April 15, 1958 P. ZIECHE 2,830,547

EMERGENCY LATCH RELEASE FOR REFRIGERATOR STRUCTURE

Filed Jan. 21, 1955 2 Sheets-Sheet 1

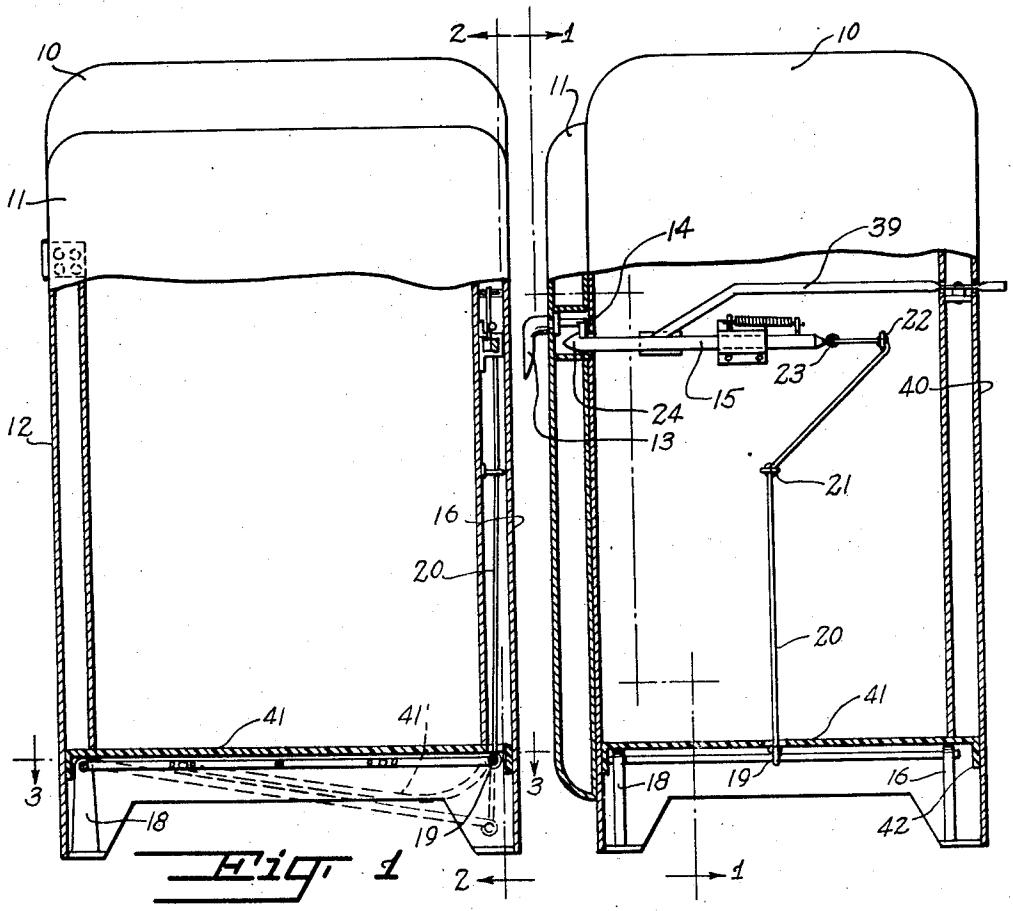


Fig. 1

Fig. 2

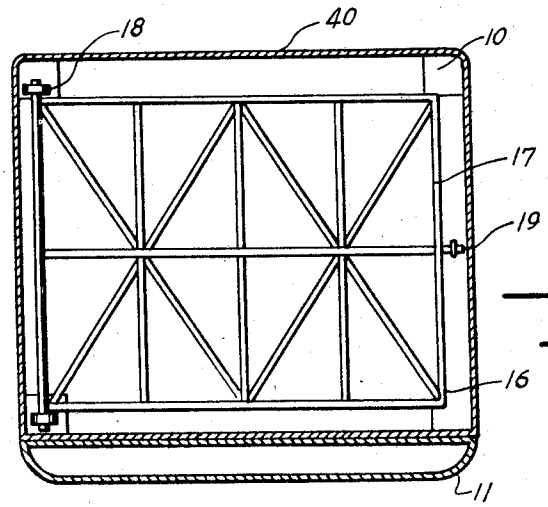


Fig. 3

INVENTOR.
Paul Zieche
BY
McMorrow, Berman & Davidson
Attorneys

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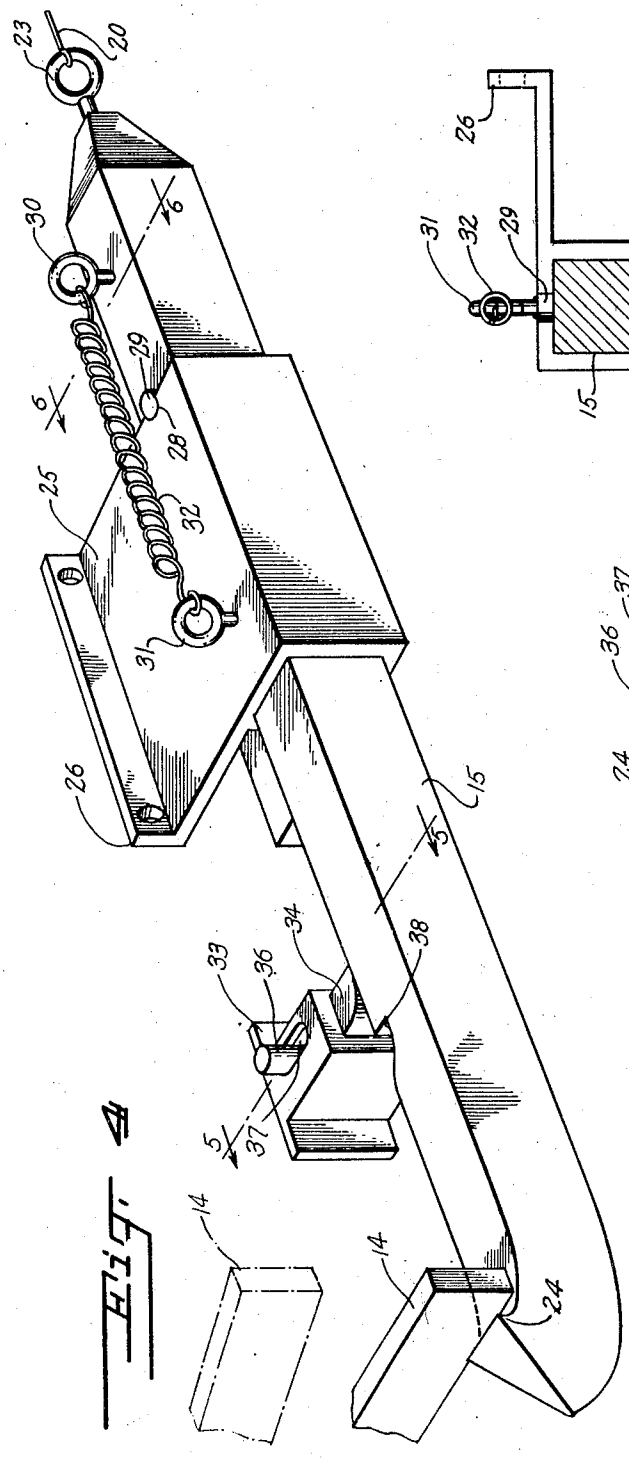


