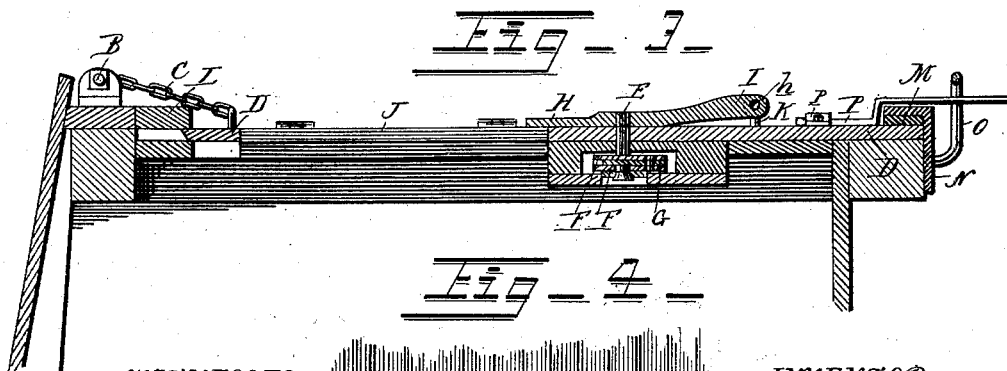
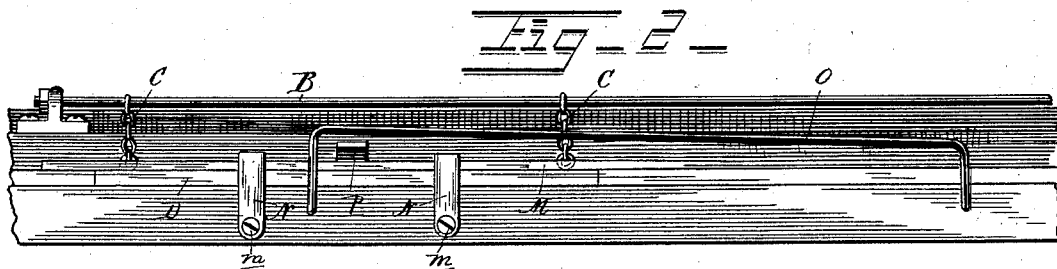
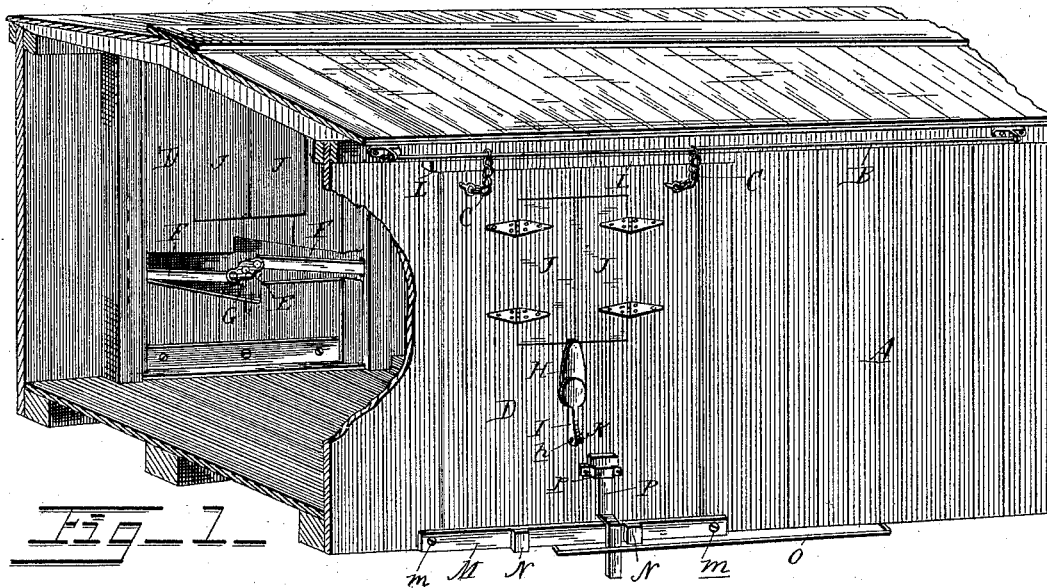


(No Model.)

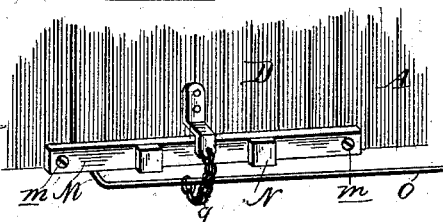
P. BROWN.
FREIGHT CAR DOOR.

No. 422,710.

Patented Mar. 4, 1890.



WITNESSES
Wm G. Robertson
Thos E. Robertson



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UNITED STATES PATENT OFFICE.

