

A. PACKARD.
GRAIN CAR DOOR.

No. 176,342.

Patented April 18, 1876.

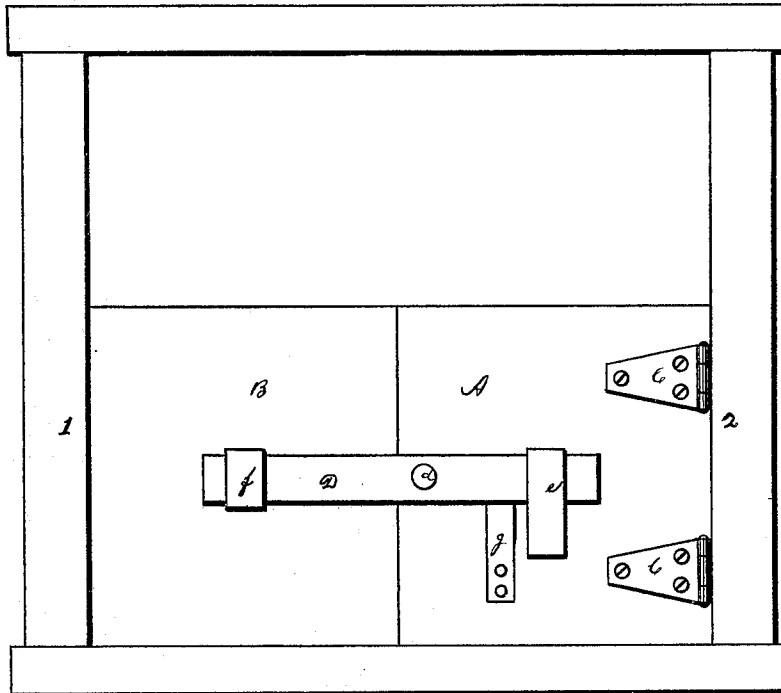


FIG. 1.

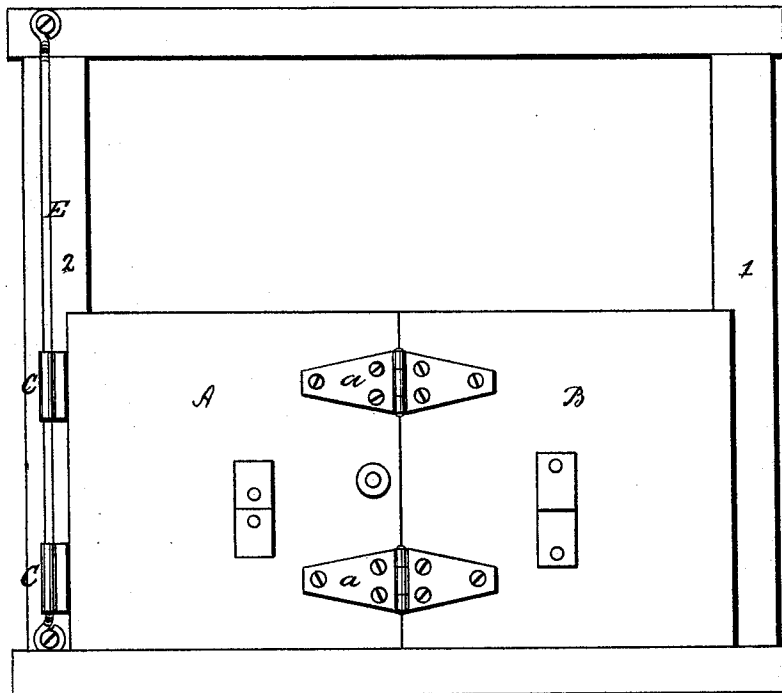


FIG. 3. *Alpheus Packard* INVENTOR

WITNESSES.

Albert Mason
Chas. F. Perkins

Chas. H. Davis
his attorney.

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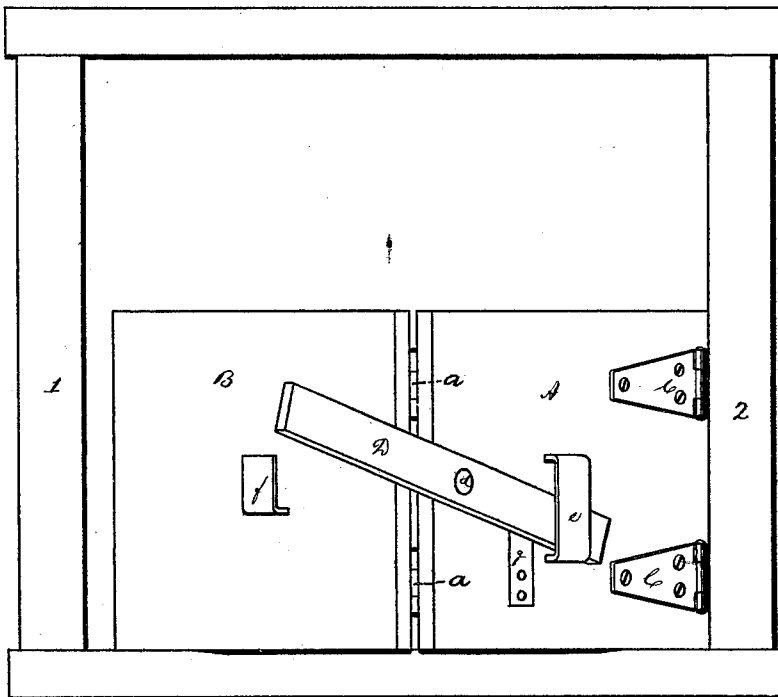


