG. **13**, the part of the liquid surface induced to rise along the inner wall by the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall, comes into contact with the first flat surface **5**A of the baffle plate **5**. That is, similarly to the baffle plate **5** in Embodiment 2, the baffle plate **5** in the first modification example is capable of inhibiting the rise of the liquid surface of the liquid refrigerant **4** induced by the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall. The difference between the first modification example and Embodiment 2 is solely the shape of the baffle plate **5**, other configurations and operations are the same as those of Embodiment 2, and descriptions thereof are thus omitted herein.

[0072] In the first modification example, the baffle plate **5** partially provided at the rear side of the container main body **1** enables the liquid refrigerant **4**, which flows in, to slow down. Accordingly, similarly to Embodiment 2, it is possible to inhibit the liquid refrigerant **4** from being scattered when the liquid refrigerant **4** comes into contact with the baffle plate **5** and from being scattered due to the remaining liquid refrigerant **4** swirling up. Thus, the configuration of the refrigerant reservoir container **101** according to the first modification example enables both a reduction of materials forming the refrigerant reservoir container **101** and provision of the refrigerant reservoir container **101** capable of inhibiting the scattered liquid refrigerant **4** from reaching the refrigerant outflow pipe.

Embodiment 3

[0073] The refrigerant reservoir container **101** according to Embodiment 3 will be described. The difference between Embodiment 3 and Embodiments 1 and 2 is the configuration in which the baffle plate **5** is set. The configuration in which the baffle plate **5** in Embodiment 3 is set will be described below with a focus on the difference between Embodiment 3 and Embodiments 1 and 2. The respective configurations of the refrigerant reservoir container **101** and the refrigeration cycle apparatus **100** in Embodiment 3 are similar to those in Embodiments 1 and 2 other than the configuration in which the baffle plate **5** is set, and descriptions thereof are thus omitted. In addition, the same components as those in Embodiment 1 have the same reference signs, and descriptions thereof are omitted as appropriate.

[0074] The configuration in which the baffle plate **5** in Embodiment 3 is set will be described with reference to FIGS. **14** to **16**. FIG. **14** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 3 when viewed from the front side. Solid arrows illustrated in FIG. **14** schematically represent a refrigerant flow. In addition, in FIG. **14**, the baffle plate **5** is represented by a dot pattern. FIG. **15** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 3 when viewed from the top side. FIG. **16** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **14**. Dashed arrows illustrated in FIG. **16** schematically represent a flow of the liquid refrigerant **4**. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0075] In Embodiment 3, the baffle plate **5** is provided perpendicularly to the part of the inner wall of the container main body **1** located at the bottom. As illustrated in FIGS. **14** and **16**, the baffle plate **5** is supported cantilevered on the part of the inner wall of the body part **1***a* of the container main body **1** such that the first flat surface **5**A is vertical. As illustrated in FIG. **14**, the baffle plate **5** is provided on the lowest part of the inner wall of the body part **1***a* corresponding to the bottom of the container main body **1** to extend in the longitudinal direction of the container main body **1**. One of the thickness surfaces of the baffle plate **5** in the longitudinal direction is supported on the lowest part of the inner wall of the body part **1***a*. The baffle plate **5** and the part of the inner wall of the body part **1***a* supporting the baffle plate **5** are equal in length in the longitudinal direction of the container main body **1**.

[0076] In FIGS. **15** and **16**, the baffle plate **5** is provided ahead of the outflow pipe **3** in the front-rear direction (Y direction) of the container main body **1**. However, the positional relationship between the baffle plate **5** and the outflow pipe **3** is not limited as long as the outlet **3***a* is located above the baffle plate **5** in the container main body **1**. In addition, as illustrated in FIG. **16**, when the container main body **1** is viewed in the longitudinal direction, the inflow pipe **2** and the outflow pipe **3** do not overlap each other. However, as described in Embodiment 1, the positional relationship between the inflow pipe **2** and the outflow pipe **3** is not limited as long as the outlet **3***a* is located above the inlet **2***a* in the container main body **1**.

[0077] As illustrated in FIGS. **15** and **16**, when the container main body **1** is viewed in the vertical direction, the baffle plate **5** and the inlet **2***a* do not overlap each other. However, as described in Embodiment 1, the positional relationship between the baffle plate **5** and the inlet **2***a* is not limited as long as the baffle plate **5** is located below the inlet **2***a* in the container main body **1**. When the container main body **1** is viewed in the vertical direction, the baffle plate **5** and the inlet **2***a* may be located to overlap each other. In addition, the baffle plate **5** may be located at any of the front side and the rear side of the inlet **2***a* in the front-rear direction of the container main body **1**.

