March 17, 1942. W. B. DIBBLE 2,276,942

REFRIGERATOR SHELF CONSTRUCTION

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Fig. 1.

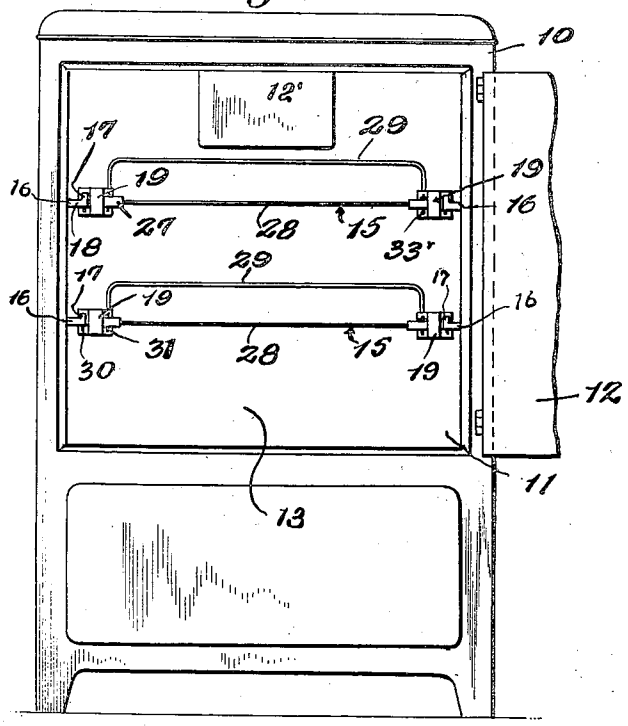
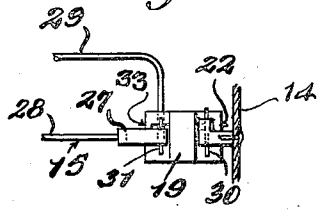


Fig. 5.



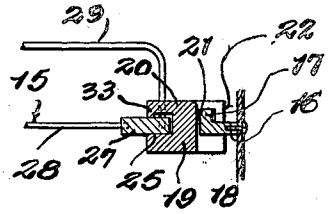


Fig. 6.

Fig. 7.

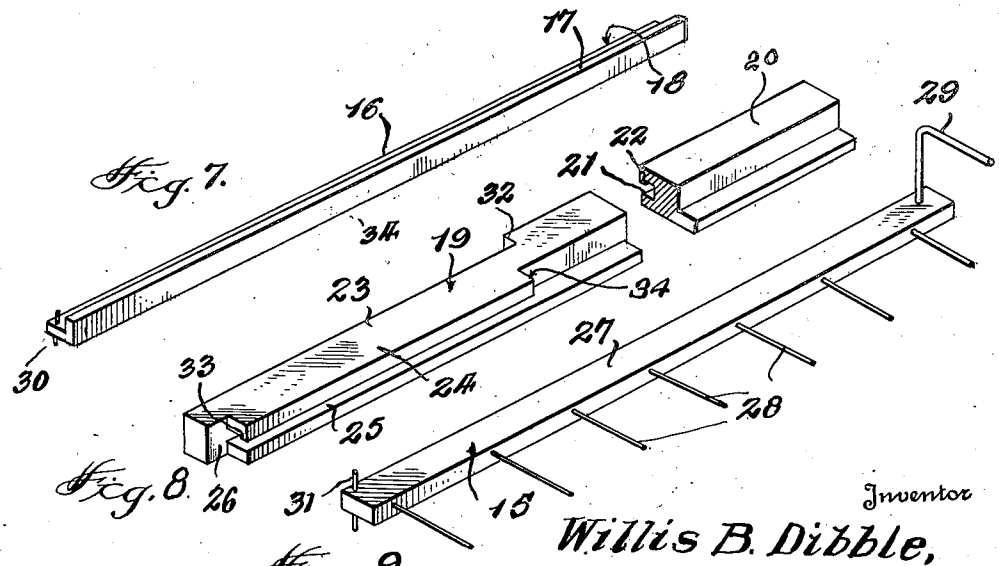


Fig. 8.

