No. 860,934. PATENTED JULY 23, 1907.

W. H. McMACHEN.

GRAIN CAR DOOR.

APPLICATION FILED DEC. 29, 1906.

Fig. 1.

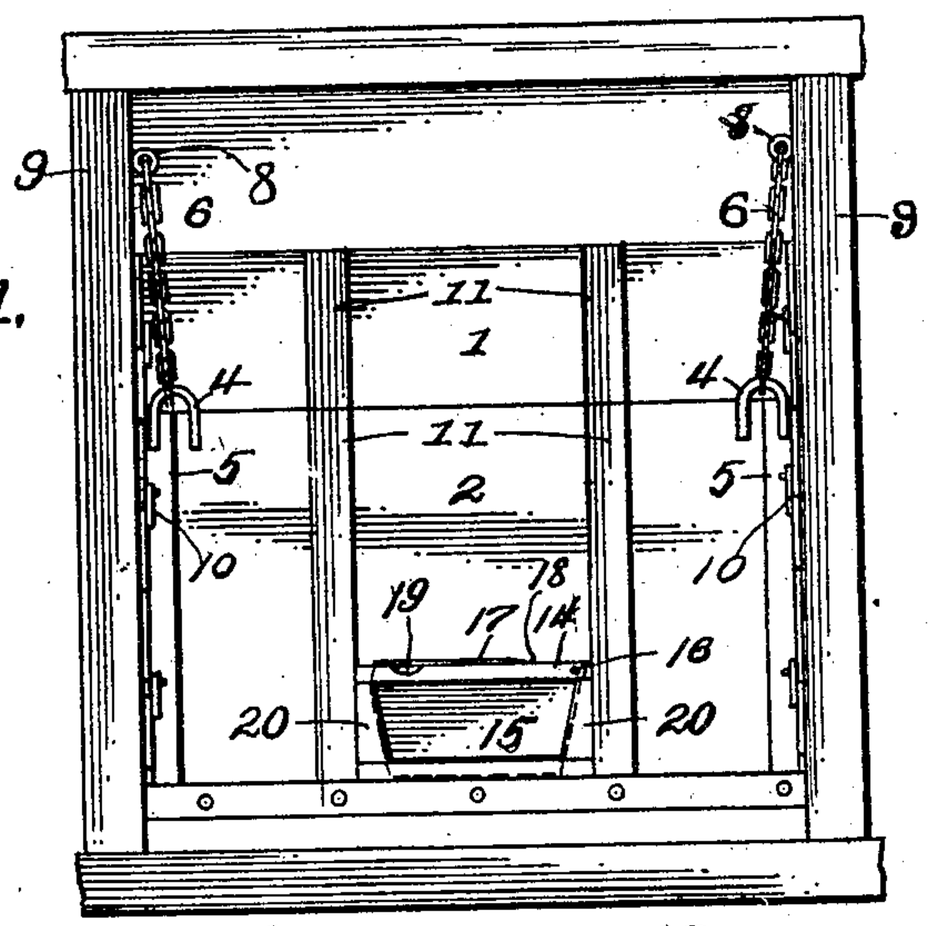
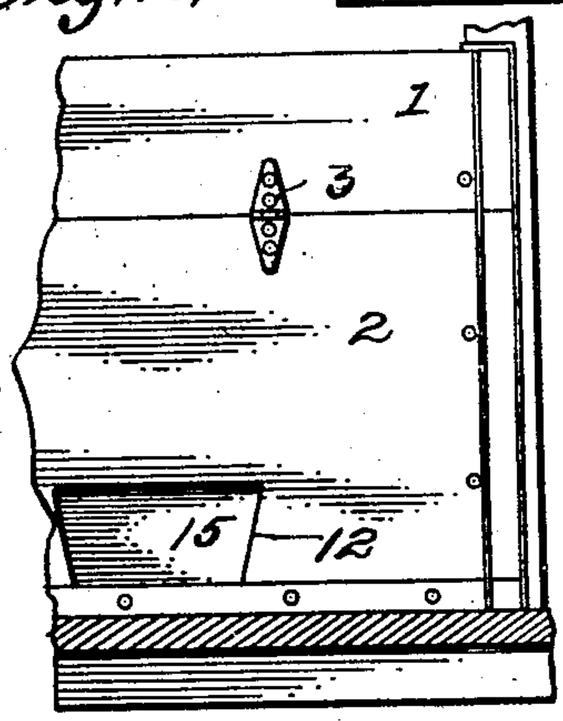


Fig. 2.



