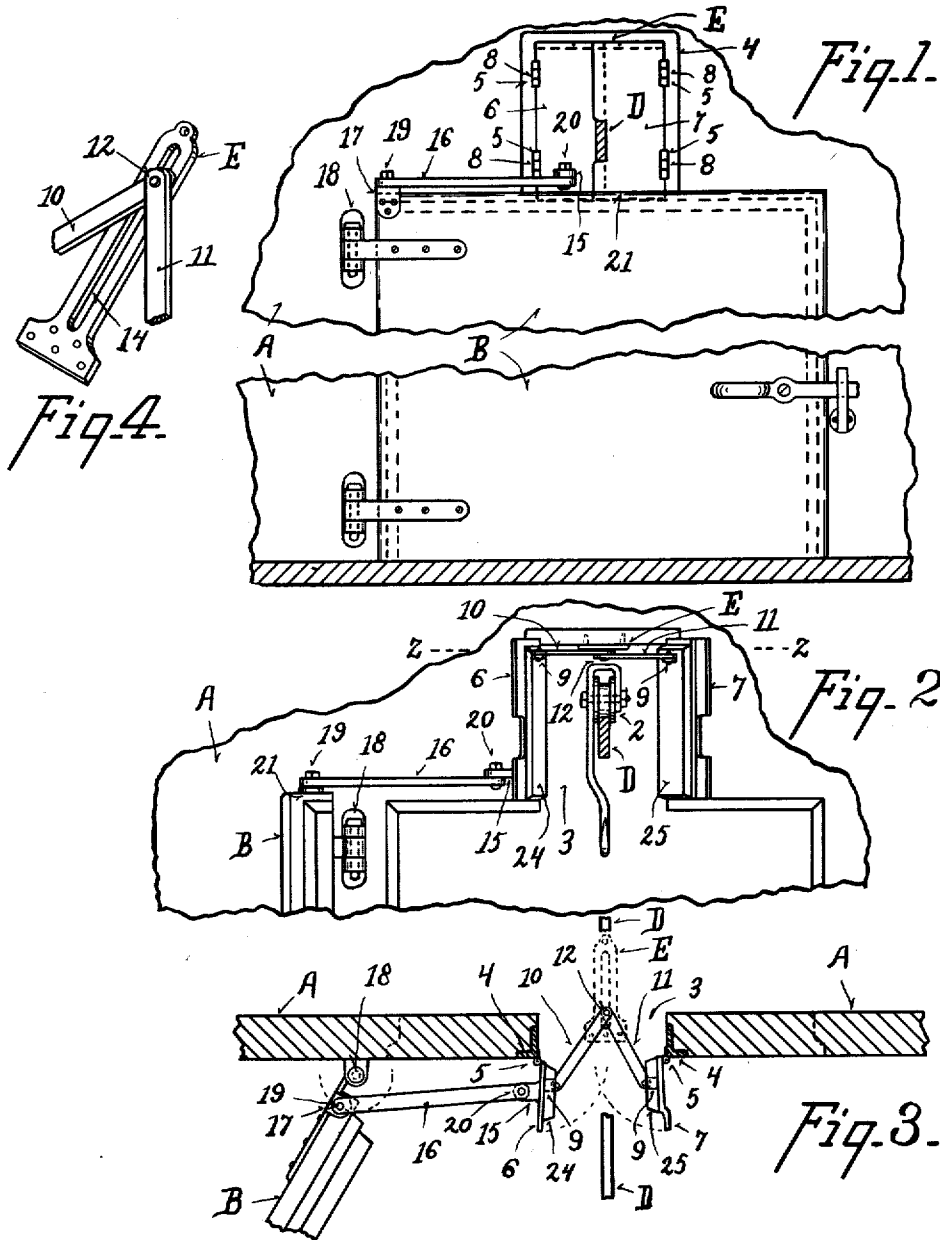


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REFRIGERATOR TRACK DOOR.  
APPLICATION FILED JUNE 9, 1911.

1,012,576.

Patented Dec. 26, 1911.



Witnesses

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# UNITED STATES PATENT OFFICE.

