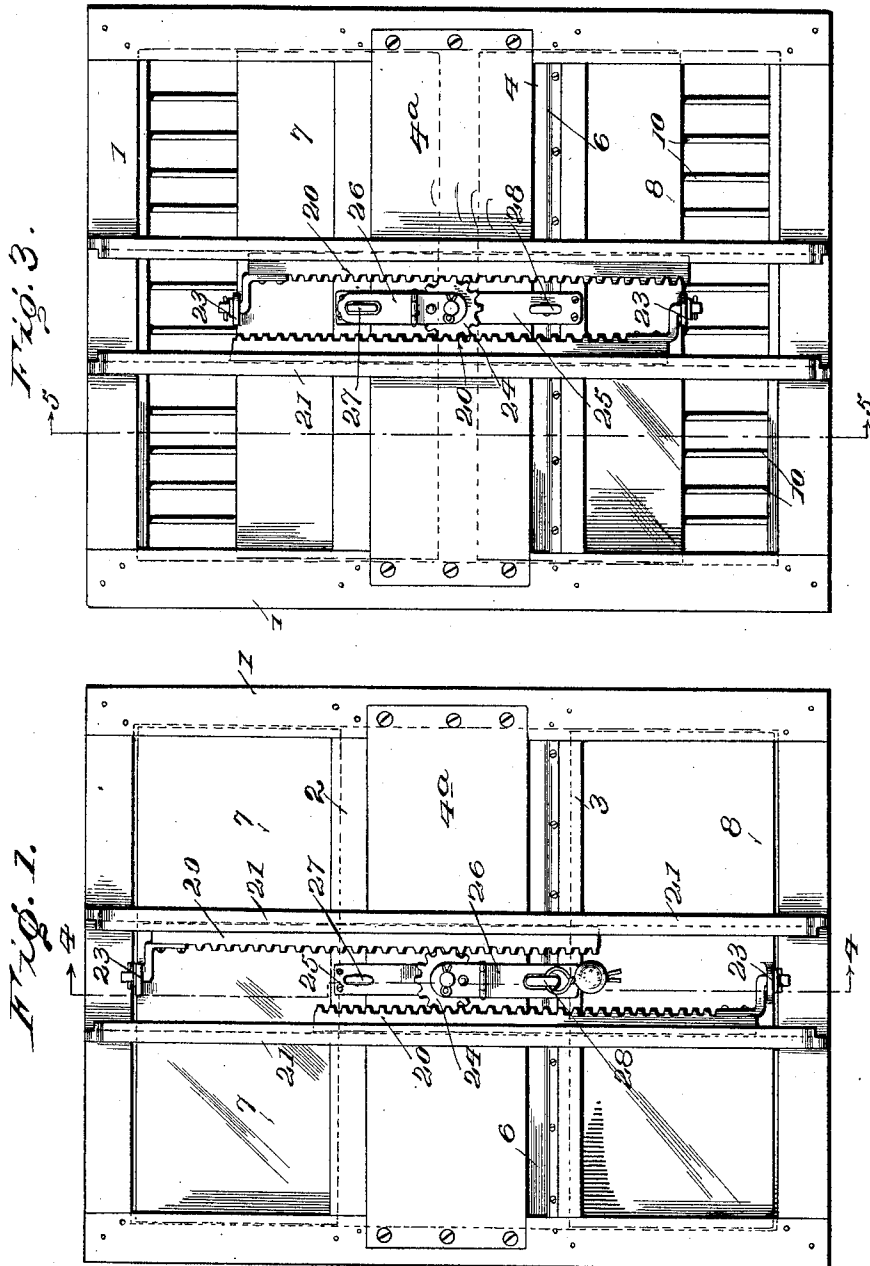


C. E. BARRETT.
CAR DOOR.
APPLICATION FILED DEC. 24, 1910.

1,058,529.

Patented Apr. 8, 1913.

2 SHEETS-SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 6.

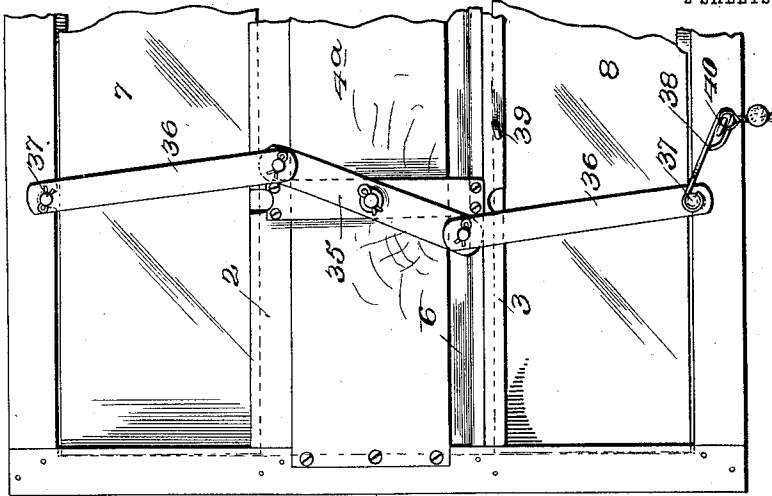


Fig. 5.

