

June 12, 1951

T. E. WEBER  
CLOSURE FASTENER

2,556,309

Filed April 29, 1948

2 Sheets-Sheet 1

FIG. 1.

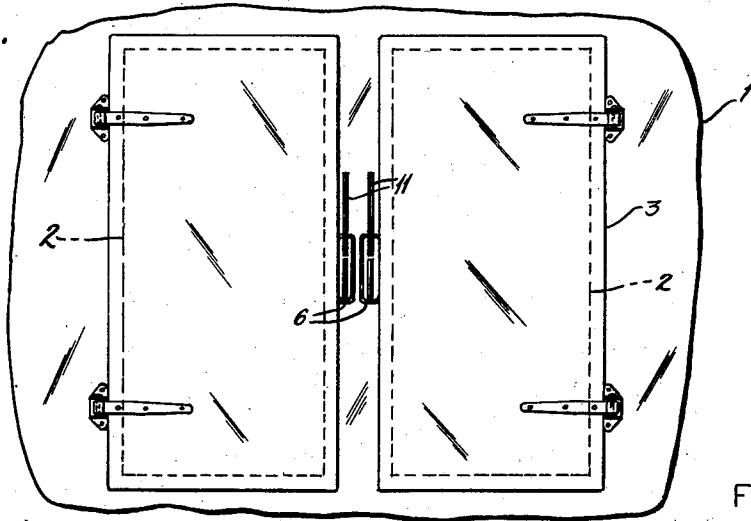


FIG. 5.

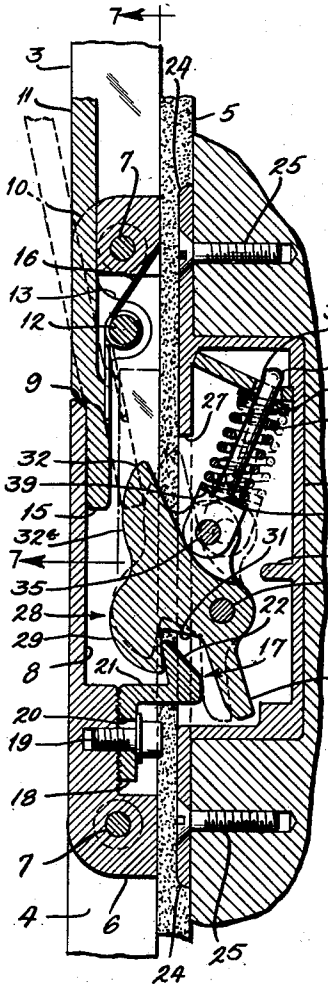


FIG. 6.

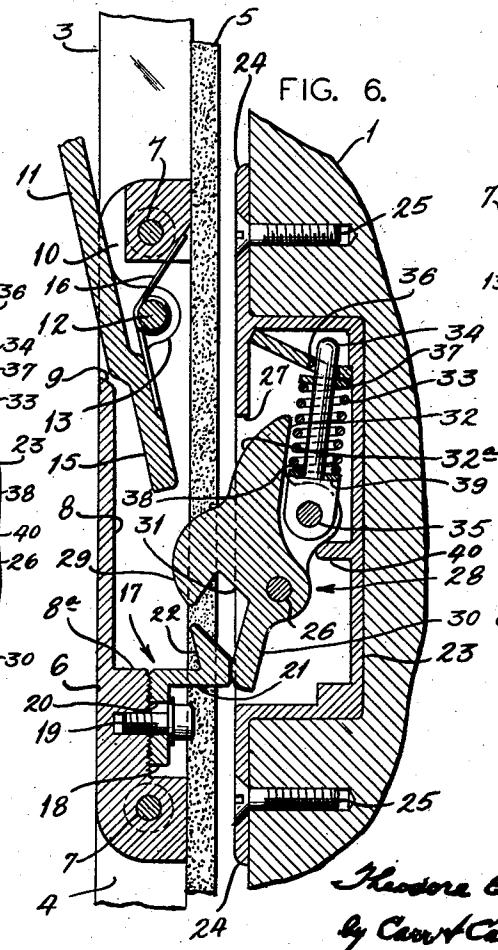
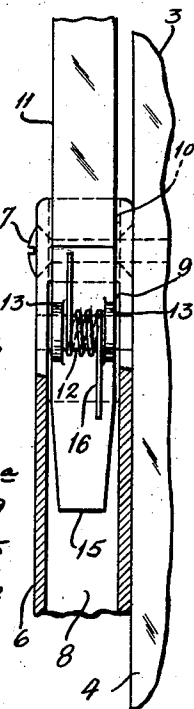


FIG. 7.



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FIG. 2.

