

L. J. DUGAN.
 AUTOMATIC REGISTERING DEVICE FOR STREET CARS.
 APPLICATION FILED APR. 13, 1909.

954,725.

Patented Apr. 12, 1910.

Fig. 5.

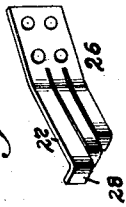


Fig. 2.

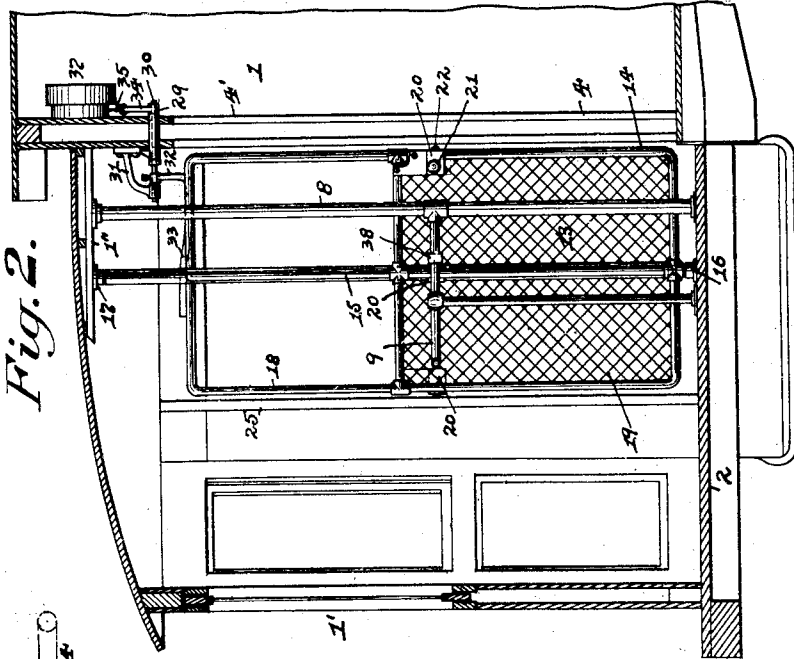


Fig. 4.

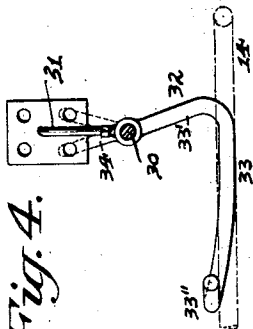


Fig. 3.

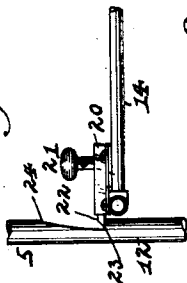


Fig. 1.

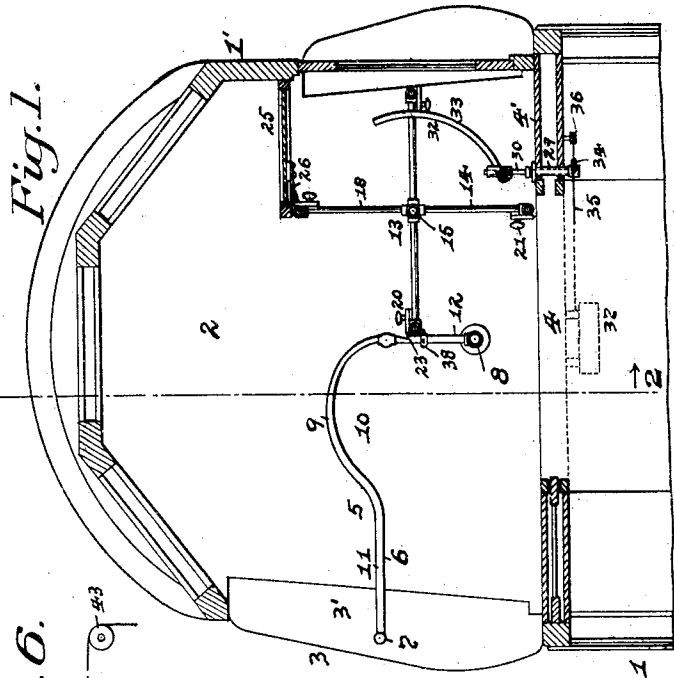
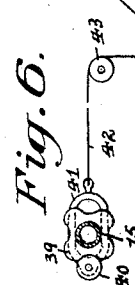


Fig. 6.



WITNESSES

Water Famaries
 O. L. Thompson.

INVENTOR

Lawrence J. Dugan,
 By J. H. Coombs,
 Attorney.

UNITED STATES PATENT OFFICE.

LAWRENCE J. DUGAN, OF PITTSBURG, PENNSYLVANIA.

