Jan. 3, 1939. C. O. WILLIAMSON ET AL 2,142,469

CLOSURE ELEMENT FOR TOP OPENING REFRIGERATORS

Filed March 26, 1936

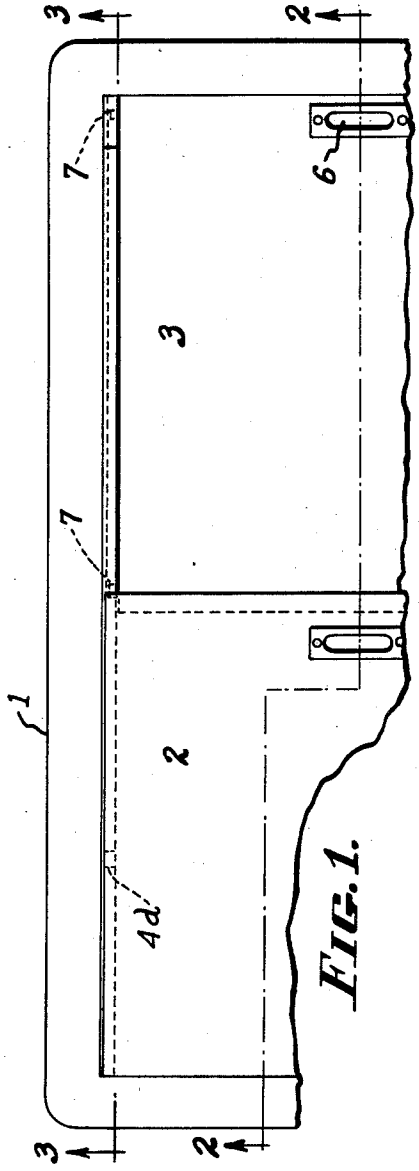


FIG. 1.

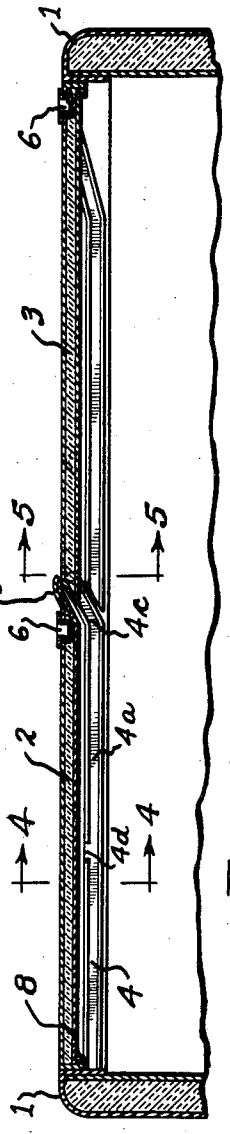


FIG. 2.

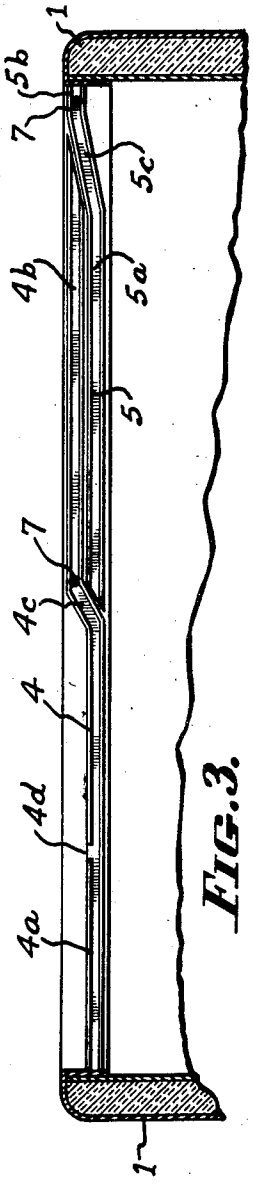


FIG. 3.

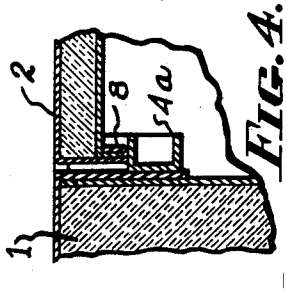


FIG. 4.

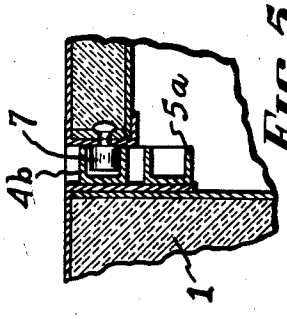


FIG. 5.

