Oct. 9, 1945. T. NIETER 2,386,495

REFRIGERATOR DOOR STRUCTURE AND LATCHING MECHANISM

Filed March 18, 1944 2 Sheets-Sheet 1

Fig. 1

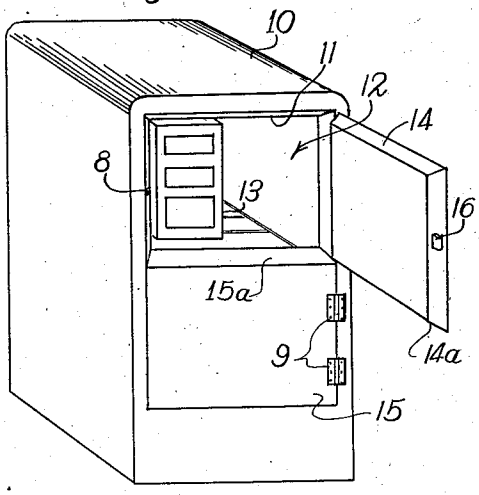


Fig. 2

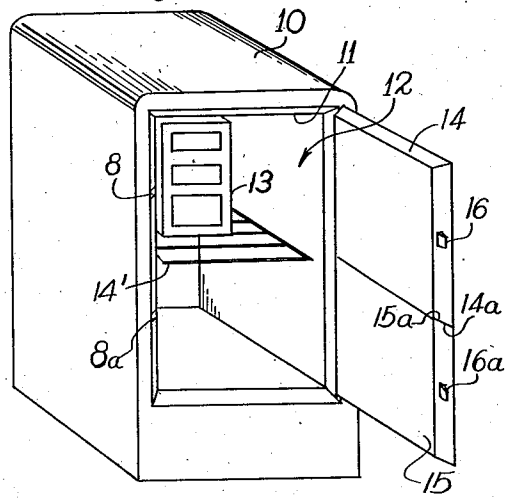


Fig. 3

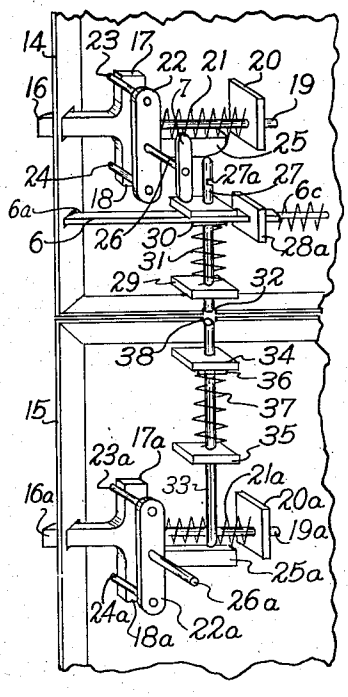


Fig. 4

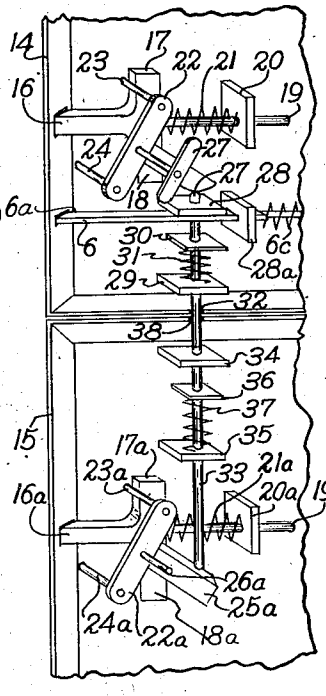
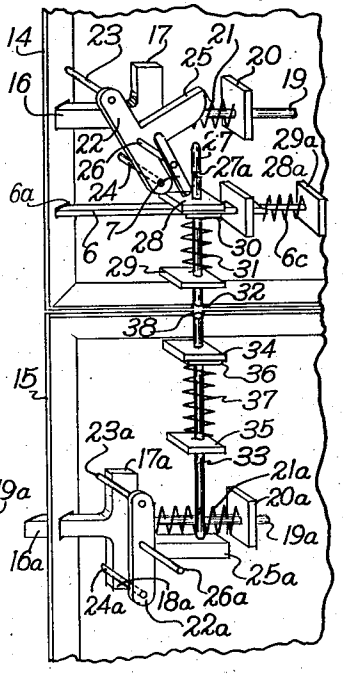


