

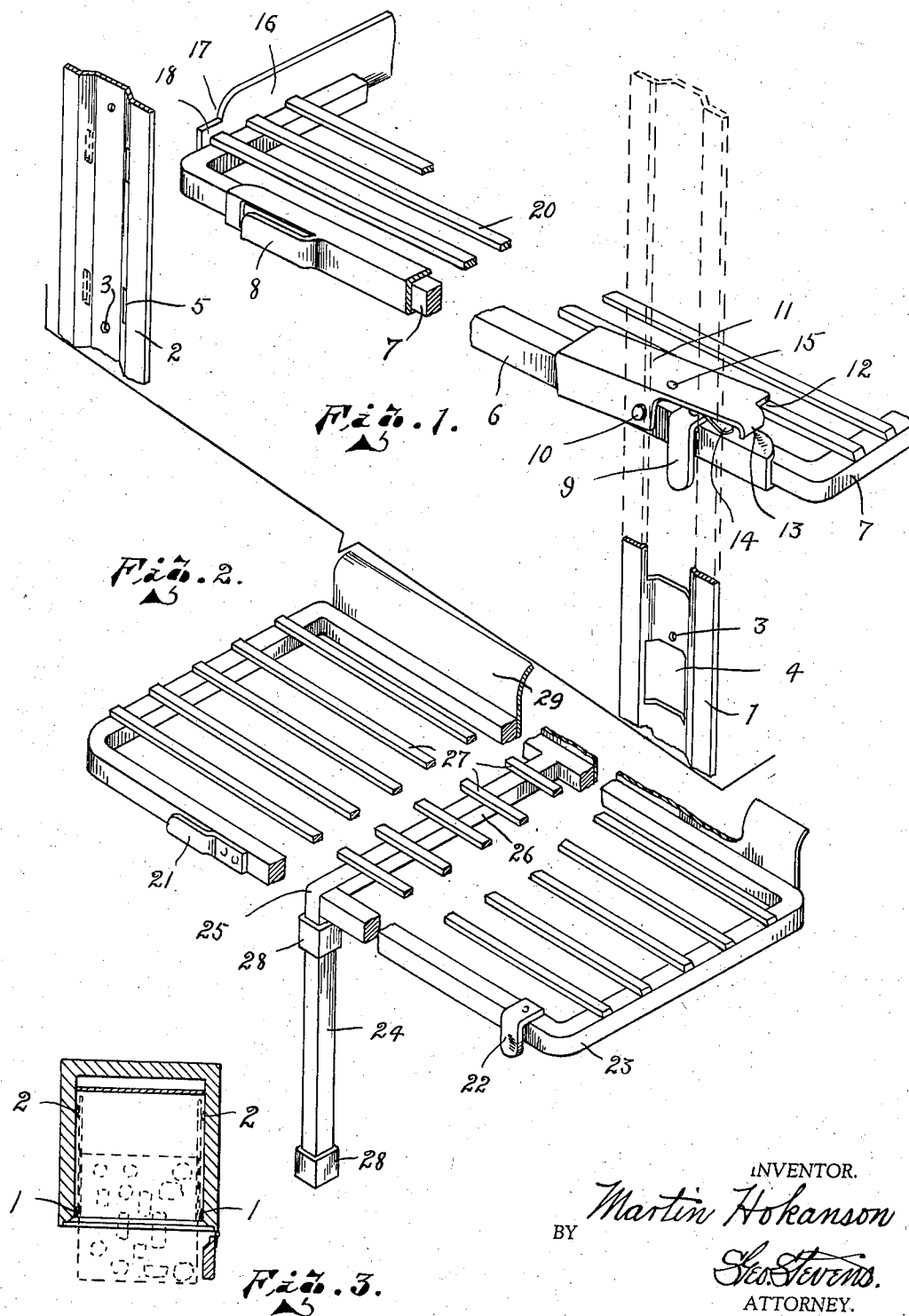
Jan. 10, 1939.

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2,143,268

SHELVING

Filed Oct. 7, 1936



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UNITED STATES PATENT OFFICE

2,143,268

SHELVING

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Application October 7, 1936, Serial No. 104,466

4 Claims. (Cl. 211-143)

This invention relates to shelving and has reference to a novel type of shelving particularly adapted for use in somewhat confined compartments such as occur in refrigerators, or the like.

