

No. 608,893.

Patented Aug. 9, 1898.

A. J. McARTHUR.
REFRIGERATOR DOOR.

(Application filed Nov. 20, 1897.)

(No Model.)

Fig. 2.

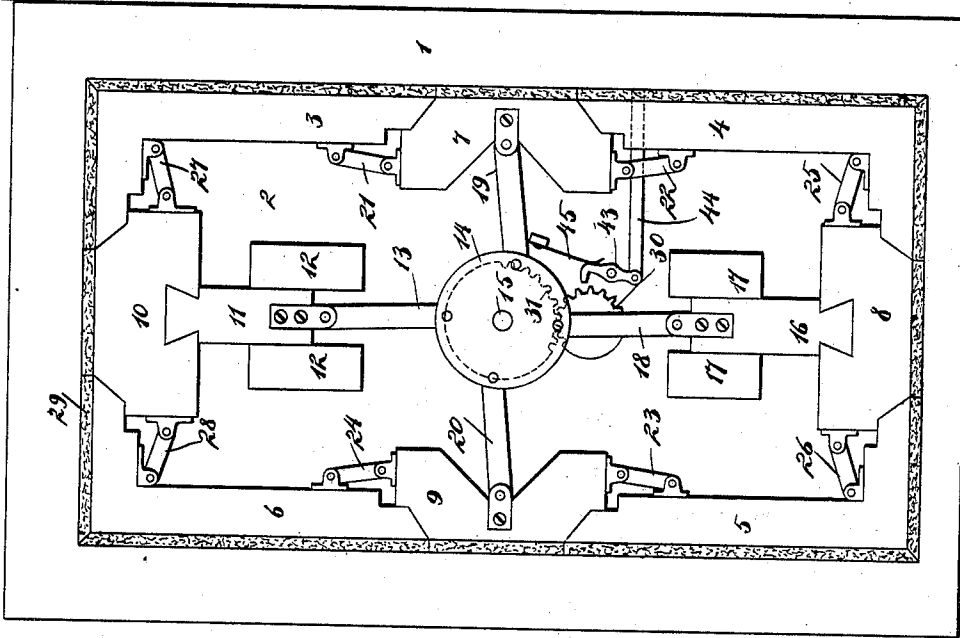
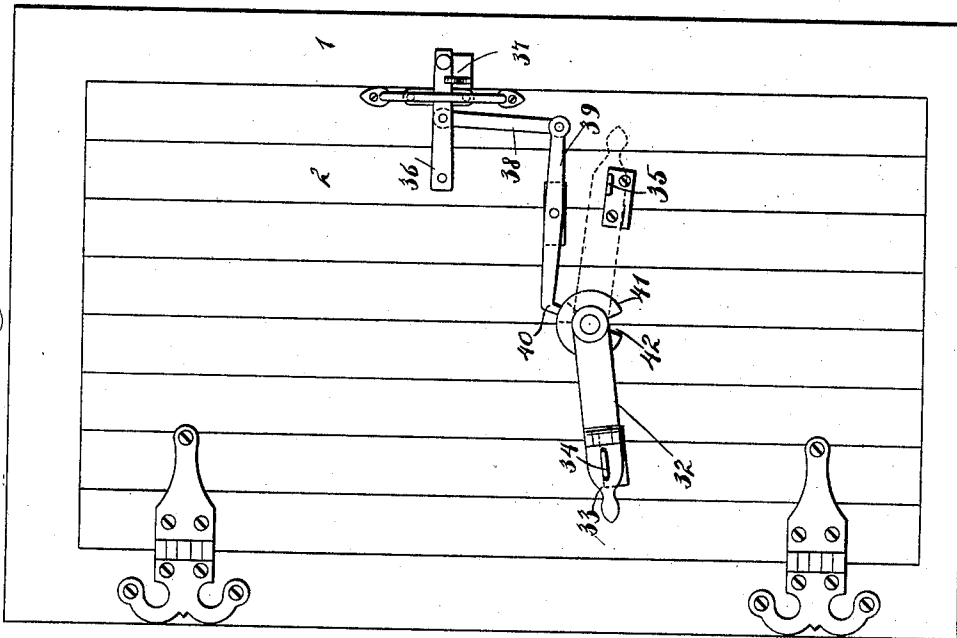


Fig. 1.



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REFRIGERATOR-DOOR.

SPECIFICATION forming part of Letters Patent No. 608,893, dated August 9, 1898.

Application filed November 20, 1897. Serial No. 659,275. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. McARTHUR, of Gainesville, in the county of Alachua and State of Florida, have invented new and useful Improvements in Refrigerator-Doors, of which the following is a full, clear, and exact description.

This invention relates more particularly to doors for refrigerator-cars and cold-storage rooms; and the object is to provide a simple device to prevent the packing devices carried by the door from being expanded when the door is opened and also to provide a simple device to prevent the door from being forced open while the packing devices are expanded.

I will describe a door embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is an outside elevation of a door embodying my invention, and Fig. 2 is an inside elevation thereof.

Referring to the drawings, 1 designates the door-casing, and 2 designates a door mounted to swing therein. Arranged around the edge of the door, at the inner side, are expanding bars 3, 4, 5, and 6. The packing-bars are substantially L-shaped—that is, each packing-bar has a vertical portion extended along the vertical edge of the door and a horizontal portion extended along the top or bottom edge of the door, as plainly indicated in Fig. 2. The adjacent ends of the packing-bars are beveled, and engaging with these beveled ends are expanding blocks 7, 8, 9, and 10.

