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BOTTLHOLDER FOR HOUSEHOLD REFRIGERATORS

Original Filed June 7, 1943

2 Sheets-Sheet 1

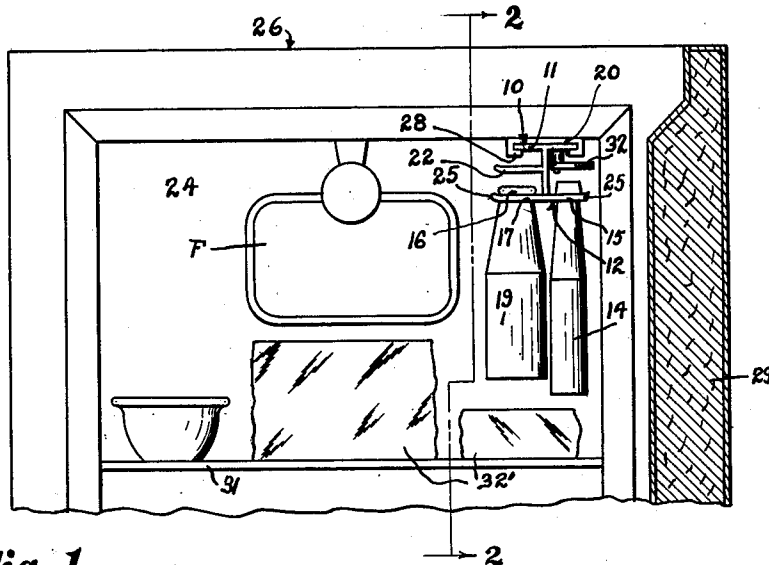


Fig. 1.

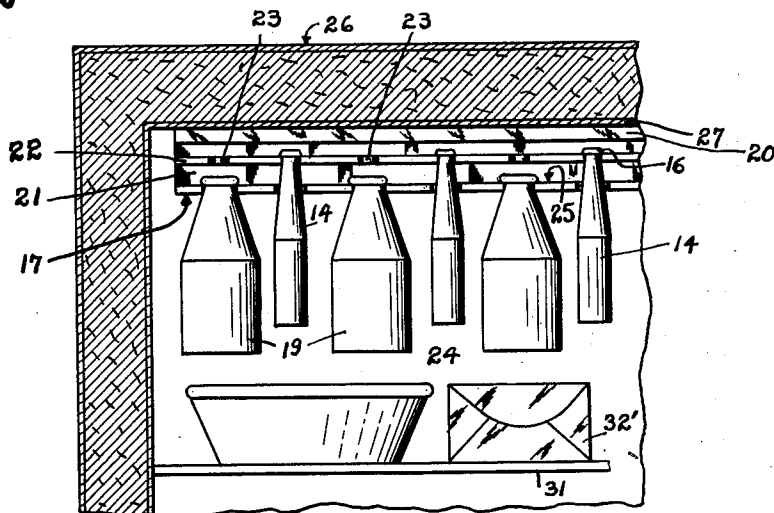


Fig. 2.

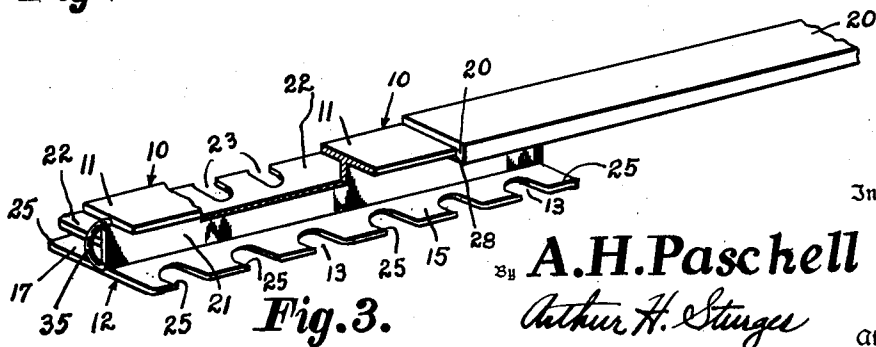


Fig. 3.

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2 Sheets-Sheet 2

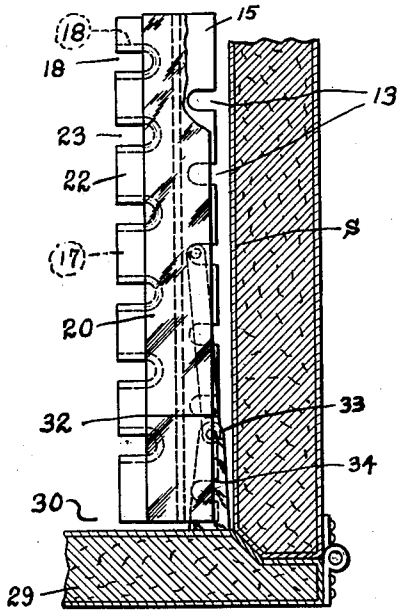


Fig. 4.

