

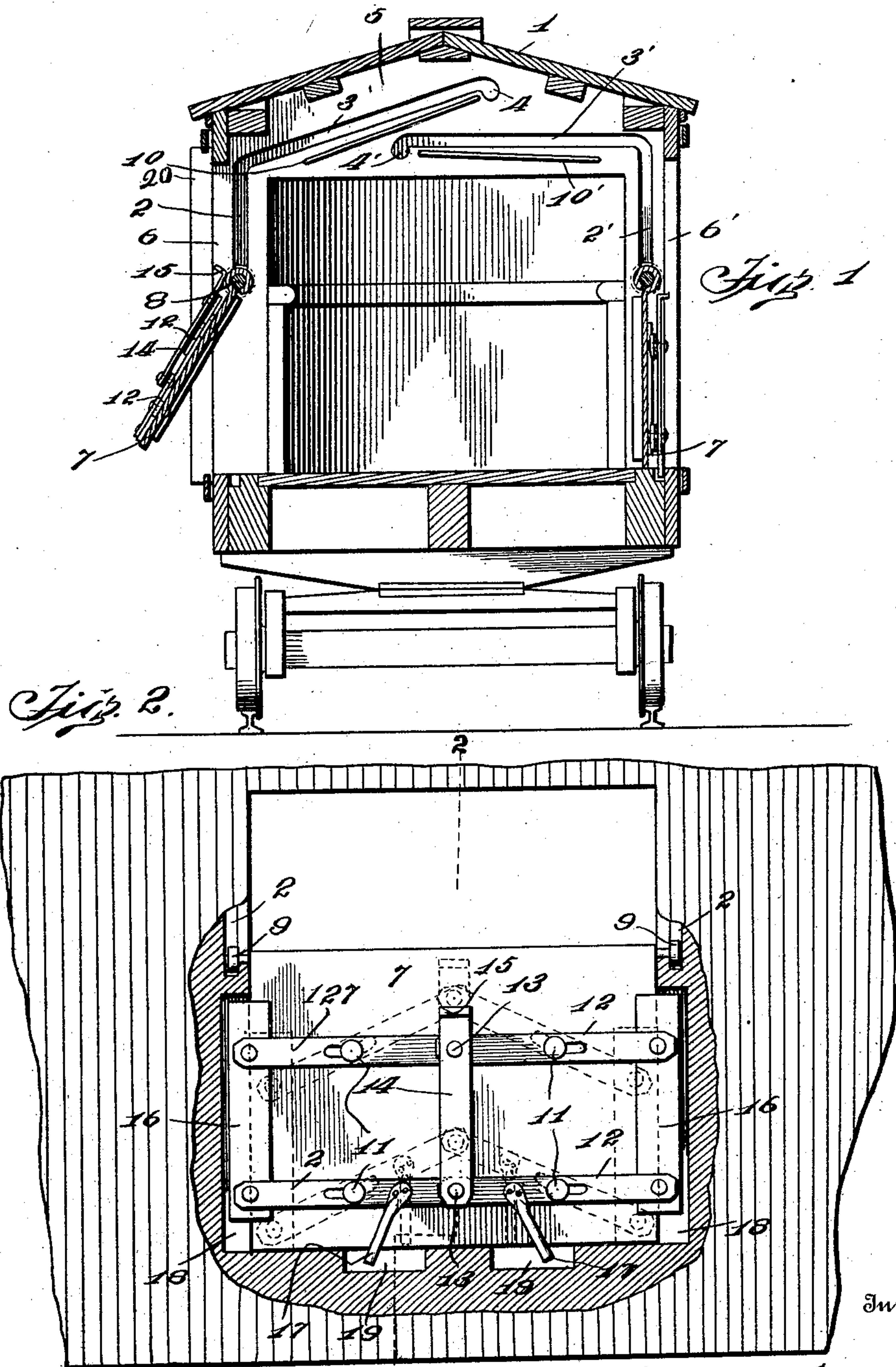
No. 750,149.

PATENTED JAN. 19, 1904.

J. BARRY.  
GRAIN CAR DOOR.

APPLICATION FILED DEC. 23, 1902.

NO MODEL.



Inventor

Witnesses

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# UNITED STATES PATENT OFFICE.

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## GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 750,149, dated January 19, 1904.

Application filed December 23, 1902. Serial No. 136,394. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BARRY, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Grain-Car Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same.

This invention relates to improvements in grain-car doors, and particularly to locking means therefor.

