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J. H. JONES & P. LYNCH.

GRAIN CAR DOOR.

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Fig. 1.

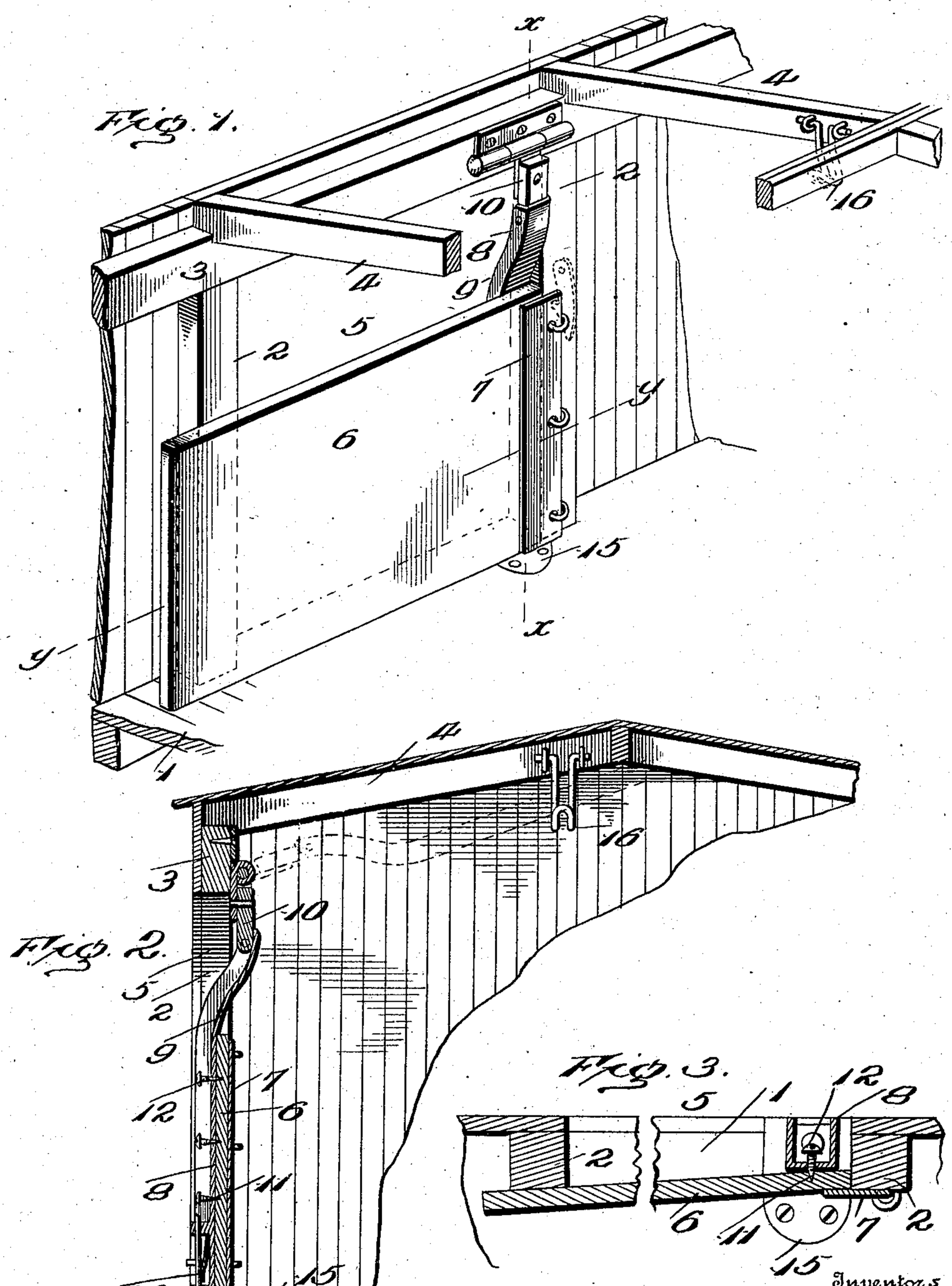

Fig. 3.

Witnesses

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GRAIN-CAR DOOR.

No. 881,244. Specification of Letters Patent. Patented March 10, 1908.

Application filed April 15, 1907. Serial No. 368,016.

To all whom it may concern:

Be it known that we, JAMES H. JONES and PETER LYNCH, citizens of the United States, residing at Atlantic, in the county of Cass and State of Iowa, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is a specification.

This invention provides means for use in connection with the closure for door openings of grain cars which will admit of said closures being easily released without necessitating destruction thereof or the battering of the same to effect release of the boards nailed to the door jambs.

The invention, besides saving material, *i. e.*, the boards employed for closing the door opening, prevents injury to the door jambs and saves time since it permits of access being readily and quickly had to the car when unloading the same.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a perspective view of a portion of a grain car showing the application of the invention. Fig. 2 is a vertical transverse section on the line *x*—*x* of Fig. 1. Fig. 3 is a horizontal section on the line *y*—*y* of Fig. 1, parts being broken away.

