Jan. 22, 1929. 1,699,860

G. A. SUCKFIELD

DOOR SUPPORTING MECHANISM

Filed March 6, 1928 2 Sheets-Sheet 1

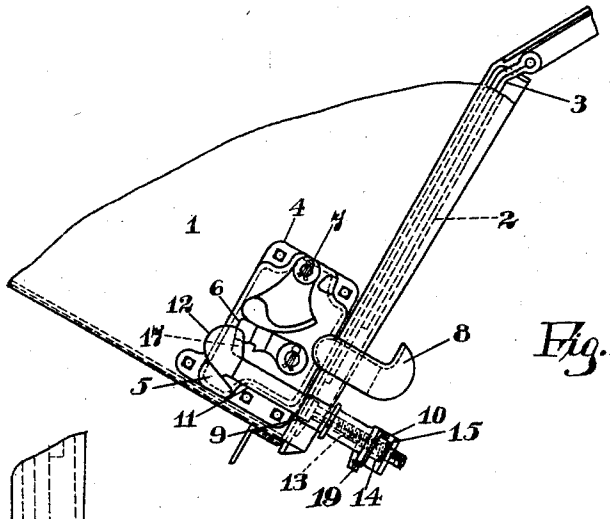


Fig. 1.

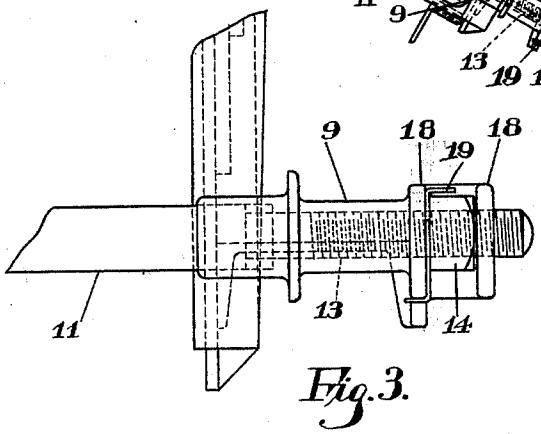


Fig. 3.

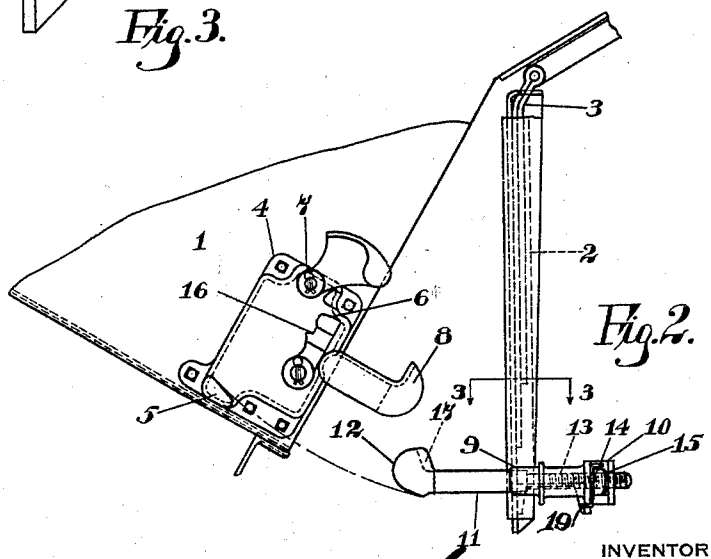


Fig. 2.

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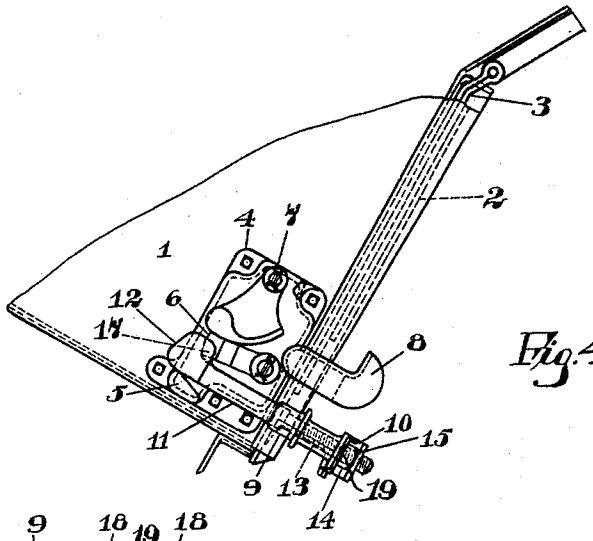


Fig. 4.

