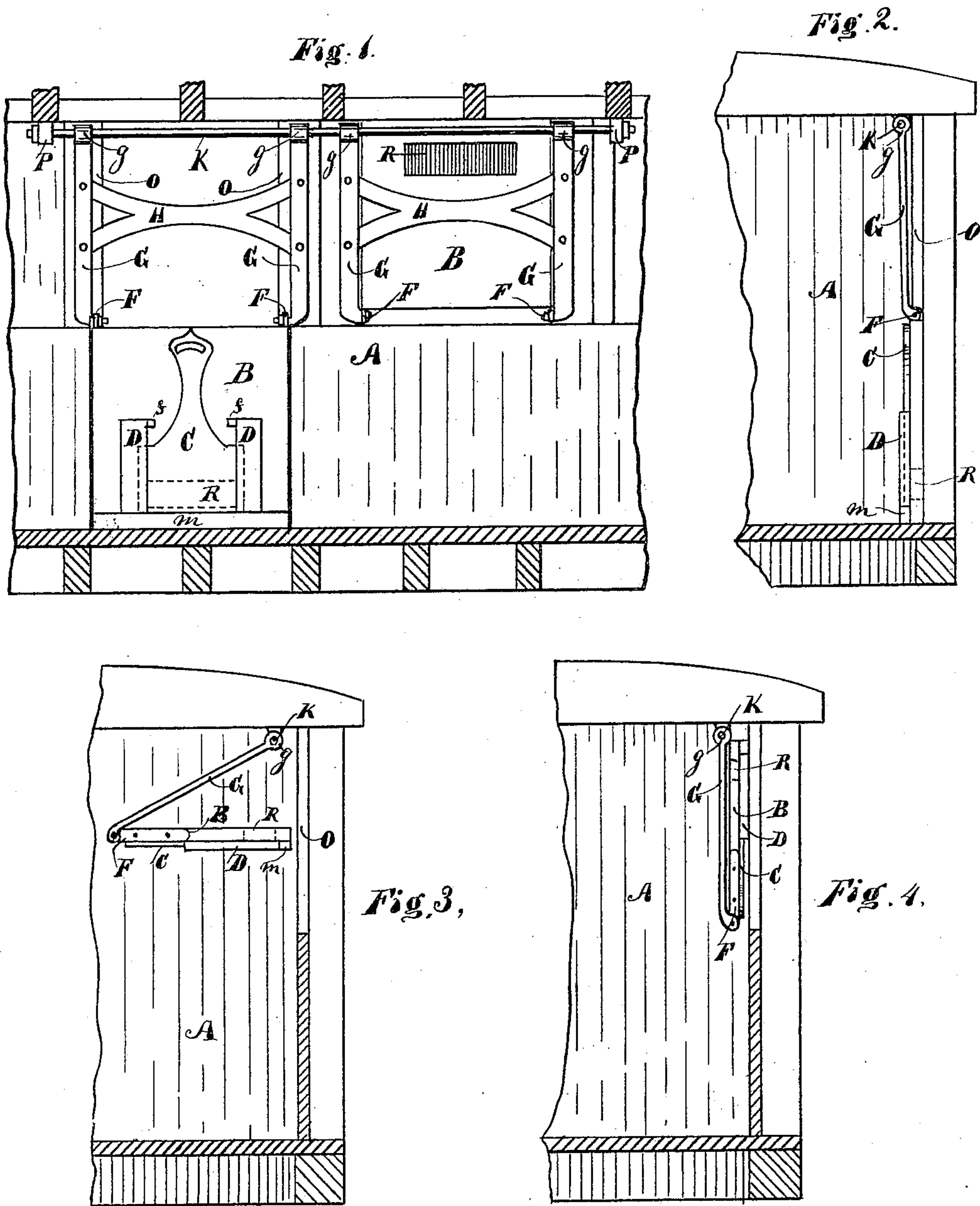


D. F. SPEES.
Grain-Car Door.

No. 205,767.

Patented July 9, 1878.



WITNESSES;
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INVENTOR
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his Atty.

UNITED STATES PATENT OFFICE.

DAVID F. SPEES, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO HIMSELF,
DAVID H. PARMILEE, AND EDWARD P. MILLER, OF SAME PLACE.

IMPROVEMENT IN GRAIN-CAR DOORS.