[0078] As illustrated in FIG. **16**, the liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the part of the inner wall of the body part **1***a* facing the inlet **2***a*, flows downward along the inner wall, and thereafter flows into the liquid refrigerant **4** remaining in the container main body **1**. The flow of the liquid refrigerant **4**, which flows in along the inner wall, may induce the part of the liquid surface located at the rear side of the liquid refrigerant **4** remaining in the container main body **1** to rise along the inner wall. However, the baffle plate **5** in Embodiment 3 is provided at the bottom of the container main body **1** such that the first flat surface **5**A is vertical. Thus, as illustrated in FIG. **16**, the liquid refrigerant **4**, which flows along the inner wall, comes into contact with the first flat surface **5**A of the baffle plate **5**. This inhibits the rise of the liquid surface of the liquid refrigerant **4** remaining in the container main body **1** caused by the liquid refrigerant **4** flowing in through the inlet **2***a*.

[0079] In the refrigerant reservoir container **101** according to Embodiment 3, the baffle plate **5** is supported on the inner wall such that the first flat surface **5**A is vertical. In this configuration, when the liquid refrigerant **4**, which flows along the inner wall of the container main body **1**, comes into contact with the first flat surface **5**A, the liquid refrigerant **4** is less likely to flow over the baffle plate **5**. This inhibits the rise of the liquid surface of the liquid refrigerant **4** remaining in the container main body **1** caused by the liquid refrigerant **4** flowing in through the inlet **2***a*. As a result, the liquid refrigerant **4** is inhibited from being scattered from the rising liquid surface.

First Modification Example of Embodiment 3

[0080] Next, a first modification example of Embodiment 3 will be described with reference to FIGS. **17** to **19**. FIG. **17** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 3 when viewed from the front side. Solid arrows illustrated in FIG. **17** schematically represent a refrigerant flow. In addition, in FIG. **17**, the baffle plate **5** is represented by a dot pattern. FIG. **18** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 3 when viewed from the top side. FIG. **19** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **17**. Dashed arrows illustrated in FIG. **19** schematically represent a flow of the liquid refrigerant **4**. FIGS. **19** and **16** are diagrams in which the refrigerant reservoir container **101** is viewed in the A direction. Thus, FIGS. **19** and **16** appear to be the same but differ in the length of the baffle plate **5** in the A direction. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0081] The baffle plate **5** of the refrigerant reservoir container **101** according to the first modification example differs from the baffle plate **5** in Embodiment 3 in length in the longitudinal direction. As illustrated in FIGS. **17** and **18**, the baffle plate **5** in the first modification example is partially provided at the bottom of the container main body **1**. The length of the baffle plate **5** in the longitudinal direction of the container main body **1** is smaller than the length of the part of the inner wall of the body part **1***a* supporting the baffle plate **5** in the longitudinal direction of the container main body **1**.

[0082] In addition, as illustrated in FIGS. **17** to **19**, the baffle plate **5** is provided at a position where the first flat surface **5**A faces the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall. Assuming that the liquid refrigerant **4** does not remain in the container main body **1** and that the liquid refrigerant **4** flowing in through the inlet **2***a* does not slow down, the baffle plate **5** is provided such that the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall, comes into contact with the first flat surface **5**A. Accordingly, as illustrated in FIG. **19**, the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall, comes into contact with the first flat surface **5**A of the baffle plate **5**. That is, similarly to the baffle plate **5** in Embodiment 3, the baffle plate **5** in the first modification example is capable of inhibiting the rise of the liquid surface of the liquid refrigerant **4** induced by the liquid refrigerant **4**, which flows in through the inlet **2***a* and along the inner wall. The difference between the first modification example and Embodiment 3 is solely the length of the baffle plate **5** in the longitudinal direction, other configurations and operations are the same as those of Embodiment 3, and descriptions thereof are thus omitted herein.

[0083] In the first modification example, the liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the first flat surface **5**A of the baffle plate **5** partially provided on the lowest part of the inner wall of the body part **1***a* corresponding to the bottom of the container main body **1**. This inhibits the rise of the liquid surface of the liquid refrigerant **4** remaining in the container main body **1**, thus inhibiting the liquid refrigerant **4** from being scattered from the liquid surface. Thus, the configuration of the refrigerant reservoir container **101** according to the first modification example enables both a reduction of materials forming the refrigerant reservoir container **101** and provision of the refrigerant reservoir container **101** capable of inhibiting the scattered liquid refrigerant **4** from reaching the refrigerant outflow pipe.

