

G. W. KELLOGG.
CAR DOOR.

APPLICATION FILED OCT. 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

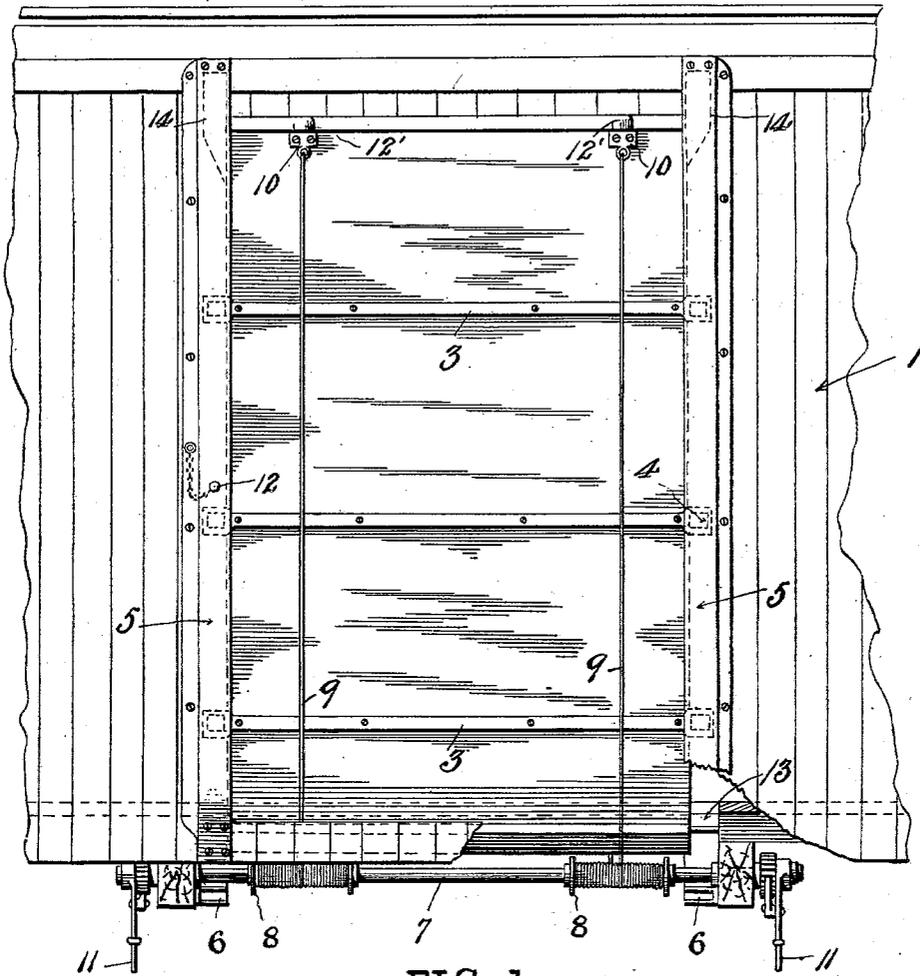


FIG. 1.

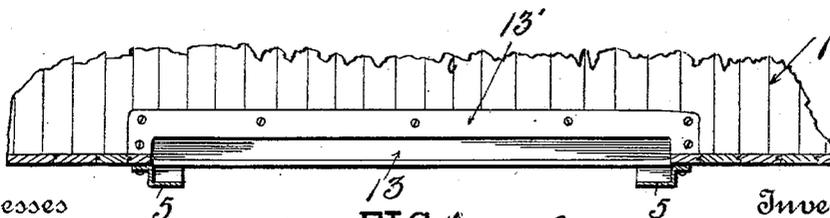


FIG. 4.

Witnesses
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Lilian Brock

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2 SHEETS—SHEET 2.

FIG. 2.

