Dec. 18, 1962 F. A. JENNE ET AL 3,068,811

SAFETY DEVICE FOR REFRIGERATORS

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Fig.1

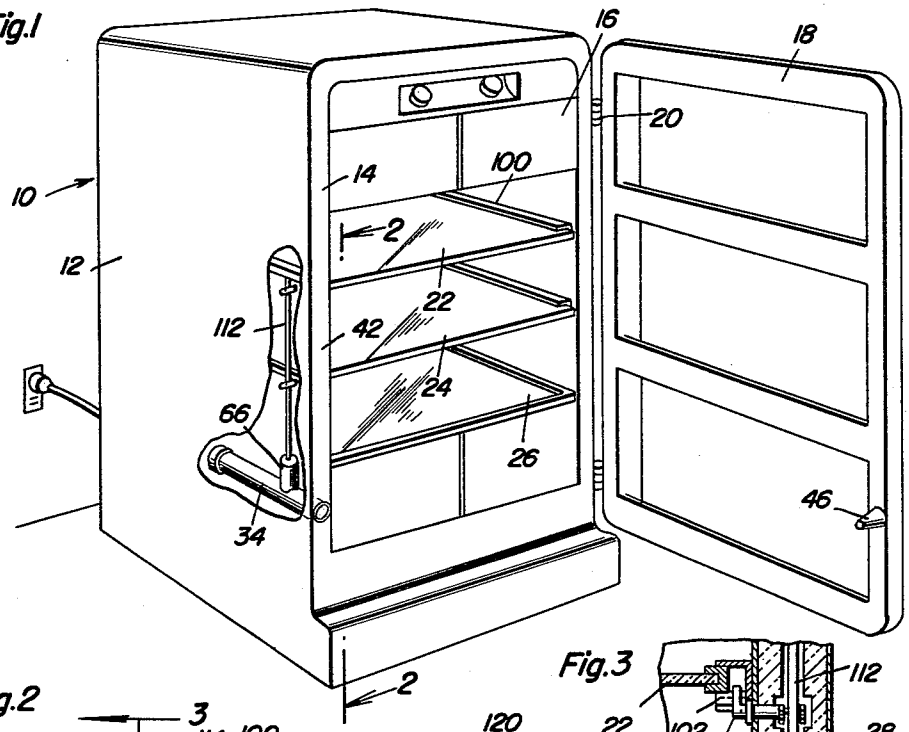


Fig.2

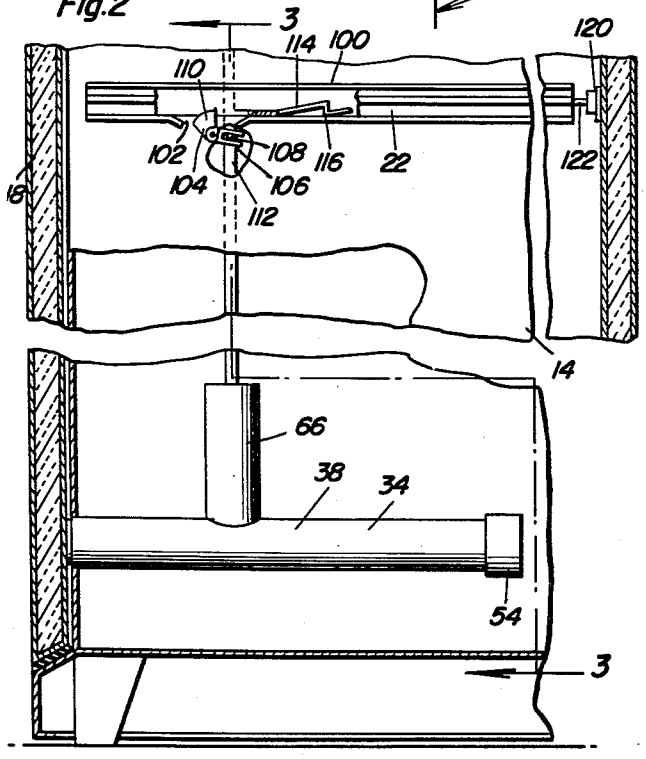
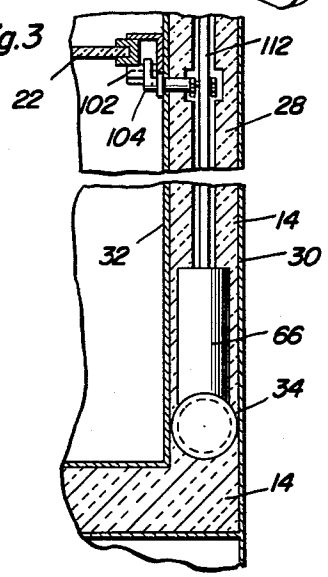