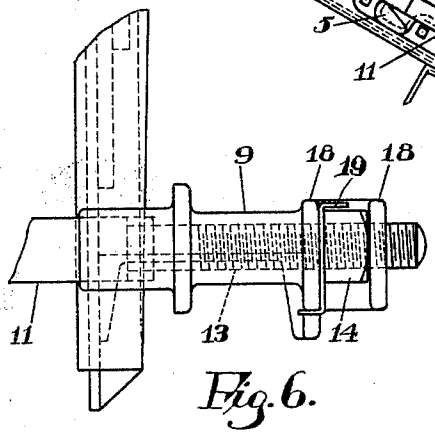


Fig. 6.

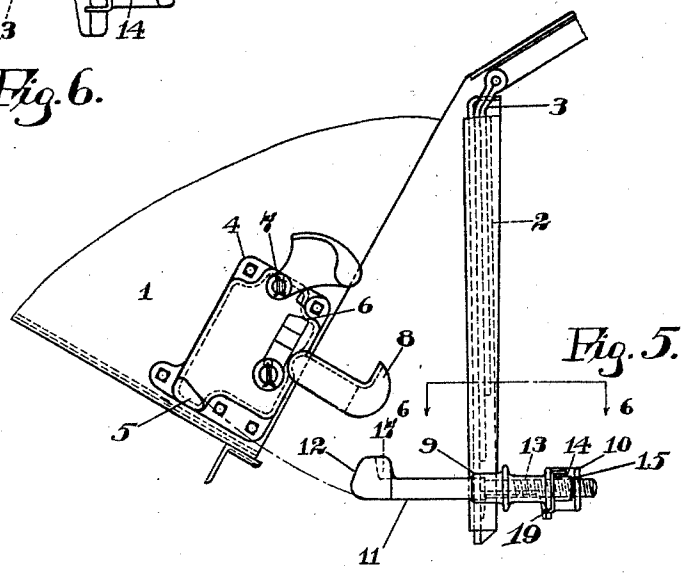


Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE A. SUCKFIELD, OF AVALON, PENNSYLVANIA, ASSIGNOR TO PRESSED STEEL CAR COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

DOOR-SUPPORTING MECHANISM.

Application filed March 6, 1928. Serial No. 259,459.

This invention relates to means for supporting the discharge door of a railway car or the like, and has for an object the provision of an adjusting means in connection with the door supporting means which will compensate for wear of the locking parts and distortion of the door itself and will maintain at all times a tight seal between the closed door and the car body.

Another object of this invention is to provide a railway dump car with a door latching mechanism which will retain the door in a partially open or fully closed position.

These and other objects will be apparent from the following description.

Referring to the drawings wherein like reference characters refer to like parts, Fig. 1 is a portion of a railway car showing the discharge door in closed position and the door supporting mechanism; Fig. 2 is a similar view showing the door in fully opened position and the resultant position of the door supporting members; Fig. 3 is an enlarged view taken along the lines 3—3 of Fig. 2 and shows the adjusting means for the door supporting mechanism; Fig. 4 is a portion of a railway car showing a modification of my invention with the discharge door closed; Fig. 5 is a view similar to Fig. 4 with the discharge door open; Fig. 6 is a view taken along the lines 6—6 of Fig. 5 and shows an enlarged portion of the adjusting means.

