July 21, 1936. M. J. GOULOOZE 2,048,212

REFRIGERATING APPARATUS

Filed March 19, 1934

Fig. 1.

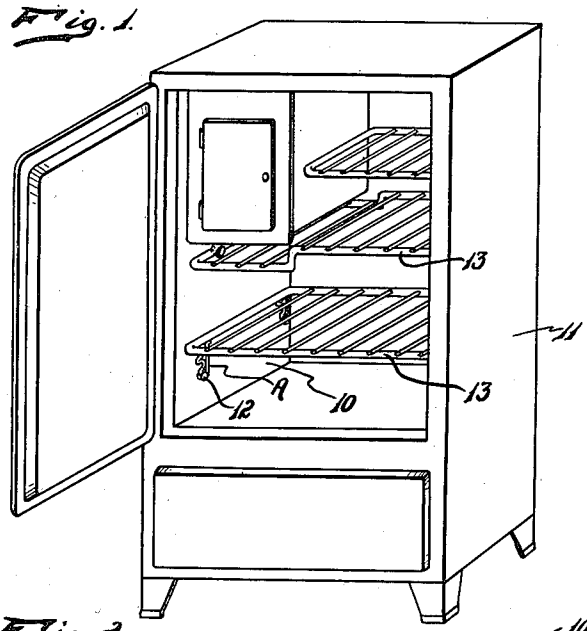


Fig. 4.

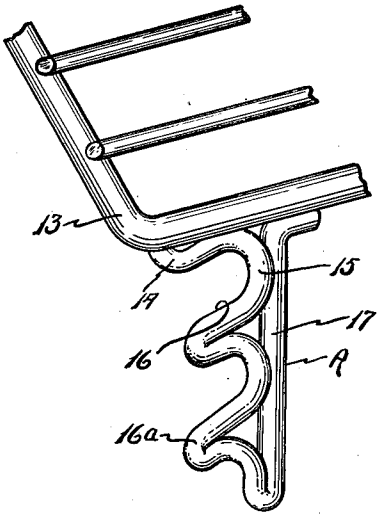


Fig. 2.

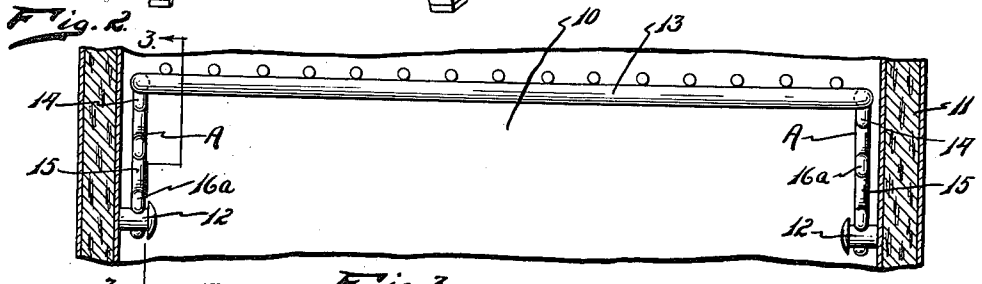


Fig. 3.

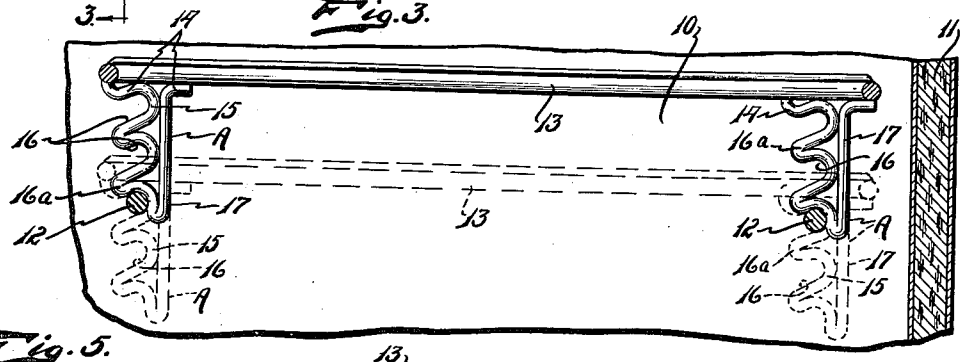
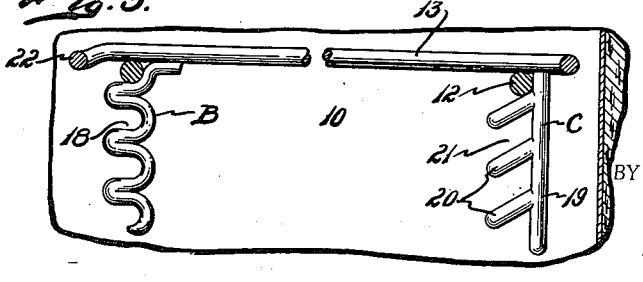


Fig. 5.