Fig.3



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Fig.4

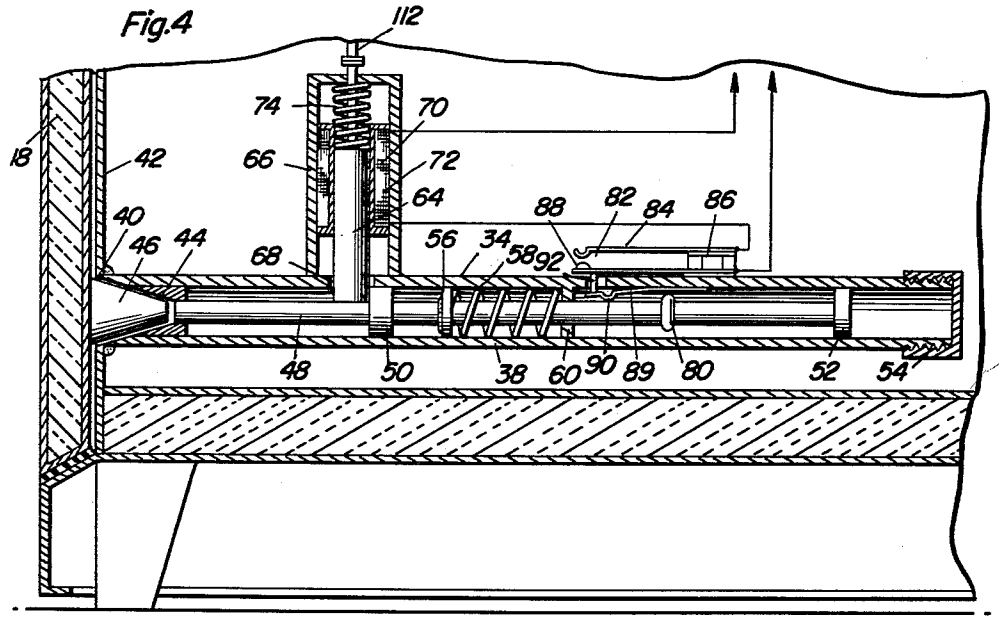


Fig.5

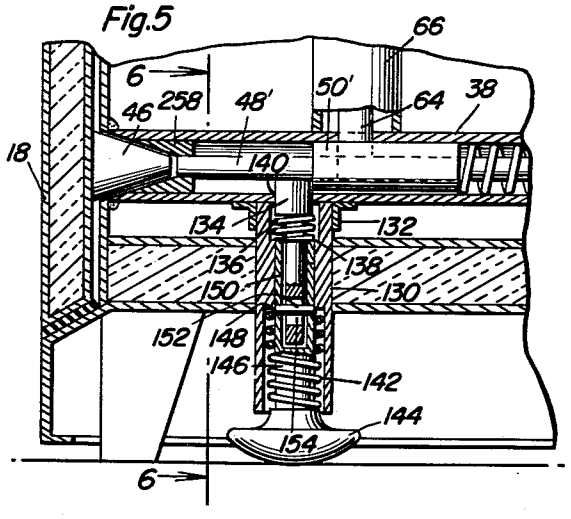
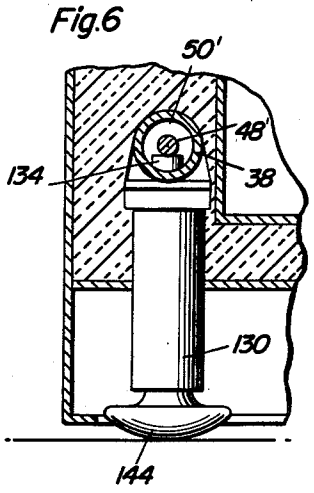


Fig.6



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SAFETY DEVICE FOR REFRIGERATORS

