No. 755,443. PATENTED MAR. 22, 1904.

D. G. BRINSER.

CAR DOOR.

APPLICATION FILED JULY 29, 1903.

NO MODEL.

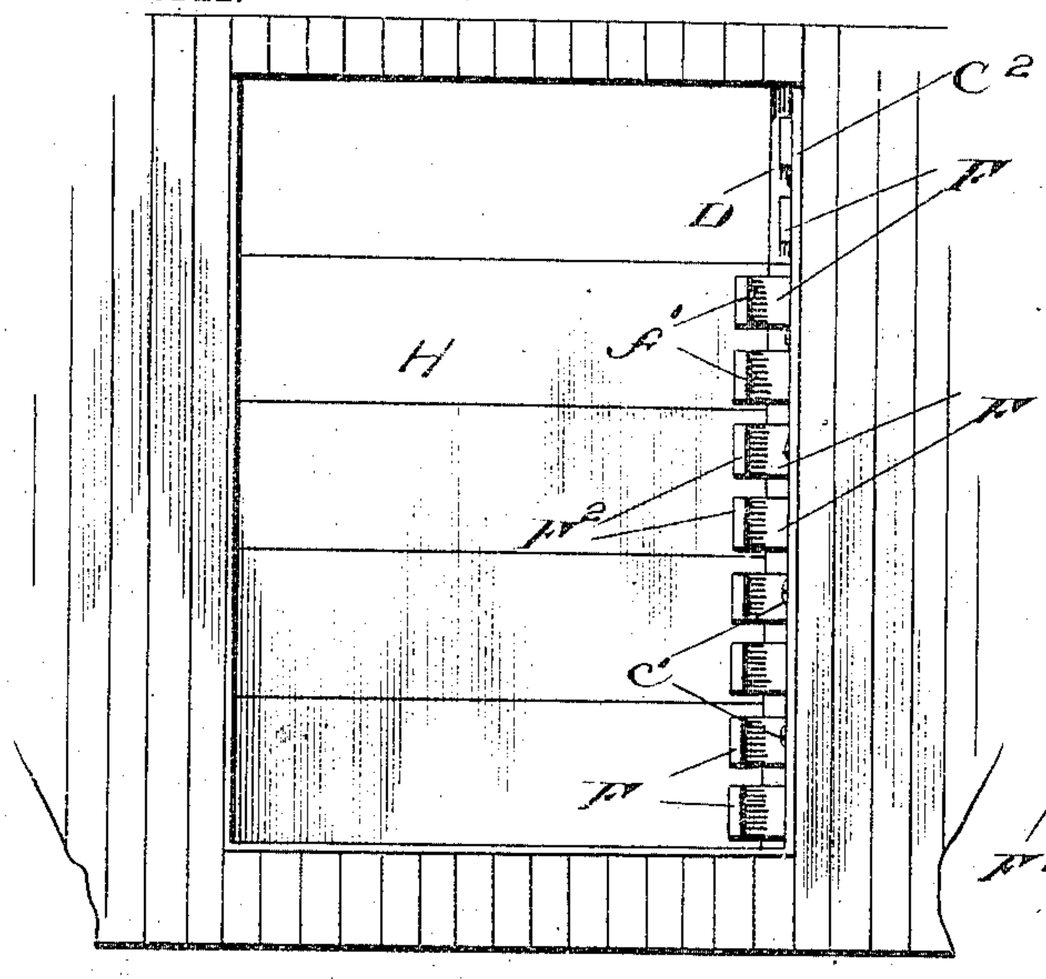


Fig. 1.

