【CLAIMS】

【Claim 1】

An exhaust pipe apparatus comprising:

a first exhaust pipe provided to directly discharge exhaust gas discharged from a combustion engine of a ship to an outside;

a second exhaust pipe connected in parallel with the first exhaust pipe and having a branch pipe connected to one side thereof such that the exhaust gas is directly discharged to the outside or discharged through the branch pipe;

a first damper installed in the second exhaust pipe to control a flow of the exhaust gas to be directly discharged to the outside or discharged through the branch pipe; and

a first economizer installed on the first exhaust pipe to generate steam by heat exchange with the exhaust gas, wherein the exhaust gas discharged to the branch pipe and the steam are supplied to a carbon dioxide capture apparatus to remove carbon dioxide contained in the exhaust gas,

wherein the carbon dioxide capture apparatus comprises:

an absorption part provided to spray an absorbent in which the carbon dioxide is absorbed onto the exhaust gas;

a regeneration part provided to receive the absorbent in which the carbon dioxide is absorbed from the absorption part and separate the carbon dioxide from the absorbent; and

a reboiler provided to heat the absorbent supplied to the regeneration part using the steam.

【Claim 2】

The exhaust pipe apparatus according to claim 1, wherein

the first exhaust pipe and the second exhaust pipe are provided by partitioning an inside of an exhaust pipe formed of an integral body.

【Claim 3】

The exhaust pipe apparatus according to claim 1, further comprising

a second damper installed in at least one of the first exhaust pipe and the second exhaust pipe to adjust a flow amount of the exhaust gas to be discharged through the first exhaust pipe and the second exhaust pipe.

【Claim 4】

The exhaust pipe apparatus according to claim 3, further comprising

a second economizer installed at at least one of a position between the first exhaust pipe and the second exhaust pipe at a front end of the second damper and a position between the first exhaust pipe and the second exhaust pipe between the second damper and the first damper, to generate first auxiliary steam by exchanging heat with the exhaust gas,

wherein the first auxiliary steam is supplied to the carbon dioxide capture apparatus.

【Claim 5】

The exhaust pipe apparatus according to claim 1, further comprising

a third economizer installed in the second exhaust pipe at a rear end of the first

damper to generate second auxiliary steam by exchanging heat with the exhaust gas.

【Claim 6】

A ship comprising:

a hull;

a first exhaust pipe provided to directly discharge exhaust gas discharged from a combustion engine installed in the hull to an outside;

a second exhaust pipe connected in parallel with the first exhaust pipe and having a branch pipe connected to one side thereof such that the exhaust gas is directly discharged to the outside or discharged through the branch pipe;

a first damper installed in the second exhaust pipe to control a flow of the exhaust gas to be directly discharged to the outside or discharged through the branch pipe;

a first economizer installed on the first exhaust pipe to generate steam by heat exchange with the exhaust gas; and

a carbon dioxide capture apparatus provided to receive the exhaust gas discharged from the branch pipe and the steam to remove carbon dioxide contained in the exhaust gas,

wherein the carbon dioxide capture apparatus comprises:

an absorption part provided to spray an absorbent in which the carbon dioxide is absorbed onto the exhaust gas;

a regeneration part provided to receive the absorbent in which the carbon dioxide is absorbed from the absorption part and separate the carbon dioxide from the absorbent; and

a reboiler provided to heat the absorbent supplied to the regeneration

part using the steam.

【Claim 7】

The ship according to claim 6, further comprising

a first supply pipe provided to supply the steam generated in the first economizer to the reboiler.

【Claim 8】

The ship according to claim 7, further comprising:

a second economizer installed between the first exhaust pipe and the second exhaust pipe to generate first auxiliary steam by exchanging heat with the exhaust gas; and

a second supply pipe provided to supply the first auxiliary steam to the reboiler.

【Claim 9】

The ship according to claim 6, further comprising

a controller provided to adjust an amount of the steam to be supplied to the reboiler in response to an amount of emission of the exhaust gas of the combustion engine.