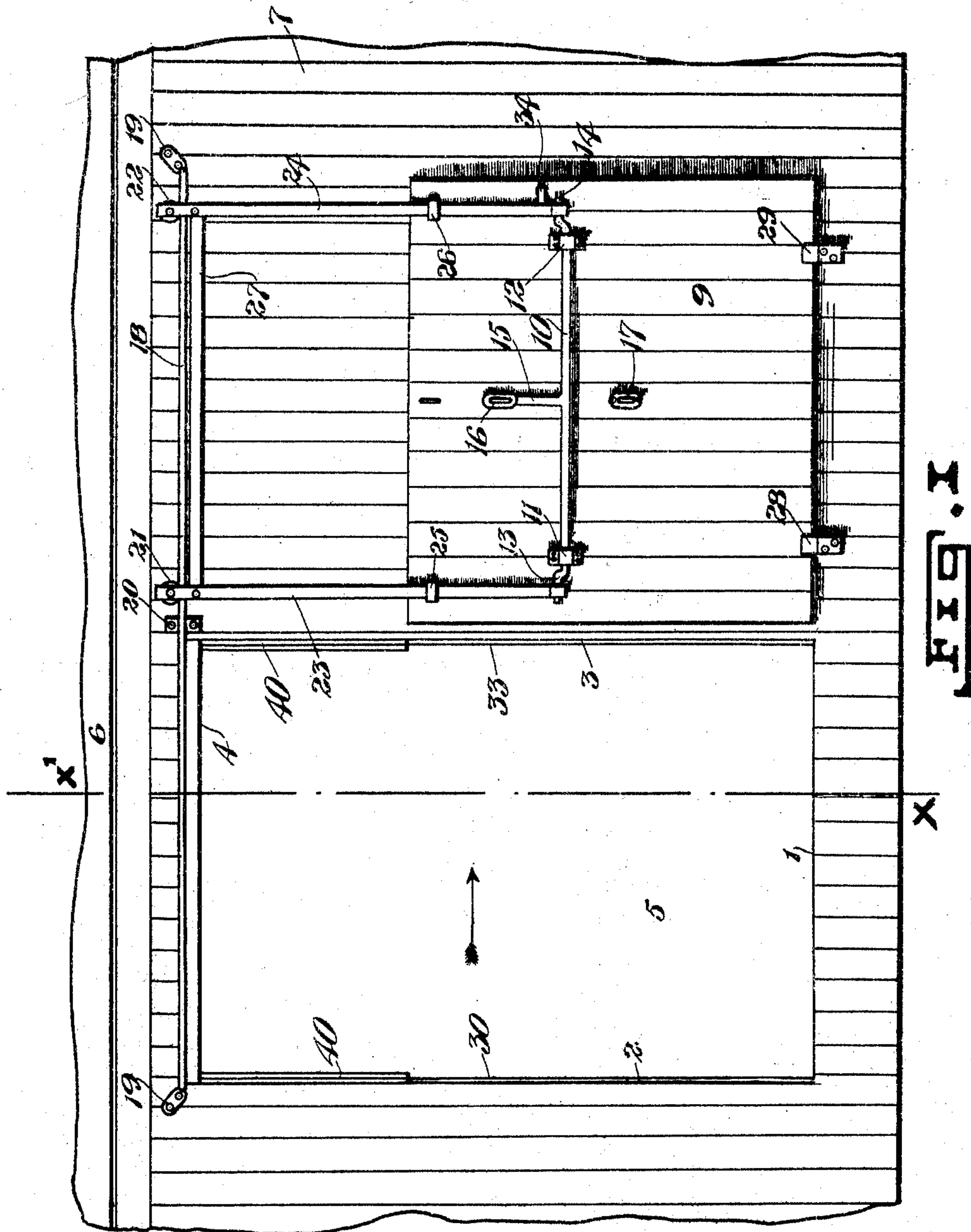


H. HEDSTROM.
COMBINATION SIDE AND GRAIN CAR DOOR.
APPLICATION FILED MAR. 20, 1908.

928,308.