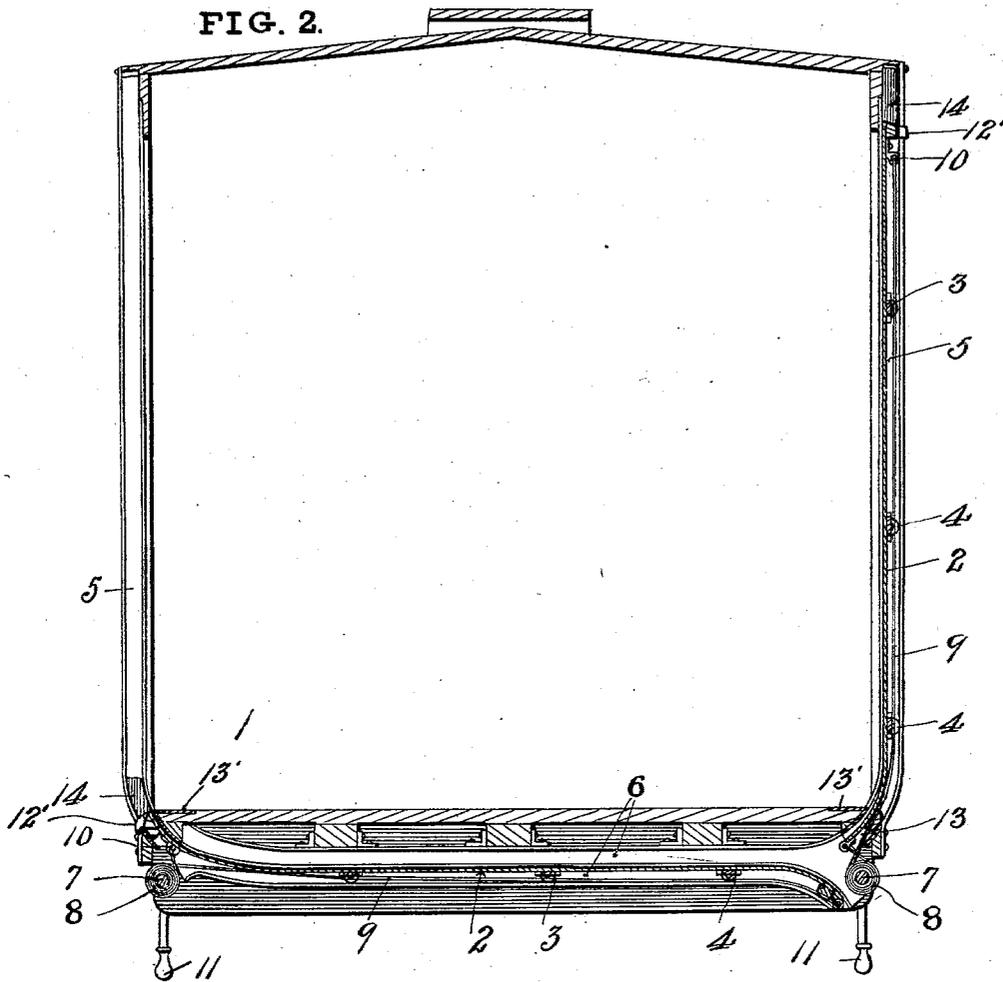
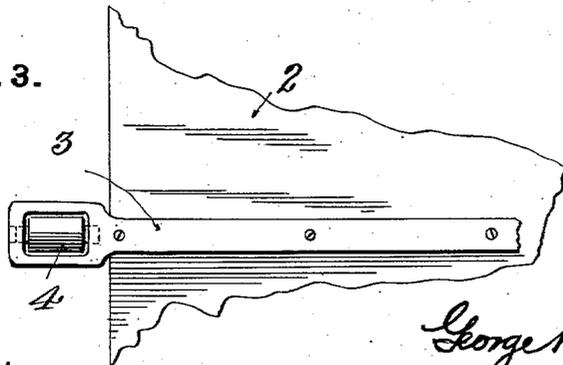


FIG. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. KELLOGG, OF GRAND FORKS, NORTH DAKOTA.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 753,496, dated March 1, 1904.

