J. R. PETRIE & T. HALL.

Car-Door.

No. 211,776. Patented Jan. 28, 1879.

FIG. 1.

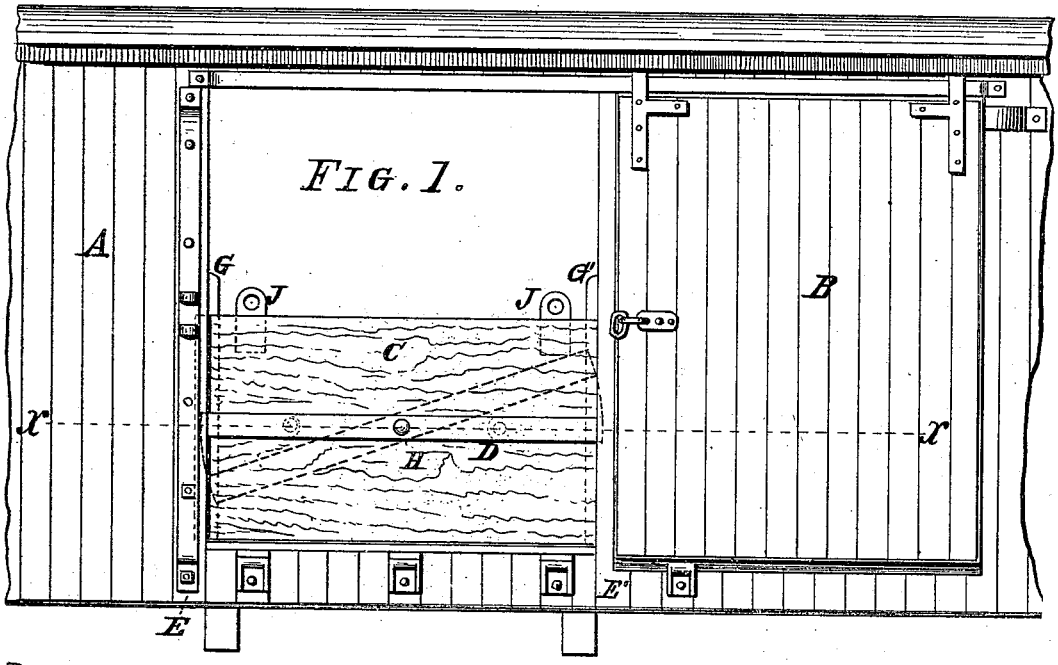
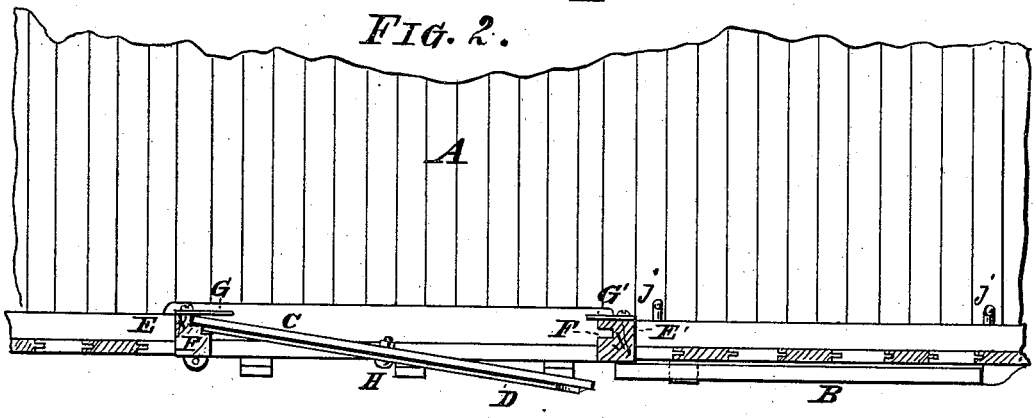


FIG. 2.



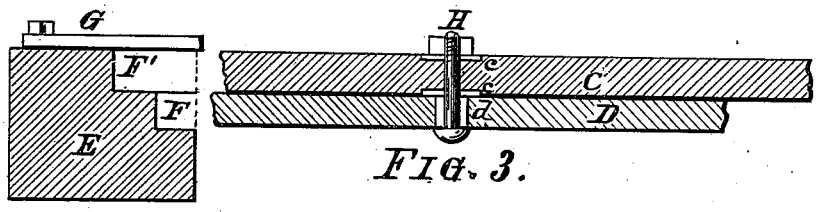


FIG. 3.

Witnesses:

Michael J. Stark

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Inventors:

James R. Petrie

Thomas Hall

by Michael J. Stark. atty.

UNITED STATES PATENT OFFICE.

