June 13, 1939. H. E. COSSIN 2,161,912

REFRIGERATING APPARATUS

Filed Oct. 2, 1937

Fig. 1.

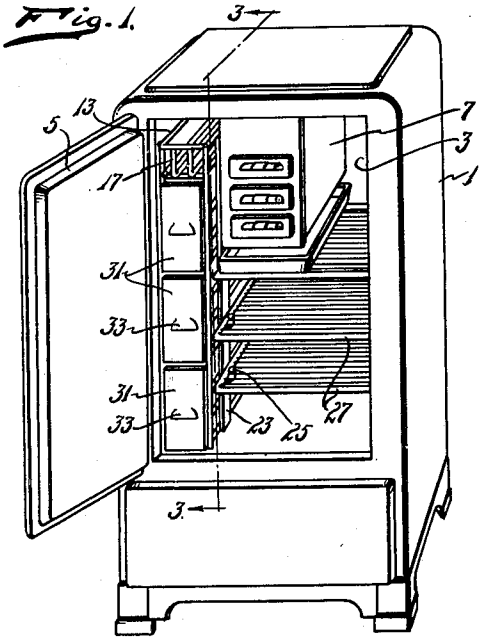


Fig. 2.

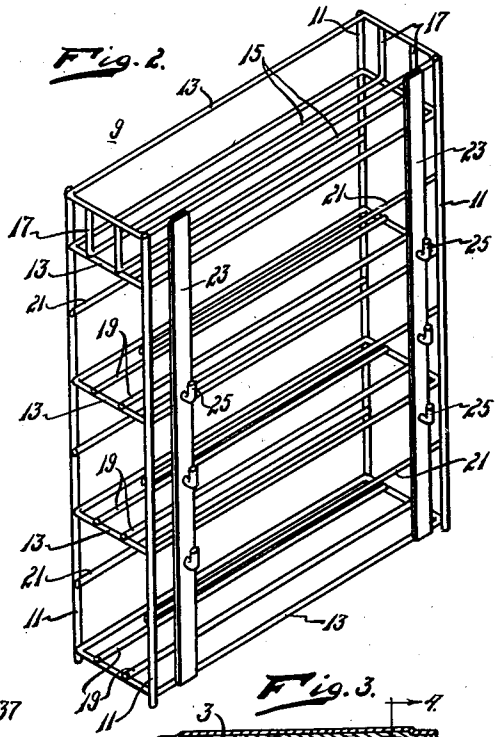


Fig. 5.

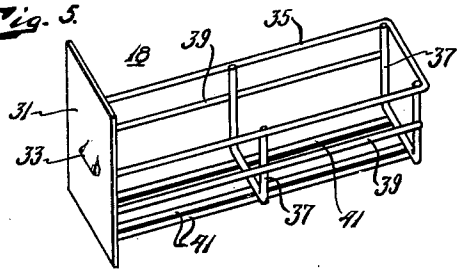


Fig. 3.

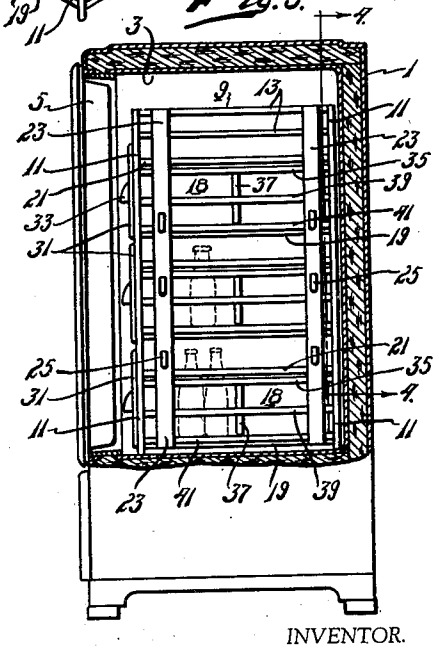
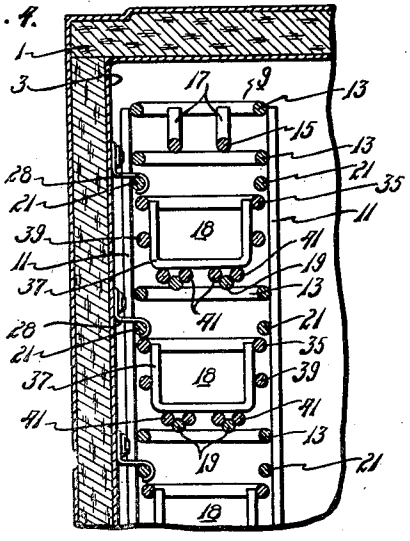


Fig. 4.



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UNITED STATES PATENT OFFICE

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REFRIGERATING APPARATUS

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Application October 2, 1937, Serial No. 166,954

1 Claim. (Cl. 211—143)

My invention pertains to a refrigerator shelving arrangement and more particularly to a slidable drawer assembly and shelf supporting rack for household refrigerators.

It is an object of my invention to provide in a refrigerator an arrangement of open work vertically spaced shelves and slidable drawers for storing food articles exposed to the freely circulating cold air in a refrigerator cabinet whereby the desired degree of refrigeration is conveniently obtained for different food articles.

It is also an object of my invention to provide a simple rigid open work rack for supporting a plurality of slidable open work drawers vertically between the evaporator and a side wall of a refrigerator cabinet.

A further object of my invention is to provide a refrigerator sliding drawer assembly having spaced guide rails slidably disposed between respective pairs of guide rods for slidably supporting and guiding drawers in a rack.

