

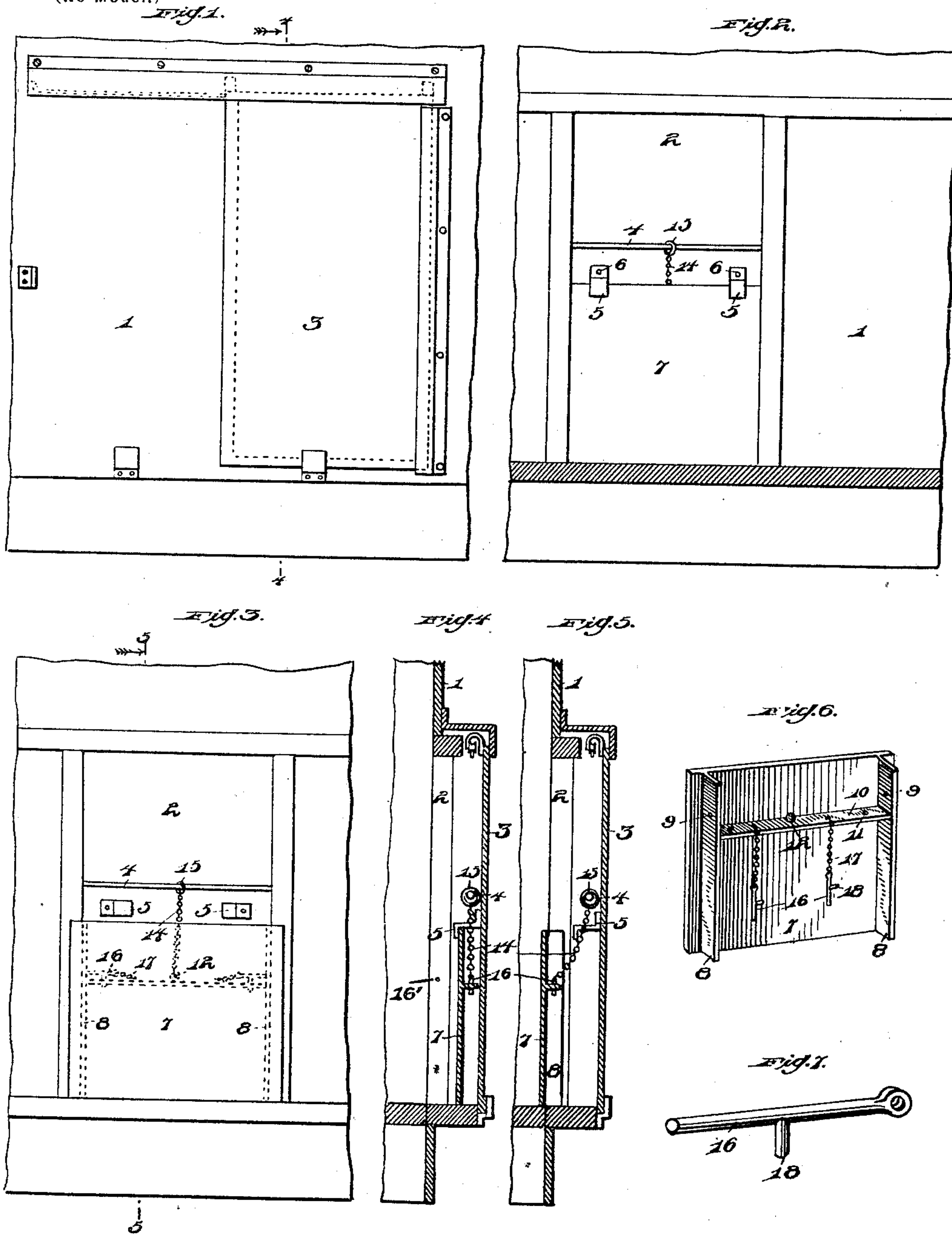
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Patented Apr. 15, 1902.

W. H. DOERNER & J. A. WHALEN.  
CAR DOOR AND GRAIN DOOR COMBINED.

(Application filed Sept. 20, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## CAR-DOOR AND GRAIN-DOOR COMBINED.

SPECIFICATION forming part of Letters Patent No. 697,820, dated April 15, 1902.

Application filed September 20, 1901. Serial No. 75,770. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM H. DOERNER and JOHN A. WHALEN, citizens of the United States of America, residing at Cumberland, in the county of Allegany and State of Maryland, have invented certain new and useful Improvements in a Car-Door and Grain-Door Combined, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in a car-door and grain-door combined, and relates more particularly to sliding doors employed in box-cars and the like.

