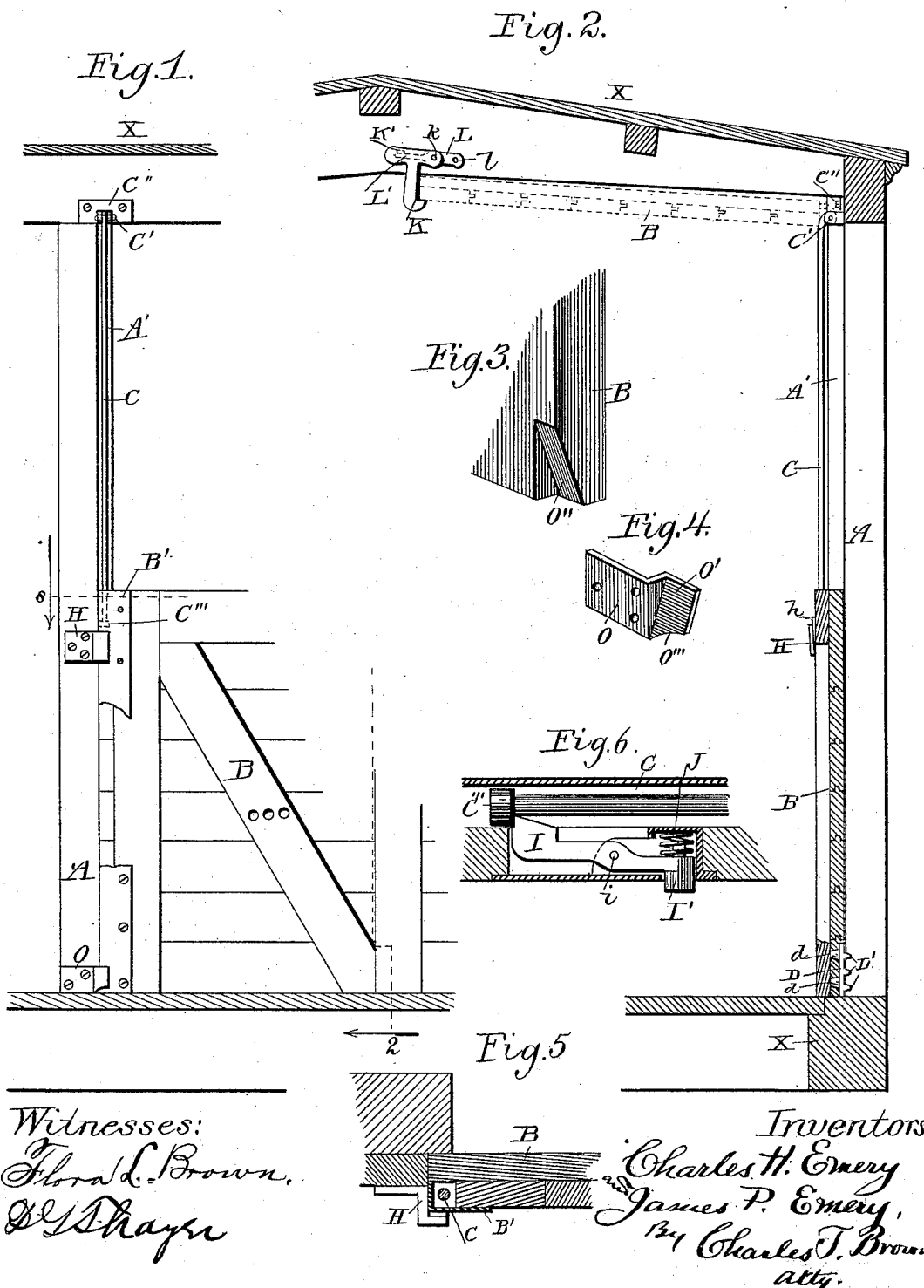


(No Model.)

C. H. & J. P. EMERY.
GRAIN CAR DOOR.

No. 423,041.

Patented Mar. 11, 1890.



UNITED STATES PATENT OFFICE.

CHARLES H. EMERY AND JAMES P. EMERY, OF HYDE PARK, ASSIGNORS
OF ONE-THIRD TO DWIGHT B. CARMICHAEL, OF LAKE, COOK COUNTY,
ILLINOIS.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 423,041, dated March 11, 1890.

Application filed November 7, 1888. Serial No. 290,193. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. EMERY and JAMES P. EMERY, citizens of the United States, residing in the town of Hyde Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is a full and complete description.

