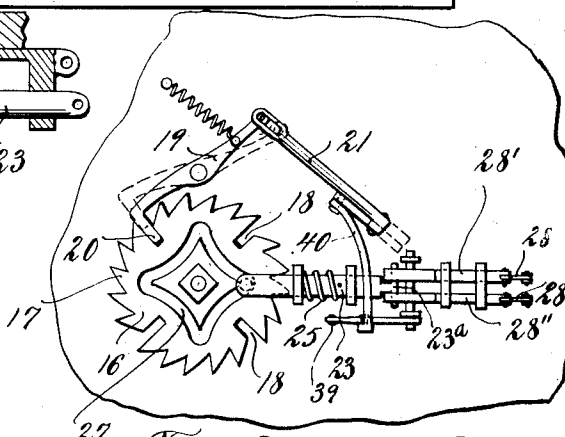
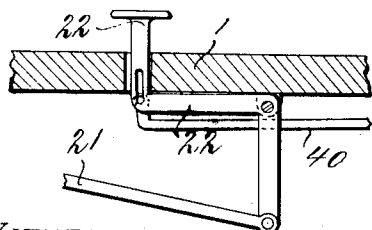
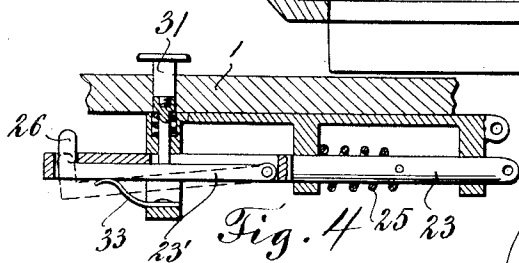
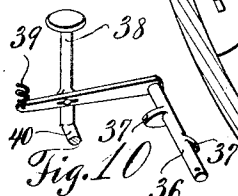
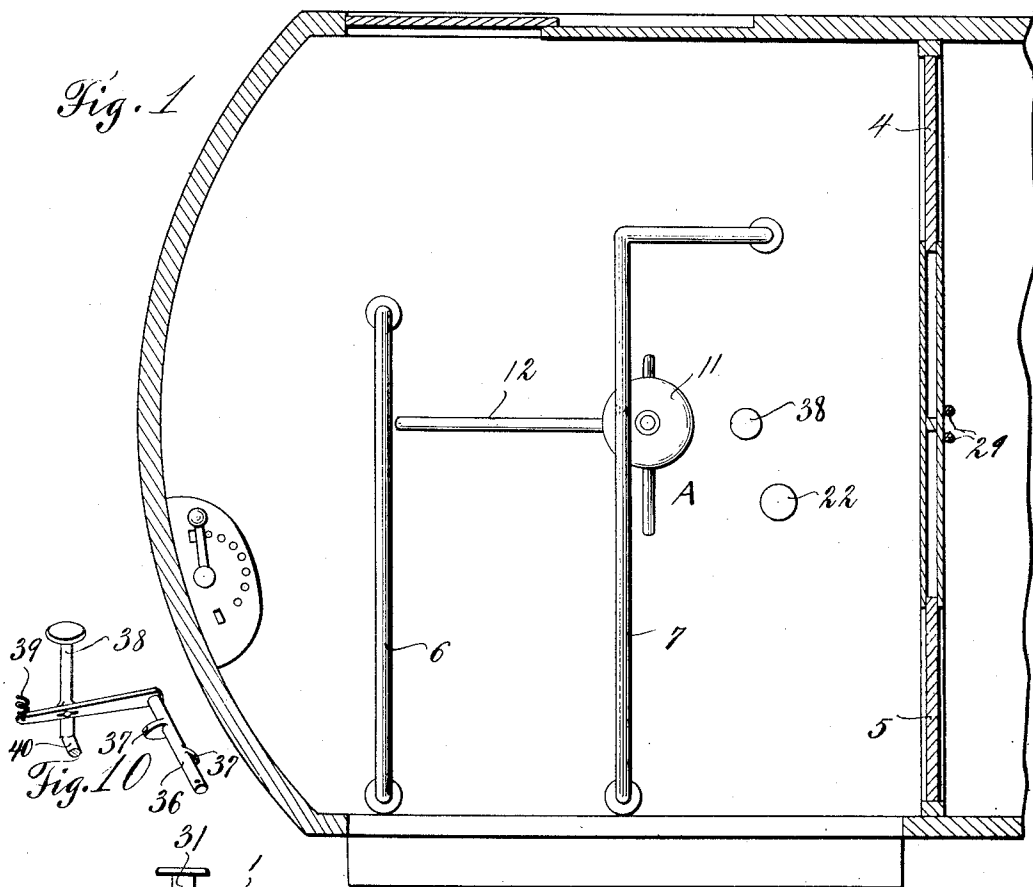


