

(No Model.)

2 Sheets—Sheet 1.

D. D. MILES.
GRAIN CAR DOOR.

No. 463,637.

Patented Nov. 24, 1891.

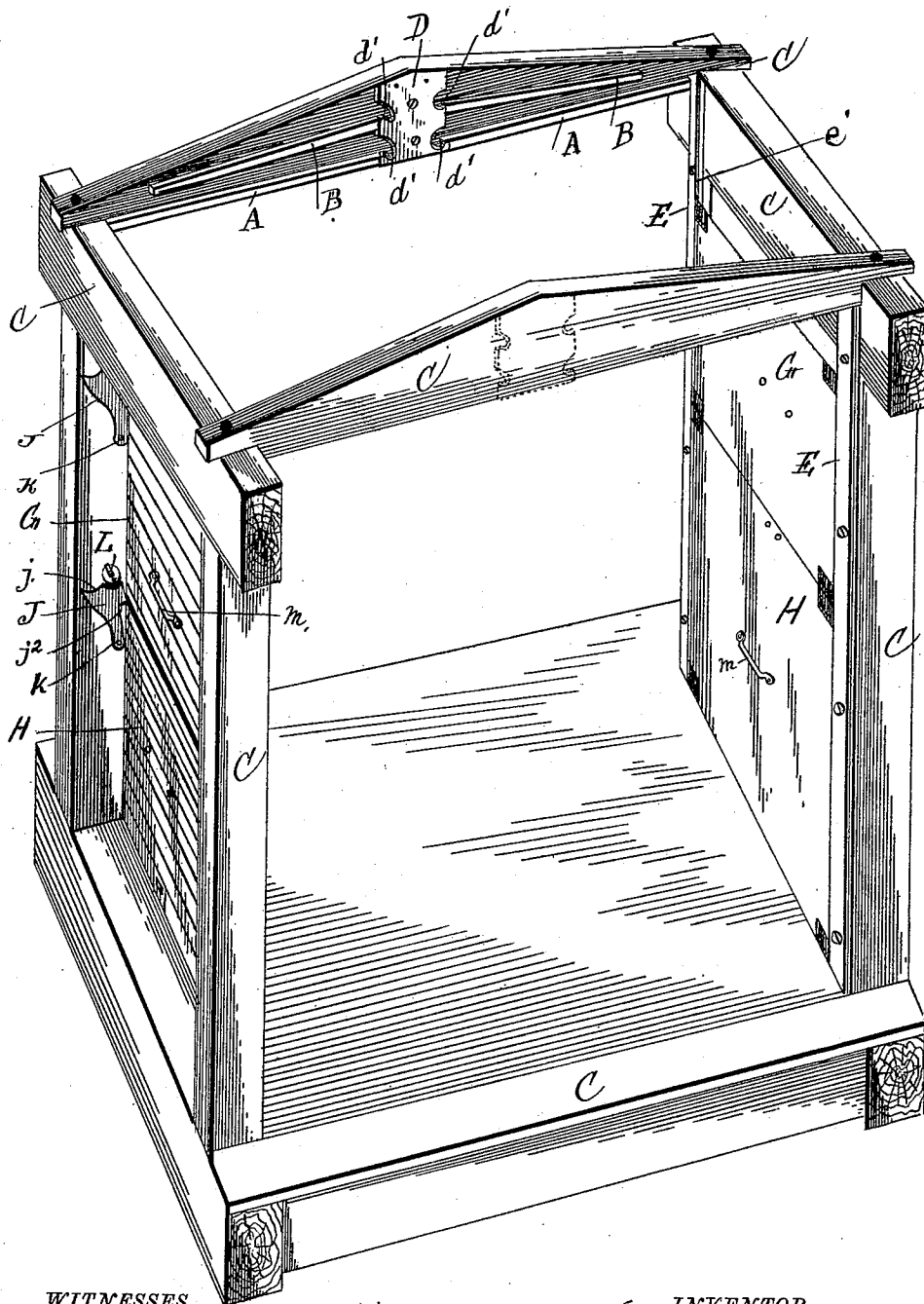


Fig. 1

WITNESSES

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INVENTOR

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Fig. 2.

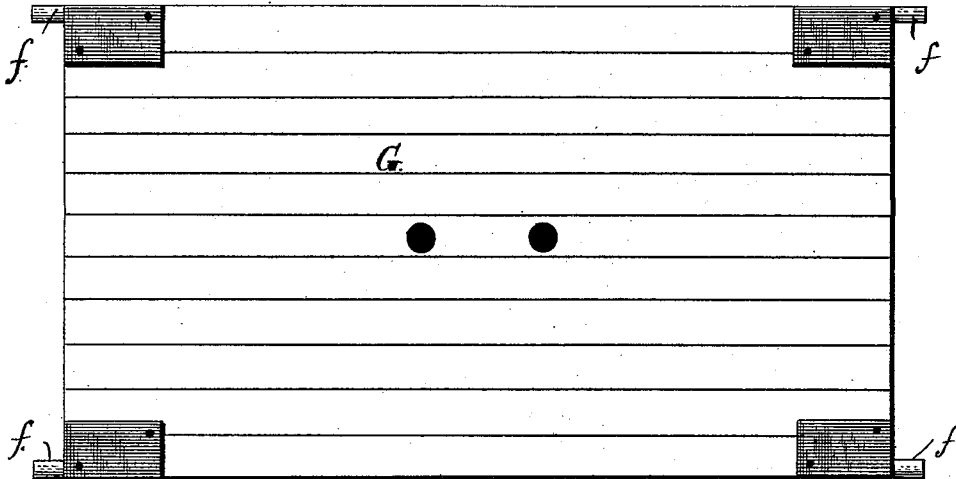


Fig. 4

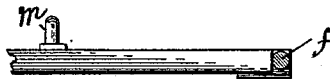


Fig. 5.

