

(No Model.)

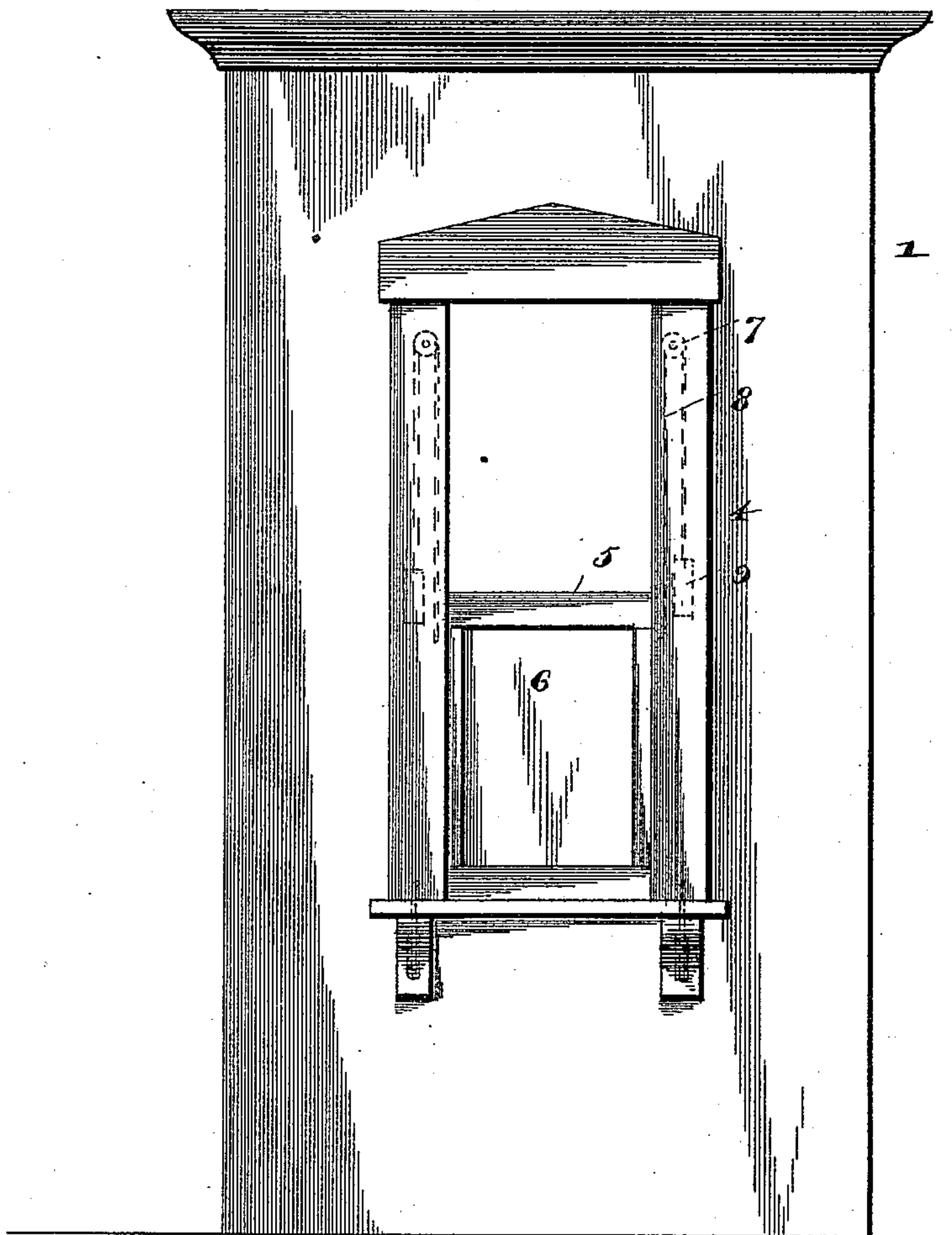
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D. ALTHEN.
DOOR OR WINDOW FOR ICE BOXES.

