(No Model.) 3 Sheets—Sheet 1.

P. BROWN.

FREIGHT CAR.

No. 382,685. Patented May 15, 1888.

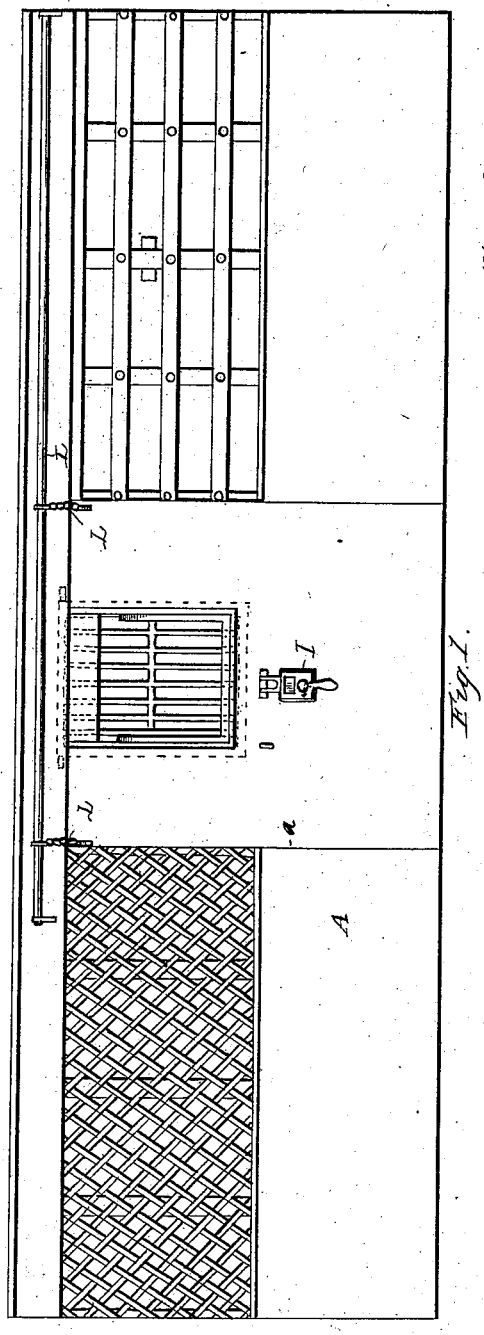

Fig. 1.

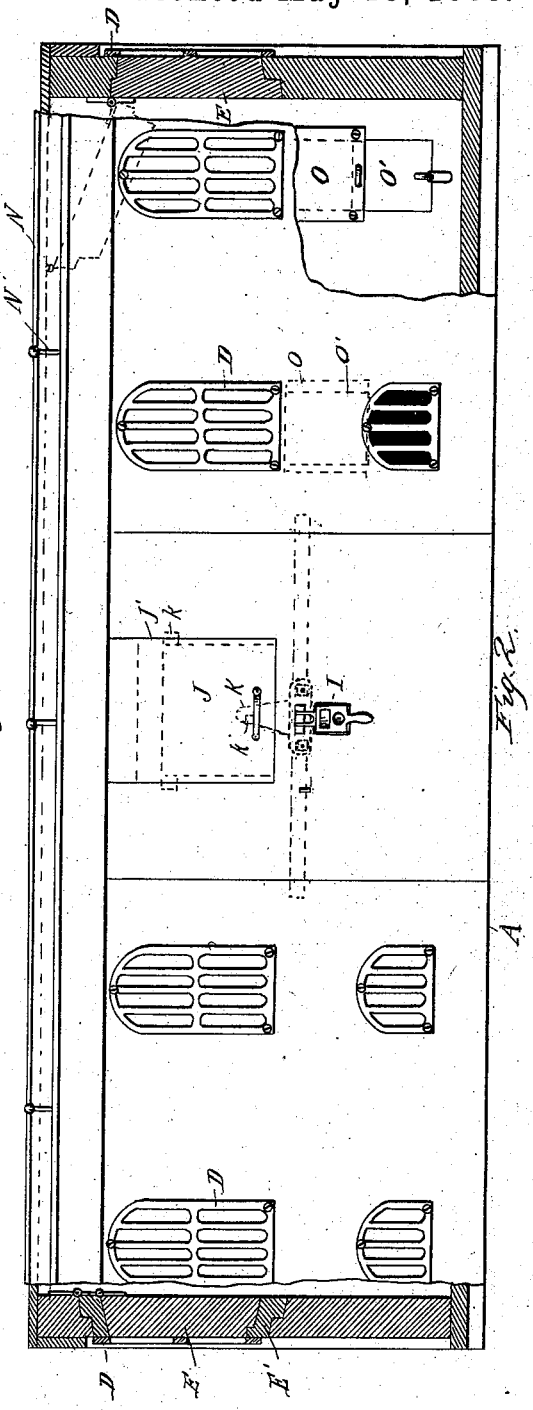

Fig. 2.