Embodiment 4

[0084] The refrigerant reservoir container **101** according to Embodiment 4 will be described. The difference between Embodiment 4 and Embodiments 1 to 3 is the configuration in which the baffle plate **5** is set and the shape of the baffle plate **5**. The configuration in which the baffle plate **5** is set and the shape of the baffle plate **5** in Embodiment 4 will be described below with a focus on the difference between Embodiment 4 and Embodiments 1 to 3. The respective configurations of the refrigerant reservoir container **101** and the refrigeration cycle apparatus **100** in Embodiment 4 are similar to those in Embodiments 1 and 2 other than the configuration in which the baffle plate **5** is set and the shape of the baffle plate **5**, and descriptions thereof are thus omitted. In addition, the same components as those in Embodiment 1 have the same reference signs, and descriptions thereof are omitted as appropriate.

[0085] The configuration in which the baffle plate **5** is set and the shape of the baffle plate **5** in Embodiment 4 will be described with reference to FIGS. **20** to **22**. FIG. **20** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 4 when viewed from the front side. Solid arrows illustrated in FIG. **20** schematically represent a refrigerant flow. FIG. **21** is an internal configuration diagram of the refrigerant reservoir container **101** according to Embodiment 3 when viewed from the top side. In FIG. **21**, the baffle plate **5** is represented by a dot pattern. FIG. **22** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **20**. Dashed arrows illustrated in FIG. **22** schematically represent a flow of the liquid refrigerant **4**. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0086] The baffle plate **5** is provided such that the thickness surface is supported on the inner wall of the container main body **1** and that the first flat surface **5**A is horizontal. As illustrated in FIGS. **20** and **22**, the internal space of the container main body **1** is partitioned into an upper space and a lower space with the baffle plate **5**. The baffle plate **5** is provided to be located between the outlet **3***a* and the inlet **2***a* in the up-down direction (Z direction) of the container main body **1**. Thus, the outlet **3***a* is located above the baffle plate **5**, and the inlet **2***a* is located below the baffle plate **5**. As illustrated in FIGS. **20** and **22**, the inflow pipe **2** and the outflow pipe **3** can be provided to pass through the baffle plate **5**. However, the inflow pipe **2** does not have to be provided to pass through the baffle plate **5** as long as the inlet **2***a* is located below the baffle plate **5**. In addition, the outflow pipe **3** does not have to be provided to pass through the baffle plate **5** as long as the outlet **3***a* is located above the baffle plate **5**.

[0087] Since the internal space of the container main body **1** is partitioned into the upper space and the lower space with the baffle plate **5**, the gas refrigerant that flows into the container main body **1** through the inlet **2***a* located in the space below the baffle plate **5** cannot reach the outlet **3***a* located in the space above the baffle plate **5**. Accordingly, the baffle plate **5** has at least one through hole **6**, through which the gas refrigerant that has flowed into the lower space through the inlet **2***a* moves to the upper space. The gas refrigerant that has flowed into the lower space through the inlet **2***a* can move to the upper space through the through hole **6**, thus flows into the outflow pipe **3** via the outlet **3***a*, and flows out from the container main body **1**.

[0088] In addition, as illustrated in FIG. **22**, the liquid refrigerant **4**, which flows in through the inlet **2***a*, comes into contact with the part of the inner wall of the body part **1***a* facing the inlet **2***a*, flows downward along the inner wall, and thereafter flows into the liquid refrigerant **4** remaining in the container main body **1**. The flow of the liquid refrigerant **4**, which flows in along the inner wall, may induce the part of the liquid surface located at the rear side of the liquid refrigerant **4** in the container main body **1** to rise along the inner wall. However, since the baffle plate **5** in Embodiment 4 is horizontally provided to partition the internal space of the container main body **1**, as illustrated in FIG. **22**, the part of the liquid surface that has risen along the inner wall comes into contact with the first flat surface **5**A of the baffle plate **5**. This inhibits the rise of the liquid surface of the liquid refrigerant **4** remaining in the container main body **1** caused by the liquid refrigerant **4** flowing into the liquid refrigerant **4** remaining in the container main body **1** through the inlet **2***a*. As a result, the liquid refrigerant **4** is also inhibited from being scattered from the rising liquid surface. In addition, the liquid refrigerant **4** scattered from the liquid surface is blocked by the baffle plate **5** and thus cannot reach the outlet **3***a*. Accordingly, the liquid refrigerant **4** is inhibited from flowing out from the container main body **1** through the outflow pipe **3**.

