

Feb. 10, 1953

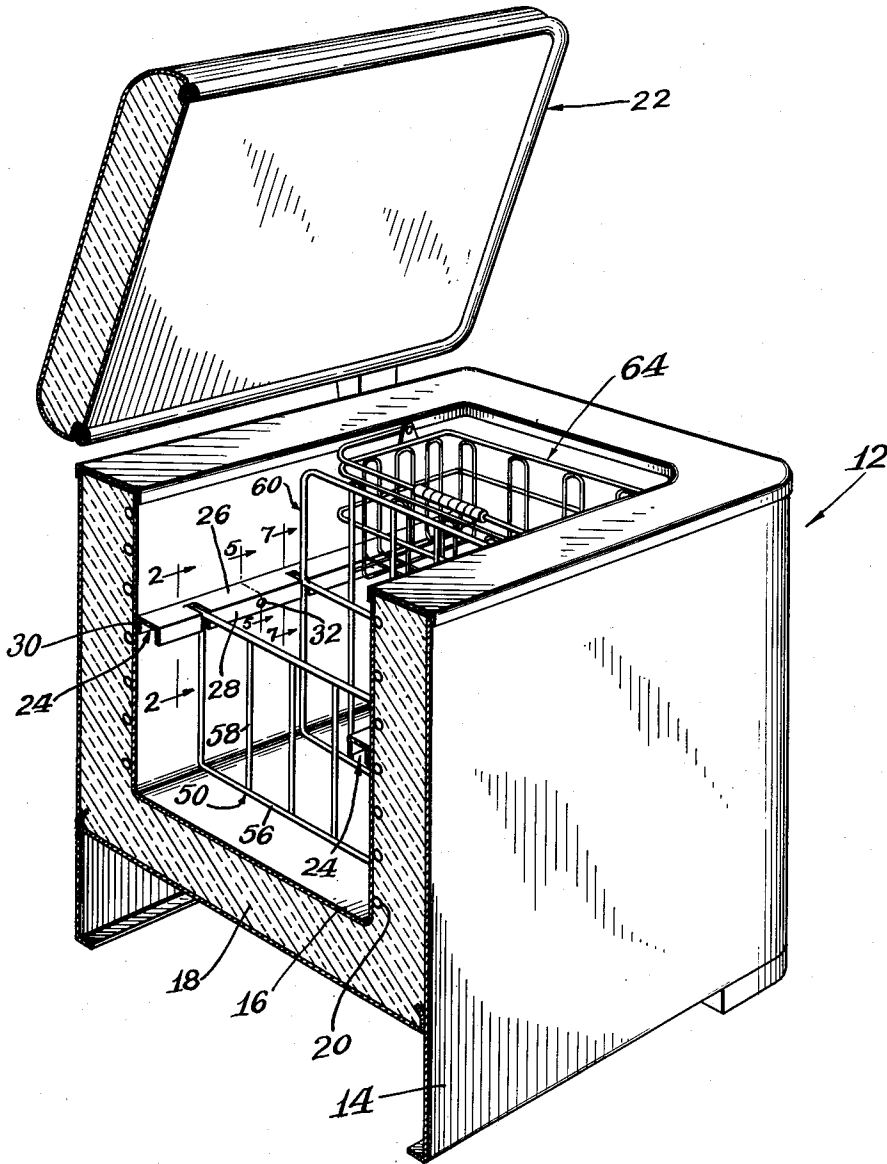
O. B. HAFNER
FREEZER DIVIDER

2,627,993

Filed April 29, 1950

2 SHEETS--SHEET 1

FIG. 1.



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2 SHEETS—SHEET 2

FIG. 2.