Fig. 9.

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REFRIGERATOR SHELF CONSTRUCTION

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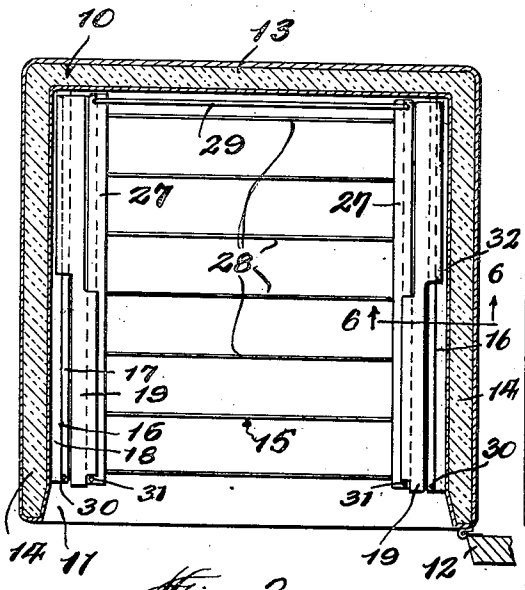

Fig. 2.

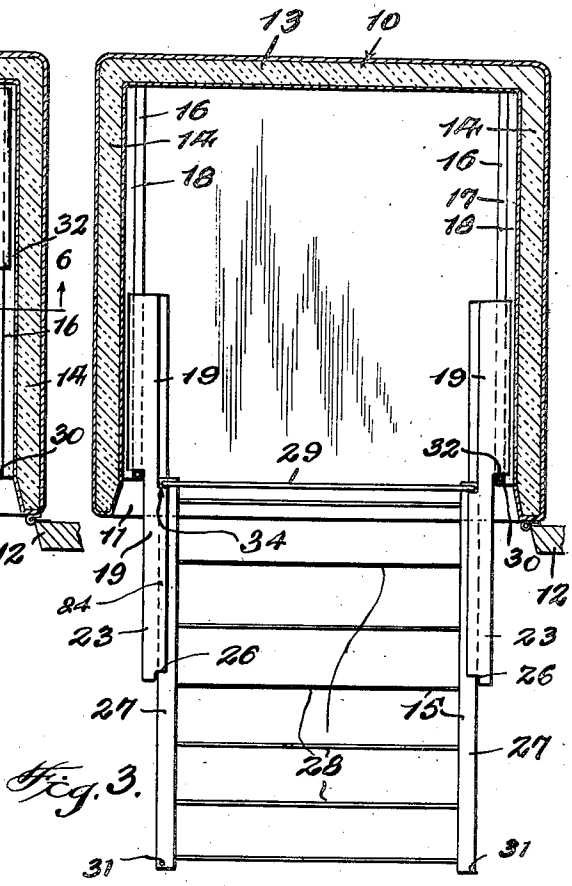

Fig. 3.

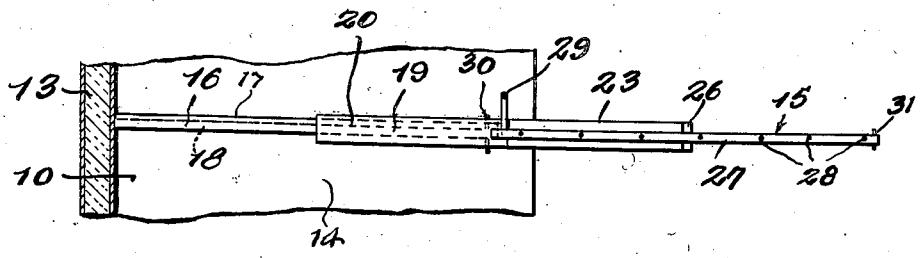

Fig. 4.

