April 12, 1938. G. E. ROEDDING ET AL 2,113,747

LATCH

Filed Dec. 3, 1936

Fig. 1.

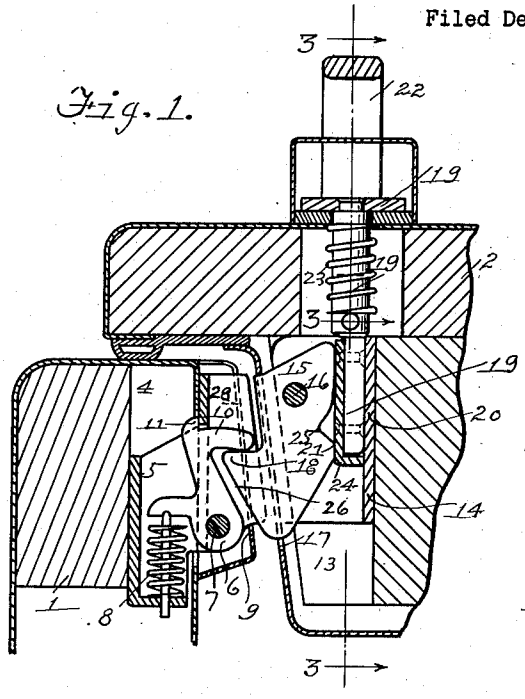


Fig. 2.

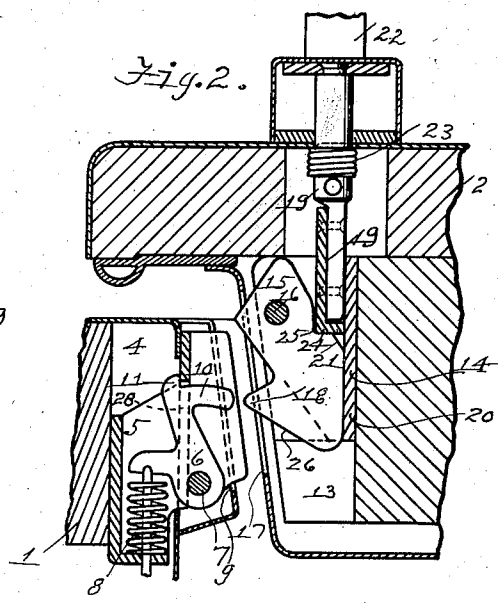


Fig. 3.

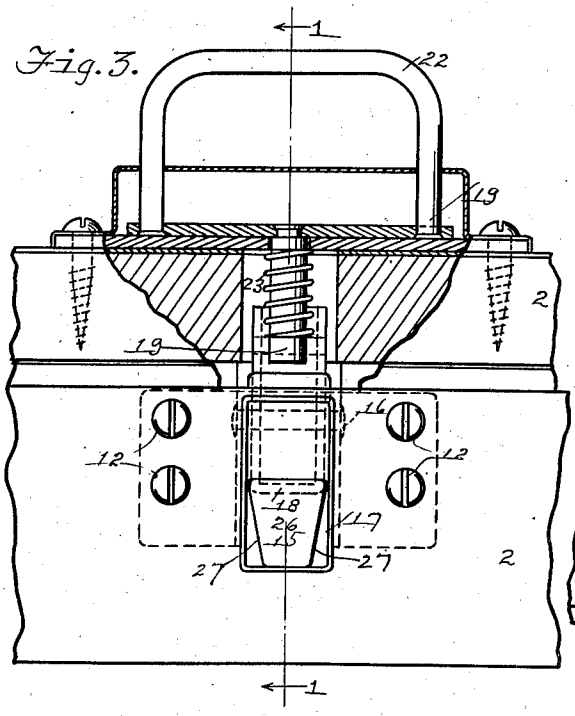
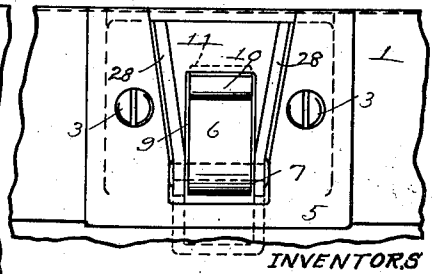


Fig. 4.