AUTOMATIC REGISTERING DEVICE FOR STREET-CARS.

954,725.

Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed April 13, 1909. Serial No. 489,687.

To all whom it may concern:

Be it known that I, LAWRENCE J. DUGAN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Automatic Registering Devices for Street-Cars; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to automatic registering devices for passenger cars and has special reference to what are known as "pay as you enter" or "pay at entrance" street cars.

The object of my invention is to provide a cheap, simple and efficient registering device for use in connection with the fare registers of street cars which will be automatically operated by a person entering the car to register the fare, and one which can be easily and conveniently applied to the ordinary form of approved car.

My invention consists, generally stated, in the novel arrangement, construction and combination of parts, as hereinafter more specifically set forth and described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved automatic registering device for street cars, I will describe the same more fully, referring to the accompanying drawing, in which—

Figure 1 is a plan view showing the end portion of an ordinary approved form of street car, with some of the parts in section, and having my improved automatic registering device applied thereto. Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1 and looking in the direction of the arrow. Figs. 3, 4 and 5 are detail views showing different parts of the device. Fig. 6 is a detail view showing another form of my invention.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing, 1 represents a portion of the ordinary approved street car, of what is generally known as the "pay as you enter" or "pay at entrance" type, having what is known as the "entering" platform 2 on the entry end 1' thereof, which has the usual entrance opening 3 leading thereto from one side of said end

and the usual door opening 4 leading therefrom into said car.

Within the end 1' of the car 1 is the usual rail 5 which is formed of the horizontal portion 6 and vertical portions 7 and 8 at each end thereof for being secured to the step 3' at the opening 3 and platform 2, respectively, in the usual manner. The horizontal portion 6 of the rail 5 is provided with the usual outwardly curved portion 9 therein for forming the space 10 for the conductor of the car, and such curved portion connects with the cross portion 11 and longitudinal portion 12 in said rail.

Between the longitudinal portion 12 on the rail 5 and the side of the car 1 opposite the opening 3 is the revolving gate or door 13, which is provided with a series of wings 14, preferably four in number, and these wings extending out from a central post journaled in bearing blocks 16 and 17 in the platform 2 and roof portion 1' respectively, of the car 1. The wings 14 are formed of the frames 18, which are preferably formed from metal pipe and within said frames a suitable grating 19 is preferably inserted to close the same.

Mounted on each of the wings 14 is an ordinary door lock or latch 20 which is provided with the usual knob 21 for operating the bolt 22 therein, and such bolt is adapted to engage with a shoulder 23 on the longitudinal portion 12 of the rail 5 and formed at the end of a recessed and inclined portion 24 in said portion 12.

Extending inward from the side of the car 1 opposite the opening 2 is a closing frame 25 which preferably extends from the platform 2 to the upper portion of said car, and secured to the inner side of said frame is the locking spring 26, which is provided with a series of stepped leaf springs 27, preferably three in number, and each provided with a bent or outwardly turned end 28 for engaging with the lock or latch 20.

Extending through a sleeve 29 secured in the frame 4' at one side of the door opening 4 is a shaft 30, which is supported at the end of the same entering the car end 1' by a bracket 31 secured on and hung from said frame and is journaled therein. An arm 32 is secured to the shaft 30, so as to project downwardly therefrom and it is provided with a curved portion 33 extending along the path of the wings 14, which portion 33 is

connected to the said shaft by the angular portion 33' and its free end is slightly raised or extended upwardly to the straight portion 33''. The other end of the shaft 30 entering the car 1 is provided with an upwardly projecting arm 34, which has a rope or cord 35 connected thereto for passing over a pulley 36 mounted on the frame 4' and being connected to the lever on the register 37 of the usual construction and positioned in the usual place in the car 1.

The operation of my improved registering device is as follows:—When the passengers enter the car 1 at the entry end 1' of the same they pass from the step 3' through the opening 3 onto the platform 2 at said end and thence around the curved portion 9 on the rail 5, where each passenger meets one of the wings 14 on the revolvable door 13 in its locked or latched position with the shoulder 23 on the rail 5, as shown in Fig. 1, and upon turning the knob 21 on the latch 20 by the passenger, the bolt 22 in said latch will be disengaged from said shoulder, so that said door can be revolved by said passenger, and the particular wing 14 so unlatched will thus be moved with said door to permit such passenger to enter the door opening 4 and into the car. As the particular wing 14 on the door 13 is thus unlatched and moved by said passenger the next wing 14 ahead of such wing will engage with the curved portion 33 on the arm 32 and raise the same, which arm by reason of its being connected to the shaft 30, will act to turn said shaft and register the fare as handed to the conductor by the register 37, through the rope or cord 35 being connected to the lever on said register and to the arm 34 on said shaft, and such arms being moved by such turning of said shaft. After the door 13 has thus engaged the curved portion 33 on the arm 32 to register the fare, the further movement of the wing 14 in engagement with such curved portion will allow said portion to gradually drop and permit said arm to assume its normal position, and when said wing reaches the end portion 33'' on said curved portion such door will have reached the position ready for unlatching and the said end 33'' can rest upon said wing, while the wing following said wing will be in a position to engage with the other end of the curved portion 33 in a further movement of the door 13 for another operation of registering a fare. As the door 13 is thus revolved by the passenger entering the car 1 it is held from moving backward by means of the spring catch 26 engaging with one of the wings 14, such as the particular wing in position to be moved into the latched position, after its preceding wing has been unlatched, as before described, and such wing to be caught by said catch will pass along