No. 426,700.

Patented Apr. 29, 1890.

Fig. 1



Witnesses:

John Imrie
W. S. Swall

Inventor
Daniel Althen

By *his* Attorneys

C. A. Snow & Co.

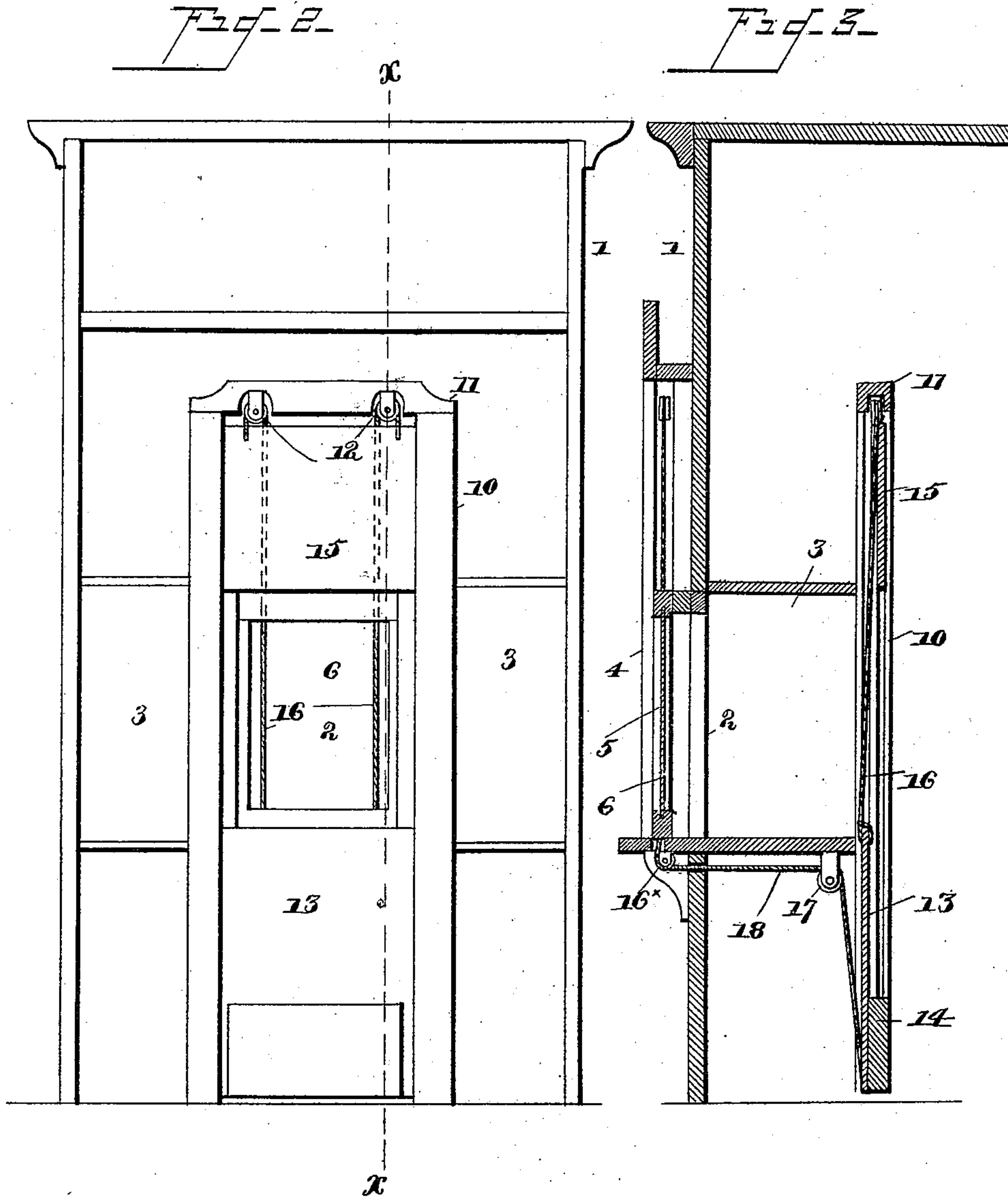
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UNITED STATES PATENT OFFICE.

