

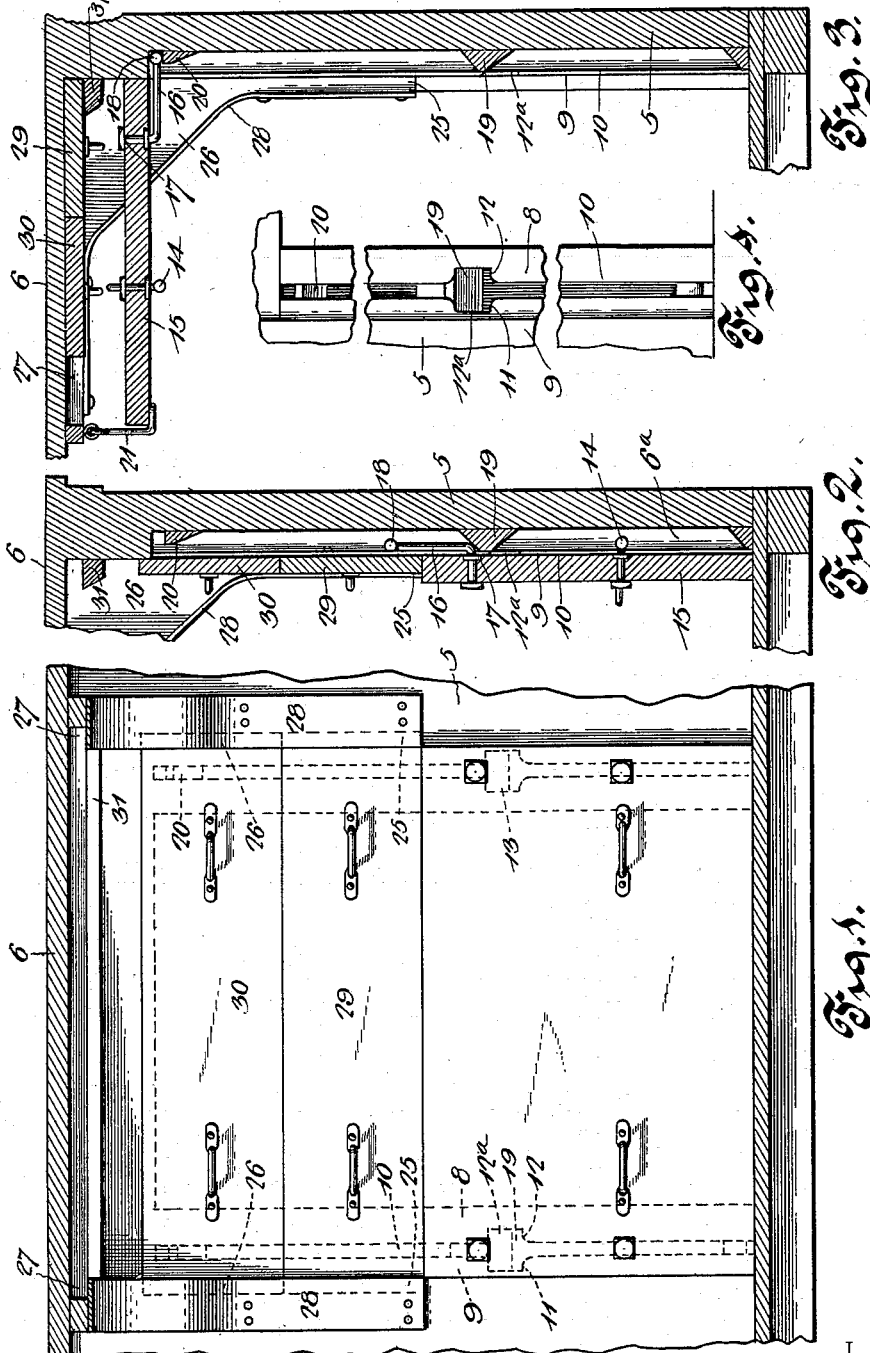
No. 648,430.

Patented May 1, 1900.

J. H. PITMAN.
FREIGHT CAR DOOR.

(Application filed Jan. 30, 1900.)

(No Model.)



Witnesses

J. Frankfurterwell,
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Inventor,
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UNITED STATES PATENT OFFICE.

JAMES H. PITMAN, OF NEOLA, IOWA, ASSIGNOR OF ONE-HALF TO SHERMAN S. RIDDELL, OF SAME PLACE.

FREIGHT-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 648,430, dated May 1, 1900.

Application filed January 30, 1900. Serial No. 3,342. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. PITMAN, a citizen of the United States, residing at Neola, in the county of Pottawattamie and State of Iowa, have invented a new and useful Freight-Car Door, of which the following is a specification.

This invention relates to freight-car doors, and more particularly to the class of grain-doors for freight-cars, the object of the invention being to provide a construction including a door comprising separable elements or members, which may be successively moved into and out of their operative positions, as may be desired under different conditions.

In the drawings forming a portion of this specification, and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is a vertical section of a portion of a car provided with the grain-door of the present invention, the parts of the grain-door being shown in elevation. Fig. 2 is a vertical section of Fig. 1, taken through the guideways for the lower member of the door and showing the parts of the door in their positions to close the car. Fig. 3 is a view similar to Fig. 2 and including a portion of the roof of the car, this figure illustrating the position of the door members when the car is open. Fig. 4 is a detail front elevation of a part of a car adjacent the doorway and illustrating the formation of the slot in which the guides for the main door member operate, this figure being partly broken away.