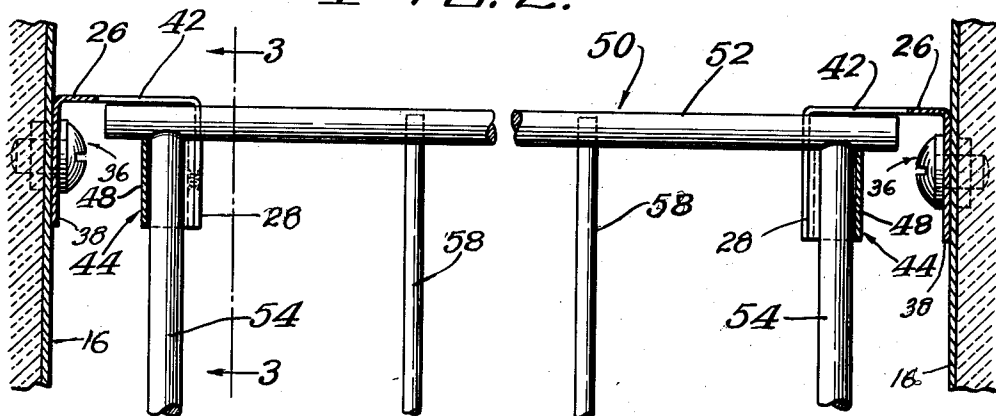


FIG. 3.

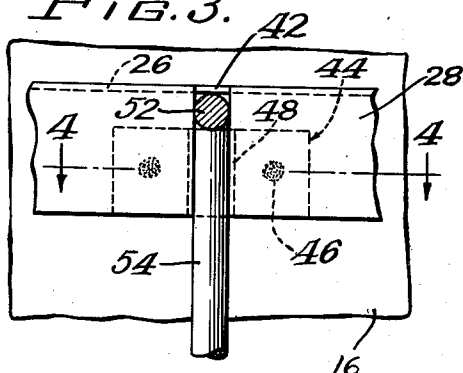


FIG. 4.

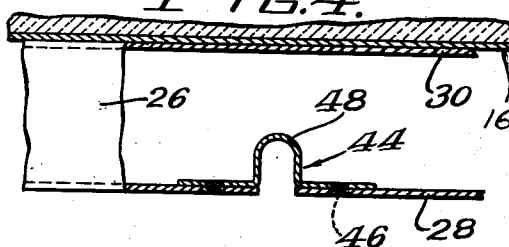


FIG. 5.

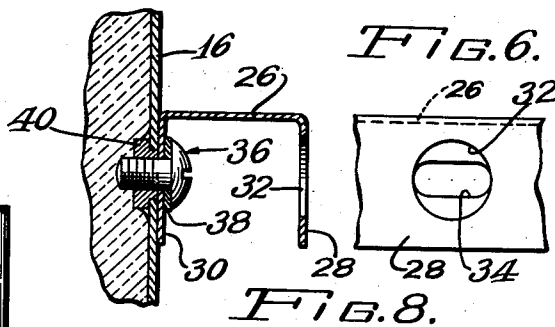


FIG. 7.

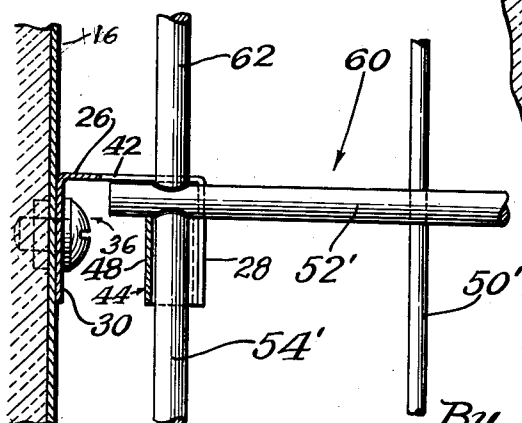
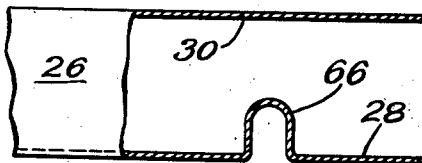


FIG. 8.



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UNITED STATES PATENT OFFICE

2,627,993

FREEZER DIVIDER

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Application April 29, 1950, Serial No. 159,030

10 Claims. (Cl. 220—22)

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The present invention has to do with a divider for a freezer.

As is generally known, a freezer is so constructed that it is opened at the top instead of at the side, so that the cold air in the freezer does not readily escape when the freezer is opened. Because the freezer is opened at the top, it is impracticable to provide shelves, and instead, vertically disposed dividers are provided for segmenting the freezer into sections.

An object of the present invention is the provision of a novel construction divider for a freezer so constructed that it can be readily inserted into or removed from the freezer, and when it is inserted it will remain in true vertical position.

