Nov. 18, 1924. 1,515,964

J. A. O'ROURKE

GRAIN DOOR FOR BOX CARS

Filed Nov. 25, 1922 2 Sheets-Sheet 1

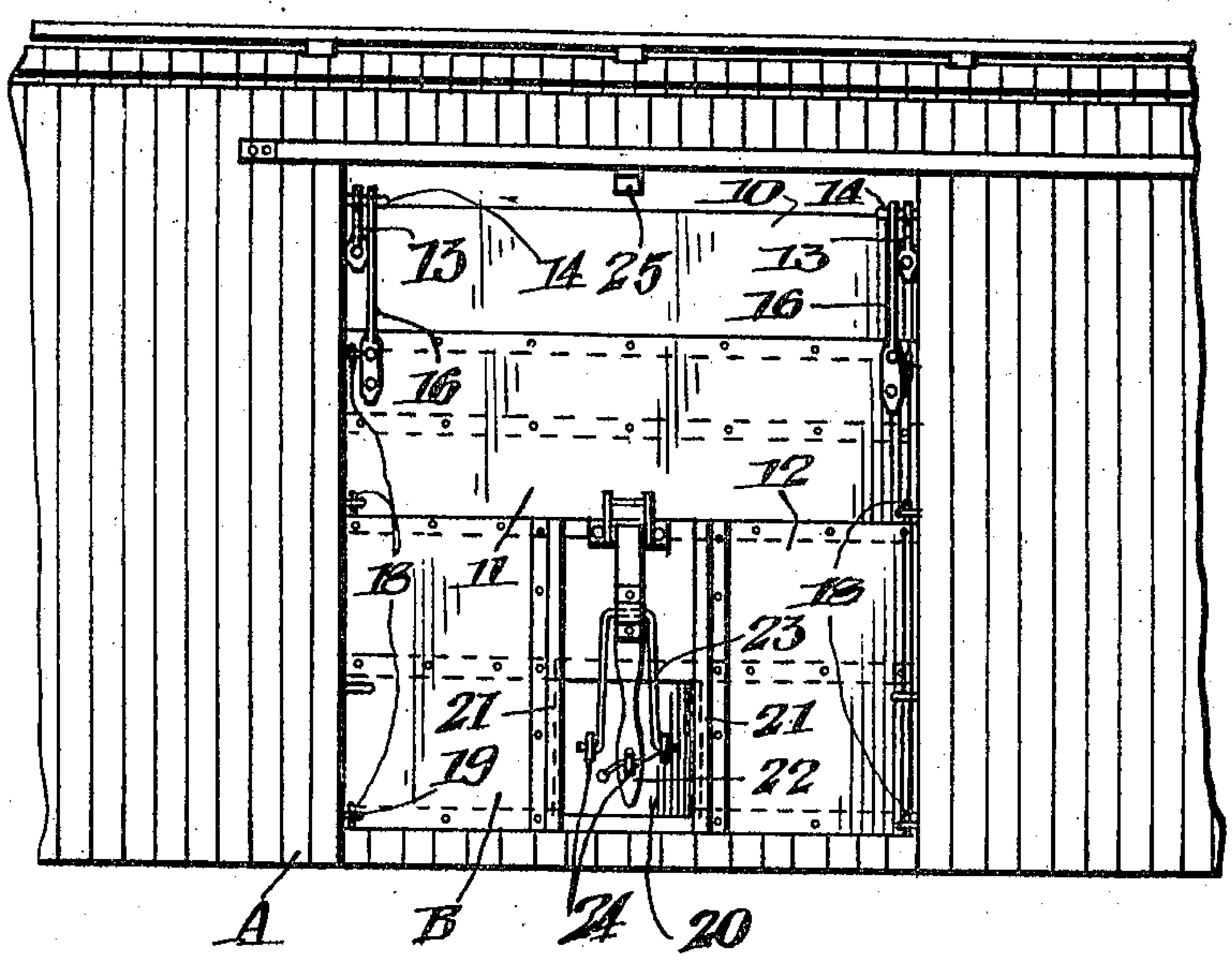

Fig. 1.

