No. 810,557. PATENTED JAN. 23, 1906.

K. OSEL.

SLIDING HINGED GRAIN DOOR.

APPLICATION FILED SEPT. 23, 1905.

2 SHEETS—SHEET 1.

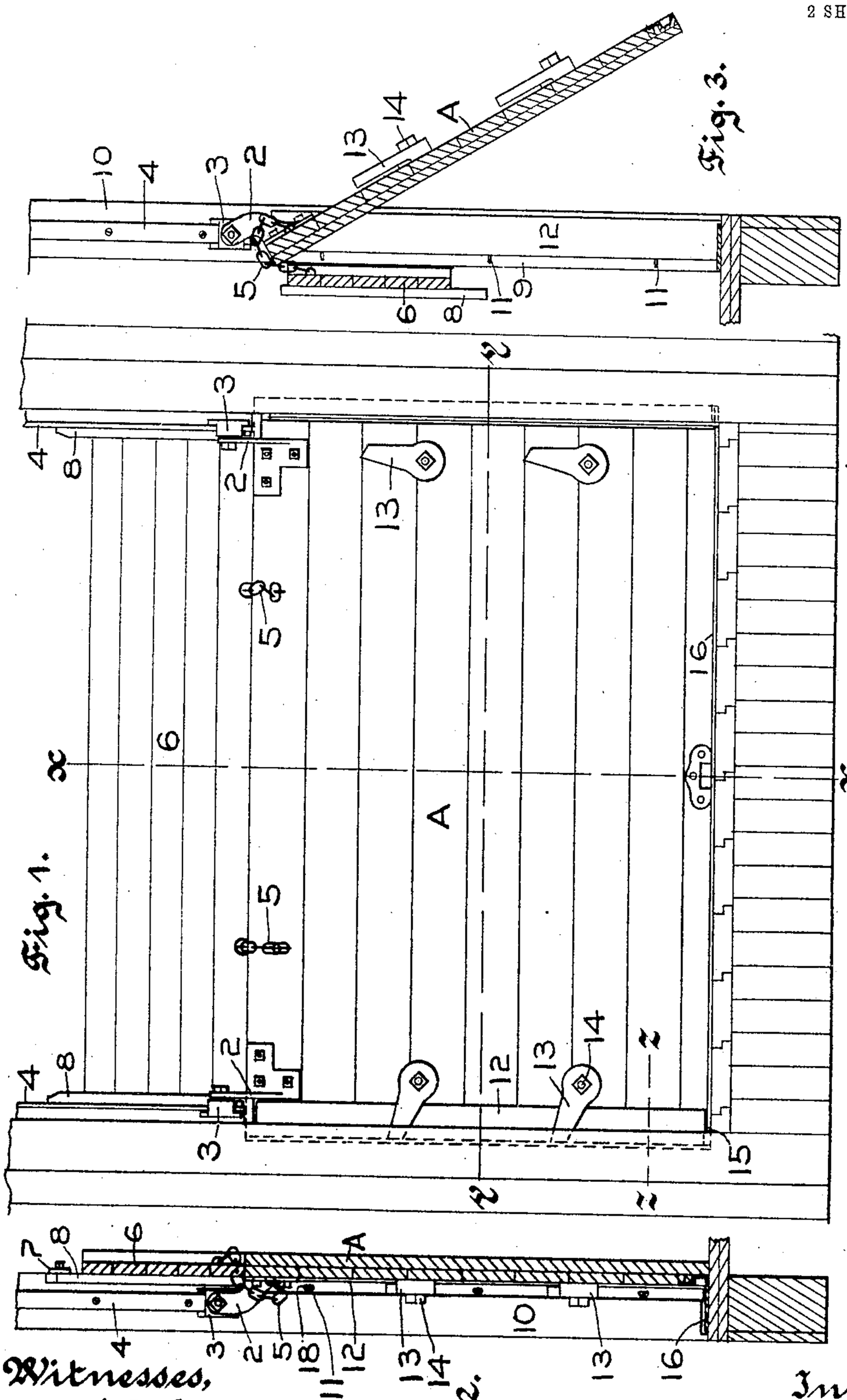


Fig. 3.