Fig. 4

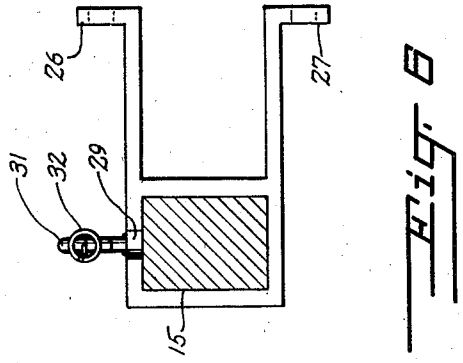


Fig. 6

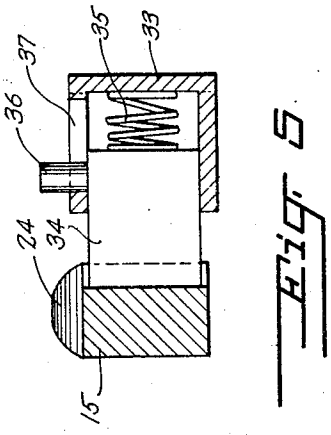


Fig. 5

INVENTOR.
Paul Zieche
BY
McMorrow, Berman & Davidson
Attorneys

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EMERGENCY LATCH RELEASE FOR REFRIGERATOR STRUCTURE

Paul Zieche, Aurora, Ill.

