cooler chamber, and a return air passage configured to allow the first storage compartment and the cooler chamber to communicate with each other, cold air returning to the cooler chamber flowing through the return air passage, are provided in the thermal insulation box body, and when the thermal insulation box body is viewed in a front view, the first vacuum thermal insulator is disposed to overlap with a portion of the cooler, and the return air passage is provided to be adjacent to the first vacuum thermal insulator in a state of overlapping with the cooler without overlapping with the first vacuum thermal insulator.

Advantageous Effects of Invention

[0007]

In the refrigerator according to the embodiment of the present disclosure, the return air passage does not overlap with the first vacuum thermal insulator when the thermal insulation box body is viewed in a front view and hence, it is unnecessary to provide a space for a return air passage at a position behind the vacuum thermal insulator. Accordingly, it is possible to avoid a reduction in the storage space of the first storage compartment. Further, in the refrigerator according to the embodiment of the present disclosure, when the thermal insulation box body is viewed in a front view, the return air passage is provided to be adjacent to the first vacuum thermal insulator in a state of overlapping with the cooler, and the outlet of the return air passage for cold air is disposed at a position that overlaps with the cooler or at a position below the cooler. Accordingly, unlike a conventional technique, it is possible to provide the return air passage that returns cold air to cause the cold air to pass through the cooler without requiring the return air passage to extend in the lateral direction. Therefore, according to the present disclosure, it is possible to provide the return air passage without reducing the storage space, the return air passage returning cold air to cause the cold air to pass through the cooler.

Brief Description of Drawings

CLAIMS

[Claim 1]

A refrigerator comprising a thermal insulation box body in which a plurality of storage compartments are formed, the thermal insulation box body having an opening that is formed at a front side of the thermal insulation box body and that is covered by a door, wherein

a first storage compartment configured to store a stored object, a temperature of the first storage compartment being set to a temperature higher than a temperature of an other storage compartment of the plurality of storage compartments, the other storage compartment being adjacent to the first storage compartment,

a cooler chamber provided behind the first storage compartment, a cooler being disposed in the cooler chamber,

a first vacuum thermal insulator disposed between the first storage compartment and the cooler chamber, and

a return air passage configured to allow the first storage compartment and the cooler chamber to communicate with each other, cold air returning to the cooler chamber flowing through the return air passage,

are provided in the thermal insulation box body, and

when the thermal insulation box body is viewed in a front view,

the first vacuum thermal insulator is disposed to overlap with a portion of the cooler, and

the return air passage is provided to be adjacent to the first vacuum thermal insulator in a state of overlapping with the cooler without overlapping with the first vacuum thermal insulator.

[Claim 2]

The refrigerator of claim 1, wherein

when the thermal insulation box body is viewed in the front view,

an outlet of the return air passage for the cold air is disposed at a position that overlaps with the cooler or at a position below the cooler.

[Claim 3]

The refrigerator of claim 1 or 2, wherein

the first vacuum thermal insulator has a lateral width smaller than a lateral width of the cooler, and

when the thermal insulation box body is viewed in the front view, the first vacuum thermal insulator is provided such that a right end portion of the first vacuum thermal insulator covers a right end of the cooler, or a left end portion of the first vacuum thermal insulator covers a left end of the cooler.

[Claim 4]

The refrigerator of claim 1 or 2, wherein

the first vacuum thermal insulator has a lateral width smaller than a lateral width of the cooler, and

when the thermal insulation box body is viewed in the front view, the first vacuum thermal insulator is provided such that a right end of the first vacuum thermal insulator matches a right end of the cooler, or a left end of the first vacuum thermal insulator matches a left end of the cooler.

[Claim 5]

The refrigerator of claim 1 or 2, wherein

a freezer compartment adjacent to the first storage compartment,

a freezer compartment blowout air passage configured to allow the cooler chamber and the freezer compartment to communicate with each other, the cold air to be blown into the freezer compartment flowing through the freezer compartment blowout air passage, and

a foamed thermal insulator

are provided in the thermal insulation box body, and

when the thermal insulation box body is viewed in the front view, the first vacuum thermal insulator is provided to overlap with an entire portion of the freezer compartment blowout air passage that is located behind the first storage compartment, and the foamed thermal insulator is provided for a region of the cooler

that overlaps with neither the first vacuum thermal insulator nor the return air passage.

[Claim 6]

The refrigerator of any one of claims 1 to 5, wherein

the first vacuum thermal insulator is one rectangular plate-like vacuum thermal insulator.

[Claim 7]

The refrigerator of any one of claims 1 to 6, wherein

the thermal insulation box body includes a storage compartment rear wall portion configured to provide a partition between the first storage compartment and the cooler chamber, the first vacuum thermal insulator being included in the storage compartment rear wall portion, and

the return air passage is provided in the storage compartment rear wall portion.

[Claim 8]

The refrigerator of claim 7, wherein

a storage compartment blowout air passage is provided in the storage compartment rear wall portion, the storage compartment blowout air passage allowing the cooler chamber and the first storage compartment to communicate with each other, the cold air to be blown into the first storage compartment flowing through the storage compartment blowout air passage,

a blowout port and a return port are formed in an inner wall of the storage compartment rear wall portion on a first storage compartment side, the blowout port being an outlet of the storage compartment blowout air passage for the cold air, the return port being an inlet of the return air passage for the cold air, and

when the thermal insulation box body is viewed in the front view, the first vacuum thermal insulator is provided at a position that overlaps with neither the blowout port nor the return port.

[Claim 9]

The refrigerator of claim 8, wherein

the return port is provided in the inner wall at a position at a same height as the blowout port or at a position higher than the blowout port.

[Claim 10]

The refrigerator of claim 8 or 9, wherein

the blowout port causes the cold air cooled by the cooler to be directly blown into the first storage compartment or causes the cold air cooled by the cooler and caused to pass through the other storage compartment to be blown into the first storage compartment.

[Claim 11]

The refrigerator of any one of claims 8 to 10, comprising an air volume adjustment device configured to adjust a volume of the cold air blown out from the blowout port.

[Claim 12]

The refrigerator of any one of claims 1 to 11, comprising

a heat retaining heater configured to retain heat in the first storage compartment, wherein

the thermal insulation box body includes a plurality of wall portions forming the first storage compartment, and

the heat retaining heater is provided to any one of the plurality of wall portions.

[Claim 13]

The refrigerator of any one of claims 1 to 12, wherein

the first storage compartment is a vegetable compartment, and

the other storage compartment is a storage compartment of the plurality of storage compartments that has a temperature lower than a temperature zone of the vegetable compartment, a temperature versatile compartment that is switched to a temperature zone lower than the temperature zone of the vegetable compartment, a freezer compartment, an ice-making compartment, or a chiller compartment.

[Claim 14]

The refrigerator of any one of claims 1 to 12, wherein

a refrigerator compartment, an ice-making compartment, a temperature versatile compartment, the freezer compartment, and a vegetable compartment being the first storage compartment are formed in the thermal insulation box body, and the refrigerator compartment, the ice-making compartment and the temperature versatile compartment, the vegetable compartment, and the freezer compartment are disposed in this order from a top.

[Claim 15]

The refrigerator of any one of claims 1 to 14, wherein

the first storage compartment and the other storage compartment are arranged in an up-down direction of the thermal insulation box body, and

each of two side wall portions of the thermal insulation box body includes a second vacuum thermal insulator provided over the other storage compartment and the first storage compartment in the up-down direction.