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H. A. COOK

1,974,983

CABINET SHELF

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Fig. 1.

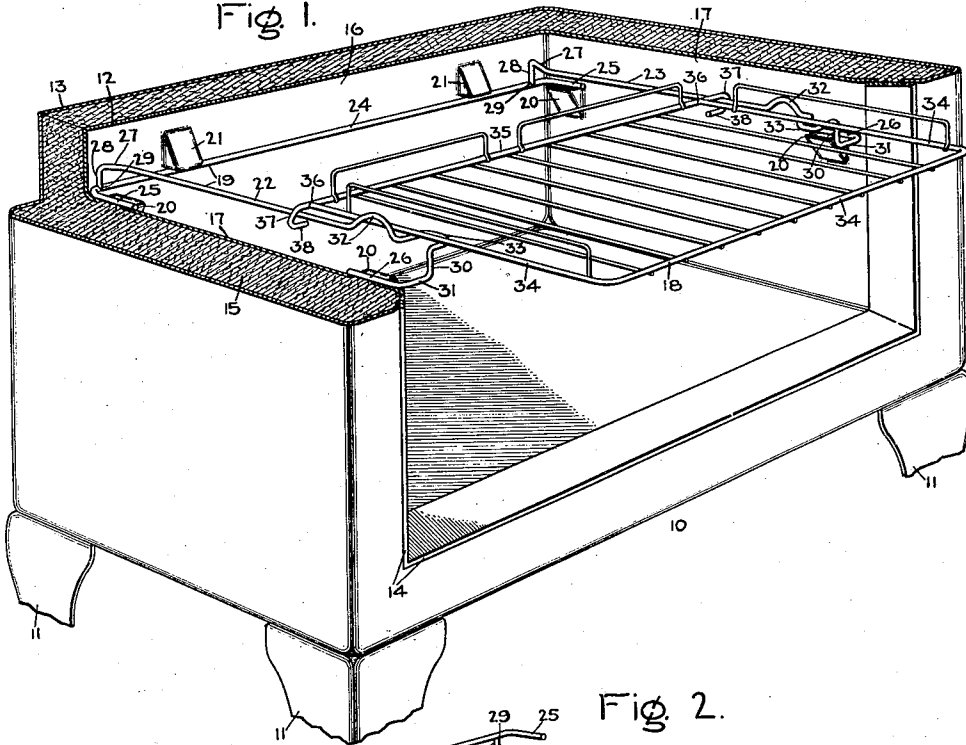


Fig. 2.

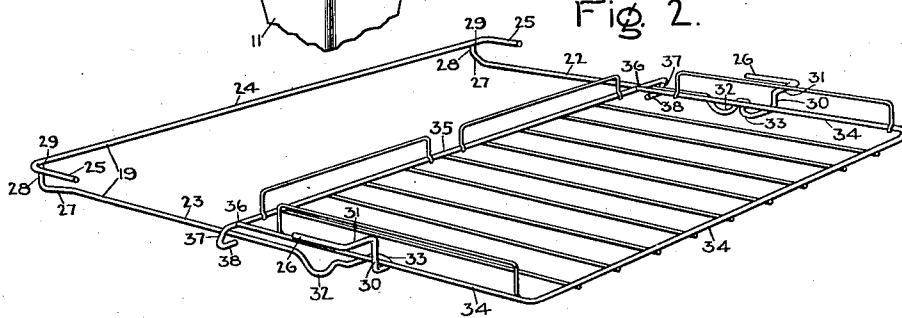


Fig. 3.

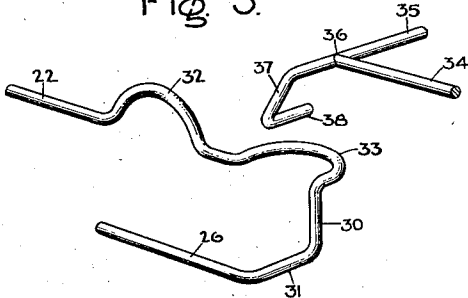
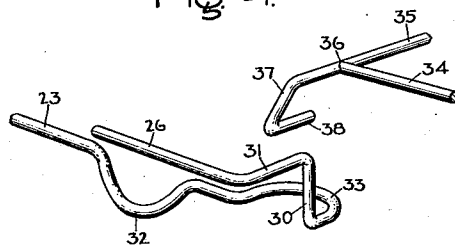


Fig. 4.