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UNITED STATES PATENT OFFICE

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REFRIGERATOR SHELF CONSTRUCTION

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Application March 17, 1941, Serial No. 383,846

1 Claim. (Cl. 211—143)

The invention has for an object to present a shelf mounting for use in refrigerators, cupboards or other storage closets and the like, by which any shelf may be drawn entirely without the closure so that articles may be lifted therefrom at the rear part without disturbing those in front. It is a special purpose of the invention to present a construction of this nature which will be extremely simple in form and adapted to be produced at a low cost.

An especially important aim of the invention is to present such construction which will be liable in a minimum degree to accumulate dirt, fungus, and the like, and which may be readily dismantled to permit thorough cleansing of all surfaces.

Another object of the invention is to present a mounting of this kind which will be extremely durable and strong, and liable in a minimum degree to derangement in the course of ordinary use.

A further important aim of the invention is to enable the utilization of various forms of wire racks, such as are found desirable in refrigerators, and to present a device which will occupy a minimum of room in a refrigerator, and which may be attached to ordinary refrigerator walls without modification of the construction of refrigerators as conventionally practiced.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the embodiment of the invention, as will be more readily understood from the following description and accompanying drawings, wherein—

Figure 1 is a front view of a refrigerator in which my invention is incorporated.

Figure 2 is a horizontal sectional view of the refrigerator with the shelf retracted.

Figure 3 is a similar view showing the shelf extended.

Figure 4 is a fragmentary vertical section of the refrigerator showing the extended shelf in side elevation.

Figure 5 is a fragmentary front view of the shelf.

Figure 6 is a fragmentary cross section on the line 6—6 of Figure 2.

Figure 7 is a perspective view of the rail.

Figure 8 is a perspective view of the slide.

Figure 9 is a fragmentary perspective of the shelf, showing one side member.

There is illustrated a refrigerator housing 10, which may be of any usual form, having the entire front side open, as at 11, in accordance with usual practices in electric refrigerator construction, a door 12 being shown hinged at one side. Any usual refrigeration means may be employed in the housing 10, as commonly practiced, or as may be developed.

The refrigerator shown has a rear wall 13, and side walls 14, each of these walls having a planiform inner surface which customarily is of sheet metal with a coating of a vitreous enamel or other corrosion-resistant material.

In such a refrigerator, any number of shelves, trays, or racks, such as indicated at 15, may be mounted by the use of my invention, two being shown in the present instance, and the mounting of one will be described.

On each side wall 14 there is mounted a horizontal rail 16 which, in the present instance, is shown as formed of a simple angle strip, which may be produced in metal or other material, including a rail flange 17 extending upwardly, and a base flange 18 extending horizontally inward from the wall 14. The rail may be secured in position on the wall by any usual fastening (not shown), engaged with the flange 18, or may be secured by other means as found preferable. Slidably engaged upon each of the rails, there is a respective slide or shelf carrier 19, which may be formed of wood or metal, and includes a rail-fitting rear end portion 20, having a groove 21 in its outer lateral edge, this groove being L-shaped in cross section, so that a depending retaining lip 22 is formed at the outer upper side thereof to fit beside the flange 17 when the rail is engaged in the groove. The forward portion 23 of the slide is relieved at its outer side to a distance corresponding to the horizontal depth of the groove 21, while on its inner side it is laterally extended as at 24, and grooved at 25 in a form corresponding to the groove 21 of the rear end 20. The lateral extension 24 forms a shoulder 34 at its rear and stops short of the outer end of the slide at its forward end, as at 26. The groove 21 is so shaped that the clearance between the lip 22 and lower side of the groove is just sufficient to receive the flange 18 of the rail slidably thereunder.

The shelf element in the present instance comprises two side members 27, between which transverse cross wires or bars 28 are extended, being fixed in the side members 27 and the side members 27 are adapted to fit in the grooves 25 of the slides 19, so that the shelf may be readily reciprocated relatively to the slides. If desired, other support means than the bars 28 may be mounted between the side members 27, in ac-

cordance with familiar practices in the production of trays, shelves and the like for refrigerators. At the rear end of each shelf a guard or fence rail **29** is mounted between the members **27**, this consisting of a length of rod material having its ends bent downwardly at right angles and set in the side members **27** permanently, so that it affords an upstanding fence at the rear of the shelf, which will prevent jars, packages and the like from falling off the rear edge of the shelf.

