

E. ROBINSON.
Grain Car Door.

No. 230,574.

Patented July 27, 1880.

Fig. 1.

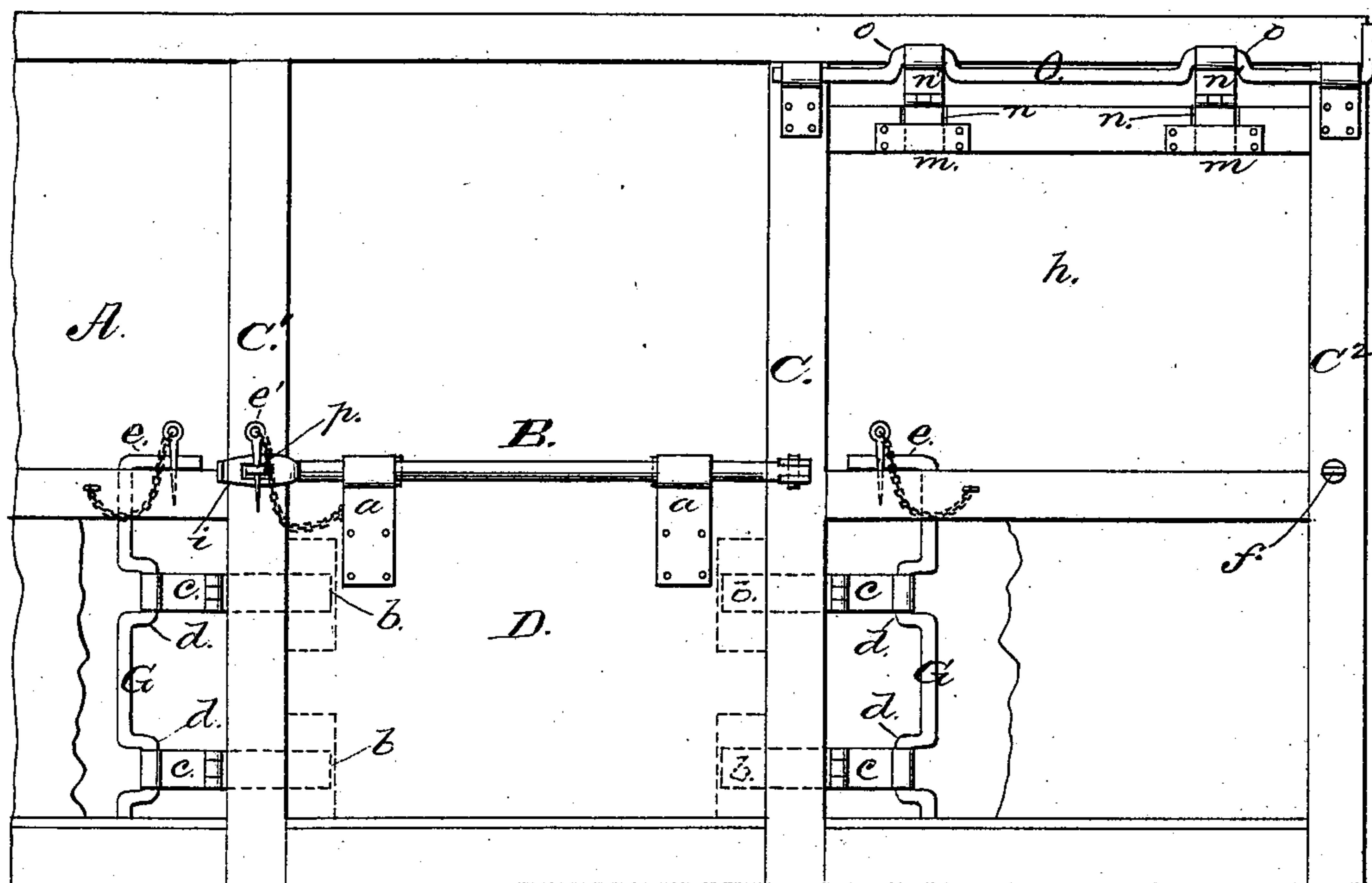
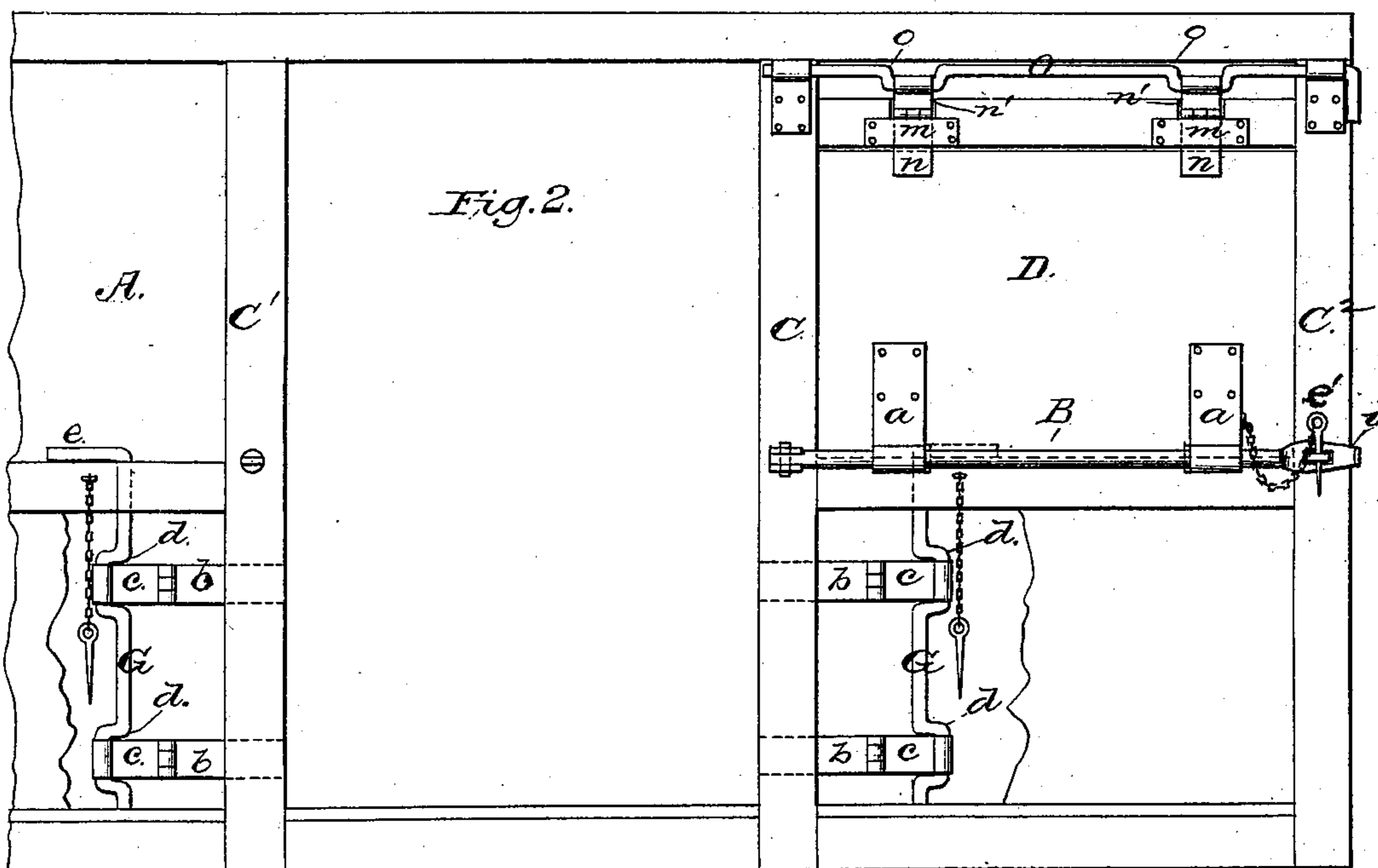