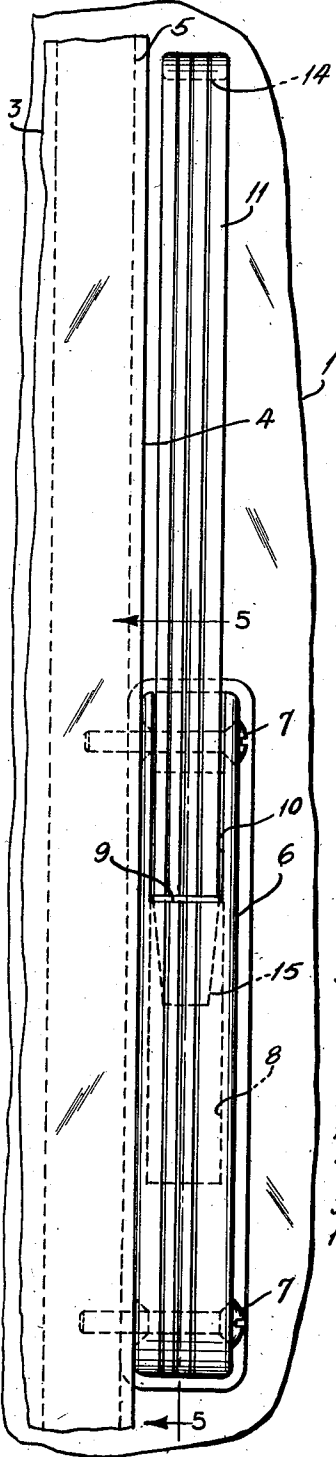


FIG. 3.

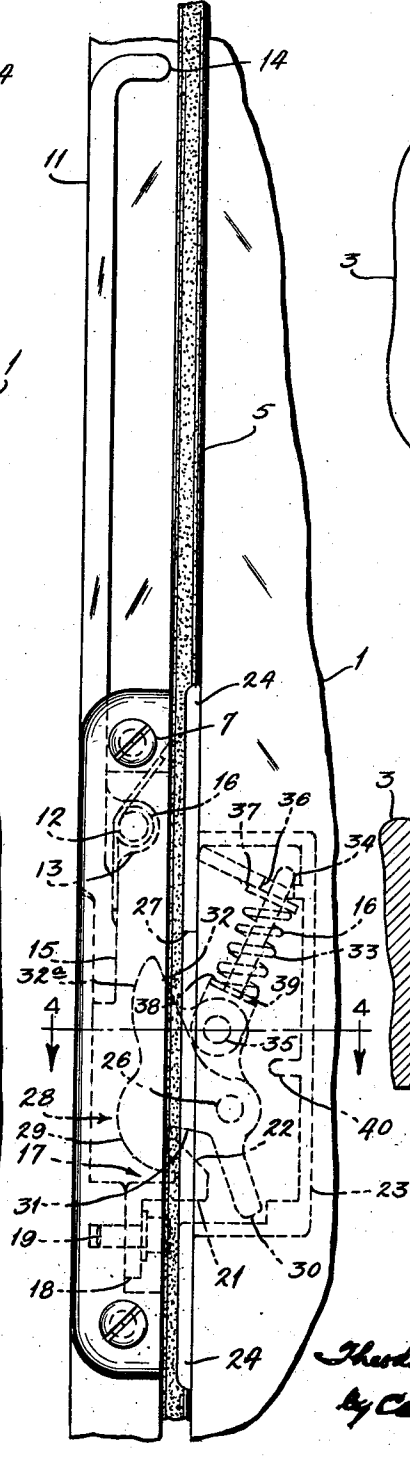


FIG. 8.

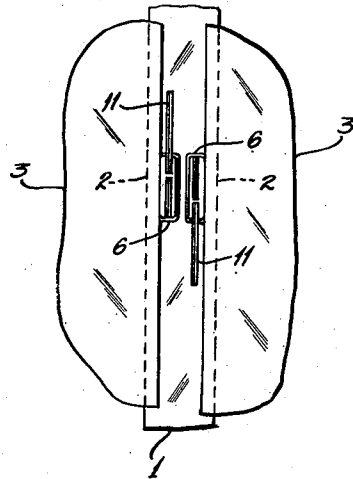
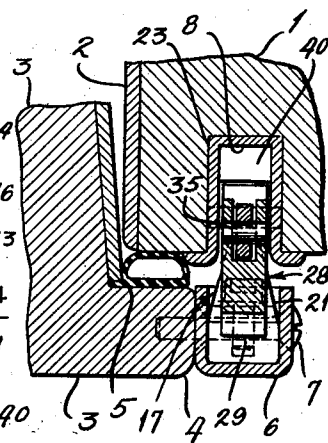


FIG. 4.