PERRY BROWN, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO DANIEL E. DOHERTY, OF SAME PLACE.

FREIGHT-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 422,710, dated March 4, 1890.

Application filed March 7, 1889. Serial No. 302,356. (No model.)

To all whom it may concern:

Be it known that I, PERRY BROWN, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Freight-Car Doors, of which the following is a specification, reference being had therein to the accompanying drawings.

This improvement relates to that class of car-doors shown in my patent, No. 335,989, dated February 9, 1886; and the invention consists in the peculiar construction, arrangement, and combination of parts hereinafter more particularly described, and then definitely pointed out in the claims.

In the accompanying drawings, Figure 1 shows a perspective view of a freight-car with part broken away to show my improvement; Fig. 2, a bottom view of part of a car; Fig. 3, a vertical cross-section through the center of the door, and Fig. 4 a perspective view of a modification.

Referring now to the details of the drawings, A represents the car, having a rail B and chains C, from which the door D hangs, as in my aforesaid patent.

On the inside of my door I have a double-locking device consisting of a rocking bar E, carrying two bolts F F, which bar rocks on a spindle G. So far this device is similar to that shown in my patents, Nos. 335,989 and 335,990; but besides the aforesaid old features I have on the outer end of said spindle G a handle *i* with a projecting arm H, serving to fasten two small doors J J, hinged in an opening in the main door. The handle has at its lower end an aperture *h*, in line with an eye K, through which any sealing device may be applied.

The door may be set under the edge of the upper rail, as in my aforesaid patents; but where I apply my doors to old cars I bolt a bar L to the face of the car just beneath the roof to receive the top of the door. On the lower sill I attach a bar M, preferably by screws or bolts *m* and angle-irons N, the latter extending under the sill, to which they are bolted. Below the sill I attach a bar O, preferably set at an angle, as shown in Fig.

2, and to the door a downwardly-extending bar or guard P. This guard may be a fixture, or it may be held under a clasp *p*, so as to allow of its being raised in the clasp to clear the bar O.

Instead of the movable guard P, I may use a fixed bar with a chain *q* attached, as shown in Fig. 4.

The operation is as follows: When it is desired to close the door, the handle is turned at right angles to its normal position and the door is raised until its upper end is behind the bar L and its lower end above the bar M, when it will slip into its place and drop down behind said bar M, by which means it is securely held against pressure from the inside. By turning the handle H the bolts F F are projected outward, and the main door is thus locked in its closed position, and if the small doors J J have been closed they are securely fastened at the same turn by the arm H.

To unfasten the door, the position of the handle is reversed and the door raised until it is clear of the bar M, when a slight pull outward will allow the door to hang by the chains, when it can be moved sidewise on the rail B, as well understood.

It has been found in the practical use of the door shown in my aforesaid patent, No. 335,989, that owing to the carelessness of the railroad employes such doors are frequently left unfastened, and that when the car is in motion it is liable to swing outward, and thus become damaged either by swinging against the car itself or by coming in contact with some passing train. To avoid this is the object of the bar O and guard P. With this arrangement or the chain shown in Fig. 4 the door cannot swing outward to any extent, for if the door is left open the angle at which the bar is set draws the door in toward the side of the car, and in either position should the door be left hanging on the rail B the door cannot swing enough to do any damage.

Although, as before stated, the bar P may be a fixture, yet I prefer to make it slide in the clasp *p*, because if the door should become jammed fast so that it cannot move sidewise, as sometimes occurs, the bar P may

be raised clear of the bar O, and the door will then swing outward to any extent desired and be entirely clear of the sides of the car.

With this arrangement of the rails L and M my improvement may be very readily applied to cars already in use without any reconstruction of cars, and I am therefore enabled to readily apply my doors to ordinary cars already built or in use with very little expense.

What I claim as new is—

1. The combination, in a car, of a bar, as L, and a rail, as B, both near the top of the car, a bar, as M, at the bottom, and a door provided with a flexible connection running on the rail and constructed to pass over bar M and descend into the space between said bar and the car, substantially as described.

2. The combination, in a car, of a rail, a door connected by a chain to the rail and sliding thereon, a second bar forming a pocket to receive the bottom of the door, a third

bar O at the bottom of the car, extending beyond the opening in the car, and a guard P, attached to the bottom of the door and cooperating with the bar O to prevent the door swinging outward beyond a predetermined position, substantially as described.

3. The combination, in a car, of a rail, a door sliding thereon, a second bar forming a pocket to receive the bottom of the door, a third bar O at the bottom of the car and set at a slight angle to the sides thereof, a guard P, attached to the bottom of the door, and a clasp p, all substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses, this 25th day of February, 1889.

PERRY BROWN.

Witnesses:

WM. T. ROBERTSON,
THOS. C. ROBERTSON.