WITNESSES:

C. H. Raedes.

E. H. Boyd.

INVENTOR.

Perry Brown.

BY

T. J. H. Robertson

ATTORNEY.

(No Model.) 3 Sheets—Sheet 2.

P. BROWN.

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Fig. 3.

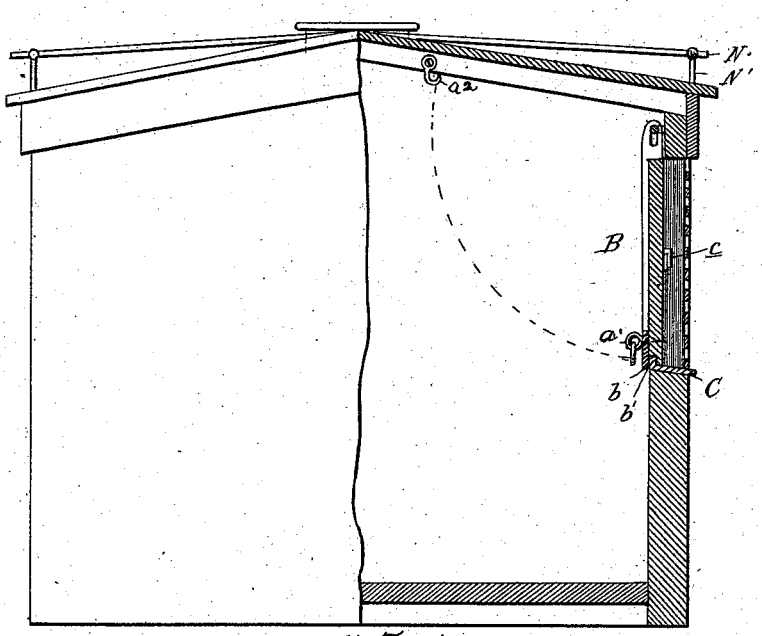


Fig. 7.

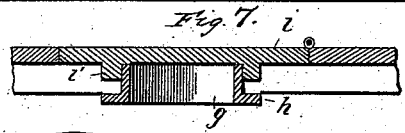
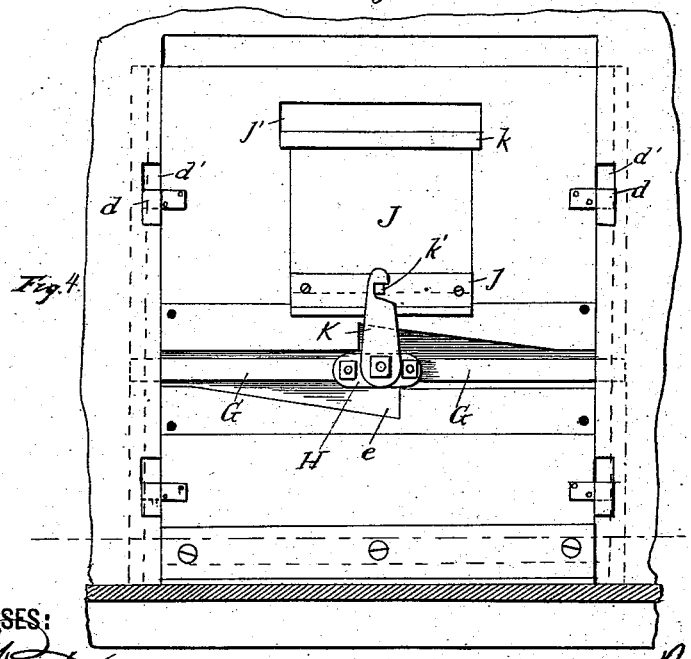


Fig. 4.



WITNESSES:

E. C. Kaeder.

E. H. Bond.

INVENTOR,

Perry Brown.

BY F. G. H. Robertson

ATTORNEY.

(No Model.) 3 Sheets—Sheet 3.

P. BROWN.

FREIGHT CAR.

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Fig. 5.

