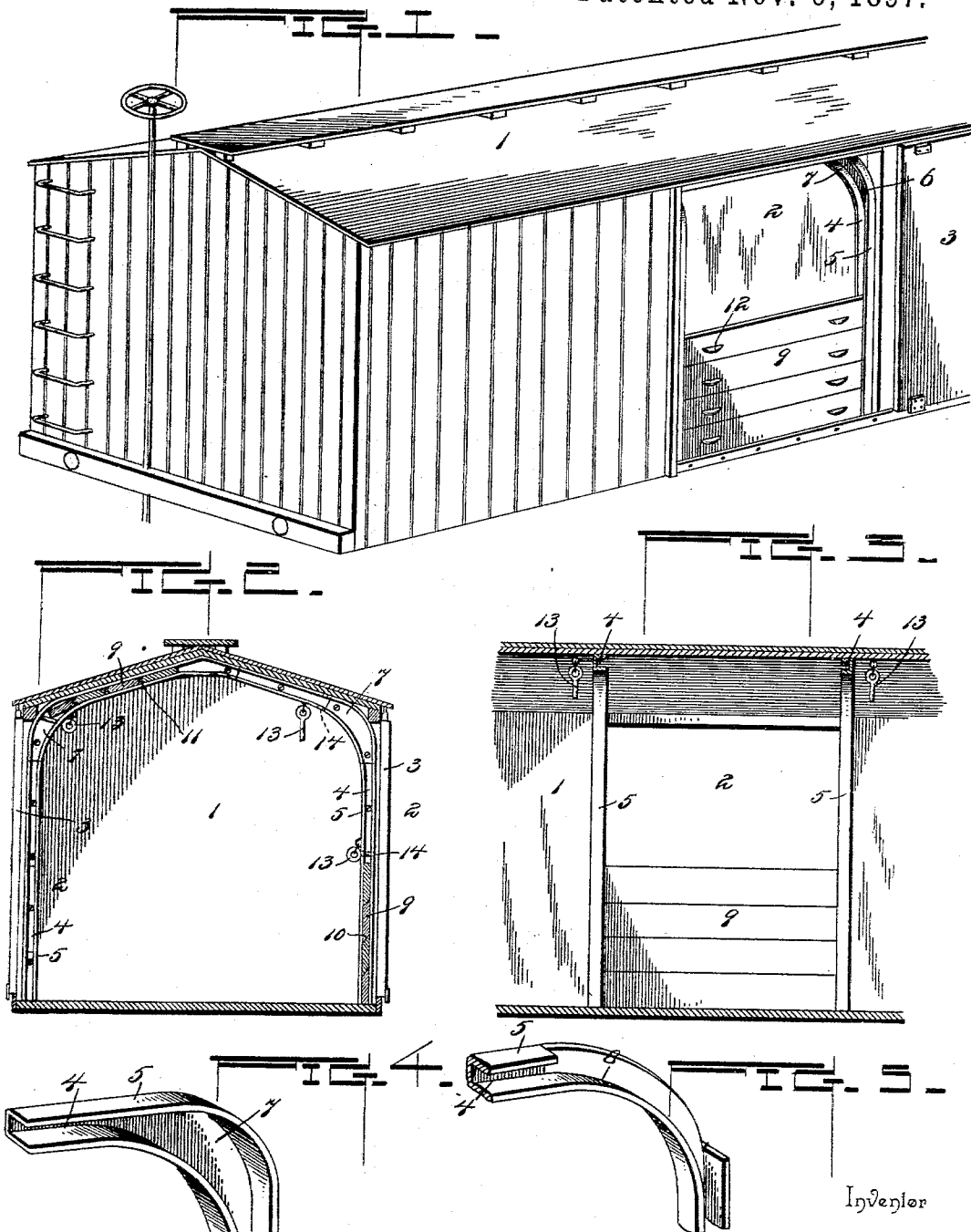


(No Model.)

J. WRIGHT.
GRAIN DOOR FOR FREIGHT CARS.

No. 593,266.

Patented Nov. 9, 1897.



Witnesses

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JOSEPH WRIGHT, OF LANCASTER, WISCONSIN.

GRAIN-DOOR FOR FREIGHT-CARS.

SPECIFICATION forming part of Letters Patent No. 593,266, dated November 9, 1897.

Application filed March 10, 1897. Serial No. 626,798. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WRIGHT, a citizen of the United States, residing at Lancaster, in the county of Grant and State of Wisconsin, have invented a new and useful Grain-Door for Freight-Cars, of which the following is a specification.

This invention relates to grain-doors for freight-cars, its object being to provide a door formed of independently-movable sections which slide in ways and may be supported beneath the roof of the car when not in use.

