

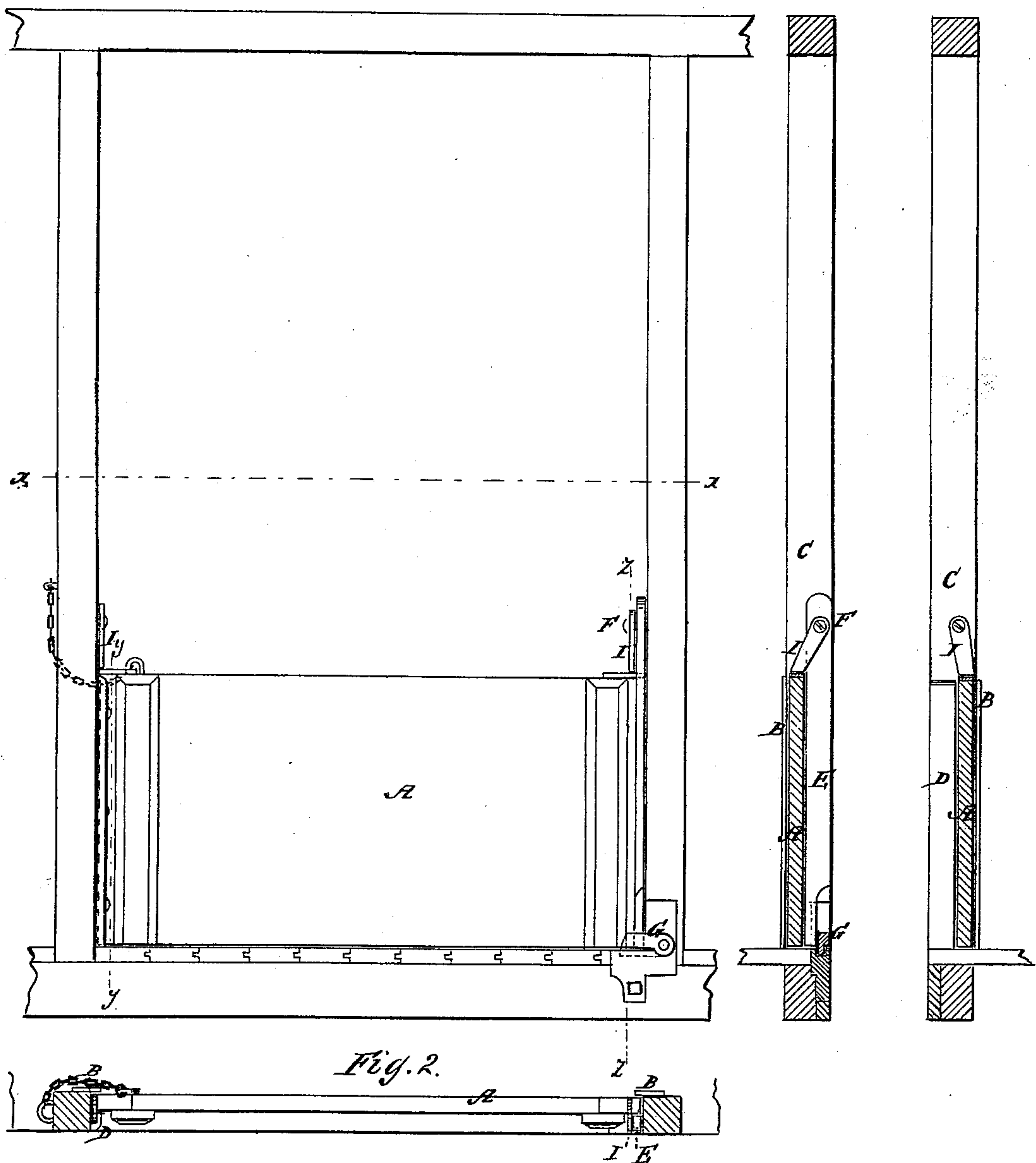
F. J. KIMBALL.  
Door for Grain-Cars.

No. 165,490.

Patented July 13, 1875.

Fig. 1.

Fig. 3. Fig. 4.



WITNESSES:  
E. Wolff  
A. J. Perry

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# UNITED STATES PATENT OFFICE.

FREDERICK J. KIMBALL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN DOORS FOR GRAIN-CARS.

Specification forming part of Letters Patent No. **165,490**, dated July 13, 1875; application filed May 8, 1875.

*To all whom it may concern :*

Be it known that I, FREDERICK J. KIMBALL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Grain-Door for Freight-Cars, of which the following is a specification :

The invention consists in the arrangement of a swinging bar, a pivoted latch for locking its free end, and permanent or fixed vertical bars, whereby the door is secured and also adapted to be opened outward, in the manner hereinafter described.

Figure 1 of the accompanying drawing is a front view of car-door, showing grain-door in position. Fig. 2 is a horizontal section on line *x x*. Fig. 3 is a vertical section on line *y y*. Fig. 4 is a vertical section on line *z z*.

Similar letters of reference indicate corresponding parts.

The supports for the door A consist, first, of strips or plates of iron, B, or wood, fastened on the back of the door-posts C, and projecting beyond the posts a sufficient distance to prevent the door from falling inward before the grain is put in. Second, on the inside of one post is a wooden or iron strip or bar, D, fastened permanently to the post, allowing sufficient space between it and the strip or plate on the back of the post for the grain-door.

On the other post is fastened, by a bolt, F, rivet, or otherwise, a swinging bar of wood or iron, so arranged that it can be held down when the door is in position by a latch, G, or sliding bolt, and when the door is to be opened to raise the latch or bolt, swing the bar out, and the door is then free to open out. This bar E, and also the permanent strip D on the other post, can be made of wood, or wood and iron, or of wrought or cast iron. The latch is so arranged that the pawl has a projection, fitting in a groove in the body of the latch, in order to give additional support. It is also so arranged that it can be bolted or fastened to the door-post, and also through the side stringer of the car. If required, the groove or depression to receive the pawl can have an outlet or be extended through the body of the latch, in order to allow the grain or dirt that may accumulate there to be cleaned out.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The swinging bar E, latch G, and permanent bars D and B, combined with the door, substantially as specified.

FREDERICK J. KIMBALL.

Witnesses :

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JOSEPH SEAVER.