Fixed in the extreme forward end of the flange **18** of the rail **16**, there is a vertical stop pin or bar **30**, so located in the flange **18** of the rail that it clears the forward end portion **23** of the slide as the latter moves forward, but will engage the shoulder **32** formed at the outer end of the section **20** of the slide, where the relieved part of the slide terminates. The side members of the shelf **15** also have respective vertical pins **31** set therein at their extreme forward or outer ends, and adjacent the extreme lateral edges of the side members **27** so that these pins may enter the relieved end part **26** at the inner side of the forward section **23** of the respective slides. It may be noted that the outer lateral part of the rear section **20** of each slide is of less length than one-half the length of the rail, as well as less than one-half the length of the slide itself, and this portion of the slide may be made even shorter in proportion to the total lengths of the parts, if found desirable. The depending flange **33** at the upper side of groove **25** limits the bearing area, and minimizes friction between shelf and slide.

In the installation of my shelf, the respective rails **16** may be put in place while separated from the remainder of the apparatus, and then, the pin **30** being removed, the shelf, with the slide assembled thereon at each side in the manner shown in the several figures is introduced by presenting the rear end of the slide **19** so as to receive the flanges **17** and **18** in each groove **21**. The shelf may then be moved slidably to its rearmost position in the refrigerator, as shown in Figure 2, and the pins **30** replaced. When the shelf is grasped by the forward bar **28** and pulled forwardly, it moves slidably in the slides **19** until the rail **29** engages the rear shoulder **34** of the inwardly projected lateral portion **24** of the forward part **23** of the slide, the downturned ends of the rail being set outwardly of the members **27** a proper distance for this purpose. Further movement of the shelf then draws the slides forwardly, until they are checked by engagement of the shoulders **32** against the pins **30**. On return movement of the shelf, pressure being supplied to its forward edge portion, it again moves slidably in the slides **19** until the pins **31** engage the shoulders at the offset **26**, whereupon the slides are moved by the pins **31** rearwardly as the shelf is pushed in, until the parts again come to rest at the position shown in Figure 2.

While the shelf is in extended position as shown in Figure 3, it is supported securely by the ample length of the section **20** of the slides engaged with the rail **16**, and by the corresponding ample length of the section **23** and grooved offset portion **24** in which the side members **27** of the shelf are engaged. These side members are shown as of sufficiently substantial form to support some weight at the forward part of the shelf beyond the slides, as will be readily understood.

In case it is desired to remove the shelf, this may be accomplished by removal of the pins **30** and drawing of the shelf and slide assembly entirely out of the refrigerator and clear of the rail **16**, after which the slide members may be separated from the shelf by being drawn laterally therefrom at any part of the members **27** of the shelf. Until the pins **30** are removed, the slides are held in position with the rail **16** so engaged therein that they may not move to a diagonal position, so that no accidental lateral movement of the forward parts of the slide members so as to disengage the shelf can occur normally.

While I have shown and described with great particularity a specific embodiment of the invention, it will be understood that this is exemplary, and that various changes in form, construction, arrangement and combination of parts, substitution of equivalents, and other obvious expedients may be carried out without departing from the spirit of the invention, as more particularly set forth in the claim hereto appended.

I claim:

A shelf mounting for refrigerators and the like, comprising side wall rails for a storage compartment, respective slides thereon, each consisting of an inner end portion grooved on its lateral outer side to fit slidably on the respective rail, said slides being relieved on their lateral sides forwardly of the grooved portions defining shoulders and including forward portions having inner laterally extended grooved parts stopping short of the forward end forming a shoulder, a shelf longitudinally slidable in the last named grooved parts, stop means on the rails and shelf cooperable with respective shoulders to limit relative sliding movement of the slidable engaged parts, and said shelf being also provided with a rear stop member, consisting of a transverse guard element spaced above the shelf and having downturned ends set in the side members of the shelf in position to engage a shoulder of the slides when the shelf is moved to the forward limit of its movement on the slides.

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