The present invention has been made to overcome the above-described problems and aims to provide a refrigerator capable of avoiding deformation caused by ear folding while contributing to a reduction in power consumption.

Solution to Problem

[0009]

To overcome the above-described problems, an embodiment of the present invention provides a refrigerator including a vacuum thermal insulator, the vacuum thermal insulator includes: a core; and an enclosure containing the core and having a depressurized inside, the refrigerator including an inner case and an outer case constituting a refrigerator box, the vacuum thermal insulator including inside a main body portion in which the core is contained and a peripheral portion in which the core is not disposed, and the peripheral portion including a fixed portion that is folded over the main body portion and fixed to the main body portion and an unfixed portion that is not fixed to the main body portion, the inner case having a spacer configured to hold the unfixed portion of the peripheral portion.

[0010]

An embodiment of the present invention provides a refrigerator including a core; and an enclosure containing the core and having a depressurized inside, the refrigerator including an inner case and an outer case, the vacuum thermal insulator including inside a main body portion in which the core is contained and a peripheral portion in which the core is not disposed, the peripheral portion including a fixed portion that is folded over the main body portion, and fixed to the main body portion and an unfixed portion that is not fixed to the main body portion, the outer case having injection ports for injecting a foam thermal insulation material filled between the outer case and the inner case at two or more positions, two injection ports of the injection ports being provided at two positions in a height direction of the refrigerator, the vacuum thermal insulator having the unfixed portion at a position substantially in a midpoint between the two injection ports.

Advantageous Effects of Invention

[0011]

According to an embodiment of the present invention, a vacuum thermal insulator can be provided in which an unfixed portion, in which a peripheral portion is not fixed, formed by ear folding of the vacuum thermal insulator prevents air from accumulating between the peripheral portion and a main body portion. Consequently, for example, a refrigerator including the vacuum thermal insulator can be prevented from being deformed due to, for example, the expansion of air.

Brief Description of Drawings

[0012]

CLAIMS

1. A refrigerator including a vacuum thermal insulator, the vacuum thermal insulator comprising:

a core; and

an enclosure containing the core and having a depressurized inside,

the refrigerator including an inner case and an outer case constituting a refrigerator box,

the vacuum thermal insulator including inside a main body portion in which the core is contained and a peripheral portion in which the core is not disposed, and

the peripheral portion including

a fixed portion that is folded over the main body portion and fixed to the main body portion and

an unfixed portion that is not fixed to the main body portion,

the inner case having a spacer configured to hold the unfixed portion of the peripheral portion.

2. A refrigerator including a vacuum thermal insulator, the vacuum thermal insulator comprising:

a core; and

an enclosure containing the core and having a depressurized inside,

the refrigerator including an inner case and an outer case,

the vacuum thermal insulator including inside a main body portion in which the core is contained and a peripheral portion in which the core is not disposed,

the peripheral portion including

a fixed portion that is folded over the main body portion, and fixed to the main body portion and

an unfixed portion that is not fixed to the main body portion,

the outer case having injection ports for injecting a foam thermal insulation material filled between the outer case and the inner case at two or more positions,

two injection ports of the injection ports being provided at two positions in a height direction of the refrigerator, the vacuum thermal insulator having the unfixed portion at a position substantially in a midpoint between the two injection ports.

3. The refrigerator of claim 1 or 2,

wherein the vacuum thermal insulator has a surface with the folded peripheral portion is disposed in a space between the outer case and the inner case constituting the refrigerator box such that the surface with the folded peripheral portion faces the inner case.

4. The refrigerator of claim 3 as dependent on claim 2, wherein the inner case includes a spacer configured to hold the unfixed portion of the peripheral portion.

5. The refrigerator of claim 3 as dependent on claim 1, wherein the outer case has injection ports for injecting a foam thermal insulation material filled between the outer case and the inner case at two or more positions.

6. The refrigerator of claim 5, wherein

two injection ports of the injection ports are provided at two positions in a height direction of the refrigerator, and

the vacuum thermal insulator has the unfixed portion located at a position substantially in a midpoint between the two injection ports.

7. The refrigerator of claim 5, wherein

two injection ports of the injection ports are provided at two positions in a width direction of the refrigerator, and

the vacuum thermal insulator has the unfixed portion located at a position substantially in a midpoint between the injection ports at the two positions.