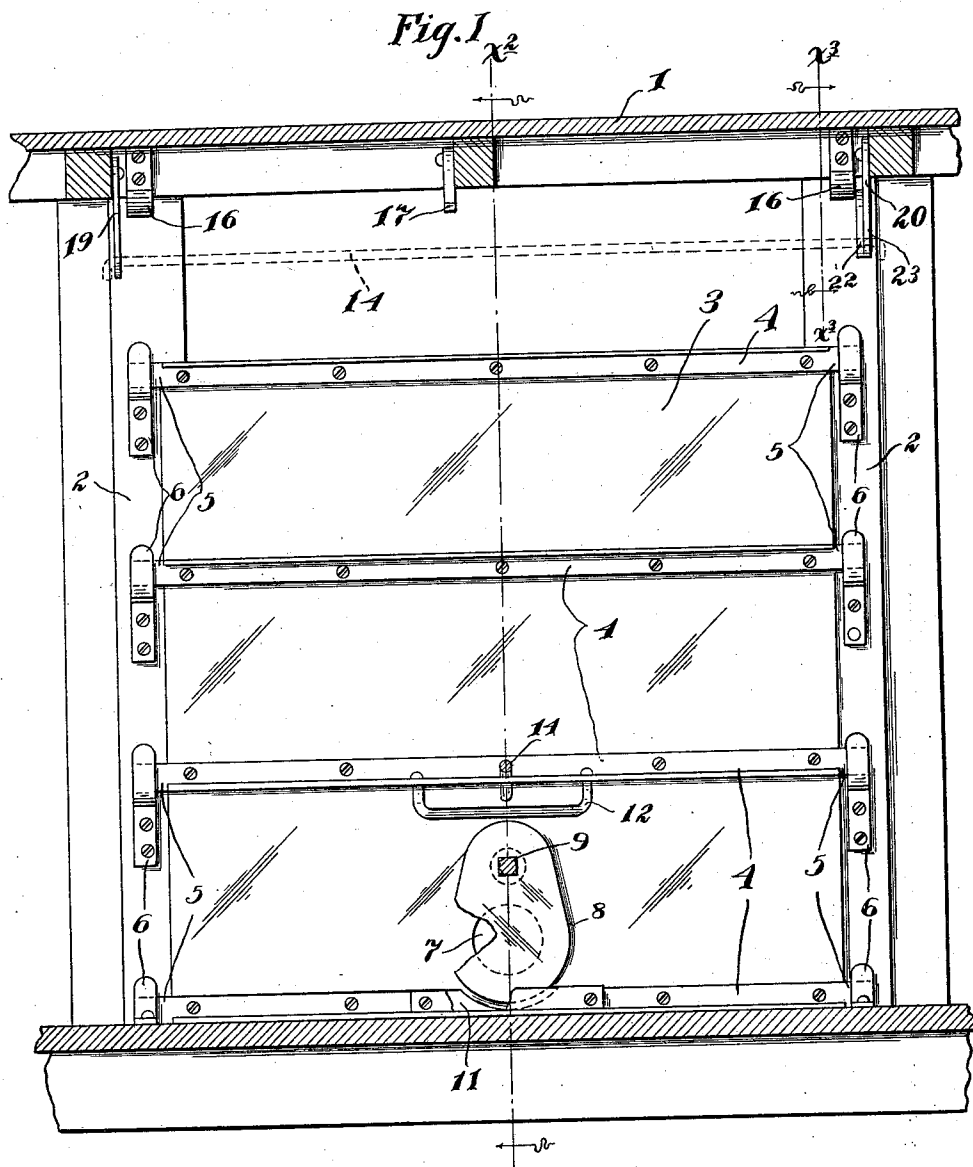


F. W. HUGUNIN.
GRAIN DOOR FOR CARS.
APPLICATION FILED MAR. 13, 1911.

1,001,036.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.



Witnesses:

Geo. Knutson

E. C. Skinkle

Inventor:

Frank W. Hugunin

By his Attorneys:

William M. Merchant

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2 SHEETS—SHEET 2.