S. BACSARDI.
REGISTER FOR PAY-AS-YOU-ENTER CARS.
APPLICATION FILED MAR. 4, 1911.

1,040,115.

Patented Oct. 1, 1912.

2 SHEETS-SHEET 1.



WITNESSES:
E. Larson
N. M. Brooks.

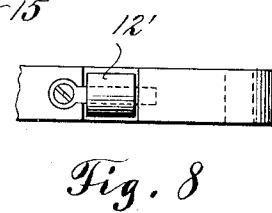
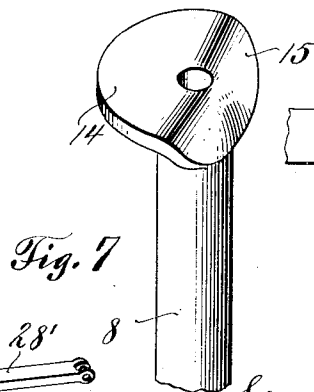
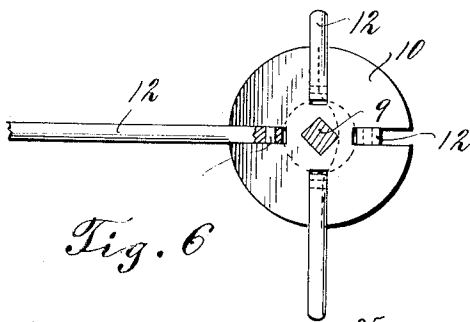
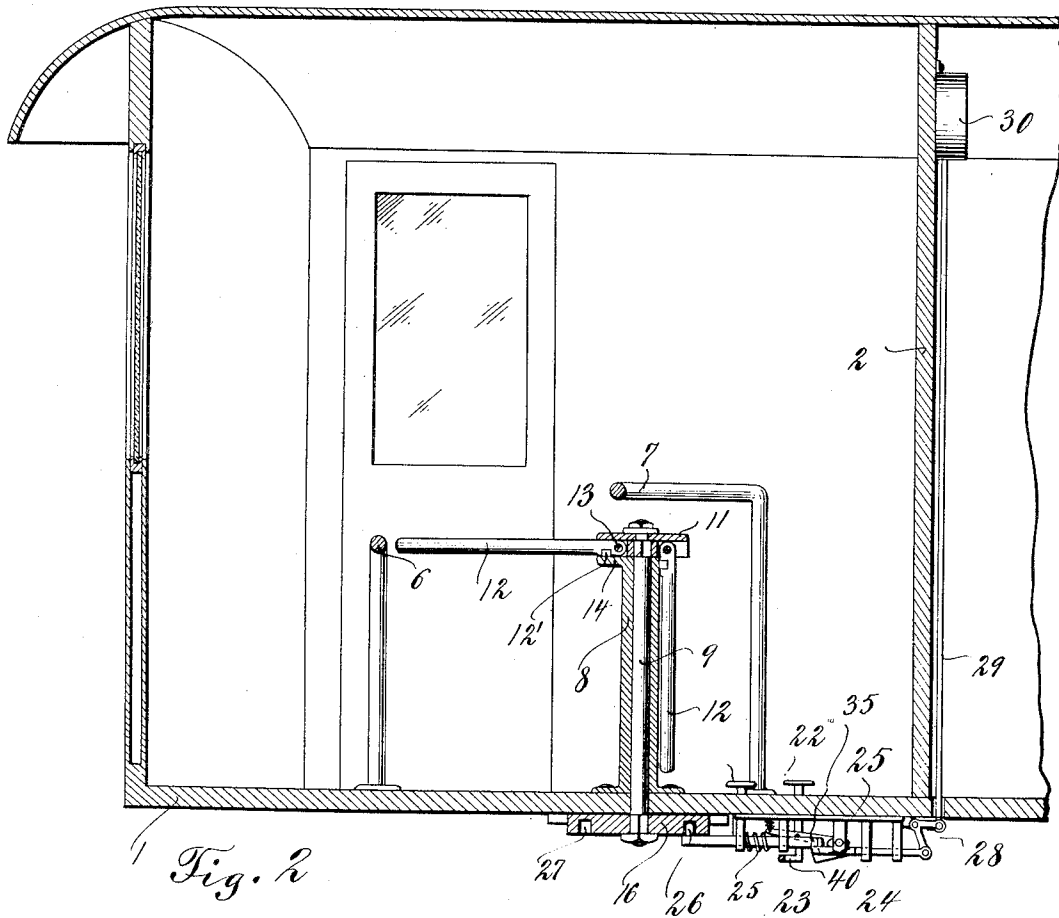
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2 SHEETS—SHEET 2.



