R. S. TAYLOR & G. W. WOODRUFF.

SECTIONAL DOOR FOR GRAIN CARS.

APPLICATION FILED NOV. 9, 1910.

1,013,237. Patented Jan. 2, 1912.

Fig. 1.

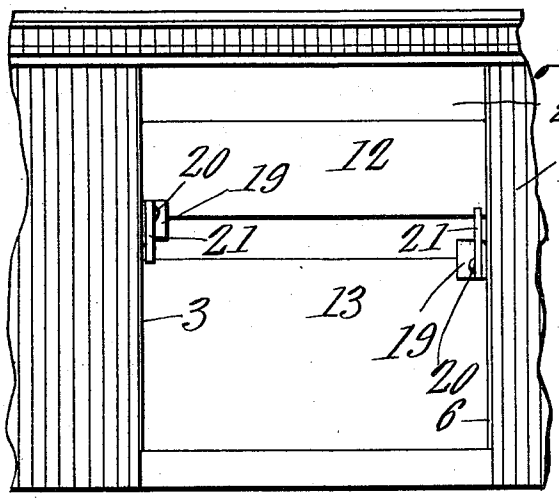

Fig. 4.

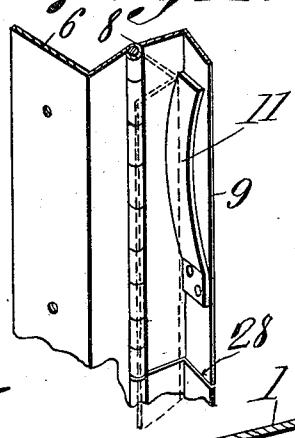

Fig. 2.

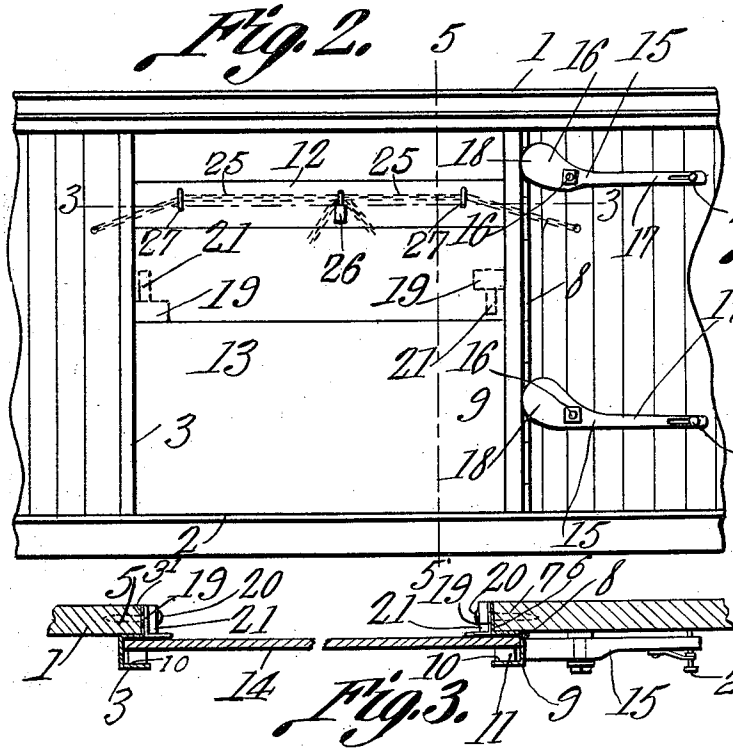

Fig. 5.

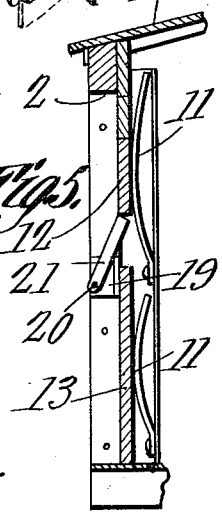

Fig. 3.

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G. W. Woodruff, Inventors

Witnesses

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UNITED STATES PATENT OFFICE.

RICHARD S. TAYLOR AND GEORGE W. WOODRUFF, OF GRACEMONT, OKLAHOMA.

SECTIONAL DOOR FOR GRAIN-CARS.

1,013,237. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed November 9, 1910. Serial No. 591,472.

To all whom it may concern:

Be it known that we, RICHARD S. TAYLOR and GEORGE W. WOODRUFF, citizens of the United States, residing at Gracemont, in the county of Caddo, State of Oklahoma, have invented a new and useful Sectional Door for Grain-Cars, of which the following is a specification.

It is the object of the present invention to provide means whereby a grain door may be held upon a car, for both vertical sliding movement, and for transverse removal.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

Figure 1 is a side elevation of a portion of a car, equipped with the device of our invention; Fig. 2 is a side elevation of a portion of a car, equipped with the device of our invention, Figs. 1 and 2 showing different sides of the structure; Fig. 3 is a horizontal section on the line 3—3 of Fig. 2; Fig. 4 is a detail perspective of the hingedly mounted guiding member, and its accessory parts; Fig. 5 is a vertical section on the line 5—5 of Fig. 2.

In the drawings, a portion of a car is shown, denoted by the numeral 1, the car being typical of a supporting structure of any sort. In the car 1 there is a doorway 2.