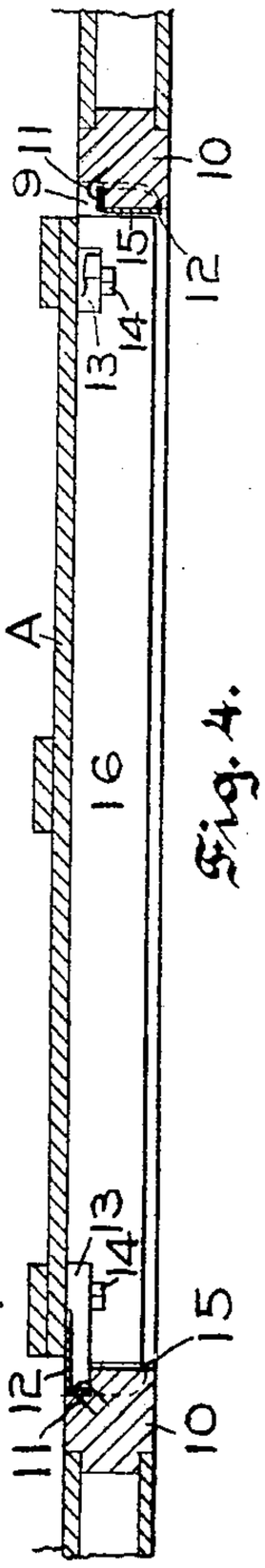


Fig. 4.

Fig. 1.

Fig. 2.

Witnesses,
W. N. Palmer.
Emily F. Otis.

Inventor,
Kistel Osel.
by Lothrop & Johnson
his Attorneys.

No. 810,557. PATENTED JAN. 23, 1906.

K. OSEL.

SLIDING HINGED GRAIN DOOR.

APPLICATION FILED SEPT. 23, 1905.

2 SHEETS—SHEET 2.

Fig. 6.