In the drawings, the numeral 1 represents the floor, 2 the door jambs, 3 the plate and 4 the carlines of a grain car such as commonly provided for the haulage of commodity in bulk. The door opening 5 is adapted to be closed by a door 6 of any construction commonly employed in grain cars. The door is placed against the inner sides of the door jambs 2, one end of the door abutting against the side of the door jamb facing the door opening, whereas the opposite end of the door bears against the side of the other door jamb facing towards the inner side of the car. A hinged plate 7 overlaps the joint formed between the end of the door and the side of the door jamb against which said end of the door abuts to prevent waste of grain or other commodity. The plate 7 forms a guard and is hinged at one edge to the supporting door jamb so as to swing out of the way or across the joint to prevent any waste of material. A bar 8 is connected to the plate 3 or portion of the car extending over the door opening by means of a double hinge to admit of said bar swinging either inward or outward as may be desired. The bar 8 has an offset 9 near its upper end to throw the upper end of the bar beyond the plane of the inner side of the car, whereby said bar may extend along the outer side of the door 6 near the end abutting against the side of the jamb 2 facing the door opening. A swinging member 10 is hinged at its upper end to the plate 3 so as to move inward at its lower end but which is prevented from swinging outward. The swinging member 10 is comparatively short and the upper end of the bar 8 is pivoted or hinged thereto in a manner to permit of said bar swinging outward but preventing said bar from swinging inward independently of the member 10. The combined length of the bar 8 and swinging member 10 is such as to admit of the lower end of the bar 8 approaching close to the floor 1 when in vertical position. A series of spurs 11 project inward from the bar 8 and enter an end portion of the door 6 to prevent displacement thereof. The spurs 11 may be provided in any manner and preferably consist of inner ends of screws 12 fitted into threaded openings of the bar 8, whereby provision is had for compensating for wear or projecting the inner ends of the screws to a greater or less distance from the inner side of the bar as may be required to secure the desired results. The bar 8 is of the channel type, the hollow side facing outward so as to form a housing for the screws 12 and lock bolt or fastening 13, the latter being applied to the lower end of said bar and adapted to enter an opening 14 formed in the sill or floor of the car.

To prevent the bolt 13 forcing itself outward through the sill when the door is locked, a plate 15 is let into the floor 1 and is secured thereto and the opening 14 extends therethrough. When it is required to have the bar 8 out of the way, it may be swung upward beneath the roof of the car and secured by means of a hook 16 or other fastening applied to a carline 4 adjacent to or in line with the door jamb adjacent to said bar.

The door may consist of a number of boards either loose or connected in series, and when the door opening is closed, one end of the door abuts against the door jamb adjacent to the bar 8, whereas the opposite end portion of the door rests against the inner side of the other door jamb. The bar 8 is swung into vertical position and is secured at its lower end by means of the bolt 13 which is pressed into the opening 14. By reason of the peculiar formation of the double hinged joints near the upper end of the bar 8, the latter is prevented from swinging outward when sujected to pressure from within. When the loaded car has reached its destination, the same may be unloaded by prying the bolt 13 upward, thereby permitting the lower end of the bar 8 to swing outward, said bar turning upon its hinge or pivotal connection with the swinging member 10. As the bar 8 swings outward, the end of the door abutting against the adjacent door jamb likewise moves outward and after clearing the door jamb said door may be moved longitudinally to cause the opposite end to clear the other door jamb as will be readily understood.

It will be understood from the foregoing that the present invention admits of repeated use of doors employed in connection with grain cars since it is not necessary to batter or destroy the doors to effect opening thereof as is the case when said doors are nailed to the door jambs as commonly practiced. Moreover, the construction admits of the doors being readily and quickly loosened and removed, thereby saving time in unloading.

Having thus described the invention, what is claimed as new is:

1. In a freight car having an opening in its side, the combination of a door for closing said opening, one end of the door abutting against a side of the door jamb facing the door opening, and the opposite end portion of the door resting against the side of the other door jamb facing the inner side of the car, a bar hinged to the inner side of the car above the door opening to swing both inward and outward and having an off-set near its upper end to throw the lower portion of the bar in such relative position as to extend along the outer side of the door, and means for securing the lower end of the bar to the car below the door opening.

2. In a freight car having an opening in its side, the combination of a door for closing said opening, one end of the door abutting against the side of the door jamb facing the door opening, and the opposite end portion of the door resting against the side of the other door jamb facing the inner side of the car, a member hinged to the inner side of the car above the door opening and adapted to swing inward only, a bar pivoted to the lower portion of said member to swing outward only with reference thereto and to swing inward therewith, said bar adapted to extend along the outer side of the door, and means for securing the lower end of said bar to the car below the door opening.

3. In a freight car having an opening in its side, the combination of a door for closing said opening, a member hinged at one end to the inner side of the car above the door opening and adapted to swing inward only, a bar having an off-set near its upper end and pivoted to the lower end of the said hinged member to swing outward only with reference thereto and to swing inward therewith, said bar extending along the outer side of the door, and means for securing the lower end of the bar to the car at a point below the door opening.

4. In a freight car having an opening, the combination of a door for closing said opening, a bar for securing the door and channeled in its outer side, hinged and securing member for said bar arranged in the channel or hollow side of the bar to be housed and protected thereby, and screws also arranged in the hollow side of the bar to be protected thereby and having their projecting ends pointed to form spurs to make positive engagement with the door and prevent possible slipping thereof.

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

JAMES H. JONES. [L. S.]
PETER LYNCH. [L. S.]

Witnesses:
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