Application filed October 29, 1903. Serial No. 179,069. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KELLOGG, of Grand Forks, county of Grand Forks, and State of North Dakota, have invented certain new and useful Improvements in Car-Doors; and I do hereby declare the following to be a full and clear description thereof.

My invention relates to car-doors.

The object of my invention is to provide sliding doors for freight-cars adapted to pass down under the floor of the car when the doors are open.

With this object in view the invention consists in the following construction and combination of parts, the details of which will first be fully described and the features of novelty then set forth and claimed.

Figure 1 represents a side elevation of a section of a freight-car with parts broken away, illustrating my invention. Fig. 2 is a transverse section of the same. Fig. 3 represents a detail elevation, on an enlarged scale, of a portion of one of the sliding doors. Fig. 4 represents a transverse section of the same with attached sections of the door.

In the drawings, 1 represents any freight-car, such as a grain-car, for which the invention is peculiarly adapted. These cars are provided with the usual side openings, which are in this instance provided with sliding doors 2. The doors 2 are made of flexible sheet metal, preferably steel. This sheet-metal door is strengthened at intervals by bars or stays 3, provided with roller-bearings 4 at their ends adapted to run in the ways 5 of the door-jamb and also the ways 6 beneath the car. These ways 5 and 6 are united by a curved portion whereby the door may be raised up into the ways of the door-jamb or pass beneath the car when the door is open. The horizontal ways beneath the floor of the car are at different vertical heights, so that one door may slide past the other. Located in the supporting-beams or sills of the car is an operating-shaft 7, carrying two drums 8, over which is passed an operating cord or chain 9, the upper end of which is attached to the upper end of the door at 10 and the opposite end of the

chain secured to the opposite end of the door, being previously coiled upon the drum.

In raising the door the cord or chain pulls on the bottom end of the door and forces the door upwardly, that portion of the chain which is attached to the upper portion of the door paying out from the drum as it is wound up. A reverse movement of the shaft 7 and drums 8 opens or lowers the door.

11 represents ratchet-levers for operating the doors. One of these levers may be provided with a right-hand ratchet for moving the door in one direction and the other with a left-hand ratchet for moving the door in the opposite direction. It is obvious, however, that a single ratchet-lever may be used with a right-and-left pawl, by means of which the shaft may be rotated in either direction. Stops, as pins 12, are provided for the purpose of locking the doors when closed, and a stop is also provided for preventing the door from passing below the slot 13 in the floor of the car.

When the door is open, the top of the door is flush with the bottom of the car.

Above the top of the door, at each side thereof and secured thereto, is a vertically-disposed extension 14, which fills the ways in the door-jamb. These filling-pieces 14 extend a short distance above the tops of the doors and serve to prevent the lodgment within the ways above the door of snow, ice, or any portion of the bulk contents of the car loosely carried therein, such as grain, coal, or the like. The lodgment of such material in the ways above the doors, if not prevented, makes it practically impossible to operate them.

The slots 13 in the floor of the cars are formed in a metal plate, which is flush with the floor of the car and constitutes the sills of the doors. The slots 13 are inclined in the floor, the flexible doors passing through them at an inclination to the floor. This arrangement serves to prevent the loss of grain or other similar material, which were the slot vertical would sift down through the slots between the doors and the sides of the slots.

The invention is not limited to the details

herein shown and described, it being understood that the invention may be carried out in various ways within the scope of the claim.

What I claim is—

- 5 In a freight-car having doors and ways in the door-jambs and beneath the floor, the combination of a solid flexible metallic door provided with horizontal stays at intervals pro-

vided with roller-bearings at either end adapted to enter said ways, and means for sliding the door vertically in the ways. 10

In testimony whereof I affix my signature.

G. W. KELLOGG.

Witnesses:

W. H. KELSEY,

H. L. WHITED.