

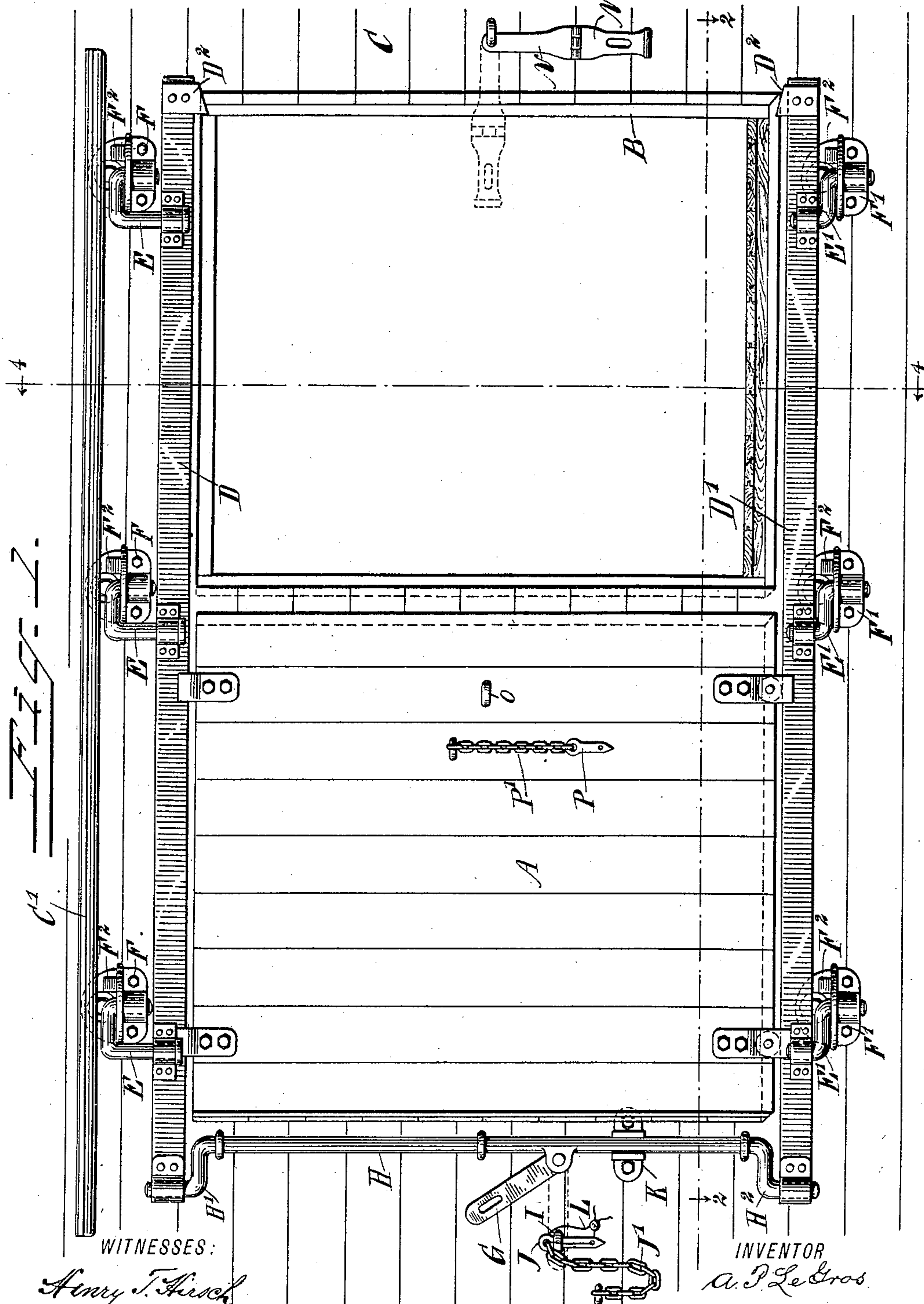
(No Model.)

2 Sheets—Sheet 1.

A. P. LE GROS.  
FREIGHT CAR DOOR.

No. 565,286.

Patented Aug. 4, 1896.



WITNESSES:  
*Henry T. Finch*  
*Geo. G. Foster*

INVENTOR  
*A. P. Le Gros*

BY *Wm. H. ...*  
ATTORNEYS.