More specifically, the invention embodies a construction having ledges on the side walls of the interior of the freezer and a divider mounted on and supported by the ledges, the ledges having grooves for receiving elements of the divider whereby the divider is retained against sidewise displacement by the articles stacked in the freezer.

Still another object is the provision of a construction including a divider and means for mounting the divider, in which it is not necessary to provide anchoring means at the bottom of the divider, for example, for retaining the divider in upright position.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various elements of my device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings in which:

Figure 1 is a perspective cutaway view of a freezer to which the construction of the present invention is applied;

Figure 2 is an enlarged view taken on line 2—2 of Figure 1;

Figure 3 is a view taken on line 3—3 of Figure 2;

Figure 4 is a view taken on line 4—4 of Figure 3;

Figure 5 is an enlarged view taken on line 5—5 of Figure 1, showing the details of the means for securing the supporting channels in the freezer;

Figure 6 is a view from the right of Figure 5, with the securing means removed;

Figure 7 is an enlarged view taken on line 7—7 of Figure 1, illustrating an alternate type of divider, and

Figure 8 is a view oriented similarly to Figure 1 but showing a modified form of mounting channel.

Referring now in detail to the drawings, Figure 1 illustrates at 12 a freezer as a whole, to which my invention is applied, including a cabinet structure having the usual outer case 14, inner liner 16, and insulation 18 therebetween. The elements just referred to constitute insulated walls of the freezer cabinet structure and the inner liner defines the interior space of the freezer which

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opens upwardly. Refrigerant coils 20 are disposed in contact with the outer surface of the liner 16 as is usual in refrigerating machines. The refrigerating apparatus does not constitute a part of the present invention, and it is believed that further reference thereto is unnecessary. A cover 22 is hinged to the cabinet to close down over the open top of the interior space.

Mounted on the inner surface of each of opposite side walls is a channel 24 having a web 26, an inner flange 28 and an outer flange 30. The channels 24 are arranged with their open sides down, with the flange 30 in engagement with respective side wall; the channels 24 may also be referred to as ledges, in accordance with their function and purpose.

The inner flange 28 of each channel is provided with a plurality of holes 32 (Figures 1 and 6) spaced longitudinally along the channel, and in line with the holes 32 are holes or horizontally disposed slots 34 formed in the outer flange 30. The means for mounting the channels 24 on the side wall of the interior space of the cabinet consists in a machine screw 36, provided with a lock washer 38, inserted through the holes 34 and then threaded into a lock nut 40 which is spot welded to inner surface of the liner 16 in line with an appropriate opening in the liner. In the present case the nut has a reduced portion extending through the opening in the liner and directly engages the outer flange 30 of the channel. The holes 32 enable the screws 36 to be easily inserted therethrough, the holes 32 being sufficiently large for that purpose, and for the purpose of extending a screw driver therethrough for turning the screws in. The screw means 36 may be provided at any desired spacing necessary for proper support for the channels.

Each channel 24 is provided with a plurality of longitudinally spaced slots 42 cut through a portion of the web element 26 and vertically through the inner flange 28. The slots 42 are arranged transversely to the length of the channel so that the slots in opposite channels are in longitudinal alignment with each other, and the vertically disposed portions of the slots in the flanges 28 in opposite channels are disposed in a common plane.

A reinforcing and supporting member 44 is secured across the vertical portion of each slot on the inner side of the flange 28. The member 44 is in the form of a strip having its ends abutted flat against the flange (Figure 4) on opposite sides of the slot and spot welded thereto as indicated at 46. The central portion of the strip 44 is bent inwardly to form a loop 48 in line with the slot; the bottom edge of the strip is preferably flush with the bottom edge of the flange 28, but the top edge of the strip is spaced downwardly from the web 26 of the channel. The loops 48 form grooves, and the slots 42 above the strips 44

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may also be considered as grooves, i. e., horizontal grooves.

The numeral 50 indicates a divider which includes a top horizontal member 52 in the form of a rod of a length to extend substantially across the interior of the cabinet.

The divider also includes vertical members or rods 54 adjacent the ends of the rod 52, the rods 54 being integral with a bottom segment of rod 56. The upper ends of the rods or members 54 are welded to the top horizontal rod 52, with the end surfaces of the rods 54 abutted against the top rod. A plurality of intermediate rods 58 interconnect the top rod 52 and the bottom segment 54 for completing the divider, forming a grillwork. The rods 56 may also be welded to the main part of the divider.