[0089] As illustrated in FIG. **21**, the number of through holes **6** may be two or more and is not limited. In FIG. **21**, the through holes **6** are represented by white circles and black spots, but these white circles and black spots do not limit the positions, opening areas, or number of the through holes **6**. The total opening area of the through holes **6** is not the smallest of the total opening area of the through holes **6**, the opening area of the inlet **2***a*, and the opening area of the outlet **3***a*. In addition, the total opening area of the through holes **6** does not have to be the largest of the total opening area of the through holes **6**, the opening area of the inlet **2***a*, and the opening area of the outlet **3***a*. The total opening area of the through holes **6** is, when only one through hole **6** is provided, the opening area of the one through hole **6** and, when a plurality of through holes **6** are provided, the sum of the opening areas of the respective through holes **6**.

[0090] The relationship between the opening area of the inlet **2***a* and the opening area of the outlet **3***a* is not particularly limited. The respective opening areas of the inlet **2***a* and the outlet **3***a* may be equal, or one of the respective opening areas may be larger than the other.

[0091] Here, the total opening area of the through holes **6** is defined as S1, the opening area of the inlet **2***a* is defined as S2, and the opening area of the outlet **3***a* is defined as S3. The relationship between the total opening area S1 of the through holes **6**, the opening area S2 of the inlet **2***a*, and the opening area S3 of the outlet **3***a* will be described. When the opening area S2 of the inlet **2***a* and the opening area S3 of the outlet **3***a* satisfy the relationship of $S2 \leq S3$, the total opening area S1 of the through holes **6** is not smaller than S2 and thus satisfies the relationship of $S1 > S2$. In addition, when the opening area S2 of the inlet **2***a* and the opening area S3 of the outlet **3***a* satisfy the relationship of $S3 \leq S2$, the total opening area S1 of the through holes **6** is not smaller than S3 and thus satisfies the relationship of S1>S3.

[0092] The refrigerant reservoir container **101** according to Embodiment 4 includes: the container main body **1** having the cylindrical body part **1***a* and being a horizontal type, the container main body **1** storing refrigerant including gas refrigerant; the inflow pipe **2** inserted into the container main body **1**, the inflow pipe **2** having the inlet **2***a*, through which the refrigerant flows into the container main body **1**; the outflow pipe **3** inserted into the container main body **1**, the outflow pipe **3** having the outlet **3***a*, through which the refrigerant flows out from the container main body **1**; and the baffle plate **5** having the first flat surface **5**A and the thickness surface, the thickness surface being supported on the inner wall of the container main body **1**. The inlet **2***a* is oriented sideways and faces the inner wall of the container main body **1**. The outlet **3***a* is located above the inlet **2***a* and the baffle plate **5** in the container main body **1**. The baffle plate **5** is located above the inlet **2***a*, and the first flat surface **5**A of the baffle plate **5** partitions the internal space of the container main body **1** into the upper space and the lower space. In addition, the baffle plate **5** has the at least one through hole **6**, through which the gas refrigerant passes.

[0093] In this configuration, the container main body **1** is a horizontal type, thus enabling a reduction in the height of the refrigerant reservoir container **101**. In addition, the liquid refrigerant **4**, which flows in through the inlet **2***a*, flows along the inner wall of the container main body **1** and comes into contact with the first flat surface **5**A of the baffle plate **5**. Thus, it is possible to inhibit scattering of the liquid refrigerant **4** remaining in the container main body **1** caused by the liquid refrigerant **4**, which flows in along the inner wall. In addition, the outlet **3***a* is provided above the baffle plate **5**. Thus, the scattered liquid refrigerant **4** is blocked by the baffle plate **5** and inhibited from reaching the outlet **3***a*. Accordingly, even when the container main body **1** is a horizontal-type container main body in which the remaining liquid refrigerant **4** vigorously swirls up, it is possible to inhibit the liquid refrigerant **4** from flowing out through the outflow pipe **3**.

[0094] In addition, in the configuration of the refrigerant reservoir container **101** according to Embodiment 4, the inflow pipe **2** is provided to pass through the baffle plate **5**. In this configuration, it is possible to insert the inflow pipe **2** into the container main body **1** from the upper space of the container main body **1**, thus increasing flexibility in the configuration of the refrigerant reservoir container **101**.