The present invention has for its object the provision of novel means whereby a grain-door is applied and secured to a car-door in a manner that will allow the grain-door to operate with the car-door when the car is not in use or when the same is used for other purposes than the hauling of grain; furthermore, to provide a door that may be secured in a manner that will allow the door of the car to be moved independently thereof when the car is employed for hauling grain.

Another object of this invention is to provide a grain-door that will close the opening of the car-door when open, and one that will fit snugly within said opening to prevent any particles of grain from coming through said opening.

A still further object of our invention is to construct a grain-door of the above-described character that will be extremely simple in construction, strong, durable, and comparatively inexpensive to manufacture; furthermore, one that will be highly efficient in its use.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of a portion of

a car having a sliding door and grain-door attached thereto. Fig. 2 is a rear elevation of the same. Fig. 3 is a rear elevation showing the grain-door in position to allow the sliding door to operate independently thereof. Fig. 4 is a vertical sectional view taken on the line 4 4 of Fig. 1, looking in the direction of the arrow, showing the grain-door in position to slide with the door. Fig. 5 is a similar view, taken on the line 5 5 of Fig. 3, showing the position of the grain-door operating independently of the sliding door. Fig. 6 is a perspective view of the front of the grain-door. Fig. 7 is an enlarged perspective view of one of the keepers for locking the grain-door in the opening.

In the drawings the reference-numeral 1 indicates the body portion of the car, and 2 the opening formed therein for the sliding door 3, said sliding door being constructed in the usual and well-known manner. To the inner face of said sliding door 3 is secured a rod 4. Clasps 5 5 are pivotally secured at 6 6 to the inner face of the door, these clasps serving to retain the grain-door 7 in position when employed to operate in conjunction with the sliding door 2. The grain-door 7 carries outwardly-extending ribs 8, having apertures 9 formed therein. These ribs 8 are connected together by a cross-bar 10, having apertures 11 formed therein. In the central portion of said cross-bar 10 is secured an eye 12, to which is attached a chain 14, connected to the ring 15, the latter being slidably secured upon the rod 4 of the door. From the cross-bar 10 are suspended keepers 16 by means of chains 17. These keepers 16 carry a locking-pin 18, formed integral therewith, and engage in the apertures 11 when placed in the locked position.

The operation of our improved door is as follows: When it is desired to use the grain-door, the clasps 5, secured to the rear of the sliding door, are turned in the position as shown in Fig. 3 of the drawings, thus allowing the grain-door to be disengaged from the sliding door. The grain-door is then placed in position, as shown in Figs. 3 and 5 of the drawings, the extending ribs 8 snugly fitting in the opening formed in the car. The keepers are then placed in position by inserting



the free end thereof through aperture 9 to engage in a recess 16', provided therefor in the frame of the car-door opening, the portion 18 being inserted in aperture 11, which serve to  
5 lock the door in position in the opening. The door is then secured in a manner that will permit the independent operation of the sliding door by means of the rod-and-ring connection, as will be readily understood. In  
10 order to replace the grain-door and connect the same to the sliding door, the keepers are disengaged and the clasps secured in position, as shown in Figs. 2 and 4 of the drawings. When in this position, the grain-door will  
15 again operate in conjunction with the sliding door, clasps 5 serving to not only hold the grain-door in a vertical position, but also serve to hold the grain-door against the face of the car-door, whereby both doors may be slid in  
20 conjunction.

It will be noted that by means of connecting the grain-door to the sliding door the former will always be retained in such position that it may be easily accessible for use and  
25 may be readily applied in position, securely closing the opening in the side of the car for the door.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of our  
30 invention.

Having fully described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a car-door, a grain-door arranged to the rear thereof, clasps carried by the car-door for securing said grain-door thereto, longitudinal ribs carried by said grain-door, a cross-bar secured transverse to said ribs, keepers having a locking-pin, said  
40 keepers adapted to extend through said ribs, engage said cross-bar and engage the car-door frame, substantially as described.

2. In combination with a car-door, a grain-door arranged to the rear thereof, clasps carried by the said car-door for engagement with said grain-door, longitudinal ribs carried by the grain-door for engagement with the car-door frame, a cross-bar carried by the grain-door, keepers having a downwardly-extending locking-pin, chains connecting said keepers to said cross-bar, said keepers adapted to pass through the longitudinal ribs and engage the car-door frame with said locking-pin engaging through the cross-bar, and a bar  
50 carried by the car-door and connected to the cross-bar, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM H. DOERNER.

J. A. WHALEN.

Witnesses:

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HELEN COOK.