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Fig.7

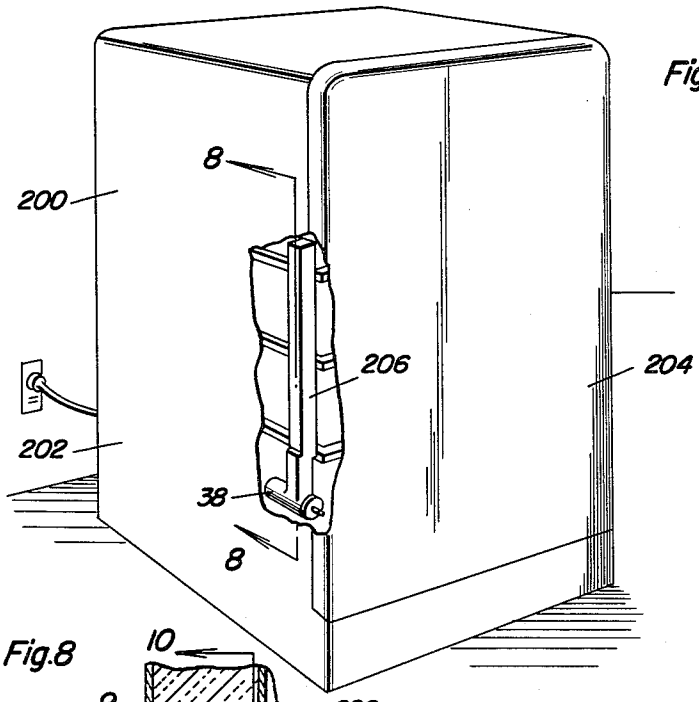


Fig.8

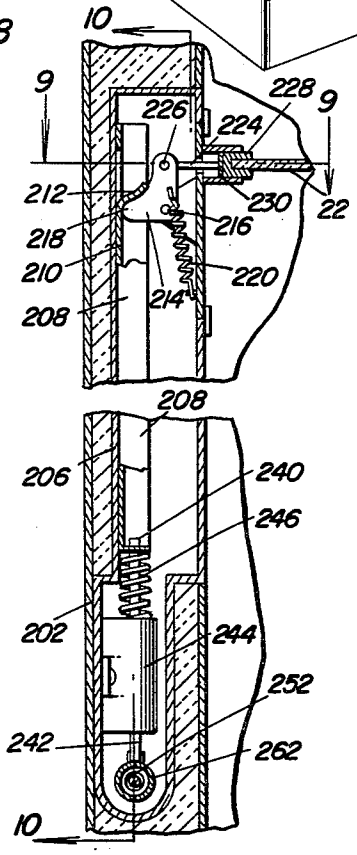
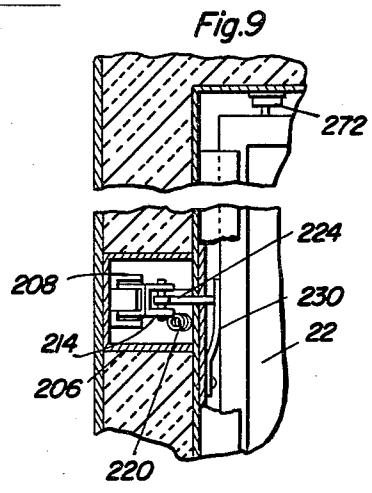


Fig.9



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Fig.10

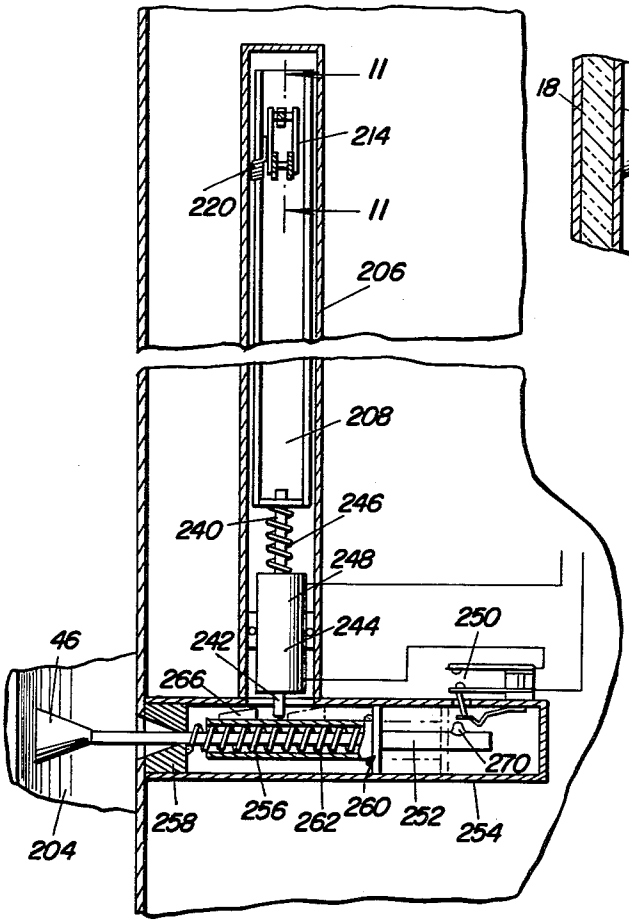


Fig.12

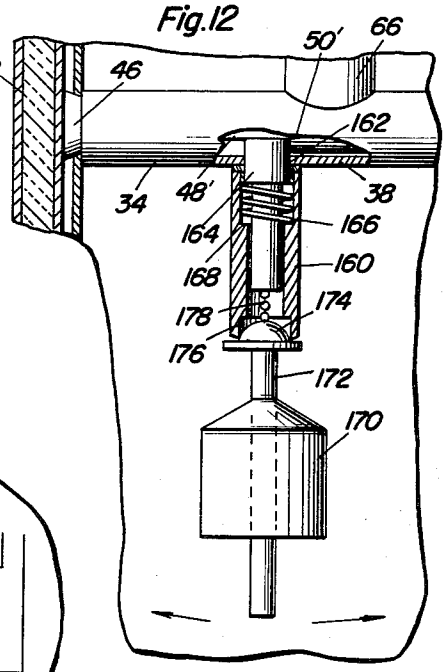


Fig.11

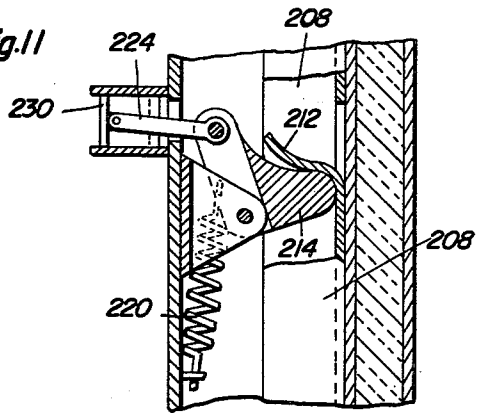
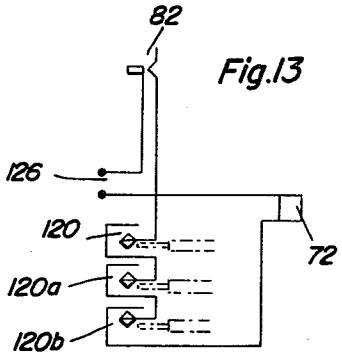


