electrically driven compressor and the steam-driven compressor to an outside of the ship; and an air delivery pipe through which the compressed air supplied from the at least one electrically driven compressor and the steam-driven compressor is delivered to the air ejector; and at least one drive motor supplied with electricity generated by the power generation engine and driving the at least one electrically driven compressor, wherein the at least one electrically driven compressor comprises a first air compressor and a second air compressor disposed at the bow of the ship, and the steam-driven compressor comprises a third air compressor disposed at a stern of the ship, wherein the pressure of the compressed air generated by the first air compressor and the second air compressor is determined according to rotational speeds of a first drive motor and a second drive motor among the at least one drive motor, respectively, wherein the air delivery pipe includes a section connected to the air ejector and two sections branched off of the section and connected to the first air compressor and the second air compressor disposed at the bow of the ship, respectively, wherein a flow rate of air in the steam-driven compressor is controlled using an inlet guide vane adapted to adjust a differential pressure between a suction side and a discharge side of the steam-driven compressor for each rpm of the steam-driven compressor or using a bypass valve connected between the suction side and the discharge side, and wherein an air supply pressure of the first air compressor and the second air compressor is adjusted through a cross-sectional area adjustment device, and the cross-sectional area adjustment device is adapted to change inlet and outlet cross-sectional areas of the first air compressor, the second air compressor, and the steam-driven compressor.

[0017] The air lubrication system may further include: an exhaust gas economizer connected to the main engine and generating superheated steam through transfer of heat to saturated steam generated using the exhaust gas from the main engine; and a steam turbine having a drive shaft connected to the steam-driven compressor, the steam turbine being driven by the superheated steam generated by the exhaust gas economizer and operating the steam-driven compressor.

What is claimed is:

1. An air lubrication system comprising:

at least one electrically driven compressor operated by electricity generated by a power generation engine of a ship;

a steam-driven compressor driven by steam generated using exhaust gas from a main engine of the ship;

an air ejector disposed at a bow of the ship and discharging compressed air supplied from the at least one electrically driven compressor and the steam-driven compressor to an outside of the ship; and

an air delivery pipe through which the compressed air supplied from the at least one electrically driven compressor and the steam-driven compressor is delivered to the air ejector; and

at least one drive motor supplied with electricity generated by the power generation engine and driving the at least one electrically driven compressor,

wherein the at least one electrically driven compressor comprises a first air compressor and a second air compressor disposed at the bow of the ship, and the steam-driven compressor comprises a third air compressor disposed at a stern of the ship,

wherein the pressure of the compressed air generated by the first air compressor and the second air compressor is determined according to rotational speeds of a first drive motor and a second drive motor among the at least one drive motor, respectively,

wherein the air delivery pipe includes a section connected to the air ejector and two sections branched off of the section and connected to the first air compressor and the second air compressor disposed at the bow of the ship, respectively,

wherein a flow rate of air in the steam-driven compressor is controlled using an inlet guide vane adapted to adjust a differential pressure between a suction side and a discharge side of the steam-driven compressor for each rpm of the steam-driven compressor or using a bypass valve connected between the suction side and the discharge side, and

wherein an air supply pressure of the first air compressor and the second air compressor is adjusted through a cross-sectional area adjustment device, and the cross-

sectional area adjustment device is adapted to change inlet and outlet cross-sectional areas of the first air compressor, the second air compressor, and the steam-driven compressor.

2. The air lubrication system according to claim 1, further comprising:

an exhaust gas economizer connected to the main engine and generating superheated steam through transfer of heat to saturated steam generated using the exhaust gas from the main engine; and

a steam turbine having a drive shaft connected to the steam-driven compressor, the steam turbine being driven by the superheated steam generated by the exhaust gas economizer and operating the steam-driven compressor.

3. The air lubrication system according to claim 2, further comprising:

an auxiliary boiler supplying steam to the steam turbine when the amount of steam generated by the exhaust gas economizer is insufficient.

4. The air lubrication system according to claim 3, further comprising:

a boiler feedwater pump supplying feedwater stored in a cascade tank to the auxiliary boiler to compensate for feedwater consumed by the auxiliary boiler to generate steam.

5. The air lubrication system according to claim 4, further comprising:

at least one steam separator receiving a fluid mixture of water and steam from the exhaust gas economizer, separating the steam from the fluid mixture, and discharging only the steam,

wherein the exhaust gas economizer generates the superheated steam using the steam supplied from the at least one steam separator.

6. The air lubrication system according to claim 2, further comprising:

a vacuum condenser condensing steam at a reduced temperature through creation of a vacuum to increase efficiency of the steam turbine; and

a condensate pump delivering condensed water generated by the vacuum condenser to a cascade tank.

7. The air lubrication system according to claim 3, further comprising:

an atmospheric condenser condensing steam generated by at least one of the exhaust gas economizer and the auxiliary boiler and supplying water condensed from the steam to a cascade tank.

8. The air lubrication system according to claim 1, wherein the steam-driven compressor comprises a gearbox therein to be operated at a constant rpm or at a variable rpm.