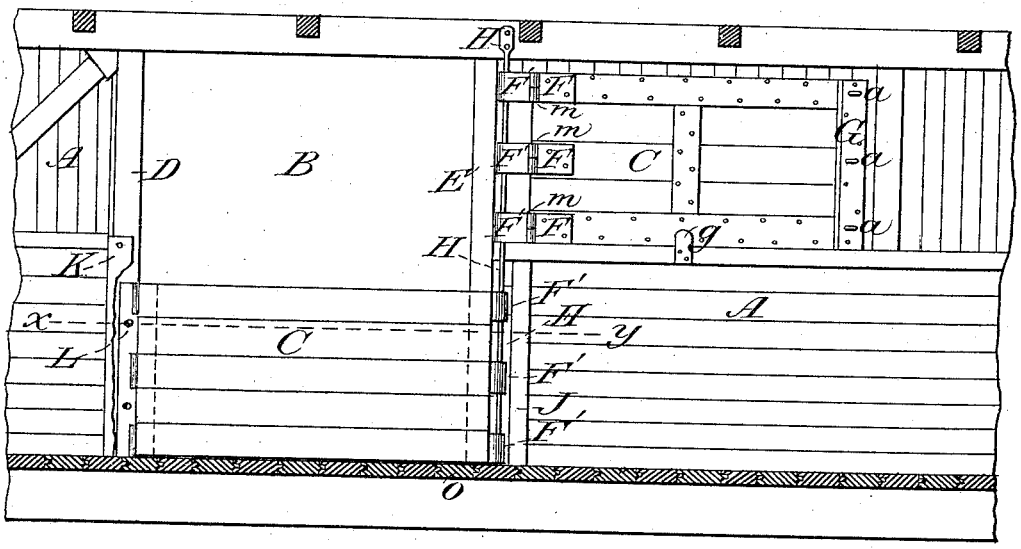
D. F. SPEES.

Grain-Car Door.

No. 212,632. Patented Feb. 25, 1879.

Fig. 1.



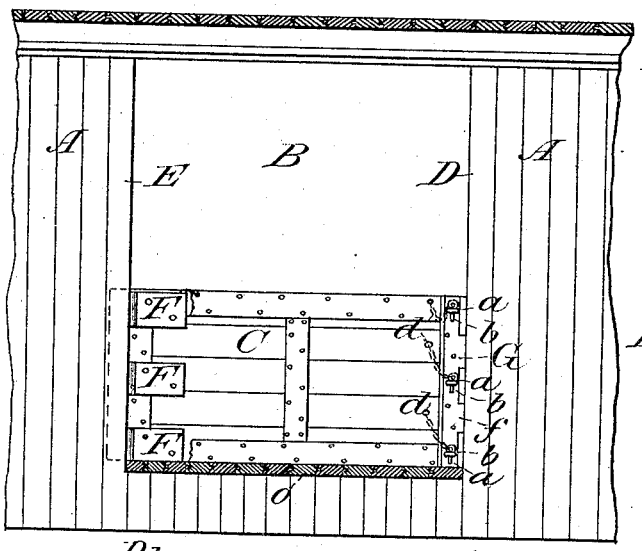


Fig. 2.

Fig. 6.

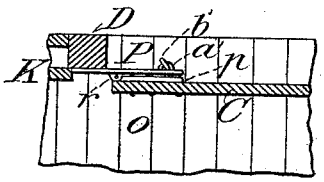


Fig. 5.

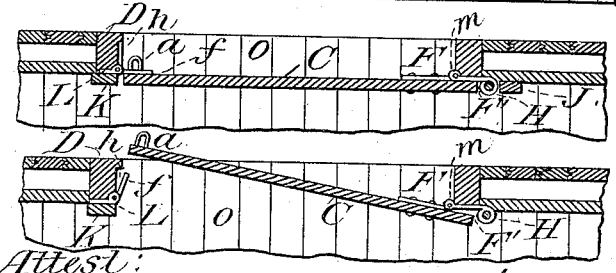


Fig. 3.

Fig. 4.

Attest:

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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN GRAIN-CAR DOORS.