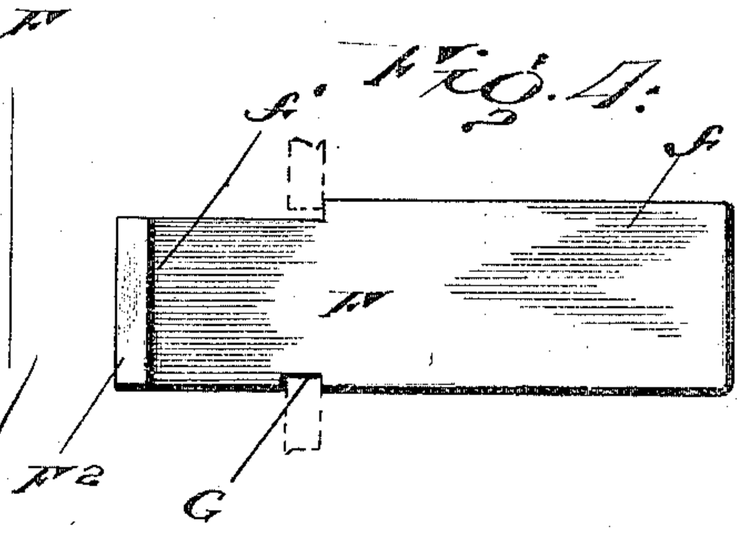


Fig. 4.

Fig. 2.

