F. F. WANDTKE.

GRAIN CAR DOOR.

APPLICATION FILED OCT. 4, 1911. RENEWED JUNE 4, 1913.

1,067,084. **Patented July 8, 1913.**

2 SHEETS—SHEET 1.

Fig. 1.

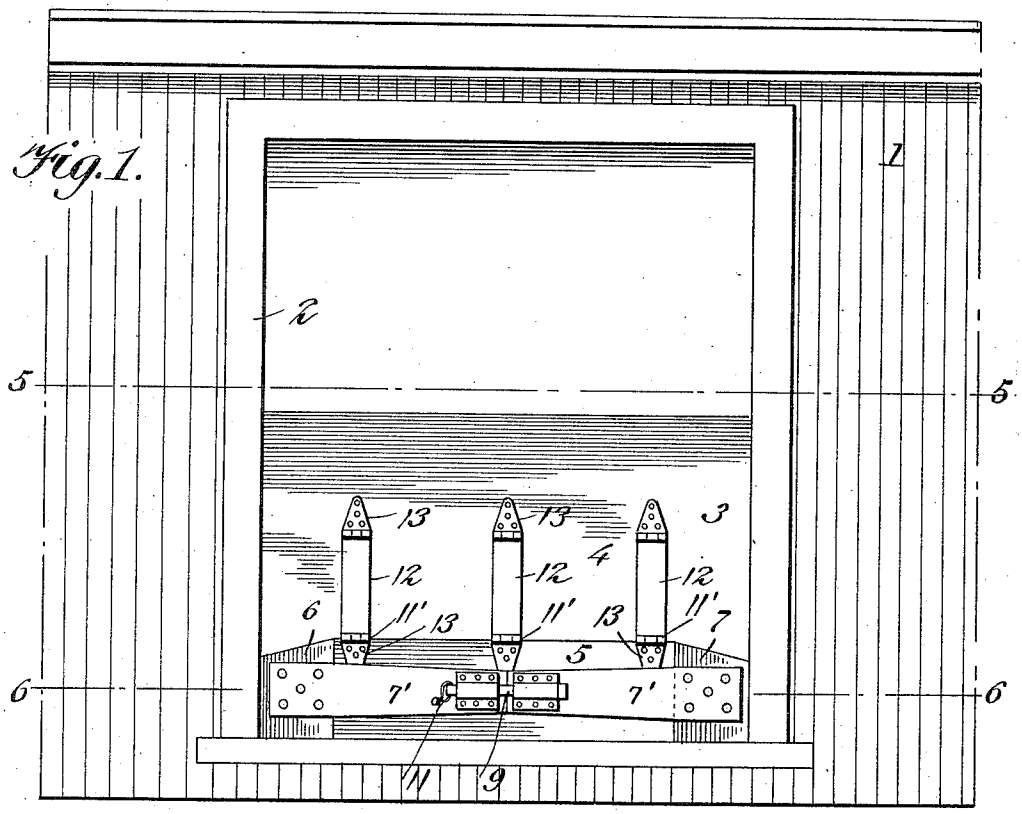


Fig. 2.

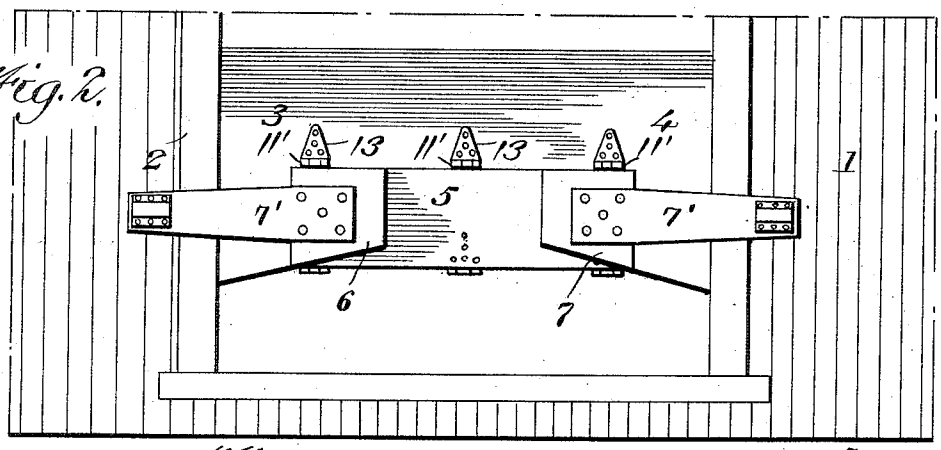
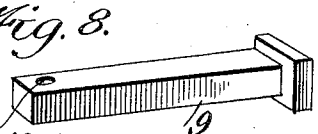