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LATCH

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Application December 3, 1936, Serial No. 113,953

7 Claims. (Cl. 292—127)

The present invention relates to latches for refrigerators and the like; and its object is to provide a latch whereby a closure may be securely and positively held shut and yet may be very easily released; and further, to provide such a latch simple and economical in construction.

This and any other and more specific objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the illustrative latch structure particularly described in the body of this specification and illustrated by the accompanying drawing, in which:

Figure 1 is a sectional view of portions of the body member of a refrigerator or the like and of the closure member for the door opening thereof, to which our latch is applied, taken on line 1—1 of Figure 3, the closure member being shown in closed position;

Figure 2 is a like view thereof but showing the closure member partially opened;

Figure 3 is a view of a portion of the closure member, partially sectioned on line 3—3 of Figure 1, looking toward the right hand side of said view and showing the closure member closed; and

Figure 4 is a view of a portion of said body member looking toward the left hand side of Figures 1 and 2.

In the embodiment of the invention illustrated by the drawing, a portion of the body 1 of a refrigerator or the like is shown whose door opening is closed by the closure 2. Secured as by screws 3 in a recess 4 of said body is seated the casing 5 of the keeper 6 pivotally mounted at 7 to swing under the pressure of a spring 8 laterally forwardly through the casing's opening 9 to operative position shown in Figures 1 and 2.

This keeper has an outer end hook portion 10 and its forward movement to said operative position may be stopped by its shoulder 11 striking the casing as shown in said views.

Secured as by screws 12 in a recess 13 in the free edge of the closure is seated the casing 14 of the latch bolt 15 pivotally mounted at 16 to freely swing laterally forwardly through this casing's opening 17 to operative position shown in Figure 1 wherein the outer (upper) side of its forwardly extending hook portion 18 engages the inner (lower) side of the keeper's said hook portion 10 to positively hold the closure shut. This latch bolt is securely held in its said operative position by an operating handle element designated generally 19 whose rear side slidably bears on the casing's wall 20 and whose forward side bears at 21 on the rear side of the bolt thus positively locking the bolt as seen in Figure 1 against rearward movement disengaging the hook portions 10, 18.

This handle element is released from said bolt-locking position by sliding it outwardly by its handle portion 22, against the pressure of spring 23, to a position wherein its angular inner end 24 is brought into registration with the recess or notch 25 in the rear side of the latch bolt. This outward movement of element 19 swings the latch bolt rearwardly by the outer (upper) side of the bolt's hook portion 18 pressing on and sliding along the inner (lower) side of the keeper's hook portion 10 thus camming the latch bolt rearwardly (i. e., from the keeper) to the position shown in Figure 2 wherein the lower end 24 of element 19 enters the bolt's recess 25 and the hook portions 10, 18 are disengaged so that the closure may be opened by drawing said element by its handle portion outwardly.

When the closure is open and the handle portion 22 of element 19 is released, the spring 23 presses said element inwardly to the position seen in Figure 1 thus locking the bolt 15 against rearward movement, whereupon the closing movement of the closure causes the bolt's inclined forward side 26 to slide along the extremity of the keeper's hook portion 10 thus swinging the keeper rearwardly against the pressure of spring 8 until the bolt's hook portion passes inwardly (below) the keeper's hook portion, whereupon the spring 8 urges the keeper forwardly (i. e., toward the latch bolt) thus causing said hook portions to engage as shown in Figure 1 to hold the closure shut.

It will be seen that this latch, although it operates to very securely and in fact positively hold the closure shut, may be very easily released, whereupon the closure may be opened by drawing said handle element outwardly.

