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(54) **Title**: REFRIGERANT VAPOR COMPRESSION SYSTEM

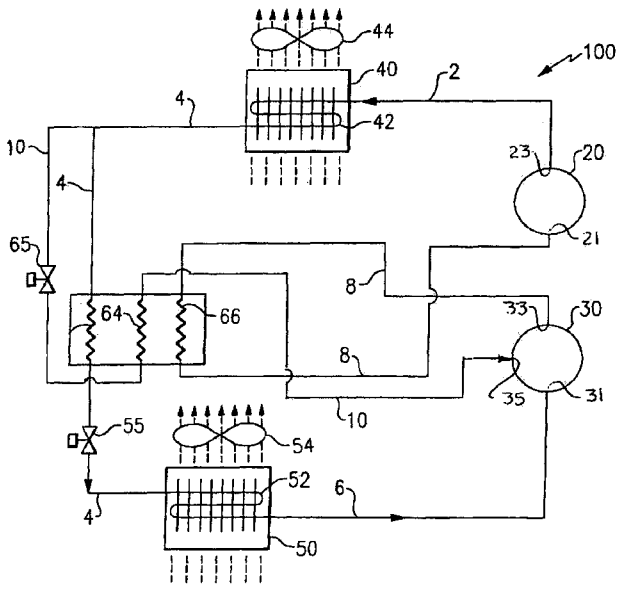

FIG. 1

(57) **Abstract**: A refrigerant vapor compression system includes a first compression device, a refrigerant heat rejection heat exchanger, an expansion device, a refrigerant heat absorption heat exchanger, a second compression device, and a refrigerant-to-refrigerant heat exchanger having first refrigerant flow pass, a second refrigerant flow pass and a third refrigerant flow pass, with the second refrigerant flow pass disposed in heat exchange relationship with each of the first refrigerant flow pass and the third refrigerant flow pass. The second refrigerant flow pass is interdisposed in an economizer circuit. The heat transfer interaction between the first and second refrigerant flow passes functions as a subcooler of refrigerant flowing to the refrigerant heat absorption heat exchanger and the heat transfer interaction between the second and third refrigerant flow passes functions as an intercooler of refrigerant passing from the discharge outlet of the second compression device to the suction inlet of the first compression device.

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