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GRAIN CAR DOOR.

APPLICATION FILED JULY 2, 1910.

984,102.

Patented Feb. 14, 1911.

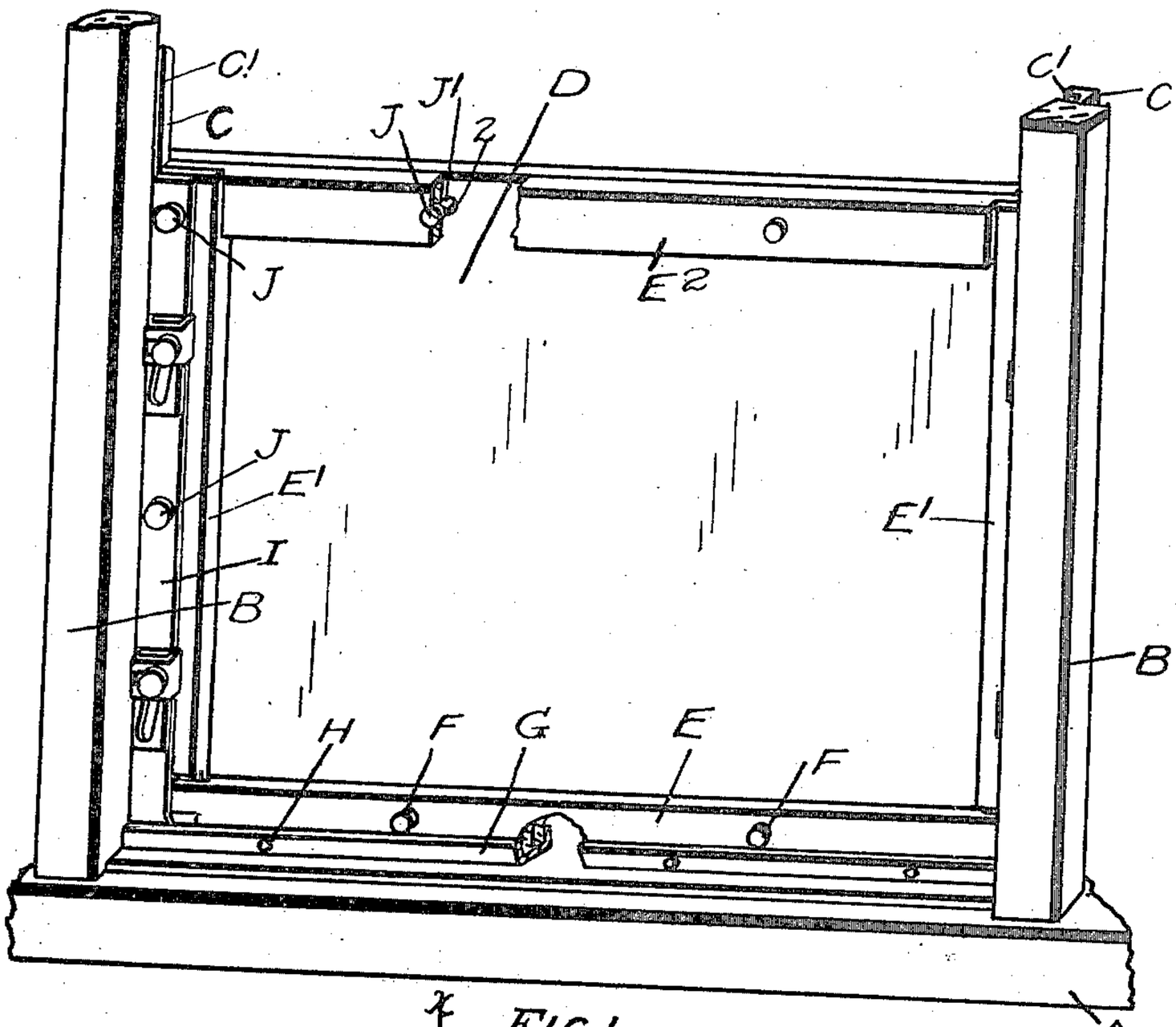

FIG. 1.