FIG. 2.

WITNESSES.

Albert Mason
Chas F. Perkins

Alpheus Packard

INVENTOR.

by Chas F. Perkins
his attorney

UNITED STATES PATENT OFFICE.

ALPHEUS PACKARD, OF PEMBROKE, MASSACHUSETTS.

IMPROVEMENT IN GRAIN-CAR DOORS.

Specification forming part of Letters Patent No. **176,342**, dated April 18, 1876; application filed January 22, 1876.

To all whom it may concern:

Be it known that I, ALPHEUS PACKARD, of Pembroke, in the county of Plymouth and Commonwealth of Massachusetts, have invented an Improved Freight-Car Door, of which the following is a specification:

It is well known that much inconvenience is experienced in unloading freight-cars, and more particularly grain-cars, from the present mode of opening their doors, especially when they open inward, as is commonly the case with grain-cars.

The object of my invention is to provide a door for such cars which can be opened outward, and which thus obviates the objectionable features of the cars now in use, which I have mentioned.

The advantages of my invention more particularly apply to grain-cars.

Figure 1 shows a view of my improvement when closed; Fig. 2, the same when open; and Fig. 3 is a view of my invention from the inside of the car, showing more particularly the manner in which the door closes inside of the car.

I make the door in two parts, A B, united by hinges *a a*, and connected with the car by the hinges C C, said hinges C C being secured and sliding on a rod, E, which extends and is fastened in a vertical position on the inside of the car, as shown in Fig. 2. Thus the door A B may be opened inward or outward, or raised bodily upward, and without operating the bolt D, if desired.

D is a bar, turning on the bolt *d*, which fastens it to the door A. One end of the bar moves inside the staple *e*. The other end, when the door is closed, is inside the staple *f*, open at the top. The bar, when the door is closed, is held securely in place by the spring *g*.

To open the door, the spring *g* is pushed in, and the bar D turned so as to free the outer end from the staple *f*. The doors then readily open outward, the part B swinging back upon the part A, the door being pulled forward or thrown open by the pressure of the grain within, which then flows out into the elevator-pit.

When the car is not in use, the doors may be swung inside the car and hung on hooks.

It will be observed by reference to Fig. 2 that the door A B projects at each side slightly beyond the inner face of the opening

in the car. Thus the car-frame 1 2 forms the shoulders or jambs, against which the door abuts and is sustained when closed and secured.

By constructing the doors for grain or other freight cars as herein described and shown, a simple, strong, and effective door is secured, and the parts are durable, easily and readily manipulated, and not liable to get out of order.

What I claim as my invention is—

1. As an improvement in freight-cars, the bisected outwardly-opening door A B, united by hinges *a a*, and secured on the inside of the car by hinges C C, sliding on a vertical stationary rod, E, as and for the purposes described.

2. In a freight-car, the bisected outwardly-opening door A B *a*, secured on the inside of the car by hinges C C, sliding on stationary rod E, and made to project at each end beyond the edges of the opening of the car or frame 1 2, whereby said frame is made to form the jambs or support for the door, as described.

3. In a freight-car, in combination with the bisected outwardly-opening door A B, secured on the inside of the car, the pivoted bolt or bar D *d* and retaining spring-stop *g*, one end of said bolt D working in a retaining-strap, *e*, and the other end in a catch, *f*, whereby the door A B is securely locked and retained in proper place, as and for the purposes described.

4. In a freight-car, in combination with the bisected outwardly-opening door A B, the hinges C C and rod E, secured in a vertical position in the inside of the car, whereby the door A B is secured in place to the car, and is adapted to be swung inward, outward, or raised and lowered, as described.

5. As an improvement in freight-cars, the bisected outwardly-opening door A B, united by hinges *a a*, secured to the inside of the car by hinges C C and rod E, projecting slightly beyond the edges of the jambs or frame 1 2, and locked on the outside by pivoted bar D *d*, catch *f*, spring-stop *g*, and loop *e*, all substantially as and for the purposes described and shown.

ALPHEUS PACKARD.

Witnesses:

CHAS. F. PERKINS,
CHAS. H. DREW.