Fig.13



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United States Patent Office 3,068,811 Patented Dec. 18, 1962

3,068,811

SAFETY DEVICE FOR REFRIGERATORS

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Filed Oct. 24, 1958, Ser. No. 769,415
12 Claims. (Cl. 109—63.5)

This invention relates to safety devices and more particularly to safety devices which prevent unfortunate accidents caused by suffocation of children in refrigerators, usually abandoned refrigerators.

An object of the invention is to provide means by which to eliminate the danger of children becoming trapped within a refrigerator or like cabinet, by one or more structures preventing the refrigerator door from closing. In one example, all of the shelves must remain in the refrigerator at which time it is presumed to be impossible for a child to enter the refrigerator and either close the door behind him or have someone else close the door with the child in the refrigerator.

The realistic danger of a child becoming captive within a refrigerator has received public notoriety due to a number of unfortunate accidents which have received national publicity. In each instance the accidents could have been prevented if the child were unable to enter the refrigerator. Therefore, it is a further object of the invention to make it virtually impossible for a child to enter a refrigerator and have the door close behind the child due to the existence of automatic means in the refrigerator which prevents the door from closing tightly behind the child should he enter the refrigerator.

Although there has been some local legislation requiring that the locks or doors of abandoned refrigerators be removed, this is an indirect approach to the problem. This invention would have installed in each refrigerator as an integral part of the construction thereof, positively acting means rendered operative in response to several stimuli for providing an abutment in the path of travel of a part of the door or an attachment on the door so that the door could not be completely or even partially latched.

As an example of the nature and substance of the invention, there is a structural assembly built in one side of the refrigerator cabinet and operatively connected with the tray in the refrigerator. When any one of the plurality of trays is removed, a plunger is automatically projected outwardly of the cabinet of the refrigerator and forms an abutment preventing the door from closing. When magnetic locks are used on the door of the refrigerator, the plunger functions very effectively preventing the door from approaching the magnetic field where the strength is sufficient to pull the door closed and hold it locked. Where mechanical latches are used, the door is sufficiently far open to prevent the latch from becoming engaged. However, when the trays, that is, when each tray is installed in the refrigerator, the plunger is retracted enabling the refrigerator, cabinet structure and door to function properly. The presumption is that when all trays are returned to their proper place in the refrigeratro, the child cannot enter the cabinet. It is noted that even with the presence of a safety device in the refrigerator, the trays are not in any way interfered with. They may be removed for cleaning and replaced or may be slid in and out, such as with refrigerators having rolling type trays, racks or the like without interference from and by the safety device.

The safety device may be made to function in response to other condition responsive means, maneuvers or adjustments of the refrigerator. For instance if the refrigerator is about to be abandoned, it would ordinarily be lifted and carried away. One of the embodiments of this invention sets the plunger into operation at the instant that the refrigerator is lifted above a predetermined height. This enables the refrigerator to be lifted slightly for cleaning or

for any other normal purpose. But when the refrigerator is lifted a considerable height, for instance an inch, the stop plunger is automatically projected outward so that the door of the refrigerator cannot become fully closed.

Further, the safety device may be made to function when the refrigerator is tilted through an angle greater than it would ordinarily be rocked or moved in normal use of the refrigerator. Here again, in the process of abandoning, storing or otherwise placing the refrigerator in a non-use condition, the refrigerator is ordinarily tilted when it is being lifted and carried. Therefore, an inclinometer type of mechanism is operatively connected with the plunger for releasing the plunger so that it may be projected to a position at which it prevents the refrigerator door from becoming fully closed.

The above are but a few of the contemplated modes of operation of the invention and practical embodiments with which the invention may be practiced. Accordingly, it is a further object of the invention to provide a plunger in a refrigerator which is adapted to be projected into the path of travel of the door or the refrigerator or a part of the door or an attachment on the door, the plunger being rendered operative in response to one or more of a variety of condition responsive means to release the plunger so that it promptly occupies a blocking position to prevent the door from completely closing.

A further object of the invention is to provide an electrical holding circuit to be used in connection with the safety device or devices in the refrigerator whereby power must be available to electrically withdraw locking pins in order to reset the plunger. This is of importance in an abandoned refrigerator where ordinarily no power is available. The construction of the mechanical means for releasing the plunger enabling it to be spring projected into the path of travel of the door or an attachment on the door are so constructed that they operate only in one direction that is, when the shelves in the refrigerator are being withdrawn. When the shelves are being returned, electrical energy is necessary in order to electrically withdraw the locking pins associated with each shelf operated mechanism in order to electrically reset the safety device as well as mechanically reset it. The holding circuit is exceedingly simple but its presence makes it impossible to frustrate the object of the safety device in the absence of electrical potential which is ordinarily unavailable where a refrigerator is abandoned.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of a refrigerator having the safety device therein.