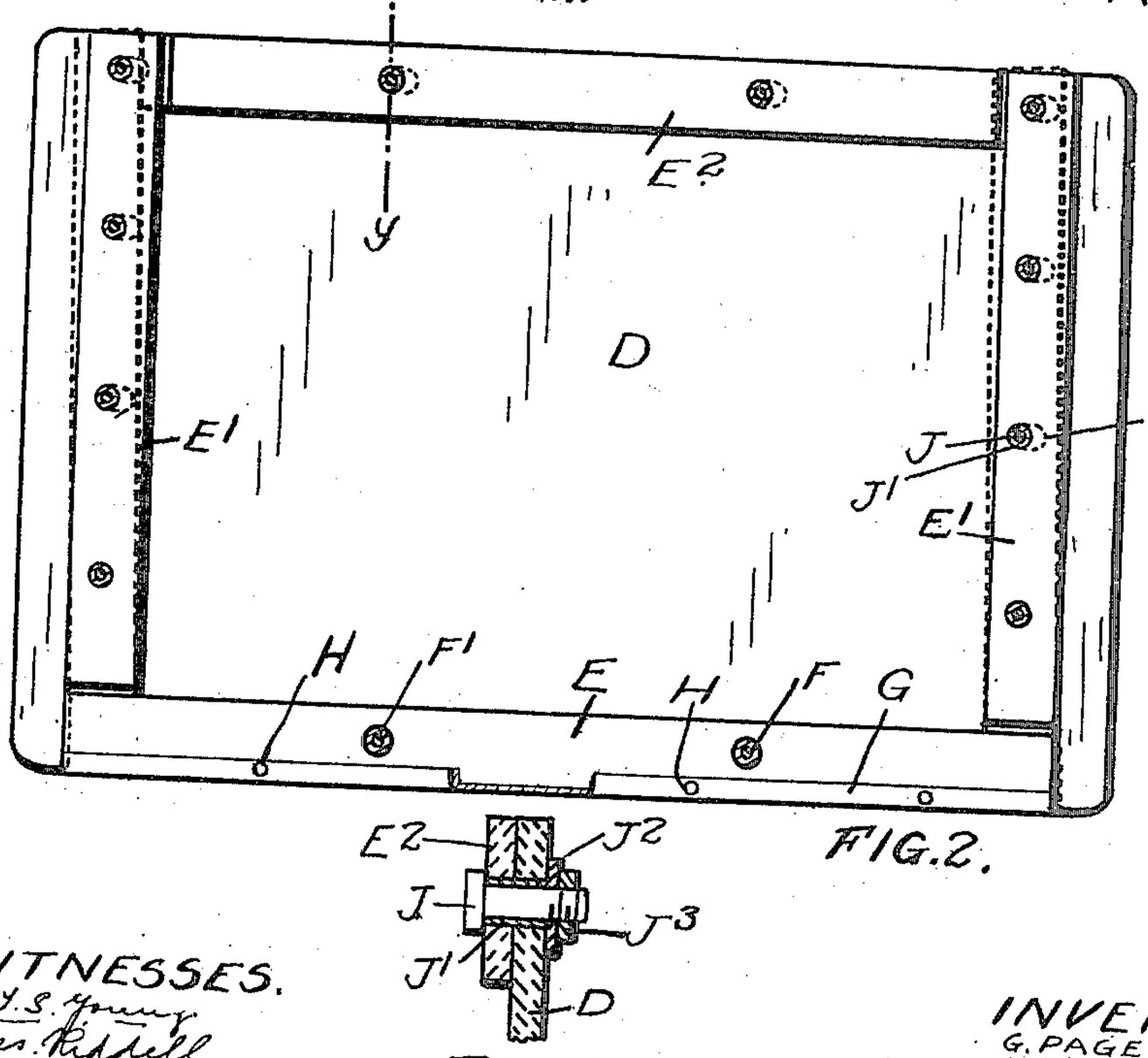

FIG. 2.

FIG. 3.

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GRAIN-CAR DOOR.

984,102. Specification of Letters Patent. Patented Feb. 14, 1911.

Application filed July 2, 1910. Serial No. 570,042.