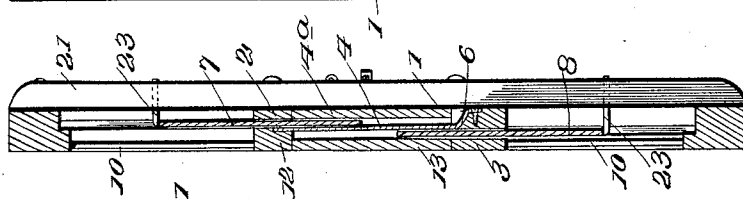


Fig. 2.

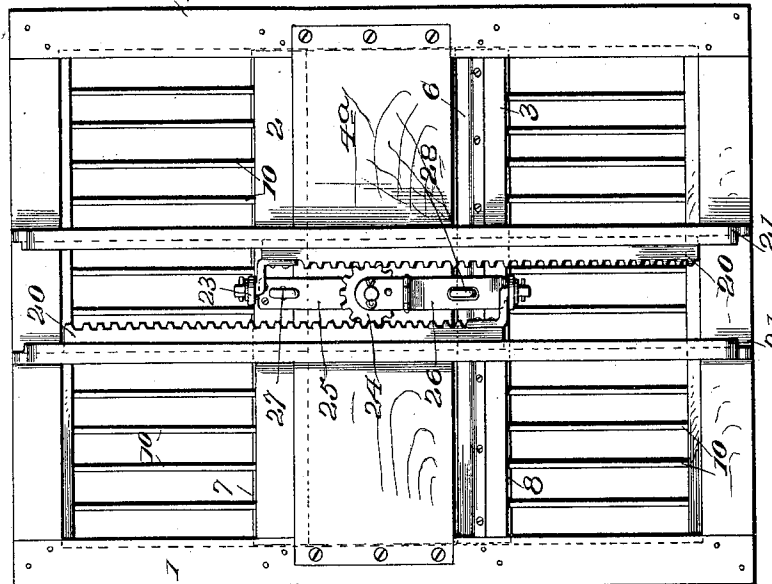
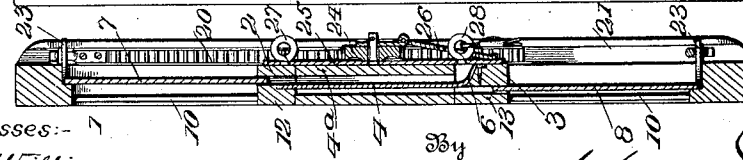


Fig. 4.



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CAR-DOOR.

1,058,529.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed December 24, 1910. Serial No. 599,058.

To all whom it may concern:

Be it known that I, CHARLES E. BARRETT, of Delmar, in the county of Sussex and State of Delaware, have invented certain new and useful Improvements in Car-Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of this invention is to so construct the door of a freight car that the latter may be used either as a ventilated or as a closed car.

As is well known, in the transportation of perishable merchandise, it is necessary that freight cars be properly ventilated. Heretofore in order to convert a closed car into a ventilated car, or the reverse, it has been customary to provide the car with two spaced apart doors at each side, one door being solid and the other of open or grille work, and the solid door slid back out of the way when the other is in use. Instead of using four doors to a car it is my purpose to use but two, and I so construct each door that it may be readily converted either into a solid door or an open-work door.

A further object of my invention is to provide simple and highly efficient means for shifting the parts of the door; and also to provide for regulating the ventilation through the door.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, showing a solid door. Fig. 2 is a similar view showing the panels shifted to provide ventilation. Fig. 3 shows the panels in intermediate positions. Fig. 4 is a sectional view on line 4—4, Fig. 1. Fig. 5 is a sectional view on line 5—5, Fig. 3. Fig. 6 shows a slight modification of the means for operating the movable panels.

Referring to the drawings, 1 designates the frame of a car door, which latter is designed to be hung in any suitable or well known manner, and capable of being moved on a plane paralleling the side of a car. I have shown the frame 1 as having intermediate cross rails 2 and 3 which divide the door into three separate sections, the central section, represented by the space be-

tween the two intermediate rails being closed or made solid by a fixed panel 4, which is preferably in the form of a single metallic plate extending at its upper end from rail 2, its lower end being deflected outwardly and downwardly, as at 6, to form a watershed. The lower edge of such outwardly deflected portion is secured to the outer face of rail 3. A second fixed panel 4^a, preferably of wood, is extended over the outer face of panel 4, to near the lower end of the latter, but this second fixed panel may be omitted, if desired.

