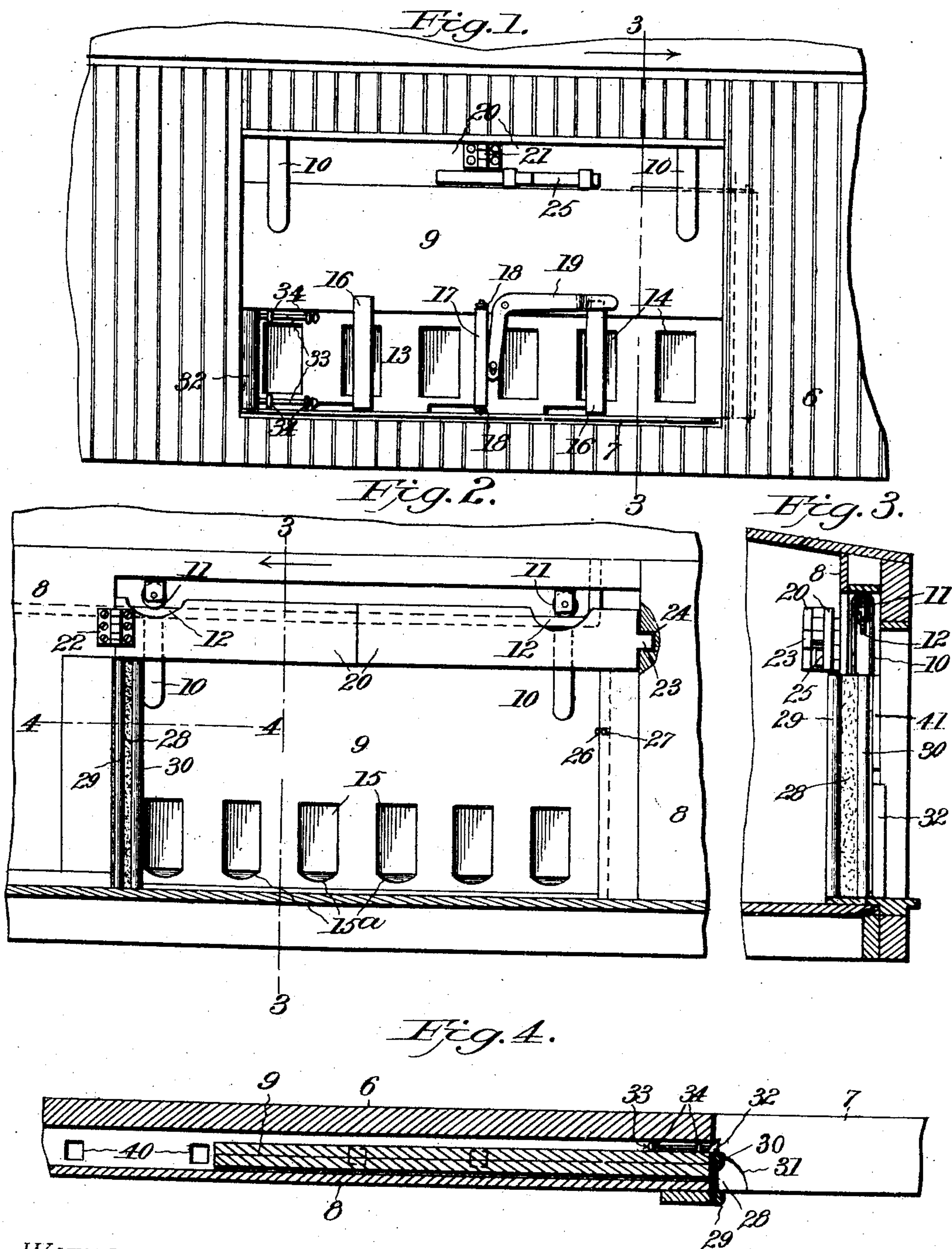


No. 786,314.

PATENTED APR. 4, 1905.

C. L. ROBBINS.  
GRAIN CAR DOOR.  
APPLICATION FILED MAR. 14, 1904.



WITNESSES:

*C. M. Walker*  
*Geo. E. Tew*

INVENTOR

*C. L. Robbins*

BY

*Milo B. Stevens & Co*  
Attorneys



# UNITED STATES PATENT OFFICE.

CORDILLERAS L. ROBBINS, OF PEKIN, ILLINOIS.

## GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 786,314, dated April 4, 1905.

Application filed March 14, 1904. Serial No. 198,005.

*To all whom it may concern:*

Be it known that I, CORDILLERAS L. ROBBINS, a citizen of the United States, residing at Pekin, in the county of Tazewell and State of Illinois, have invented new and useful Improvements in Grain-Car Doors, of which the following is a specification.

The object of the invention is to provide improved means for keeping grain from flowing into the door-casing through the cracks between the door and the casing either when the door is open or when it is closed.

In the accompanying drawings, Figure 1 is an outside elevation of the door and doorway with the doors closed. Fig. 2 is an inside elevation of the same. Fig. 3 is a section on the line 3 3 of Figs. 1 and 2, but with the doors open. Fig. 4 is a detail in horizontal section on the line 4 4.