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UNITED STATES PATENT OFFICE

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CABINET SHELF

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11 Claims. (Cl. 211—153)

My invention relates to slidable cabinet shelves.

It is desirable that cabinets, such as refrigerator cabinets, be provided with slidable shelves which are adjustable in height. Various devices such as adjusting screws, clamps or spaced supports on the side wall of the cabinet have been used for this purpose. However, these devices are objectionable in that they present numerous small crevices and other openings in which food, or other foreign matter, may lodge, and thus make it more difficult to clean the cabinet. Accordingly it is an object of my invention to provide a slidable shelf for refrigerator cabinets and the like which shall require a minimum number of supports on the cabinet walls, so as to facilitate cleaning of the cabinet, and which shall be quickly and easily adjustable in height.

Another object of my invention is to provide a cabinet having a rack which is readily adjustable in height for supporting a slidable shelf.

Further objects and advantages of my invention will become apparent as the following description proceeds, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

For a better understanding of my invention reference may be had to the accompanying drawing in which Fig. 1 is a perspective view partly in section of a cabinet provided with a shelf embodying my invention; Fig. 2 is a perspective view of the shelf shown in the cabinet in Fig. 1, the supporting racks being inverted to support the shelf in its lower position; Fig. 3 is a detail perspective view of the end of the shelf rack in the position shown in Fig. 1 with a corner of the shelf and one of the supporting hooks shown in position for engagement with the rack; and Fig. 4 is a detail perspective view of the end of the rack in the position shown in Fig. 2 with the corner of the shelf and the supporting hook in position for engagement with the rack.

Referring to the drawing, in Fig. 1, I have shown a perspective view of a refrigerator cabinet 45 provided with legs 11, and having walls comprising inner and outer metal shells 12 and 13, which are spaced apart and connected by an insulating strip 14 arranged about a door opening at the front of the cabinet, suitable heat insulating material 15 being arranged between the shells. The inner shell 12 includes a rear wall 16 and side walls 17. A sliding shelf 18 and a supporting U-shaped rack 19 embodying my invention are mounted on lugs or supports 20 formed 55 in the side walls 16 and 17, and the rack 19 is pre-

vented from tipping, when the sliding shelf 18 is extended, by lugs or supports 21 formed on the rear wall 16 of the cabinet. It will be understood that the supports 20 and 21 need not be formed in the walls, but may be made separately and then secured to the walls in any suitable manner.

In accordance with my invention, I construct the rack 19 so that it will support the shelf 18 either above or below the plane of the supports 20, and so that the adjustment of the height of the shelf 18 may be accomplished merely by inverting the rack 19 in its position on the supports 20. The U-shaped rack 19 comprises shelf guides 22 and 23 secured at their rear ends by a transverse bar 24, and supported at their rear ends on feet 25 and at their forward ends on feet 26, these feet being out of alignment with the plane of the guides 22 and 23. These members are constructed of heavy wire and are bent in a manner to be described.

At their rear ends the shelf guides 22 and 23 are provided with outwardly bent portions 27 and with vertically bent portions 28, the ends of the vertically bent portions being welded or otherwise secured to transverse bar 24 at 29. The forward ends of the guides 22 and 23 are provided with vertically bent portions and outwardly bent portions 30 and 31, respectively. The feet 26 are formed by bending the ends of the guides 22 and 23 backward parallel to the main portions thereof. Near the forward ends of the guides 22 and 23 are formed vertically extending loops 32 which serve as stops to limit the forward movement of the shelf 18 on the guides, and inwardly extending horizontal loops 33 which are provided to support a side bar 34 of the shelf 18 at the forward end thereof.