FIGURE 2 is an enlarged sectional view taken on the line 2—2 of FIGURE 1.

FIGURE 3 is a sectional view taken approximately on the line 3—3 of FIGURE 2.

FIGURE 4 is a sectional view showing the details of the refrigerator door closing preventing structure in FIGURE 1.

FIGURE 5 is an enlarged fragmentary sectional view showing a modification of the safety device.

FIGURE 6 is a sectional view taken on the line 6—6 of FIGURE 5.

FIGURE 7 is a perspective view of a refrigerator showing a further modification.

FIGURE 8 is an enlarged sectional view taken on the line 8—8 of FIGURE 7.

FIGURE 9 is a transverse sectional view taken on the line 9—9 of FIGURE 8.

FIGURE 10 is a sectional view taken on the line 10—10 of FIGURE 8.

FIGURE 11 is a sectional view taken on the line 11—11 of FIGURE 10.

FIGURE 12 is a partly elevational and partly sectional view of a further modification of the safety device.

FIGURE 13 is a schematic view of the holding circuit.

In the accompanying drawings reference is first made to FIGURES 1–4 inclusive. A conventional refrigerator **10** having a cabinet **12** is chosen as the appliance to demonstrate the principles of the invention. The parts of the refrigerator which do not directly enter into the functioning of the invention, for instance the compressor and other parts of the refrigerator systems, are not shown. The cabinet has sides **14** and **16** together with door **18** mounted by hinges **20** on side **16**. Shelves **22**, **24** and **26** serve the same purpose as conventional shelves and may be made as wire racks or wire racks and glass panels or in any other way. The sides of the refrigerator cabinet are each made of an outer panel and an inner panel with insulation **28** therebetween. For instance, side **14** (FIGURE 3) has outer panel **30** and inner panel **32** between which insulation **28** is disposed. The space between panels is ideally suited for a safety device **34** made of a cylinder **38** as more clearly seen in FIGURES 1 and 2 whose open front end is in registry with aperture **40** (FIGURE 4) in the narrow panel **42** at the front of the refrigerator cabinet and joined to panels **30** and **32**. Conical seat **44** is in the open end of cylinder **38** to accept stop **46** that is attached to the inner surface of door **18** and which is in alignment with the opening **40**. The stop is in the shape of a truncated cone to fit into the open end of cylinder **38** and conical seat **44**.

Stop plunger **48** is axially slidably disposed in cylinder **38** and has an abutment collar **50** fixed to it between its inner and outer ends. The inner end of the plunger has a centering disk **52** thereon adjacent to cap **54** at the inner extremity of cylinder **38**. A spring reaction disk **56** is attached to plunger **48** between abutment **50** and centering collar **52**, and it has one end of spring **58** in engagement with it. The opposite end of the same spring is in contact with a partition wall **60** extending across cylinder **38** and having a central aperture through which the plunger rod **48** is slidable. Accordingly, the compression in spring **58** is in a direction tending to eject the outer end of plunger rod **48** through opening **40** to occupy the space between seat **44** and aperture **40** whereby attachment **46** cannot enter the aperture **40** and seat **44**, this preventing door **18** from becoming latched regardless of the type of latch used on the refrigerator. It is within the contemplation of the invention to omit the attachment **46** and simply lengthen the rod **48** so that it has its outer end directly contact the door **18** and serve the same purpose.

The normal retracted position of the rod **48** is disclosed in FIGURE 4. It is retained withdrawn within cylinder **38** by means of a means, latch stop or stop pin **64** located on one side of abutment **50**. When on the other side of abutment **50**, stop pin **64** prevents rod **48** from being returned to the normal position. This stop pin is disposed in a solenoid case **66** which is secured to cylinder **38** and which has its axis perpendicular to the longitudinal axis of the cylinder. An opening **68** in a wall of cylinder **38** enables the latch **64** to enter the bore of cylinder **38** and to become disposed in front of abutment **50** to limit movement of the plunger (FIGURE 4). Latch **64** not only functions to prevent extension of the plunger but it is also under control of latch control means for preventing full retraction of the plunger from an extended position and hence constitutes the spring biased armature of a power operated solenoid **70**. The solenoid has a winding **72** in solenoid case **66** to produce the electromagnetic fiield for armature **64** in order to withdraw the armature, that is, latch **64** from the path of travel of abutment **50** so as to render the pin **64** inoperative or disable it as a plunger holding means. Spring **74** which is seated on the upper end of pin **64** and enclosed within a wall of case **66**, reacts on pin **64** projecting it into the bore of cylinder **38**.