DANIEL ALTHEN, OF BEATRICE, NEBRASKA.

DOOR OR WINDOW FOR ICE-BOXES.

SPECIFICATION forming part of Letters Patent No. 426,700, dated April 29, 1890.

Application filed December 28, 1889. Serial No. 335,275. (No model.)

To all whom it may concern:

Be it known that I, DANIEL ALTHEN, a citizen of the United States, residing at Beatrice, in the county of Gage and State of Nebraska, have invented a new and useful Door or Window for Ice-Boxes, of which the following is a specification.

This invention has relation to improvements in doors or windows for ice-boxes for use in retail stores or other places wherein it is necessary to frequently open the same to permit access thereto; and among the objects in view are to provide means whereby the temperature of the ice-box will not be raised by such opening, thereby effecting a saving in the ice and preserving the articles contained in the house.

With these general objects in view the invention consists in certain features of construction hereinafter specified, and pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of a portion of an ice-box constructed in accordance with my invention. Fig. 2 is a rear elevation of the same; Fig. 3, a vertical longitudinal section.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents the outer wall of an ice-box, which is provided with an opening 2, which communicates with a small cooling-chamber 3, located usually at one side or the front of said box.

The above chamber is generally employed in all ice-boxes, and it is the custom to place within the same such small articles as berries, small cuts of meat, butter, lard, &c., to which frequent access must be had for the purpose of retailing the same. By the use of this small chamber a person need not necessarily enter the ice-box proper so frequently, and hence a great amount of warm air need not be permitted to enter the main box and thus raise the temperature, to the great detriment of the articles contained therein. It also has been considered injurious for persons to enter this great refrigerator-chamber, in that very often they were overheated and subjected their bodies to undue and quick cooling. For this reason the small chamber 3, with which the opening 2 communicates, has been provided,

and it is only necessary for the attendant to insert his hands within the opening and withdraw such articles as desired. Again, the opening, being small, permitted only a very limited amount of warm air to gain access to the box, but in order to prevent the same said chamber had no communication with the box proper. By my invention, however, I provide direct communication between the box and the small chamber, thereby lowering the temperature of the latter to a degree equaling that of the former, and yet at the same time I provide means whereby when the opening 2, leading to the small chamber, is open or uncovered all communication is at the same time automatically closed between said chamber and the box.

Upon the front of the box and at each side of the opening 2, I provide an ordinary window-frame 4, which is of a length about double that of the opening 2, and between the sides of the said frame I mount for reciprocation an ordinary window-sash 5, in which is mounted in this instance a transparent sight-panel 6. At the upper ends of the side pieces of the frame there are mounted ordinary weight-pulleys 7, and passing over the pulleys are cords 8, one end of each of which is connected to the upper side of the sash, and the opposite ends of said cords are provided with sash-weights 9, moving in the boxes at the sides of the frame.

That portion of the rear wall of the chamber 3 opposite the opening 2 is removed, and thus communication is afforded between the interior of the box and the chamber. At each side of said opening there is mounted a vertical guide 10, which extends below and above the bottom and top of the chamber and are connected at their upper ends by a cross piece or bar 11, carrying a pair of pulleys 12, suspended therefrom and near its ends.

The guides 10 are provided with a pair of grooves upon their inner faces, and said grooves of one guide are in line with those of the other guide. In each of the guides there is mounted a sliding shutter. The lower shutter 13 is provided with a weight 14 and is mounted in one pair of guides, and the upper shutter 15 is mounted in the opposite pair of guides, so that said shutters are

adapted to slide apart and expose the opening between the chamber and box or to overlap each other and close said opening. A pair of cords 16 have their lower ends connected to the upper edge of the lower shutter, pass through the pulleys 12, and have their upper ends connected to the upper edge of the shutter 15.