The object of the present invention is the provision of a grain-car door carrying means for laterally projecting securing-bolts for resisting internal pressure and retaining the door against the weight of the contained grain.  
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With this and other objects in view the invention consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.  
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In the accompanying drawings, Figure 1 represents a transverse vertical section taken through a car provided with doors embodying the features of the present invention. Fig. 2 represents a view in side elevation of a door embodying the present invention, a fragment of the side of the car being illustrated in connection therewith.  
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In the handling of grain in cars it has been found desirable to provide doors capable of being moved out of the way of the workmen in removing the grain from the car, and in order to accomplish this result I contemplate providing any suitable car 1 with a vertical groove 2 in each side of a door-frame 6, extending to and communicating with a diagonal groove 3 in a timber 5 substantially parallel with the roof of the car, the upper end of each groove 3 terminating with a slightly downwardly extending portion 4. Of course when constructing the car I find it desirable to provide a door upon each side thereof, and therefore form grooves 2' in the door-frame on the opposite side of the car to groove 2, communicating with a groove 3', extending across the car beneath the upper end of the groove 3 and being provided with a downwardly-ex-  
35 40 45

tending portion 4', both of the grooves 3 and 3' being cut or formed in any suitable timber 5. The car, of course, is provided with a doorway upon each side thereof, each of which is closed or partially closed by a door 7, and as each door 7 is a duplicate of the other I shall describe only one, and this description is applicable to both. The door 7 is provided at its upper end with a transverse supporting-shaft 8, provided with any suitable rollers or retaining traction means 9, engaging the grooves 2 when in a lowered condition and when the door is raised engaging the downwardly-extending portion 4 and retaining the door in such raised condition, any suitable laterally-extending flange 10 being carried by the timber 5 for supporting such door in a raised condition. The body portion of the door 7 may be formed of any suitable material, and its outer face is provided with lugs 11 11, suitably headed and engaged by slotted links 12 12 between the heads thereof and the outer face of the door, the slots of such links permitting longitudinal movement thereof on the lugs. The links 12 are arranged in sets and have their inner ends pivotally connected together by means of rivets 13 13, said rivets pivotally connecting therewith an operating-bar 14, which bar is preferably provided at its upper end with a hook or other operating means 15. The outer or free ends of the links 12 carry laterally-movable locking bars or bolts 16 16, and the lower set of links 12 carry depending bolts 17 17. The door-frame is cut away, as at 18 18 on either side and as at 19 19 at the bottom, for the reception of such locking-bolts.  
50 55 60 65 70 75 80 85

In operation the door 7 is brought to a closed position and the bar 14 placed in the position indicated in full lines in Fig. 2, whereby the locking-bolts will assume the relative position therein indicated in full lines. When, however, it is desired to unload the car, the bar 14 is moved longitudinally either upwardly or downwardly (preferably upwardly) and the bolts 16 and 17 move inwardly and upwardly, respectively, the links 12 assuming the position indicated in dotted lines in Fig. 2 and sliding longitudinally for accomplishing the retraction of said bolts. When the bar has  
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assumed the given position, all of the bolts will be within the plane of the edges of the door, and the door will be free to swing outwardly under the pressure of the contained grain. When it is desired to again lower the door, the bar 14 is again longitudinally moved to its central position, and the bolts are thereby shot to a locking condition.

In connection with the present form of grain-car door is employed the common form of sliding door 20, as is well known in the art.

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

1. In a grain-car door, the combination with a body, of sets of parallel links carried thereby, bolts carried by the outer ends of each set of links, means pivotally connecting the inner ends of all of said links and spacing the same apart and adapted to be moved vertically for moving said links longitudinally while maintaining their parallelism, and vertically-moving bolts carried by some of said links.

2. In a grain-car door, the combination with a body, of sets of parallel links, a bolt carried

by each set of links, and means spacing the links apart and designed to be shifted for moving said links longitudinally while maintaining their parallelism, whereby said bolts may be projected or retracted.

3. In a grain-car door, the combination with a body, of a normally horizontally arranged link pivotally carried by each side of said body, means pivotally connecting the inner ends of said links, similarly-arranged links carried by said body beneath the first-mentioned links and arranged parallel to said first-mentioned links, the upper and lower links of each side of the door forming a pair, a bolt carried by each pair of links, and a bar connecting the inner ends of said links for simultaneously moving the same while maintaining their parallelism.

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

JAMES BARRY.

Witnesses:

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C. C. PHILLIPS.