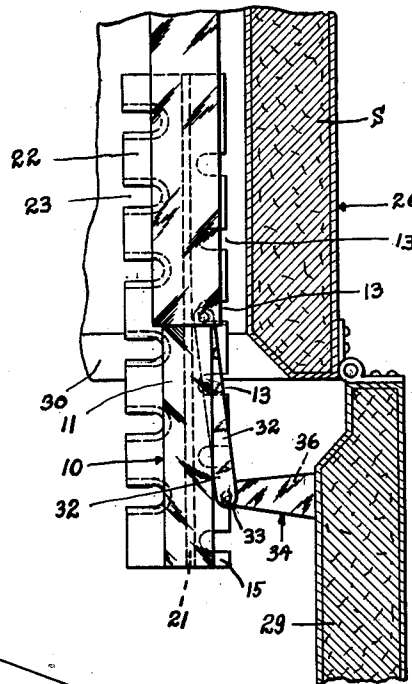


Fig. 5.

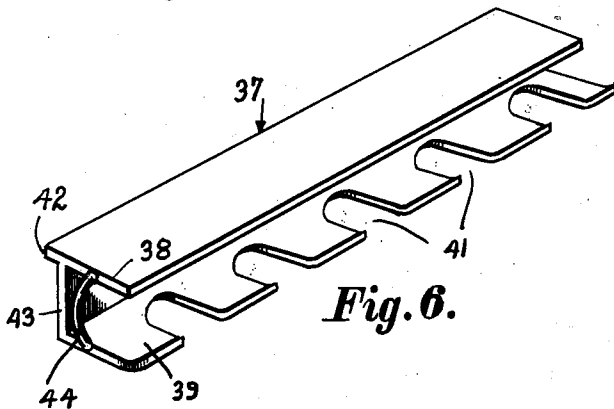


Fig. 6.

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BOTTLEHOLDER FOR HOUSEHOLD REFRIGERATORS

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Substituted for abandoned application Serial No. 489,913, June 7, 1943. This application November 7, 1945, Serial No. 627,120

2 Claims. (Cl. 211-60)

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This invention relates to a holder for bottles and more particularly to a bottle holder for the cooling compartment of a household refrigerator, the bottle-grasping portion of which is extensible through the door of the cooling compartment to permit an easy removal of bottles therefrom and is a substitute for application for a Bottle holder, filed June 7, 1943, Serial No. 489,913, which became abandoned on April 16, 1945.

Bottles of milk, beverages, and the like are held in a tray adjacent the freezing unit in the usual household refrigerator. To remove a bottle positioned near the rear it is usually first necessary to remove all bottles and foodstuffs in front of it. This shifting of bottles is inconvenient and objectionable.

Since it is usually difficult to place foodstuffs on the narrow tops of bottles the usual arrangement is further objectionable in that the space above the stored bottles is wasted for food storage.

These and other problems are solved by the present invention which provides an improved device for holding bottles in a storage compartment such that the bottles can be independently removed without disturbing other materials stored adjacent to the bottles.

A feature of this invention is found in the provision of means for holding bottles in the cooling compartment of a refrigerator including a guide way or track means carried adjacent the top of the compartment and extended in a direction from front to rear of the compartment, and a flat elongated rack member having notches in one side for receiving and supporting bottles at the neck portions of the bottles. The rack member is slidably supported in the track means for adjustable linear movement inwardly and outwardly of the cooling compartment.

The invention will be better understood from the following description of a preferred embodiment of the invention when taken in connection with the accompanying drawings in which:

Figure 1 is a view partly in section looking toward the rear of a cooling compartment of a refrigerator and showing the assembly and relative positions therein of the bottle holding structure of the present invention;

Figure 2 is a sectional view as seen along line 2-2 of Figure 1;

Figure 3 is a top perspective view of the bottle-holding means of this invention, a portion of the bottle support being broken away;

Figure 4 is a fragmentary plan sectional view of a cooling compartment of a refrigerator show-

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ing the relative assembly therein of the bottle-holding structure of Figure 3;

Figure 5 is similar to Figure 4 with the door of the container opened and the bottle-holding device in an extended position;

Figure 6 is a top perspective view of the bottle-holding device showing the support of different sizes of bottles therein.