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REFRIGERATING APPARATUS

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Application March 19, 1934, Serial No. 716,304

13 Claims. (Cl. 211—153)

This invention relates to refrigerators and more particularly to shelves therefor.

One of the objects of the present invention is to provide a refrigerator with a shelf of new and improved construction which may be easily mounted in any desired position.

A further object is to provide a refrigerator with a removable multi-position shelf having improved supporting means of such construction that the shelf will remain in any desired adjusted position without danger of being inadvertently displaced therefrom.

With the above and other objects in view, the present invention consists in certain features of construction and combinations of parts to be hereinafter described with reference to the accompanying drawing and then claimed.

In the accompanying drawing which illustrates suitable embodiments of the present invention:

Figure 1 is a perspective view of a refrigerator, showing a shelf of the present invention disposed therein;

Figure 2 is an enlarged fragmentary front view of the refrigerator illustrated in Figure 1, more clearly showing the shelf and the mounting therefor;

Figure 3 is a fragmentary section taken approximately on the line 3—3 of Figure 2, showing the shelf supporting means in side elevation, and also showing the shelf in dotted outline in another of its adjusted positions;

Figure 4 is an enlarged fragmentary perspective view of one corner of the shelf, showing the mounting means therefor; and

Figure 5 is a section taken similar to Figure 3 of a shelf having a modified mounting means.

Referring more specifically to Figs. 1–4 of the accompanying drawing in which like numerals refer to like parts throughout the several views, the vertical side walls 10 of the food compartment of the refrigerator 11 are provided with opposed pairs of suitable shelf plugs 12 which support the shelves 13. If desired one or more of the shelves 13 may be provided with the supporting brackets to be hereinafter described.

Referring to the construction shown in Figures 2, 3 and 4, the shelf 13, which may be of any suitable construction or design, comprises an article supporting portion which is provided at each side with a pair of depending brackets A which cooperate with the shelf plugs 11 in shelf supporting relation.

Each supporting bracket A is preferably in the form of a single piece of strap or bar stock which is shaped by bending the same back upon itself to provide spaced end portions 14 which are securely welded or otherwise secured to the adjacent side piece of the shelf 13, a depending portion 15 doubled upon itself at spaced intervals to form a plurality of plug receiving recesses or notches 16, and a reversely bent portion 17 abutting the portion 15 to add rigidity to the bracket.

Each of the notches 16 is inclined from its forward open side upwardly toward the shelf side rod, as shown in Figures 3 and 4, so that when the shelf plugs 12 are received in any particular pair of notches 16, the forward end portions of the upper adjacent projections 16a will extend slightly below the plane of the upper surfaces of the plugs 12 to prevent inadvertent sliding of the shelf 12 on the plugs 12 such as might occur when articles are placed on the shelf were it not for the inclination of the notches. The inclined projections 16a of the depending portions 15 of the brackets A, which provide the notches 16, thus serve as stops or abutments which resist the tendency of the shelf 13 to slide on the plugs 12 while articles are being placed on the shelf.

The shelf 13 may be easily and quickly changed from one level to another by simultaneously lifting and moving the same toward the back wall of the refrigerator until the desired level is reached, and then disposing the same by a forward movement so that the notches 16 for that level will receive the shelf plugs 12.

In Figure 3, the shelf 13 is shown in its uppermost position in solid outline, and in its lowermost position in dotted outline.

Although in the construction shown in Figures 2, 3 and 4, the brackets A are shown to be of one piece construction and embodying notches for only three shelf positions it is to be understood that, the same may be of any other suitable construction and provided with any desired number of notches 16.

In the modified construction shown in Figure 5, the forward supporting bracket B is formed from a single piece of bar stock which is bent back and forth upon itself to provide the plug receiving notches 18, the uppermost notch being formed partially by the adjacent shelf side rod. In this case, however, the notches 18 are horizontally disposed instead of at an angle as in the construction previously described.

The rearmost bracket C in this case, however, comprises a depending element 19 welded or otherwise secured to the shelf side rod, and a number of spaced short projecting portions 20 arranged at an angle and suitably secured thereto to provide plug receiving notches 21. The inclined

projecting portions 20 as in the construction shown in Figure 5, serve to prevent inadvertent sliding movement of the shelf 13 when the shelf plug 12 is received in any of the three lowermost notches 21. In order to prevent such sliding movement when the shelf plugs 12 are received in the uppermost notches 18 and 21 of the brackets B and C respectively, the side rods of the shelf 13 are offset at their forward ends as indicated at 22 in Figure 5. These portions 22 are offset a sufficient extent to prevent inadvertent sliding of the shelf, but not to such an extent as to interfere with the changing of the shelf from one level to another, the operation of which is the same as in the construction shown in Figures 2, 3 and 4.

Either bracket B or C of Figure 5 may be substituted for one of the brackets A of Figure 3, or if desired the bracket A may be substituted for either the bracket B or the bracket C, or both brackets may be of the type exemplified by the bracket C.

