W. S. WILLIAMS.

CAR DOOR.

APPLICATION FILED AUG. 12, 1910.

1,003,563. **Patented Sept. 19, 1911.**

2 SHEETS—SHEET 1.

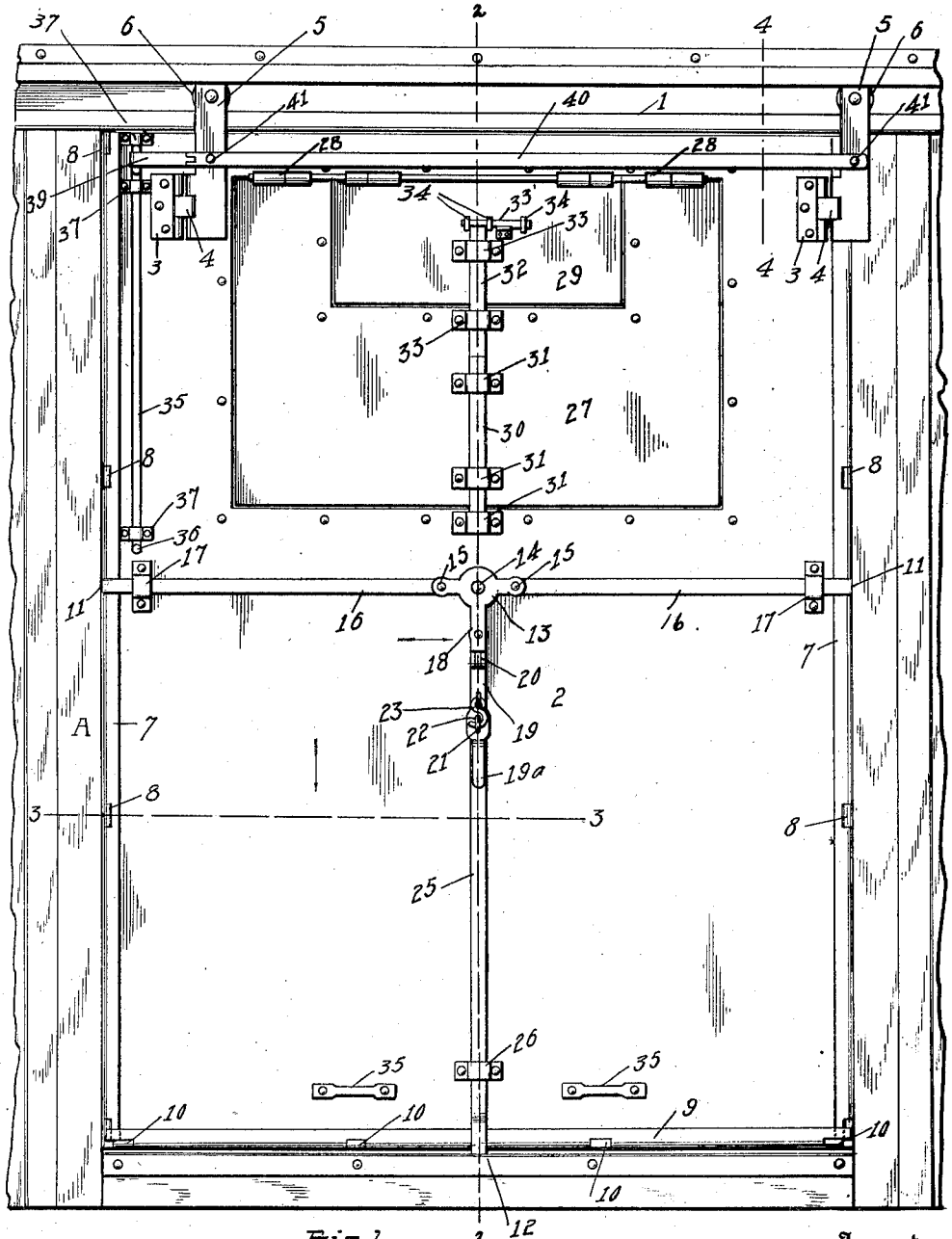

Fig. 1.