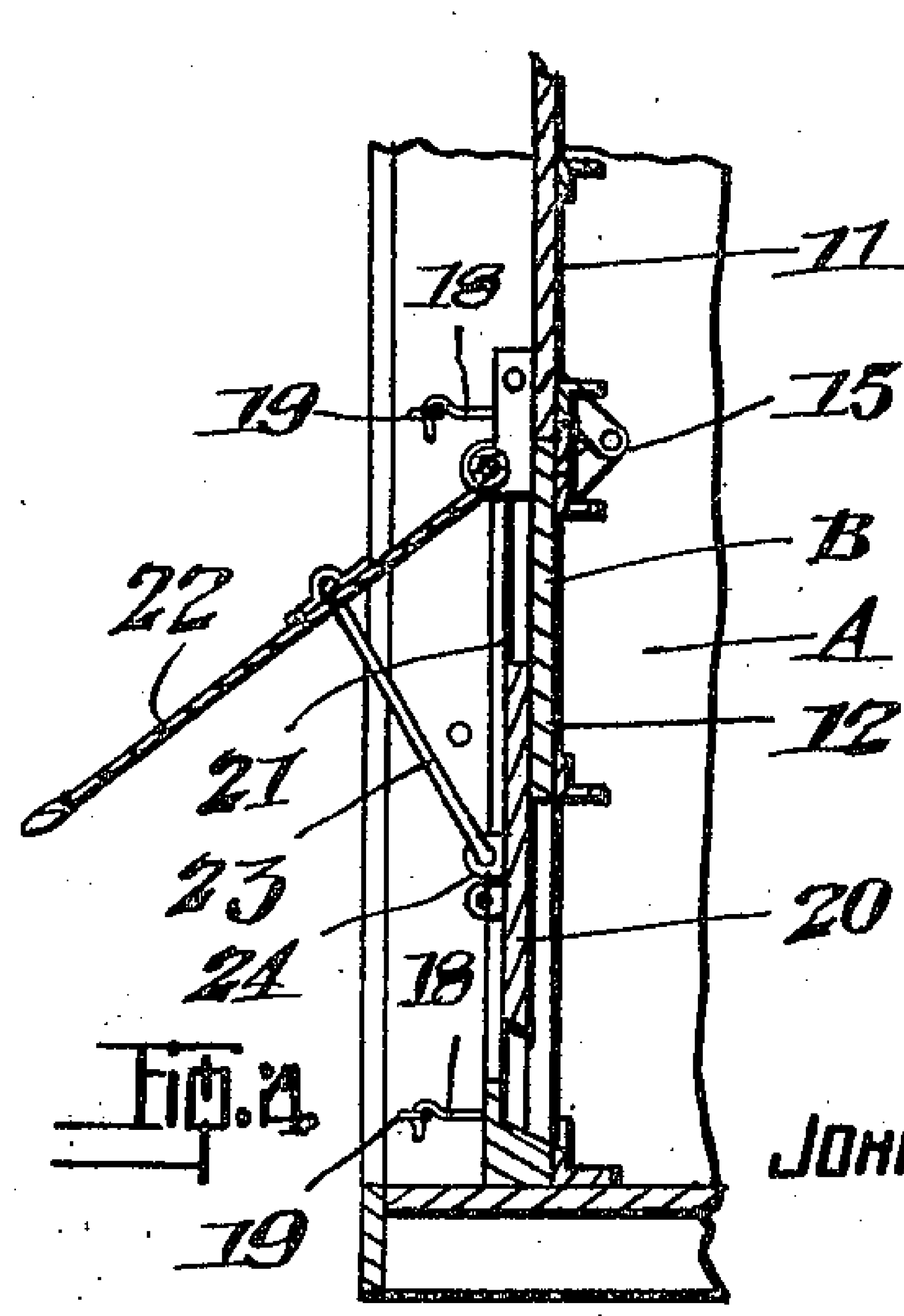

Fig. 4.