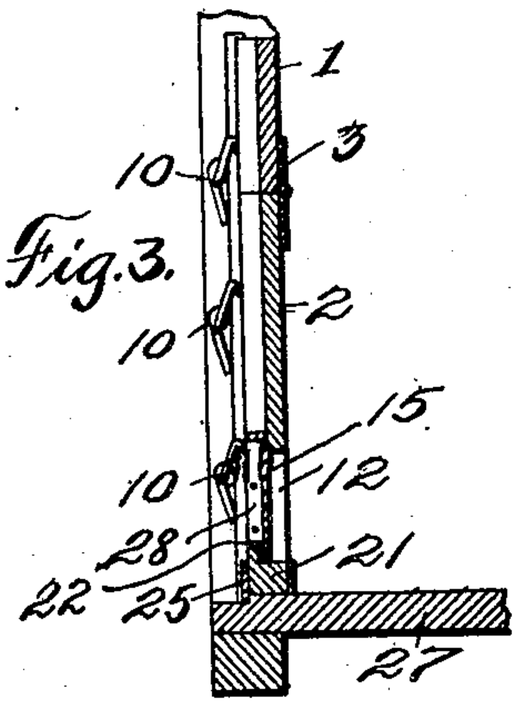


Fig. 3.

Fig. 4.

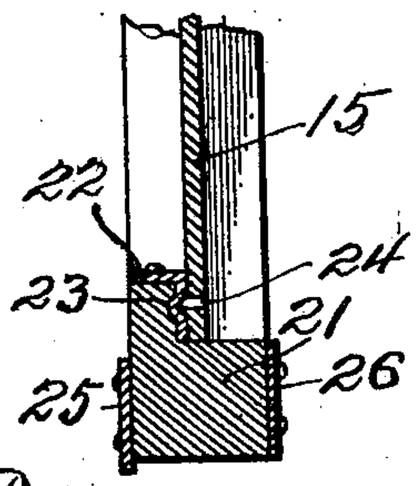


Fig. 5.

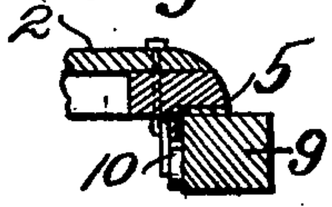


Fig. 6.

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UNITED STATES PATENT OFFICE.

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GRAIN-CAR DOOR.

No. 860,934. Specification of Letters Patent. Patented July 23, 1907.

Application filed December 29, 1906. Serial No. 349,932.

To all whom it may concern:

Be it known that I, WILLIAM H. McMACHEN, a citizen of the United States of America, residing at Superior, in the county of Douglas and State of Wisconsin, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention has relation to certain new and useful improvements in grain car doors, and it relates more particularly and specifically to an auxiliary or supplemental door arranged in the main car door in such a manner as to be opened without operating the main car door, whereby to relieve pressure of the grain against the main car door, to such an extent as to permit the easy operation of the latter in opening.

The specific construction by which I obtain the objects of my invention will appear in the course of the following description, in which reference is had to the accompanying drawings forming a part of this specification, like numerals indicating like parts throughout the several views, wherein:

Figure 1 is a front elevation of a grain car door embodying my invention; Fig. 2 is a rear elevation of a part of a grain car door embodying my invention, showing the floor of the car in section; Fig. 3 is a transverse vertical sectional view of a part of a grain door embodying the invention, the base-sill and a part of the floor being shown in section; Fig. 4 is a vertical sectional view of a part of the auxiliary door showing the manner in which the same is normally held closed; Fig. 5 is a horizontal sectional view of a part of the main grain car door, and of one of the door jambs, and Fig. 6 is a detached detail perspective view of one of the fastenings for the main car door.