WITNESSES:

E. Larson
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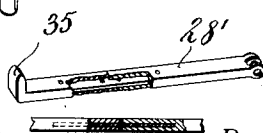


Fig. 9

BY

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UNITED STATES PATENT OFFICE.

STEPHEN BACSARDI, OF PASSAIC, NEW JERSEY, ASSIGNOR OF ONE-FOURTH TO MAX LOTTMAN, OF CLIFTON, NEW JERSEY.

REGISTER FOR PAY-AS-YOU-ENTER CARS.

1,040,115.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed March 4, 1911. Serial No. 612,421.

To all whom it may concern:

Be it known that I, STEPHEN BACSARDI, a subject of the Emperor of Austria-Hungary, residing at Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Registers for Pay-As-You-Enter Cars, of which the following is a specification.

The present invention embodies certain improvements designed to be used in connection with cars which are at the present time being adopted throughout the country and called the pay as you enter type.

The invention is designed particularly to provide certain mechanism controlling the entrance of passengers into the car, whereby the conductor may prevent the entrance of a passenger who has not previously paid his fare, and whereby the fares of passengers will be automatically registered as they pass into the car.

The mechanism comprising the essential features of the invention, and which is under the absolute control of the conductor, is especially advantageous in that, under certain conditions, the registering of the fares cannot be prevented by the conductor, insuring that the company operating the car will not be defrauded by conductors in reference to fares.

The invention involves furthermore, other details of construction, the advantages of which will appear more fully hereinafter, upon reference to the description and the accompanying drawings, in which—

Figure 1 is a horizontal sectional view of a car of the pay as you enter type, showing the arrangement of the parts of the mechanism constituting the invention; Fig. 2 is a vertical longitudinal section of the same; Fig. 3 is a fragmentary bottom plan view showing the locking mechanism for the turnstile, and the connection of the registering device therewith; Fig. 4 is a fragmentary sectional view showing a modification of the invention; Fig. 5 is a fragmentary view showing the foot lever operated by the conductor to release the turnstile and admit a passenger into the car; Fig. 6 is a detail view of a part of the turnstile; Fig. 7 is a detail perspective of the standard and cam; Fig. 8 is a fragmentary view showing the inner portion of one of the arms, and the anti-friction bearing thereon; Fig. 9 is a combined detail perspective and sectional

view of one of the pull rods connected with the cash register; Fig. 10 is a detail perspective view of the means for controlling the operation of the cash and transfer registers.