Specification forming part of Letters Patent No. **205,767**, dated July 9, 1878; application filed May 13, 1878.

To all whom it may concern:

Be it known that I, DAVID F. SPEES, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Grain-Car Doors and in the mode of operating them, of which the following is a description, reference being had to the accompanying drawings.

The object of my invention is to provide a grain-car door with a delivery-opening and gate, and also a means of operating the door, whereby grain that is in a car can be partially removed through the opening in the door when the gate is open, thus releasing the door from pressure of grain and permitting it to be folded up and secured to the roof of the car, or moved sidewise alongside the inner wall of the car out of the way, and at the same time prevent the door from being easily detached from its supports or broken.

My invention consists, first, of the inside door of a grain-car, having a delivery-opening and gate, in combination with devices for securing it in place; and, second, of the construction, arrangement, and combination of elements which are deemed essential in my newly-organized grain-car door for operating it, whereby new and useful results are produced, as will be hereinafter described and set forth.

In the accompanying drawings, in which like letters of reference in the different figures indicate like parts, Figure 1 represents a sectional view of a freight-car, showing the inner side of one side of the car, with my improved door and operating devices in two positions—i. e., one in the door-frame, showing the door in position to hold grain in the car, and one folded up alongside of the inner wall of the car. Fig. 2 is a transverse section of a car, showing an edge view of the door and operating devices when the door is in position in the door-frame. Fig. 3 represents an edge view of the door-operating devices and door as the door is being folded up; and Fig. 4 shows the door folded up and adjusted alongside of the wall of the car.

A represents a freight-car, with the ordinary door-frame and jambs O O for the door to shut against. The inside door B is provided with an aperture, R, near its bottom, which is cov-

ered with a gate, C, that may operate in slides D D, or on hinges, if desired. The stops *f f* are designed to prevent the gate C from being raised too high, and the cleat *m* strengthens the door at the bottom and also acts as a stop to the gate C. The door B is provided with hinge-plates F F, at or near the upper corners of the door, that project upward sufficiently to receive the lower ends of the bars G G, as shown. The swinging frame consists of the bars G G and the bracket-brace H. The lower ends of the bars G G are hinged to the plates F F on the door, and the upper ends of said bars are pivoted on the slide-bar K in such a manner as to allow the frame G G to be swung inward, and the door folded up to the roof of the car, where it may be secured by hooks or a spring-catch. The slide-rod K is secured at or near the top of the car by bracket-supports P P, and extends far enough to one side of the door-frame to permit the inside door to move sidewise and remain at the side of the car, as shown in Figs. 1 and 4. The slide-rod K is also located far enough from the side of the car to admit the door B to be folded up between the swinging bars G G and the side of the car. By this arrangement of parts the door B, when in position in the door-frame, is prevented from rising up by the bars G G, which act as braces to hold it down, and in order to remove the door from the frame the upper part of the door must be pushed inward, after which it can be folded up and secured to the top of the car or moved to one side, as desired.

It will be seen from the foregoing that, when the car is full of grain, the grain can be drawn away from the door by opening the gate C, thus relieving the door of the pressure of grain on the inside and allowing the top of the door to be pushed inward, when the grain will run out freely at the bottom.

The door is raised by the swinging bars G G as it is pushed inward at the top, thus fully releasing the grain, and the door can then be hung up or moved sidewise out of the way.

What I claim as new, and desire to secure by Letters Patent, is—

1. An inside door of a grain-car combined with the swinging rigid bars G G, hinged at or near the top of the car, and lying in a ver-

tical plane with the door, securely bracing down the door in its place in the door-frame, and preventing it from being raised until it is pushed inward at the top, thereby releasing the downward pressure of the bars G G on the door, and permitting it to be folded up, in the manner substantially as shown and described.

2. In combination with the slide-bar K, the hinge-bars G G, with the brace H and the inside car-door B, by means of which the door can be released from downward pressure and removed from the door-frame, folded up, and secured to the top of the car or moved to one side of the door-frame, in the manner and for the purpose substantially as shown and described.

3. An inside car-door having a delivery-opening, R, and gate C, in combination with the swinging hinged rigid bars G G, united to the car by hinge-joints, and lying in a vertical plane with the door when it is down, whereby the door is braced downward in the door-frame, substantially as shown and described.

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

DAVID F. SPEES.

Witnesses:

E. O. FRINK,
J. C. FRINK.