Fig. 8.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

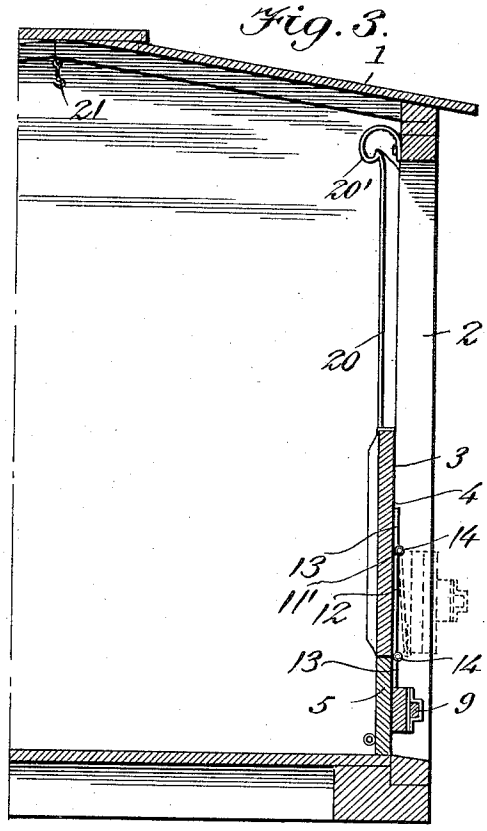


Fig. 4.

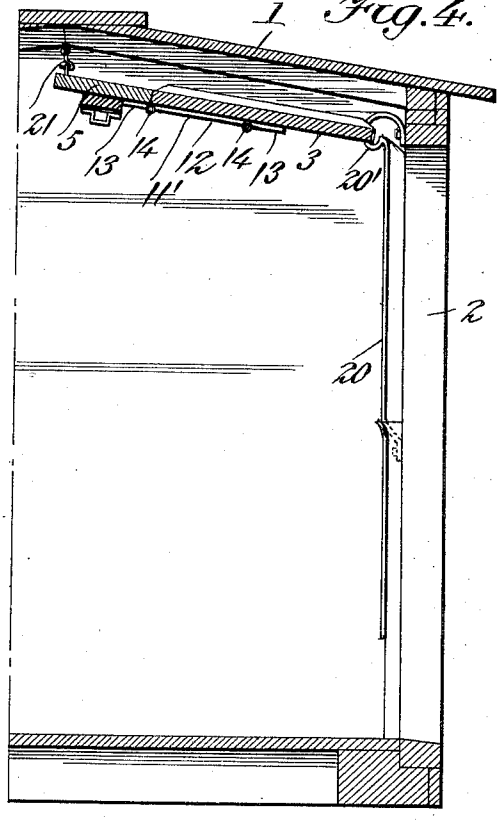


Fig. 5.

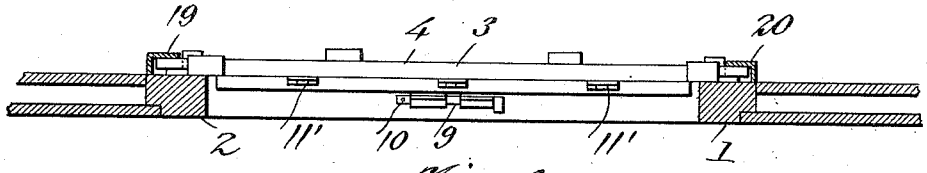


Fig. 6.

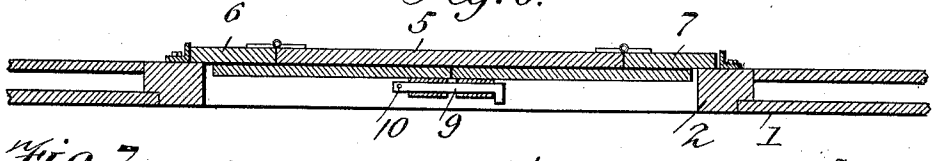
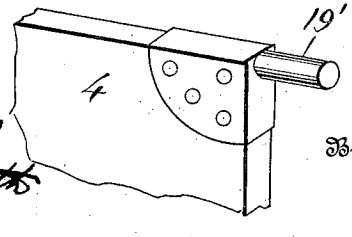


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

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GRAIN-CAR DOOR.

1,067,084. Specification of Letters Patent. Patented July 8, 1913.

Application filed October 4, 1911, Serial No. 652,688. Renewed June 4, 1913. Serial No. 771,733.

To all whom it may concern:

Be it known that I, FRANK F. WANDTKE, a citizen of the United States, residing at Superior, in the county of Douglas and State of Wisconsin, have invented new and useful Improvements in Grain-Car Doors, of which the following is a specification.

This invention relates to certain and novel improvements in doors for grain cars or the like.

