

ABSTRACT

SEAWATER FLUE-GAS DESULFURIZATION SYSTEM AND POWER GENERATION SYSTEM

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A seawater flue-gas desulfurization system (10) according to the invention includes a flue-gas desulfurization absorber (11) that causes flue gas (25) and absorption seawater (21a) to come into gas-liquid contact with each other to purify the flue gas (25), an oxidation basin (12) that is provided on a downstream side of the flue-gas desulfurization absorber (11), includes an aeration device (41) which supplies air (29) to sulfur content absorbing seawater (14) containing sulfur content, and performs a water quality recovery treatment of the sulfur content absorbing seawater (14), a seawater supply line (L11) that supplies seawater (21) to the flue-gas desulfurization absorber (11), and an air branch line (L12) that supplies a part of the air (29), which is supplied to the oxidation basin (12), to a tower bottom (11a) of the flue-gas desulfurization absorber (11).

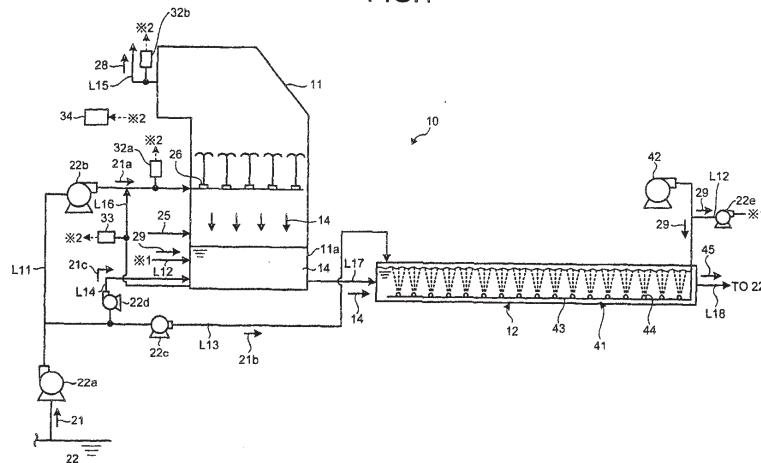
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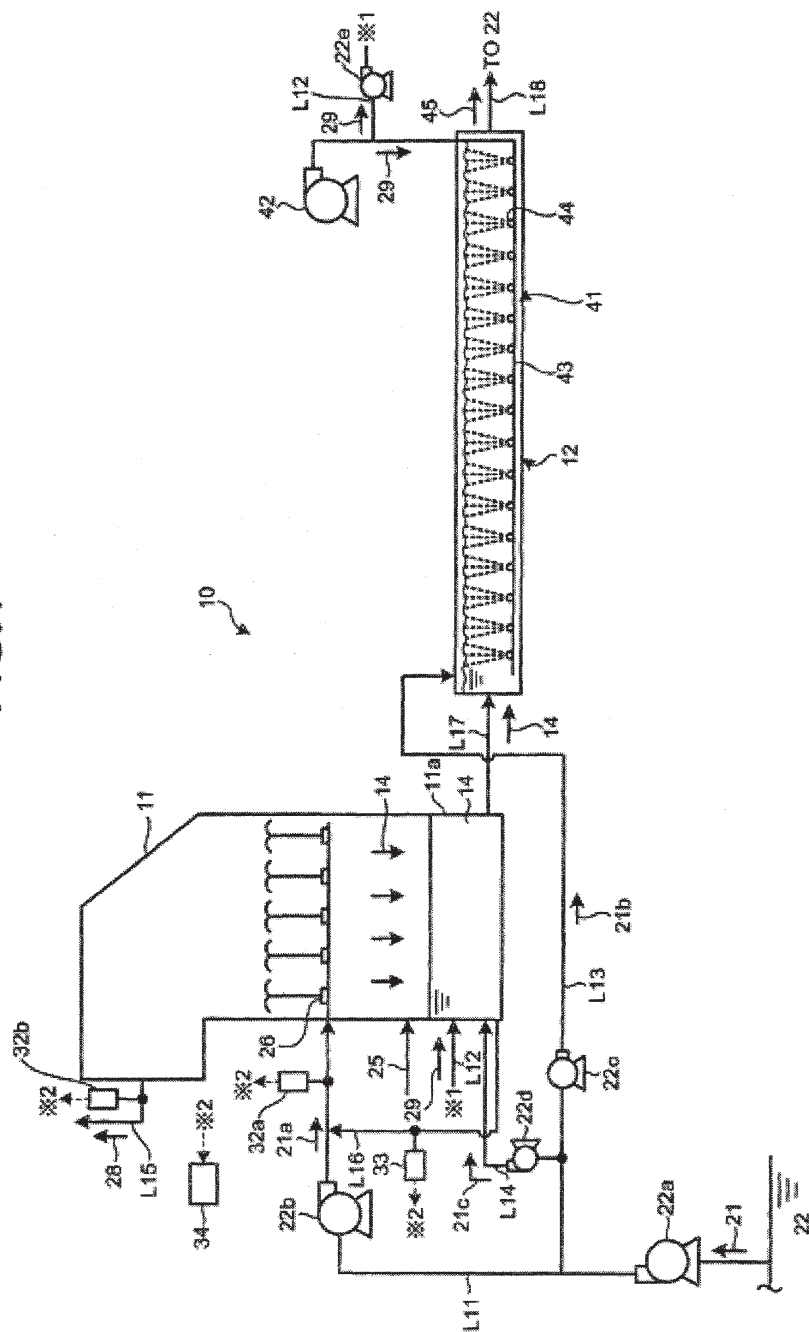
Fig. 1