Referring now to the drawings, 5 represents the side of a freight-car, and 6 the roof thereof, the side of the car having a doorway cut therein in the usual manner. At the sides of the doorway are formed vertical slots 6^a in the inner face of the side of the car, these slots being partly covered by plates 8 and 9 to form an entering slot 10, these plates being cut away at points the proper distances from their lower ends, as shown at 11 and 12, to permit the insertion of the heads of guides 14 and 16, carried by the lowermost section 15 of the grain-door. This lower section of the grain-door, as shown at 17, has the guides 16 attached to the rear face thereof adjacent its upper edge, these guides 16 extending out-

wardly from the face of the door-section and then upwardly, so that their T-heads 18 lie above the upper edge of the door-section. The lower guides 14 are in the form of headed studs which extend rearwardly from the rear face of the door. When applying this door-section 15, the heads 18 of the guide 16 are passed inwardly through the openings 12^a and 13 of the plates 8 and 9, so as to lie in the slots or grooves 10 in the wall of the car, after which said guides are moved upwardly and blocks 19 are disposed in the grooves 10 to prevent the return of the guides to the openings 12^a and 13. These blocks 19, as illustrated, are triangular in form, the lower sides of these triangular blocks leading up to the upper edges of the openings 12 and 13, and in applying the guides 14 they are passed through the openings 12 and 13 to lie with their heads in the grooves 10, these heads striking against the blocks 19, through the medium of which they are directed downwardly.

It is of course understood that the stems of the guides extend through the slots 10, while the heads thereof travel beneath the edges of the plates 8 and 9, and to withdraw the heads of the guides 14 it is only necessary to move the door-section 15 upwardly until these heads strike against the blocks 19, when the guides will be forced outwardly and through the openings 12 and 13, after which the door-section may be swung with its edge upwardly to lie against the roof of a car. Blocks 20 are disposed in grooves 10 against the rear walls thereof and at their upper ends, and these blocks receive and support the heads 18 of the guide 16 after the door-section 15 has been moved to its upper limit, these blocks then forming bearings for the heads, which then have the function of hinges for the door-section when it is swung against the ceiling of the car. It will thus be seen that when desired the door may be moved from its operative position to close the doorway of the car and that when it is thus moved it may be held by a latch or latches 21, pivoted to the ceiling of the car. Conversely, when it is desired to move the door-section 15 into its operative position it is only necessary to disengage the latch or latches 21, when the door-

section may be swung downwardly to cause the heads of the guides 14 to lie against the plates 8 and 9, and if the door then be lowered the heads of these guides will pass inwardly through the openings 12 and 13 and be moved downwardly in the grooves 10 to hold the door-section against inward movement.

At the outer sides of the plates 9 are formed inwardly-directed offsets 25, which extend from the line of the upper edge of the door-section 15 when it is in its closed position to the ceiling of the car, the upper portions of these offsets being triangular, as shown at 26, these triangular portions merging into offsets 27 upon the ceiling of the car. Upon the inner faces of these offsets are secured plates 28, which thus form guideways for the ends of upper door-sections 29 and 30, the door-section 29 being adapted to rest upon the upper edge of the door-section 15 when said sections are in their operative positions, while at the same time the door-section 30 may rest upon the upper edge of the section 29. These several sections are provided with handles, as illustrated in the drawings, through the medium of which they may be raised to their inoperative positions.

As illustrated in Fig. 3, the uppermost door-section 30 is adapted to be moved to lie between the ceiling of the car and those portions of the plates 28 which are attached to the offsets 27, while the section 29 is adapted to be moved to lie against the ceiling of the car and with one edge between the ceiling and the strip 31 upon the side of the wall of the car.

With this construction it will be seen that one or more of the sections of the car-door may be moved out of its operative position independently of the other sections, and that the door may be easily and conveniently opened and closed, and that, furthermore, when the sections are in their closed positions they will be held against either inward or outward movement and when in their open positions they will be entirely out of the way and will not interfere with the operation of loading or unloading cars.

It will of course be understood that in practice various changes in the specific structure and arrangement shown may be made and that any suitable materials and proportions may be used without departing from the spirit of the invention.

What is claimed is—

1. The combination with a car having a door-opening, of vertical guideways adjacent the door, said guideways having their upper portions continued to lie substantially paral-

lel with the ceiling of the car, additional and vertical guideways adjacent to the first-named guideways, a door-section having guides engaging the second guideways, and additional door-sections engaging the first-named guideways and adapted for support by the first-named door-section.

2. The combination with a car having a door-opening and vertical guideways adjacent thereto to receive door-sections, of additional vertical guideways disposed parallel with the first-named guideways, door-sections slidably mounted in the first-named guideways, and a door-section slidably engaged with the second guideways and adapted to receive and support the first-named door-sections.

3. The combination with a car having a door-opening, of guide-grooves adjacent thereto, plates disposed to partly cover the grooves and separated by interspaces, openings in the plates leading to the grooves, blocks in the grooves adjacent the openings, and a door-section having upper guides comprising heads lying in the grooves for movement therein, and lower guides having heads adapted for movement into and out of the grooves below the blocks and through the openings in the plates.

4. The combination of guide-grooves adjacent the door-opening, openings leading to the grooves, directing-blocks in the grooves adjacent the openings, and a door-section having guides comprising headed studs engaged with the guide-grooves and adapted for movement through said openings, and additional guide-studs engaged with the guide-grooves.

5. The combination with a car having a door-opening guide-grooves adjacent the opening, plates partially covering the grooves and separated by interspaces, openings in the plates leading to the grooves, a door having headed studs adapted to pass through the openings into and out of the grooves, additional studs permanently engaged with the grooves, said studs being adapted for movement longitudinally of the grooves to permit raising and lowering of the door, blocks for receiving the heads of the last-named studs, and a latch to engage the door and support it in connection with said blocks.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES H. PITMAN.

Witnesses:

H. MENDEL,
J. S. HUMSEN.