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# UNITED STATES PATENT OFFICE

2,556,309

## CLOSURE FASTENER

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### 1 Claim. (Cl. 292—332)

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This invention relates to closure fasteners and more particularly to fasteners for hinged refrigerator doors whose edges are exposed when the door is closed.

The invention has for its principal object to provide a closure fastener including a handle and keeper unit adapted for mounting on the exposed free edge of the hinged door substantially flush with the front face thereof and a catch unit adapted for recessed mounting in the wall on which the door is mounted. Another object is to provide a closure fastener adapted for use without change with horizontally swinging doors having right or left-hand hinges and with the handle extending upwardly or downwardly and adapted for use without change with vertically swinging doors having top or bottom hinges and with the handles extending to the right or left. Other objects are simplicity and economy of construction and compactness of design.

The invention consists in the closure fastener and in the construction, combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawings, which form part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a front elevational view of a refrigerator provided with a right hand hinged door and a left hand hinged door, each provided with a fastener embodying my invention, both fasteners being positioned with their handles extending upwardly,

Fig. 2 is an enlarged fragmentary front elevational view of the refrigerator in the region of the closure fastener for the left hand hinged door,

Fig. 3 is a fragmentary side elevational view of the parts shown in Fig. 2,

Fig. 4 is a horizontal cross-sectional view on the line 4—4 in Fig. 3,

Fig. 5 is a vertical sectional view on the line 5—5 in Fig. 2,

Fig. 6 is a view similar to Fig. 5, showing the door opened and the catch moved to inoperative position by the handle,

Fig. 7 is a fragmentary vertical section on the line 7—7 in Fig. 5; and

Fig. 8 is a fragmentary view, similar to Fig. 1, showing one fastener arranged with its handle up and the other fastener arranged with its handle down.

In the accompanying drawings, my invention is illustrated in connection with a refrigerator having a vertical wall 1 with an opening 2 therein and a vertically hinged door 3 for closing said

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opening. The door 3 has an exposed free vertical marginal portion 4 which overlaps the wall 1 of the refrigerator around the opening 2 therein and is provided with a sealing strip 5 adapted to seat against the opposing outside face of said wall in the closed position of said door, all in accordance with common practice.

My closure fastener comprises a handle and keeper unit and a separate catch unit. The handle and keeper unit comprises a relatively long and narrow rectangular mounting plate 6 that is positioned lengthwise on the edge of the free vertical marginal portion 4 of the door 3 and is secured sidewise thereto by means of horizontal screws 7 at the upper and lower ends of said plate. The plate 6 has a longitudinal recess or pocket 8 in the back or refrigerator wall opposing face thereof, a horizontal opening 9 leading from the front face of said plate to the upper end of said recess, and a vertical front groove or channel 10 extending from the upper edge of said opening to the upper edge of said plate.

An operating handle 11 is pivotally supported for forward and backward vertical swinging movement on a horizontal pivot 12 that extends from side to side of the recess 8 in the plate 6 opposite the front opening 9 thereon and through lugs 13 on the back face of said handle. The operating handle extends above the top of the plate 6 and terminates at its upper end in a rearwardly extending portion 14 and below the pivot 12 in a rearwardly offset lower end portion 15 located inside the recess 8. A torsion spring 16 is sleeved on the horizontal handle supporting pivot 12 with one end seated in the upper end of the recess 8 and the other seated against the face of the rearwardly offset lower end portion 15 of the handle 11 and serves to hold the operating handle in vertical position flush with the front face of the plate 6 with the handle seated in the front channel 10 therein and with said rearwardly offset lower end portion located in the recess 8 adjacent to and parallel with the vertical bottom face thereof.

Mounted in the lower end of the recess 8 in the plate 6 is an angular keeper 17 having a vertical flange 18 which is secured to the bottom of a shallow lower end portion 8a of the recess 8 by means of a horizontal screw 19, said screw extending through a vertically elongated slot 20 in said flange to permit vertical adjustment of the keeper relative to said plate. Extending rearwardly from the upper end of the vertical leg 18 of the keeper 17 is a horizontal flange 21 which terminates at its free refrigerator wall

opposing end in a forwardly and upwardly inclined hook 22.