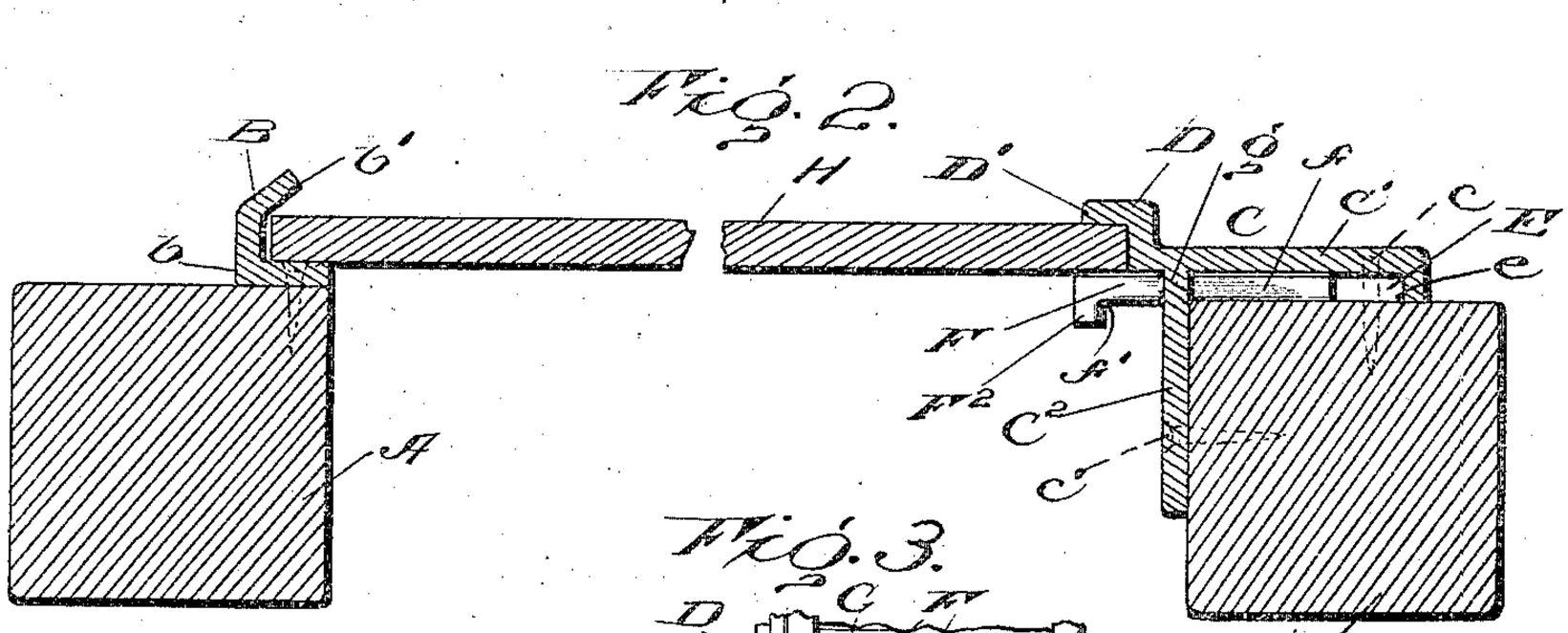
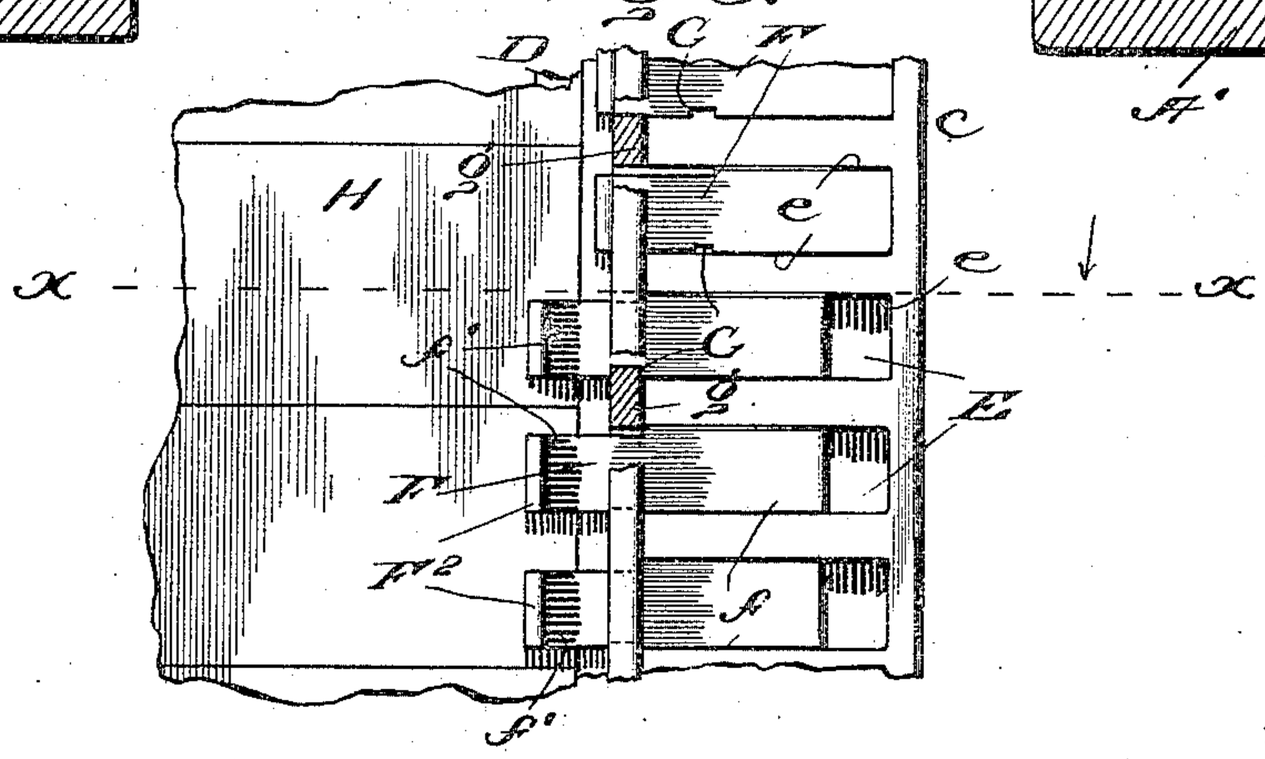


Fig. 3.



Witnesses

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No. 755,443. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

DANIEL G. BRINSER, OF ELIZABETHTOWN, PENNSYLVANIA.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 755,443, dated March 22, 1904.

Application filed July 29, 1903. Serial No. 167,457. (No model.)

To all whom it may concern:

Be it known that I, DANIEL G. BRINSER, a citizen of the United States, residing at Elizabethtown, in the county of Lancaster and State of Pennsylvania, have invented new and useful Improvements in Car-Doors, of which the following is a specification.

My invention relates to improvements in car-doors, and pertains more particularly to that class known as "grain-car" doors.