Describing the invention specifically, and referring to the drawings, 1 denotes a platform of a car of the pay as you enter type, which may be housed in, in the customary way for the protection of the motorman or conductor. The usual partition 2 separating the platform from the interior 3 of the car is provided and as shown in Fig. 1, assuming that the rear end of the car is illustrated, the door 4 is for ingress and the door 5 for egress of the passengers. A passenger entering the car must walk between the outer rail 6 and the inner rail 7 which may be of any common type and arrangement, within the contemplation of the invention. Adjacent to the rail 7 is located a turnstile A consisting of a vertical standard 8 in which is mounted a suitable shaft 9 squared at its upper end portion to receive a turning head 10. A cap plate 11 is above the head 10. Connecting with the upper end portion of the shaft 9 are a plurality of arms 12 secured to the head by the pivotal connections 13, and these arms perform the usual function of the arms of a turnstile, but are adapted for peculiar operation in the use of the invention.

Formed at the upper end of the standard 8, and just beneath the pivoted ends of the arms 12, is a stationary head 14, affording a bearing for the head 10 and the inner ends of the arms 12, said stationary head being provided with a cam 15 at one side of the standard and adjacent to the place where the conductor of the car will stand. The provision of the cam 15 permits the arms 12 to drop into a vertical position just before said arms are rotated to come abreast of the conductor. In the normal operation of the mechanism, however, one of the arms 12 is always adjusted in a horizontal position so as to extend across the space between the rails 6 and 7, the arms being moved when in such position by the passenger as he enters the car walking between said rails. It will be apparent therefore that as each passenger enters the car, he imparts to the shaft 9 a quarter revolution and such movement is likewise imparted to a locking member 16 in the form of a ratchet wheel se-

cured to the lower end of the shaft 9. The wheel 16 is formed on its periphery with ratchet teeth 17 and also with four notches 18 at equal intervals apart. Coacting with the wheels 16 is a locking lever 19 provided at one end with an engaging tooth 20 and connected at its other end by a rod 21 with the lower end of a foot lever 22. The foot lever 22 is situated so that it may be depressed by the foot of the conductor and when so depressed, the locking lever 19 is withdrawn from the notch 18 in which it normally engages sufficiently far to also be disengaged from the teeth 17 of the wheel 16. The shaft 9 is released by the operation of the lever 22 by the conductor and when released the passenger abreast of the raised or horizontally adjusted arm of the turnstile can move into the car, turning the shaft 9 a quarter revolution. The lever 19 performs a dual function not only being adapted to positively lock the wheel 16 at a predetermined adjustment, which is the limit of a quarter revolution, but by engagement of the parts 20 and 17, the reverse movement of the turnstile is absolutely prevented.

Associated with the mechanism above described is certain means for operating a fare register from the shaft 9, said means consisting of a sliding bar 23 mounted in a bracket 24 secured to the bottom of the platform 1, and normally under the influence of a spring 25. The bar 23 has a lug 26 projecting upwardly from one end and entering a cam groove 27 in the lower side of the wheel 16. The opposite end of the bar 23 is connected by any suitable means whatever such as a lever 28 and rod 29 with a fare register 30 located in the car or elsewhere. It will be apparent therefore that whenever the turnstile is operated a quarter of a revolution in order to admit a passenger into the car, and after being released by the conductor who depresses the foot lever 22, the fare paid by the passenger to the conductor is automatically registered.