Fig. 5



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REFRIGERATOR DOOR STRUCTURE AND LATCHING MECHANISM

Filed March 18, 1944 2 Sheets-Sheet 2

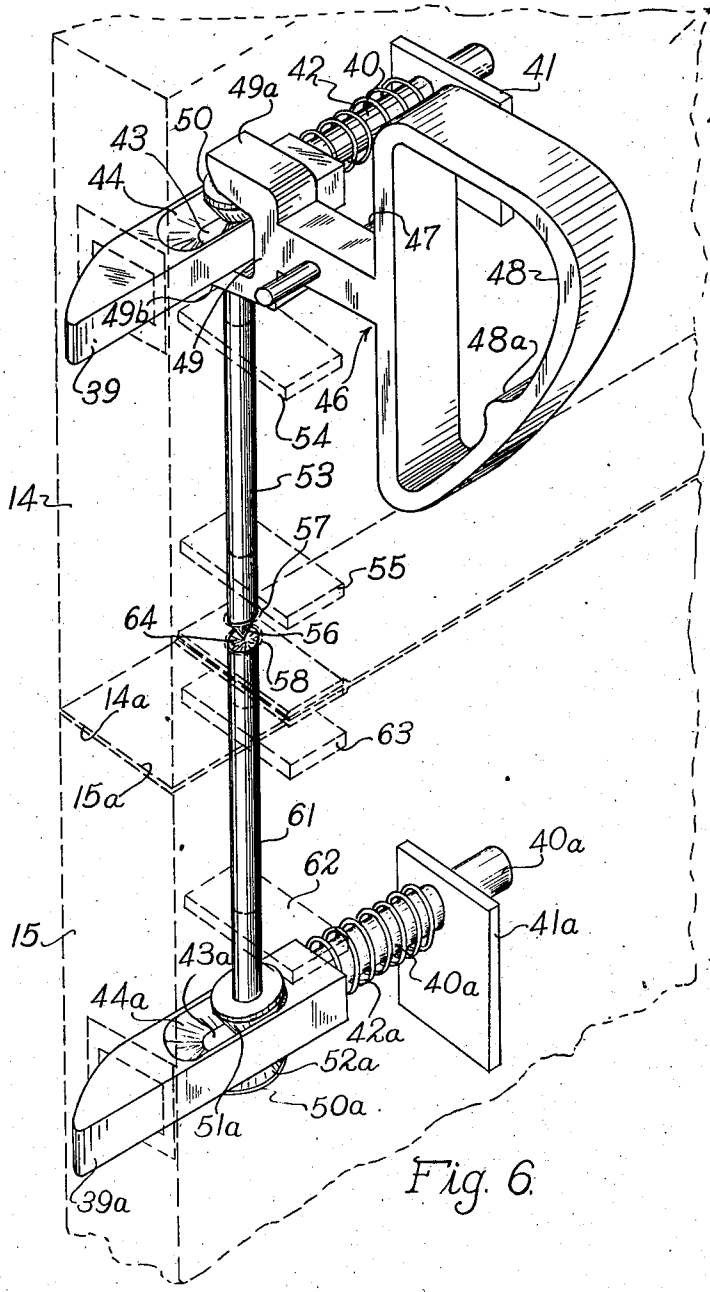


Fig. 6.

Fig. 7

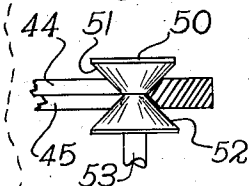


Fig. 8

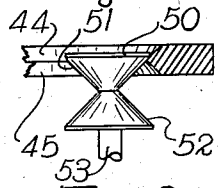


Fig. 9

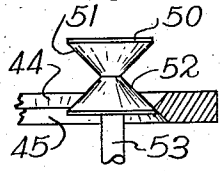


Fig. 10

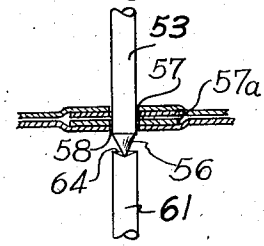
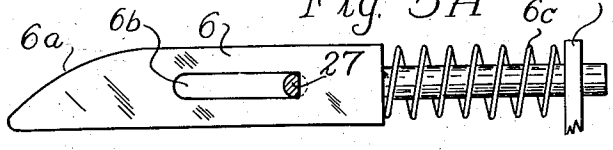


Fig. 5A



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Patented Oct. 9, 1945 2,386,495

UNITED STATES PATENT OFFICE

2,386,495

REFRIGERATOR DOOR STRUCTURE AND LATCHING MECHANISM

Temple Nieter, Racine, Wis.

