

(No Model.)

N. MOSER.  
Grain Car Door.

No. 237,305.

Patented Feb. 1, 1881.

Fig. 1.

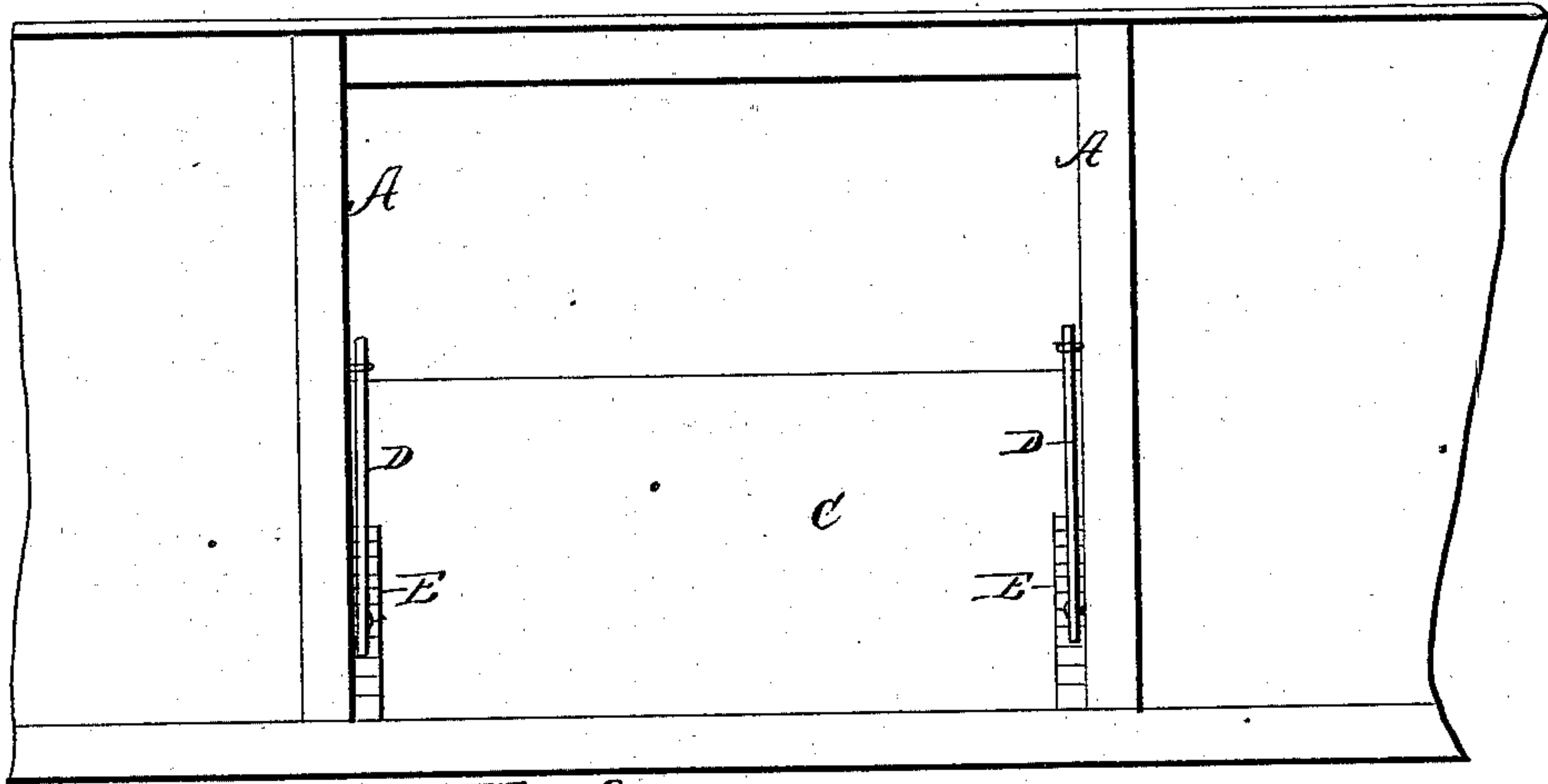


Fig. 2.