To all whom it may concern:

Be it known that we, GEORGE PAGET, ARTHUR EDWARD PAGET, and CHARLES 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 patented to us in the United States of America on the 22nd February, 1910, under No. 950025 and in the Dominion of Canada on the 29th June, 1909, under No. 119196, and the object of the present invention is to devise a door in which the panel is made in one piece, and yet the racking of the door and consequently the door posts will not warp or break or otherwise deleteriously affect the shape of the panel.

Our invention consists of a panel made preferably of wood fiber in one piece of the full size of the door and provided with horizontal slots near its edges, a substantially rectangular frame located preferably on the outer face of the panel and fastened thereto by bolts extending through the bars of the frame and horizontal slots in the panel, the said bars of the frame being provided with expansible and contractible bars constructed and operating substantially as described in our former patents above referred to.

Figure 1, is a perspective view of portion of the door frame of a grain car door. Fig. 2, is a view of the door showing the side frame rack in dotted lines. Fig. 3, is an enlarged sectional detail on the line *x—y* Fig. 2.

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

A is the sill of the door. B B the side posts of the door opening, and C C the back bars having the grooves C′.

D is the panel of the door, which is of the full size of the door, such door being wider than the distance between the door posts. The panel D is made of wood fiber being cast, molded or formed up in one piece.

E is the bottom bar of the frame, E′ the side bars and E² the top bar. The bars E E′ and E² are superimposed upon the outside of the outside face of the panel D. The bottom bar E is secured to the face of the panel by bolts F.

G is a channel bar, which extends from end to end of the bottom bar being suitably secured to the bottom edge of the panel and bar E by bolts H. The channel bar G serves to reinforce, strengthen and stiffen the bottom of the door.

The side bars E′ are provided with the vertical plates I, which are designed to be brought into the grooves C′ to hold the door in place and to be withdrawn from the same in order to remove the door. We show the means by which these plates are moved laterally but we do not here describe it as it forms the subject matter of the previous patents above referred to.

The side bars E′ are provided with a series of bolts J located at desired distances apart. The bottom bolt J extends through the bottom ends of the side bars E′ being provided with a suitable nut on the inside. The upper bolts which extend through the bar E′ extend also through a sleeve J′ and through horizontal slots 2 in the panel D. The inner ends of the bolts are provided with washers J² and nuts J³ (see Fig. 3). The sleeves J′ prevent the bolts from binding as they move in the slots. The horizontal slots are also provided in the top bar E², the bolts sleeves and washers being precisely the same.

The side bars of the frame where they connect with the top and bottom bars are cut away to fit into the corresponding cut-away portions in the bars to which they are connected, so that the outer faces of all the bars are flush with each other.

It will now be understood that if the car racks, the side bars E′ can assume the dotted position shown in Fig. 2 without any strain on the panel of the door as the bolts will just move laterally in the slots both in the side bars and top bar. It will thus be seen that we have obviated any liability of the panel being deleteriously affected through the racking of the side posts of the door opening.

What we claim as our invention is—

1. A grain car door comprising a frame, a panel connected thereto and having move-

ment in relation thereto, whereby the frame may rack independently of the panel as and for the purpose specified.

2. A grain car door comprising a panel, a frame having a slotted connection to the panel, whereby the frame may rack independently of the panel and attaching means on the frame for securing the same in the door opening as and for the purpose specified.

3. In a grain car door, the combination with a frame comprising a reinforcing bottom bar and side bars and top bar and a panel secured to the frame and having movement in relation to the top bars thereof whereby the frame may rock without injuring the panel.

4. In a grain car door, the combination with the panel having laterally extending slots near the vertical and top edges, of the side bars and top bar suitably connected together at the corners and bolts extending through them and the slots in the panel so that the panel may have movement in respect to the bars as and for the purpose specified.

5. In a grain car door, the combination with the panel having laterally extending slots near the vertical and top edges, of the side bars and top bar suitably connected together at the corners and bolts extending through them and the slots in the panel, sleeves on the bolts of the combined thickness of the panel and bar to provide for the easy racking of the frame and the washers and nuts on the bolts as and for the purpose specified.

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