Application March 18, 1944, Serial No. 527,029

15 Claims. (Cl. 292—33)

The present invention relates to improvements in refrigerators, and more particularly to improvements in door structures for household refrigerators of the gas-fired or electro-mechanical type.

In the usual refrigerator adapted for domestic use, a one-piece door structure is provided, such that the entire refrigerating space within the refrigerator housing is exposed to room temperature air each time the door is opened, with the result that the cold air collected at the bottom of the refrigerating space is largely replaced by warm air from outside the unit. This escape of the cold air from the refrigerating space represents an energy loss which materially increases the cost of operating the unit. Direct exposure of the lower part of the refrigerating space to room temperature air is moreover unnecessary, since in many instances the only purpose in opening the door is that of gaining access to the freezing compartment or to shelves disposed in the upper portion of the refrigerating space.

It is an object of the present invention, therefore, to provide an improved refrigerator door structure, which is so arranged that either the upper part or all of the opening into the refrigerating space may be opened selectively and as desired.

More generally stated, it is an object of the present invention to provide an improved multi-part refrigerator door structure which is so arranged that a single latch actuator may be selectively controlled to release one or all of the door parts for movement to an open position.

According to another object of the invention, provisions are made for automatically locking the door parts against relative movement incident to operation of the latch actuator to release all parts of the door structure for door opening movement.

It is still another object of the present invention to provide in combination with a two-part refrigerator door structure of the character described, an improved latching mechanism which is simple in arrangement and yet may easily be manipulated on a selective basis to unlatch either one or both parts of the door for movement to an open position.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the specification taken in connection with the accompanying drawings in which:

Fig. 1 illustrates a domestic refrigerator provided with an improved door structure characterized by the features of the present invention;

Fig. 2 illustrates the refrigerator shown in Fig. 1 with the lower part of the improved door structure in changed position;

Figs. 3, 4, and 5 illustrate in changed positions, the elements of the improved latching mechanism which is utilized to latch the two parts of the door structure closed and to release either the upper or both parts of this structure for opening movement;

Fig. 5A is a detail view of certain of the elements provided in the latching mechanism;

Fig. 6 illustrates, in partially schematic form, a modified latching mechanism which may be used to latch the two parts of the door structure closed and to release either the upper door part or both parts for opening movement;

Figs. 7, 8 and 8 are detail views showing certain of the elements of the latching mechanism of Fig. 6 in changed positions; and

Fig. 10 is a detail view illustrating the arrangement provided in the latching mechanism of Fig. 6 for interlocking the two door parts to prevent relative movement therebetween when the latch actuator of the mechanism is operated to release both door parts for opening movement.

Referring now to the drawings, and more particularly to Figs. 1 through 5 thereof, the refrigerator there illustrated comprises the usual housing 10 having a door opening 11 provided in its front wall for gaining access to the refrigerating space indicated generally at 12 defined by the housing. A freezing unit 13 of the well known electro-mechanically operated type is provided within the refrigerating space 12 for the purpose of cooling this space to the desired low temperature. One or more shelves 14' suitably supported along the inner side walls of the housing 10 may also be provided within the refrigerating space 12 for the purpose of supporting articles and materials to be cooled within this space. It will be understood that the housing 10 is of entirely conventional construction, being provided with suitably insulated walls for preventing heat conduction to the refrigerating space 12 disposed therewithin.

For the purpose of closing the door opening 11, a sectionalized door structure is provided which comprises two door parts 14 and 15 pivotally supported upon the housing 10 by means of hinges 9. Suitable sealing strips of conventional design are provided around the inwardly tapering door receiving surfaces of the opening 11 for sealing engagement with the correspondingly tapered

edge surfaces of the doors 14 and 15, in order to prevent air transmission from the refrigerating space 12 to the exterior of the refrigerator, or vice versa, when the door parts 14 and 15 are closed. In this regard it is noted that the engaging edge surfaces 14a and 15a of the two door parts 14 and 15 are interlockingly tapered so that movement of the upper door part 14 toward its closed position will similarly move the lower door part 15. Also, suitable sealing strips are provided between the engaging edge wall surfaces 14a and 15a for the purpose of minimizing heat transmission from outside of the refrigerator to the refrigerating space 12 therewithin. Each of the two door parts 14 and 15 is of the usual construction employing spaced inner and outer walls having a suitable heat insulating material confined therebetween for the purpose of preventing heat transmission therethrough.

