

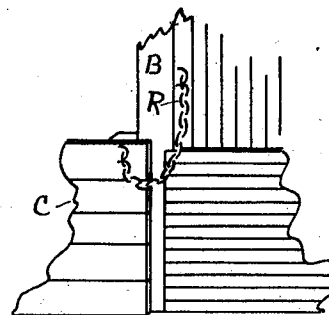
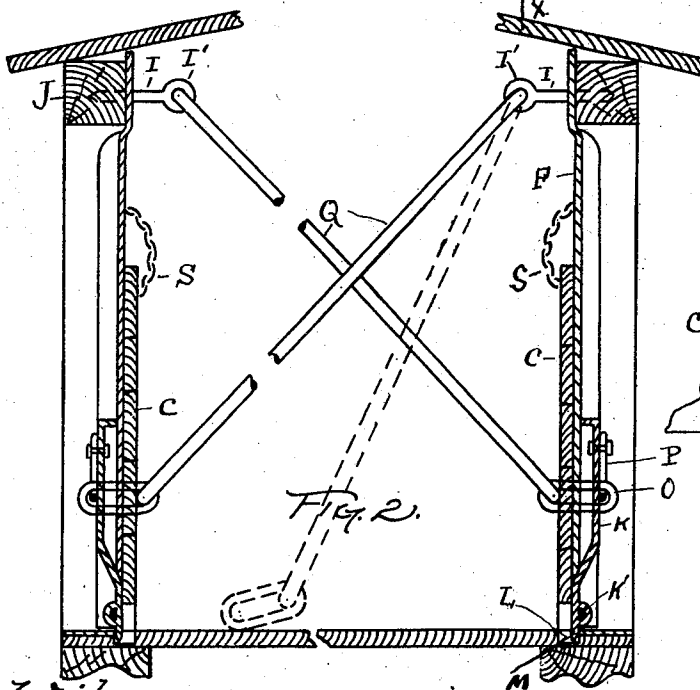
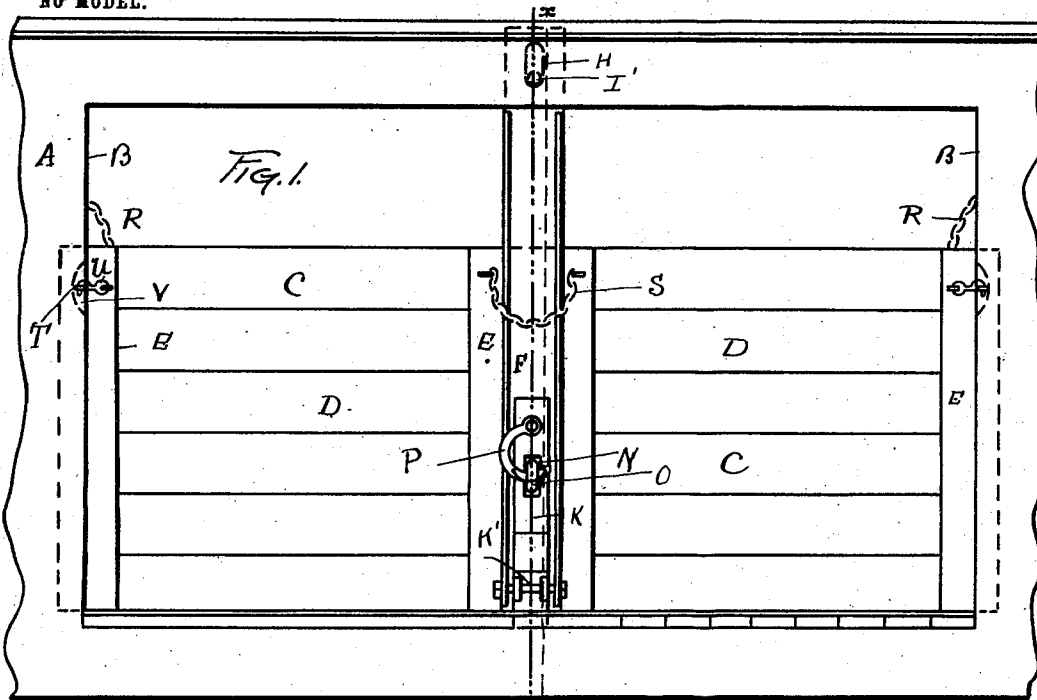
No. 753,811.

PATENTED MAR. 1, 1904.

J. G. SANBORN.
GRAIN CAR DOOR.

APPLICATION FILED MAY 11, 1903.

NO MODEL.



Witnesses:
Edward Reynolds
Marion Richards.

Inventor:
James B. Sanborn
by Clifford Verile Clifford
Attorneys

UNITED STATES PATENT OFFICE.

JAMES G. SANBORN, OF PORTLAND, MAINE, ASSIGNOR OF ONE-HALF TO
WILLIAM H. STEVENS, OF PORTLAND, MAINE.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 753,811, dated March 1, 1904.

Application filed May 11, 1903. Serial No. 156,507. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. SANBORN, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Grain-Car Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in two-part grain-car doors. Its object is to provide a two-part door consisting of two vertical sections which can be readily opened and closed. It relates particularly to the construction of the door and to the means for holding it in position.