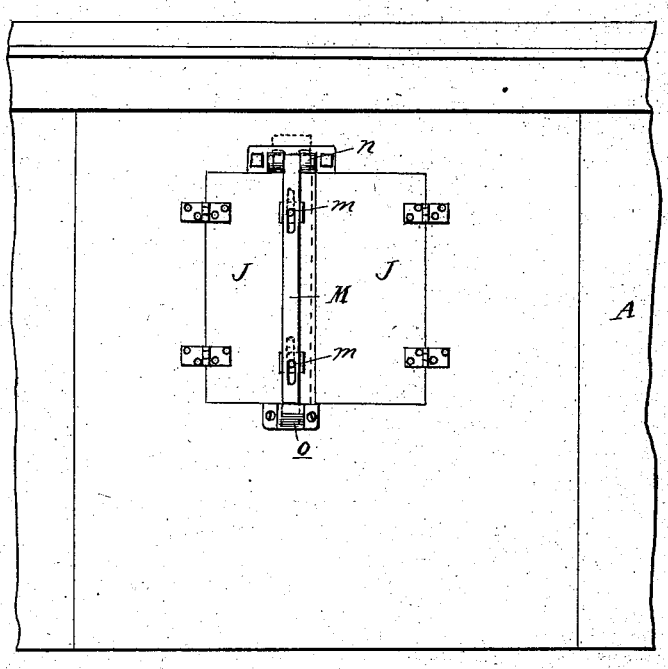
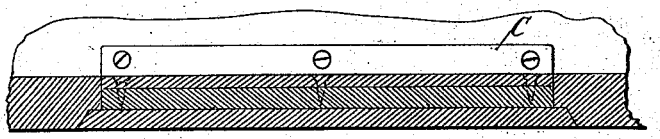


Fig. 6



WITNESSES:

E. C. Kaeder

E. H. Bond.

Perry Brown,

INVENTOR.

BY T. J. W. Robertson.

ATTORNEY.

UNITED STATES PATENT OFFICE.

PERRY BROWN, OF LOUISVILLE, KENTUCKY.

FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 382,635, dated May 15, 1888.

Application filed August 25, 1887. Serial No. 247,866. (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-Cars, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a side elevation of a car. Fig. 2 is a similar view of a car of modified construction. Fig. 3 is an end view with a portion broken away and parts shown in section. Fig. 4 is a view of the car-door from the inside, showing the manner of locking the same. Fig. 5 is a side elevation of a portion of a car, showing a different form of door. Fig. 6 is a section on the line *x x* of Fig. 4, and Fig. 7 is a detail on an enlarged scale.

This invention relates to certain new and useful improvements in freight-cars, and has for its object to so construct the car that it can be used at pleasure for either stock or fruit or grain.

I do not claim, broadly, a convertible car, for I am aware that such has been heretofore proposed, but in an entirely different way.

It often, and in fact most always, happens that in the transportation of freight there is a surplus of one kind of cars and a scarcity of another, so that there is constantly a moving of a lot of empty cars. For example, cars that are adapted for the transportation of fruit or stock, where ventilation is necessary, are not capable of being used for the transportation of coal, grain, and the like, so that while carrying a load one way they have to be brought back empty, thus increasing the labor and necessitating a much larger amount of rolling stock of a company. My improvement aims to economize in this matter by so constructing the car that it may be used in one direction to carry fruit or stock, and on the return trip utilized for the transportation of grain, coal, or other like materials.

To the above ends and to such others as the invention may pertain the same consists in the peculiar combinations and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described and claimed.

Referring to the details of the drawings, A represents the body of a car, which, as shown in Fig. 1, has close sides up to the line *a*, above which point, instead of being closed, is slatted, either by means of longitudinal slats, as seen at the right of said figure, or by lattice-work, as seen at the left, in either case the pieces comprising the open-work being secured to the outer face of the vertical studs of the car, as shown. In order to adapt this car for use in carrying grain, coal, and like small matters, I provide the following means: B is a tight door hinged to the inner wall of the car and adapted to be swung up out of the way when the car is used, as shown in Fig. 1, and for this purpose it is provided near its bottom with an eyebolt, *a'*, designed to engage a hook, a^2, secured to the top of the car, as shown in Fig. 3. When shut, as shown in Fig. 3, this door closes the slatted side and forms an air-tight joint. The hinge-connection of this door is so constructed as to permit of a slight vertical movement of the door, and at its lower side is provided with a plate, *b*, to form a rabbet, which when the door is dropped down, as seen in Fig. 3, engages the upwardly-extending flange, *b'*, of a plate, C, secured to the sill of the door, (see also Fig. 6,) which, though referring to the main door, is of like construction.

To the outer face of the door is secured an inverted L-shaped hook, *c*, which as the door is let down hooks over and engages a bar, *c'*, secured to the inner face of the vertical studs of the car. It will, of course, be understood that I provide one of these doors for each of the slatted parts of the car. In Fig. 1 these doors are not seen, as they are hooked up out of the way.

