

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

950,025.

Patented Feb. 22, 1910.

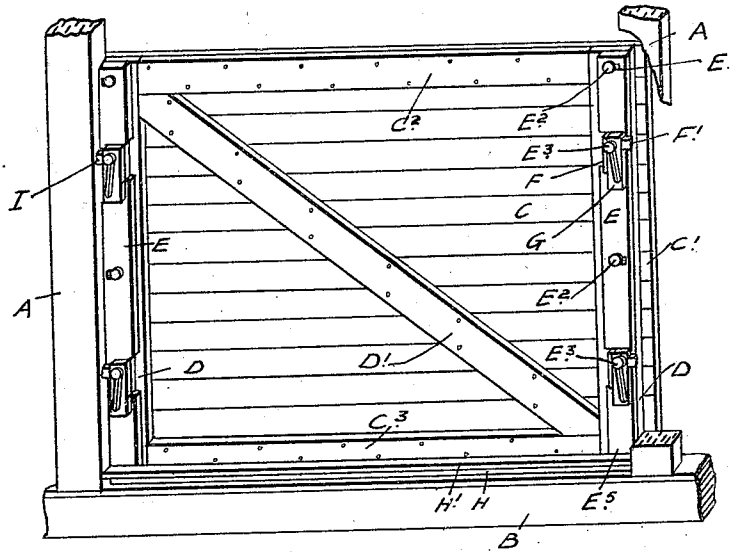


FIG. 1.

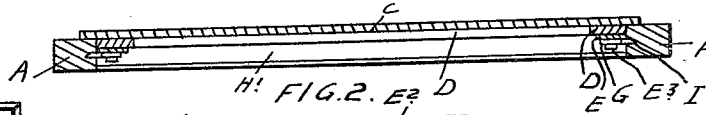


FIG. 2.

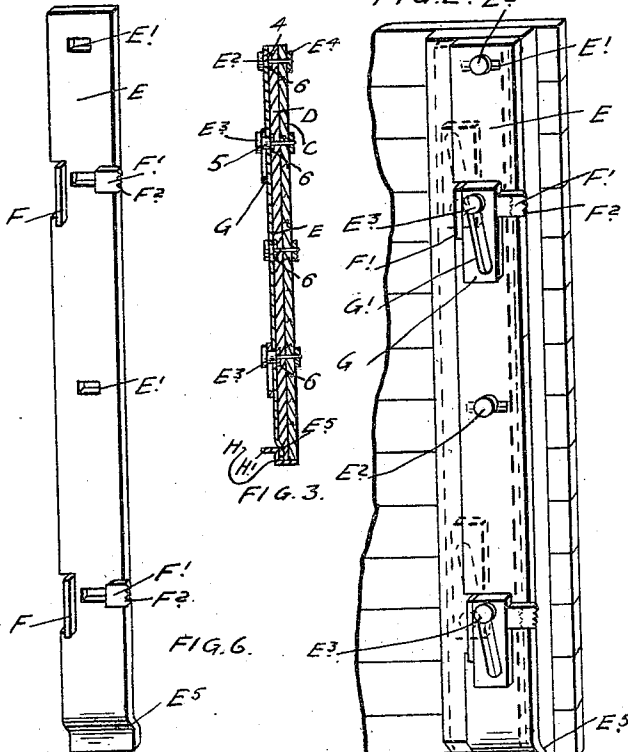


FIG. 3.

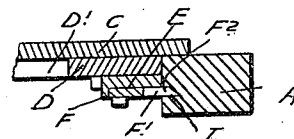


FIG. 5.

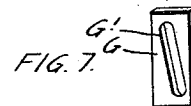


FIG. 7.

WITNESSES:

J. E. Craig
D. E. Craig

INVENTORS,
G. PAGET,
C. E. PAGET,
A. E. PAGET,

By *Litherton Haugh* 860
attys

UNITED STATES PATENT OFFICE.

GEORGE PAGET, CHARLES EDWARD PAGET, AND ARTHUR EDWARD PAGET, OF
HUNTSVILLE, ONTARIO, CANADA.

GRAIN-CAR DOOR.

950,025.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed January 2, 1909. Serial No. 470,383.

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 to devise a cheaply made door of this class, which will be absolutely grain tight and which may be secured to the door jambs or posts without the use of nails and which may be placed and secured in position practically instantaneously.

A further object is to so construct the door that it may be readily released and raised, so as to permit the discharge of the grain beneath the bottom of the door.

A still further object is to save time in the discharge of the grain.

A yet further object is to preserve the jamb and door from injury.