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Witnesses

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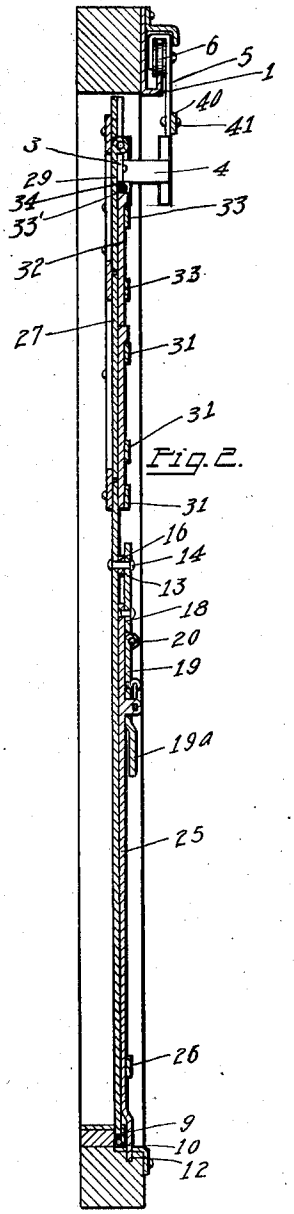

Fig. 2.

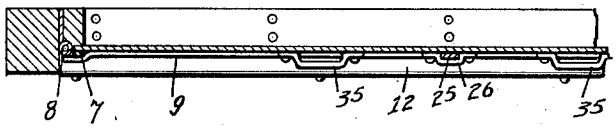

Fig. 3.

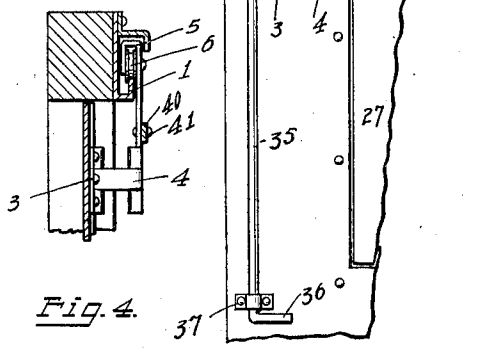

Fig. 5.

Fig. 4.

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UNITED STATES PATENT OFFICE.

WALTER SCOTT WILLIAMS, OF CLINTON, ILLINOIS, ASSIGNOR OF TWENTY-EIGHT ONE-HUNDREDTHS TO C. W. PIFER, TWENTY-EIGHT ONE-HUNDREDTHS TO C. R. WESCOTT, AND FIFTEEN ONE-HUNDREDTHS TO W. H. H. HASTINGS, ALL OF CLINTON, ILLINOIS.

CAR-DOOR.

1,003,563. Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed August 12, 1910. Serial No. 576,894.

To all whom it may concern:

Be it known that I, WALTER SCOTT WILLIAMS, a citizen of the United States, residing at Clinton, in the county of Dewitt and State of Illinois, have invented certain new and useful Improvements in Car-Doors, of which the following is a specification.

The present invention relates to car doors, and has particular application to certain novel and useful improvements in freight car doors.

In carrying out the present invention, it is my purpose to provide a car door, embodying the desired features of simplicity and durability coupled with strength and ease of operation.

A further object of my invention is to provide a door adapted especially for use in connection with grain cars, the structure being such that ready access may be had to the body of the car for the purpose of inspection without opening the door itself, so that the goods contained in the car may be readily inspected.

Still a further object of my invention, is to provide operating means whereby the hinges of the door may be actuated to permit the operator to easily slide the door into open and closed position.

With the above recited objects and others of a similar nature in view, my invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claim.

In the accompanying drawings—Figure 1 is a face view of a car door embodying my improvements, Fig. 2 is a vertical longitudinal sectional view taken on the line 2—2 of Fig. 1, Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1, Fig. 4 is a detail sectional view taken on the line 4—4 of Fig. 1 and looking in the direction of the arrow, and, Fig. 5 is a detail view of a portion of the door, and showing the means for operating the hinges in the opening and closing of the door.

Referring now to the accompanying drawings in detail, the letter A designates the frame of the door, built as usual into the body of the car, while 1 indicates a trackway from which the door is adapted to be slidably suspended. The body portion of the door is indicated by the numeral 2 and is of any preferred construction, said door being provided with hinge plates 3 carrying the hinges 4, the latter being connected to the plates 5 carrying the roller bearings 6 adapted to ride the track 1, so that the operator may slide the door to open and close the same.