[0095] In addition, in the configuration of the refrigerant reservoir container **101** according to Embodiment 4, the at least one through hole **6** includes a plurality of through holes **6**, the baffle plate **5** having the plurality of through holes **6**, and when the total opening area of the plurality of through holes **6** is defined as S1, the opening area of the inlet **2***a* is defined as S2, and the opening area of the outlet **3***a* is defined as S3, the total opening area S1 and the opening area S2 satisfy the relationship of S1>S2 in the case in which the opening area S2 and the opening area S3 satisfy the relationship of S2≤S3. In addition, the total opening area S1 and the opening area S3 satisfy the relationship of S1>S3 in the case in which the opening area S2 and the opening area S3 satisfy the relationship of S3≤S2.

[0096] In this configuration, the total opening area of the through holes **6** is not the smallest of the total opening area of the through holes **6**, the opening area of the inlet **2***a*, and the opening area of the outlet **3***a*. Accordingly, the gas refrigerant that has flowed into the lower space of the container main body **1** can pass through the through holes **6** and reach the outlet **3***a* smoothly.

First Modification Example of Embodiment 4

[0097] Next, a first modification example of Embodiment 3 will be described with reference to FIGS. **23** to **25**. FIG. **23** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 3 when viewed from the front side. Solid arrows illustrated in FIG. **23** schematically represent a refrigerant flow. FIG. **24** is an internal configuration diagram of the refrigerant reservoir container **101** according to the first modification example of Embodiment 3 when viewed from the top side. In FIG. **24**, the baffle plate **5** is represented by a dot pattern. In FIG. **24**, the through holes **6** are represented by white circles and black spots, but these white circles and black spots do not limit the positions, opening areas, or number of the through holes **6**. FIG. **25** is an internal configuration diagram of the refrigerant reservoir container **101** when viewed in an A direction illustrated in FIG. **23**. Dashed arrows illustrated in FIG. **25** schematically represent a flow of the liquid refrigerant **4**. FIGS. **25** and **22** are diagrams in which the refrigerant reservoir container **101** is viewed in the A direction. Thus, FIGS. **25** and **22** appear to be the same but differ in the positions of the through holes **6**. The A direction is a direction that corresponds to the longitudinal direction of the container main body **1**.

[0098] The refrigerant reservoir container **101** according to the first modification example differs from that in Embodiment 4 in the positions of the through holes **6** provided in the baffle plate **5**. The difference between the first modification example and Embodiment 4 is solely the positions of the through holes **6** provided in the baffle plate **5**, other configurations and operations are the same as those of Embodiment 4, and descriptions thereof are thus omitted herein.

[0099] In FIGS. **23** and **24**, a first region **5***a* and a second region **5***b*, into which the baffle plate **5** is equally divided to be arranged in the longitudinal direction of the container main body **1**, are represented by long dashed short dashed lines. In the configuration of the refrigerant reservoir container **101** according to the first modification example, as illustrated in FIG. **23**, the inlet **2***a* is located below the first region **5***a* of the baffle plate **5**, and the outlet **3***a* is located above the second region **5***b* of the baffle plate **5**. As illustrated in FIG. **24**, the through holes **6** are provided only in the first region **5***a* and are not provided in the second region **5***b*.

[0100] In the configuration of the refrigerant reservoir container **101** according to the first modification example of Embodiment 4, when the baffle plate **5** is equally divided into the first region **5***a* and the second region **5***b* to be arranged in the longitudinal direction of the container main body **1**, the inlet **2***a* is located below the first region **5***a*, the outlet **3***a* is located above the second region **5***b*, and the plurality of through holes **6** are provided in the first region **5***a* and are not provided in the second region **5***b*. In this configuration, the through holes **6** and the outlet **3***a* can be sufficiently distant from each other. Thus, when the liquid refrigerant **4** scattered in the space below the baffle plate **5** moves to the upper space via the through holes **6**, the liquid refrigerant **4** does not easily reach the outlet **3***a*. Accordingly, even when the container main body **1** is a horizontal-type container main body in which the remaining liquid refrigerant **4** vigorously swirls up, it is possible to more effectively inhibit the liquid refrigerant **4** from flowing out through the outflow pipe **3**.

