

G., C. E. & A. E. PAGET.
GRAIN CAR DOOR.
APPLICATION FILED NOV. 2, 1909.

1,002,436.

Patented Sept. 5, 1911.

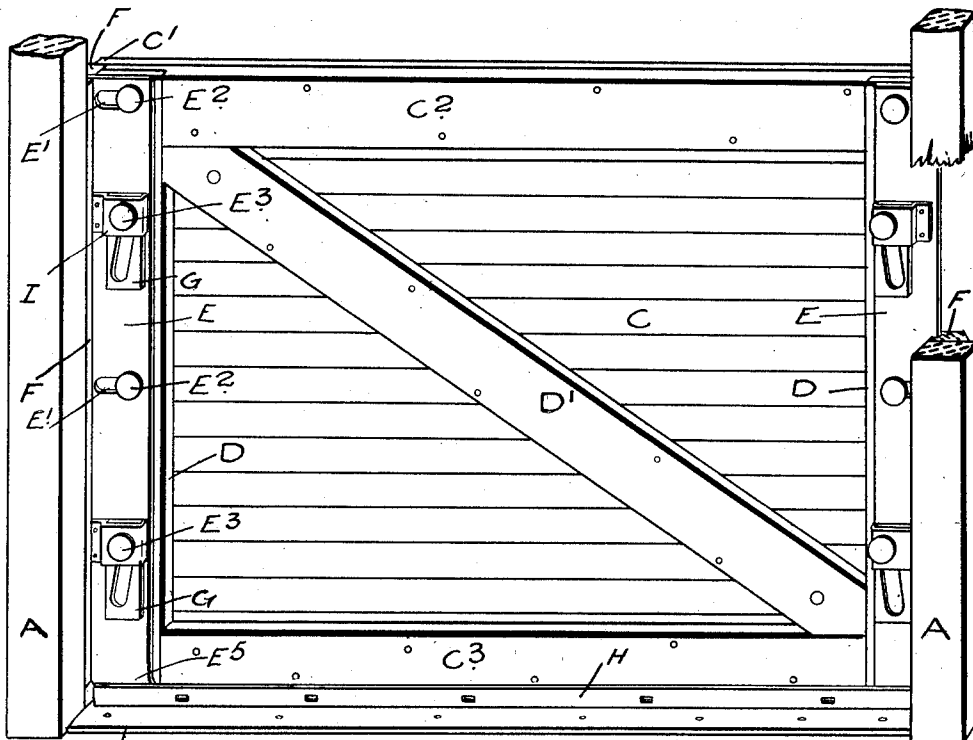


FIG. 1.

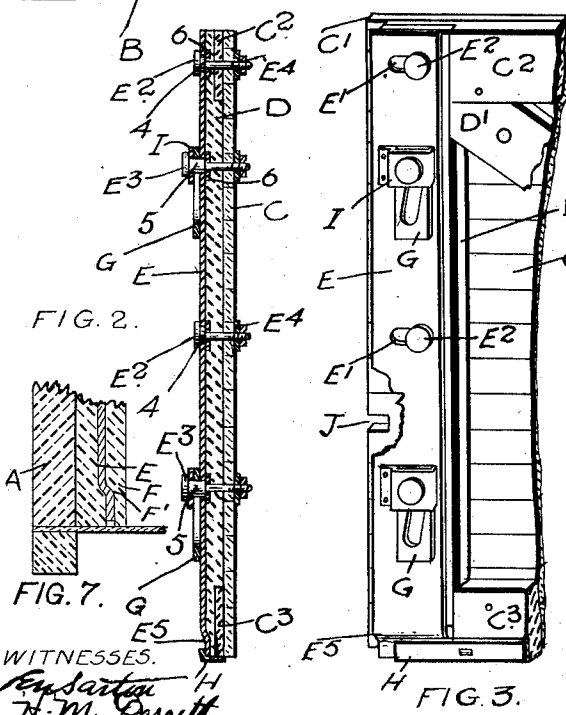


FIG. 2.

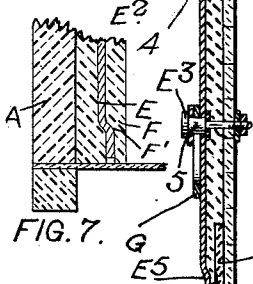


FIG. 3.

WITNESSES.
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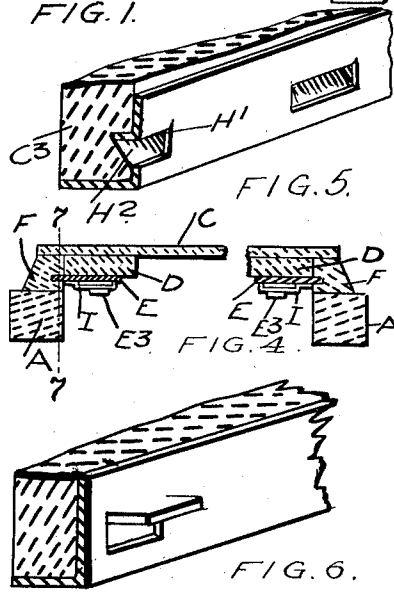


FIG. 4.

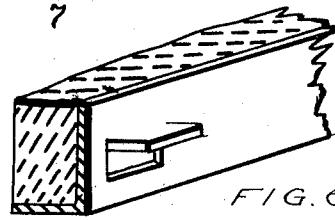


FIG. 5.

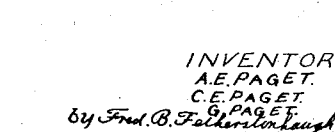


FIG. 6.

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GRAIN-CAR DOOR.