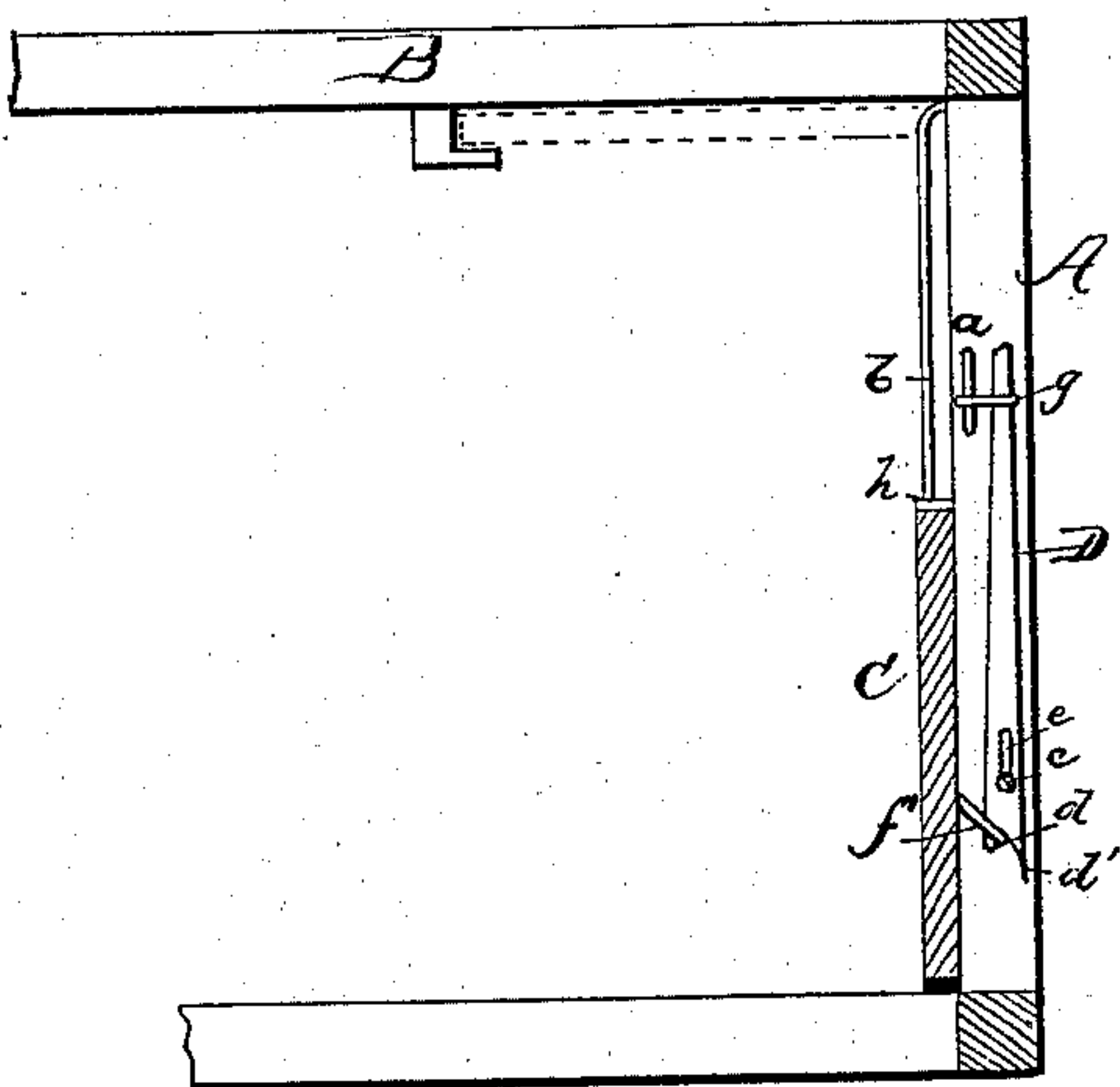


Fig. 4.