7 designates an upper panel and 8 a lower panel, preferably of sheet metal, and corresponding in size to each other and to the intermediate fixed panel. These panels 7 and 8 fit in guideways formed in the stiles of the door. It is the purpose of my invention to provide means, the construction of which may be widely varied, for moving these panels in opposite directions, and preferably simultaneously, to the end that they may wholly or partly close the upper and lower portions of the door, or be located on opposite sides of the fixed panel, providing for ventilation at the top and bottom of the door.

Before describing the means for operating the movable door panels, I should state that it is the purpose of my invention to provide the door with a series of spaced apart vertically-disposed rods 10 which are secured at their upper and lower ends in the top and bottom rails of the door frame; and to add to their stability they are passed through horizontal connecting rails 12 and 13 which are on the same horizontal plane as, but spaced-apart from rails 2 and 3, such rails 12 and 13 at their ends being, like rails 2 and 3, secured to the stiles of the door. The upper panel 7 extends between cross rail 2 and the upper end of the fixed panel 4, and when in its raised position overlaps the upper face of the latter. The lower panel 8 similarly extends between the inner face of the fixed panel 4 and the inner rail 13. When the panels 7 and 8 are moved toward each other they parallel the fixed panel 4, and when in this position the upper and lower portions of the door are open, enabling ventilation to be had within the car. When, however, the panels are, respectively, moved up and down, the previously open portions are covered.

For the purpose of operating the movable panels, I preferably employ two oppositely-disposed parallel rack bars 20 which are fitted in guide rails 21 extending vertically over the outside of the door, one rack bar being connected at its lower end to the lower edge of the lower panel, and the other rack bar being similarly connected to the upper edge of the upper panel. Any suitable form of connection may be employed, but I have shown right angular lugs projecting from the respective rack bars passed through flanges 23 of the respective panels and held thereto by ordinary cotter pins. These rack bars overlap and mesh with a pinion 24 which is shown as journaled on a plate 25 secured at its ends to rails 2 and 3. This pinion may be provided with any suitable means for effecting its rotation. I have shown for this purpose a plate 26 hinged to the pinion, said plate serving as a crank-handle, and it is provided with a slot for taking in either of two staples 27, 28, projecting from plate 25. By passing a lock through the staple with which the plate is in engagement the panels may be locked either when fully extended, as shown in Fig. 1 to convert the car into a closed one, or when the panels are fully withdrawn to ventilate the car, as shown in Fig. 2, or when they are but partly withdrawn as shown in Fig. 3.

As before stated the means for operating and locking the movable sections of the door may be varied. For instance, in Fig. 6 I have shown such means as comprising a lazy tong construction, the central lever 35 being connected at its opposite ends by links 36 to posts 37 projecting outwardly from the movable sections. To one of these posts, preferably the lower one, is secured a handle 38 which when in engagement with either of two hasps, 39 or 40, may be locked thereto for the purpose of holding the panels either in their opened or closed positions.

The advantages of my invention will be apparent to those skilled in the art. It will be seen that by means thereof a car having but two doors may be readily used either as a closed car or as a ventilated car. In other words, I have provided a car door having ventilating sections which may be readily closed when it is not desired to ventilate the

car, or which may be partly closed when limited ventilation is desired. By the rack bar and pinion construction hereinbefore described, the manipulation of the panels is a very easy matter, since the weight of the upper panel offsets the weight of the lower panel.

It will be understood that changes may be made in the construction and arrangement of parts without departing from the spirit of my invention.

I claim as my invention:—

1. A sliding door for freight cars comprising an open frame, a fixed panel extending centrally across said frame, forming between itself and the top and bottom rails of the frame upper and lower openings, upper and lower panels fitted in said frame in different vertical planes, operating means mounted on the fixed panel and connected to the upper and lower panels for synchronously moving them in opposite directions to cover or uncover said openings in whole or in part, and means for locking said operating means.

2. A sliding door for freight cars comprising an open frame having vertical guideways in different vertical planes, a fixed panel extending centrally across said frame in a vertical plane intermediate said guideways and forming between itself and the top and bottom rails of said frame upper and lower openings, upper and lower panels fitted, respectively, in said guideways, rack bars arranged on one side of the frame and connected each to one of said upper and lower panels, said rack bars paralleling each other, a pinion mounted in line with the fixed panel and in mesh with both of said rack bars, a plate carried by said pinion having a slot, and upper and lower staples with which the slotted portion of said plate is designed to engage for holding said movable panels in either of two positions.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CHARLES E. BARRETT.

Witnesses:

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HARRY T. HICKEY.