JAMES R. PETRIE AND THOMAS HALL, OF BUFFALO, N. Y., ASSIGNORS OF ONE-THIRD THEIR RIGHT TO FREDERIC D. STOW, OF SAME PLACE.

IMPROVEMENT IN CAR-DOORS.

Specification forming part of Letters Patent No. **211,776**, dated January 28, 1879; application filed October 9, 1878.

To all whom it may concern:

Be it known that we, JAMES R. PETRIE and THOMAS HALL, both of Buffalo, Erie county, State of New York, have jointly invented certain new and useful Improvements on Inside Car-Doors; and we do hereby declare that the following description of our said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in railway-car doors where an inside door is used to prevent the freight from being forced or jostled against the main doors, to prevent their being opened; and it consists in the construction of the door-frames with grooves and rabbets, and the door-leaf having attached to it the swinging bar, so that the door can be readily attached to and detached from the door-frames, although the freight may impinge upon the door, all of which will be more fully hereinafter described, and set forth in the claims.

In the drawings heretofore mentioned, Figure 1 is an elevation of a fragment of a freight, express, or similar car, showing our auxiliary door in position. Fig. 2 is a fragmental horizontal section in line *x x* of Fig. 1, showing our door partially open. Fig. 3 is a similar view of the door and adjacent portion of the car-framing.

Like letters of reference indicate corresponding parts in all the figures.

A is the body of one of the various freight-cars now in use, provided with the outside sliding door, B. These doors are locked in the usual manner, and have the very objectionable disadvantage that the merchandise placed in the interior of the car, owing to the constant jolting, jar, and vibration, shifts about, and usually crowds so close together against said sliding doors that they cannot be opened when the cars reach their destination without using considerable external force, applied in the shape of crow-bars, &c. This drawback particularly happens in grain-cars, and when inside sliding doors are used, either alone or in addition to the outside doors, which inside doors can never be opened except by force, resulting generally in their destruction.

To avoid this objection, which is the object of our invention, we propose to provide the cars with auxiliary doors C, placed in the usual door-opening in such manner as to open toward the outside of the car, and to lock said door by means of the pivoted locking-bar D, secured to said door by means of a bolt, H, passing through the door and locking-bar. One of the upright timbers E of the door-framing is recessed or rabbeted on one edge at F′, so as to enable the door to be placed behind the said upright with one end; and both uprights E E′ are notched or grooved to admit the locking-bar D, whereby said door is prevented from moving out of its proper place except when the locking-bar is turned in such a position as to clear the said uprights E E′. To prevent the door from being pushed into the car, the uprights are provided with slats G G′, preferably made of metal, to prevent the door from being nailed to them, said slats being secured to the uprights to the inside of the car in any suitable manner.

It will be readily observed that a door constructed as above specified can be readily opened, no matter how hard the goods in the inside may crowd against it, by simply swinging the pivoted locking-bar upward or downward, as the case may be, depending upon the position of the curved slot F and which end of said bar is operated upon, so as to release the said bar from the slot F, when one end of the door will swing readily forward, it being evenly assisted therein by the merchandise, grain, &c., pushing against the door, after which the other end may be easily withdrawn from the rabbet F′.

On the door are placed two hooks, eyes, or similar contrivances, J, by means of which the same may be hung upon the hooks *j j*, Fig. 2, in the inside of the car, when not in use. A chain may be attached by one end to said eye, and fastened to the interior of the car by the other end, to prevent the door from being removed from said car.

A car being seldom, if ever, entirely filled with goods, grain, &c., our door need not extend the entire height of the door-opening,

but may be made so, if desired, using in this case two or more of the doors heretofore described.

To avoid excessive wear of the wood around the pivot H, we put into said bar (if made of wood) a metallic thimble or bushing, *d*, and provide the door with plates *c c*, which will accomplish the desired result in an inexpensive and convenient manner.

It is self-evident that either one or both the door-openings in a car can be provided with our auxiliary door at but a trifling expense, the mechanism employed and the fitting to a car being inexpensive and simple.

We are aware that removable inside doors have been applied to railroad-cars in vertical grooves or ways, and various devices have been employed to fasten them in position, whereby the doors could be easily removed; and we are also aware that it is not new to secure a door in position by means of a swinging bar. We therefore do not claim such devices, broadly.

Having thus fully described our invention, we claim as new and desire to secure to us by Letters Patent—

The combination, in railroad-car doors, of the inside door, C, the fastening-bar D, attached thereto, the frame E, having the rabbet F′ and groove F, and the frame E′, having the groove F, all substantially as and for the purpose described.

In testimony that we claim the foregoing as our invention we have hereto set our hands and affixed our seals in the presence of two subscribing witnesses.

J. R. PETRIE. [L. S.]
THOMAS HALL. [L. S.]

Attest:
MICHAEL J. STARK,
JNO. STARK.