

D. A. L. McDONALD.
 PAY-AS-YOU-ENTER CAR.
 APPLICATION FILED SEPT. 27, 1910.

1,016,949.

Patented Feb. 13, 1912.

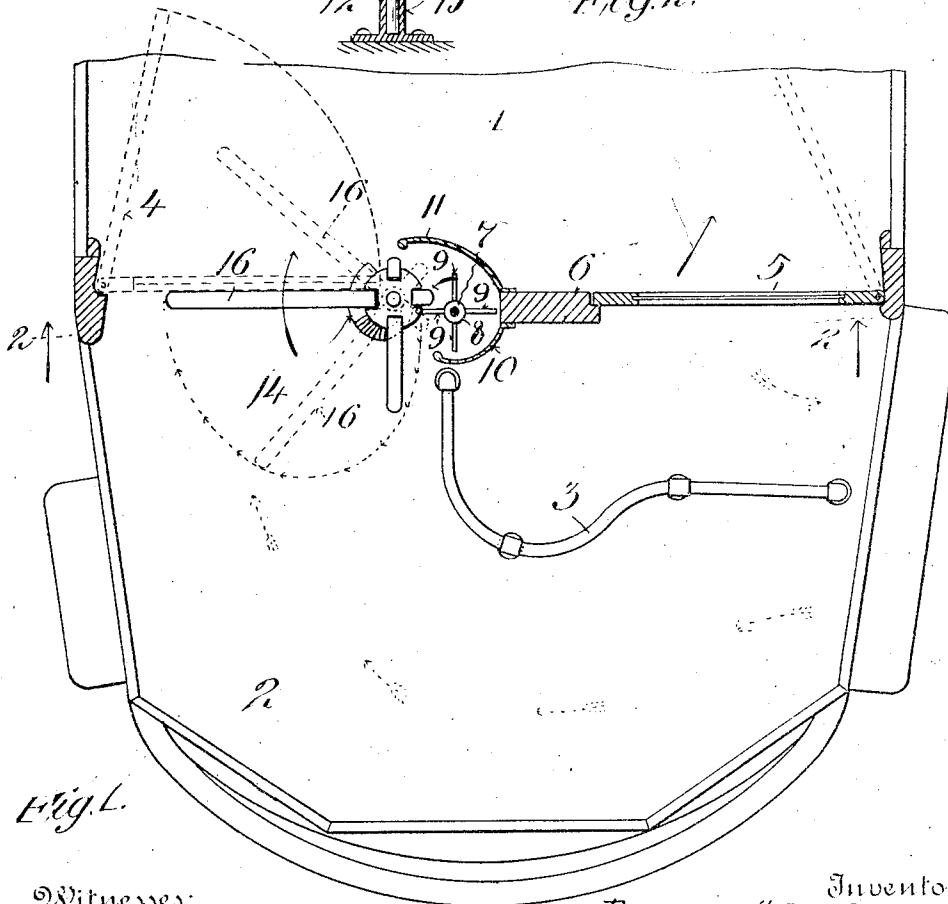
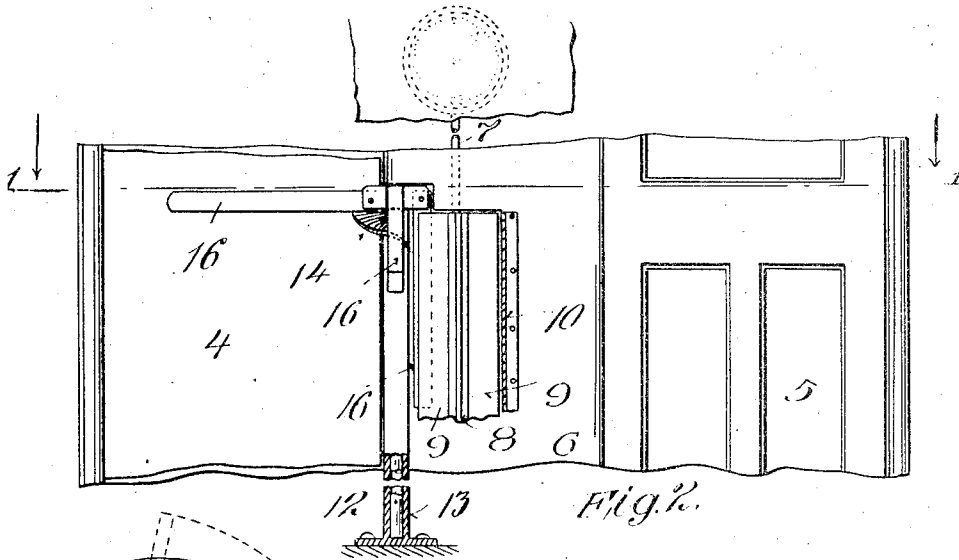


Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

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PAY-AS-YOU-ENTER CAR.

