【CLAIMS】

【Claim 1】

A fuel supply system for ships, comprising:

a first decompressor (50) decompressing a surplus fuel discharged from an engine (E); and

a gas-liquid separator (60) separating the surplus fuel in a gas-liquid mixed state decompressed by the first decompressor (50) into a gaseous phase fluid and a liquid phase fluid,

wherein the gaseous phase fluid separated by the gas-liquid separator (60) is returned to a storage tank (T), and, after supplying an excess of liquefied gas as fuel to the engine (E), fuel remaining after use in the engine (E) is discharged from the engine (E) and is supplied to the first decompressor (50), and

the liquid phase fluid separated by the gas-liquid separator (60) is joined with liquefied gas discharged from the storage tank (T).

【Claim 2】

A fuel supply system for ships, comprising

a first decompressor (50) decompressing a surplus fuel discharged from an engine (E); and

a gas-liquid separator (60) separating the surplus fuel in a gas-liquid mixed state decompressed by the first decompressor (50) into a gaseous phase fluid and a liquid phase fluid,

wherein the gaseous phase fluid separated by the gas-liquid separator (60) is returned to a storage tank (T), and, after supplying an excess of liquefied gas as fuel to the engine (E), fuel remaining after use in the engine (E) is discharged from the engine (E) and is supplied to the first decompressor (50),

the liquid phase fluid separated by the gas-liquid separator (60) is sent to the storage tank (T), and

the first decompressor (50) decompresses the surplus fuel to an internal pressure of the storage tank (T).

【Claim 3】

The fuel supply system according to claim 1, wherein the first decompressor (50) decompresses the surplus fuel to a pressure of the liquefied gas discharged from the storage tank (T).

【Claim 4】

The fuel supply system according to claim 3, further comprising:

A second decompressor (70) decompressing the gaseous phase fluid separated by the gas-liquid separator (60),

wherein the gaseous phase fluid separated by the gas-liquid separator (60) is decompressed by the second decompressor (70) and sent to the storage tank (T).

【Claim 5】

The fuel supply system according to claim 1 or 2, further comprising:

a first pump (10) disposed inside the storage tank (T) to pump the liquefied gas out of the storage tank (T).

【Claim 6】

The fuel supply system according to any one of claim 1 to 5, further comprising:

a second pump (20) pumping the liquefied gas discharged from the storage tank (T) to be supplied to the engine (E) to a pressure required for the engine (E).

【Claim 7】

The fuel supply system according to claim 6, wherein the liquid phase fluid separated by the gas-liquid separator (60) is sent upstream of the second pump (20) to be joined with the liquefied gas discharged from the storage tank (T) to be used as fuel for the engine (E).

【Claim 8】

The fuel supply system according to any one of claim 1 to 5, further comprising:

a valve (V) disposed in a line through which the liquid phase fluid separated by the gas-liquid separator 60 is discharged.

【Claim 9】

The fuel supply system according to any one of claim 1 to 5, further comprising:

a heater (40) heating the liquefied gas discharged from the storage tank (T) to be supplied to the engine (E) to a temperature required for the engine (E).

【Claim 10】

A fuel supply method for ships, comprising:

1) supplying an excess of liquefied gas as fuel to an engine (E) and discharging fuel remaining after use in the engine (E) from the engine (E);

2) decompressing a surplus fuel discharged from the engine (E) in step 1);

3) separating the gas-liquid mixed fluid decompressed in step 2) into a gaseous phase fluid and a liquid phase fluid; and

4) returning the gaseous phase fluid separated in step 3) to a storage tank (T) and joining the liquid phase fluid separated in step 3) with liquefied gas discharged from the storage tank (T),

wherein liquefied gas discharged from the storage tank (T) is supplied as fuel to the engine (E).

【Claim 11】

A fuel supply method for ships, comprising:

1) supplying an excess of liquefied gas as fuel to an engine (E) and discharging fuel remaining after use in the engine (E) from the engine (E);

2) decompressing a surplus fuel discharged from the engine (E) in step 1) to an internal pressure of a storage tank (T);

3) separating the gas-liquid mixed fluid decompressed in step 2) into a gaseous phase fluid and a liquid phase fluid; and

4) returning the gaseous phase fluid separated in step 3) to the storage tank (T) and sending the liquid phase fluid separated in step 3) to the storage tank (T),

wherein liquefied gas discharged from the storage tank (T) is supplied as fuel to the engine (E).