FIG.1



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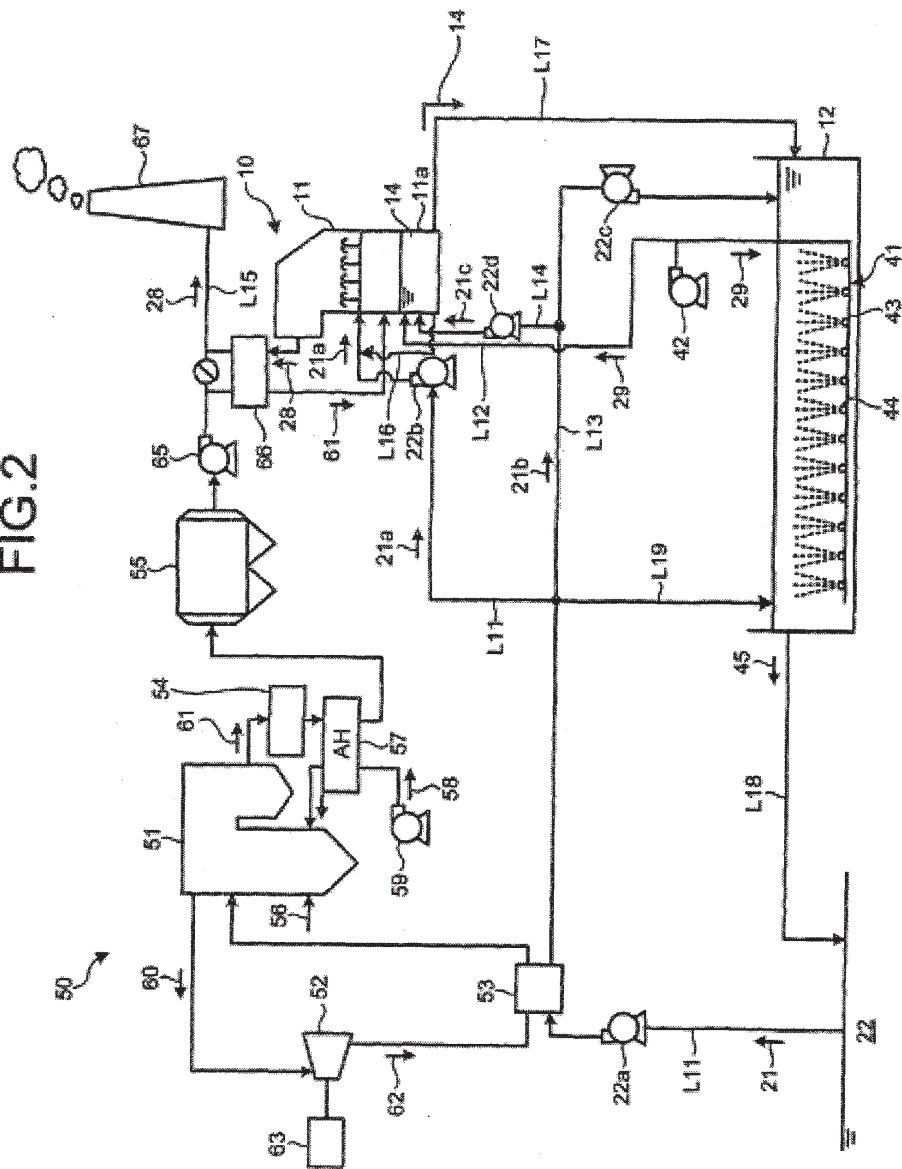
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FIG.2



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REFERENCE SIGNS LIST

- 10 SEAWATER FLUE-GAS DESULFURIZATION SYSTEM
- 11 FLUE-GAS DESULFURIZATION ABSORBER
- 5 11a ABSORBER TANK
- 12 OXIDATION BASIN
- 14 SULFUR CONTENT ABSORBING SEAWATER
- 21 SEAWATER
- 22 SEA
- 10 21a ABSORPTION SEAWATER
- 21b, 21c DILUTED SEAWATER
- 22a to 22e PUMP
- 25, 61 FLUE GAS
- 26 SPRAY NOZZLE
- 15 28 PURIFIED GAS
- 29 AIR
- 32a, 32b SO₂ CONCENTRATION METER
- 33 FLOWMETER
- 34 CONTROL DEVICE
- 20 41 AERATION DEVICE
- 42 AIR BLOWER FOR OXIDATION
- 43 DIFFUSER TUBE
- 44 NOZZLE FOR OXIDATION AIR
- 45 WATER QUALITY RECOVERED SEAWATER
- 25 50 POWER GENERATION SYSTEM
- 51 BOILER
- 52 STEAM TURBINE
- 53 CONDENSER
- 54 FLUE-GAS DENITRATION DEVICE
- 30 55 PRECIPITATOR
- 56 FUEL
- 57 AIR PREHEATER (AH)
- 58 AIR

59 FORCED DRAFT FAN
60 STEAM
62 WATER
63 POWER GENERATOR
5 65 INDUCED DRAFT FAN
66 HEAT EXCHANGER
67 STACK
L11 SEAWATER SUPPLY LINE
L12 AIR BRANCH LINE
10 L13, L14, L19 DILUTED SEAWATER SUPPLY LINE
L15 PURIFIED GAS DISCHARGE PASSAGE
L16 SEAWATER CIRCULATION LINE
L17 SULFUR CONTENT ABSORBING SEAWATER DISCHARGE LINE
L18 SEAWATER DISCHARGE LINE
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