[0101] Embodiments 1 to 4 and the modification examples have been described above. However, examples of the refrigerant reservoir container **101** and the refrigeration cycle apparatus **100** are not limited to Embodiments 1 to 4 and the modification examples described above, and various modifications and applications can be made thereto without departing from the gist. That is, such examples of the refrigerant reservoir container **101** and the refrigeration cycle apparatus **100** include design changes and various applications that can be commonly made by those skilled in the art without departing from the technical ideas.

REFERENCE SIGNS LIST

[0102] **1**: container main body, **1***a*: body part, **1***b*: end portion, **2**: inflow pipe, **2***a*: inlet, **2***b*: bent portion, **3**: outflow pipe, **3***a*: outlet, **4**: liquid refrigerant, **5**: baffle plate, **5**A: first flat surface, **5***a*: first region, **5***b*: second region, **6**: through hole, **10**: compressor, **11**: flow switching device, **12**: outdoor heat exchanger, **13**: expansion mechanism, **14**: indoor heat exchanger, **15**: refrigerant pipe. **100**: refrigeration cycle apparatus, **101**: refrigerant reservoir container, **200**: refrigerant circuit

1. A refrigerant reservoir container, comprising:
a container main body having a cylindrical body part and being a horizontal type, the container main body storing refrigerant including liquid refrigerant;
an inflow pipe inserted into the container main body, the inflow pipe having an inlet through which the refrigerant flows into the container main body;
an outflow pipe inserted into the container main body, the outflow pipe having an outlet through which the refrigerant flows out from the container main body; and
a baffle plate having a first flat surface and being supported cantilevered on an inner wall of the container main body, wherein
the inlet is oriented sideways and faces the inner wall of the container main body and is open to face a part of the inner wall of the body part,
the outlet is located above the inlet in the container main body, and
the baffle plate is located below the inlet and is supported on the part of the inner wall of the body part, and provided at a position where the first flat surface of the baffle plate faces the liquid refrigerant that flows in through the inlet and upward along the inner wall.

2. (canceled)

3. (canceled)

4. (canceled)

5. The refrigerant reservoir container of claim **1**, wherein the baffle plate is supported on the inner wall such that the first flat surface is horizontal.

6. The refrigerant reservoir container of claim **1**, wherein the baffle plate is supported on the inner wall of the container main body such that the first flat surface is vertical.

7. The refrigerant reservoir container of claim **1**, wherein the baffle plate is provided to extend to both ends in a longitudinal direction of the body part.

8. A refrigerant reservoir container, comprising:
a container main body having a cylindrical body part and being a horizontal type, the container main body storing refrigerant;
an inflow pipe inserted into the container main body, the inflow pipe having an inlet through which the refrigerant flows into the container main body;
an outflow pipe inserted into the container main body, the outflow pipe having an outlet through which the refrigerant flows out from the container main body; and
a baffle plate having a first flat surface and a thickness surface, the thickness surface being supported on an inner wall of the container main body, wherein
the inlet is oriented sideways and faces the inner wall of the container main body,
the outlet is located above the inlet and the baffle plate in the container main body,
the baffle plate is located above the inlet, and the first flat surface of the baffle plate partitions an internal space of the container main body into an upper space and a lower space, and
the baffle plate has at least one through hole through which gas refrigerant included in the refrigerant passes,
when the baffle plate is equally divided into a first region and a second region to be arranged in a longitudinal direction of the body part, the inlet is located below the first region, and the outlet is located above the second region, and p**1** the at least one through hole is provided in the first region and is not provided in the second region.

9. The refrigerant reservoir container of claim **8**, wherein the inflow pipe is provided to pass through the baffle plate.

10. The refrigerant reservoir container of claim **8**, wherein
the at least one through hole includes a plurality of through holes, the baffle plate having the plurality of through holes, and
when a total opening area of the plurality of through holes is defined as S1, an opening area of the inlet is defined as S2, and an opening area of the outlet is defined as S3,
the total opening area S1 and the opening area S2 satisfy a relationship of $S1>S2$ in a case in which the opening area S2 and the opening area S3 satisfy a relationship of $S2\leq S3$, and the total opening area S1 and the opening area S3 satisfy a relationship of $S1>S3$ in a case in which the opening area S2 and the opening area S3 satisfy a relationship of $S3\leq S2$.

11. (canceled)

12. A refrigeration cycle apparatus, comprising:
the refrigerant reservoir container of claim **1**; and
a compressor connected to the refrigerant reservoir container via the outflow pipe.

13. A refrigeration cycle apparatus, comprising:
the refrigerant reservoir container of claim **8**; and
a compressor connected to the refrigerant reservoir container via the outflow pipe.

* * * * *