Patented July 20, 1909.

3 SHEETS—SHEET 1.



WITNESSES.

Sherald S. Rockburgh
Jas. M. Fapley

INVENTOR.

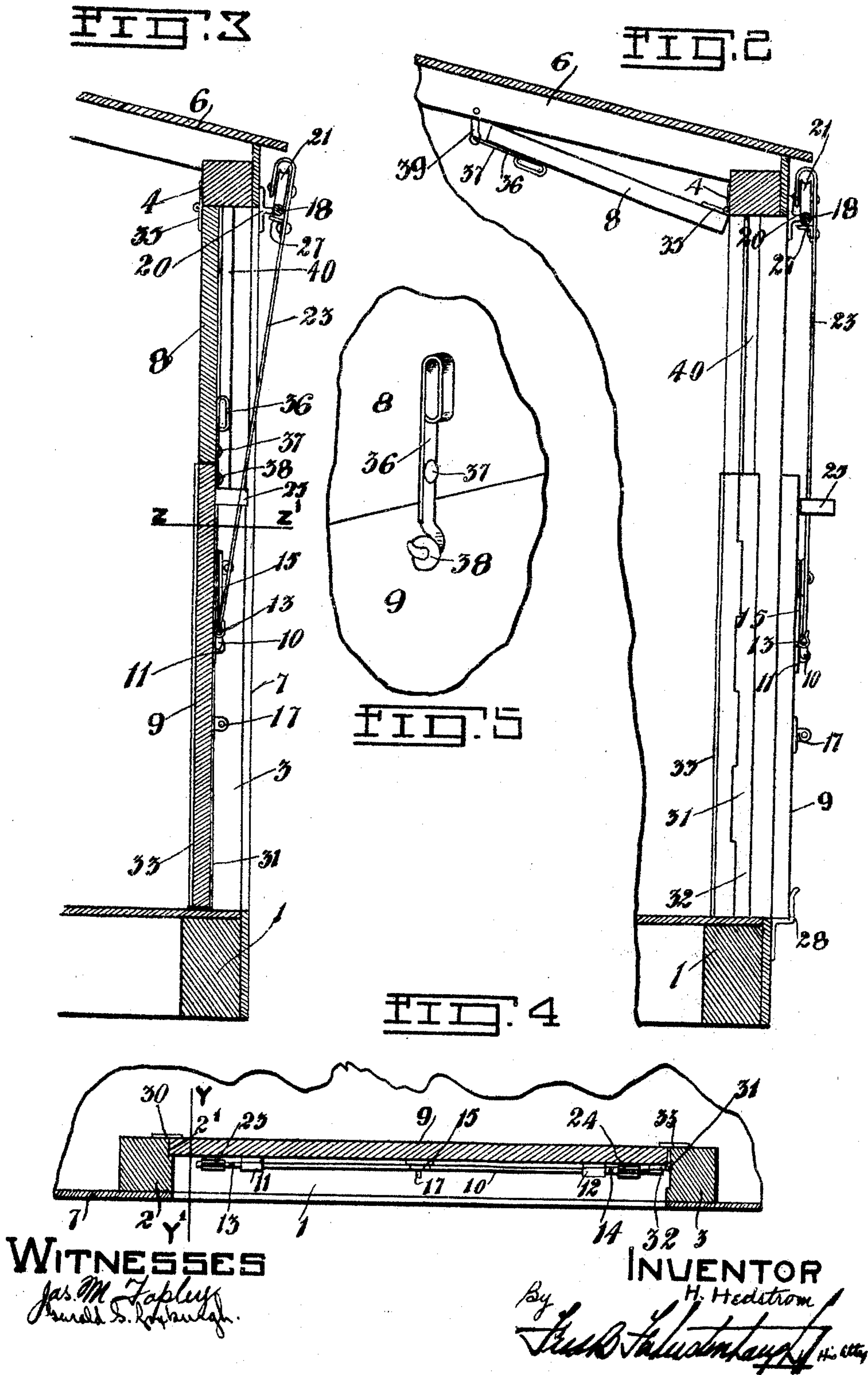
H. Hedstrom
By *[Signature]*

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