The purpose of our invention is to secure a door which may be raised at will without injury thereto or to the car to which it is attached when said car is loaded with grain; to obtain a door which will not jar out of its proper place when the car is in motion, whether said car be loaded or empty, and a door that can be readily handled at all times by a person not specially inducted into the proper management thereof.

We have illustrated our invention by the drawings accompanying and forming a part of this specification, in which—

Figure 1 is an elevation of our invention attached to a car and viewed from the inside thereof, with a portion of the casing used, and hereinafter fully explained, taken away. Fig. 2 is a sectional view on line 2 of Fig. 1. Figs. 3 and 4 are perspective views of a corner-plate, preferably of metal, secured to the door jamb or post, and of the grain-door cut away at one corner thereof to fit said corner-plate. Fig. 5 is a cross-section on line 8 of Fig. 1. Fig. 6 is a section of the door, showing the catch, hereinafter described.

Like letters refer to like parts throughout the several views.

X is the frame of the car.

A is the car-door post or jamb placed on each side of the door-opening.

A' is a rabbet in door-post A, in which the grain-car door B slides freely in a vertical direction.

C is a rod hinged on plate C'' by rivet C'.

B' is a metal plate secured to each end of the door. This metal plate is formed of two wings joined at a right angle, so that when it is placed upon the door one of these wings forms the end of the door and the other of the wings forms one face of the door. The wings are joined together at one end by a web, which, when the plate is in position on the door, is coincident with the upper edge

of the door, and through this web is hole G', through which the rod 6 passes. A space is formed by this metal plate between it and the door, in which the rod C may freely move. Door B may thus be raised on rods C to a sufficient height to allow the door to be swung away from the post or jamb A over clip or block H, and as the said door B is swung away from said post or jamb A and into the position indicated by the dotted lines in Fig. 2 the said rods C C are swung upon said pivot C', said pivot C' thus serving as the pivot or hinge upon which the door is swung.

D is a metal plate having lugs or projections D' D' on the face thereof and round projections or pins d d integral therewith on the back thereof. This metal plate is set into the door to be used in starting it upward when desired.

O, Fig. 4, is a metal corner secured to door-post A at or close to the floor of the car, and having a beveled portion O', which comes in contact with beveled part O'', Fig. 3, of the car-door B. A part of beveled corner O is cut away at O'' to allow any grain-kernels which may chance to get between said metal corner and the door-post to fall through said metal corner and be readily cleaned therefrom. A right and a left corner is used, one secured to each door-post, and each of the lower corners of the door is beveled, as described. As the grain-car door is dropped or slid into position, closing the same, it is evident that beveled part O'' of said door slides into beveled part O' of metal corner O, or slides between said beveled part O' and the door-post A, and by the combined result of metal corner O in contact, as described, with the beveled portion O'' of the lower end of said door B, at the corners thereof, and a suitable lock placed on the upper end of the door, the entire door is held firmly and closely against post A.

Each of the rods C C has an enlarged head C''' at the lower end thereof, and when the door B is raised on said rods C C to its upper point or position on said rods the said head C''' is engaged and caught by lever I (a duplicate of which lever is secured in each end of the door) as soon as the door is swung away

from post A far enough to allow spring J to push end I' of said lever I outward. Lever I turns on pivot i, and when the door B is between clip or plate H end I' of said lever is in contact with the door-post A and rod C, thereby released from said lever I, and the door may be slid downward into the closed position. As the door is swung into position, (illustrated by the dotted lines in Fig. 2,) the said lever I holds door B in its extreme upper position on rod C.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In a grain-car door, the combination of a rod pivoted at its upper end to the framework of the car, a vertically-sliding door moving freely on said rod, the said rod and said door thereon adapted to turn into position against the roof of the car when said door is slid upward on said rod, and a beveled clasp or clip secured to the door-post fit-

ting over a beveled corner of the door, whereby when said door is slid downward on said rod the lower end thereof is held rigidly against the said door post or jamb, all substantially as described.

2. In a grain-car door, the combination of a rod pivoted at its upper end to the framework of the car, a vertically-sliding door moving freely on said rod, the said rod and said door thereon adapted to turn into position against the roof of the car when said door is slid upward on said rod, and a catch on said door adapted to hold the said door in its upward position on said rod when said rod and door are turned away from the door post or jamb, all substantially as described.

CHARLES H. EMERY.
JAMES P. EMERY.

In presence of—

CHARLES T. BROWN,
JOHN L. MCKENNA.