Application January 21, 1955, Serial No. 483,352

3 Claims. (Cl. 109—63.5)

The present invention relates to a refrigerator structure in which the latch is rendered inoperative by the weight of a person entering the refrigerator compartment.

The primary object of the present invention is to provide a refrigerator door latch which is put into inoperative condition by the weight of a child entering the refrigerator compartment.

Another object of the present invention is to provide a safety latch mechanism for a refrigerator door which can be made inoperative while the refrigerator is out of use and in storage, and one which can be put back into operative condition when desired.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawings, in which:

Figure 1 is a front view of the refrigerator in elevation and partly in cross-section on line 1—1 of Figure 2,

Figure 2 is a side view in elevation and partially in cross-section on line 2—2 of Figure 1,

Figure 3 is a vertical view in cross-section on line 3—3 of Figure 1,

Figure 4 is a greatly enlarged view in perspective of the mechanism of the present invention, showing in solid lines the end of the door latch in the door shut position and in dotted lines the position of the door latch disengaged from the keeper,

Figure 5 is a detailed view in cross-section on line 5—5 of Figure 4, and

Figure 6 is a detailed view in cross-section on line 6—6 of Figure 4.

Referring in greater detail to the drawing in which like numerals indicate like parts throughout the several views, a refrigerator is indicated by the reference numeral 10, in Figures 1 to 3, inclusive, and has a door 11 in the front wall hingedly connected along the one end of a side wall 12 for movement from a position closing the open front of the refrigerator to a position at which the front of the refrigerator is open.

As shown in Figure 2, a latch handle 13 is provided by means of which the hand actuatable latch 14 is turned to hold the door in the closed position.

The latch keeper is modified by providing a bar 15 which is positioned horizontally within the structure of the other side wall 16 between the inner and outer panels of the latter.

Refering again to Figures 1 to 3, inclusive, a reticulated platform is provided and is positioned between the lower ends of the spaced side walls 12 and 16 and comprises a lattice-work member 17 disposed horizontally with one end connected to a pair of posts 18 incorporated in the structure of the one side wall to which the door is hinged for movement of the member 17 from the horizontal position, as shown in full lines in Figure 1, to a downwardly inclined position, as shown in dotted lines in Figure 1, and having a center bar 19 projecting beneath the space between the inner and outer panels of the side wall 16.

A flexible cable 20 is connected by one end to the center bar 19 and extends upwardly through each of the eye members 21 and 22 preferably formed from porcelain or other friction free material.

The other end of the cable 20 is secured to an eye formation 23 formed on one end of the bar 15, the other end of the bar being provided with a keeper 24 which receives the end of the latch 14 to hold the door 11 in the closed position as shown in full lines in Figure 4, the dotted lines showing the latch 14 disengaged.

Referring to Figures 4 to 6, inclusive, the bar 15 is connected to the side wall 16 for sliding movement between extensile and retractile positions, in the former of which the keeper 24 may be engaged by the latch 14 and is carried by a frame 25 having the legs 26 and 27 secured to the inner side of the outer panel forming the side wall 16.

The frame 25 is formed with the notch or recess 28 in which is received the pin 29 to provide a stop for the bar limiting its movement outwardly and toward the latch 14. A loop 30 on the bar 15 and the loop 31 on the frame 25 support the respective ends of a spring 32 for biasing the bar toward the extensile position at which the keeper on the end of the bar is engaged by the latch 14, as seen in Figure 4, whenever the door 11 is closed.

A lock is provided for keeping the bar in the retracted position whenever it is desired to put the refrigerator door latch out of operation, the lock consisting of a bracket 33 having a sliding bolt 34 therein biased outwardly by a spring 35 held within the bracket 33. A pin 36 projecting upwardly from the bolt 34 rides in the slot 37 and provides a stop to prevent the removal of the bolt 34 from the bracket 33.

A notch is provided in one side of the bar 15 as indicated by the reference numeral 38 and has its abutment face facing the keeper 24 so that when the bar 15 is drawn to the position at which the keeper 24 cannot be engaged by the latch 14 the bolt 34 automatically drops into the notch 38 and holds the bar 15 in the retracted position.

Referring again to Figures 1 and 2, a lever 39 extends from the back wall 40 of the refrigerator casing and has one end connected to the pin 36 on the lock with its other end projecting outwardly from the back wall of the refrigerator casing so that the bolt may be retracted within the bracket 33 whenever it is desired to put the bar 15 back into the position at which the keeper may be again engaged by the latch 14.