the spring leaves 27 of such catch to compress the same, so that said wing will pass over said leaves and will be engaged by the end 28 on one of said spring leaves according to the position of said wing.

If desired, the door 13 can be held from being revolved to register the fares in case the conductor leaves the car 1 or for any other purpose by means of any suitable form of a lock, such as is shown at 38 in Fig. 1, which lock can be removably applied to the longitudinal portion 12 on the rail 5, or movable along the same, and in its locked position being adapted to engage with the wing 14 on said door to prevent the same from passing its latched position.

It will thus be seen that in the use of my improved registering device on street cars, each passenger entering the car, will move the revolving member of the device and thus automatically register the fare which such passenger has handed to the conductor in charge, or such fare can, if desired, be deposited into any suitable fare box in sight of such conductor. Each and every fare can thus be registered by each and every passenger entering the car and no passenger can pass into the car without the fare being registered by the operation of the device, while at the same time such device will not interfere with the exit of passengers from the car in front of the dividing rail, as in the ordinary construction. The device will prevent the entrance of passengers into the car, except when registering their fares and will be securely held in position to prevent the turning of the revolving member in the opposite direction from that of registering, while at the same time such device can be held from registering the fares when desired for any purpose, and will not be liable to get out of order or become injured through tampering with the same or for any other reason. The parts of the device are simple and durable in their construction and operation and can be easily and quickly installed for use on the ordinary form of car.

In Fig. 6 another form of my invention is shown, in which the central post 15 is provided with a star or toothed disk 39 around the same, and a roller 40 is adapted to fit between the teeth of the same and be connected to the register 37 in any suitable manner as through a yoke 41 carrying said roller and having a cord or rope 42 connecting the same and passing over a pulley 43 to said register for operating said register as the door 13 carried by said post is revolved, as before described, while various other modifications and changes in the design, construction and operation of my improved automatic registering device for street cars may be resorted to, without departing from the spirit of the invention, or sacrificing any of its advantages.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, and a curved arm above said platform and, connected to said register for being engaged by the wings of said member to operate said register.
2. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and means for holding said member in position until operated.
3. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and a locking device for holding said member in position until operated.
4. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, a rail, and a locking device on said member for engaging with said rail to hold said member in position until operated.
5. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, a rail having a stop thereon, and a locking device on said member having a bolt for engaging with said stop to hold said member in position until operated.
6. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a shaft connected to said register, and means on said shaft for being engaged by the wings of said member to turn said shaft and operate said register.
7. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a shaft connected to said register, and an arm on said shaft above said platform and having a curved portion thereon for being engaged by the wings of said member to turn said shaft and operate said register and said curved portion having a straight portion at its end for resting on said member.

8. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and means for preventing any backward movement of said member.

9. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and spring means for engaging with said member to prevent any backward movement of said member.

10. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and a series of leaf springs for engaging with said member to prevent any backward movement of said member.

11. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and a series of leaf springs having stepped ends for engaging with said member to prevent any backward movement of said member.

12. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, and means for locking said member to prevent operation of the same and said register.

13. The combination with a passenger car platform, a register, a revoluble winged gate member on said platform, a curved arm above said platform and connected to said register for being engaged by the wings of said member to operate said register, a rail, and means on said rail for engaging with said member to lock the same and prevent the operation of the same and said register.

In testimony whereof, I, the said LAWRENCE J. DUGAN, have hereunto set my hand.

LAWRENCE J. DUGAN.

Witnesses:

J. N. COOKE,

J. L. TREFALLER, Jr.

Correction in Letters Patent No. 954,725.

It is hereby certified that in Letters Patent No. 954,725, granted April 12, 1910, upon the application of Lawrence J. Dugan, of Pittsburg, Pennsylvania, for an improvement in "Automatic Registering Devices for Street-Cars," an error appears in the printed specification requiring correction as follows: Page 3, line 6, the comma after the word "and" should be stricken out; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 10th day of May, A. D., 1910.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.

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Signed and sealed this 10th day of May, A. D., 1910.

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C. C. BILLINGS,
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