Fig. 2

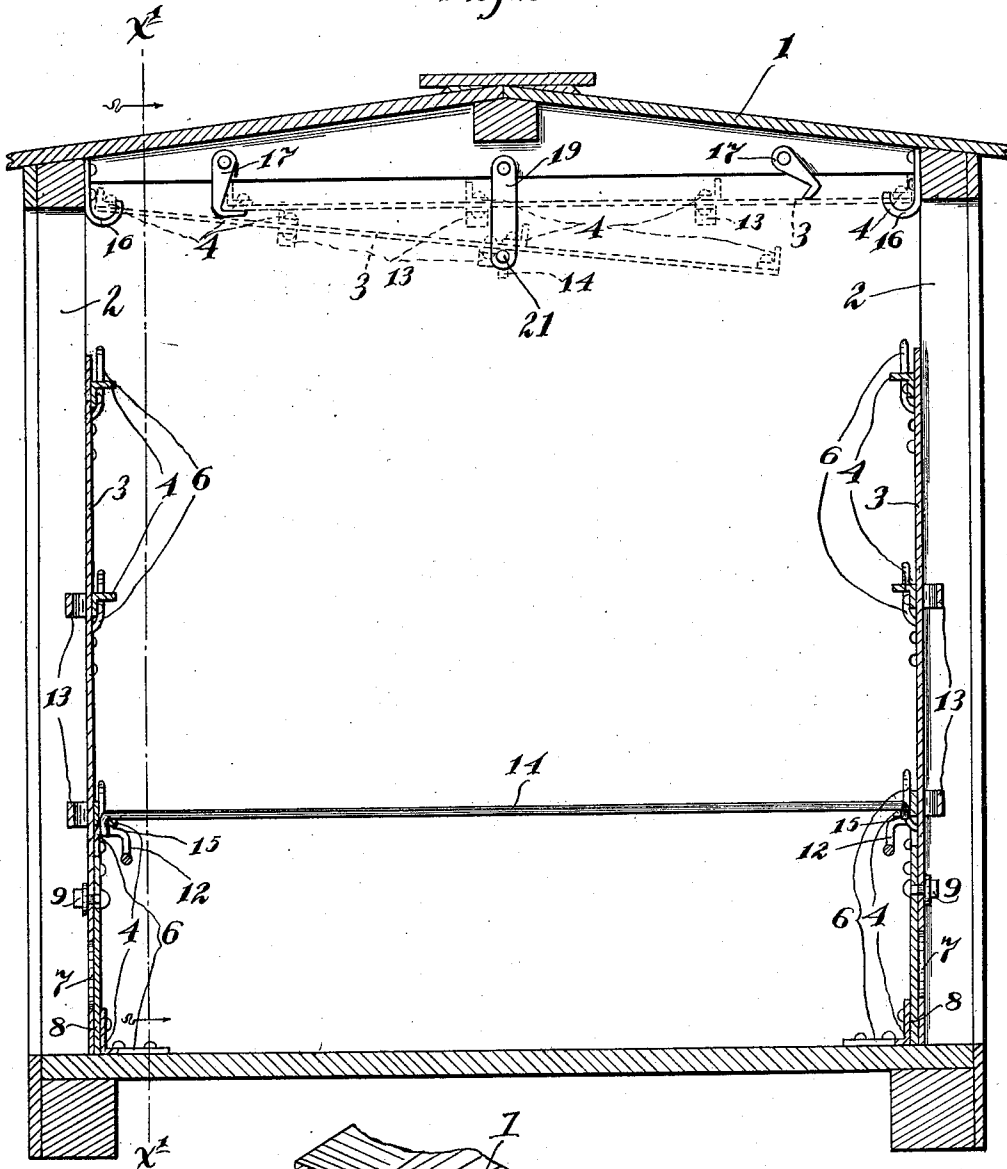
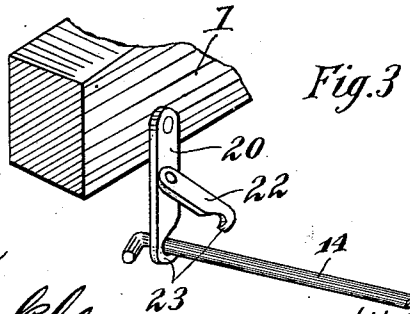


Fig. 3



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UNITED STATES PATENT OFFICE.

FRANK W. HUGUNIN, OF WASECA, MINNESOTA.

GRAIN-DOOR FOR CARS.

1,001,036.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed March 13, 1911. Serial No. 614,040.

To all whom it may concern:

Be it known that I, FRANK W. HUGUNIN, a citizen of the United States, residing at Waseca, in the county of Waseca and State of Minnesota, have invented certain new and useful Improvements in Grain-Doors for Cars; 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 appertains to make and use the same.

My invention has for its object to provide an improved grain door for cars and, to this end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view showing the improved grain door in side elevation applied in working position to the door opening in a car body and looking at the same from the inside of the car, the car body being shown in longitudinal vertical section taken on the line x^1-x^1 of Fig. 2; Fig. 2 is a view in transverse vertical section taken on the line x^2-x^2 of Fig. 1, with some parts shown in different positions by means of dotted lines; and Fig. 3 is a view in detail of one of the hook-supporting means for maintaining the doors in operative positions, some parts thereof being sectioned on the line x^3-x^3 of Fig. 1.