Our grain car door consists of longitudinal boards arranged horizontally one above the other edge to edge and a length wider than the width between the door jamb, vertical battens extending within the ends of the longitudinal boards and of a width between the outer edges corresponding substantially to the width between the door jambs against which the edges are designed to fit longitudinally, gripping bars supported on the battens and provided with devices for moving them laterally, so as to engage the door jambs, a Z-bar extending underneath the bottom batten of the door, whereby a longitudinal projecting edge is provided above the bottom of the door for the insertion of a raising lever, the parts being otherwise constructed and arranged in detail as hereinafter more particularly explained.

Figure 1, is a perspective view showing a portion of a car and our grain car door, one of the jambs being broken away. Fig. 2, is a sectional plan. Fig. 3, is a vertical section. Fig. 4, is an enlarged perspective detail of one end of the door. Fig. 5, is an edge sectional plan of one end of the door and jamb. Fig. 6, is an enlarged perspective detail of one of the securing bars. Fig. 7 is an en-

larged perspective detail of one of the slot-
ted plates.

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 extend within the ends of the longitudinal boards C so as to leave a projecting edge C' of the boards, which fits at the inside against the inside of the door jamb. The outer end of each batten D fits within the door jamb, so that the corner formed by the edge of the batten and the projecting edge of the door fits or engages the adjacent corner of the door jamb.

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

E are the securing bars, which are provided with slots E' through which project the bolts E² and E³. The slots E' allow of lateral movement and 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 head 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.

F are ribs or projections extending outwardly from the bar E and preferably formed up from the bar and F' are tongues which are attached to or form part of the bar E and are provided with outer teeth F².

G is a plate provided with a diagonal slot G', through which the bottom bolt E³ and also the bolt next to the top bolt extends. There are preferably two plates G provided co-acting with the bolts E³ and ribs F and tongues F'.

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 the bar H. The latter protects and holds the former in place.

H is a Z-bar, which is secured as indicated in Fig. 3 to the bottom of the door, a flange H' projecting outwardly as indicated.

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

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 door jambs. The plates G are then moved downwardly and thereby throw the bars E with the gripping tongues F' into the notches I in the sides of the door jamb see Fig. 2. It will thus be seen that the door is securely held in position and the grain may be poured into the car and all the effect will be to hold the projecting edges C' of the door tight against the jambs, and thereby serve to aid in making the grain door tight. The teeth F² of the tongues F' being also inclined inwardly toward the door serve to draw the door up against the jamb as the tongues F' are forced into the recesses and the teeth into the wood at the base of the recesses and thereby form an auxiliary means of forming the above function, so that the door is rendered absolutely grain tight. 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 release the gripping tongues F' and then get any ordinary form of lever and insert it under the flange H' of the Z-bar H when the door may be raised sufficiently, so as to provide for the discharge of the grain from underneath the bottom of the door into any suitable receptacle. When a large 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. Of course, the height that the bottom of the door may be raised above the sill is as may be thought most convenient to the rapid discharge of the grain. The pressure of the grain, of course, temporarily holds the door in the vertical position until such pressure is removed by the subsidence of the grain.

Such a grain door as we have described is very simple, there is nothing to get out of

order and there need be no injury to the door jambs or the door by its use.

What we claim as our invention is:

1. A grain car door comprising longitudinal boards and vertical battens located at the outside at such a distance from the end as to leave a projecting edge at each end of the door, which with the batten is designed to engage the inner corner of the door jamb, and a bar extending along the bottom of the door and having an outwardly projecting edge flange located above the level of the bottom of the door as and for the purpose specified.

2. In a grain car door, a bar fastened to the outer face of the door and extending along near the bottom thereof and provided with an outwardly projecting flange located above the level of the bottom of the door as and for the purpose specified.

3. In a grain car door, a Z-bar extending along the bottom of the door and having one leg or flange of the Z extending underneath the bottom edge of the door, the intermediate portion extending vertically on the face of the door and the other leg or flange extending outwardly from the top of the intermediate portion and above the level of the bottom of the door as and for the purpose specified.

4. A grain car door comprising longitudinal boards and vertical battens located at a slight distance from the ends of the door, so as to leave a projecting edge, a laterally movable bar secured to each batten, laterally extending tongues carried by the said bars and adapted to fit in notches in the inner edge of the jamb, said bars having ribs thereon opposite the tongues, and plates having inclined slots therein located between the ribs and tongues, and bolts passing through said slots and securing the plates to the door.

GEORGE PAGET.

CHARLES EDWARD PAGET.

ARTHUR EDWARD PAGET.

Witnesses:

F. DALLAS,

PERCY PAGET.