As shown in Figures 3 and 4, one form of the bottle-holding means of this invention which includes an elongated rack or body member 10 of substantially I-shape in cross section, the upper flat cross arm 11 of which is of a solid construction and adapted for slidable support in a corresponding guide way member or track 20 of a generally channel shape. One side 15 of the lower cross arm 12 is formed with spaced notches or slots 13 each of which is of a size to receive the neck portion of a beverage bottle or the like 14 (Fig. 2). A bottle 14 is supported on the cross arm 12 by the engagement at a corresponding slot 13 of the usual annular lip or shoulder 16 formed at the upper end of a bottle 14 about the bottle opening. The other side 17 of the cross arm 12 is formed with spaced slots 18 to similarly receive and support milk bottles or the like 19 (Figs. 4 and 5). The marginal edge of each side 15 and 17 of the cross arm 12 is formed with an upturned lip 25 to prevent any lateral movement of the bottles in the slots 13 and 18. The slots 13 and 18 are offset laterally of the rack 10 so that a slot 13 in the side 15 is intermediate adjacent slots 18 in the side 17. Bottles 14 and 19 can thus be suspended from the cross arm 12 in close proximity to each other to conserve storage space as clearly appears from Fig. 2.

The connecting member 21 of the rack 10 has a flat bottle-holding member 22 coextensive in length with the rack 10 attached thereto and extending laterally from one side of the upright leg and over the cross arm side 17. The unsupported side of the member 22 is formed with spaced slots 23 located in vertical alignment with the slots 13 but of a size to receive bottles which are smaller or have longer and more slender necks than the bottles capable of being accommodated by the slots 13. These smaller bottles, or bottles having longer and more slender necks, may thus be supported from the member 22 and extended through the slots 13 in the side 17 of the cross arm 12.

As the rack member 10 is assembled in a container such as the cooling compartment 24 of the usual type of household refrigerator 26, the track member 20 is suitably secured to the top wall 27 of the cooling compartment adjacent

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the side wall S thereof and extended in a direction from front to rear of the refrigerator 26 (Figs. 1 and 2). The cross arm 11 of the rack 10 is then slidably inserted within the track 20, the slidable support of the rack 10 in the track 20 being accomplished by the intumed edge 28 formed on each one of the legs of the channel-shaped track member 20. The rack 10 and track 20 are substantially coextensive in length, with the length of the track being substantially equal to the depth of the compartment 24. Thus when the rack is retracted within the track 20 it is located entirely within the compartment 24 and rearwardly of the compartment entrance opening 30.

When the rack 30 is pulled outwardly of the track, as shown in Figure 3, the rack is linearly moved forwardly of the entrance opening 30 so that the bottle-holding members 15, 17 and 22 are readily accessible at the front of the compartment 24. Bottles can thus be readily inserted in and removed from the notches in these members by movement of the bottles in a direction laterally or transversely of the rack member 10.

As shown in Figs. 1 and 2 the relative spacing between superposed bottle-holding members 17 and 22 and between the member 22 and the cross arm 11 is such as to provide ample clearance for the tops of the bottles held in these members. After a bottle has been placed in a corresponding slot in the rack 10 it is linearly moved rearwardly to a storage position within the cooling compartment 24, while being supported on the rack 10, by merely retracting the rack within the guide or track 20. This retracted position of the rack 10 locates the rack within the cooling compartment 24 to provide for a complete closing of the door 29 for the cooling compartment entrance opening 30. Manipulation of the rack 10 is facilitated by the provision of a finger-gripping portion or handle 35 at the end of the rack 10 which is toward the front of the refrigerator 26.

It is thus seen that a bottle located forwardly of the cooling compartment 24 can be removed when the rack 10 is pulled only a slight distance outwardly from the track 20 and that when a rearwardly located bottle is desired it is only necessary to further extend the rack 10. This further extension of the rack locates the rearwardly positioned bottle at the front of the cooling compartment where it can be easily reached and removed independently of any of the remaining bottles in the rack.

The rack 10 is shown in a retracted position in the cooling compartment 24 in Figures 1 and 2 with the bottles 14 and 19 in supported positions in the rack and between the freezing chamber F in the compartment and side wall S of the compartment 24. From a consideration of these figures it is seen that the bottle tops are adjacent the top wall 27 of the compartment 24 so that the space usually provided above the bottles between the freezing chamber F and the side wall S, when the bottles are carried on a tray means 31 as is common in refrigerators now commercially available, is provided at the bottom of the bottles and immediately above the tray means 31. By virtue of the linear adjustment of the rack 10 in a direction from front to rear of the compartment 24, any foodstuffs indicated generally as 32' can be located adjacent the side and bottom of the bottles 14 and 19 without being disturbed in any manner on operation of the rack 10 to remove or insert a bottle within the com-

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partment. As a result the space immediately adjacent the bottles 14 and 19 is usefully employed without the resulting inconvenience now generally encountered of having to move the material 32' prior to taking a bottle out of the compartment 24. It is to be noted further that the available space for tray-supported food is increased by the support of the bottles adjacent the top of the compartment 24 and away from the tray means 31.