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Patented Jan. 3, 1939 2,142,469

UNITED STATES PATENT OFFICE

2,142,469

CLOSURE ELEMENT FOR TOP OPENING REFRIGERATORS

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Application March 26, 1936, Serial No. 70,972

3 Claims. (Cl. 220—41)

Our invention relates to closure devices for refrigerators of the type in which access to the refrigerator is had through the top. Refrigerator units of this type are quite generally used for beer coolers and the like, and they generally embody two closure members whereby access may be had to either half of the cabinet.

For the most part these closures have been of the hinged type, although there have been attempts to make them of the sliding type. The latter have, however, been objectionable for various reasons. Where one closure member was caused to slide up over the other one or possibly down under the other one. the two closure members have come in contact with each other, with the result that there was a scraping action which resulted in marring the finish. It has also been attempted to try the construction in which one closure member would slide over the other closure member with the assistance of one or more centrally disposed rails. Such constructions have uniformally been objectionable for the reason that the construction lacked in rigidity and there was a tendency for the closure members to jam.

As between hingedly opening closures and sliding closures, the latter are preferable for the reason that less effort is required to operate them and there is no danger of one of the closure members falling from its open position and pinching an attendant's fingers.

With the above factors in mind, it is our object to provide a construction of refrigerator top closures of the sliding type which is free from the objections pointed out above in connection with the prior art. It is an object of our invention to provide a closure construction which is extremely rigid and yet effortless in operation so as to avoid danger of jamming. It is another object of our invention to provide such a construction whereby the two closure members will never come in contact with each other in any position, so that their exposed surfaces may be finished as desired and will not become marred in use. Generally speaking it is our object to provide a construction having the above outlined advantages which will be durable, effective and inexpensive of construction. These and other objects of our invention which will be set forth hereinafter or will be apparent to one skilled in the art upon reading these specifications, we accomplish by that certain construction and arrangement of parts of which we shall now describe an exemplary embodiment.

Reference is now made to the drawing which forms a part hereof, and in which:—

Figure 1 is a fragmentary plan view of one form of our invention.

Fig. 2 is a cross sectional view of the same along the line 2—2 of Fig. 1.

Fig. 3 is a cross sectional view of the same along the line 3—3 of Fig. 1.

Fig. 4 is a detailed cross sectional view taken on the line 4—4 of Fig. 2.

Fig. 5 is a detailed cross sectional view taken on the line 5—5 of Fig. 2.

Referring to Figs. 1 to 5, inclusive, which show one embodiment of our invention, we provide a refrigerating cabinet 1, which may be of any desired well-known form. This cabinet will not be described in detail except insofar as it is necessary in order to understand the operation of the closure members 2 and 3. The cabinet according to the usual construction will be formed of sheet metal with a filling of some insulating material. Along the longitudinal walls of the cabinet near the top we attach by welding, riveting or the like, the channel members indicated generally at 4 and 5. The channel member 4 comprises a lower straight leg 4*a*, an upper straight leg 4*b* and a connecting sloping portion 4*c*. The other channel 5 comprises a lower straight portion 5*a*, an upper straight portion 5*b* and a connecting sloping portion 5*c*. It will be noted by reference to Fig. 3 that the lower portion 4*a* of the channel member 4 and the lower portion 5*a* of the channel member 5 are disposed at the same horizontal level while the upper portions 4*b* and 5*b* are also disposed on the same horizontal level somewhat above the portions 4*a* and 5*a*. It is also to be noted that the connecting portion 4*c* is much shorter and steeper than the connecting portion 5*c*. It is to be understood that both longitudinal walls of the cabinet are thus provided.

We will now proceed to a description of the two closure members 2 and 3. Both of these members, generally speaking, comprise flat insulating slabs covered with sheet metal. We may provide in them indented portions 6 for finger holes when it is desired to open or close these members. The closure member 3 is provided on both sides near both ends with pins or rollers 7. The members 7 may be attached to the member 3 by riveting, welding, or any other desired means. Referring again to Fig. 3 it will be noted that in use the two left hand pins 7 will ride in the channel member 4, while the two right hand members 7 will ride in the channel 5. In assembling the member 3 into position the right hand pins 7 may readily be caused to enter the channel 5 turning the cover member slightly sidewise and lowering it into the cabinet until the pins 7 are opposite the channel 5, when the member 3 may again be turned to its transverse position. The left hand pins 7 are then caused to enter the channel 4 through slots 4*d*.

The closure member 2 is similar to the closure member 3 except that it is not provided with pins 7; instead it is formed along its sides with a

down-turned flange 8, as best seen in Fig. 4. This flange is adapted to ride on the upper leg of the channel member 4. The flange portion 8 runs around three sides of the closure 2. The fourth side which lies adjacent the cover member 3 is pinched together, as indicated at 9.