The numeral 60 indicates a modified form of divider which includes all of the elements referred to in connection with the divider 50 indicated by like reference numerals with prime markings. The divider 60 also includes a portion extending above the horizontal rod 52', the outermost vertical elements of which are indicated at 62. The top portion of the divider 60 is substantially identical and symmetrical with the bottom portion, the divider 60 being substantially twice the vertical height of the divider 50.

The numeral 64 indicates a basket which may also be employed in the freezer.

Figure 8 illustrates a modified form of channel formation for supporting the divider. The construction in Figure 8 is similar to that in Figure 4 but instead of providing the reinforcing strips 44, the material of the flange 28 is formed in a die and bent inwardly to produce a loop 66 corresponding to the loop 48. The loop 66 is of substantially the same vertical height as the strip 44, and the web of the channel and the upper portion of the flange 28 are provided with slots in line with the loops 66 similar to the slots 42 referred to above.

The divider such as 50 is inserted in the freezer by lowering it in place after positioning the vertical rods 54 in the grooves formed by the loops 48. The divider is lowered to the position wherein the ends of the horizontal rod 52 are inserted through the slots 42 and rest on the reinforcing strips 44. With the vertical rods 54 being thus disposed in the grooves formed by the loops the divider is restrained against any sidewise swinging or displacement due to the vertical dimension of the loops. The ends of the top horizontal rod 52 as shown clearly in Fig. 2 are disposed entirely below the web 26 of the channels, and a pleasing appearance results.

It is unnecessary to provide any anchoring means such as at the bottom of the interior space for securing the lower ends of the dividers against displacement, or swinging out of true vertical position.

The result is the same in connection with the divider 60, since the vertical rods 54' engage the loops 48 therein, whereby the latter prevent displacement of the divider.

It is understood, of course, that the basket 64 may be used or not, as desired, but when it is used ordinarily it is only used in connection with the dividers 50. However, for purposes of illustrating all of the different items, they are arranged as in Figure 1 because they are most easily viewed in that arrangement.

It will be understood that the vertical members 54 lie in a common plane with the top hori-

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zontal member 52, so that when the top horizontal member is in the grooves formed by the slots 42 the vertical members are disposed in the grooves formed by the loops 48 which are in a common plane with the slots.

The use of each of the dividers 50 and 60 is the same as described above in connection with the loops 66 illustrated in Figure 8.

From the above it will be seen that we have provided a construction whereby the dividers can be readily inserted into and removed from the interior of the freezer, and when they are inserted in place they are securely held against displacement by no other securing means than the members for supporting the dividers.

While I have herein shown and described certain preferred embodiments of my invention, it will be understood, of course, that I do not wish to be limited thereto, since many modifications may be made; and I therefore contemplate by the claims appended hereto to cover any such modifications or substitutions of mechanical equivalents as fall within the true spirit and scope of my invention.

I claim:

1. In a divider construction for use in a cabinet having an interior space and vertical side walls, the combination comprising, a ledge on each of opposite side walls, said ledges having oppositely facing slots cut therein, support members depending from each ledge and positioned below said slots, the edges of each slot and the associate support member forming an upwardly opening saddle, said support members having portions thereof forming vertically extending grooves, a divider element having a horizontal member and vertical members, said horizontal member being supported at its ends by the pair of saddles in opposite ledges, and said vertical members being positioned in said vertically extending grooves.

2. A device as set forth in claim 1 wherein each upwardly opening saddle is associated with a vertically extending groove, said upwardly opening saddle and associated vertically extending groove lying in a common vertical plane.

3. A divider construction as set forth in claim 1 wherein portions of said divider element extend upwardly from said horizontal member.

4. In a divider construction for use in a cabinet having an interior space and vertical side walls, the combination comprising, a ledge on each of opposite side walls extending from said side walls inwardly into said interior space, upwardly opening saddles formed in said ledges, vertically extending grooves formed in said ledges and facing inwardly into said interior space, each said vertically extending groove being positioned below one of said upwardly opening saddles, a divider element having a horizontal member and vertical members, said horizontal member being supported at its ends in a pair of opposite saddles in said pair of opposite ledges, and said vertical members being positioned in said vertically extending grooves.