Shelf 18 includes an outer frame comprising the bar or wire 34 forming the side and front bars of the shelf and the wire 35 forming the rear side of the shelf frame and welded to the wire 34 at 36. Wire 35 is bent at its ends to form hooks 37 which engage the shelf guides 22 and 23 of the rack or supporting frame 19 so as to guide and support the shelf 18. The shelf 18 may be withdrawn horizontally from the cabinet 10 until the hooks 37 engage the stops 32. With the shelf in its forward position any load thereon will tend to tip the rack 19 upward at the rear thereof, and this tipping is prevented by the lugs 21 on the inner rear wall 16 of the cabinet 10. When the shelf 18 is slid into the cabinet the bends 27 limit the rearward movement of the shelf. If it is desired to remove the shelf from the rack it is only necessary to raise the front 110

end of the shelf and to move the hooks 37 over the loops 32 until ends 38 of the hooks 37 are within the loops 33 and can pass through the loops 33 and thus permit the shelf 18 to be lifted from the rack 19. Fig. 3 shows the end of the guide 22 and of the hook 37 just after the hook has been withdrawn from the loop 33.

The feet 25 and 26 are in a plane parallel to and spaced from the plane of the main portions of the guides 22 and 23 and are thus out of alignment with the plane of the guides, and the main portions of the guides 22 and 23 are spaced from the side walls 17 of the cabinet. In Fig. 1 the guides 22 and 23 are above the level of the feet 25 and 26. If the rack 19 is removed from the cabinet and inverted, it may be placed in the cabinet with the guides 22 and 23 below the level of the feet 24 and 25. It is thus evident that the position of the guides 22 and 23 has been lowered by merely inverting the rack 19 on the supports 20. The rack 19 is shown outside the cabinet in this inverted position in Fig. 2. Shelf 18 may now be placed upon the rack 19 in a manner similar to that employed when the rack is in the position shown in Fig. 1. Starting with the ends of the guide and shelf in the position shown in Fig. 4, the ends 38 of the hooks 37 are passed through the loops 33 and the shelf 18 is raised at its forward end to allow the hooks 37 to pass over the loops 32 to the main portions of the guides 22 and 23. The shelf will now rest on the loops 33 and be supported by the hooks 37, the position of the shelf in Fig. 2 being lower than that of the shelf as shown in Fig. 1 by a distance equal to double the length of the vertical portions 28 and 30 of the guides 22 and 23.

The lugs 20 and 21 may easily be stamped in or formed separately and secured to the inner wall of the cabinet in such a manner that they will have no crevices or openings in which food or other foreign matter may lodge, so as to facilitate cleaning of the cabinet. The wire shelf and rack are also easily kept clean as they contain no crevices where food particles may become lodged. It is also apparent that the operation of adjusting the height of the shelf is extremely simple as it involves merely the inverting of the rack in its position on the supports of the cabinet. No screws, clamps, levers or similar devices are required either to adjust the position of the shelf in the cabinet or to remove the shelf from its supporting rack.

While I have described a particular embodiment of my invention as applied to a household refrigerator cabinet, modifications thereof will occur to those skilled in the art, and I do not desire my invention to be limited to the specific construction shown and described, and I intend in the appended claims to cover all modifications thereof within the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a cabinet having shelf supports carried by the walls thereof, a rack including shelf guides, means including feet secured to said rack and arranged out of alignment with the plane of said shelf guides for removably supporting said rack on said shelf supports, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides, and a shelf slidably supported on said guides.

2. In a cabinet having shelf supports carried

by the walls thereof, a rack including shelf guides, a shelf slidably supported on said guides, stops formed on said guides and limiting the sliding movement of said shelf, and means including feet secured to said rack and arranged out of alignment with the plane of said shelf guides for removably supporting said rack on said shelf supports and for providing two positions for said shelf, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides.

