Claims

[Claim 1] A system using ammonia, comprising:

a tank that stores liquid ammonia;

a pressurizer that fluidly communicates with the tank and pressurizes liquid ammonia or gaseous ammonia;

a pressure-reducing valve that depressurizes ammonia pressurized by the pressurizer;

a gas-liquid separation tank that separates gaseous ammonia from liquid ammonia that are generated by the depressurization;

an ammonia disposal device that disposes of gaseous ammonia from the gas-liquid separation tank;

a return line that returns liquid ammonia from the gas-liquid separation tank to the tank; and

a heat exchanger that is provided between the pressurizer and the pressure-reducing valve and cools ammonia pressurized by the pressurizer with gaseous ammonia from the gas-liquid separation tank.

[Claim 2] The system according to claim 1, comprising:

a pump that is provided on the return line, the pump sucking liquid ammonia from the gas-liquid separation tank and sending the liquid ammonia to the tank.

[Claim 3] The system according to claim 1 or 2, wherein ammonia sent from the pressurizer to the pressure-reducing valve is liquid ammonia.

[Claim 4] The system according to claim 1 or 2, wherein ammonia sent from the pressurizer to the pressure-reducing valve is gaseous ammonia.

[Claim 5] The system according to claim 1 or 2, wherein the ammonia disposal device includes at least one of an abatement tank or a flare stack.

[Claim 6] The system according to claim 3, wherein the ammonia disposal device includes at least one of an abatement tank or a flare stack.

[Claim 7] The system according to claim 4, wherein the ammonia disposal device includes at least one of an abatement tank or a flare stack.