A channel shaped guide member 3 is secured to the car 1, along one edge of the doorway 2, there being upon the guide member 3, a rectangularly disposed flange 3′, bolts 5 or other securing elements adapted to a like end, passing through the flange 3′, and entering the car 1, to hold the channel shaped guide member 3 in place.

Secured to the car 1, along the opposite edge of the doorway 2, is an L-shaped angle member 6, the angle member 6 being held in place by bolts 7 or the like, which enter the car 1. Hinged to one flange of the angle member 6, as shown at 8, is another, L-shaped angle member 9. The angle member 9 and the channel member 3, serve to form guideways 10, in which the door 14 is vertically slidable, the door 14 being composed of sections 12 and 13. If desired, as indicated in Fig. 5, the angle member 9, which constitutes one of the guides, may be fashioned in the sections, as shown at 28, to facilitate the removal of the door sections 12 and 13.

Spring plates 11 are secured to one flange of the guide member 9, the springs 11 being adapted to bear against the door 14, so that the door 14 may be elevated, and be held in various adjusted elevated positions.

Fulcrumed, as shown at 16 upon the car 1, intermediate their ends, are levers, provided with cam heads 18, adapted to bear against the outer face of said guide member 9, to hold the guide member in door-engaging position. Moreover, the levers 15 constitute a means for tilting the guide member 9, so that the springs 11 may bear properly against the door 14. The handled ends 17 of the levers 15 are sufficiently heavy, so that the cam heads 18 will be held gravitationally against the angle member 9. However, if desired, locking devices, ordinarily taking the form of spring pressed pins 23, may be mounted in the handles 17 of the levers 15, these pins 23 engaging the car 1, to hold the levers 15 in adjusted positions, the levers obviously constituting securing devices, whereby the guide member 9 may be held in door-engaging position.

Secured to the car 1, along the edges of the door opening 2 therein, are angular abutment plates 19. Pins 20 are carried by the abutment plates 19, and upon the pins are pivoted supports 21. These supports, as clearly shown in Fig. 5 may be tilted to rest against one flange of the angular plates 19, and when thus positioned, the supports 21 are adapted to engage with the door 14, to hold the same uplifted.

If desired, chains 25 may be secured to the car 1, to extend across the door opening 2 therein. These chains 25 are adapted to be passed through eyes 27, carried by the door 14, the free ends of the chains 25 being held together by a lock 26, of any desired construction.

In practical operation, by tilting the levers 15, so that their heads 18 no longer bear against the hingedly mounted guide member 9, the sections 12 and 13 which go to make up the door 14, may be removed, the hingedly mounted guide member 9 being swung transversely, until it no longer engages the door. The springs 11 exert sufficient pressure upon the door 14, so that the door may be lifted upwardly, to any desired

extent, permitting the grain to flow outwardly from the car 1, beneath the door. Obviously, the supports 21 constitute a means for upholding the upper section 12 of the door 14, so that a space may exist between the sections 12 and 13.

Having described the invention, what is claimed is:—

1. In a device of the class described, a supporting structure having a doorway; a fixed guide secured to the supporting structure along one edge of the doorway; a guide hinged to the supporting structure along the other edge of the doorway; a door adapted to be received within the guide members; a spring upon the hingedly mounted guide, adapted to bear against the door; a lever pivoted upon the supporting structure, and having a cam head adapted to bear against the hingedly mounted guide; and a locking device in the lever, adapted to engage the supporting structure, to hold the lever in adjusted positions.

2. In a device of the class described, a supporting structure provided with a doorway; a guide member hinged to the supporting structure along one edge of the doorway; a door adapted to be engaged by the guide member; a spring upon the guide member, adapted to bear against the door; a securing device movably mounted upon the supporting structure, and adapted to bear against the hingedly mounted guide member, to maintain the spring in engagement with the door; and means located upon the supporting structure, for engaging the other edge of the door.

3. In a device of the class described, a supporting structure provided with a doorway; a guide hinged to the supporting structure along one edge of the doorway; a door adapted to be engaged along one edge by the guide; a spring upon the guide, adapted to bear against the door; a securing device movably mounted upon the supporting structure and adapted to bear against the hingedly mounted guide, to hold the spring thereof in engagement with the door; a locking member upon the securing device, adapted to engage the supporting structure, to hold the securing device in adjusted positions; and means upon the supporting structure, for engaging the opposite edge of the door.

4. A grain car having a door opening, a door therefor, a channel shaped guiding strip arranged upon one side of said opening, an L-shaped supporting strip secured upon the opposite side of the door opening, an L-shaped guiding strip hinged to said L-shaped supporting strip, a pivoted lever having a cam portion to engage said hinged strip to hold the same in its proper place, and means for holding the said lever in its adjusted position.

5. A grain car having an opening, a door therefor, a channel-shaped guiding member secured to one side of the door opening, an L-shaped guiding strip hinged to the opposite side of the door opening, said L-shaped guiding strip having spring devices to frictionally engage the door, and a lever having a cam portion to engage the L-shaped hinged strip for holding the same in place.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

RICHARD S. TAYLOR.
GEO. W. WOODRUFF.

Witnesses:
A. L. Babb,
W. Granger.