Arranged at the vertical side edges of the door frame, are the strips 7 hinged as at 8, so that the strips may be swung upon the hinges to form a tight joint at the point where the edges of the door abut the frame. The sill is also provided with a similar strip 9 hinged as at 10, said strip being capable of being swung upon the hinges as is the case with the side strips 7 to form a tight joint at the bottom of the door and thereby closing the crank at the base of the door and preventing moisture and the like passing into the car. At its vertical side edges, the frame of the door is provided with sockets or recesses 11, said frame also having a similar recess 12 at the sill or base thereof.

Pivoted to the door preferably at approximately the center thereof, is an angular operating arm 13, the pivot being shown at 14. Said arm has pivotally connected thereto as at 15, the oppositely extending locking bars 16, these bars 16 passing through keepers 17, the ends of the locking bars being designed to enter the sockets or recesses 11 when the door is closed. Connected to the vertically extending member 18 of the angular arm 13, is a hasp 19, said hasp being hingedly connected as at 20 to the member 18.

The numeral 21 indicates a staple adapted to pass through the slot 22 of the hasp, any suitable locking hook 23 being designed to engage with the staple, and said hook may be secured in position and sealed in the ordinary manner.

A relatively long vertically extending locking bar 25, similar in construction to the bars 16, is adapted to pass through the keeper 26 and have its free end enter the socket or recess 12 in the sill of the car.

Formed preferably in the upper half or section of the main door, is a supplementary door 27, being hinged as at 28, said door in turn having a smaller door 29 formed therein. The door 27 is adapted for use in loading the car with material such as grain, in such case the delivery chute being projected

through the door 27. The door 29 may be used as an inspection door permitting the operator to climb into the car and inspect the contents, without the necessity of opening the main door or the door 27. In order to lock the door 27, I provide the locking bar 30 passing through keepers 31, while the door 29 is in turn locked to the door 27 through the medium of the locking bar 32 passing through the keepers 33, the end of the bar 32 contacting with the adjacent end of the locking bar 30.

33′ designates a bolt passing through the staples or keepers 34, so that the bar 32 may be locked at its top end.

In order to enable the operator to easily and quickly manipulate the door to open and close the same, I provide the operating rod 35 having a handle portion 36 at the lower end thereof, said rod being movably supported by the straps 37. The upper portion of the rod is formed with a crank arm 38 connected through the link 39 with the transverse bar 40, the latter being secured as at 41 to the hangers 5.

From the above description, taken in connection with the accompanying drawings, the construction and operation of my improved car door, will be readily apparent.

Assuming the door to be closed as is shown in Fig. 1, if it is desired to open the same, the locking hook 23 is released, after the seal has been broken and the hasp swung upward. The arm 13 may then be moved upon its pivot through the medium of the handle 19ª and the locking bars 16 and 25 drawn inward. The operator now actuates the crank rod 35, and through the hinge 39 and the connecting bar 40, the hinges 4 are moved until they lie substantially parallel to the door, this throwing the door out beyond the surface of the frame, so that the operator may now slide the same upon the trackway in the usual manner.

It will be noted that I have provided an exceedingly convenient type of door and one wherein the contents of the car may be readily inspected without the necessity of opening the main door. Furthermore, it will be seen that when the door is in its closed position, as is shown in Fig. 1, the side and bottom strips 7 and 9, prevent the entrance of moisture to the car. When the door is opened, these strips may be swung upon their hinges, so as to lie flat against the adjacent frame. It will also be seen that I have provided a system of doors whereby the car may be loaded and unloaded with rapidity and facility.

While I have herein shown and described one particular embodiment of my invention, I wish it to be understood that I do not limit myself to all the precise details of construction shown, as modification and variation may be made without departing from the spirit of the invention or exceeding the scope of the appended claim.

What I claim, is:—

A sliding car door comprising a main body portion, roller bearings, a supplemental door hingedly mounted in a cut-away portion in the upper end of said door, a hinged inspection flap in the upper end of said supplemental door, a keeper in the body portion of said sliding door directly beneath the lower edge of said supplemental door, a sliding bolt mounted on said supplemental door and adapted to slide into said keeper, vertically alining brackets on said supplemental door and said flap, a bolt slidingly mounted on said flap and adapted to rest upon the upper end of said first named bolt after passing through a bracket on both said flap and door, and a cross bolt adapted to abut the upper end of said last named bolt to prevent vertical movement of said first and second mentioned bolts.

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

WALTER SCOTT WILLIAMS.

Witnesses:

HARRY E. DEWEY,

JOHN J. CLEARY.