If the stop pin **64** is withdrawn from cylinder **38** by some condition responsive release means which shall be described subsequently, spring **58** projects the outer end of plunger **48** into the path of travel of abutment **46** with cam **80** on plunger **48** striking partition wall **60** and limiting the extent of movement of plunger **48** in a direction outwardly of the cylinder. In moving to this position the cam **80** momentarily closes solenoid latch control switch **82** and then permits the normally open switch to return to its open position. Switch **82** has a fixed contact **84** attached to insulating block **86** on cylinder **38**. Movable contact **88** is also attached to block **86** and is made of a spring arm. Switch operator, consisting of leaf spring arm **89** is attached at one end inside cylinder **38** and has a projection **90** thereon which is engaged by cam **80**. A pin **92** passing through a hole in the wall of cylinder **38**, is pushed by switch operator **89**, and in turn, it pushes the spring arm movable contact **88** so that the contacts **88** and **84** touch.

FIGURES 2 and 3 illustrate one form of condition responsive release means including the mechanical shelf release means for lifting pin **64** to release the stop plunger **48**. Typical shelf **22** is mounted in a pair of tracks **100** attached to the inside surface of the refrigerator cabinet **12** in the usual manner. The bottom of typical track **100** has an opening **102** in which rocker **104** is mounted for pivotal movement. The rocker has a fork **106** at one end within which pin **108** is disposed. The opposite end of the rocker has a cam **110** formed thereon and projected through opening **102** into the track **100**. Lift rod **112** is rendered operative as a condition responsive release means by carrying a pin **108** mounted vertically above case **66**. The lift rod is passed through an opening (FIGURE 4) in the top of case **66** and is attached to the latch pin **64**.

An approximately Z-shaped cam operator **114** is secured to the edge channel of shelf **22** so that when the shelf is pulled out of the refrigerator a portion **116** of the Z-shaped cam operator **114** strikes cam **110** and oscillates it counter-clockwise as viewed in the orientation of FIGURE 2. This lifts fork **106** and lift rod **112**, thereby lifting the pin **64** against the bias of spring **74**. A similar lift rod operating mechanism is provided for each shelf of the refrigerator regardless of the number of shelves for cooperation with the lift rod **112**. Further, as seen in FIGURE 2 there is a normally open power supply control switch **120** at the inner extremity of track **100**. A push-button **122** constitutes part of switch **120** and is permitted to extend from the switch casing when the shelf is withdrawn. This switch **120** is, therefore, open when the shelf **22** is withdrawn from the refrigerator.

Reference is now made to FIGURE 13 showing one form of selectively conditioned reset means for a three shelf refrigerator including normally open power supply control switches **120**, **120***a* and **120***b* connected in series, there being one for each shelf. As is evident from inspection of FIGURES 13, each shelf must be in the refrigerator, closing each switch **120**, **120***a* and **120***b* before coil **72** of the solenoid including its control switch **82** (FIGURE 4) is capable of being energized. The power lines **126** are operatively attached to the line power for the refrigerator making it a requirement that power be available before the plunger **48** can be reset or returned after it has once been extended by removal of any one of the shelves.

Accordingly, all shelves have to be returned to the refrigerator in order to close the three switches **120**, **120***a* and **120***b*. Then, the plunger **48** has to be pushed inwardly slightly of the cylinder **38** until cam **80** closes switch **82** and sufficient to energize the circuit of FIGURE

13 and cause the solenoid to lift the armature, namely pin **64**, so that abutment **50** may pass thereunder. Further movement of the plunger **48** inwardly of cylinder **38** causes the plunger to again occupy the position shown in FIGURE 4, upon opening of switch **82** so as to lock the plunger in retracted position. Thus, the shelf actuated switches together with the solenoid control switch condition the solenoid for resetting the plunger to the retracted position for subsequent release by either the shelf release mechanism hereinbefore described or by other release mechanism to be hereafter described.