The upper expanding block 10 has a stem portion 11, movable between guide-blocks 12 on the inside of the door, and from this stem 11 a link 13 extends to a pivotal connection with a disk 14, mounted to rotate on a stud 15. The lower expanding block 8 has a stem 16, movable between guide-blocks 17, and from this stem 16 a link 18 extends to a pivotal connection with the disk 14. The pivotal connections of the links 13 and 18 with the disk 14 are diametrically opposite. A link 19 extends from the block 7 and has a pivotal connection with the disk 14, and a link 20 extends from the block 9 to a pivotal connection with said

disk 14 and directly opposite the pivotal connection of the link 19.

From the upper end of the block 7 a link 21 extends to a pivotal connection with a lug on the vertical member of the packing-bar 3, and from the lower end of said block 7 a link 22 extends to a pivotal connection with a lug on the vertical member of the packing-bar 4. The block 9 has pivotal link connections 23 and 24 with lugs on the vertical members of the respective bars 5 and 6. The block 8 has link connections 25 and 26 with lugs on the horizontal portions of the respective bars 4 and 5, and the block 10 has similar link connections 27 and 28 with the horizontal portions of the respective bars 3 and 6. Obviously by rotating the disk in one direction the several expanding blocks will be forced outward, so as to move the packing-bars both laterally and vertically to engage tightly against a packing material 29, arranged in the jamb of the casing 1. When the disk is rotated in the opposite direction, the several blocks will be drawn toward the center, and the link connections of the blocks with the packing-bars will draw the several packing-bars away from the packing 29, so that the door may be easily opened.

I will now describe a means for imparting a rotary motion to the disk 14. This means comprises a segment-gear 30, arranged on the inner end of a shaft which extends through the door, and this segment-gear 30 engages with a segment-rack 31, secured to the disk 14. On the outer end of the shaft to which the segment-gear is attached a lever 32 is secured. This lever 32 has a swinging portion 33, provided with a slot through which either one of the staples 34 or 35 may pass to secure the lever in either of its adjusted positions. To prevent the removal of the swinging portion of the lever from a staple, a suitable padlock will be employed.

Mounted to swing on the outer side of the door is a latch 36, designed to engage in a keeper 37 on the door-casing when the door is closed. From the latch 36 a link 38 extends downward to a pivotal connection with one end of a lever 39. The opposite end of the lever 39 has a downwardly-extended lug 40, which when the door is locked normally engages on the periphery of a disk 41, car-

ried by the lever 32. When, however, the lever is turned to a position, as indicated in dotted lines in Fig. 1, to draw the several packing-bars inward, the lug 40 will be in line with a notch 42 made in the disk 41. When in this position, the latch 36 may be lifted out of the keeper 37, because the lever 39 is now allowed to rock, as its lug 40 may enter the notch 42.

It will be seen that a half-rotation of the disk 41 must take place before the latch 36 can be released. Therefore the door cannot be opened until the packing-bars shall have been entirely freed from the packing 29.

To prevent the expansion of the several packing-bars when the door is opened, I employ a dog 43, pivoted on the inner side of the door and adapted to engage with a tooth of the segment-gear 30. From the lower end of the dog 43 a bar 44 extends horizontally outward through the framing of the door and is adapted to engage at its end with the jamb of the door-casing 1 when the door is closed. When in this position, the rod 44 will be moved longitudinally and hold the dog out of engagement with the segment-gear. When, however, the door is opened, a spring 45, bearing against the upper portion of the dog 43, will force said dog into engagement with the gears and thus prevent its rotation.

It may be here stated that the door will be made double—that is, having an inner and an outer wall, and of course said inner and outer walls will be secured to rear and end strips in the usual manner. The rod 44 will pass through the edge strip at the hinged side of the door. Therefore as the door closes the end of said rod will engage against the door-jamb and move the rod, as before described, to disengage the dog from the gear.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a refrigerator-door, a number of packing-bars arranged around the edge thereof, each bar having a vertical and a horizontal portion, expanding blocks engaging with beveled ends of the packing-bars, link connections between said blocks and the packing-bars, a disk, links extended from said disk

to the packing-bars, a lever for imparting a rotary motion to said disk, and an automatic stop to prevent a rotation of said disk and an expanding of the packing-bars when the door is open, substantially as specified.

2. In a refrigerator-door, a number of packing-bars arranged around the edge thereof, expanding blocks engaging with the beveled ends of said bars, a disk on the inner side of the door, links extending from said disk to the expanding blocks, a segment-rack on said disk, a segment-gear engaging with said rack, means for rotating the segment-gear, a dog for engaging the said segment-gear, a spring for forcing the dog into engagement with the door, and means for moving the dog out of engagement with the gear and holding it out of said engagement when the door is closed, substantially as specified.

3. In a door, a number of packing-bars arranged around the edge thereof, means for moving said packing-bars, the said means comprising a disk, a segment-rack on said disk, a segment-gear engaging said rack, means for rotating the segment-gear, a dog pivoted on the inner side of the door and adapted for engagement with said gear, a spring for forcing the dog into engagement with the gear, and a rod extending from said dog outward through the edge of the door and adapted to engage with the jamb of the casing, to force the rod in a direction to move the dog out of engagement with the segment-gear, substantially as specified.

4. In a door, a latch pivoted on the door and adapted to engage with a keeper on the door-casing, a lever, a link connection between said lever and the latch, a disk mounted to rotate on the door and having its edge normally in connection with a downwardly-extended lug on the lever, when the door is locked, the said disk being provided with a notch into which said lug may pass when the latch is lifted out of its keeper, and a lever for rotating the disk, substantially as specified.

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Witnesses:

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