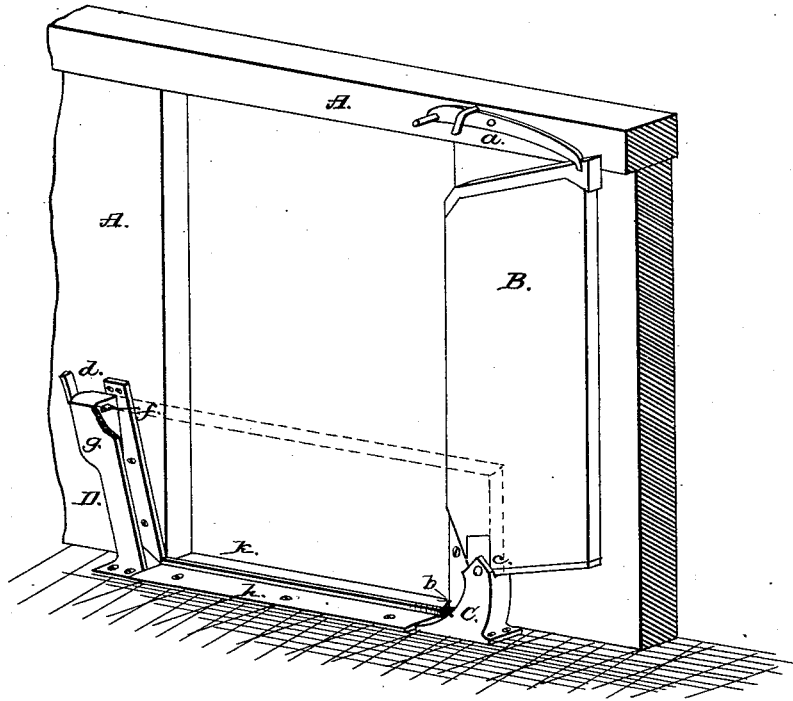


E. FEE.
Grain Car-Door.

No. 162,464.

Patented April 27, 1875.



Witnesses:

*O. C. Perkins
Arthur Wright*

Inventor:

*Elisha Fee
Attorney Thomas G. Drury.*

UNITED STATES PATENT OFFICE.

ELISHA FEE, OF COLFAX, IOWA.

IMPROVEMENT IN GRAIN-CAR DOORS.

Specification forming part of Letters Patent No. **162,464**, dated April 27, 1875; application filed December 26, 1874.

To all whom it may concern:

Be it known that I, ELISHA FEE, of Colfax, in the county of Jasper and State of Iowa, have invented a Door for Railway-Cars, of which the following is a specification:

The object of my invention is to form and secure a car-door in such a manner that it will be hinged and readily opened and closed to facilitate the loading and unloading of grain and other products in bulk. It consists in door-fastenings shaped to prevent the lodging of grain, and a door having ends and corners corresponding with the form of the fastenings, all as hereinafter fully set forth.

My drawing is a perspective view from the inside of the car, and illustrates the construction, application, and operation of my invention.

A represent the side wall of a car and the door-frame. B is the door, turned up and held out of the way, as required to keep the doorway open. The under side is shorter than the upper, and the lower corners are rounded off. *a* is a gravitating pawl or latch, pivoted above the upper right-hand corner of the doorway in such a manner that it will automatically enter and engage a notch or catch on the front edge of the door whenever the door is thrown up and open. C is one of my door-fastenings, and may be termed "a combined corner-brace and hinge-plate." It is fitted and secured to the lower and rear end of the door-frame and the car-floor. *b* is an inwardly-beveled shoulder, corresponding with the rounded corner of the door, designed to rest on the shoulder when it is closed. *c* is a vertical projection from the shoulder *b*, and forms a bearing for the bolt or pivot upon which the door is hinged. D is a corner-brace and fastening for the front end of the door B.

It is fitted and secured to the lower end of the door-frame and to the car-floor. It has a vertical groove corresponding in shape with the front edge of the door B. *d* is a vertical spring-latch attached on the outside of the grooved fastening D. *f* is a bolt or catch carried by the spring *d*. *g* is an outward swell or projection on the fastening D, through which the catch *f* passes to engage and lock the door B when it is closed. This projection *g* forms a chamber for the movable catch *f*, and prevents grain from entering the groove in the fastening D. The fastenings C and D may be readily cast in complete pieces and secured to the car with screws or bolts. *h* is a metal plate, fitted and secured on the car-floor and threshold of the door. *k* is a bead or stop on the plate *h*, behind which the lower edge of the door enters, and is retained when the door is closed.

I claim as my invention—

1. The corner-brace and door-fastening C, having the curved and beveled shoulder *b* and vertical projection *c*, substantially as and for the purposes shown and described.
2. The vertically-grooved corner-brace and door-fastening D, having the swell or chamber *g* and the vertical spring *d*, carrying the bolt *f*, in combination with the vertically-swinging door B, having a notch in its front edge, substantially as and for the purposes shown and described.
3. The combination of the door B, having rounded lower corners, and the corner-braces and fastenings C and D, substantially as and for the purposes specified.

ELISHA FEE.

Witnesses:

WM. L. WEST,
J. F. WEAVER.