The catch unit of the door fastener comprises a casing 23 mounted in a recess provided therefor in the front face of the refrigerator wall 1 at about the level of the plate member 6 of the handle and keeper unit, said casing having vertical flanges 24 at the top and bottom thereof that are secured by means of horizontal screws 25 to said refrigerator wall. Mounted on a horizontal cross pivot 26 in the casing 23 for vertical forward and rearward swinging movement through an opening 27 in the front face thereof is a catch member 28 having a depending hook 29 along the front lower end thereof and a depending lug 30 at the rear lower end thereof, said hook and lug being spaced apart to form a downwardly opening notch 31 therebetween. The pivoted catch member 28 terminates at its upper end in a lug 32 having a vertically convex front face 32a.

The pivotal catch member 28 is biased to both operative and inoperative positions by means of a coil compression spring 33 which is sleeved on an upwardly extending rod 34 whose lower end is pivotally secured by means of a horizontal cross pivot 35 to the back of said catch member above the supporting pivot 26 therefor for swinging movement therewith and pivotal movement relative thereto. The upper end of the rod 34 is slidably supported in an opening 36 provided therefor in the upper end portion of the casing 23; and the upper end of the spring 33 seats on a washer 37 sleeved on said rod between said end of said spring and the upper end portion of said casing. The lower end of the spring 33 bears against a similar washer 38 which is sleeved on the rod 34 and seats on a shoulder 39 formed thereon. When the catch member 28 moves to inoperative position, the notched lower end thereof swings forwardly and upwardly and the upper portion thereof swings rearwardly and seats against a stop 40 provided therefor in the casing 23. The pivotal connection 35 between the rod 34 and the catch 28 is located rearwardly of the catch supporting pivot 26 in the inoperative position of said catch and is located forwardly of said pivot in the operative position of said catch so that the spring 33 serves to retain said catch in both positions.

The latch unit is located back of the plate 6 of the handle and keeper unit so that when the door 3 is closed the hook 22 of the keeper 17 presses rearwardly against the depending lug 30 at the rear lower end of the catch 28 and forces the depending hook 29 on the front lower portion of said catch to swing downwardly and rearwardly in front of the hook of the keeper. In this position of the catch 28, the spring 33 holds the catch in engagement with the keeper 17 and presses the door seal 5 against the refrigerator wall 1. When it is desired to open the door, the handle 11 mounted on the edge thereof is pulled forwardly against the force of the torsion spring 16; thus causing the inwardly offset lower end portion 15 of said handle to swing rearwardly into engagement with the vertically convex front edge 32a of the upper portion 32 of the catch 28 and turn the latter on its pivot 26 and disengages the hook 29 of the catch from the hook 22 of the keeper. During the early opening movement of the catch 28, it moves against the pressure of the spring 33. However, after the spring guide rod pivot 35 passes over the catch supporting pivot 26; the spring 33 serves to bias the catch

28 to fully open position and holds it against the stop 40 provided therefor in the catch casing 23.

The hereinbefore described closure fastener has several important advantages. It is simple and economical and may be quickly and easily mounted on the refrigerator. With doors having right hand hinges, the handle and keeper unit is secured to the door with one side of the mounting plate secured flatwise to the door edge; and with doors having left hand hinges, the handle and keeper unit is secured to the door with the opposite side edge of the mounting plate secured flatwise to the door edge. The handle and the keeper unit may be mounted on the free vertical edge of a vertical swinging door or on the free horizontal edge of a horizontal swinging door. The handle and keeper unit may be mounted on the vertical door edge with its handle projecting upwardly or downwardly or on the horizontal edge with its handle extending to the left or to the right, the catch casing being adapted to be turned end for end to properly locate the catch relative to the keeper in the different positions of the operating handle. In refrigerators having right and left hand doors mounted with their free vertical edges closely adjacent, the catch units for the two doors may be located at the same level with the handles for both doors extending upwardly or with the handle for one door extending upwardly and the handle for the other door extending downwardly so that the two handles are offset vertically for convenient operation.

What I claim is:

In a container having a closure hinged along one edge and having an exposed free opposite edge, the combination of a fastener for said closure comprising a catch unit and a keeper and handle unit, said catch unit including a casing mounted on said container adjacent to said free edge and a catch pivotally mounted in said casing for movement crosswise of said free edge, said catch having on one side of the pivotal axis thereof a hook and a lug and on the other side of said axis a second lug; said keeper and handle unit including a mounting plate mounted on said free edge opposite said casing, said mounting plate having a recess therein, a hooked keeper secured to said plate within said recess on said first mentioned side of said pivotal axis of said catch for adjustment crosswise of said axis and adapted when said closure is closed to engage the front face of said first mentioned lug and swing said catch in a direction that will engage the hook thereof with the hook of said keeper, and a handle pivotally mounted in said plate on said other side of said pivotal axis of said catch for movement into engagement with said second lug on said catch on the other side of the pivotal axis thereof for swinging said catch in the direction required to disengage the hook thereof from the hook of said keeper.

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