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REFRIGERATOR FREEZING DEVICE

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Inventor

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By

Attorney
It is the primary object of my invention to provide a refrigerator freezing device adaptable for use in a domestic refrigeration system and intended to permit the freezing of relatively large quantities of ice both for use and for the purpose of lengthening the periods between operation of the refrigerating mechanism.

Another object of my invention is to provide an economical and simple device which may be easily manufactured and installed.

With the above and other objects in view, my invention consists in the arrangement, combination and construction of the various parts of my improved device as described in the specification, claimed in my claims and shown in the accompanying drawing, in which:

The single figure is a sectional view of a portion of a refrigerator cabinet and of my improved device installed therein.

I have shown a portion of a refrigerator cabinet designated generally as 5 through which the pipes 6 and 7 leading from and to an expansion chamber are extended.

An expansion chamber is mounted in the compartment 8 of the cabinet 5 and comprises two superposed sheets of metal 9 and 10 the edges of which are bent together and suitably sealed as at 11, and the faces of which are at intervals joined together as at 12 by spot-welding or any other suitable means. The top plate 10 is provided with a flanged opening 13 for receiving the pipe 14 leading from a conventional expansion valve 15 and refrigerant intake pipe 7. The sheet is provided with a similar flanged opening 16 connected with the refrigerant offtake pipe 6. The plates are bent on themselves to provide a plurality of horizontal surfaces or platforms 17, 18 and 19 on which are placed a plurality of conventional ice trays 20. The hood 24 may be provided over the expansion chamber and ice trays so as to enclose them. A suitable front cover for the same may be provided if it is so desired.

The pipe 7 may be connected with a conventional operating mechanism including a compressor and condenser so that refrigerant under high pressure may be passed through to the expansion valve 15 and released by the valve 15 in a conventional manner to the bottom of the expansion chamber through the flanged opening 13. The refrigerant will pass between the plates 9 and 10, taking a devious course as directed by the spot-welds 12, and will pass off through the pipe 6 in a conventional manner as a gas. The bending of the sheets 9 and 10 so as to form the expansion chamber in a plurality of supporting platforms permits the use of a large number of ice trays so that a large quantity of ice may be frozen with the resultant advantage of both a large ice supply and a lengthening of the non-operating period of the refrigerating mechanism.

It will be obvious that various changes may be made in the arrangement, combination and construction of the various parts of my improved device without departing from the spirit of my invention, and it is my intention to cover by my claims such changes as may be reasonably included within the scope thereof.

What I claim is:

1. A refrigerator device comprising superposed sheets of metal having their edges sealed, said sheets being spaced apart to form an expansion chamber between them, and bent to form a plurality of platforms for the reception of liquid freezing trays.

2. A refrigerator device comprising superposed sheets of metal spaced apart and having their edges sealed to form an expansion chamber between them, said sheets being bent on themselves to form a plurality of separated platforms, one above the other, for the reception of liquid freezing trays.

3. A refrigerator device comprising superposed sheets of metal having their edges sealed, said sheets being spaced apart to form an expansion chamber between them, said sheets being bent on themselves to form a plurality of separated platforms, one above the other, for the reception of liquid freezing trays and a hood enclosing certain of the sides of said chamber to form a freezing chamber.

4. A refrigerator device comprising superposed sheets of metal spaced apart and having their opposed edges sealed and their faces intermittently joined together to form an expansion chamber, said sheets being return bent to provide a plurality of platforms, adapted to receive a plurality of liquid trays directly thereon.

5. A refrigerator device comprising a pair of generally spaced S-shaped sheets of metal having their edges sealed to form a chamber between the same, and inlet and outlet open.
ings for said chamber, the horizontally extending portions of said device presenting a substantial area in a horizontal plane whereby to serve as shelves.

6. A refrigerator device comprising a pair of interfitting generally S-shaped sheets of metal sealed along their opposed edges and generally spaced between the same to form a relatively shallow chamber having a plurality of horizontally extending portions adapted to serve as shelves, an opening adjacent the bottom of said chamber for the introduction of refrigerant thereto, and an opening adjacent the top of said chamber for the passage of refrigerant therefrom.

7. A refrigerator device comprising a pair of interfitting sheets of metal, each of which is reversely bent upon itself to form a plurality of relatively widely spaced horizontal portions, the opposed edges of said sheets being sealed and said sheets being generally spaced from each other between said edges to form a relatively shallow chamber between said sheets, inlet and outlet openings for said chamber, and a hood around said sheets in spaced relationship to the topmost of said horizontal portions.

8. A refrigerator device comprising superposed sheets of metal having their edges sealed, said sheets being spaced apart to form an expansion chamber between them and bent to form a plurality of platforms for the reception of freezing trays, and a hood enclosing the top and sides of said sheets and spaced from the top thereof.

9. A freezing unit for a mechanical refrigeration system comprising a refrigerant expansion chamber composed of metal sheets secured together at their edges and at a point or points in their adjacent surfaces and having there-between spaces for the circulation of refrigerant, and having a portion thereof return bent in a plane removed from and substantially parallel to the other portion thereof, thereby forming supporting shelves, a hood member positioned upon said expansion chamber and enclosing the disconnected space between the parallel portions thereof and having openings providing access to the shelf-like portions of said expansion chamber.

10. A freezing unit for a mechanical refrigeration system comprising a refrigerant expansion chamber composed of metal sheets secured together at their edges and at a point or points in their adjacent surfaces and having there-between spaces for the circulation of refrigerant, and having a portion thereof return bent in a plane removed from and substantially parallel to the other portion thereof, thereby forming supporting shelves, a hood member positioned upon said expansion chamber and enclosing the disconnected space between the parallel portions thereof and having openings providing access to the shelf-like portions of said expansion chamber.

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