My invention is particularly designed for use in connection with a type of grain car door such as shown in my application filed Feb. 7, 1906, Serial No. 299,921, though is by no means confined to use in connection with this particular type of door. However, as I have used the door in connection with this type of main car door, I have shown it applied to such type of door in the present illustration. The said main door need not be further described than to state that it comprises an upper section 1, and a lower section 2, which sections are hinged together by hinges 3, the lower section 2, carrying handles 4, of substantially inverted U-shape, having one leg secured to the lower section of the door, and the other leg secured to a side strip 5, chains 6 being connected to said handles and to eyes 8 carried by the door jambs 9. The main door is fastened in closed position by means of a plurality of pivoted catches 10, one of which is shown in detail in Fig. 6 of the drawing.

The upper section 1 of the door and the lower section 2 thereof, are each provided with vertical posts 11, and between the posts 11 carried by the lower section 2 of the door, the latter is provided with an opening 12, located at or adjacent to the lower edge of the door. A cross bar 14, extends across the front of the lower section 2 of the door, and between this cross bar and the door is pivotally mounted the auxiliary or supplemental door 15. This auxiliary or supplemental door is usually constructed of sheet metal; it is pivoted at 16, adjacent to one end of the cross bar 14, and has its upper edge turned outwardly or flanged to form a ledge 17, which rests on the cross bar 14. The said ledge is cut away adjacent to the pivoted end of the auxiliary or supplemental door 15, as shown at 18, whereby not to interfere with the elevating of said auxiliary door, and adjacent to the other end of said cross bar 14, the latter is recessed or cutaway as shown at 19, in order that either the fingers of the hand, or a suitable instrument or tool may be inserted under the ledge 17 to raise the door 15.

The ends of the auxiliary door 15 are inclined, making the door somewhat wedge-shaped in form, so that its lower edge is of less width than the upper edge. The ends of the said door 15 are received between cleats or braces 20, disposed with their backs against the posts 11, and their ends abutting respectively with the bar 14, and a base bar or sill 21. This base or sill 21 has a metallic angle strip 22 thereon, one flange of which lies on the top of the base or sill and the other flange of which lies against a shoulder formed on this base or sill by cutting away the latter longitudinally, as clearly illustrated in Fig. 4 of the drawings. The downwardly depending flange of the angle strip 22 is provided with a seat 23, and the door 15 at a point adjacent to its lower edge is provided with a projection 24, which is not of sufficient length to prevent the forcing of the door 15 down into seated position. This projection I have usually made by simply indenting the rear face of the door by a suitable tool, which causes the metal to be forced outwardly on the front face of the door, and this outwardly forced portion when the door is fully closed engages in the seat 23, and thus holds the door 15 against accidental displacement. The base-sill 21, is usually provided with metal strips 25, 26, on its opposite faces to seat with the car floor 27, as shown in Fig. 3. The cleats or braces 20 are usually faced with a metal strip 28, between which metal facings and the section 2 the auxiliary door 15 is received to make a close fit. The particular shape of the door 15 admits of its being readily raised so as to allow a portion of the grain to be removed from the car, and thus relieve the pressure against the main car door to permit the ready operation of the latter. The flanging over of the upper edge of the auxiliary door provides an easy means for operating the latter, and the provi-

sion of the seat 23 and projection 24, provides an efficient means to prevent the accidental displacement of the door.

What I claim:

1. A grain car door provided with an opening adjacent to the lower edge thereof, a cross bar carried on the front face of said door, an auxiliary door pivoted to swing between said cross bar and car door and having the upper edge flanged to rest on the cross bar when the auxiliary door is in the closed position, and means for securing the auxiliary door in the closed position.

2. In grain car doors, the combination with a main door having an opening adjacent to the lower edge thereof, of an auxiliary door pivoted to the main door and adapted to normally close said opening, a base-bar adjacent to which the lower edge of said auxiliary door is received, a metal facing on said base-bar having a seat, and a projection on the auxiliary door for engagement with said seat to hold the auxiliary door normally closed.

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

WILLIAM H. McMACHEN.

Witnesses:
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JULIUS L. COHEN.