As best shown in Figs. 3, 4 and 5 of the drawings, the mechanism for releasably locking the door parts 14 and 15 closed comprises latches 16 and 16a individual to these door parts and respectively extending through fitting openings provided at the front edges of the two identified door parts to enter suitable latch receiving recesses 8 and 8a provided at spaced points along the left side of the door opening 11. At the rear ends thereof, the latches 16 and 16a are respectively provided with guide rods 19 and 19a. These rods are slidably received within fitting openings through supporting plates 20 and 20a which are rigidly mounted between the front and rear walls of the door parts 14 and 15, respectively. Coil springs 21 and 21a telescoped over the guide rods 19 and 19a and confined between the plates 20 and 20a and the respective associated enlarged portions of the latches 16 and 16a, are utilized to bias these latches toward their door latching settings. A latch actuating mechanism comprising the pivotally supported parts 22, 23, 24 and 26 is provided for retracting the latch 16 to its door release setting against the bias of the spring 21. These parts are supported for rotation about the axis of the actuator shaft 26 by journaling this shaft within a suitable bearing piece rigidly mounted upon the inner side of the front wall of the door 14. At its projecting end, the shaft 26 carries an actuator handle 7 which may be utilized to pivot this shaft and the parts 22, 23 and 24 carried thereby in either direction. The two spaced pins 23 and 24, which are rigidly mounted upon the spacing piece 22 carried by the shaft 26, normally engage ears 17 and 18 formed integral with the latch 16 to limit the forward movement of the latch 16 and thus hold the spring 21 under tension. With this arrangement, it will be apparent that when the connected actuator parts are pivoted in either direction away from the normal positions thereof as shown in Fig. 3 of the drawings, the latch 16 will be moved to its retracted or door release position. A similar latch actuating mechanism comprising the correspondingly numbered parts 22a, 23a, 24a, 26a, 17a and 18a is provided for limiting the forward movement of the latch 16a and for retracting this latch to its door release setting. It is noted, however, that the shaft 26a does not extend through the front wall of the door 15, but is journaled within a hidden bearing member supported at the inner side of the front wall of the door 15.

For the purpose of actuating the latch 16a to its door release setting in response to pivotal movement of the handle 7 in one direction away from its illustrated normal position, a one-way motion transmitting mechanism comprising the two longitudinally movable rods 27 and 33 is provided to interconnect the two latch actuator parts 22 and 22a. More specifically, the part 22 includes a rearwardly extending leg 25 which engages the upper end of the rod 27 and is provided with a rounded camming surface adjacent the free end thereof adapted for sliding movement over the upper end of the rod 27 when the part 22 is pivoted in one direction. This rod is slidably supported by means of mounting pieces 28 and 29, which are supported between the walls of the door 14, and is held in an elevated position with the upper end thereof in engagement with the leg 25 of the part 22 by means of a biasing spring 31. The identified spring is maintained under tension between the mounting piece 29 and a small plate 30 fixedly mounted upon the rod 27 at the upper end thereof. This plate, through its engagement with the upper mounting piece 28, acts as a stop to limit upward movement of the rod 27. The lower end of the identified rod is adapted to be projected through aligned openings 32 and 38 respectively provided in the edge walls 14a and 15a of the two door parts 14 and 15 to engage the upper end of the rod 33. The latter rod is slidably supported by a pair of mounting pieces 34 and 35, which are rigidly supported between the edge walls of the door 15, and is provided with a lower end which rests upon the upper surface of a leg 25a formed integral with and extending rearwardly from the latch actuator piece 22a. It is held in an elevated position, such that the upper end thereof is normally disposed just below the opening 38, by means of a biasing spring 37 which is confined between the mounting piece 35 and a stop plate 36 rigidly supported upon the rod adjacent the upper end thereof. Thus the plate 36, as tensioned against the mounting piece 34, acts to limit upward movement of the rod 33.

In order to lock the two door parts 14 and 15 together as they are opened in unison, a latching bar 6 is provided which is slidably supported by supporting plates 28a and 29a anchored between the front and rear walls of the door 14, and is provided with a camming end 6a biased to engage the tapering front edge of the door opening by means of a spring 6c. This bar is provided with a slot 6b within which the rod 27 is received and having a straight rear edge which is adapted to enter a slot 27a provided at the upper end of the rod 27 when this rod is pushed down to actuate the latch 16a.