The numeral 1 indicates a portion of a car body having at its sides the usual door openings formed between door posts 2. Each door opening is adapted to be closed by means of a removable door 3 preferably, as shown, constructed of sheet metal, reinforced by means of horizontally extended and vertically spaced angle irons 4 rigidly secured thereto by means of rivets. For detachably securing the doors 3 to the door posts 2 for closing the door openings, the vertical flanges of the angle irons 4 are extended beyond the vertical edges of the doors 3, to form retaining lugs 5, and which lugs are adapted to be seated in keeper brackets 6 secured to the door posts 2.

For releasing the pressure on the doors 3 before the same are opened, each door 3 is provided with a relief port 7 formed near the lower and intermediate portions thereof. Each of these relief ports 7 is adapted

to be opened and closed by means of a swinging gate 8 which is pivotally secured to the inside of the door 3 directly above the relief port 7, by means of a pin 9. This pin 9 is rigidly secured to the gate 8 and is rotatively mounted in a seat cut through the door 3. The free end of the pin 9 projects through the door 3 and terminates in a square head 10 to which a wrench, not shown, is adapted to be applied for opening the gate 8. Owing to the position of the pivot pin 9, the gate 8 will return to its closed or normal position under the action of gravity. To lock the lower free edge of the gate 8 against inward movement when in a closed position, a depression or seat 11 is formed in the lowermost angle iron 4.

To the inside of the door 3 is secured a handle 12 to be used in lifting the door 3, and to the outside of the door 3 is rigidly secured vertically spaced irons 13 to be used as a ladder in climbing over the door 3 and into the car body.

For bracing the doors 3 against outward pressure, the same are connected by means of a horizontally extended brace rod 14 having hooked ends detachably seated in perforations 15 formed in the horizontal flanges of opposite angle irons 4 on the doors 3.

When the doors 3 are not in use, the same are detachably secured to the top of the car body by the following means. Secured to the roof timbers of the car body 1, directly over each vertically aligned set of keeper brackets 6, is rigidly secured a depending hook 16 adapted to receive the uppermost pair of lugs 5 and support the grain door 3 in an elevated position. After the doors 3 are secured to the hooks 16, one of the doors 3 is first swung on the hooks 16 into a substantially horizontal position and secured in this position by means of a gravity-actuated hook 17 pivotally secured to the roof timbers of the car body 1, adapted to engage the under side of the free edge of the door 3. As shown, there are two of these hooks 17, one for each of the doors 3, so that it is immaterial which of the doors 3 is first moved into an idle position. After the first door is secured by one of the hooks 17, the second or other door 3 is swung on its supporting hooks 16 into an idle position directly under the other door and secured in this position by means of the rod 14

which is held by means of a pair of depending links 19 and 20. These links 19 and 20 are spaced apart from each other a distance sufficient to permit the doors to be moved therebetween and are pivotally secured at their upper ends to the roof timbers of the car body 1. The link 19 is provided at its lower end with a perforation 21 adapted to receive and hold one of the hooked ends of the tie rod 14. Pivotally secured to the intermediate portion of the link 20 is a supplemental link 22. The lower ends of the link 20 and the supplemental link 22 terminate in reversely formed hooks 23 which are adapted to embrace the rod 14 from opposite sides. The rod 14 is just the right length to extend between the links 19 and 20 and its hooked ends prevent its endwise removal from the supporting links.

What I claim is:

1. In a car body having opposite door openings, of doors mounted in said door openings and arranged to be moved from a position to close said door openings to idle positions at the top of said car body, a rod adapted to connect said doors when in their closed positions and to support the same when in their idle positions, and means for securing said rod to the car body when used as a support for said doors when in their idle positions, substantially as described.

2. In a car body having opposite door openings, of doors mounted in said door openings and arranged to be moved from a

position to close said door openings to idle positions at the top of said car body, a rod having hooked ends adapted to engage and connect doors which close opposite door openings, a pair of laterally spaced rod supports secured to said car body and between which said doors project when in idle positions, said rod supports arranged to hold said rod for supporting said doors in idle positions, substantially as described.

3. In a car body having opposite door openings, of doors mounted in said door openings and arranged to be moved from a position to close said door openings to idle positions at the top of said car body, said doors being reinforced with vertically spaced and horizontally extended angle irons, a rod having hooked ends adapted, when used as a brace, to be seated in perforations formed in the horizontal flanges of said angle irons on the doors which close opposite door openings, and a pair of laterally spaced and depending links pivotally supported from the roof of said car body and between which said doors extend when in idle positions, said links at their free ends having seats adapted to receive the ends of said rod for supporting the doors in idle positions.

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

FRANK W. HUGUNIN.

Witnesses:

CHAS. SPILLANE,
ROBT. JAS. MACKAY.