high infrastructure costs are needed and a lot of time and effort to unload LNG are needed.

In addition, natural gas has a liquefaction point of -163°C at atmospheric pressure. If a predetermined pressure is applied, the liquefaction point of the natural gas further increases than at the atmospheric pressure. This characteristic may reduce processing steps in a liquefaction process, such as acid gas removal and natural gas liquid (NGL) fractionation. This leads to a reduction in facilities and facility capacity. Therefore, the LNG production costs may be reduced.

However, a conventional LNG storage tank installed in a vessel having a gasification facility or an LNG terminal has a limitation in size. In addition, it is unsuitable for cost-efficient storage of LNG while reflecting the above-described LNG characteristic. It is difficult to easily transport LNG to consumption places according to consumer's various demands.

In order to store general LNG or PLNG pressurized at a predetermined pressure, an inner container exposed to a low temperature is enclosed by an outer container, and the space between the inner container and the outer container is evacuated to maintain heat insulation. Such a conventional storage container is made of a metal having excellent low temperature characteristic in order to withstand a high pressure and a cryogenic temperature of -120°C or below. To this end, the thickness of the wall of the storage container is inevitably increased. Furthermore, since an expensive metal having excellent low temperature characteristic is used, it is difficult to ensure economic feasibility.

SUMMARY OF THE INVENTION

Embodiments~~An aspect~~ of the present invention seek~~is directed~~ to efficiently store LNG or PLNG pressurized at a predetermined pressure and supply the LNG or PLNG to a consumption place, which may~~to~~ reduce manufacturing costs by minimizing the use of a metal having excellent low temperature characteristic, which may~~to~~ reduce a thickness of an inner container by minimizing

a difference between the internal pressure and external pressure of the inner container, thereby manufacturing the container at low cost, which mayto satisfy consumer's various demands, and mayto ensure diversity in kinds and sizes of container carriers.

According to an aspectembodiment of the present invention, an LNG storage container includes: an inner shell made of a metal withstanding a low temperature of the LNG and configured to store the LNG inside; an outer shell made of a steel withstanding an internal pressure of the inner shell and configured to enclosing the outside of the inner shell such that a space is formed between the inner shell and the outer shell; and a heat insulation layer part installed in the space between the inner shell and the outer shell and configured to reduce a heat transfer., wherein the heat insulation layer part and the inside of the inner shell are connected together by a connection passage in order for pressure balance between the inside and outside of the inner shell, and the connection passage is formed at a side contacting the heat insulation layer part in a connecting part integrally connected to the inlet/outlet port of the inner shell in order for supply and exhaust of the LNG to/from the inner shell.

The inner shell may withstand a temperature of -120 to -95°C.

The heat insulation layer part and the inside of the inner shell may be connected together by a connection passage in order for pressure balance between the inside and outside of the inner shell.

The connection passage may be formed at a side contacting the heat insulation layer part in a connecting part provided at an inlet/outlet port of the inner shell.

The inner shell may have a smaller thickness than the outer shell.

The LNG storage container may further include an external heat insulation layer installed at the outside of the outer shell in order for heat insulation.

The LNG storage container may further include a heating member installed at the outside of the outer shell in order for heating the outer shell.

The heating member may include a heating wire attached along the outer surface of the outer shell.

According to another embodiment of the present invention, an LNG storage container includes: an inner shell made of a metal withstanding a low temperature of LNG stored inside; an outer shell made of a steel withstanding an internal pressure of the inner shell and configured to enclosing the outside of the inner shell; and a heat insulation layer part installed between the inner shell and the outer shell and configured

to reduce a heat transfer, wherein the heat insulation layer part and the inside of the inner shell are connected together by a connection passage in order for pressure balance between the inside and outside of the inner shell.

According to another aspect~~embodiment~~ of the present invention, an LNG storage container includes: an inner shell configured to store LNG inside; an outer shell configured to enclosing the outside of the inner shell such that a space is formed between the inner shell and the outer shell; a heat insulation layer part installed in the space between the inner shell and the outer shell and configured to reduce a heat transfer; and an equalizing line protruding from the inner space of the inner shell to the outside of the storage container and connected to the space between the inner shell and the outer shell, wherein the equalizing line connects the inner space of the inner shell and the space between the inner shell and the outer shell~~.~~, wherein an exhaust line exhausting gas inside the inner shell to exterior is connected to the equalizing line.

The inner shell may be made of a metal withstanding a low temperature of the LNG, and the outer shell may be made of a steel withstanding an inner pressure of the inner shell.

The inner shell may withstand a temperature of -120 to -95°C.

The LNG storage container may further include a first exhaust line connected to an upper inner space of the inner shell and extending outward, wherein a first exhaust valve is installed in the first exhaust line.

The LNG storage container may further include first and second connecting parts connected to an upper inner space and a lower inner space of the inner shell and extending outward, wherein a loading line and an unloading line are connected to the first and second connecting parts, respectively.

An on/off valve for opening and closing a liquid flow may be installed in the equalizing line.

The equalizing line may be connected to a second exhaust line in which a second exhaust valve is installed.

The LNG storage container may further include a support installed in the space

between the inner shell and the outer shell to support the inner shell and the outer shell.

The support may be installed along lateral circumferences of the inner shell and the outer shell.

The LNG storage container may further include a lower support installed in a lower space between the inner shell and the outer shell to support the inner shell and the outer shell.

According to another aspect~~embodiment~~ of the present invention, an LNG storage container includes: an inner shell storing LNG inside; an outer shell enclosing the outside of the inner shell; and an equalizing line protruding from the inner space of the inner shell to the outside of the storage container and connected to the space between the inner shell and the outer shell, wherein the equalizing line connects the inner space of the inner shell and the space between the inner shell and the outer shell~~.~~, wherein an exhaust line exhausting gas inside the inner shell to exterior is connected to the equalizing line.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a flow diagram showing a PLNG producing method according to the present invention.

FIG. 2 is a configuration diagram showing a PLNG production system according to the present invention.

FIG. 3 is a flow diagram showing a PLNG distributing method according to the present invention.

FIG. 4 is a configuration diagram explaining the PLNG distributing method according to the present invention.

FIG. 5 is a side view showing a pressure container used for the PLNG distributing method according to the present invention.

FIG. 6 is a configuration diagram explaining another example of the PLNG distributing method according to the present invention.

FIG. 7 is a perspective view showing an LNG storage tank according to the present invention.