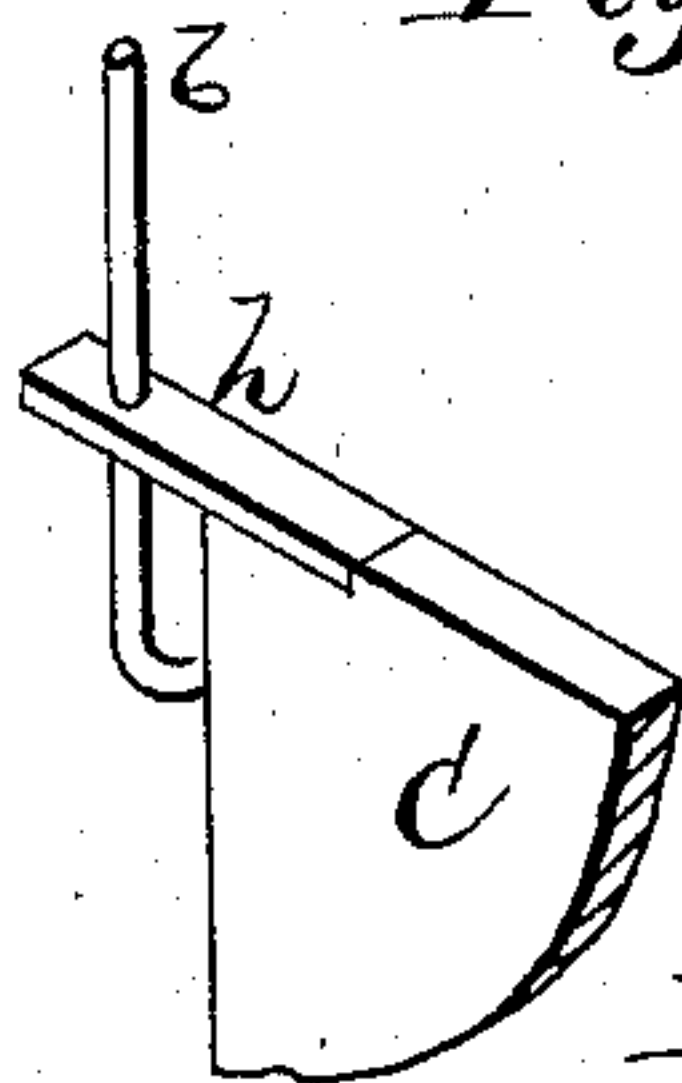
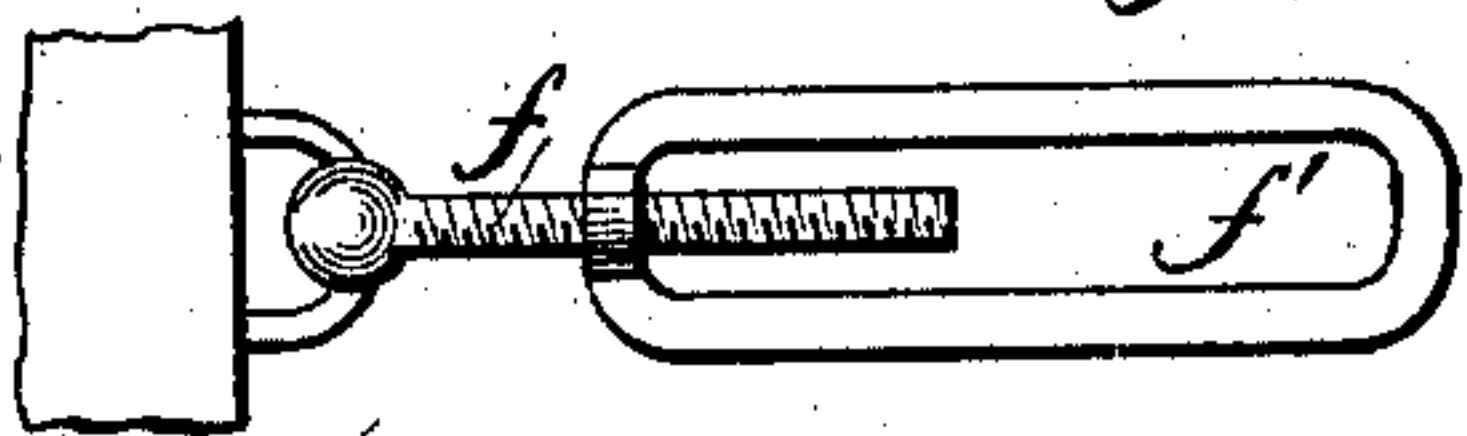