1,016,949.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed September 27, 1910. Serial No. 583,986.

To all whom it may concern:

Be it known that I, DUNCAN A. L. McDONALD, a subject of the King of Great Britain, and a resident of Montreal, Province of Quebec, Dominion of Canada, (and whose post-office address is care of Montreal Street Railway Company, Montreal, Canada,) have invented a new and useful Improvement in Pay-as-You-Enter Cars, of which the following is a specification.

The object of my invention is to provide a car of this class which will register automatically the number of passengers entering the same, so that an automatic account will be kept of all parties entering the car. This object is accomplished by my invention, one embodiment of which is hereinafter set forth.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which:

Figure 1 is a plan view, partially in section, of a portion of a car provided with my improvement, the section being taken on the line 1—1 of Fig. 2 looking in the direction of the arrows. Fig. 2 is a sectional view taken on the line 2—2 of Fig. 2, looking in the direction of the arrows.

Throughout the various views of the drawings, similar reference characters designate similar parts.

1 is a car of the pay-as-you-enter-type with the ordinary large platform 2, a rail 3 which separates the incoming from the outgoing passengers, an entrance door designated by the numeral 4 and shown in dotted lines, and an exit door indicated by the numeral 5.

The end partition 6 is cut away to receive a spindle 7 on which is mounted a hub 8 from which extends the vertically disposed blades 9 which act as gear teeth for a purpose that will be described below, as well as a revolving door to prevent air drafts when the car is used in cold weather. The vertically disposed blades 9 have their outer ends near suitable guards 10 and 11 placed on the exterior and interior of the car, respectively, and secured to the partition 6. The spindle 7 is extended upwardly and is connected with a suitable register of the conventional type and in the usual manner, so that a fare

is recorded for each $\frac{1}{4}$ of a revolution of the spindle 7.

Near each spindle 7 and parallel therewith is a second spindle 12 mounted in a suitable fixed support 13 to which is fixed a helical cam 14, which is arranged and shaped substantially as shown and terminates abruptly, as indicated in Fig. 3. The top of the spindle 12 is provided with a hub 15 in which are pivotally mounted a number of spokes 16 by means of pins 17, the ends of the spokes 16 resting in suitable recesses in the hub 15. The spokes 16, hub 15, spindle 12, support 13, and cam 14 are so arranged and disposed that as the spindle 12 is revolved, each spoke 16 is held in a horizontal position for about one quarter of the rotation of the spindle, so that these spokes and the parts connected therewith form a turnstile which can be revolved in one direction only, and with the horizontally disposed spokes across the path of a passenger and the vertically disposed spokes adapted to engage the vanes 9 and drive the same and at the same time form a substantially air-tight-joint to prevent drafts entering the car in winter around the vanes 9 or near to them.

It is obvious that, if desired, the support 13 may be provided with suitable projections 18 which will not interfere with the cam 14 or with the movement of the movable parts and will prevent air from entering the car, to any material extent, adjacent to the turnstile.

From the foregoing, the operation of my improved device will be readily understood. Passengers enter in the conventional manner and after paying their fares, enter the car, each passenger pushing against a spoke 16 and moving the same through an angle of substantially 90 degrees. When the spoke against which he pushes reaches the end of the cam 14, it falls under the influence of gravity, to a vertical position when it is out of the passenger's way, and is then available at the proper time, to shift the vane 9 with which it impinges. During this shifting operation, the spoke 16 and the vane 9 form a substantially air tight joint. The door 4 swings under the influence of the bar 16 and the passenger, or both, and assumes the open position indicated in Fig. 1. As soon as the

passenger is by the door, it swings back until it comes in contact with the next arm 16 at a point near the cam 14, and here the door rests until the next passenger shifts it, as above described.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but is broad enough to cover all structures that come within the scope of the annexed claims.

What I claim is:

1. In a device of the class described, a turnstile having pivoted spokes and means for causing said spokes to be shifted into a horizontal position during a portion of the revolution and permitting said spokes to fall into a vertical position during a portion of the revolution, a spindle, a hub on said spindle, vanes carried by said hub and adapted to be moved by said spokes.

2. In a device of the class described, a turnstile with pivoted spokes and a support near which said spokes are adapted to move during a portion of their movement, a spindle near said turnstile, a hub on said spindle and vanes extending from said hub and adapted to engage said spokes during a portion of their movement, so as to form a substantially air-tight joint therewith and guards adjacent to said vanes, so that when the turnstile is not in use and the adjacent door is closed, air currents will not be permitted to pass adjacent thereto.

Signed at the city of Montreal this 22nd day of August, 1910.

DUNCAN A. L. McDONALD.

Witnesses:

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