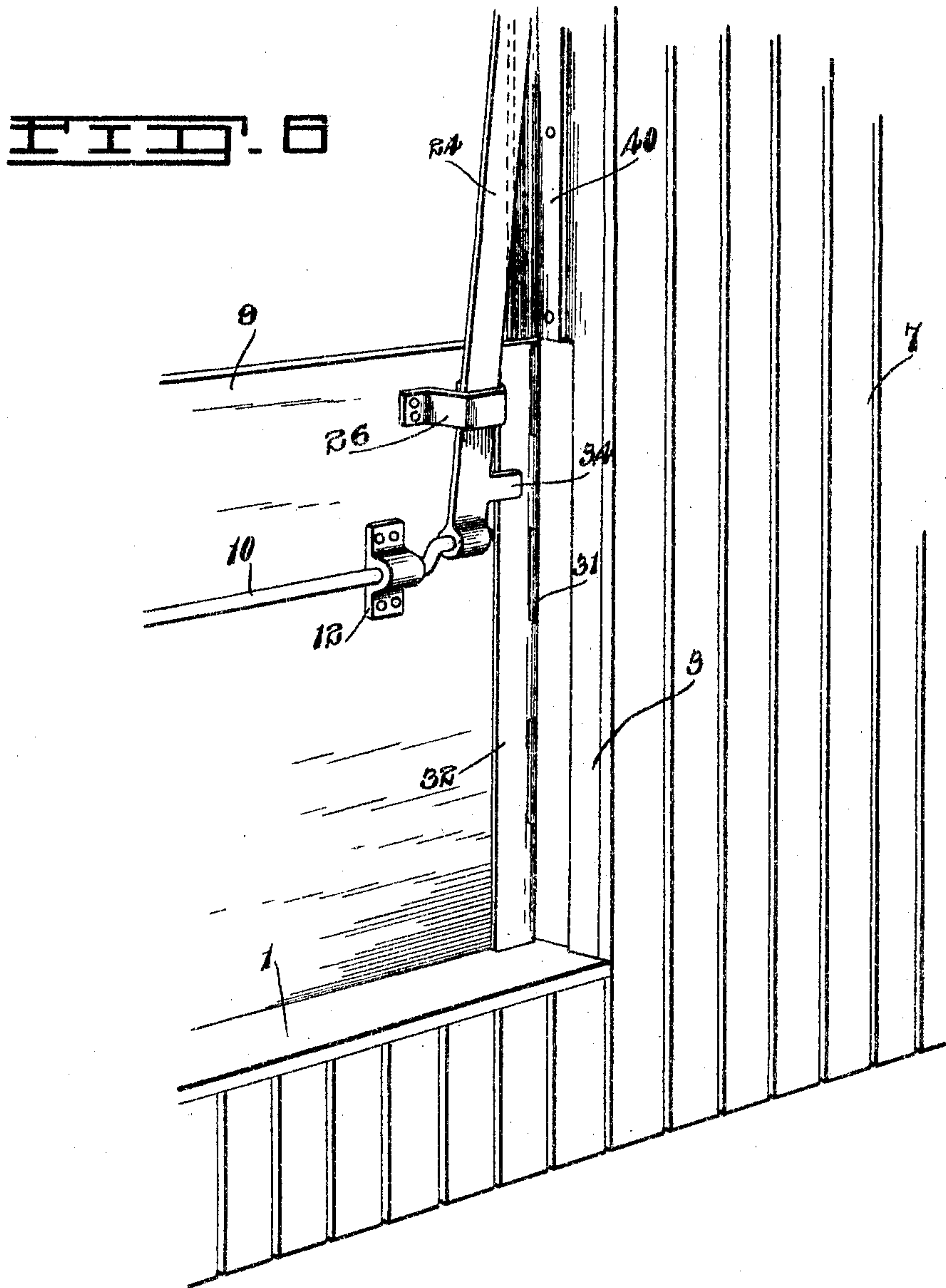
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WITNESSES

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UNITED STATES PATENT OFFICE.