In each of the embodiments of my invention described I have provided a shelf construction having an improved multi-position supporting means for providing an efficient and easy adjustment thereof from one level to another, which is simple in construction and which can be economically manufactured.

Aside from the specific embodiments of the invention herein shown and described, it will be understood that numerous details of the construction may be altered or omitted without departing from the spirit and scope of the invention.

What I claim is:

1. In a refrigerator having a plurality of shelf plugs at each side of the food compartment thereof, a shelf, and a plurality of depending brackets carried by said shelf for engaging said plugs in shelf supporting relation, each of said brackets having a plurality of plug receiving notches, the notches of at least one of said brackets being inclined relative to said shelf.

2. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a shelf, and a plurality of brackets carried by said shelf for engagement with said plugs in shelf supporting relation, each of said brackets having a plurality of spaced vertically aligned plug engaging projections, the projections of at least one of said brackets being inclined relative to said shelf, whereby said shelf may be disposed at different levels.

3. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a shelf, and plurality of depending brackets carried by said shelf for engagement with said plugs in shelf supporting relation, each of said brackets having a plurality of spaced, plug engaging projections providing plug receiving notches, the plug engaging projections of at least one of said brackets being inclined to prevent sliding movement of said shelf relative to said plugs.

4. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a multi-position shelf, comprising a plurality of shelf supporting and adjusting brackets carried by said shelf for engagement with said plugs in shelf supporting relation, each of said brackets comprising a depending portion rigidly secured to said shelf and a plurality of spaced plug engaging portions extending therefrom whereby said shelf may be disposed at different levels.

5. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a shelf, and a plurality of shelf supporting and adjusting brackets for engagement with said plugs in shelf supporting relation, each of said brackets comprising a depending portion rigidly secured to said shelf and a plurality of spaced plug engaging portions extending therefrom, the plug engaging portions of at least one of said brackets being inclined with respect to its said depending portion.

6. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a shelf, and a plurality of shelf supporting and adjusting brackets for engagement with said plugs in shelf supporting relation, each of said brackets comprising a depending portion rigidly secured to said shelf and doubled upon itself at spaced intervals to provide spaced, plug engaging projections.

7. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a shelf, and a plurality of shelf supporting and adjusting brackets for engagement with said plugs in shelf supporting relation, each of said brackets comprising a single piece depending portion rigidly secured to said shelf and doubled upon itself at spaced intervals to provide spaced, plug engaging projection, each of said projections being inclined downwardly and away from said shelf.

8. The combination in a refrigerator of a plurality of shelf plugs mounted at each side of the food compartment thereof, a shelf, and a plurality of shelf supporting and adjusting brackets for engagement with said plugs in shelf supporting relation, each of said brackets comprising a single piece depending portion rigidly secured to said shelf and doubled upon itself at an angle to said shelf at spaced intervals to provide spaced, inclined plug engaging projections, said depending portion also having an integral portion doubled back thereon and rigidly secured to said shelf.

9. In a refrigerator the combination of a plurality of shelf plugs mounted in the vertical side walls of the food storage compartment, a multi-position shelf therein comprising an article supporting portion, four brackets carried by said article supporting portion, each of said brackets having a plurality of plug receiving notches whereby the shelf may be supported at different levels, the notches of one pair of brackets being substantially horizontal, and the notches of the other pair of brackets being inclined relative to said article supporting portion to prevent inadvertent sliding movement of said shelf relative to said plugs.

10. In a multi-position shelf adapted to be supported in various positions between vertical walls bearing shelf plugs the combination of an article supporting portion, a plurality of depending brackets carried by said article supporting portion, each of said brackets having a plurality of plug receiving notches whereby the shelf may be supported at different levels, and the notches of at least one of said brackets being inclined relative to said article supporting portion to prevent inadvertent sliding movement of said shelf relative to said plugs.

11. In a multi-position shelf adapted to be sup-

ported in various positions between vertical walls bearing shelf plugs the combination of an article supporting portion, four brackets carried by said article supporting portion, each of said brackets having a plurality of plug receiving notches whereby the shelf may be supported at different levels, the notches of the pairs of brackets being respectively horizontal and inclined.

12. In combination, a compartment provided with a plurality of pins at the same elevation, a shelf adapted to be supported in a level condition by said pins, brackets affixed to said shelf and provided with a plurality of hook portions at different elevations, said hook portions being selectively cooperable with said pins for supporting said shelf at different elevations.

13. In combination, a compartment provided with a plurality of horizontally extending pins at the same elevation, a shelf adapted to be supported in a level condition by said pins and having at least one edge spaced from the adjacent wall of said compartment, brackets affixed to said shelf and provided with a plurality of hooked portions at different elevations, said hooked portions being selectively cooperable with said pins for supporting said shelf at different elevations, said hooked portions being disengageable from said pins by lateral shifting of said shelf in one direction whereby said shelf may be changed from one elevation to another without tipping the same.

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