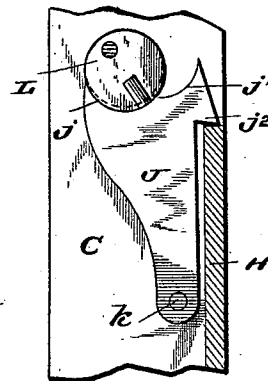
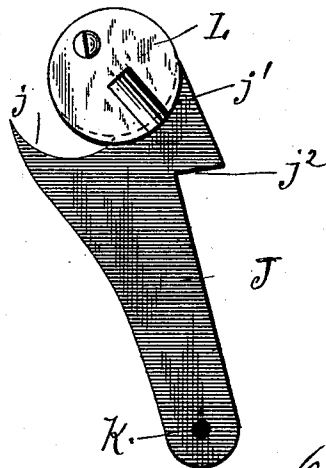


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

DON D. MILES, OF AURORA, ILLINOIS.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 463,637, dated November 24, 1891.

Application filed March 9, 1891. Serial No. 384,233. (No model.)

To all whom it may concern:

Be it known that I, DON D. MILES, of Aurora, in the county of Kane and State of Illinois, 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 of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention is an improvement on my patent, No. 272,455, granted February 20, 1883. In that patent I provided for raising two door-sections at either side of the car and supporting them in the car-roof, one above the other.

My present invention consists in new and improved devices for effecting this, and also in novel means serving the purposes of holding down the doors, of releasing them for raising, and preventing their rattling when down.

In the drawings, Figure 1 shows in perspective a portion of a car with my improvement therein; Fig. 2, one of the doors detached; Fig. 3, one of the eccentric-latch devices for holding the doors in certain positions; Fig. 4, a partial end view of one of the doors; and Fig. 5, a detail enlarged, showing the latch in a locking position.

A and B represent horizontal straight pieces or ledges, the upper one B shorter than the other and both secured to the frame C just beneath its roof, as shown. These pieces are placed parallel with each other and may be of wood or of metal and severally secured in any proper manner. No grooves are or need be cut in the frame, nor any alteration of the frame when using these pieces.

D represents metallic plates placed on the inside of the car-frame, as shown, near the roof and midway of the breadth of the car, having a special construction and serving not only as a stop to prevent each raised door from being pushed too far into the roof, but also serving to retain in their places such doors when raised. Each of these has two hooks or notches d' at each of its opposite sides, into which the upper pintles of the doors may drop when the doors are lodged in the ceiling.

E are vertical strips, preferably of metal, secured to the car-frame and having between them and the frame spaces e' , answering as grooves, and within which the pintles f of the doors G or H may freely run.

Outside the car and secured on the vertical part of its frame are special devices by means of which section-doors may be held down or released to raise them or held against rattling when not raised. These devices severally consist of a plate J, having two concave or arched recesses or spaces j j' made therein and a hook j'' at one side, and these plates are pivoted to be turned each on its center k . An eccentric or disk L, eccentrically pivoted, is placed above the plate in such position that when the plate is swung inward so as to project above the top edge of a door and the disk then turned to fit snugly in the outer one of the concave spaces the door will be locked against raising.

When the plate is swung outward and similarly held by the disk lodged then in its inner recess or space, it offers no impediment to the free raising or lowering of the door. It will also be observed that when the door is closed a proper turning of the eccentric will press the plate against the outside of the door and tend to prevent its rattling.

The advantages of my improvements are many. For instance, no guide-grooves, whether straight or curved, need be cut in the wood-work of a car; no depressions or curved parts are made in the top guide-grooves in which to rest the pintles; no cast-iron angle-plate serving both for the vertical and horizontal grooves is needed; the lodging of the top pintles of the raised doors in the notches d' is located centrally of the car, and the avoidance of any depression or notches at the entrance of the horizontal grooves facilitates the raising and lowering and insures a better holding when raised.

The doors may be readily raised by suitable handles m when not fastened down, or after releasing any fastening that may be used within the car, and each of the plates D is adapted for the pintles of any or all of the doors.

I claim—

1. In combination with a vertically-sliding car-door having end pintles, guideways con-

sisting of vertical strips, of horizontal pieces A B, and of center plates D, located at the inner ends of these pieces and provided with depressions or notches to engage the pintles, all
5 substantially as set forth.

2. In combination with vertically-sliding car-doors, each having end pintles, the central plates D, each made with notches at each side of its center, as set forth, and located
10 centrally under the roof, combined with lateral guide-strips at each side thereof and vertical strips at each side of the car, whereby the doors when raised to the roof may all be upheld by the lodgment of the pintles in the

respective notches of the same central plates, 15 substantially as set forth.

3. In combination with rising and falling car-doors, a pivoted latch-plate J, having two similar curved recesses, combined with an eccentric L, adapted to be lodged at will in 20 either of said recesses and positively to lock such latch-plate in either of its positions, the combination being and operating substantially as set forth.

DON D. MILES.

Witnesses:

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CHAS. SHILLING.