1,002,436.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, GEORGE PAGET, CHARLES EDWARD PAGET, and ARTHUR EDWARD PAGET, all of the town of Huntsville, in the district of Muskoka, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is the specification.

Our invention relates to improvements in grain car doors, and the object of the invention is—first—to devise a means for fastening the door in position at the sides, which will insure of no crevices being formed between the sides of the doors and the jambs due to the racking or jolting of the car—secondly—to provide an improved means of holding the door in position without interfering with the ordinary jamb—thirdly—to provide a simple means for locking the door from rising until it is released at the sides of the jambs—fourthly—to devise a simple means at the bottom of the door for raising the door as soon as it has been released at the sides—fifthly—to improve the operating mechanism for securing and releasing the sides of the door in relation to the jambs and—sixthly—to devise an improved means of conveniently handling the door. To effect these objects we have constructed our door and the jambs thereof in the manner, which we shall presently describe.

Figure 1, is a perspective view of portion of a door showing the jambs and supplemental jambs with which it co-acts, so as to close the door opening. Fig. 2, is a vertical section through the fastening devices at the sides of the door. Fig. 3, is a view of portion of the side of the door showing it broken away. Fig. 4, is a sectional plan intermediately broken away. Fig. 5, is a perspective detail showing portion of the bottom bar of the door provided with a means for raising it. Fig. 6, is an alternative form of Fig. 5. Fig. 7 is a section on line 7—7 of Fig. 4.

In the drawings like letters of reference indicate corresponding parts in each figure.

A A are the door jambs and B the sill. C are the longitudinal boards of the grain door.

D D are the end vertical battens, which are placed within the ends of the longitudinal boards C so as to leave projecting

edges C¹ of the boards, which fit at the inside to the inside of the door jamb.

C² and C³ are the longitudinal upper and lower battens and D¹ is the diagonal batten.

F are vertically grooved supplemental members secured to the door jamb on the inside thereof. The groove has a curved portion F¹ at the lower end as shown in Fig. 7.

E are the securing bars, which are provided with slots E¹ through which the bolts E² and E³ project. The slots E¹ allow of lateral movement. The heads of the bolts E² are on the outside of the door and the fastening nuts E⁴ on the inside. There are four bolts shown. The bolts E² and E³ are provided with enlarged portions forming shoulders 4 and 5. The portions 5 being deeper than the portions 4 so as to extend through the plates G and bars E.

6 are washers which encircle the bolts E² and E³ and are located in recesses formed in the battens D.

By means of the portions 4 and 5 and the washers 6 the heads of the bolts E³ are prevented from binding the plates G and bars E and also a good bearing surface is provided by the washers for the bars E to slide upon.

G are plates provided with diagonal slots through which the bottom bolts E³ and also the bolt next to the top bolt extends.

The bottom of the bar E is bent at E⁵ as indicated for the purpose of allowing the bottom end of the bar E to slide inside of the bar H.

H is an angle bar secured as shown in Figs. 2 and 3 to the bottom of the door. In the front face of the bar H rectangular slots are punched. The punchings H¹ thereof are turned backwardly into a recess H² formed in the bottom batten C³ of the door. In Fig. 6 we show an alternative construction of this bar in which the punching of this slot is turned outwardly instead of inwardly into a recess.

I are reinforcing plates riveted on the securing bars E and extending upwardly over the plates G and through which the bolts E³ extend. The outer ends of the plates E abut against the vertically grooved members F, and the offsets E⁵ engaging with the curved portions F¹ of the grooves in members F prevent the door being raised until the securing bars have been withdrawn

from the vertical grooves of the members F. This plate also forms an extra bearing for the bolts E³ thereby taking any strain off the bolts.

5 J are notches formed in a projecting portion C¹ of the door. These notches are formed at each end of the door and form handles whereby the carman may grasp the door and carry it to any place of deposit
10 required.

Having described the principal parts involved in our invention we shall briefly describe the operation and utility of the same.

15 The grain door is placed in position from the inside with the edge of the batten D against the inner side or edge of the groove member F. The plates G are then moved downwardly and thereby throw the bars E
20 outwardly into the grooves of the members F that is, in a position shown in Fig. 1 of the drawing. It will thus be seen that the door is securely held in position and the grain
25 may be poured into the car and all the effect will be to hold the projecting edges C¹ of the door tight against the members F which practically form part of the door jamb thereby serving to aid in making the
30 door grain tight. The securing bar E enters the vertical groove of the member F also further aiding to make the door grain tight. The offset E⁵ on the plates E fitting in curved portion F¹ of the groove in the
35 member F serve to prevent the door rising from the sill when it is in its closed position.

In order to remove the door when the car

is filled with grain all it is necessary to do is to push the plates G upwardly so as to carry the securing plate E out of the groove 40 of the member F and plate I away from such members and then insert an ordinary lever into the holes formed in the bar H and pry the door upwardly thereby allowing the grain to discharge underneath the 45 bottom of the door into a suitable receptacle. When a larger quantity of grain has been discharged the door will fall back of itself on to the heap of grain remaining and will be entirely free. 50

Such a grain door as we have described will insure of no crevices being formed between the edges of the door and the jambs owing to the racking movement of the car and allowing the grain to leak therethrough. 55 Also a door such as we have described may be easily and quickly locked in place or removed when desired.

What we claim as our invention is:

In a grain car door, the combination with 60 the door, of a vertical grooved member located in the door way at each end of the door having offsets formed in the groove and tongue members secured on the face of the door and slidable longitudinally of the 65 door into the groove of the grooved members and having offsets fitting the offsets of the groove, as and for the purpose specified.

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