

**ABSTRACT**

A hydrogen fuel supply system according to one aspect of the present disclosure includes: a liquefied hydrogen tank that stores liquefied hydrogen; a supply line that connects the liquefied hydrogen tank and a hydrogen fueled engine and supplies hydrogen gas to the hydrogen fueled engine; a pressurizing pump that is located in the supply line and pressurizes the liquefied hydrogen to critical pressure or higher; a return line that connects the liquefied hydrogen tank and a portion of the supply line which is located downstream of the pressurizing pump; a pressure-reducing temperature-increasing valve that is located in the return line and increases a temperature of return hydrogen by depressurizing the return hydrogen to pressure close to an inversion temperature curve, the return hydrogen being part of the hydrogen pressurized by the pressurizing pump and having flowed into the return line; a heat exchanger that is located across the supply line and the return line and cools the return hydrogen, which has been increased in temperature by the pressure-reducing temperature-increasing valve, by using supply hydrogen as a refrigerant, the supply hydrogen being another part of the hydrogen pressurized by the pressurizing pump and being to be supplied to the hydrogen fueled engine; and a pressure-reducing liquefaction valve that is located in the return line and converts the return hydrogen, which has passed through the heat exchanger, into the liquefied hydrogen by depressurizing the return hydrogen.