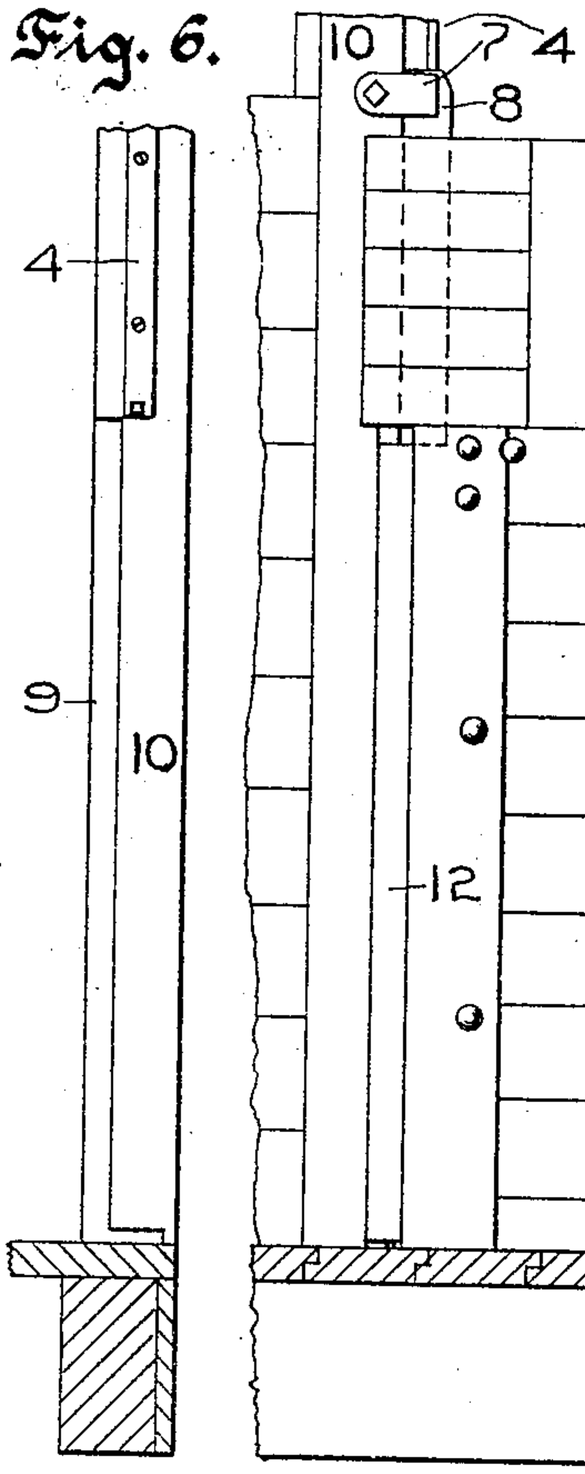


Fig. 5.

Fig. 7.

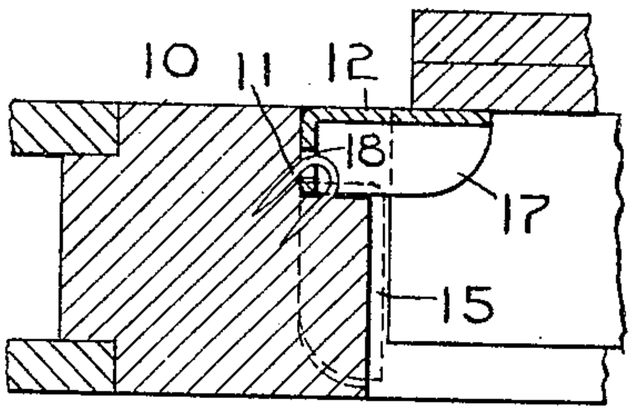


Fig. 8.

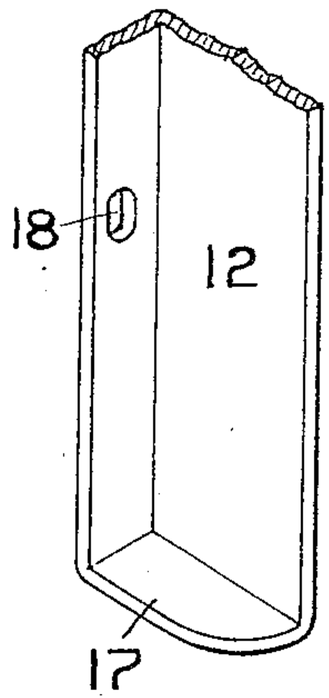
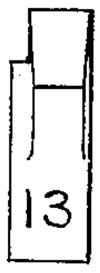


Fig. 9.



Witnesses,
W. H. Palmer.
Emily F. Otis.

Inventor,
Kistel Osel.
by Lothrop & Johnson
his Attorneys.

UNITED STATES PATENT OFFICE.

KISTEL OSEL, OF ST. PAUL, MINNESOTA.

SLIDING HINGED GRAIN-DOOR.

No. 810,557. Specification of Letters Patent. Patented Jan. 23, 1906.

Application filed September 23, 1905. Serial No. 279,786.

To all whom it may concern:

Be it known that I, KISTEL OSEL, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Sliding Hinged Grain-Doors, of which the following is a specification.

My invention relates to improvements in sliding hinged grain-doors for railway-cars, its object being particularly to provide new and improved means for locking the door in closed position.

To this end my invention consists in the features of construction and combination hereinafter particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a view of the door and surrounding framework of the car seen from the outside. Fig. 2 is a section on line *x x* of Fig. 1 with the door in closed position. Fig. 3 is a similar view with the door in open position. Fig. 4 is a section on line *y y* of Fig. 1. Fig. 5 is an inside view of the door. Fig. 6 is a section on line *x x* of Fig. 1 with the door removed. Fig. 7 is a section on line *z z* of Fig. 1. Fig. 8 is an isometric view of the lower end of one of the locking-plates, and Fig. 9 is a detailed view of a locking-dog forming part of my invention.