The object of my invention is to provide a grain-car door which is more readily opened when the car is loaded with grain and there is a great pressure of the grain against the door.

Another object of my invention is to provide a door of this character in which the grain can be unloaded from the car from top or bottom of the door and one in which the unloading is readily regulated.

A still further object of my invention is to provide a more simple, cheap, and effective car-door than has heretofore been produced.

In the accompanying drawings, Figure 1 is a side view of a section of a car, showing my improved door applied thereto and showing the top board removed for unloading the grain from the car. Fig. 2 is a transverse horizontal sectional view of Fig. 1. Fig. 3 is an enlarged vertical sectional view showing the sliding bolts and their supporting member. Fig. 4 is a plan view of my improved sliding bolt.

Referring now to the drawings, A and A′ represent the post or framework around the car-door, and which, as shown, consists of enlarged square members giving the necessary strength. The post A has secured thereto on the inside of the car, by means of bolts or screws, a channel-iron B, which has its wall *b* resting against and secured to the post A, and the opposite wall *b*′ is slightly bent or flared outward, the purpose of which will be hereinafter more fully described, the distance or width of the inner end of said channel-iron being slightly wider than the thickness of the door or planks of which the door is composed, whether made of one piece or more. This channel-iron extends the full height of the door-frame, and thus it can be readily seen that any desired number of sections or planks can be used to completely cover or close the door. The opposite post or frame A′ is provided with an angle-iron C, which also extends the entire height of the door and has the one member, C′, on the side of the post and secured thereto by bolts or screws *c*. The other member, C^2, forming a part of the angle-iron C, is secured to the inside of the post by means of bolts or screws *c*′, and the said member extends out even with the member C′ and is formed integral or as a part thereof. The said member C′ is provided at its outer end with an angular member D, which forms a socket D′ for the outer ends of the planks or sections of the door to rest in. The inner face of the member C^2 is provided with a series of horizontal recesses E, which are connected by narrow webs *e*, and extending through said webs are the bolts or screws *c*′ and recesses extending out through the member C^2. Within said recesses are the sliding bolts F, which are of a thickness a little less than the depth of the recess E, and thus it will be seen that the bolts are adapted to freely slide therein between the inner faces of the recesses and the outer face of the post A′. The said bolts have their inner ends *f* of a width equal to that of the recess, while their outer ends are reduced at *f*′, and thus they are prevented from passing outward through the recesses in the member C^2. The lower faces of said bolts are also provided with notches G, which are adapted to drop over the web *g*, and thus the bolts are held in an outward position. The extreme outer ends of the bolts are turned laterally, forming members F^2, by which the same may be driven inward and also to prevent the bolts from sliding too far inwardly.

The car-door proper, as shown, is made of a series of transverse planks H, which are not connected at all; but said door could be made in one, two, or three sections and each section be independently removable. The bolts, as shown in Fig. 1 of the drawings, are so arranged that there are two opposite each plank, but each bolt is movable independent of the other.

In the operation of my device the bottom plank is first inserted at an angle, placing one

end into the channel-iron B, and the opposite end is then placed in the socket D', carried by the angle-iron, and the bolts opposite the said plank are drawn outward and firmly hold the said plank in position, and as the car is filled with grain or other material the succeeding planks are placed therein in the same manner. The tendency or weight of the grain is to force the said planks or sections outward, and it will be seen that by striking the lateral portion F^2 with a hammer or other device the bolts opposite one plank are driven in the said end of the section adjacent the bolts being forced inward and the opposite end of the plank or section is allowed to swing within the channel-iron; owing to the shape thereof, and thus the said plank can be driven outwardly and removed whether it be the top or bottom section.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-door comprising outwardly independently movable planks, and independently-sliding bolts carried by said door-frame for each plank.

2. The combination with a door-frame, of a door formed of independent horizontal sections, means carried by one side of the door-frame for receiving the ends of said sections, and independent locking means for each section carried by the opposite side of the frame.