The rack member 10 has been described above as manually operated independently of the door 29 for the cooling compartment entrance opening 30, which door is pivotally supported on the side wall S. In some instances it may be desirable to have a part of the rack 10 withdrawn from the compartment 24 concurrently with the opening of the door 29 as where the bottles in such rack member are frequently used. This is accomplished in the present invention by the provision of a lever system including a link 32 having one end pivoted to the cross arm 11 of the rack member 10 at a point above the side 15 of the cross arm 12 and substantially intermediate the ends of the rack 10. The opposite end 33 of the link 32 is pivotally connected to one end of a bracket 34 extended laterally from the door 29 and secured at its other end 36 to the inner side of the door. When the door 29 is closed the lever 32 and bracket 34 are in positions in substantial linear alignment with each other as shown in Fig. 4. On opening of the door 29 the rack 10 is concurrently pulled outwardly from the compartment 24, the lever 32 and bracket 34 moving to their position shown in Fig. 5 in which they are substantially normal to each other. As shown in Figs. 1 and 2 sufficient clearance is provided above the tops of the bottles 14 and 19 so that a free pivotal movement of the lever 32 and bracket 34 is permitted between the track means 20 and the bottle tops.

The modified form of the invention shown in Fig. 6 is adapted to be carried from the top wall 27 of the compartment 24 similarly to the rack 10 of Fig. 3. The rack 37 (Fig. 6) is of a substantially U-shape in cross section with the U being turned 90° so that the legs 38 and 39 are horizontal and located one above the other. The lower leg 39 is formed along its free side with longitudinally spaced notches or slots 41 for receiving and supporting a bottle in a manner similar in all respects as described above for the rack 10 of Fig. 3. The upper leg 38 of the rack 37 is of a solid construction but has a side 42 extending outwardly beyond the base or connecting member 43 between the leg members 38 and 39. This relative construction of the leg 38 and base 43 provides for the insertion of the leg 38 in the track member 20 whereby to slidably support the rack 37 in the guideway 20 in a manner similar in all respects to the slidable support in the track means 20 of the cross arm 11 of the rack 10 in Fig. 3. A manual movement of the rack 37 to adjusted positions relative to the guideway 20 is facilitated by a handle 44 connected across the leg members 38 and 39.

As thus described it may be seen that the invention provides an adjustable device for holding bottles in the cooling compartment of a refrigerator which is linearly adjustable in a direction from front to rear of the compartment and of a construction such that all of the bottles carried therein are removable independently of each other and of any foodstuffs which may be stored in the compartment adjacent the bottles. By

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virtue of the support of the bottles near the top of the cooling compartment the available space in the cooling compartment for tray-supported foodstuffs is materially increased. Although the invention has been described with respect to the support of bottles adjacent the top of the cooling compartment it is to be understood that a plurality of these devices can be assembled in tiers on the side walls of the cooling compartment or in any desired position between the top and bottom of the cooling compartment. Further, although the bottle-receiving notches have been specifically described as milk and beverage bottles, it is apparent that any number of different shaped notches may be used to accommodate a large variety of different sized bottles.

The foregoing description of the invention is for illustrative purposes only and it is understood that some modifications may be made in the invention within the scope and spirit of the appended claims.

I claim:

1. In a storage compartment, a device for holding bottles comprising track means supported on a wall of the compartment and extended in a direction from front to rear of the compartment, a rack member having a portion thereof movably supported on said track means, a lower horizontal portion and an upper horizontal portion on said rack member each said lower and upper horizontal portions having longitudinally spaced bottle-receiving and supporting slots therein, with the slots in said upper and lower horizontal portions being in vertical alignment

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but with the slots in said upper horizontal portion of a size smaller than the slots in said lower horizontal portion, whereby a bottle may be supported in a slot in said lower horizontal portion by means of an enlarged portion of said bottle resting upon edges of the slot and a bottle having a relatively slender neck may be similarly supported in a slot in said upper horizontal portion and may depend through the aligned slot in the lower horizontal portion, said rack member being movably outwardly from the compartment so that bottles supported on said rack member are successively movable to positions outwardly from the compartment.

2. A construction as defined in claim 1 and a third horizontal portion supported on the opposite side of said rack from that supporting the first two horizontal portions, said third horizontal portion having bottle receiving and supporting slots in staggered relation to those of the first two horizontal portions.

ANTHON H. PASCHELL.

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