The refrigerator casing is provided with a flexible bottom 41 of rubber or like material extending horizontally over the platform and extending across the lower ends of the side, back, and front walls and has its end edges provided with flanges as indicated by the reference numeral 42 in Figures 1 and 2, by means of which it is secured to the outer panel of the side walls and the back wall of the casing.

In use, should the shelves and other accessories of the refrigerator be removed from within the refrigerator compartment, and should a child enter the compartment as in play, the flexible bottom 41 will be depressed downwardly to the dotted line position shown in Figure 1 and indicated by the reference numeral 41', forcing the platform downwardly and exerting a pull on the cable 20 to withdraw the bar 15 from the position at which the keeper 24 is engaged by the latch 14.

Obviously, the weight of the child or other person entering the refrigerator would cause this withdrawing of the bar 15 before the door could be closed.

The present invention therefore is a safety device and

will prevent the accidental deaths of children due to suffocation when entering the unused refrigerator, as has been common in the past.

What is claimed:

1. The combination with a refrigerator casing having spaced side walls, a back wall extending between one of the adjacent ends of said side walls, a front wall extending between the other adjacent ends of said side walls, a door in the front wall and connected along one of its side edges to the other end of one of said side walls for movement from the door closing position to a door opening position, a hand actuatable latch element on the opposed side edge of said door, a horizontally disposed elastic bottom extending across the lower end of said side, back, and front walls and secured to said side and back walls, of a movable keeper positioned within one of the casing side walls and connected to said side wall for extensile and retractile movement, means on one end of said keeper when in extensile position for latching the door in closed position and when in retractile position being removed to a position permitting engagement with said latching element, a horizontally disposed platform positioned below said bottom and connected along one of its side edges adjacent the other side wall for movement from a horizontal position to a downwardly inclined position, and a flexible cable extending within the other of the casing side walls and being connected by one end to said platform and by the other end to the other end of said keeper, said platform being operable to execute the downwardly inclined movement upon application of the weight of a child to said bottom and effect the retractile movement of said keeper.

2. The combination with a refrigerator casing having spaced side walls, a back wall extending between one of the adjacent ends of said side walls, a front wall extending between the other adjacent ends of said side walls, a door in the front wall and connected along one of its side edges to the other end of one of said side walls for movement from the door closing position to a door opening position, a hand actuatable latch element on the opposed side edge of said door, a horizontally disposed elastic bottom extending across the lower end of said side, back, and front walls and secured to said side and back walls, of a movable keeper positioned within one of the casing side walls and connected to said side wall for extensile and retractile movement, means on one end of said keeper when in extensile position for latching the door in closed position and when in retractile position being removed to a position permitting engagement with said latching element, a horizontally disposed platform positioned below said bottom and connected along one of its side edges adjacent the other side wall for movement from a horizontal position to a downwardly inclined position, a flexible cable extending within the other of the casing side walls and being connected by one end to said platform and by the other end to the other end of said keeper, and spring means biasing said keeper toward said extensile position, said platform being operable to execute the downwardly inclined movement upon application of the weight of a child to said bottom and effect the retractile movement of said keeper.

3. The combination with a refrigerator casing having spaced side walls, a back wall extending between one of adjacent ends of said side walls, a front wall extending between the other adjacent ends of said side walls, a door in the front wall and connected along one of its side edges to the other end of one of said side walls for movement from the door closing position to a door opening position, a hand actuatable latch element on the opposed side edge of said door, a horizontally disposed elastic bottom extending across the lower end of said side, back, and front walls and secured to said side and back walls, of a movable keeper positioned within one of the casing sied walls and connected to said side wall for extensile and retractile movement, means on one end of said keeper when in extensile position for latching the door in closed position and when in retractile position being removed to a position permitting engagement with said latching element, a horizontally disposed platform positioned below said bottom and connected along one of its side edges adjacent the other side wall for movement from a horizontal position to a downwardly inclined position, a flexible cable extending within the other of the casing side walls and being connected by one end to said platform and by the other end to the other end of the said keeper, spring means biasing said keeper toward said extensible position, said platform being operable to execute the downwardly inclined movement upon application of the weight of a child to said bottom and effect the retractile movement of said keeper and lock means for retaining said keeper in the retractile position after execution of the downwardly inclined movement of said platform, resulting from the weight of a child entering the refrigerator casing.

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