5. A device as recited in claim 4 wherein said vertical extending grooves are spaced from the adjacent side walls, said vertical members of the divider element being positioned inwardly of the ends of said horizontal member, and the ends of said horizontal member, which ends extend outwardly of said vertical members, being supported by said upwardly opening saddles.

6. In a divider construction for use in a cabinet having an interior space and vertical side walls,

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the combination comprising, a downwardly facing channel member secured to each of two opposite side walls, means for securing one leg of said channel to the adjacent wall, a plurality of slots cut in the web of said channel and in the leg of said channel spaced from the wall, said spaced leg of the channel having portions thereof bent to form loops which extend toward the wall leg of said channel, said loop portions being positioned beneath each slot in the channel web, the upper edge of said loop being spaced below said web, the edges of each slot in the channel web and the upper edge of the corresponding loop forming an upwardly opening saddle, the walls of each loop defining a laterally opening groove which extends downwardly along the length of the loop, and a divider element having a horizontal member and upright members, said horizontal member being supported by a pair of saddles in said opposite channels, and said upright members being positioned in said laterally opening grooves.

7. In a divider construction for use in a cabinet having an interior space and vertical side walls, the combination comprising a downwardly facing channel member secured to each of two opposite side walls, means for securing one leg of said channel to the adjacent wall, a plurality of slots cut in the web of said channel and through the entire length of the channel leg spaced from the corresponding wall, a plurality of members each bent in the form of loops being secured to said spaced leg of the channel and bridging the slots therein, said loop members extending toward the wall leg of said channel, the upper edge of said loop members being spaced below said channel web, the edges of each slot in the channel web and the upper edge of the corresponding loop member forming an upwardly opening saddle, each loop member defining a laterally opening groove which extends downwardly along the length of the loop member, a divider element having a horizontal member and upright members, said horizontal member being supported by a pair of saddles in said opposite channels, and said upright members being positioned in said laterally opening grooves.

8. In a divider construction for use in a cabinet having an interior space and vertical side walls, the combination comprising, a horizontal supporting member secured to each of two opposite side walls in the interior of the cabinet, each supporting member having a horizontal top surface and a downwardly extending flange spaced inwardly from the respective side wall, the top surfaces of said supporting member having longitudinally aligned slots cut therethrough and said flanges having vertical slots cut therethrough in register with said top slots, a reinforcing member secured to each flange across the vertical slot therein and bent to form a loop in register with the vertical slot, said loop forming grooves, and a divider having a horizontal member and vertical members adjacent the ends of the horizontal

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member, the ends of said horizontal member being positioned in said top slots and resting on said loops with said vertical members fitted in the grooves formed by said loops.

9. In a divider construction for use in a cabinet having an interior space and vertical side walls, the combination comprising, a horizontal supporting member secured to each of two opposite side walls in the interior of the cabinet, each supporting member having a horizontal top surface and a downwardly extending flange spaced inwardly from the respective side wall, the top surfaces of said supporting members having longitudinally aligned slots cut therethrough, and said flanges having vertical slots cut therethrough in register with said top slots, a reinforcing member secured to each flange across the vertical slot therein and bent to form a loop in register with the vertical slot, said loops extending from the flanges toward the respective side walls of the cabinet and forming grooves opening toward each other, the upper edges of said reinforcing members terminating below said top surfaces of the supporting members, and a divider having a horizontal member and vertical members adjacent the ends of the horizontal member, the ends of said horizontal member being positioned in said top slots and resting on said loops with said vertical members fitted in the grooves formed by said loops.

10. In a divider construction for use in a cabinet having an interior space and vertical side walls, the combination comprising, a horizontal supporting member secured to each of two opposite side walls in the interior of the cabinet, each supporting member having a horizontal top surface and a downwardly extending flange spaced inwardly from the respective side wall, the top surfaces of said supporting members having longitudinally aligned slots cut therethrough, said flanges being bent inwardly toward the respective sidewalls to form loops in register with said slots, said loops forming grooves facing each other, and a divider having a horizontal member and vertical members adjacent the ends of the horizontal member, the ends of said horizontal member being positioned in said top slots and resting on said loops with said vertical members fitted in the grooves formed by said loops.

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