Referring specifically to the drawings, the side of the car is indicated at 6, in which is produced the usual doorway, the sill of which is indicated at 7. At 8 is indicated the casing formed on the inner side of the car, into which the sliding door enters when it is opened. This door is indicated at 9 and is suspended by hangers 10 and rollers 11 from the track 12, which runs across the top of the doorway and back into the casing.

The door has a valve to let out that part of the grain which presses against the door preliminary to opening the same. This valve is substantially similar to that disclosed in my Patent No. 742,744, issued October 27, 1903. It comprises a sliding section 13, having openings 14, which may be brought to register with openings 15 in the main part of the door. The sliding section is supported by straps 16 and is confined in tight contact against the main part of the door by a roller 17, which is supported by brackets 18, fixed to the main part of the door. This roller bears in tight contact against the sliding gate or valve 13 and holds the same tightly against the main part of the door, so that no grain can get in between, which has been found to be objectionable and to cause difficult working in doors heretofore constructed. The sliding gate is operated by a bent lever 19 in an obvious manner.

An upper supplemental hinged door is provided, consisting of two sections 20, which are hinged together, as at 21, and hinged to the casing, as at 22, on the inside of the car. The end of the outer or free section has a projection 23, which enters a socket (indicated at 24) formed in the door-jamb. A sliding bar 25 holds the sections straight and rigid when the door is closed. To open the door, the bar is slid back and the sections buckled at the joint to withdraw the projection 23 from the socket 24, after which the door can be swung around open. In the construction shown this door swings in between the door-jamb and contacts at its lower edge with the upper edge of the sliding door 9, forming a tight joint therewith.

The end of the sliding door 9 has a notch 26, which when the door is closed receives a pin 27, which extends across between the frames of the door-post, and thus prevents the door from lifting and letting out grain underneath after it is closed.

To prevent grain from working in beside the door and into the casing, a flexible strip 28, of rubber or similar material, is used. One edge of this is tacked under the strip 29 to the edge of the door-casing, and the other is tacked to a strip 30, which strip serves to stiffen and hold the free edge of the fabric in place. This edge contacts with the side of the sliding door 9 and is retained in close contact therewith by the elasticity of the fabric and also by the pressure of the grain against the same, so that no grain can work in behind the door.

When the door is opened, the strip closes around against and over the end of the door, as indicated in Fig. 4, completely closing the crack between the inner side of the door and the casing. This action is effected by the elasticity of the fabric and also by the flow of the grain when the door is opened. This closes the crack on the inner side of the door, and to permit the action the door-sill is cut away slightly, as at 31.

To close the crack on the outer side or between the outside of the door and the side of the car, which crack is of considerable width, because it must be large enough to permit the



passage of the lever 19 and roller 17, a device is used comprising a vertical strip 32, which is beveled or wedge-shaped in cross-section, with its narrow edge backwardly and  
 5 with its wide edge toward the front end of the door. This strip is loosely supported upon the outer side of the door, near the front end thereof, by rods 33 at top and bottom, which rods work loosely through eyes 34, secured  
 10 to the door. The wide edge of this strip is of greater width than the crack between the door and the side of the car, and when the door is slid back or open the strip partly enters the crack and fills the same, thus preventing any  
 15 grain from getting in at that place. The rods 33 have a limited lengthwise movement in the eyes 34, so that when the door is opened, as above stated, the rods allow the strip when it strikes the door-casing to slide forward flush  
 20 with the end of the door, or rather permits the door to be shoved back until its outer end is flush with the side of the doorway. When the door is closed, the strip, striking the door-jamb, stops, but permits the end of the door  
 25 to slide into the groove formed to receive it between the frames of the door-post.

The use of some means to prevent grain from getting in behind doors and clogging the same is greatly to be desired in grain-car  
 30 doors, and the construction described has been found to effectively answer the purpose. The valve-holes in the door are preferably beveled off, as at 15<sup>a</sup>, so that no grain will rest on the ledges at the bottoms of the openings; oth-  
 35 erwise grain resting thereon would be carried

back into the casing. Holes (indicated at 40) are cut through the bottom and beams of the car under the casing 8, so that if any grain or dirt works back behind the door it will fall out through the holes. To prevent the door  
 40 from swinging out against the side of the car and binding, a block 41 is secured to the post at the entrance of the casing, and this block bears against the outer side of the door and serves to preserve the space therebelow for  
 45 the lever 19 and roller 17 to slide through into the casing.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a sliding car-door 50 and a casing, of a beveled strip loosely supported in a vertical position upon the side of the door near the outer edge thereof, and of width sufficient to partly enter and fill the crack between the side of the door and its cas- 55 ing, when the door is open.

2. The combination with a sliding car-door and its casing, of a beveled strip extending vertically beside the front edge of the door, and arranged to fit in the crack between the 60 door and the casing when the door is open, and supports for said strip, having a limited horizontal sliding movement, on the door.

In testimony whereof I have signed my name to this specification in the presence of two sub- 65 scribing witnesses.

CORDILLERAS L. ROBBINS.

Witnesses:

FRED SCHAEFER,  
 SAMUEL OLSON.