HERMAN C. AHRENS, OF CINCINNATI, OHIO.

REFRIGERATOR TRACK-DOOR.

1,012,576.

Specification of Letters Patent.

Patented Dec. 26, 1911.

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*To all whom it may concern:*

Be it known that I, HERMAN C. AHRENS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Refrigerator Track-Doors, of which the following is a specification.

My invention relates to improvements in track doors and actuating mechanism for cold storage rooms.

One of its objects is to provide improved track doors and their appurtenances adapted to prevent the escape of cold air from or the entrance of heated air to cold storage rooms at the track entrance.

Another object is to provide improved means to render the track doors reliable and efficient at all times irrespective of dampness or other similar causes or conditions.

Another object is to provide positive, simple, efficient and reliable mechanism for operating the track doors automatically in unison with the movements of the main refrigerator door.

My invention further consists in certain details of form, combination and arrangement, all of which will be more fully set forth in the description of the accompanying drawings, in which:

Figure 1 is an outside front elevation of a cold storage room with main and track doors in closed position and embodying my invention. Fig. 2 is a detail view similar to Fig. 1 with the doors in open position. Fig. 3 is a sectional view on line *z z* of Fig. 2. Fig. 4 is a detail perspective view of the guide plate or member detached.

The accompanying drawings represent the preferred embodiment of my invention, in which A represents one wall of a cold storage room or refrigerator.

B represents the large or main cold storage door through which access is had to the cold storage room.

D represents an overhead track by means of which meats or other articles to be stored or refrigerated are adapted to be transported to and from the cold storage room by means of small trucks or rollers 2 traveling along said track. The track D is located above the main door and an opening 3 through the wall about said track is provided of sufficient size for the passage of said trucks 2. When the main door B is closed it is desirable to also close the open-

ing 3 about the track to prevent the escape of cold air or the entrance of warm air through said opening, and also to provide for automatically opening and closing said track doors in unison with the opening and closing of the main door.

In my improved mechanism a metal door frame or casing 4, preferably formed integral, is fitted to the front of the opening 3, said casing being provided with hinge members 5 at opposite sides. Doors 6 and 7, preferably of metal and provided with hinge members 8 are pivotally attached to the hinge members 5 of the casing 4. The meeting edges of said doors are arranged with offsets so that one of said doors will overlap and form a close joint with the opposite door, and both of said doors are recessed at their meeting edges to receive and closely fit about the track D. A slotted plate or guide plate E is preferably bolted or secured to the casing 4 at the top near the center, and projects horizontally into the cold storage room above the track D. The doors 6 and 7 are respectively provided with inwardly projecting lugs or ears 9 located slightly below the plate E. Links 10 and 11 are pivotally connected at one end respectively to said lugs 9 and at their opposite ends are pivotally connected to each other by a bolt 12 which acts as a cross-head relative to plate E by sliding backward and forward in the slot 14 of the plate E as the doors 6 and 7 are opened and closed. The links 10 and 11 by means of their sliding connection with the plate E insure the movement of said doors in unison, and also serve when the doors are open to lock the doors against accidental closing or other displacement.

The door 6 is provided with an outwardly projecting lug 15 to which is pivotally attached a link or rigid bar 16 which at its opposite end is pivotally attached to a metal plate 17 fastened to the main door near the axis of the hinges 18 on which the main door is pivotally supported. When the doors are in the closed position the axis on which the main door hinges is substantially in line with the two centers 19 and 20 by means of which the bar 16 is connected to the lug 15 and plate 17. Also when the doors are in closed position the upper and outer edge of the main door overlaps the lower edges of the doors 6 and 7 locking said doors in the closed position and forming a close joint