It is contemplated in carrying out the present invention to provide means whereby not only a single register may be operated as the turnstile rotates, but in some cities both cash fares and transfers are registered by a conductor as he receives the same from passengers. To adapt the invention for use under the above conditions, two registers would of course be employed, one for transfers and one for cash fares. As seen in Fig. 1, the rods 29 are provided to lead to said registers, one of which is shown in Fig. 2. The sliding bar 23 has a T-shaped head 23^a and the rods 29 are connected at their lower ends by the levers 28 before mentioned to pull rods 28' and 28''. The structure of the rods 28' and 28'' is shown in Fig. 9, said

rods having yielding or spring sections formed with hooks 35 which are adapted to engage opposite portions of the head 23^a. A small horizontal shaft 36 is mounted beneath the platform 1 and has a crank arm at one end depressed by a foot piece 38 and also has cams 37 arranged to engage yielding sections of the pull rods 28' and 28''.

Normally the yielding section of the pull rod 28' is engaged with the head 23^a, said member 28' being included in the connection leading to the cash register so that cash fares will be registered automatically as the turnstile operates. When the conductor receives a transfer to be registered, however, he presses down on a foot piece 38 rocking the shaft 36, and causing the cam 37 that engages the pull rod 28' to force the yielding section of said pull rod downwardly until its hook 35 is disengaged from the head 23^a. Simultaneously with the above operation, the other cam 37 will be raised to permit the hook 35 of the yielding section of the pull rod 28'' to move upwardly into engagement with the head 23^a so that when the turnstile operates, the transfer register will be actuated instead of the cash register. Immediately the conductor releases the pressure on the member 38, a spring 39 pulls the arm of the shaft 36 upward restoring the normal cooperation between the pull rod 28' and the operating bar 23.

When the pull rod 28' is in a position in which it will be operated by the operating bar 23, the pull rod 28'' of course has its yielding section depressed by one of the cams 37 and thus held from operation by the member 23. The conductor can not with the above mechanism, prevent the registration of a cash fare or a transfer; one or the other must positively be registered under all conditions.

The depressible member 38 has a lateral arm 40 having a pin and slot connection 41 with the member 22, whereby the conductor may operate the member 22 when a cash fare is received, without actuating the part 40, but whenever the member 38 is depressed to register a transfer, the lever 21 will be actuated to operate the lever 19 and release the turnstile shaft.

In certain cities where transfers are accepted on car systems, since such transfers are not registered on some car systems, it is desirable that the conductor be supplied with means for preventing the operation of the register 30 as the passenger handing him a transfer passes into the car. Under such conditions, the mechanism above described may comprise a plunger 31 located adjacent to the foot lever 22 and passing downwardly through the platform 1 into engagement with a yielding section 23' of the bar 23, as shown most clearly in Fig. 4. Said member 23' carries the lug 26' which engages in the

cam groove 27 and the plunger 31 is normally held in an upraised position by a spring 32. It will be apparent that if a transfer is handed to the conductor, as he depresses the foot lever 22 to permit the passenger to enter the car, he may simultaneously depress the plunger 31 to disengage the lug 26' from the groove 27 and notwithstanding the wheel 16 is given a quarter revolution, the bar 23 will not be actuated and so the transfer will not be recorded as a fare. The arms 12 will be provided with the anti-friction bearings 12' which are illustrated in the form of rollers, but which may be ball bearings or the like.

Where the present improvements are used on cars operated by companies which receive cash fares only, it will be apparent that the member 31 may be disconnected and removed, under which conditions, every time a passenger enters the car, the register 30, or equivalent device, will be operated. The conductor under the last mentioned conditions will have no control whatever over the operation of the register, and it would therefore be impossible for him to defraud the company of any fares received. It would furthermore be impossible for him to permit a passenger to enter the car without paying a fare, for obviously the register would be actuated, and if the fare was not previously received, the conductor would have to pay the same out of his own pocket.

The invention presents many advantages from the standpoint of construction and actual operation, and it is to be understood that the construction may be modified within the spirit and scope of the appended claims.

The door 4 will open inwardly while the door 5 opens outwardly. A spring 33 coacts with the member 23' to normally hold the latter in engagement with the cam groove 27. It will of course be understood that during the rotation of the turnstile, the cam 15 automatically causes the lowering and raising of the arms 12, the latter being elevated in front of passengers and dropped as they approach the conductor.