The novel features that I consider characteristic of my invention are set forth with particularity in the appended claim. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment, when read in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view illustrating a refrigerator cabinet with the door opened to show my improved shelving arrangement therein;

Fig. 2 is an enlarged perspective view of the open work rack provided for supporting a plurality of slidable drawers and also the large horizontal shelves in the cabinet.

Fig. 3 is a side elevational view of a refrigerator partly sectioned on lines 3—3 of Fig. 1 to show the sliding drawer assembly;

Fig. 4 is an enlarged sectional view on line 4—4 of Fig. 3; and

Fig. 5 is an enlarged perspective view showing one of the sliding drawers adapted to slide into the rigid open work rack.

Referring more specifically to Fig. 1 of the drawing, the apparatus comprises a heat insulating cabinet 1 for enclosing a food storage space 3 having an open doorway at one side which is closed by a heat insulating door 5 hinged along one of the vertical edges thereof in the usual manner. A cooling evaporator 7 is suspended from the middle of the upper wall of the food storage compartment in spaced relation from the side walls for cooling the air as it circulates therein. The evaporator 7 is supplied with liquid refrigerant from any suitable refrigerant condensing unit which may be mounted in a machine compartment provided in the lower portion of the refrigerator cabinet in the usual manner.

In accordance with my invention, I provide a rigid open work rack 9 of simple open work construction. As shown in Fig. 2, the rack 9 comprises four vertically disposed corner rods 11 which are secured at the outer corners of rectangular rod-like frames 13 in any suitable manner, as by welding for example. The two uppermost frames 13 are suitably spaced to provide a shelf, the bottom of which is defined by a pair of spaced rods 15 extending longitudinally between the short ends of the frame 13 to which it is secured and having upwardly turned end portions 17 secured to the ends of the uppermost one of the rectangular frame members 13.

The remainder of the rectangular frame members 13 are suitably spaced vertically between the corner rods 11 for supporting slidable drawers 18. For this purpose, each of the drawer receiving frames 13 is provided with a pair of spaced guide rails 19, the ends of which are secured to the short end portions of the rectangular frames 13 in any suitable manner, as by welding. Side rods 21 are connected along the sides of the rack between the corner rods 11 at suitable spaced portions between the rectangular frame 13 to guide the movements of the slidable drawers 18 thereon. The rods 21 also serve to improve the rigidity of the completely assembled rack.

A pair of side bars 23 are secured vertically on one side of the vertical rack 9 as by spot welding to the adjacent sides of the rectangular frames 13. The vertical bars 23 are provided with up-turned hooks 25 which project externally therefrom for receiving and supporting the edges of the large horizontal shelves in the refrigerator cabinet. The rigid open work construction rack 9 thus provides a plurality of vertically spaced drawer supporting guides and an open work shelf at the top thereof for supporting small articles such as oranges, apples, eggs and the like.

As shown in Fig. 1, the rigid drawer assembly rack 9 is of a suitable size for mounting vertically in the food storage compartment adjacent one side wall thereof and the upper portion of the rack is disposed between the evaporator cooling element 7 and the side wall whereby a wide variety of refrigerating temperatures is conveniently provided for storing different food articles

therein, while permitting the cold refrigerated air to circulate freely therethrough. The rack 9 is conveniently slipped into place in the storage compartment of the refrigerator and the horizontally disposed shelves 27 are thereafter hooked upon the supporting hooks 25 which project from one side of the rack. The wall of the food storage compartment, adjacent the vertical drawer supporting rack 9, may be provided with resilient hooks 28 for resiliently clasping the adjacent side rods 21 of the rack whereby the rack is secured in the refrigerator cabinet, as shown in Fig. 4.

The drawers 18, which are slidably disposed within the vertical rack, comprise each a front plate 31 provided with a handle portion 33 struck out therefrom. From the front plate 31, a rod-like rectangular member 35 projects rearwardly, and depending therefrom are vertically disposed rectangular members 37 which are joined by elongated rod-like members 39 which are spaced under and parallel to the sides of the rectangular member 35. The parallel spaced members 39 may be secured to the rectangular members 37 and the front plate 35 in any suitable manner, as by welding for example. For slidably supporting and guiding the drawer in its movements upon the spaced guide rails 19 of the rack 9, each drawer, is provided with two pairs of spaced guide rods 41 secured longitudinally under members 37, as shown more clearly in Fig. 4. Each pair of spaced guide rods 41 fits over and slides along one of the guide rails 19 supported on the rack. In this manner each drawer is rigidly supported and accurately guided for free movement in and out of the vertical supporting rack 9.

It will be seen that I have provided an improved rack assembly of slidable drawers spaced vertically for storing food articles whereby the various desired degrees of refrigeration are conveniently available for different food articles, whilst providing convenient storage space for small articles and supporting means for the large shelves in the cabinet.

Aside from the specific embodiment 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 as disclosed and claimed, and that I do not desire to limit the invention to the exact construction herein set forth.

I claim:

In a rack for refrigerators the combination of a wire frame including four vertically extending wire corner members, open work shelf members vertically spaced between and secured to said wire corner members, two horizontally positioned wire members cooperating with each of said wire corner members and being vertically spaced in parallel relation adjacent the upper ends of said corner members and secured thereto, a plurality of U-shaped wire members having longitudinally extending portions arranged on a horizontal plane and extending from one end of the rack to the other and vertically extending portions between and cooperating with said two horizontally positioned wire members to provide a basketlike shelf for storing small food articles and a pair of side bars secured vertically to certain of said shelves to provide a rigid open work construction and having provisions for receiving and supporting additional shelf structures.

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