therewith. As the main door opens the center 19 describes the arc of a circle about the hinge axis of the main door, and serves by pulling on the lug 15 to open the door 6, which through the links 10 and 11 connecting the doors 6 and 7 together, causes the door 7 to also open. At the commencement of the opening movement of the main door, the movement of the center 19 is practically at right angles to the face of the wall A and hence there is practically no tendency for bar 16 to pull the door 6 open until the main door has moved a sufficient distance to release and clear the overlapped lower edges of doors 6 and 7. I preferably proportion the distance between the center 19 and the hinge axis of the main door so that when the main door is fully open and back against the wall A the doors 6 and 7 will have each described an arc somewhat in excess of ninety degrees in which position of the track doors there is free access for the trucks 2 to travel to and from the cold storage room, and the center 19 having traveled through an arc of nearly one hundred and eighty degrees, the centers 19 and 20 are again substantially in line with the axis 18 of the main door hinge, and in this position serve to lock the door 6 to open position, and against accidental displacement, while the links 10 and 11 being at a less acute angle than when the doors 6 and 7 are in closed position, serve to hold or lock the door 7 in the open position and against accidental displacement.

The arrangement is such that the doors 6 and 7 move at a relatively slower rate than the main door particularly at start and finish of their movement, and hence are not liable to strain and injury from rapidly opening or closing the main door. In closing the main door a reverse or closing movement of the doors 6 and 7 is effected through the bar 16, and the doors 6 and 7 are fully closed before the overlapping portion of the main door engages said track doors. Blocks 24 and 25 of sheet cork or other insulating material not liable to expansion or injury from moisture are fitted and secured to the inner faces of the doors 6 and 7 to prevent the escape of heat by conduction or radiation.

The mechanism herein illustrated and described is capable of considerable modification without departing from the principle of my invention.

Having described my invention, what I claim is:

1. In a mechanism of the character described, a main door, a track opening above the main door through which a track is adapted to pass, a stationary guide, located above said track, track doors hinged to opposite sides of said track opening and adapted to meet about said track to close the track

opening, link members pivotally connecting said doors together and having sliding relation with said stationary guide to cause one of said track doors to move in unison with the movements of the other, and mechanism positively connecting one of said track doors with said main door to cause said track doors to automatically open and close with said main door.

2. In a mechanism of the character described, a main door, a track opening above the main door through which a track is adapted to pass, a stationary guide attached to the wall of said track opening, track doors hinged to opposite sides of said track opening and adapted to meet about said track to close said track opening, mechanism pivotally connected to said respective track doors and slidably connected to said stationary guide and adapted to transmit motion from one of said track doors to the other, and a substantially rigid member pivotally connecting one of said track doors to said main door near its hinge axis to cause said track doors to automatically open and close with said main door.

3. In a mechanism of the character described, a main door, a track opening above said main door through which a track is adapted to pass, a metal door frame fitted to said track opening and provided with an inwardly projecting guide member, track doors hinged to opposite sides of said door frame and adapted to meet about said track to close said track opening, mechanism pivotally connected to said track doors and slidably connected to said guide member and adapted to transmit motion from one of said track doors to the other, and mechanism pivotally connecting one of said track doors to said main door to cause said track doors to automatically open and close with said main door.

4. In a mechanism of the character described, a main door, a track opening above said main door, through which a track is adapted to pass, a stationary guide member attached to the wall of said track opening, a plurality of track doors respectively hinged at opposite sides of said track opening with their lower edges adapted to be overlapped by the upper edge of said main door when closed, said track doors being adapted to meet about said track to close said track opening, mechanism pivotally connected to said respective track doors and slidably connected to said guide member and adapted to transmit motion from one of said track doors to the other, and mechanism pivotally connecting one of said track doors to said main door to cause said track doors to automatically open and close with said main door.

5. In a mechanism of the character described, a main door, a track opening above

said main door through which a track is adapted to pass, a metal door frame fitted to said track opening, a stationary guide member carried by said door frame, a plurality of metal track doors hinged to said door frame and adapted to meet about said track to close said track opening, said track doors being provided with insulating members adapted when said track doors are closed to present a continuous inner face of insulating material, mechanism pivotally connected to said respective track doors and slidably connected to said guide member

and adapted to transmit motion from one of said track doors to the other, and mechanism pivotally connecting one of said track doors to said main door to cause said track doors to automatically open and close with said main door. 15

In testimony whereof I have affixed my signature in presence of two witnesses. 20

HERMAN C. AHRENS.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."