Fig. 5.

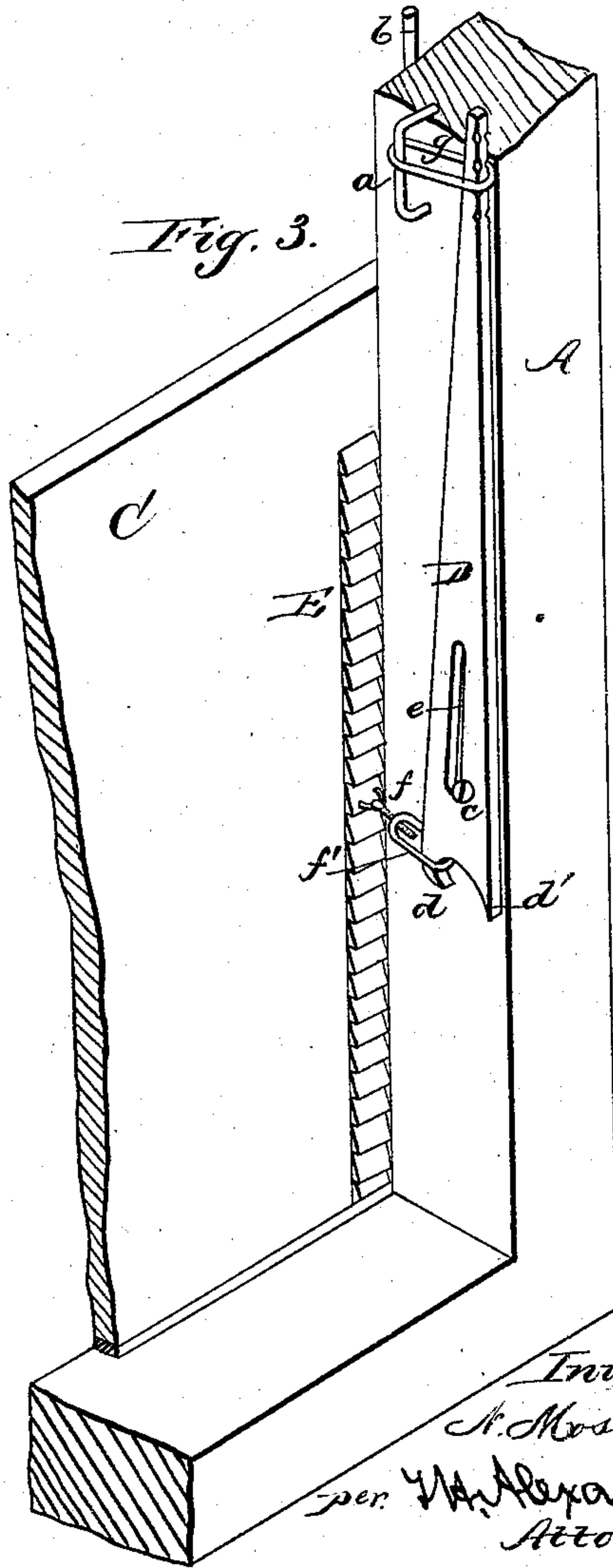


Witnesses:

W. C. McArthur.

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Fig. 3.