HAQVIN HEDSTROM, OF WINNIPEG, MANITOBA, CANADA.

COMBINATION SIDE AND GRAIN-CAR DOOR.

No. 928,308.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed March 20, 1908. Serial No. 422,292.

To all whom it may concern:

Be it known that I, HAQVIN HEDSTROM, of the city of Winnipeg, in the Province of Manitoba, Canada, mechanic, have invented certain new and useful Improvements in Combination Side and Grain-Car Doors, of which the following is the specification.

My invention relates to combination side and grain car doors.

The object of the invention is to provide a simple and inexpensive door which can be used both as a grain door and a side door.

A further object is to provide a door from which grain or such like material can be unloaded quickly or in other words a door by which the grain pressure can readily be released.

A still further object is to provide a door which will allow no leakage of grain and which when not in use is entirely out of the way.

It consists essentially in a door formed in two sections the upper section of which is hinged from the upper cross beam and the lower section of which is carried by a set of hangers operating on a track, means carried by the lower section of the door whereby it may be raised and lowered in respect to the hangers, means carried by one of the door posts to receive one edge of the lower door section, and means, carried by the other of said door posts, adapted to close over the lower section when in position, the parts being arranged and constructed in detail as hereinafter more particularly described.

Figure 1 is a side view of a car supplied with my door, the door being shown in an open position. Fig. 2 is a vertical sectional view through the car, the section being taken in the plane denoted by the line X X', Fig. 1, and looking in the direction of the arrow. Fig. 3 is a vertical sectional view through the door and car frame, the section being taken in the plane denoted by the line Y Y' in Fig. 4, the door being closed. Fig. 4 is a horizontal sectional view through the lower section of the door and the door post, the section being taken in the plane denoted by the line Z Z', Fig. 3. Fig. 5 is an enlarged detailed perspective view showing the manner in which the sections of the door are locked together. Fig. 6 is a perspective view of a portion of one side of the door.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents the sill, 2 and 3 the door posts, and 4 the upper cross beam of an ordinary car, of which 5 is the usual doorway opening.

6 represents the roof of the car and 7 are the side or face boards.

The door is composed of two sections of which 8 represents the upper and 9 the lower, such sections being adapted to completely fill the doorway opening, when closed, the one 8 being hinged to the cross beam 4. The lower section 9 has a horizontal rod 10 carried centrally thereon, the rod being secured to the outside of the door section by straps 11 and 12 respectively. The ends of the rod are each formed with a crank 13 and 14 respectively, the crank ends being beyond the straps, and at the center there is a side extension or lever 15, for a purpose later described. The lever has an opening 16 therein which is adapted to close over an eye 17 fastened on the door.

18 is a track on the outside of the car at the top and passing longitudinally of the car. The ends of the track are enlarged at 19 and bolted or otherwise fastened to the face boards 7.

20 is a bracket secured to the door post 3 and it passes outwardly to the track substantially midway of its length.

21 and 22 are rollers or wheels operating on the track and carried at the upper end of the hangers 23 and 24 which pass downwardly to the crank ends 13 and 14 and have their lower ends fastened thereto.

25 and 26 are a second set of straps fastened to the lower section of the door and passing outwardly and around the hangers, it being noticed that they allow of an outward and inward movement of the hangers.

27 is an angle iron fastened to the straps 23 and 24 at the top, spacing them, such angle iron having the horizontal arm passing directly under the track thereby preventing the rollers or wheels from leaving the track.