In the drawings, A represents a grain-door having slidable hinge-support by means of brackets 2, said brackets having pivotal connection with slides 3, engaging with guide-bars 4 in the sides of the door-opening. Connected to the top of the door by chains 5 is the extension-flap 6, the ends of which flap overlap the door-posts. The extension-flap 6 is held in closed position by means of buttons 7, carried by the door-post, which overlap the ends of the bars 8, secured to the outer side of the flap, the lower ends of said bars extending below the upper edge of the main door, as shown by dotted lines in Fig. 5. The main door is narrower than the door-opening, so as to swing therethrough, and is adapted to be held in closed position by the following-described means: Hinged in right-angled grooves 9 in the inner corners of the door-posts 10 by means of staples 11 are the right-angle-shaped plates 12. Catches 13 have pivotal support 14 upon the outer face of the door alongside the plates 12, so that when said plates are outturned against the outer face of the door, as shown in Fig. 1, the catches may be turned into the groove formed between the outwardly-extending side of the plate and the opposite wall of the post. The catches 13 are longer than the distance between their pivotal supports and the inner wall of the groove, and thus when turned into the groove will bear against the inner wall thereof in upwardly-turned position, as shown in Fig. 1. The supporting-staples 11 extend through slotted openings 18 in the plates, so as to allow of sliding movement of said plates. This allows the plates to be dropped into the openings 15 in the ends of the threshold 16 when the plates are turned inward against the posts. The plates are each formed at their lower ends with horizontal flanges 17, which rest upon the threshold 16, as shown in Fig. 7, when the plates are outturned.

In operation, when the main door is closed against the threshold the plates will first be moved up above the threshold and then turned against the outer face of the door, the catches 13 then being turned into the grooves within the plates. The extension-flap may then be fastened above the main door, as shown in Fig. 5, with the buttons 7 extending over the upper ends of the bars 8. When it is desired to open the door, the catches 13 will be turned away from the plates and the plates turned against the posts and dropped into the openings at the ends of the threshold. The main door can then be lifted above the threshold and swung through the door-opening. It will be noted that when the door is open (see Fig. 4) the right-angled plates fit closely over the corner of the posts, leaving no room for foreign substances to work between the plates and posts and also relieving the strain upon the staples. It will also be noted that the right-angled shape of the plates relieves the strain upon the staples when the door is open on account of the inner end of the plate fitting within the right-angled groove in the post.

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

1. The combination with a car formed with a door-frame and a slidably-hinged door of less width than the door-opening, a pair of right-angled plates secured in right-angled grooves in the inner corners of the door-frame whereby one wall of each plate bears against the adjacent groove-wall when the plates are outturned, and catches carried by said door in position to be turned over said

plates into said grooves when the plates are outturned.

2. The combination with a car formed with a door-frame, and a slidably-supported hinged door of less width than the door-opening, a threshold having openings in its ends, right-angled plates having slidable hinge-support in grooves in the inner faces of the sides of the door-frame in position to drop into openings in the ends of said threshold, and to rest upon said threshold when outturned, and catches pivotally supported upon the outer face of the door in position to be turned over said plates into said grooves when said plates are outturned.

3. The combination with a car formed with a door-frame, a hinged door of less width than the door-opening, the threshold having openings in its ends, a pair of right-angled plates having slidable hinge-support in grooves in the inner faces of the sides of the door-frame in position to drop into said openings in the threshold when turned against the door-frame, flanges carried by the lower ends of said plates to rest upon said threshold when said plates are outturned, and catches pivotally supported upon the outer face of said door in position to be turned over the outturned plates into said grooves.

In testimony whereof I affix my signature in presence of two witnesses.

KISTEL OSEL.

Witnesses:
H. S. JOHNSON,
EMILY F. OTIS.