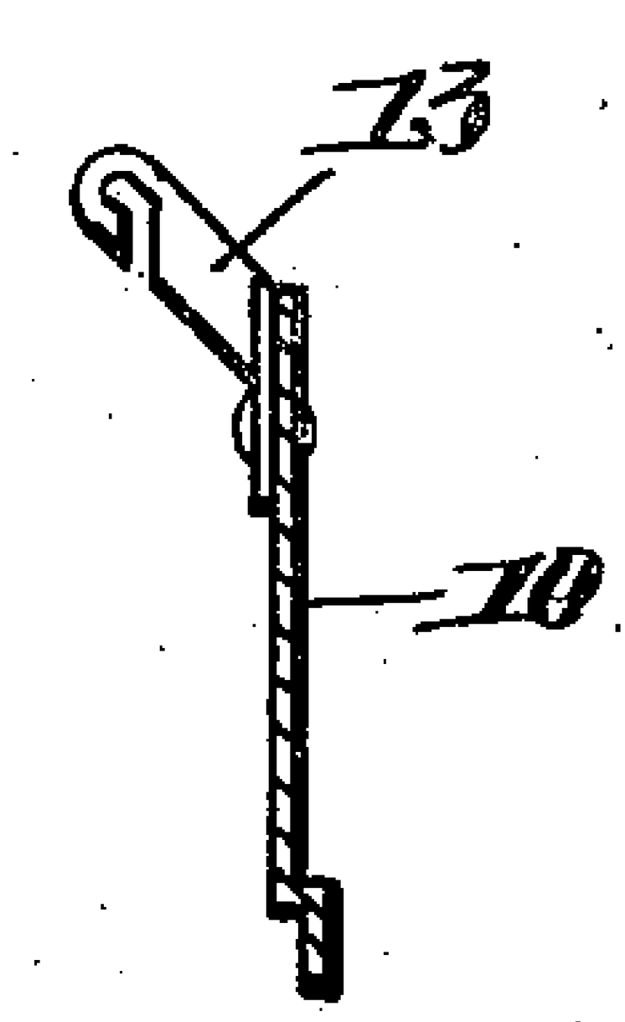

Fig. 5.

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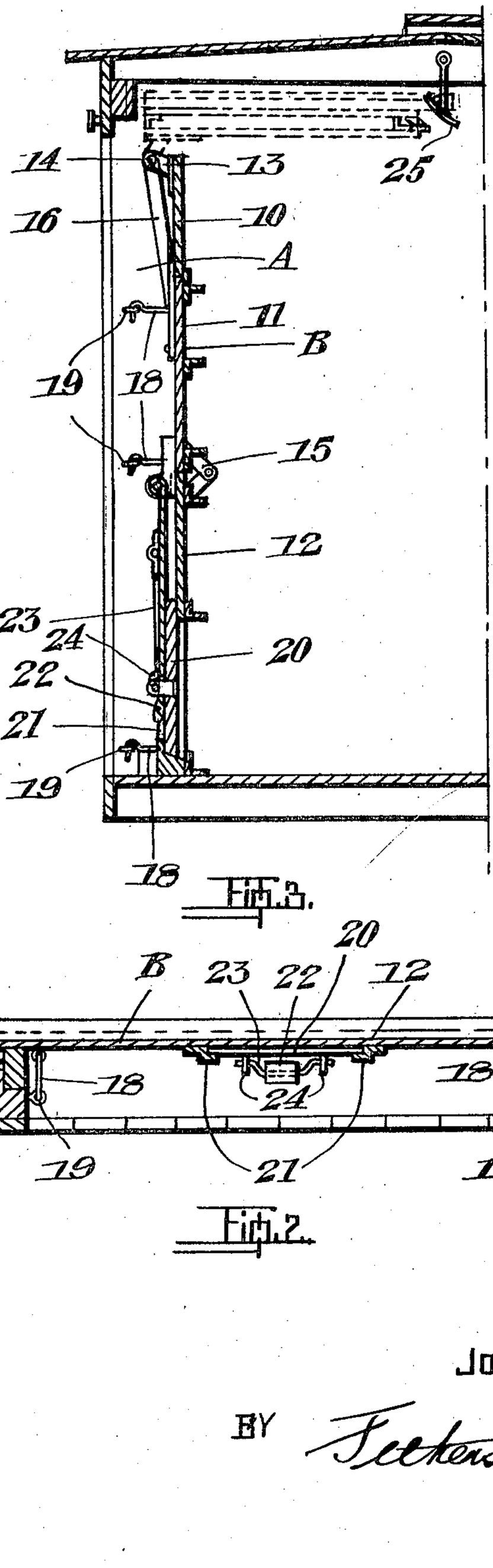

Fig. 3.

