further include a cooling system including a second cooler 10 cooling a coolant heated through operation of the second power generation engine 8 and a second circulation pump 11 circulating the cooled coolant.

[53] Among the aforementioned additional systems, the lubrication system C includes an L.O. purifier 14 and a pump delivering lubricating oil used during operation of the propulsion engine 1 or the first power generation engine 5 to the L.O. purifier 14. Fifth and sixth switchover valves B5, B6 are disposed between the propulsion engine 1 or the first power generation engine 5 and the L.O. purifier 14.

[54] The L.O. purifier 14 serves to purify lubricating oil used in the propulsion engine 1 or the first power generation engine 5. More specifically, the L.O. purifier 14 purifies lubricating oil used in the propulsion engine 1 while at sea and purifies lubricating oil used in the first power generation engine 5 during regasification.

[55] Although the first power generation engine 5 is shown as supplied with the lubricating oil purified through an external lubrication system C in FIG. 1, it will be understood that the present invention is not limited thereto and the first power generation engine may be provided therein with a lubrication system.

[56] The propulsion engine 1 includes a cooling unit 1a cooling the propulsion engine and a lubrication unit 1b facilitating operation of the propulsion engine. Likewise, the first power generation engine 5 includes a cooling unit 5a cooling the first power generation engine and a lubrication unit 5b facilitating operation of the first power generation engine.

[57] The second power generation engine 8 includes a cooling unit 8a and a lubrication unit (not shown) disposed therein to facilitate operation of the second power generation engine 8.

[58] The switchboard 12 is connected to the shaft generator 3 as well as to the second power generation engine 8 and the first power generation engine 5, which produce electricity using the fuel received from the fuel tank 16.

[59] The switchboard 12 collects electricity produced by at least one of the shaft generator 3, the first power generation engines 5, and the second power generation engine 8, and distributes the collected electricity to on-board electricity demand sites.

[60] According to the present invention, while at sea, the ship can be propelled by the propeller P driven by the propulsion engine 1, and, during regasification, the

【CLAIMS】

【Claim 1】

A power generation system for ships, comprising:

a propulsion engine driving a propeller while at sea;

a power generation engine producing electricity required for a regasification facility during regasification;

an additional system provided to operate the propulsion engine; and

a switchover valve configured to switch depending upon whether the propulsion engine is operated or the power generation engine is operated,

wherein the propulsion engine and the power generation engine are alternatively operated,

the additional system is connected to each of the propulsion engine and the power generation engine via the switchover valve to be alternatively shared by the propulsion engine and the power generation engine.

【Claim 2】

The power generation system according to claim 1, wherein the additional system comprises at least one selected from the group of a cooling system, a fuel supply system, and a lubrication system.

【Claim 3】

The power generation system according to claim 1, further comprising:

a shaft generator driven by the propulsion engine to produce electricity.

【Claim 4】

The power generation system according to claim 3, further comprising:

a clutch disposed between the shaft generator and the propeller to block or allow power transmission to the propeller.

【Claim 5】

The power generation system according to claim 1, wherein the power generation engine comprises a plurality of power generation engines, and, among the plurality of power generation engines, a power generation engine sharing the additional system is disposed at an upper side of a steering gear room at a stern side.

【Claim 6】

The power generation system according to claim 5, wherein another power generation engine among the plurality of power generation engines is operated along with the propulsion engine.

【Claim 7】

The power generation system according to claim 1, wherein

the switchover valve is disposed between the propulsion engine and the power generation engine to alternatively supply a coolant to the propulsion engine and the power generation engine, and the power generation system further comprising:

a circulation pump supplying the coolant at a flow rate and pressure predetermined based on size of the propulsion engine;

a recirculation line recirculating some of the coolant passing through the circulation pump upon supplying the coolant to the power generation engine; and

a control valve disposed on the recirculation line to be switched between open and closed positions.

【Claim 8】

The power generation system according to claim 1, further comprising:

a switchboard connected to each of the power generation engine and a shaft generator driven by the propulsion engine to produce electricity,

wherein the switchboard collects electricity produced by the power generation engine and the shaft generator and distributes the collected electricity to

on-board electricity demand sites.

【Claim 9】

The power generation system according to claim 2, wherein the cooling system comprises a fresh water generator generating fresh water while at sea or during regasification.

【Claim 10】

A power generation method using a power generation system for ships, the power generation system comprising a propulsion engine driving a propeller while at sea and a power generation engine producing electricity required for a regasification facility during regasification, wherein:

an additional system provided to operate the propulsion engine is connected to each of the propulsion engine and the power generation engine via a switchover valve to be alternatively shared by the propulsion engine and the power generation engine, the switchover valve configured to switch depending upon whether the propulsion engine is operated or the power generation engine is operated; and

the propulsion engine and the power generation engine are alternatively operated to produce electricity.

【Claim 11】

The power generation method according to claim 10, wherein, while at sea, the additional system is associated only with the propulsion engine and electricity is produced by a shaft generator driven by the propulsion engine with the power generation engine shut down.

【Claim 12】

The power generation method according to claim 10, wherein, during regasification, the additional system is associated only with the power generation engine and electricity is produced by the power generation engine with the

propulsion engine shut down.

【Claim 13】

The power generation method according to claim 10, wherein electricity produced by the power generation engine or a shaft generator driven by the propulsion engine to produce electricity is collected and distributed to on-board electricity demand sites.

【Claim 14】

The power generation method according to claim 10, wherein the switchover valve is disposed between the propulsion engine and the power generation engine to alternatively supply a coolant to the propulsion engine and the power generation engine; and wherein the power generation system further comprises:

a circulation pump supplying the coolant at a flow rate and pressure predetermined based on size of the propulsion engine;

a recirculation line recirculating some of the coolant passing through the circulation pump upon supplying the coolant to the power generation engine; and

a control valve disposed on the recirculation line to be switched between open and closed positions,

the control valve being opened upon supplying the coolant to the power generation engine.

【Claim 15】

The power generation method according to claim 10, wherein the power generation engine comprises a plurality of power generation engines and any one of the plurality of power generation engines is operated along with the propulsion engine to produce electricity.