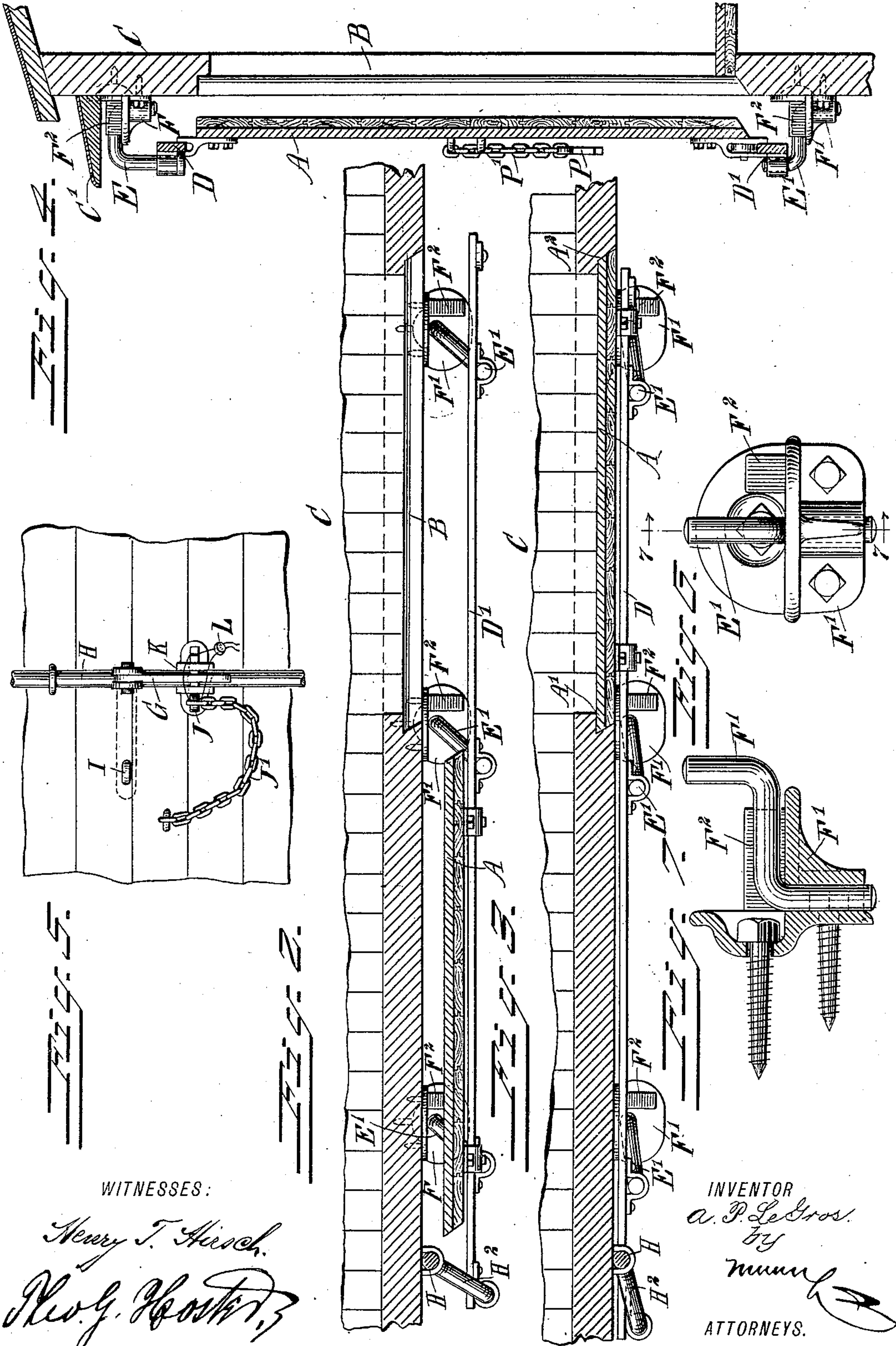
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WITNESSES:

Henry T. Hirsch.  
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# UNITED STATES PATENT OFFICE.

ALFRED P. LE GROS, OF LOUISVILLE, KENTUCKY.

## FREIGHT-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 565,286, dated August 4, 1896.

Application filed March 25, 1896. Serial No. 584,829. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED P. LE GROS, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Freight-Car Door, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved freight-car door arranged to permit of conveniently opening or closing the door and adapted to fit snugly into the door-casing and permit of ventilating the car, if desired, without, however, fully opening said door to permit entrance to the car.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the 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 all the figures.

Figure 1 is a side elevation of the improvement with the door in an open position. Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1. Fig. 3 is a similar view of the same with the door in a closed position. Fig. 4 is a transverse section of the improvement on the line 4 4 of Fig. 1. Fig. 5 is a face view of the locking device for the door-runners. Fig. 6 is an enlarged front elevation of one of the lower crank arms and bearings for the runners, and Fig. 7 is a transverse section of the same on the line 7 7 of Fig. 6.

The car-door A is made of two layers of wood with canvas between the layers and the wood running in opposite directions. The door thus constructed is adapted to fit snugly into the door-casing B, formed in the side of the car C, and said door A is mounted to slide longitudinally on the top and bottom runners or rails D D', hung on crank-arms E E', respectively, mounted in bearings F F', respectively, secured to the outside of the car near the top and bottom thereof, as plainly illustrated in the drawings. Now it will be seen that by the arrangement described the runners D D' can be swung outward away from the side of the car C, as illustrated in Figs. 1, 2, and 4, so that the door A can be readily moved longitudinally on said runners to bring the door in front of the door-frame opening B or at one side thereof, as illustrated in said figures.