Reference is now made to FIGURES 5 and 6 showing another type of condition responsive release or alternate for the structural organization of FIGURE 4. These figures illustrate means for releasing plunger **48'** in response to the lifting of the refrigerator cabinet above a predetermined height. Otherwise considered, FIGURES 5 and 6 show substitute means for those operated by the removal of the shelves. When using the refrigerator lift mechanism in place of the shelf release mechanism as illustrated in FIGURES 5 and 6, the solenoid **70** itself as illustrated in FIGURES 1 through 4 remains unchanged as to structure and function for which reason the solenoid casing illustrated in FIGURES 5 and 6 remains labeled by reference numeral **66**. However, modification of the plunger **48** and its abutment **50** is necessitated. It will therefore be noted that since the plunger is held retracted by condition responsive latch pin **134** in FIGURE 5 rather than by pin **64**, the length of the abutment is extended as compared to that in FIGURE 4 and hence is referred to by reference numeral **50'**. The pin **64** in FIGURE 5 is therefore retracted only by the solenoid **70** for resetting purposes as described with respect to FIGURES 1 through 4. If desired, the pin **64** may also be rendered operative to latch the abutment **50'** when the plunger is in extended position as shown in dotted line in FIGURE 5, requiring suitable modification to avoid contact of the pin **64** with the spring tending to project the plunger. The plunger release mechanism therefore consists of a tube **130** rigidly attached to the bottom of cylinder **38**, for instance by having a clamp collar **132** attached to the tube and to the cylinder, by welding or by any other fastener. The pin **134** constitutes the condition responsive release latch which is structurally independent of the plunger holding latch **64** and is axially slidable in tube **130** and has a spring **136** seated thereon. The spring is also seated on a shoulder **138** fixed in tube **130** as clearly seen in FIGURE 5, and the bias of the spring is in a direction to project the locking pin **134** through an opening **140** in the wall of cylinder **38** and into the bore of the cylinder in front of abutment **50'**. This is the normal position of the locking pin **134**. It is withdrawn by spring **142** which is seated on the foot **144** of the refrigerator attached to one end of rod **146** that is also axially slidably disposed in tube **130**. Shoulder **148** in tube **130** provides a reaction surface for spring **142**, the latter spring being heavier than spring **136** but held compressed by the weight of the refrigerator. Rod **146** has a passage **150** through which a reduced diameter part of pin **134** travels. A transverse pin **152** is in a pair of opposed openings in the hollow part of rod **146**, extending across passage **150** and through a slot **154** in the reduced diameter part of locking pin **140**. The operation is now evident. The refrigerator may be lifted a distance equal to the length of slot **154** and rod **146** will be withdrawn without affecting locking pin **134**. However, when the distance of slot **154** is exceeded in the lifting of the refrigerator, the locking pin is withdrawn by pin **152** contacting the lower end of slot **154**, spring **142** all the time biasing the rod **146** outwardly of tube **130** and ultimately withdrawing locking pin **134** from its position in the path of travel of abutment **50'** on plunger **48'**. It will also be apparent that after extension of the plunger **48'**, the abutment **50'** must prevent latching of the pin **134** so that the plunger may be reset.

FIGURE 12 illustrates still further alternate condition responsive release means of releasing the plunger **48'** and is therefore also used in conjunction with the shelf operated plunger release mechanism. It will be understood that the tilt release mechanism of FIGURE 12 cooperates with the plunger **48'** as does the release mechanism of FIGURES 5 and 6. In FIGURE 12 there is a tube **160** attached to cylinder **38** and in alignment with an opening **162** therein. Locking pin **164** axially slidably moveable in tube **160** is movable between an extended and retracted position. Spring **166** is disposed in a part of tube **160**, being seated on shoulder **168** in tube **160** and seated on the lower surface of an enlarged part of locking pin **164** that is, the part which has a normal position blocking the spring caused movement of plunger **48'** by engaging abutment **50'**. Thus FIGURES 5 and 12 differ from FIGURE 4 in the use of separate latch members for limiting movement of the plunger. FIGURE 12 differs from FIGURE 5 on the other hand in that a weight **170** is secured to a rod **172** that has a semispherical head **174** mounted on a flange at its upper end and located in seat **176** at the lower extremity of tube **160**. The chain **178** is attached to head **174** and is attached to the lower end of locking pin **164**. The weight and arm **172** function as an inclinometer. When the refrigerator is tilted beyond a certain angle, weight **170** remaining vertical, causes the chain **178** to pull locking pin **164** against the yielding opposition of spring **166** and retract the locking pin **164** from the front face of abutment **50**. Restoring the refrigerator to a level position after extension of the plunger **48'** would not permit relatching of the pin **164** because of the modified plunger abutment **50'** as shown in FIGURE 12.

In FIGURES 7–11 there is a modification of the shelf operated release mechanism. The ultimate operation of this form of the invention is precisely the same as that described in connection with that disclosed in FIGURES 1–4. The refrigerator **200** has a side wall **202**, a door **204** and other associated parts. The wall **202** has a housing **206** in which there is a vertically movable channel **208** having side walls and a transverse wall **210**. The transverse wall **210** has a tongue **212** struck from it (FIGURE 8) adapted to be contacted by rocker arm **214**. The rocker arm is mounted on a pivot **216** carried by the side of housing **206** and has a cam **218** at one extremity. The cam contacts tongue **212** and lifts the channel **208** through the action of spring **220**. The spring is secured at one end to a part of the housing **206** and secured at the other end to rocker **214** on the side of pivot **216** opposite to that which has cam **218**. The push rod **224** is secured to rocker arm **214** by a pivot pin **226** and is engaged by the channel **228** along the edge of shelf **22**. When shelf **22** is removed, the rod **224** is extended inwardly by the action of spring **220** and at the same time there is the accompanying lifting of channel **208**. For smoothness of operation there is a spring finger **230** (FIGURE 9) on the channel **228** of shelf **22**, and it is the spring finger which engages push rod **224** augmenting spring-biased movement of arm **214**.

The lower end of channel **208** has a lift rod **240** which functions in the manner identical to the lift rod **112** as described with respect to FIGURES 1 through 4, and hence is connected to the locking pin **242** of solenoid **244**. The solenoid locking pin **242** is actually the armature of the solenoid, and there is an external loaded pin hold-down spring **246** seated on the solenoid case **248** and seated on the lower extremity of channel **208**. The spring **246** is therefore arranged to be compressed by the weight of the channel **208** when released for downward movement by the arm **214** occasioned by insertion of shelf **22**. In this compressed state, the spring **246** will assist any upward displacing force applied to channel **208**.