The principal object of the invention is to provide a more practical and readily manipulated shelf as well as supporting means therefor.

It is old in the art to provide channel runways for such shelving, but since there has been experienced more or less difficulty in the proper adjustment of the runways for the shelves when it becomes desired to change the relative height thereof, for example in a refrigerator, it is another object of this invention to provide a more simple construction and readily adjustable runway for the shelves.

Improvements in what is known as a divided shelf, especially in respect to refrigerator use, is another object of the invention.

Still other novel features of the construction hereinafter described will appear in the following specification.

Referring now to the accompanying drawing, forming part of this application, and wherein like reference characters indicate like parts:

Figure 1 is a perspective view of a fragmental portion of one side of a full width shelf as employed in the food compartment of a refrigerator.

Figure 2 is a perspective view of a broken narrow or divided shelf illustrating a modified form of supporting means.

Figure 3 is a horizontal section through a refrigerator, showing the food compartment therein, and the novel positioning of the shelf supporting stanchions.

Referring now particularly to Figure 1, the numerals 1 and 2 represent the upright supports for the shelving, similar to those found in the food compartment of refrigerators, or the like, and which are secured in any desired manner to the inner walls of the compartment, as, for example, by nails, screws, or rivets, through the centrally located holes 3. There is deemed little of novelty in these supports except as to their position in the food compartment of a refrigerator and that the outermost ones 1 have rather large and centrally located apertures 4 therein, spaced vertically any desired distance apart while the rear-most ones 2 are provided with narrow slot-like openings 5 in the forward edge only of the central bulged portion thereof. The side walls of the bulged portion in the forward standards are also cut away in the forming of the openings 4 to permit of the passage horizontally through same of the vertical flange of the body portion of the

detents 11, as well as the clips 9 when the shelf is within the channel 6 as illustrated in Figure 1 of the drawing.

Where shelves of this type are used in the food compartment of a refrigerator and which for convenience are slid back and forth when heavily loaded, it is deemed a material improvement to have the supporting stanchions in such compartments as close as possible to the forward edge of the compartment (which is not now practiced) and obviously results in the weight of a loaded shelf remaining more equally distributed upon and intermediate of the supports, it being apparent that when the supports are not thus placed, a heavily burdened shelf when materially pulled out results in all of the downward pressure coming on the forward support only.

6 represents one of the channel shaped runways for support of the shelf frame, the latter being indicated at 7, and is deemed novel in that it is of rectangular shape in cross section, with the long side vertically disposed, which provides a frame of lighter weight than one of the same strength of circular cross section. At the innermost end of the channel 6 there is struck outwardly therefrom the lug or clip 8 for horizontal and longitudinal engagement when desired within any one of the vertically disposed slots 5 in the rearmost support or stanchion 2. Of course, if preferred, this clip may be formed separately and fastened to the face of the channel as by riveting or spot-welding; such construction being clearly illustrated in Figure 2 of the drawing. At, or adjacent the forward end of the runway, as shown in Figure 1, is a depending clip indicated at 9, the depending portion being spaced from the adjacent wall of the channel in the same manner that the clip 8 is spaced from a plane with said wall. This clip 9 is for lateral and vertical adjustment within any one of the apertures or openings 4 within the channel or stanchion 1 so that it requires vertical as well as lateral movement of the channel for adjustment of said forward clip to and from the channel 1; the vertical installing movement being that which positively locks the runway in position and against any possibility of accidental dislodgment or removal without reversal of the combined vertical and lateral movement of same. This clip, if preferred, may be struck from the channel in a similar manner to the clip 8, though vertically disposed, and in which event it will necessarily have to be somewhat shorter than illustrated, but might function admirably.