In the drawings herewith accompanying and making a part of this application, Figure 1 is an elevation of a portion of the side of the car, my improved door and means of supporting the same being shown in position. Fig. 2 is a vertical transverse sectional view taken on line X X of Fig. 1, and Fig. 3 is a detail perspective view of a portion of the inside of the car and car-door.

In said drawings, A represents the side of a car, and B the door-posts at the sides of the door-opening. The door consists of two sections C. The sections may be made in any suitable manner, but are preferably made of boards D, arranged horizontally and bonded together by vertical cleats E, positioned a short distance from the ends thereof, for the purpose hereinafter described. It will be evident that when the door is made of two vertical sections it will be necessary to provide means for supporting the adjacent ends of the sections. I therefore provide a vertical detachable post F midway the door. The upper end of post F is provided with an elongated vertical slot H. A hanger having a long shank I and an enlarged head I' passes through said slot and into the body of the car, preferably into the plate J at the top of the car, whereby the post, being pivotally suspended upon said hanger, is capable of movement longitudinally of the car, or outwardly. For convenience and strength the post may be formed of channel-iron. The

lower extremity of the post may be secured to the floor of the car or to the door-sill in any convenient manner, provided only that it may be readily detached therefrom from the outside of the car.

In the drawings I have illustrated a convenient and efficient means for securing the lower extremity of the post. It consists of a locking-bar K, pivotally secured to the post by a pivot-pin K', passing through the sides of the post. The lower end of the locking-bar when the post is in position projects into a socket L in the floor of the car, as seen at M in Fig. 2. Above the pivot-point the locking-bar is provided with a slot N, adapted to give entrance to a staple O, secured to the post. The locking-bar is securely held in engagement with the post by a pivoted latch P, attached to the locking-bar and adapted to swing into engagement with the staple O. If it is found desirable to still further resist the outward pressure of the grain against the door, the staple may be made in the form of a link, with an eye on the inside and guy-rods Q secured thereto and to the opposite side of the car—as, for example, to the enlarged head I' of the hanger, as seen in Fig. 2. The doors when the detachable post is released are forced outwardly until the opposite ends clear the door-post, falling outwardly a distance limited by the length of the supporting-chain R, secured to the doors and to the door-posts, and also by the chain S, secured to the adjacent ends of the doors. To temporarily hold the doors before the car is filled, I secure to the door-post eyes T and to the doors locking-latches U, and to avoid the eyes projecting into the door-space the eyes T are positioned in recesses V in the door-posts.

The operation of my improved grain-doors will be readily understood from the drawings and the above description. To open the door, it is only necessary to release the locking-latch P. The pressure of the grain against the door forces the detachable post outwardly, the post pivoting on the hanger above by reason of the elongated slot in the post sufficiently to allow the doors to drop down sufficiently at the adjacent end to permit the opposite ends to clear

the door-posts. When the guy-rods are used to brace the door, the link is entirely withdrawn, as shown in dotted lines, Fig. 2.

The advantages of my improved door are
 5 that it can be made in two vertical sections, thus diminishing the weight thereof. The door is entirely removed. It does not have to be moved against the resistance of the grain. It can be operated both to lock and unlock from
 10 the outside, and the sections can be readily placed in position and secured therein. The door is held from endwise displacement by the cleats engaging the side of the car or the post, as the case may be.

15 Having thus described my invention and its use, I claim—

1. The combination with a car having a door-opening therein, a post having one end secured to the top of the car with a universal joint and
 20 means for detachably securing the lower end of the post to the bottom of the car, of a door comprising two vertical sections, each section adapted to engage one side of the car and said post.

25 2. The combination with a car having a door-opening therein, a recess in the bottom of the car at or near the center of said opening, a post vertically and centrally positioned in said opening, the upper end of said post being piv-
 30 otally secured to the top of the car, of a locking-bar pivoted to the lower extremity of said post, the lower end of said locking-bar adapted to enter a recess in the bottom of the car and

the upper end adapted to be secured to the post and means for securing the locking-bar to the
 35 post.

3. The combination with a car having a door-opening therein, and a recess in the floor of the car midway said door-opening, of a post ver-
 40 tically and centrally positioned in said opening, a locking-bar pivotally secured to the lower extremity of said post, a link-staple passing through said locking-bar and post, slots in said bar and post adapted to receive said staple, a pivoted latch secured to the outside of the
 45 locking-bar adapted to engage the outer end of said staple and a guy-wire having one end adapted to engage the inner edge of said staple and the other end pivotally secured to the op-
 50 posite side of the car.

4. The combination with a car having a door-opening therein, a post vertically positioned in said opening and means for detachably secur-
 55 ing said post in position, of a door comprising two vertical sections, each section having one end adapted to engage the side of the car and the other end adapted to engage said post, a chain loosely uniting one end of the door-sections to the car and a chain loosely uniting the
 60 adjacent ends of the sections.

In testimony whereof I hereunto set my hand this 8th day of May, 1903.

JAMES G. SANBORN.

In presence of—

ELGIN C. DERRILL,
 MARION RICHARDS.