Below the sill of the window-frame 4 and in the wall of the box there is mounted a pair of pulleys 16*, and in rear of the same and depending from the bottom of the chamber 3 is a second pair of pulleys 17.

18 represents a pair of ropes or cords which have their forward terminals connected at each side of the lower edge of the sliding sash 5, which cords are each passed under a pulley 16 and over a pulley 17 and have their terminals connected to the lower edge of the lower sliding shutter 13. By reason of the weight of the shutter 13 it will be apparent that the normal position of the same is lowered, and by reason of the cords connecting said shutter with the upper shutter it will be apparent that the normal position of said shutter is raised or elevated, so that, the two shutters being separated, communication will be afforded between the small chamber and the ice-box, thus giving the two a uniform temperature.

By raising the sash 5 to gain access to the chamber 3 it will be apparent that the cord 18, passing over the pulleys 16 and 17, will draw upwardly upon the lower shutter 13, which upward movement on the part of the latter slackens the connecting cords or ropes between said shutter and the upper shutter, and the latter will fall by gravity. In this manner it will be noted that the two shutters slide by each other and close the opening in the rear of the chamber, and thus cut off all communication between said chamber and the ice-box, and the warm air entering through the opening 2 by reason of the raised sash is prevented from passing beyond the chamber. When the sash has been lowered to cover the opening 2, it will be apparent that the ropes or cords 18 will be slackened and the lower weighted shutter falls, and as it falls raises the upper shutter, so that the shutters separate and uncover the opening between the small chamber and the ice-box. In this manner it will be apparent that but a small quantity of warm air can enter into the ice-box, and that as the sash 5 is raised or lowered a contrary movement of the shutters takes place.

Having described my invention, what I claim is—

1. The combination, with an ice-box having a chamber located in its walls and pro-

vided with opposite openings, the rear one communicating with the interior of the ice-box, of guides mounted at the opposite sides of the openings in the chamber, pulleys located below the chamber, a sash mounted for sliding in the guides located at the front opening of the chamber, and opposite shutters mounted for sliding in the guides at the rear opening of the chamber, cords passing over the pulleys and having their ends connected to the lower ends of the sash and lower shutter, pulleys located at the upper ends of the guides at the rear opening of the chamber, and separate cords mounted in the pulleys and having their ends connected to the two shutters so that a movement of the lower shutter in one direction causes a contrary movement of the other, substantially as specified.

2. The combination, with an ice-box having a chamber located in its walls and provided with opposite openings, the rear one communicating with the interior of the ice-box, of a sash mounted for sliding in the front opening of the chamber, opposite shutters mounted for sliding in the rear opening of the chamber, cords having their ends connected to the sash and lower shutter, and separate cords having their ends connected to the two shutters so that a movement of the lower shutter in one direction causes a contrary movement of the other, substantially as specified.

3. The combination, with the box and the cooling-chamber 3, having opposite open ends, of the opposite double guides 10, connected at their upper ends by the bar 11, the depending pulleys 12, mounted in the bar, the opposite shutters mounted for sliding in the opposite double guides, one of said shutters being weighted, opposite cords passing over the pulleys 12 and having their corresponding ends connected with the upper edges of the sliding shutters, the sash 5, mounted in the guides 4 at the front opening of the chamber, pulleys mounted in the guides, ropes 8, mounted upon the pulleys, connected to the sash, and having the weights 9, the pulleys 16* and 17, located under the chamber, and the ropes 18, mounted on said pulleys and connecting the lower end of the sash with the lower end of the lower shutter, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DANIEL ALTHEN.

Witnesses:

JONATHAN CARPENTER,
LEWIS ACHENBACH.