Switch **250** (FIGURE 10) is precisely the same in function and practically the same in construction as switch **82** in FIGURE 4. The plunger **252** which corresponds to

plunger 48, is located in the cylinder 254. However, there is a tension spring 256, instead of a compression spring like spring 58 and the tension spring is secured to seat 258 and to plunger guide collar 260 attached to the plunger and slidably disposed in cylinder 254. A spring guide 262 accommodates spring 256 and is attached to the collar 260. The tension spring 256 operates in a direction tending to pull the plunger outwardly of cylinder 254, however, the plunger is held in the extended position by means of a one way camming abutment 266 as illustrated in FIGURE 10, that is secured to the guide 262 including a back edge for abutting pin 242 when the plunger 252 is in its extended position.

As soon as a shelf is removed, the combined bias of spring 220 acting on arm 214 and the upward bias of the spring 246 in its compressed state will sufficiently counteract the weight of channel 208 so that spring 256 will be operative to extend the plunger with the camming abutments 266 camming the pin 242 and channel 208 upwardly as it passes thereunder to finally occupy the latch position shown in FIGURE 10 by solid lines. The return of the plunger 252 enabling the door 204 of the refrigerator to be closed is accomplished in precisely the same way as the return of the door 18 of refrigerator 10 including prior replacement of the shelves so as to close switch 272. The switch 250 is the complete counterpart of switch 82 enabling relatching of pin 242 in the retracted position of plunger 252 by momentarily closing of switch 250 by means of cam 270 on the plunger to energize the solenoid 244 for withdrawing the pin 242. Switches 272 at the inner part of the refrigerator and in alignment with shelves 22, are the complete functional counterparts of switches 120, 120*a* and 120*b*.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A safety device for a door of a refrigerator comprising, plunger means reciprocably mounted in a wall of said refrigerator for projection therefrom into contact with the door to prevent latching of the door when the plunger means is prevented from retraction beyond an initial amount from an extended position, resilient means biasing the plunger means into said extended position, abutment means connected to said plunger means, latch means operative for engagement with said abutment means to limit movement of the plunger means, condition responsive release means operatively connected to said latch means for rendering the latch means inoperative, to permit extension of the plunger means by the resilient means, latch control means operatively connected to said latch means and effective to render the latch means operative for preventing retraction of the plunger means beyond said initial amount from said extended position, and selectively conditioned reset means operatively connected to the latch control means for temporarily rendering the latch control means ineffective in responsive to retraction of the plunger means said initial amount to permit full retraction of the plunger means.

2. The combination of claim 1, wherein said latch control means comprises biasing said latch means into a position for engagement by said abutment means and power operated means for retracting said latch means from engagement with the abutment means.

3. The combination of claim 2, wherein said selectively conditioned reset means comprises power supply control means rendered operative to supply power to the latch control means, for rendering the latter ineffective, and plunger displacement responsive control means operatively connecting said power supply control means to the latch control means for momentarily disabling the latch control means when the power supply control means is rendered operative.

4. The combination of claim 3, wherein said power supply control means comprises a plurality of normally open switches connected in series, said power operated means being a normally deenergized solenoid energized by a supply of current in a path rendered conductive by closing of all of said switches.

5. The combination of claim 4, wherein said power supply control means further includes refrigerator shelf-mounted switch actuators.

6. The combination of claim 5 wherein said condition responsive release means comprises, a latch control member independent of said latch control means, means operatively connecting said latch control member to the latch means and responsive to a predetermined displacement of the refrigerator for withdrawing the latch means.

7. The combination of claim 1, wherein said selectively conditioned reset means comprises power supply control means rendered operative to supply power to the latch control means, for rendering the latter ineffective, and plunger displacement responsive control means operatively connecting said power supply control means to the latch control means for momentarily disabling the latch control means when the power supply control means is rendered operative.

8. The combination of claim 7, wherein said power supply control means includes refrigerator shelf-mounted switch actuators.

9. The combination of claim 8, wherein the condition responsive release means comprises, mechanical means operatively engageable with said latch means to effect withdrawal thereof independent of the reset means and means responsive to withdrawal of a refrigerator shelf from the refrigerator for rendering the mechanical means operative to prevent withdrawal of the latch means.

10. The combination of claim 1, wherein said condition responsive release means comprises, a latch control member independent of said latch control means, means operatively connecting said latch control member to the latch means and responsive to a predetermined displacement of the refrigerator for withdrawing the latch means.

11. The combination of claim 10, wherein said selectively conditioned reset means comprises power supply control means rendered operative to supply power to the latch control means, for rendering the latter ineffective, and plunger displacement responsive control means operatively connecting said power supply control means to the latch control means for momentarily disabling the retraction holding means when the power supply control means is rendered operative.

12. The combination of claim 11, wherein said power supply control means further includes refrigerator shelf-mounted switch actuators.

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