From the foregoing it will be understood that the cash and transfer registers when used are interchangeably connected to the turnstile through the means described.

Having thus described the invention, what is claimed as new is:

1. In combination, a turnstile, a locking device therefor, fare registering mechanisms operable by said turn-stile, devices for connecting the registering mechanisms to the turnstile, one of said devices being operative, means for reversing the operative relation of the connecting devices with respect to the registering mechanisms, and means for simultaneously releasing the turnstile.

2. In combination, a turnstile, a locking device coacting therewith, fare registering

mechanisms adapted to be operated by the turn-stile, a releasing device connected to the locking device, separate devices for connecting the turnstile to the fare registering mechanisms, one of said devices being operative and the other inoperative, means for reversing the positions of the connecting devices, and means connecting the last mentioned means with the releasing device aforesaid whereby, when the positions of said connecting devices are reversed, the turn-stile will be released.

3. In combination, a turnstile, a locking device coacting therewith, fare registering mechanisms adapted to be operated by the turn-stile, separate devices for connecting the registering mechanisms and the turn-stile, one of said devices being operative and the other inoperative, a manually operable device connected with the locking device to release the same and a second manually operable device attached to the connecting devices aforesaid for reversing the positions of said devices, and means connecting the second manually operable device with the first mentioned manually operable device, whereby the turnstile is released when the second manually operable device is actuated.

4. In combination with a car, a turnstile comprising an operating shaft, and arms connected therewith, registering mechanism connected with the said shaft for operation thereby, and means independent of the turnstile for throwing the registering mechanism into and out of operative connection with said shaft.

5. In combination with a car, a turnstile comprising a vertical operating shaft and arms connected therewith, a locking wheel carried by the shaft, manually operated means coacting with the locking wheel to prevent and permit turning thereof with the shaft, registering mechanism comprising a bar in operable connection with the said wheel, and manually operable means independent of the turnstile for temporarily disconnecting said bar from the wheel, whereby the registering means will not be actuated when the turnstile operates.

6. In combination with a car, a turnstile comprising a vertical operating shaft and arms connected therewith for turning said shaft, a wheel carried by said shaft for rotation therewith, registering mechanism, a bar connected with the registering mechanism and comprising a movable section connected with the wheel for operation of the bar thereby, and a foot actuating device for disengaging the movable section of the bar from the wheel to prevent operation of the register as the turnstile is actuated.

7. In combination, a turnstile, separate registering mechanisms for cash and transfer fares, means connecting the turnstile with one of said registering mechanisms,

and manually controlled means for disconnecting the registering mechanism operable by the turnstile, and simultaneously connecting the other registering mechanism to the turnstile.

8. In combination, a car, a turnstile at the entrance thereto, cash and transfer registering mechanisms, separate devices connecting said registering mechanisms to the turnstile, manually controlled means for interchangeably connecting the turnstile operatively with respect to the registering mechanisms, and locking means for the turnstile adapted to be released by the means for interchanging the operative connections between the turnstile and registering mechanisms.

9. In combination, a car, a turnstile located at the entrance thereto, a locking member for said turnstile, a locking lever coacting with said locking member, cash and transfer registering mechanisms, means for interchangeably connecting the locking

member to said mechanisms for independent operation of the same, means for actuating said interchangeable devices, and means operably connecting the last mentioned means to the locking lever to release the same.

10. In combination, a car, a turnstile located at the entrance thereto, locking means for said turnstile, independent fare registering mechanisms adapted to be operated by the turnstile, connections between said registering mechanisms and the turnstile, whereby the latter is adapted to operate said mechanisms and means for interchanging the operative connection between the registering mechanisms and the turnstile and simultaneously releasing the turnstile.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN BACSARDI.

Witnesses:

MAX ALPER,
JOSEPH J. KERSHNEY.