returns the re-liquefied boil-off gas to the liquefied gas cargo tank again and compresses and heats the boil-off gas remaining not being re-liquefied and the liquefied gas stored in the cargo tank and then supplies the compressed and heated natural gas as driving fuel of the MEGI engine has been used.

【Disclosure】

【Technical Problem】

[0013] The related art has a problem in that the vent mast for the cargo tank for liquid cargos and the vent mast for the fuel supply line are separately installed and therefore, enormous costs and efforts are required.

[0014] An object of the present invention is to provide a fuel gas supply system of a ship in which an installation of a vent mast for a fuel supply line is omitted and a vent line connected to the fuel supply line is directly connected to a vent mast for a cargo tank.

【Technical Solution】

[0015] According to an aspect of the present invention, there is provided a fuel gas supply system (FGSS) of a ship supplying fuel gas to an engine, including: a cargo tank storing a liquid cargo; a vent mast connected to the cargo tank; a fuel supply line connected to the engine to supply fuel; and a vent line branched from the

fuel supply line, in which the vent line may be connected to the vent mast, and wherein the vent mast is configured to discharge boil-off gas in the cargo tank and the fuel gas in the fuel supply line.

[0016] The fuel gas supply system of a ship may include: the plurality of cargo tanks; and the plurality of vent masts individually connected to the plurality of cargo tanks, and the vent line may be connected to any one of the plurality of vent masts.

[0017] The vent line may be connected to at least two of the plurality of vent masts.

[0018] The vent line may be connected to at least one of the plurality of vent masts in a close order to a branch point where the vent line is branched from the fuel supply line.

[0019] The fuel gas supply system of a ship may include: the plurality of cargo tanks; a plurality of discharge lines individually connected to the plurality of cargo tanks; and a vent manifold having the plurality of discharge lines joined thereto, and the vent manifold may be connected to the vent mast.

[0020] The fuel gas supply system may include the plurality of vent masts individually connected to the plurality of cargo tanks and the vent manifold may be connected to at least one of the plurality of vent masts.

[0021] The ship may be a liquefied natural gas carrier and the cargo tank may store the liquefied natural gas.

[0022] The ship may be any one of a liquefied petroleum gas carrier, an ethane carrier, and a very large crude

carrier.

[0023] The engine may be an MEGI engine.

[0024] According to another aspect of the present invention, there is provided a fuel gas discharge apparatus of a fuel gas supply system of a ship supplying fuel gas to an engine, in which the fuel gas in the fuel gas supply system may be discharged into the atmosphere through a vent mast installed to discharge boil-off gas in a cargo tank into the atmosphere.

【Advantageous Effects】

[0025] According to the fuel gas supply system of a ship in accordance with the exemplary embodiments of the present invention, the installation of the vent mast for the fuel supply line is omitted, and therefore the costs and efforts required to install the vent mast for the fuel supply line may be saved and the existing vent line branched from the fuel supply line is directly connected to the existing vent mast for the cargo tank, and therefore the efficient installation may be made without the separate parts or connection processes. Further, the vent mast for the fuel supply line need not be managed separately and only the vent mast for the cargo tank needs to be managed, and therefore the management after installation may be convenient.

【CLAIMS】

【Claim 1】

A fuel gas supply system (FGSS) of a ship supplying fuel gas to an engine, comprising:

a cargo tank storing a liquid cargo;

a vent mast connected to the cargo tank;

a fuel supply line connected to the engine to supply fuel; and

a vent line branched from the fuel supply line,

wherein the vent line is connected to the vent mast,

and wherein the vent mast is configured to discharge boil-off gas in the cargo tank and the fuel gas in the fuel supply line.

【Claim 2】

The fuel gas supply system of a ship of claim 1, further comprising:

the plurality of cargo tanks; and

the plurality of vent masts individually connected to the plurality of cargo tanks,

wherein the vent line is connected to any one of the plurality of vent masts.

【Claim 3】

The fuel gas supply system of a ship of claim 2, wherein the vent line is connected to at least two of the plurality of vent masts.

【Claim 4】

The fuel gas supply system of a ship of claim 2, wherein the vent line is connected to at least one of the plurality of vent masts in a close order to a branch point where the vent line is branched from the fuel supply line.

【Claim 5】

The fuel gas supply system of a ship of claim 1, further

comprising:

the plurality of cargo tanks;

a plurality of discharge lines individually connected to the plurality of cargo tanks; and

a vent manifold having the plurality of discharge lines joined thereto,

wherein the vent manifold is connected to the vent mast.

【Claim 6】

The fuel gas supply system of a ship of claim 5, further comprising the plurality of vent masts individually connected to the plurality of cargo tanks, wherein the vent manifold is connected to at least one of the plurality of vent masts.

【Claim 7】

The fuel gas supply system of a ship of claim 1, wherein the ship is a liquefied natural gas carrier, and

the cargo tank stores the liquefied natural gas.

【Claim 8】

The fuel gas supply system of a ship of claim 1, wherein the ship is any one of a liquefied petroleum gas carrier, an ethane carrier, and a very large crude carrier.

【Claim 9】

The fuel gas supply system of a ship of claim 1, wherein the engine is an MEGI engine.

【Claim 10】

A fuel gas discharge apparatus of a fuel gas supply system of a ship supplying fuel gas to an engine, wherein fuel gas in the fuel gas supply system is discharged into the atmosphere through a vent mast installed to discharge boil-off gas in a cargo tank into the atmosphere.