Instead of having the slatted portions of the car of the form shown in Fig. 1, I sometimes prefer the manner shown in Fig. 2, in which D indicates slatted castings or frames secured to the outside of the car over openings therein, which openings are designed to be closed from the inside by the doors E, which fit into sockets formed in the walls of the car, as seen at the right of Fig. 2; or I sometimes prefer to hinge to the wall of the car a frame, E', to which I secure the frame or casting D, and to this frame E', I hinge the door E, as seen at

the left of Fig. 2, so that the said door may be opened by itself, or the door, frame, and casting may all be opened together when occasion may require; or, in lieu of either of the above constructions, I sometimes prefer the construction seen at the lower right-hand corner of Fig. 2, in which O represents a plate secured to the inner wall of the car, and between which and the wall of the car, in suitable guides, works the sliding door O′.

The main door E at the bottom is constructed like the door B, above described, and shown in Fig. 3, and at its sides is provided with lugs *d*, which fit into sockets *d′*, secured to the inside of the car, and transversely near the center of its height is formed with a chamber, *e*, in which work the bolts G, which engage sockets in the vertical timbers of the door-frame. These bolts are pivoted at their inner ends to a lever, H, secured to the bolt of the seal-lock I in such a manner that the opening of the lock withdraws the bolts. It is sometimes desirable to not open the whole door, but only a small portion thereof, and to provide for this I form an opening in the upper part of said door, and close it by a door, J, the bottom of which is provided with a plate, *j*, to form a rabbet, like that of the door B, to engage a plate on the sill of the door J. The opening *j′* is a little wider than the door to accommodate the cleat *k*, secured across the inner face of the top of said door, so that when the door is in the position shown in Fig. 4 said cleat, together with the lock formed at the bottom of the door, will prevent its falling out.

To lock the door in place I attach to the bolt of the seal-lock an arm, K, notched at its free end to engage a pin, *k′*, on the bottom of the door. This arm is designed to be operated simultaneously with the bolts G, so that a single lock locks both doors. The main door E, to be opened, must first be raised and then lifted forward, and when opened is supported by means of the chains L, suspended from the rod L′, as seen in Fig. 1. This door J may be constructed like the door at the left of Fig. 2, or be simply a slatted door, as shown in Fig. 1, hinged at the top, so as to be swung back when desired; or I may sometimes prefer to form it in two parts, hinged, as shown in Fig. 5, and locked by means of a vertical bolt, M, slotted, as shown, to engage pins *m* on one portion of the door, and having a T-shaped head and beveled lip to engage sockets *n o* on the car.

In order to permit of the ready filling of the car with grain or coal, I form in the top of the car an opening, *g*, in which I secure the gasket or casting *h*, and above this opening I hinge a portion of the top or run-board, as shown at *i*, and depending from this hinged portion is a collar, *i′*, designed when down, as shown in Fig. 7, to fit the gasket and form a tight joint.

As a protection for the brakemen riding on the top of the car, I secure along the outer edge of the roof a guard, N, supported by means of the uprights N′ or in any other suitable manner. If the top of the car becomes slippery, as it often does, and the brakeman in walking along the roof should slip, he would be caught by the guard and his life saved, while if the guard were not there he would probably be dashed to the ground and seriously injured if not killed outright.

What I claim as new is—

1. In a freight-car, the combination of the side wall having the lower half permanently closed and the upper half permanently slatted, of a door having a vertically-movable hinged connection at the top, and a rabbeted lock at the bottom for tightly closing said slatted portion, substantially as and for the purpose specified.

2. In a freight-car, the combination, with the car-body having an opening in its side wall, of a frame, E′, hinged to said side wall, the slats on said frame, and the door E, and a double hinge connecting said frames and also hinging the frame E′ to the wall, substantially as and for the purpose specified.

3. In a freight-car, a door having a rabbeted lock at the bottom, locking means near its vertical center, and holding means upon opposite sides of the central lock, substantially as shown and described.

4. In a freight-car, a door provided with a supplemental door, and means for simultaneously locking said supplemental door to the main door and the main door to the frame, substantially as described.

5. In a freight-car, a door provided with a supplemental door, combined with transverse bolts on the main door, a bolt constructed to lock said supplemental door to the main door, and means for operating all of said bolts simultaneously, as set forth.

6. The combination, with a car having an opening in its top and a casting around said opening, of a hinged portion of the run-board, and a depending flange carried by said hinged portion and constructed to embrace said casting, substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses, this 25th day of August, 1887.

PERRY BROWN.

Witnesses:
W. T. ROBERTSON,
JOHN N. OLIVER.