28 and 29 are rests or brackets fastened to the face boards of the car and are adapted to receive the lower edge of the under section of the door when it is open. This position is shown in Fig. 1.

The inner corner of the door post 2 is cut away at 2' to form a channel, the channel being practically the same width as the thickness of the door, and of a length equal to the height of the lower section 9.

30 is an iron plate fastened to the inner edge of the door and completing the channel.

31 is a hinge fastened to the face of the door post 3 directly opposite the channel in the other door post. The hinge has one of its wings 32 free to swing outwardly at right angles to the door post, and it is of a length equal to the lower section of the door.

33 is a plate fastened to the inner edge of the door post 3, and with its one edge extending slightly beyond the post to form an abutment for the door, as later explained. The plate passes up the door the same distance as the hinge.

When it is desired to close the lower section it is moved along the track till it covers the door way and the one edge of the door is inserted in the channel formed in the door post 2. The wing 32 of the hinge is thrown open and the other edge of the door is placed in against the plate 33 when the hinge is closed over it. The lever 15 is thrown upwardly against the lower section of the door and the motion causes the section to be thrown down tightly against the door sill and at the same time locks the wing 32 of the hinge, so that it cannot open.

Referring to Fig. 1 it will be seen that the hanger 24 has a projecting lug 34 thereon and it is this lug which engages with the hinge to lock it, as above stated. When the lever 10 is thrown out to permit movement of the door the hanger 24 is also moved away from the door, and as the lug 34 is carried by the said hanger, the wing 32 of the hinge can pass under said lug.

When the lower section of the door is open it is held tightly to the side of the car by throwing the lever 15 to the position shown in Fig. 1 which jams the section against the rests 28 and 29. To release the section prior to closing, the lever is thrown downwardly which raises the section from the rests, as will readily be understood.

The upper section of the door 8 is swung from the cross beam 4 by hinges 35 and its width is such that it will close with the under section when shut. The length of the section is practically equal to the distance between the door posts.

36 is a hooked bar fastened by a bolt 37 to the lower edge of the upper section.

38 is an eye carried by the lower section toward the upper edge and centrally thereof. 39 is a second eye fastened to the roof of the car and the hooked end of the bar 36 is adapted to engage with the eye 39 when the upper

section is open, and with the eye 38 when the section is closed.

40 are vertically extending angle bars fastened on the opposing faces of the door posts 2 and 3. The angle bars are of a length which is equal to the height of the upper section 8 of the door, and they are placed so that when the section is closed its outer face abuts the bars. These it will be seen will prevent the hinges of the upper section from being broken in event of the door being suddenly let drop.

What I claim as my invention is:

1. In a device of the class described, the combination with the door post of a car, of a grain door section, a horizontal crank lever carried on the outer face of the door at a point slightly above the horizontal center thereof, vertical bars having their lower ends secured to the crank ends of said lever, wheels on the upper end of said vertical bars, a horizontal track located above the door on which the wheels run, straps secured to the door and engaging the vertical bars so as to permit lateral movement of the same, and a handle on said crank lever for turning the same.

2. In a device of the class described, the combination with the door posts of a car, one of which has a vertically extending channel therein, of a grain door section adapted to pass between the door posts with one of its ends within the channel, a plate secured to the inner face of the other door post and extending beyond the edge, a hinged plate connected to the latter door post and designed to close over the outer face of the adjoining edge of the section, a horizontal crank lever carried on the outer face of the door, vertical bars having their lower ends secured to the crank ends of the said lever, wheels on the upper ends of said vertical bars, a horizontal track located above the door on which the wheels run, means for turning the crank lever, and a lug on one of the vertical bars near the lower end thereof, adapted to engage with the hinge plate to lock the same against the door section.

Signed at Winnipeg, in the Province of Manitoba, this 20th day of February 1908.

HAQVIN HEDSTROM.

In the presence of—

L. F. MACDONALD,
G. S. ROXBURGH.