Briefly to consider the operation of the described latching mechanism, it will be understood that when both door parts 14 and 15 are closed the latches 16 and 16a are engaged with the latch receiving recesses 8 and 8a, and the latching bar 6 is retracted so that the rod 27 is free to slide through the slot 6b. Under these circumstances, the door opening 11 is tightly sealed by the two door parts to prevent cool air leakage and to prevent heat from entering the refrigerating space 12 within the housing 10. If it is desired to open only the upper door part 14 for the purpose of gaining access to the freezing unit 13 or to articles supported by the shelf 14', the handle 7 is pivoted in a counter-clockwise direction to move the latch actuator part 22 to the position illustrated in Fig. 5 of the drawings. Incident to the resulting pivotal movement of the connected parts 26, 22, 23, and 24, the last mentioned part engages the ear 18 of the latch 16 to re-

tract said latch to its door release setting against the bias of the spring 21. Also during such movement of the identified latch actuator parts, the pin 23 is moved away from the ear 17 and the leg 25 is moved away from the upper end of the rod 27. Thus the latch 16 is retracted to its door release setting without disturbing the engagement of the latch 16a with the latch receiving recess 8a. Accordingly, the door part 14 may be moved to its open position independently of the door part 15 by simply pulling upon the handle 7. With the lower door part 15 closed, the cold air collected in the bottom of the refrigerating space 12 is prevented from spilling out of this space to produce a corresponding energy loss in the operation of the freezing unit 13. After the door part 14 has been opened, the handle 7 may obviously be released, thus permitting the latch 16 to return to its latching position under the influence of the biasing spring 21. During such return movement of the latch 16, the actuator parts 23, 24, 22, 25 and 26 are returned to their respective normal positions. Thereafter and when the door part 14 is closed, the latch 16 is obviously retracted to its door release setting and is then forced into the latch receiving recess 8 under the influence of the spring 21. During such movement of the latch 16, the settings of the actuator parts 22, 23, 24, 25, and 26 are not disturbed.

If it is desired to obtain access to articles disposed in the lower part of the refrigerating space 12, it is necessary to open both of the door parts 14 and 15. To this end, the handle 7 is pivoted in a clockwise direction to move the elements of the latching mechanism to the positions illustrated in Fig. 4 of the drawings. Incident to such actuation of the handle 7, the actuator pin 23 engages the latch ear 17 to retract the latch 16 and thus release the door part 14. Also incident to the clockwise movement of the actuator part 22, the leg 25 thereof engages the upper end of the rod 27 to move this rod and the aligned rod 33 downwardly against the bias afforded by the two coil springs 31 and 37. As the rod 33 is moved downward, the slot 27a is brought into registry with the rear edge of the latching bar slot 6b and the actuator pin 23a engages the ear 17a to retract the latch 16a to its door release setting against the bias of the spring 21a. Thus the door part 15 is also released for movement to an open position. During the downward movement of the rod 27, the lower end thereof passes through the aligned openings 32 and 38 in the door edge walls 14a and 15a thereby to interlock the two door parts against relative movement. Accordingly, when the handle 7 is pulled, both door parts are opened in unison. As the door part 14 is opened, the latching bar 6 slides forward so that the rear edge of the slot 6b enters the slot 27a to latch the rods 27 and 33 in their downward positions. Thus the rod 27 is held by the latching bar 6 in a position for locking the two door parts 14 and 15 together. After the door opening 11 has been thus fully uncovered, the handle 7 may be released, permitting all parts of the upper latching mechanism to return to normal under the restoring influence of the spring 21. During such release of this latching mechanism, the interlocking connection provided by the rod 27 between the two door parts is obviously maintained by the latching bar 6. Accordingly, these two parts may be closed in unison by simply pushing upon the upper door part 14. During the final portion of such closing movement the latch 16 is momentarily retracted and then returned to its latching setting under the influence of the spring 21. Also during the final closing movement of the two door parts, the latching bar 6 is retracted to disengage the rear edge of the slot 6b from the slot 27a. Thus, the actuator part 22a and the rods 27 and 33 are released for return to their respective normal positions under the influence of the biasing springs 31, 37 and 21a. Following the release of the identified parts, the latch 16a is free to enter the recess 8a, thereby to latch the door part 15 closed.