Specification forming part of Letters Patent No. **212,632**, dated February 25, 1879; application filed September 9, 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, of which the following is a description, reference being had to the accompanying drawings.

My invention relates to inside doors of grain-cars.

The object of my invention is to provide a grain-car with an inside grain-door, operated to open outward and release the grain contained in the car, and at the same time prevent the door from being removed from the car.

My invention consists of the new construction, arrangement, and combination of elements which are deemed necessary in my newly-organized grain-door, as will be hereinafter fully set forth and described.

In the accompanying drawings, in which like letters of reference in the different figures indicate like parts, Figure 1 represents an inside view of a car, showing my newly-constructed door in the door-frame, and also showing the door as it would appear when removed from the frame and hung up out of the way. Fig. 2 is an outside view of the door in the door-frame. Fig. 3 is a sectional view of the car and door, taken at the line *x y* of Fig. 1, showing an edge view of the door in the door-frame. Fig. 4 is also a sectional view of the same as Fig. 3, showing the door partially opened. Fig. 5 is a partial section, the same as in Figs. 3 and 4, showing a modification of the fastening, with the door in position in the door-frame; and Fig. 6 represents an edge view of the door as shown in Fig. 5, with the fastening released, so that the door may be opened outward.

A represents a grain-car. B is the opening or aperture. E and D are the upright jamb-posts at the sides of the aperture B. The grain-door C is made solid, and is provided at one end with two or more strap-hinges, F F′, as shown. The leaf F of each hinge is securely fastened to the door C, with the hinge-joint *m* at the edge of the jamb-post D. The leaf F′ of each strap-hinge extends back beyond the end of the door, and is formed with an eye that operates on the vertical rod H, as shown, thus permitting the door C to swing open outwardly by reason of the hinge-joints *m*, as shown in Fig. 4, when unloading grain, and also to permit the door C to be swung inside of the car by means of the eyes of the hinges that operate on the vertical rod H, and at the same time permit the door to be raised upward and secured to the side of the car, as shown in Fig. 1.

The other end of the door is provided with a metallic plate, G, in which are securely fastened staples or eyebolts *a a*. The jamb-post D is provided with a corner-iron, composed of two hinge-leaves, L *f*. The leaf L is securely fastened to the post on the inside of the car, and the jamb is recessed, as shown at *h*, to receive the leaf *f* as it is swung around by the opening of the door C. The leaf *f* is provided with holes corresponding with the staples or eyebolts *a* on the door, through which said staples pass when the door C is in position, as shown in Fig. 3, and the door C is prevented from swinging outward by pins *b b*, as shown in Fig. 2. The vertical rod H is protected from injury by a strip of wood or metal, J, as shown in Figs. 3 and 4.

When it is desired to open the door C the pins *b b* are removed from the staples *a*, and the grain pushes the door outward, the leaf *f* of the hinge L being forced around into the recess *h*, as shown in Fig. 4. The door can then be swung inside of the car and hung up, as shown in Fig. 1.

It is obvious that the means of fastening and releasing the door may be modified, as shown in Figs. 5 and 6. Thus the door may have a vertical plate, P, hinged at *r* to the plate *p*, and the plate *p* secured to the door, as shown. The plate *p* may be provided with staples *a′*, that pass through corresponding holes in the plate P. Thus the door can be held from opening by inserting a pin, *b′*, in the staple *a′*, as shown in Fig. 5; but when the door is released, then the hinged plate P swings away from the jamb, as shown in Fig. 6.

I am aware of the devices shown in A. Packard's patent for bisected doors, No. 176,342, granted April 18, 1876; and to the device set forth and claimed in said invention I make no claim.

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

1. The outwardly-opening solid door C, attached to the vertical rod H at one end by the hinges F F′, and the other end supported by a hinged-plate fastening, L *f*, whereby the door may be held in position in the door-frame, or released and allowed to swing outward at one end, and then elevated on the rod H, and folded away at the side of the car, substantially as shown and described.

2. The outwardly-opening solid door C, combined with the hinge-plate fastening L *f*, whereby one end of the door can be released from the outside, and allowed to swing out, in the manner 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,

GEORGE RENNETT.