In carrying out my invention it is my purpose to provide a door of this class which has its lower extremity hingedly connected thereto by an auxiliary door, means being provided whereby the auxiliary door is tightly locked against the door frame, and the said auxiliary door adapted to be opened and swung upwardly to permit of a certain amount of grain, vegetables, or the like, being removed from the car before operating the main door.

I also aim to provide a car door, having means whereby the same may be readily raised and swung within the car, suitable suspending means being provided for sustaining the door as well as the auxiliary door in such a position against the roof of the car when the car is not being used.

With the above, and other objects in view, which will be apparent as the nature of the description progresses, the invention resides in the novel construction, combination and arrangement of parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side elevation of the exterior of a car provided with my improved door. Fig. 2 is an elevation looking toward the interior of the car, and illustrating the auxiliary door swung upwardly from the main door. Fig. 3 is a central vertical transverse sectional view through the car and door, the door being in the position illustrated by Fig. 1. Fig. 4 is a similar sectional view, but illustrating the door suspended from the top of the car. Fig. 5 is a horizontal sectional view upon the line 5—5 of Fig. 1. Fig. 6 is a similar sectional view upon the line 6—6 of Fig. 1. Fig. 7 is a detail perspective view of one of the upper corners of the main door. Fig. 8 is a perspective view of the sliding bolt.

Referring now to the drawings in detail, the numeral 1 designates the car, and 2 the frame for the doorway of the car.

The numeral 3 designates the door for the doorway. This door is constructed of a pair of sections, comprising what I term a main door 4 and an auxiliary door 5. The auxiliary door is arranged below the main door, and the said auxiliary door comprises three sections embodying an intermediate section, and hinged end sections. The hinged end sections 6 and 7 are provided with locking bars 7′ which extend upon their outer faces and which have their extremities provided with ways within which a sliding bolt 9 is adapted to travel. This sliding bolt is formed with a head upon one of its ends and the opposite end of the bolt is provided with an opening 10 through which the wire of an ordinary locking seal 11 is passed. The central member of the auxiliary door is provided with a plurality of hinges, preferably three in number. These hinges, designated by the numeral 11′, comprise each a central section 12 having end members 13 arranged adjacent its opposite ends. The end sections or butts 13 are connected with the intermediate strap 12 through the medium of suitable barrels through which pass pintles 14, and the object of providing the intermediate strap is to permit of the auxiliary door when opened to be swung upon the door frame a suitable distance away from the passage between the door proper and the said auxiliary door.

The end sections of the auxiliary door are preferably inclined from the central section at their tops toward the floor of the car, and the ends of the lower edge of the main door are likewise inclined or beveled. The end sections of the auxiliary door are adapted, when the auxiliary door is in its closed position, to contact with the interior frame of the car, and when the same are locked through the medium of a bolt, heretofore set forth, it will be noted that pressure upon the said ends tends to firmly force the said auxiliary door tightly against the frame and to prevent an outward movement of the ends of the said door, or the auxiliary door itself.

In operating the auxiliary door, the end sections are first swung inwardly a slight distance, it of course being understood that the seal is detached from the bolt and that the bolt has been partially withdrawn from the way of one of the arms. The end sections of the auxiliary door may then be forced inwardly a sufficient distance to allow the said end sections to escape the side members of the frame for the door, when

the locking bars of the auxiliary members may be grasped and the door swung outwardly and upwardly upon its hinges. The door is sustained in an elevated position until sufficient grain or the like is withdrawn by the opening thus formed, to permit of the grain door being raised and sustained within the car.

The numerals 19 and 20 designate ways provided upon the inner faces of the car and on the vertical stiles of the doorway. These ways are preferably formed of angle irons and are arranged vertically. The upper extremity of the door proper is provided with off-sets or pintles 19′ which are adapted to travel within the ways and the upper extremity of the said ways are formed with pockets 20′ within which the pintles are adapted to rest when the door is raised to its highest elevation. The door 3 is swung inwardly of the car and is secured to the said top through the medium of a suitable latch 21. It will be apparent that by turning the end sections of the auxiliary door upon their hinges the said auxiliary door may be readily positioned within the car and the latch 21 is also adapted to support the said auxiliary door when the car is emptied or not in use.

Having thus described the invention, what I claim is:—

A car door of the class described comprising a main door and an auxiliary door arranged below the main door, the said auxiliary door comprising a central member having hinged end members secured thereto, the end members adapted to abut the casing of the door when the auxiliary door is closed, the end members of the auxiliary door being provided with arms which are adapted to lie upon the face of the central section when the auxiliary door is in its closed position, and means for securing the arms to prevent the outward movement of the auxiliary door.

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

FRANK F. WANDTKE.

Witnesses:
JOHN P. ANDERSON,
C. W. WHITMORE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."