

A B S T R A C T

In a cooling apparatus for cooling air, in order to improve heat absorption by a refrigerant, a metal having a high heat conductivity such as copper or aluminum is generally utilized as a constituent material of a heat exchanger. However, due to high heat conductivity, the temperature of a refrigerant becomes equal to the surface temperature of the heater exchanger, so that a space inside a refrigerator or a room is dried. Further, since the amount of latent heat of air decreases due to drying, cooling cannot be effected unless a temperature difference of 10°C or more is produced between the inlet and outlet of the heat exchanger.

An object of the present invention is to realize a cooling apparatus which does not decrease humidity and which produces a smaller temperature difference between an inlet and an outlet of a heat exchanger, i.e., reduces energy loss. In order to achieve the object, in the cooling apparatus of the present invention, a material having a low heat conductivity is employed as a material of a heat exchanger. Due to employment of a material having a low heat conductivity, the temperature at the surface of the heat exchanger becomes higher than that of the refrigerant, so that the dew-point temperature increases. Therefore, the humidity of the space inside the refrigerator or the room is not decreased. Further, since the humidity of the space inside the refrigerator or the room is not decreased, the

amount of latent heat of air does not decrease, so that sufficient cooling can be performed even when only a small temperature difference is produced between the inlet and outlet of the heat exchanger.