From the above explanation it will be clearly understood that by simply actuating the handle 7 in either of two directions away from its normal position, either the upper door part 14 or both door parts may be selectively unlatched for opening movement, and that when both door parts are unlatched they are interlocked to prevent relative movement therebetween. These same operating features also characterize the modified latching mechanism illustrated in Figs. 6 through 10 of the drawings. In brief, the modified latching mechanisms there illustrated comprise two latches 39 and 39a individual to the two door parts 14 and 15, a pivoted actuating handle indicated generally at 46, latch actuating parts 50 and 50a individual to the latches 39 and 39a, and a one-way motion transmitting linkage comprising the two rods 53 and 61 interconnecting the two latch actuating parts 50 and 50a. More specifically, the latch 39 is slidably supported within a fitting opening through the front edge wall of the door part 14, and is provided with a tail shaft 40 which is likewise slidably supported within an opening through a supporting piece 41 mounted between the front and rear walls of the door part 14. A biasing spring 42 telescoped over the tail shaft 40 and tensioned between the supporting piece 41 and the enlarged portion of the latch 39 is utilized to bias this latch toward its latching setting. The actuator part 50 is made up of two opposed and suitably interconnected conical pieces which are rigidly mounted upon the upper end of the rod 53 and are disposed within a slot 43 cut through the latch 39. Tapering surfaces 44 and 45, conforming in contour to the slanting side surfaces 51 and 52 of the two conical pieces are provided in the latch 39 around the slot 43 to provide for camming action between the two parts 39 and 50 when the part 50 is moved up or down. In this regard it is pointed out that the width of the slot 43 is only slightly less than the largest diameter of the conical pieces making up the actuator part 50, thereby to permit the desired camming action to be produced. The mounting arrangement for the latch 39a, the structural arrangement of the latch actuator part 50a and the arrangement of the surfaces provided in the latch 39a to coact with this actuator part are identical with those described above in reference to the latch 39. Accordingly, corresponding reference numerals have been utilized to identify corresponding parts and surfaces of the two latch assemblies. It is noted, however, that the latch actuating part 50a is rigidly mounted upon the lower end of the rod 61 in order that it may be properly positioned for actuation of the latch 39a. Mounting pieces 54 and 55 supported between the front and rear walls of the door part 14 are utilized slidably to support the rod 53. Similarly, mounting pieces 62 and 63 supported in spaced apart relation between the front and rear walls

of the door 15 are utilized slidably to support the rod 61. Aligned openings 57 and 58 are provided in the engaging edge walls 14a and 15a of the two door parts 14 and 15 to permit the lower tapered end 56 of the rod 53 normally to project through the edge walls to engage the recessed upper end 64 of the rod 61. If desired, an apertured striking plate 57a may be provided along the top edge of the door part 15 in the manner shown in Fig. 10 of the drawings to receive the pointed end of the rod 53.

In order to raise and lower the actuator part 50 to produce the camming action referred to above, the handle 46 is pivotally supported by means of a pivot pin 47 upon the front wall of the door 14 at the inner side thereof, and is provided with a forked end 49 having tines 49a and 49b which respectively overlie the upper and lower surfaces of the identified actuator part. Rounded camming surfaces are formed at the inner sides of the forked tines 49a and 49b to facilitate sliding engagement of the tines with the upper and lower surfaces of the actuating part 50. The handle includes an actuating portion which extends through a slot, not shown, in the front wall of the door part 14 and carries a finger ring 48 at the projecting end thereof. This finger ring is provided with an inner hump 48a which is useful in providing a touch indication of the positions along the finger ring where force should be applied in order to open the upper or both door parts.

Briefly to consider the operation of the described modified latching mechanism, it will be understood that normally the springs 42 and 42a serve to maintain the latches 39 and 39a interposed within the latch recesses 8 and 8a, and the lower end of the rod 53 projects through the aligned openings 57 and 58. In order to retract the latch 39 to its door release setting, the finger ring 48 is pulled down to pivot the forked end 49 of the handle 46 upward, thereby to move the actuating part 50 to the position illustrated in Fig. 9 of the drawings. Incident to such movement of the part 50, the surface 52 of this part coacts with the engaging surface 45 surrounding the slot 50 at the rear end of the latch 39 to move this latch to the right into its door release setting. Also incident to the upward movement of the actuator part 50, the rod 53 connected with this part is withdrawn upwardly through the aligned openings 57 and 58, thereby to unlock the two door parts 14 and 15 from each other. After the door part 14 has thus been unlatched and opened, the handle 46 may be released, permitting the four parts 39, 46, 50, and 53 to be returned to their respective normal positions under the influence of the biasing spring 42. When the door part 14 is subsequently closed, the latch 39 is momentarily retracted to its door release setting, following which it is forced into the latch receiving recess 8 through the action of the spring 42. During such movement of the latch 39 the lower pointed end of the rod 53 engages the striking plate 57a and is moved upward until it is realigned with the openings 57 and 58, following which it is extended through these openings to relock the two door parts against relative movement.