Referring now in detail to the drawings where like reference characters refer to like parts, reference character 1 indicates a portion of a railway car body having a door 2 suspended by a hinge 3 mounted on the car body. The body portion of the latching mechanism is mounted on a plate 4 which is attached to the body and contains the stop 5, engaging latch 6 and locking dog 7. Formed integral with the plate 4 is a lug 8 which extends below the undersurfaces of the door when the door is in partially closed position and serves as a bearing or fulcrum point for a pry bar or other means which may be used to move the door into final closed position. Attached to the door is the adjusting means 9 of the latching mechanism which comprises a member 10 secured to the door proper and a member 11 having a hook shaped portion 12 which is adapted to engage the stop 5 and latch 6 of the body when the door is closed. At the end opposite the hook shaped portion of the member 11 is the threaded portion 13 which is engaged by the nut 14 contained in a recess 15 of the door member 10 and which provides the adjusting feature above referred to.

When the door is open to discharge the contents of the car body as shown in Fig. 2 and it is desired to close the door the following actions take place:—The latch member 6 on the body is moved to the left and the door is closed by manual effort. As the hook portion of the member 11 engages the latch 6 during the closing movement of the door, it pushes the latch upward until one face of the hook portion 12 engages the notch 16 of the latch 6 and the rear face of the hook portion bears against the stop 5, which engagement will then support the door in a partially closed position. A pry bar is then inserted between the lug 8 and the lower face of the door 2 and the door is moved into final closed position. The locking dog 7 is then moved to the position shown in Fig. 1 and secures the latching members against displacement. The hook shaped portion 12 of the member 11 has a projecting lug 17 which passes over the latch 6 when the latch is in locking position and prevents displacement of the latch from its plane of rotation. The member 11 cannot move from its position between the stop 5 and the locking latch 6, and the latch 6 is held against displacement from its plane of rotation by the projecting lug 17 of the member 11, thus the door is secured against accidental opening. The mechanism as shown in Figs. 4 and 5 has a similar mode of operation excepting that the latch 6 has only one point of contact with the door member as the door is closed, thus making it necessary to support the door by hand while inserting the pry bar to move the door into final closed position.

After the doors are in service for a while the latch member 6, stop 5 and body member 11, may become worn at their points of contact or the door may become warped or distorted due to the rough handling to which it is subjected, so that the door when closed will not provide a tight seal between itself and the car body. To assist in overcoming this condition, I have provided the door member 11 with an adjusting device such as is shown in Figs. 3 and 6 of the drawings. The threaded portion 13 is passed through a nut 14 contained within the lugs 18 of the door member and the nut 14 is held against

movement by a lock washer or similar device 19. When the door will no longer provide a tight seal between itself and the car body due to the conditions enumerated above, the nut locking device is loosened and the nut 14 is turned so as to draw the member 11 in a direction towards the member 10 secured to the door and the nut is again secured against turning. This shortening of the effective length of the door member 11 will compensate for any wear of the latching parts and will also tend to overcome any distortion of the door by requiring sufficient effort to be applied to the pry bar to straighten the door before the latch 6 will engage the hook portion 12 of the door member to support the door in closed position.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. The combination with a dump car door, of a door latching mechanism comprising an adjustable hook member on said door, a stop and pivotally mounted member on the car body engaging the upper and lower surfaces of the hook portion of said door member for maintaining said door in partially closed or fully closed position.

2. The combination with a dump car door, of a door latching mechanism comprising an adjustable hook member on said door, a stop and a pivotally mounted member on the car body engaging said door member at the upper and lower surfaces of the hook portion for maintaining said door in partially closed or fully closed position and a dog mounted on said body for locking said member against displacement.

3. In a dump car, a discharge door, a rigidly mounted adjustable member on said door engaged by a stop and a pivotally mounted member on said body for holding said door in partially or fully closed position and a dog for locking said door and body member together against displacement, said stop, pivotally mounted member and dog being contained on a base having a pry-bar bearing formed integral therewith to assist in moving the door from a partial to a fully closed position.

4. In a dump car, a discharge door, a hook member adjustable in the direction of its length mounted on said door, a stop and pivotally mounted member on said body for engaging the upper and lower surfaces of the hooked portion of the door member for maintaining said door in partial or fully closed position, said stop and pivotally mounted member being contained on the base having a pry-bar bearing formed integral therewith to assist in moving said door from the partial to a fully closed position.

In testimony whereof I affix my signature.

GEORGE A. SUCKFIELD.