Fig. 2.



WITNESSES

John A. Lewis,
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INVENTOR

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UNITED STATES PATENT OFFICE.

EDGAR ROBINSON, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF OF HIS
RIGHT TO ROBERT H. GARDNER, OF SAME PLACE.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 230,574, dated July 27, 1880.

Application filed January 28, 1880.

To all whom it may concern:

Be it known that I, EDGAR ROBINSON, of Columbus, in the county of Franklin and State of Ohio, have invented a new and valuable
5 Improvement in Grain-Doors for Railway-Cars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings,
10 making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of an inside view of a car, showing the door in position, and Fig. 2 is a like view thereof
15 with the door out of the way.

This invention has relation to improvements in doors for grain-cars.

The object of the invention is principally to devise a swinging door that may be thrown
20 out of the door opening or entrance, and then thrown vertically upward against the side of the car, out of the way of ordinary freight.

The nature of the invention will be fully set forth hereinafter.

25 In the annexed drawings, the letter A designates the side of a car viewed from within, and having the usual entrance closed outside by a sliding or other door.

B indicates a metallic rod, of suitable rigidity
30 and strength, extending across the entrance horizontally and hinged at one end to the door-post C. At its other end this rod is slotted longitudinally to engage a staple, eyebolt, or other equivalent device, *p*, upon the other
35 door-post, C', and it is arranged about mid-way of the height of the entrance. From this rod or bar is suspended, between the posts C C', the half-door D, reaching to the floor of the car, and having free vertical vibration on said
40 rod both inward and outward.

The door D is suspended from the rod by means of the hangers *a*, and when in use is prevented from swinging outward by means of the latches *b*. These are two in number, at
45 each side of the door usually, and project through slots in the side posts, C C', beyond the outside of the door, so that the door, abutting against their ends, is supported against the pressure of the grain in the car, and can-

not swing outward to deliver the grain into 50
an elevator-well until the latches are retracted. They are connected by means of pitmen *c* to the cranks *d* of vertical rock-shafts G, arranged between the lining and outside weather-boarding of the car and operated by a handle, 55
e. By operating these shafts the latches are thrust out or retracted, as may be desired.

By withdrawing the fastening-pin *e'* the bar B may be swung into the position shown in Fig. 2, upon its hinge, when its slotted end *i* 60
engages a staple, eyebolt, or other equivalent device, *f*, upon an upright, C², of the car-frame, arranged at the same distance from post C as post C', and may be secured by means of a pin, *e'*. The half-door may then be swung up 65
vertically into a recess, *h*, formed by the car-frame, as shown in Fig. 2, where it will be out of the way of ordinary articles of freight and not apt to be injured thereby. The door is confined in this recess by the latches *n*, 70
working vertically through guides *m* on the car-frame, and connected by pitmen *n'* to the cranks *o* of a horizontal rock-shaft, O, near the top of the car. The half-door may be made of wood or metal, or of a combination thereof. 75

I do not confine myself to the precise construction hereinbefore set forth, there being many modifications thereof, which might be adopted without going beyond the scope of my invention. 80

I am aware that horizontally-swinging and vertically-movable doors are not new. Hence I make no claim to such devices.

What I claim as new, and desire to secure by Letters Patent, is— 85

1. In a grain-car, the vertically-vibrating half-door swinging horizontally out of the door opening or entrance and vertically upward against the side of the car, substantially as specified, and for the purposes set forth. 90

2. In a grain-car, the half-door closing the lower half of the entrance, swinging vertically from its upper edge, swinging horizontally from its lateral edge out of the entrance of the car and upward against the side thereof, above 95
the inside lining, substantially as set forth.

3. In a grain-car, the horizontally-swinging bar B, extending across the inside of the en-

trance, the vertically-vibrating half-door, suspended from said rod and vibrating vertically thereon, the endwise-movable latches *b n*, the crank-shafts *G O*, and pitmen connecting
5 said latches and shafts, the whole combined and arranged to operate substantially as set forth.

10 4. In a grain-car, the combination, with a vertically-vibrating half-door swinging horizontally out of the entrance and upward and backward against the side of the car, of latches

and an operating mechanism therefor, holding the door against outward vibration and up against the side of the car, substantially as specified.

15 In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDGAR ROBINSON.

Witnesses:

M. J. NOLEN,

R. H. GARDNER.