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN ALEXANDER O'ROURKE, OF CARBON, ALBERTA, CANADA.

GRAIN DOOR FOR BOX CARS.

Application filed November 25, 1922. Serial No. 603,362.

To all whom it may concern:

Be it known that I, JOHN ALEXANDER O'ROURKE, a subject of the King of Great Britain, and a resident of Carbon, in the Province of Alberta and Dominion of Canada, have invented certain new and useful Improvements in Grain Doors for Box Cars, of which the following in a specification.

This invention relates to improvements in grain doors for box cars, and the objects of the invention are to provide an efficient and economically constructed grain door, preferably of steel, and made in three sections hingedly connected to the car door, the two lower sections being hingedly connected to one another and provided in the lower section with a sliding grain discharge door.

Further objects are the provision of a grain door of this character that, while adapted to be swung from the roof or in sections, is also adapted to be secured when closed by suitable means in combination with the car frame.

Still further objects are the provision of a grain door that can be swung open in folded position to lie snugly against the roof of the car when not in use.

Another object is the provision of a door of this kind in which the top section can be swung open independently of the lower sections, to allow the grain chute to enter the car.

With these and other objects in view, the invention consists essentially in the combination, construction and arrangement of part as described in the present specification and illustrated by the accompanying drawings that form part of the same.

Referring to the drawings, in which like characters of reference indicate corresponding parts in each figure, and in which:

Figure 1 is a plan view of the grain door in closed position in a box car.

Figure 2 is a longitudinal section.

Figure 3 is a vertical section, showing the sliding door in closed position.

Figure 4 is a similar view with parts cut away showing the sliding door in open or raised position.

Figure 5 is a sectional detail of the swingingly supporting link for the door sections.

In the drawings:

A is the box car and B, the grain door as a whole, constructed of any suitable material, and here shown as comprising three sections, 10, 11 and 12, the upper or top section 10 being provided with arms 13 adapted to pivotally engage with supporting lugs 14 on the door jambs while the lower sections 11 and 12 are hingedly connected to one another at 15 and swingingly connected to the top of the door jambs by means of arms 16 designed to pivotally engage with the supporting lugs 14.

18 are hook members on each side of the grain door designed to engage with the apertured lug members 19 on each side of the car frame whereby the door sections are securely held in place. 20 is a sliding door in the lower section 12 adapted to operate in guideways 21 by means of a pivotally mounted handle 22 on the section 12, said handle being, in turn, pivotally connected substantially midway of its length with a link member 23, in turn hingedly secured to the sliding door at 24. 25 are supporting clips fixedly mounted on the roof of the car and designed to engage with the grain door when swung upwardly in open or folded position, as shown in Figure 3, and to retain same as may be required.

From the foregoing, it will be seen that I have invented a very simply and effective grain door for box cars which can be readily opened in sections, the two lower sections and the top section being separate; the former being hingedly connected to one another, the top section being independent of both, and all sections being pivotally mounted from the top of the car door opening, thus enabling the top section to be operated by being swung open independently of the other two sections, and, in turn, the other two sections to be operated independently of the top section.

For loading grain, it is advisable to swing the top section upwardly and hitch it to the roof of the car and, when not in use, the two lower sections can be folded and also swung upwardly and hitched to the roof. To hold the sections securely in position, I have also provided the hook means on the said sections designed to engage with lugs on each side of the frame.

It will further be noted that the bottom of the lower section is formed with a flange on the inside which tends to hold the door securely in position when closed, and also prevents any leakage of grain between it and the car floor.

As many changes could be made in the

above construction and many apparently widely different embodiments of my invention within the scope of the claim, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

In a grain car door, the combination with a car door having a door opening, of a door formed in sections, the top section being provided with arms adapted to pivotally engage with lugs on the car body to swing the section inwardly, the middle and lower sections being hingedly connected to one another, and the middle section having means similar to the arms on the top section and adapted to engage with lugs on the car body whereby said middle and lower sections are adapted to be folded and swung inwardly, means carried by the car roof for supporting said inwardly swung sections, and means on the door jambs adapted to engage with means on the said sections to hold the latter securely in extended position forming the plate door.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN ALEXANDER O'ROURKE.

Witnesses:
JOHN POXON,
PATRICK E. LANIGAN.