Between the opposite sides 27 of its free outer end portion the latch bolt 15 as shown in Figure 3 is narrower than the opening 9 of the keeper's casing 5, said sides 27 being inclined outwardly toward each other; and the corresponding opposite sides 28 of the keeper's casing 5 are inclined inwardly toward each other as seen in Figure 4 so that, although the closure may not swing in the proper horizontal plane the latch bolt's free outer end will nevertheless enter the opening 9 of casing 5 and sliding along this casing's side will bring the closure to that plane.

It will also be seen that by reason of this construction the ill effect of not precisely mounting the casings on the refrigerator is obviated, and

that by reason of the wedging engagement of the latch bolt with the keeper's casing displacement of the closure from its closed position in the refrigerator body, which might otherwise result from careless handling of the goods in shipping is prevented, because these parts are rigidly held together by such wedging action.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction and arrangement of the particular embodiment thereof illustrated by the drawing or hereinbefore described.

We claim:

1. A latch comprising a latching bolt element and a keeper element therefor movable on a closure and its jamb respectively to projected mutually engaging position holding the closure shut and a movable operating handle directly engaging one of said elements for alternately holding the same projected and releasing the same, the other element being yieldingly urged to projected position and the first element when held projected being adapted to engage said other element during the closing movement of the closure for retracting said other element.

2. A latch comprising a latching bolt element and a keeper element therefor turnable on a closure and its jamb respectively to projected mutually engaging position holding the closure shut and a movable operating handle directly engaging one of said elements for alternately holding the same projected and releasing the same, the other element being yieldingly urged to projected position and the first element when held projected being adapted to engage said other element during the closing movement of the closure for retracting said other element.

3. A latch comprising a latching bolt element and a keeper element therefor turnable on a closure and its jamb respectively to projected mutually engaging position holding the closure shut and a slidable operating handle directly engaging one of said elements for alternately holding the same projected and releasing the same, the other element being yieldingly urged to projected position and the first element when held projected being adapted to engage said other element during the closing movement of the closure for retracting said other element.

4. A latch comprising a latching bolt element and a keeper element therefor movable on a closure and its jamb respectively to projected mutually engaging position holding the closure shut and a movable operating handle engaging one of said elements for alternately holding the same projected and releasing the same, the other element being yieldingly urged to projected position and the first element when held projected being adapted to engage said other element during the closing movement of the closure for retracting said other element, the handle being yieldingly urged to its engaging position with the first element wherein it holds the same projected.

5. A latch comprising a latching bolt element and a keeper element therefor turnable on a closure and its jamb respectively to projected position and having laterally extending hook portions mutually engaging in said position to hold the closure shut and a movable operating handle yieldingly urged to a position wherein it directly engages one of said elements to lock the same projected and movable reversely to release said element and permit the same to turn from such locking position, the other element being yieldingly urged to projected position and the hook portions being adapted to slidably engage for retracting said other element during the closing movement of the closure and in the projectingly held position of the first element.

6. A latch comprising a latching bolt and a keeper therefor turnable on a closure and its jamb respectively to mutually engaging position holding the closure shut and an operating handle for drawing the closure open and slidable thereon for alternately holding the bolt projected and releasing the same, the keeper being yieldingly urged to projected position and the bolt when held projected being adapted to slidingly engage the keeper during the closing movement of the closure for retracting said other element.

7. A latch comprising a latching bolt element and a keeper element therefor movable on a closure and its jamb respectively to projected mutually engaging position holding the closure shut, the keeper element having a casing seated in the jamb in which casing the keeper element is thus movable, said casing having opposite sides and the latching element having opposite sides said sides of the casing and of the latching bolt being relatively inclined so that they wedgingly engage in the movement of the closure to closed position, and a movable operating handle engaging the bolt element for alternately holding the same projected and releasing the same, the keeper element being yieldingly urged to projected position and the bolt element when held projected being adapted to engage the keeper element during the closing movement of the closure for retracting the same.

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