Adjacent the forward clip 9 and preferably just

rearwardly of same is pivotally mounted as at 10 to the back of the channel runway the manually operable detent 11 which is of angle bar form, though cut away on its vertical portion just forwardly of its pivotal support 10 so as not to interfere with the catch 9. It will be noted that the axis of this pivotal support of the detent is at right angles to the direction of movement of the shelf and in a plane parallel with the shelf. The forward end of the horizontal portion of the detent is reduced in width as at 12, the remaining portion being bent downwardly as at 13, forming a stop for the forward free end when the detent is tipped up for release of the shelf 7. However, this forward free end of the detent is normally held in its uppermost position as illustrated by a suitable flat spring 14 attached as at 15 to the under side of the horizontal portion of the detent, and bears normally against the upper face of the runway 6, thus holding the detent in active position in respect to its stopping action. The rearmost portion of the shelf frame 7 is provided with an upstanding guard or dash 16, substantially the full width of the shelf, and which guard member is reduced in height as at 17, leaving a right angular portion or corner 18 just inwardly of a vertical plane with the inner edges of the channel runways 6 but projecting slightly above same which acts as means for engagement with the depressed end of the normally disposed detent when the shelf is drawn outwardly to nearly its full length, thus preventing its entire withdrawal unless the detent is manually manipulated to free it from engagement with the corner 18, thus permitting of such corner, or corners (for the same is true of the opposite runway and equipment) to pass under the detent. It will be noted also that the upper horizontal wall of the detent is flat and inclined permitting of the shelf being readily slid back into position within the runway without any manual attention whatever to the detents.

Another feature in connection with this novel form of shelf is that the frame 7 is rectangular in form providing a flat substantial contact for the ends of the shelf bars 20 thereupon, and ample area for spot welding, soldering or the like, thus materially increasing the strength and durability of such a shelf. This is also true as to the area such cross section of frame provides for the attachment of the back and side guards to the shelf.

As to the divided shelf, which, as before stated, is common in refrigerators, attention is directed to the fact that the clips 21 and 22 corresponding to the clips 8 and 9 in Figure 1 are attached directly to the shelf frame 23 so that each half shelf is placed directly in its position in the stanchions 1 and 2, and the sustaining of the shelf in a horizontal position is accomplished by the L-shaped bracket 24 forming a cooperative part of the shelf frame in which it is incorporated as at 25 by spot welding or the like extending wholly across the half shelf as at 26 directly supporting all of the longitudinally spaced shelf bars 27, and the vertical portion of the bracket 24 is shown as provided with rubber bands 28 to prevent its marring the side of the compartment in which it is installed and normally engages.

It will be noted that the divided shelf is also

adjustable vertically, even though it is not a slidable shelf similar to the others, and that but a single bracket is all that is necessary to support the shelf together with the clips 21 and 22 and their secure engagement within their respective stanchions, which is deemed novel.

There is also shown upon the inner free edge of the shelf frame 23 a guard or dash plate 29 to prevent the falling of articles therefrom into the space intermediate of the two half shelves; such space being initially provided for the upwardly protruding necks of milk bottles or the like where room for same is otherwise scarce.

It will be obvious that the detent 11 could be pivotally mounted underneath the runways, if preferred, and in which event the back guard or dash 16 would be extended below the frame of the shelf a sufficient distance to make contact with the detent, and that other modifications within the scope of the appended claims may be resorted to without departing from the spirit of the invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. Vertically adjustable supports for slidable shelving comprising spaced uprights having longitudinally spaced slots therein, channel runways having clips projecting therefrom for cooperative engagement within said slots, a detent pivotally secured to each runway and having a portion thereof projecting beyond said runway, a shelf slidably supported within said runways, a guard plate secured to the rear edge of said shelf and having an end portion normally extending in the path of the projecting portion of said detent.

2. The combination with a shelf runway of the type described and a shelf therefor, of a stop for selective engagement with said shelf carried by the runway consisting of a detent pivotally supported intermediate of its ends upon said runway, the axis of said pivotal support being at right angles to the axis of said runway and in a plane parallel with the shelf.

3. The combination with a shelf runway of the type described and a shelf therefor, of a stop for selective engagement with said shelf carried by the runway consisting of a detent pivotally supported intermediate of its ends upon said runway, a spring for holding one end of the detent away from the runway with its opposite end contacting same and in the path of said shelf, and a projection carried by the shelf for said contact.

4. A vertically adjustable and horizontally slidable shelf and supporting structure therefor, comprising a pair of spaced uprights at either side of said shelf, said uprights each having a central bulged portion, the back uprights on either side having longitudinally spaced slots in the forward edges of the bulged portions, and the front uprights on either side having longitudinally spaced rectangular openings through the bulged portions, channel runways each having a longitudinally disposed clip adjacent either rear end for insertion within the slots in the back uprights, and a transversely disposed clip adjacent either forward end for insertion within the openings of the front uprights and a shelf slidably mounted within said runways.