

ABSTRACT

HEAT EXCHANGER AND REFRIGERATING CYCLE DEVICE PROVIDED THEREWITH

In an outdoor unit in a cold area and an indoor unit of a refrigerating device, a temperature of a heat exchanger functioning as an evaporator is cooled up to an air dew-point temperature or below, and when the temperature is 0°C or below, a frost formation phenomenon occurs on a surface. The frost formation causes increase in air-path resistance and thermal resistance and leads to reduced ability of the device. However, if the frost formation can be delayed, energy saving can be realized. Thus, by providing a plurality of holes, for example, a plurality of holes whose radius is an order of several nanometers on the fin surface of the heat exchanger, generation of condensed water droplets on the fin surface is suppressed. By providing a plurality of holes exerting the Gibbs-Thomson effect so as to lower the freezing point, reduced ability due to the frost formation is delayed.

FIG.6