3. The combination with a door-frame, of a door formed of independent horizontal members, means carried by one side of the door-frame for receiving the ends of said members, and sliding bolts carried by the opposite side of the frame for holding said members independent of each other.

4. The combination with a door-frame, of a door formed of independent horizontal members, a vertically-arranged member carried by one side of the door-frame and adapted to receive the opposite ends of said members, and a series of sliding bolts carried by the opposite side of the frame for each member.

5. The combination with a door-frame, of a door formed of two or more independent horizontal members, a vertically-arranged member carried by one side of the door-frame and adapted to receive the ends of said members, a vertically-arranged plate carried by the opposite side of the frame, and outwardly-sliding bolts carried by said plate and adapted to hold said horizontal members independent of each other.

6. The combination with a door-frame, of a door formed with two or more independent horizontal sections, a vertically-arranged channel-iron carried by one side of said frame and having an outwardly-flared outer wall, and adapted to receive the ends of said sections, a vertically-arranged plate carried by the opposite side of the frame, and outwardly-sliding bolts carried by said plate, and adapted to hold said horizontal door-sections independent of each other.

7. The combination with a door-frame, of a door formed with two or more independent horizontal sections, a vertically-arranged channel-iron carried by one side of said frame and having an outwardly-flared outer wall, and adapted to receive the ends of said sections, a vertically-arranged plate carried by the opposite side of the frame, and outwardly-sliding bolts carried by said plate and adapted to hold said horizontal sections independent of each other, and means carried by each bolt for holding it in its outward position.

8. The combination with a door frame, of a door formed with two or more independent horizontal sections, a vertically-arranged channel-iron carried by one side of said frame and having an outwardly-flared outer wall into which the said sections are adapted to pass, a vertically-arranged plate carried by the opposite side of the frame and having horizontal bolt-receiving openings therein, outwardly-sliding bolts resting in said openings and having laterally-turned outer ends, and means carried by said bolts for locking them in an outward position independent of each other.

9. The combination with a door-frame, of a door formed with two or more independently-horizontal sections, a vertically-arranged channel-iron carried by the side of said frame and adapted to receive the ends of the sections, a vertically-arranged plate carried by the opposite side of the frame and having horizontal bolt-receiving openings therein, outwardly-sliding bolts within said recesses and of a width less than that of said openings, the outer ends of said bolts turned laterally and notches within the lower faces of said bolts and adapted to engage said vertical angle-iron.

10. The combination with a door-frame, of a door formed of independent horizontal sections, means carried by one side of the door-frame for receiving the ends of said sections, sliding bolts carried by the opposite sides of the frame for holding said sections independent of the other, and means for holding said bolts in an outward position.

11. The combination with a door-frame, of a door formed of independent horizontal sections, means carried by one side of the door-frame for receiving the ends of said sections, a plate carried by the opposite side of the door-frame and bolt-receiving opening therein, and sliding bolts within said openings in said plate and having recesses in their lower faces, the lower wall of the bolt-receiving openings adapted to enter the recess in the sliding bolt, whereby the bolts are locked in an outward position.

12. The combination with a door formed with two or more independent horizontal sections, a vertically-arranged channel-iron carried by the side of said frame and adapted to receive the ends of said sections, a vertically-

arranged plate carried by the opposite side of the frame and having horizontal bolt-receiving openings therein, outwardly-sliding bolts resting in said openings, and having laterally-turned ends, means for preventing said bolts from pressing out of said openings, and means carried by said bolts for locking them in an outward position independent of each other.

13. The combination with a door formed with two or more independently-horizontal sections, a vertically-arranged channel-iron carried by the side of said frame and adapted to receive the ends of said sections, a vertically-arranged plate carried by the opposite side of said frame and having horizontal bolt-receiving openings therein, outwardly-sliding bolts resting in said openings and having laterally-turned outer ends, means for preventing said bolts from passing out of said openings, the said bolts having notches in their lower faces adapted to receive the upper wall of the opening in said vertically-arranged plate.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DANIEL G. BRINSER.

Witnesses:
A. S. MARTIN,
B. G. GROFF.