

UNITED STATES PATENT OFFICE.

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COLD-STORAGE-ROOM DOOR.

987,526.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed September 12, 1910. Serial No. 581,480.

To all whom it may concern:

Be it known that I, EDWARD J. WIRFS, a citizen of the United States of America, residing in Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Cold-Storage-Room Doors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to the doors of a cold storage room, and more especially to doors that are utilized to close the openings above the main doors of cold storage rooms, through which overhead tracks extend to serve as supports and guides for travelers by which articles are conducted into and out of cold storage rooms.

The invention has for its object the production of a simple means by which the trackway doors referred to may be caused to open automatically when the main cold storage room door is opened; and also means, whereby said doors are closed through the medium of the main door, when it is moved to a closed position.

Figure I is a front elevation of a fragment of a cold storage room, including the trackway door and the upper portion of the main door beneath them, and my door operating means. Fig. II is a horizontal section taken on line II—II, Fig. I, with the trackway doors in closed position. Fig. III is a similar view to Fig. II, with the trackway doors in open position.

In the accompanying drawings: A designates the main door to a cold storage room by which the main entrance way into said room is controlled. The front wall B of the cold storage room is provided, above the main entrance way with a trackway opening C, through which there extends a trackway or rail D on which a traveler may operate to conduct articles into and from the cold storage room.

1 and 2 designate doors for controlling the opening C, through which the rail D extends. The door 2 is swingingly supported by plain hinges 3. The door 3, which is located nearest the hinges of the main door A beneath the doors 1 and 2, is swingingly supported by spring hinges 4, in which the springs 5 are so arranged as to exert their power to open said door when it is free of restraint.

6 designates a door closing arm fixed to the trackway opening door 1 near its lower edge, and extending horizontally from the rear edge of the door to a point that provides for the free end of the arm overlapping the door 2, when the doors 1 and 2 are in closed position. The door closing arm is provided at its rear end with a stop wing 7 projecting forwardly from the plane of the arm, and adapted to abut against the front wall of the cold storage room when the door 1 is swung into open position under the influence of the spring hinges 4.

8 designates an antifriction roller suitably supported by the main door A. This antifriction roller is located above the top edge of said main door, intermediate of the forward and rear edges of the door, so that it is in a position to operate against the door operating arm 6 during opening and closing movements of the main door A.

9 designates a lever arm, fixed to the trackway opening door 1 at its rear side, and extending backwardly from said door. This arm terminates at its rear end in an ell 10 which extends horizontally from the body of the arm to a point that provides for the free end of the ell being back of the free edge of the door 2 when the doors 1 are closed.

11 is a link pivoted at one end to the free end of the ell 10 of the lever arm 9, pivotally connected at its free end to a hinge member 12 attached to the door 2 adjacent to its free edge.

The parts just described provide for the door 2 partaking of the same movements as those partaken of by the door 1. It will be readily appreciated that when the door 1 moves from a closed position to an open position, the lever arm 9 moves outwardly with said door, and by acting upon the link 11, causes said link to impart outward movement to the door 2. By the time that the door 1 has been completely opened to the position seen in Fig. III, the door 2 will also be completely opened, and the connections between them will occupy the position shown in Fig. III. On the reverse, or closing, movement of the door 1, the lever arm 9 is carried rearwardly with the door 1 until it assumes the position shown in Fig. II, the door 2, during this movement, being drawn to a closed position in advance of the door 1 by reason of the described connection be-

tween said doors, comprising the lever arm 9, with its ell 10, and the link connection between said ell and the door 2.

In the practical use of my cold storage room doors, and their operating means, the doors 1 and 2 are maintained in closed positions while the main door A is closed, they being so maintained due to contact of the antifriction roller carried by the main door with the door operating arm 6, carried by the door 1, projecting across both of the doors 1 and 2. When the main door is opened, the spring hinges 4 act to automatically swing the door 1 to open position, and the door 2 is also swung to open position, due to the connection between said doors 1 and 2. The opening movement of the door 1 is controlled by the stop wing 7 projecting from the door operating arm 6, and said arm is, therefore, while the door 1 is in open position, so situated that it is in position to be engaged by the antifriction roller 8 of the main door A, when said main door is again closed. It will, therefore, be seen that a traveler used for conducting an article in the cold storage room may be operated upon the trackway D immediately after the main door has been opened, and further, that immediately after the traveler has passed through the trackway opening C, the main door and the trackway opening doors may be simultaneously closed so that there will be a minimum loss of cold air, due to its escape from the cold storage room while its doors are open.

With the object in view of minimizing the loss of cold air from the storage room at the trackway opening, when the trackway opening doors are closed, I provide packing strips 13 at joints of the doors 1 and 2, and also notch one or both of the doors at their free edges, as seen at 14, so that they will fit snugly to the traveler rail D to prevent escape of cold air adjacent to this rail.

I claim:

1. The combination with a cold storage room having a main doorway and a trackway opening, of a main door for closing said main doorway, a spring actuated hinged door for said trackway opening adapted to swing in the path of movement of said main door, and an arm carried by said spring

actuated door adapted to be operated by said main door to close the spring actuated door when the main door is closed.

2. The combination with a cold storage room having a main doorway and a trackway opening, of a main door for closing said main doorway, a spring actuated hinged door for said trackway opening adapted to swing in the path of movement of said main door, an arm carried by said spring actuated door, and a device carried by said main door for engagement with said arm, whereby said spring actuated door is closed when the main door is closed.

3. The combination with a cold storage room having a main doorway and a trackway opening, of a main door for closing said main doorway, a spring actuated hinged door for said trackway opening adapted to swing in the path of movement of said main door, an arm carried by said spring actuated door having a stop for limiting the opening movement of said spring actuated door, said arm being adapted to be engaged by said main door to close the spring actuated door when the main door is closed.

4. The combination with a cold storage room having a main doorway and a trackway opening, of a main door for closing said main doorway, a spring actuated door for said trackway opening, an arm carried by said spring actuated door, and an antifriction roller carried by said main door adapted to engage said arm to close the spring actuated door when the main door is closed.

5. The combination with a cold storage room having a main doorway and a trackway opening, of a main door for closing said main doorway, a pair of doors for closing said trackway opening, one of which is spring actuated, means for connecting said pair of doors to each other, an arm carried by one of said pair of doors, and means carried by said main door for engagement with said arm whereby said spring actuated door is closed and caused to actuate the door mating therewith.

EDWARD J. WIRFS.

In the presence of—

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