3. In a cabinet having shelf supports carried by the walls thereof, a rack including shelf guides, and means including feet secured to said rack and arranged out of alignment with the plane of said shelf guides for removably supporting said rack on said shelf supports, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides, a shelf supported on said guides and slidable from within said cabinet to a position outside said cabinet, and means including a lug carried by one of the walls of said cabinet for preventing downward displacement of said shelf when in said outer position.

4. In a cabinet having shelf supports carried by the walls thereof, a rack including shelf guides and a transverse bar connecting said guides, means including feet secured to said rack and arranged out of alignment with the plane of said shelf guides for removably supporting said rack on said shelf supports, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides, and a shelf slidably and removably arranged on said guides.

5. In a cabinet having shelf supports carried by the walls thereof, a U-shaped rack having supporting feet and shelf guides formed thereon, said feet being arranged out of alignment with the plane of said shelf guides for engaging said shelf supports, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides, a shelf slidably supported on said shelf guides and means for detachably securing said shelf on said guides in either position of said rack.

6. In a cabinet having shelf supports carried by the walls thereof, a rack including shelf guides connected by a transverse bar, means including front feet formed integrally with said guides and rear feet formed integrally with said transverse bar for removably supporting said rack on said shelf, said front and rear feet being arranged out of alignment with the plane of said guides, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides, a shelf slidably supported on said guides, and means including stops arranged on said guides for limiting the movement of said shelf along said guides.

7. In a cabinet having shelf supports carried by the walls thereof, a rack including shelf guides, means secured to said rack and arranged to support said shelf guides above said shelf supports or below said shelf supports for adjusting the height of said guides, a rectangular shelf having hooks at one end engaging said guides and slidable thereon to an extended position, means including horizontally extending loops on said

guides for maintaining said shelf in a horizontal position and for disengaging said hooks and said guides, means including vertically extending loops on said guides for limiting outward horizontal movement of said shelf and for permitting said hooks to be moved to said horizontal loops when the end of said shelf remote from said hooks is raised.

8. In a cabinet having shelf supports carried by the walls thereof, a U-shaped rack including shelf guides formed thereon, and means including feet formed on said rack and arranged out of alinement with the plane of said shelf guides for removably supporting said U-shaped rack on said shelf supports, said U-shaped rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said shelf guides, a shelf slidably supported on said guides, hooks secured to the rear end of said shelf and engaging said guides, and means including a vertically extending loop and an inwardly extending horizontal loop formed on each of said guides for limiting the sliding movement of said shelf on said guides and for permitting said hooks to be disengaged from said guides.

9. In a cabinet having side and rear walls and shelf supports secured to the side walls near the front and rear thereof, a wire rack including a pair of shelf guides spaced from the side walls of said cabinet, said guides having outwardly bent portions serving as stops and terminating in vertically bent portions at the rear ends thereof, a horizontal wire connecting the rear ends of said guides and having bent portions engaging said rear shelf supports, lugs on the rear wall of said

cabinet above and engaging said horizontal wire, each of said guides having an inwardly extending horizontal loop at the front end thereof and having a portion of its end extending vertically and a portion extending outwardly and rearwardly and engaging said front shelf supports, each of said guides having a vertically extending loop near said horizontally extending loop, and a wire shelf having hooks at the rear end thereof engaging said guides and supported on said horizontal loops, said shelf being slidable on said guides and being removable therefrom when the front end of said shelf is raised to permit said hooks to be moved over said vertically extending loops and through said horizontal inwardly extending loops.

10. In a cabinet having shelf supports carried by the walls thereof, a rack including shelf guides and a transverse bar connecting said guides, and means including feet secured to said rack and arranged out of alinement with the plane of said shelf guides for removably supporting said rack on said shelf supports, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides.

11. In a cabinet having shelf supports carried by the walls thereof, and a U-shaped rack having supporting feet and shelf guides formed thereon, said feet being arranged out of alinement with the plane of said shelf guides for engaging said shelf supports, said rack being adapted to be supported on said shelf supports with said feet above said guides or with said feet below said guides to adjust the height of said guides.

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