The operation of this device is as follows: When it is desired to obtain access to the part of the cabinet closed by the member 3, the member 3 is moved toward the left as seen in Figs. 1 to 3 inclusive. At the first movement to the left, the left hand pins 7 will pass downwardly through the channel portion 4c and then proceed toward the left along the portion 4a, the right hand pins 7 will move along the flat portion 5b and will then gradually follow the portion 5c downwardly until they reach the portion 5a, whereupon the member 3 will remain in the same plane as it moves further to the left. It will thus be seen that as a result of our construction a movement to the left of the member 3 results in a rapid tip of the left hand edge and then a more gradual lowering of the right hand edge, whereby the member 3 will pass underneath the member 2 without coming in contact therewith. Also, by virtue of the fact that the sloping portions 4c and 5c are of a different degree of angularity, the downward movement of the member 3 to its lowered position will be more silent than if both portions 4c and 5c were of the same slope.

If access is desired to the left hand portion of the cabinet, the closure member 2 is moved to the right with the result that the flange portions 8 ride rapidly upward on the upper leg of the channel portion 4c until the greater portion of the member 2 has passed the left hand end of the closure 3, whereupon the weight of the right hand portion of the cover 2 will cause that member to again assume a horizontal position of the upper leg of the channel portion 4b. It will thus be seen that the left hand closure 2 may be moved out of the way above the right hand closure 3 without coming in contact therewith and marring its surface. If desired, of course, the cover member 2 may simply be lifted off inasmuch as it is not in any way confined to the cabinet.

It will thus be seen by this construction either closure member may be opened to a position parallel to, and adjacent the other without at any time contacting the other closure and marring its surface.

It is of course to be understood that different forms of our preferred form may be made without departing from the spirit of our invention, and that we do not intend to limit ourselves otherwise than as pointed out in the claims which follow.

Having now described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. In a top-opening refrigerator cabinet having two cover members adapted to be disposed side by side to fully close said cabinet, a pair of guide rails having two major horizontal portions connected medially by a relatively steep inclined portion, a second pair of guide rails comprising a major horizontal portion and a minor horizontal portion connected by an inclined portion less steep than said first mentioned inclined portion, the major horizontal portion of said second mentioned pair of guide rails being aligned with the lower horizontal portion of said first pair of guide rails and a minor horizontal portion of said second pair of guide rails being aligned with the upper horizontal portion of said first pair of guide rails, followers on one of said cover members, one pair of said followers being disposed in said first pair of guide rails and another pair of followers disposed in said second pair of guide rails, the other of said cover members being provided with downwardly turned flanged portions positioned to ride on the upper surface of said first mentioned pair of guide rails whereby said first mentioned cover member may be moved to a position parallel to and below said second mentioned cover member or whereby said second mentioned cover member may be moved to a position parallel to but above said first mentioned cover member, said two cover members being wholly out of contact with each other during said movements.

2. In a top-opening refrigerator cabinet having two cover members, adapted to be disposed side by side to fully close said cabinet, a pair of guide rails extending slightly less than the entire length of said cabinet and comprising two horizontal portions connected medially by a relatively steep inclined portion, a second pair of guide rails comprising a major horizontal portion and a minor horizontal portion connected by an inclined portion which is less steep than said first mentioned inclined portion, the major horizontal portion of said second pair of guide rails being disposed in alignment with the lower horizontal portion of said first pair of guide rails and the minor horizontal portion of said second pair of guide rails being disposed in alignment with the upper horizontal portion of said first pair of guide rails, two pairs of follower members on one of said cover members, said follower members being disposed with one pair traveling in said first pair of guide rails and the other pair traveling in said second pair of guide rails and spaced apart the distance between the upper ends of said inclined portions, downwardly turned flanged portions on the other of said cover members positioned to ride on the upper surface of said first pair of guide members, said second cover member having a lip to overlie the edge of said first mentioned cover member when in closed position, said first cover member being thus movable to a position parallel to and below said second mentioned cover member, and said second mentioned cover member being thus movable to a position parallel to and above said first mentioned cover member, said cover members being wholly out of contact with each other during said movements.

3. In a top-opening refrigerator cabinet having two cover members adapted to close said cabinet entirely when seated side by side, a guide rail structure comprising a pair of guide rails extending slightly less than the full length of said cabinet and comprising two horizontal portions connected medially by a relatively steep inclined portion and a second pair of guide rails comprising a major and a minor horizontal portion connected bp an inclined portion which is less steep than said first mentioned inclined portion, the major horizontal portion of said second pair of guide rails being disposed in alignment with the lower horizontal portion of said first pair of guide rails and the minor horizontal portion of said second pair of guide rails being disposed in alignment with the upper horizontal portion of said first mentioned pair of guide rails.

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