When the door is in front of the door-opening B and the runners D D' are swung to the left toward and against the side of the car, then the door A is bodily moved into the door-opening B, so as to close the same.

Now in order to snugly fit the car-door A into the door-opening I provide the sides with bevels A' A<sup>2</sup>, arranged parallel to one another and fitting into correspondingly-shaped recesses in the door-frame, as is plainly shown in Figs. 2 and 3. The top of the car-door A is preferably straight, while the lower end is beveled to engage a correspondingly-shaped bevel in the bottom of the door-frame to insure a hermetic closing of the door when the latter moves into place, as above described and shown in Fig. 3.

In order to impart a desired swinging motion to the runners or rails D D', I provide a hasp G, which serves as a handle and is pivoted on a crank-shaft H, extending vertically and mounted to turn in suitable bearings secured on the side of the car. The upper and lower ends of the crank-shaft H are formed with crank-arms H' H<sup>2</sup>, engaging suitable bearings in the ends of the runners D D', so that when a turning motion is given to said crank-shaft H, then the arms H' H<sup>2</sup> cause a swinging of the runners to and from the side of the car C. When the car-door A is in its seat in the door-frame, then the hasp G lies flat against the side of the car C and engages a staple I, secured to the side of the car. The hasp G can then be locked in place by a pin J, engaging the staple in front of the hasp, said pin J being held on a chain J', fastened to the side of the car.

When the runners D D' are in an outward position and it is desired to lock said runners in place, the hasp is engaged between two lugs of a bearing K, secured to the side of the car C and straddling the crank-shaft H. The pin J can then be inserted longitudinally through the apertures in the lugs of the bearing K and the slot in the hasp G to lock the latter in place on said bearing K. (See Fig. 5.) When the pin J is in either of the two positions described, then it can be sealed in place by a plumb L or other sealing device.

The door A is adapted to be locked in place when in an open or closed position by a hasp N, held on a staple secured to the side of the



car, said hasp being made of two members hinged together, with the member N' at the free end adapted to engage with its slot a staple O, fastened to the front face of the car-door A. A pin P, held on a chain P', secured to the car-door, is adapted to engage the staple O in front of the hasp member N', so as to securely lock the hasp N in place on the car-door.

When it is desired to ventilate the car, then the runners D D' can be swung into an outermost position so as to move the door A bodily out of its seat in the car-door frame to a position in front of the said door A, with the hasp N still locking the door in place, said hasp by its hinged member permitting the outward movement of the door. When the car-door is in this position, sufficient space is formed between the car-door frame and car-door to permit the entrance of fresh air to the car or foul air to escape therefrom, so as to properly ventilate the car, but not, however, permitting persons to enter the car without first unlocking the door.

The forward swinging motion of the runners D D' is limited by stops F<sup>2</sup>, held on the bearings F F', as plainly shown in the drawings, and the forward movement of the door on the runners is limited by stops D<sup>2</sup>, held on said runners, as shown in Fig. 1.

In order to protect the upper crank-arms E and bearings F, I provide a protecting-board C', extending from the side of the car directly above said crank arms and bearings, as plainly indicated in Figs. 1 and 4.

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

1. A freight-car door, comprising runners mounted to swing toward and from the side of the car, a door mounted to slide longitudinally on said runners, and a shaft journaled on the side of the car and provided with crank-arms engaging bearings on said runners to impart a swinging motion simultaneously to said runners, substantially as shown and described.

2. A freight-car door, comprising runners

mounted to swing toward and from the side of the car, a vertically-arranged shaft journaled on the side of the car and provided with crank-arms engaging bearings on said runners to impart a swinging motion to the latter, a door mounted to slide longitudinally on said runners, and means for locking said runners in either an inner or outer position, substantially as set forth.

3. A freight-car door, comprising a top and bottom runner, crank-arms carrying said runners and mounted to swing on the side of the car, a door fitted to slide on said runners and a crank-shaft journaled on the car and having a hasp forming a handle, the said crank-shaft being provided with crank-arms engaging bearings on said runners to impart a swinging motion to the latter, substantially as shown and described.

4. A freight-car door, comprising a top and bottom runner, crank-arms carrying said runners and mounted to swing on the side of the car, a door fitted to slide on said runners, a crank-shaft having a hasp forming a handle and provided with crank-arms engaging bearings on said runners, to impart a swinging motion to the latter, and a locking device for said hasp to lock the latter in either an inner or outer position, as set forth.

5. A freight-car door, comprising a top and bottom runner, crank-arms carrying said runners and mounted to swing on the side of the car, a door fitted to slide on said runners, a crank-shaft journaled on the car and provided with crank-arms engaging bearings on said runners to impart a swinging motion to the latter whereby the door may be swung bodily out of its seat in the car-door frame to a position in front of said seat, and a locking device for the said door constructed to permit of the outward movement of the door while holding it locked, substantially as shown and described.

ALFRED P. LE GROS.

Witnesses:

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S. R. CANNON.