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# UNITED STATES PATENT OFFICE.

NOAH MOSER, OF LOOGOOTEE, INDIANA.

## GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 237,305, dated February 1, 1881.

Application filed December 11, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, NOAH MOSER, of Loogootee, in the county of Martin and State of Indiana, have invented certain new and useful Improvements in Grain-Car Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side view, Fig. 2 a central vertical section, and Figs. 3, 4, and 5 are detail views, of my invention.

The nature of my invention relates to doors for grain-cars; and it consists in such details of construction as will be hereinafter more fully described, and specifically pointed out in the claims.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation.

A represents the door-frame, and B the roof-frame, of a grain-car. The door-frame is provided with the usual auxiliary door C, which is packed around its edges with rubber, felt, or any suitable material to form a tight joint.

On the face of the door, at each side, parallel with the door-frame, is arranged a rack-bar, E, and pivoted to the adjacent frame are two bars, D D, whose lower ends are formed with a hook, *d*, and point *d'*, as shown in the drawings. The pivot *c* of these lever-bars passes through a slot, *e*, extending lengthwise of the bars, which are thus adapted to be drawn back so their lower ends will clear the door when being turned down, and then pushed forward to engage the point *d'* with the notched bar E and force the door upward, as will presently be explained.

To the bars E, or to the door near the frame, I secure a tension-loop, constructed preferably as follows: To the door I secure a screw, *f*, which passes through one end of a link, *f'*, as seen in Fig. 5. This link may be screwed on or off the screw *f*, to increase or diminish the pressure by which the door is held in place, as will be readily understood. The link *f'* is engaged with the hook *d* on the lower end of the lever-bar, and the outer end of the bar being lifted the door is drawn downward

and outward against the frame, securing it firmly in place.

To fasten the lever-bar when it has reached an upright position, I provide the door-frame with an elongated staple, *a*, upon which is a ring or link, *g*, which is passed over the end of the lever, and is prevented from slipping off by notches formed in the end of the lever-bar.

The inside of the door-frame A is provided with vertical guide-rods *b b*, extending to the roof of the car, and the top of the auxiliary door C is furnished with short projecting arms *h h*, having holes for the passage of the guide-rods *b b*. The door thus guided may be shoved upward until the projecting arms reach the upper ends of the guide-rods, when the bottom of the door may be swung inward and upward till it reaches the roof of the car, where it may be secured by a button or other fastening till needed.

When the door is in use it is secured by means of the tension-links and lever-bars, as already described.

When the car is full of grain the pressure on the door is so great that it is often difficult to raise it, and in that case, after the upper ends of the levers have been released, they are turned down and pushed inward till their points *d'* engage with the notched bars E, when the door may be prized upward as far as necessary, as will be seen by reference to the drawings.

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

1. The combination, with a sliding door, of a pivoted sliding lever adapted to elevate and lock the door, substantially as herein set forth.

2. The combination, with a sliding door provided with a rack-bar attached thereto, of a pivoted sliding lever, constructed at its lower end to engage with the rack-bar and raise the door, substantially as herein set forth.

3. The combination, with a sliding door, of a rack-bar attached thereto, an adjusting-link, and a pivoted lever adapted at its lower end to both engage with the rack-bar to raise the door and with the link to lock the door, substantially as described.

4. The slotted and pivoted lever D, formed with hook *d* and point *d'*, in combination with

screw  $f$ , link  $f'$ , and rack-bar E, all constructed and arranged to operate substantially as and for the purpose set forth.

5 5. The combination, in a grain-car, of a door,  
C, adapted to be raised and swung inward  
when not in use, with the pivoted and sliding  
lever D, screw  $f$ , link  $f'$ , and the fastening  
loop or link  $g$ , all combined and arranged to  
10 operate substantially as and for the purpose  
herein specified.

In testimony that I claim the foregoing as  
my own I affix my signature in presence of  
two witnesses.

NOAH MOSER.

Witnesses:

G. W. ALFORD,  
H. Q. HOUGHTON.