With this object in view the invention consists in the several details of construction and combination of parts hereinafter fully described, and particularly pointed out in the claim.

In the drawings, Figure 1 is a perspective view of a freight-car embodying my invention. Fig. 2 is a vertical transverse section through the body of the car. Fig. 3 is a vertical longitudinal section of part of the car-body. Figs. 4 and 5 are perspective views of detached details.

Similar reference-numerals indicate similar parts in the several figures.

1 represents an ordinary box-car provided with the usual door-opening 2 on each side. The outer sliding doors are represented by 3. These parts may be of any approved construction and constitute no part of my invention.

4 represents grooved ways consisting of channel-bars 5, which are secured to the side edges of the door-openings and to the roof of the car. These channel-bars may be made up of sections or be one continuous bar bent to the desired form to be attached in its proper position, the essential feature being that the grooved ways 4 shall be continuous from the floor of the car on one side to the floor of the car on the opposite side. The bars are held securely in position by means of screws 6 or other suitable fastening devices. In the corners formed by the junction of the roof with the sides of the car the way 4 must be wider than at any other point for the purpose of permitting the sections of the grain-door to be moved from the vertical portions of the ways on the sides of the cars to the portions under the roof, which are at nearly a right angle to the vertical portions. If the channel-bars are made in sections, the section adapted to fit into the corner may be

cast with a widened groove, as indicated at 7 in Fig. 4. Should, however, the channel-bar be in one continuous piece, the upper flange may be cut away at the bent portion in the corner, as indicated at 8 in Fig. 5.

9 represents sections of which the grain-door is formed. These sections in practice will be about one foot in width, and the meeting edges of the sections may be beveled, as indicated at 10 on one side of Fig. 2, in order that when the sections are in position they will partially overlap each other, or instead of beveling the meeting edges of the sections a tongue-and-groove connection may be made, as indicated at 11 on the other side of Fig. 2. The object of beveling the meeting edges or providing a tongue-and-groove connection between them is to make a close joint for the purpose of preventing leakage of the grain. The sections 9 are of such length as to fit snugly in the ways 4 and to slide freely therein. In practice, about four sections will be used on each side of the car, and each section is provided with recesses 12 to form finger-holds, by means of which the sections may be moved in the ways 4.

When not in use, the sections will be slid in the ways up under the roof of the car, and in order to hold them in position a pin 13 may be inserted through suitable openings 14 in the channel-bars 5, and in order that the pins may not be lost they may be suspended by short chains 15, secured to the car-roof. Similar pins may be employed to hold the sections against movement when they are in position to close the lower part of the door-opening 2; and these pins may also be connected to chains secured to the sides of the car.

In building new cars the grooved ways or that portion of them which extends across under the roof can be utilized as rafters, and even in applying the device to old cars the grooved ways can frequently be substituted for rafters which may be conveniently removed. At all times the grooved ways will serve to strengthen and brace the roof and the sides of the car.

Among the advantages arising from the use of my invention are the following:

The several sections of the grain-doors may be easily moved into and out of operative position.

When not in use, the sections may be sup-

ported close to the roof of the car, where they will be entirely out of the way, but will be always accessible when required.

By making the grain-door of independently-movable sections in loading or unloading grain from the car the several sections may be moved into or out of place in the doorway as they are required, and thereby avoid the necessity of shoveling a large portion of the grain over the entire height of the grain-door.

By having the grooves or ways continuous from the floor of the car at one side up under the roof and down to the floor of the car at the other side I am enabled to use some or all of the sections of one door in addition to those of the other door on one side of the car when necessary, in order to almost or completely close the door-opening on that side. This will be advantageous when the car is to be loaded by a spout from a warehouse, since sufficient grain to make a load could be run into a car without having to shovel it all back during the process of discharging it into the car. In other words, sufficient grain to make the load can be banked up against one side of the car and be subsequently leveled.

While I have illustrated and described my invention as applied to a car when used for grain, it is obvious that it may be used in warehouses and other like places and for substances other than grain.

It will be understood that changes in the

form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim is—

The combination with a freight-car having door-openings on opposite sides, of grooved ways extending up the sides of the door-openings and across the roof of the car, said ways being continuous from the floor on one side of the car to the floor on the opposite side and wider at the corners or bends than in the straight portions, and a grain-door for each door-opening, each door consisting of a series of independently-movable sections supported to slide in said ways, and the several sections of each door being independently movable from one door-opening to the other, whereby a part of one of the grain-doors may be used on one side of the car and the other part moved over to the other side to cooperate with the other grain-door, substantially as described.

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

JOSEPH WRIGHT.

Witnesses:

G. B. WHEELER,

E. B. GOODSSELL.