When it is desired concurrently to move both latches 39 and 39a to their door release settings, the finger ring 48 is raised to pivot the handle 46 in a direction opposite that required for upper door operation, thereby to move the actuator part 50 to the position illustrated in Fig. 8 of the drawings. Incident to this movement of the part 50 the camming surface 51 thereof coacts with the engaging rear portion of the surface 44 to retract the latch 39 to its door release setting. Also incident to the downward movement of the two connected parts 50 and 53, the lower end of the latter part is further projected through the aligned openings 57 and 58 in the door edge walls 14a and 15a to move the rod 61 downwardly therewith, thereby to actuate the part 50a substantially to the position illustrated in Fig. 8 of the drawings. During movement of the actuator part 50a to this position the camming surface 51a thereof coacts with the camming surface 44a of the latch 39a to move this latch to its door release setting against the bias of the spring 42a.

Thus both of the latches 39 and 39a are concurrently retracted to their respective door release settings and the two door parts are interlocked to prevent relative movement therebetween. After these two door parts have been opened, the handle 46 may be released, permitting the two latches and the associated actuating mechanism to be restored to normal under the influence of the springs 42 and 42a. With these two latches in their normal positions, the two door parts are interlocked against relative movement by the rod 53. Accordingly, they may be closed in unison by simply pushing upon either door part. Here again, the two latches 39 and 39a are momentarily retracted without actuation of the latch actuation mechanism incident to movement of the respective associated door parts 14 and 15 to their respective closed positions.

While two embodiments of the invention have been disclosed, it will be understood that various modifications may be made therein which are within the true spirit and scope of the invention as defined in the appended claims.

I claim:

1. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower parts hinged to said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a latch actuator carried by one of said door parts and movable in either of two directions away from a normal position, means responsive to operation of said actuator in either of said two directions for unlatching the latching means individual to the upper door part, and means responsive to operation of said actuator in a predetermined one of said two directions for unlatching the latching means individual to the lower door part.

2. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower parts hinged to said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a latch actuator carried by the upper door part and movable in either of two directions away from a normal position, means responsive to operation of said actuator in either of said two directions for unlatching the latching means individual to the upper door part, means responsive to operation of said actuator in a predetermined one of said two directions for unlatching the latching means individ-

ual to the lower door part, and means for interlocking said two door parts to prevent relative movement therebetween in response to operation of said actuator in said one direction.

3. In a refrigerator which includes a housing defining an internal cooling space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower parts hingedly carried by said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a single latch actuator, and means selectively controllable by movement of said latch actuator in different directions for selectively actuating said latching means to unlatch one or both of said door parts.

4. In a refrigerator which includes a housing defining an internal cooling space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower parts hingedly carried by said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a latch actuator, means selectively controllable by said latch actuator for selectively actuating said latching means to unlatch one or both of said door parts, and means included in said last-named means for locking said door parts against relative movement when both of said door parts are unlatched.

5. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower doors hinged to said housing to close and open different parts of said doorway, latches individual to said doors for respectively latching said doors closed, operating means individual to said latches for actuating said latches to their respective unlatched positions, a latch actuator movable in either of two directions away from a normal position to actuate one of said latch operating means, and one-way motion transmitting means connecting said latch operating means to actuate the other of said latch operating means in response to movement of said latch actuator in a predetermined one of said two directions away from said normal position.

6. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower doors hinged to said housing to close and open different parts of said doorway, latches individual to said doors for respectively latching said doors closed, operating means individual to said latches for actuating said latches to their respective unlatched positions, a latch actuator movable in either of two directions away from a normal position to actuate one of said latch operating means, one-way motion transmitting means connecting said latch operating means to actuate the other of said latch operating means in response to movement of said latch actuator in a predetermined one of said two directions away from said normal position, and means included in said motion transmitting means for locking said doors against relative movement when said motion transmitting means is operated to actuate said other latch operating means.

7. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower doors hinged to said housing to close and open different parts of said doorway, latches individual to said doors for respectively latching said doors closed, latch actuating means individual to said latches for actuating said latches to their respective unlatched positions, a latch actuator carried by said upper door and pivotally movable in either of two directions away from a normal position to actuate the latch actuating means individual to said upper door, and one-way motion transmitting means connecting said latch operating means to actuate the latch actuating means individual to said lower door in response to movement of said latch actuator in a predetermined one of said two directions away from said normal position.

8. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower doors hinged to said housing to close and open different parts of said doorway, latches individual to said doors for respectively latching said doors closed, latch actuating means individual to said latches for actuating said latches to their respective unlatched positions, a latch actuator carried by said upper door and pivotally movable in either of two directions away from a normal position to actuate the latch actuating means individual to said upper door, one-way motion transmitting means connecting said latch operating means to actuate the latch actuating means individual to said lower door in response to movement of said latch actuator in a predetermined one of said two directions away from said normal position, and means included in said motion transmitting means for locking said doors against relative movement when said motion transmitting means is operated to actuate the latch actuating means individual to said lower door.

9. In a refrigerator which includes a housing defining an internal cooling space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower parts hingedly carried by said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a latch actuator, means selectively controllable by said latch actuator for selectively actuating said latching means to unlatch one or both of said door parts, and means normally locking said door parts against relative movement and controlled by said latch actuator to release said door parts for relative movement when said latch actuator is operated to unlatch said one door part.

10. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower doors hinged to said housing to close and open different parts of said doorway, latches individual to said doors for respectively latching said doors closed, latch actuating means individual to said latches for actuating said latches to their respective unlatched positions, a latch actuator carried by said upper door and pivotally movable in either of two directions away from a normal position to actuate the latch actuating means individual to said upper door, one-way motion transmitting means connecting said latch operating means to actuate the latch actuating means individual to said lower door in response to movement of said latch actuator in a predetermined one of said two directions away from said normal position, and means included in said motion transmitting means for normally locking said doors against relative movement and responsive to operation of said actuator in one of said

two directions to release said doors for relative movement.

11. In a refrigerator which includes a housing defining an internal cooling space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower parts hingedly carried by said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, latch actuating means for selectively actuating said latching means to unlatch one or both of said door parts, and means for preventing relative movement between said door parts when both of said door parts are unlatched.

12. In a refrigerator which includes a housing defining an internal cooling space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower door parts hingedly carried by said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a latch actuator, and means selectively controllable by said latch actuator for selectively actuating said latching means to unlatch one or both of said door parts and for locking said door parts against relative movement in response to operation of said latch actuator to unlatch both of said door parts.

13. In a refrigerator which includes a housing defining an internal cooling space provided with an open doorway, a sectionalized door comprising relatively movable upper and lower door parts hingedly carried by said housing to close and open different parts of said doorway, latching means individual to said door parts for respectively latching said door parts closed, a latch actuator, means selectively controllable by said latch actuator for selectively actuating said latching means to unlatch one or both of said door parts, and means including a part of said last-named means for locking said door parts against relative movement in response to operation of said latch actuator to unlatch both of said door parts and opening movement of said door parts and for releasing said door parts for relative movement in response to subsequent closing movement of said door parts.

14. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower door parts hinged to said housing to close and open different parts of said doorway, latches individual to said door parts for respectively latching said door parts closed, latch actuating means individual to said latches for actuating said latches to their respective unlatched positions, a latch actuator movable in either of two directions away from a normal position to actuate the latch actuating means individual to one of said door parts, one-way motion transmitting means connecting said latch actuating means to actuate the latch actuating means individual to the other door part in response to movement of said latch actuator in a predetermined one of said two directions away from said normal position, and means responsive to opening movement of said door parts for latching said motion transmitting means in an off normal setting wherein said door parts are locked against relative movement and responsive to closing movement of said door parts to release said motion transmitting means.

15. In a refrigerator which includes a housing defining an internal refrigerating space provided with an open doorway, relatively movable upper and lower door parts hinged to said housing to close and open different parts of said doorway, latches individual to said door parts for respectively latching said door parts closed, common means for concurrently actuating said latches to unlatch both of said door parts, and means controlled by said last-named means for locking said door parts against relative movement when unlatched.

TEMPLE NIETER.