

917,834.

WITNESSES
Samuel L. Alpert.

R.C. Adams INVENTOR
BY Small, Worfield & Small ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT C. ADAMS, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO HENRY W. BROWN, OF NEW YORK, N. Y.

FARE-REGISTER.

No. 917,834.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed October 26, 1907. Serial No. 399,303.

To all whom it may concern:

Be it known that I, ROBERT C. ADAMS, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fare-Registers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fare registers and, with regard to the more specific details thereof, to a register adapted to be automatically actuated upon the insertion of a coin.

One of the objects thereof is to provide a device of the above nature of simple and practical construction and efficient and reliable action.

Another object is to provide means in connection with a fare register of the above type adapted to insure the counting of each coin.

Another object is to provide a fare register of the type first mentioned in which the character and condition of the coins inserted are clearly shown.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

The accompanying drawing is a diagrammatic view of one of various possible embodiments of this invention.

In order that certain features of this invention may be more readily and fully understood, it may here be noted that in fare registers in which the parts are automatically actuated by the coin there is a tendency, on account of the relatively light weight of the coin, for the parts to chatter or act in an uncertain manner. It may also be noted that in many fare registers in which the coin is the actuating agent, a counterfeit or mutilated coin will operate the parts and, unless means are provided for exposing the same, the use of such a coin might not be detected. The above and other defects are eliminated and many positive advantages attained in constructions of the nature of that hereinafter described.

Referring now to the accompanying draw-

ing, there is shown a chute 1 provided with a flared mouth 2 and leading downwardly to a casing 3 the walls of which are of a translucent material, as the glass 4, for a purpose hereinafter described. From this casing 3 a passage 4 leads to a receptacle 5 which may form the final depository for the coins. Pivoted, as to a swinging lever 6, is a lever 7 having its end 8 projecting within the chute 1. The remaining end of this lever is provided with an electrical contact 11 adapted to co-act with an insulated contact 12 mounted upon lever 6. The leads 13 and 14 from a battery or other source of current 15 are connected respectively with lever 7 and contact 12 and the circuit leads through an electro magnet 16 as shown. Pivoted to an abutment 9 upon lever 6 is a lever 17 having an inwardly disposed weighted end 18 adapted normally to throw the upper end toward the chute. This upper end is provided with an inclined surface 19 adapted to co-act with a similar surface upon lever 7, and, upon the latter member rocking as into the position shown in dotted lines the lever 17 falls inwardly and insures that a steady and firm contact is made. It will thus be seen that upon a coin being dropped as into the position indicated at 21 the edge of the same will engage the end 8 of lever 7 and rock the same into contact making position, the lever 17 automatically throwing its inclined surface beneath the corresponding portion and insuring the completion of the circuit through the magnet 16. This rocking of the lever 7, however, permits the coin to pass downwardly beneath its inner end and thus release the same from its weight, this action being aided as hereinafter described.

Operatively related to magnet 16 is an armature 22 connected as by a link 23 with a lever 24 pivoted as at 25 to one side of the chute. From this lever a link 26 leads to a pitman 27, which is in turn connected with the crank 28 of registering apparatus diagrammatically shown at 29. It may here be noted that this registering or counting mechanism may be of any desired type; its specific construction forming in itself no part of the present invention. It will, of course, be understood that the link 23 and the pitman 27 pass outside of the chute to one side thereof.

Lever 6 is connected as at 10 with link 26,

and upon the completion of the circuit through magnet 16 this entire lever with the contact members 7 and 17 mounted thereon is swung so as to bring the latter member against a fixed stop 20 and thus snap the same from under lever 7 and permit it to return to normal condition. Also mounted upon link 26 is a lug 30 adapted upon lever 24 swinging toward the chute to enter the latter part and obstruct the passage of coins to the contact lever 7. In this manner, as each coin completes the circuit through the magnet 16 the armature of the latter causes the actuation of the registering mechanism 29 and simultaneously obstructs the chute, thus preventing the passage of contact lever 7 by a second coin before the same has broken the circuit and returned to normal condition.

Upon the coins dropping into horizontal casing 3 they are held in exposed condition, thereby showing their character and admitting of the detection of false coins. This casing preferably accommodates two or more coins in order to permit of a thorough inspection of each coin irrespective of the rate at which the same are fed to the chute 1. As each successive coin, however, falls to the casing 3, that at the remote end of the casing or adjacent passage 4 is thrown into the passage by a pawl 31 having a shoulder 32 adapted to engage these coins. Pawl 31 is pivoted to the free end of lever 24 and is guided as at 33 and 34 in such manner as to cause it to push the coins throughout the desired path at each throw of the lever. A spring 35 is provided in order to retract the lever 24 to the normal position shown in full lines in the drawing.

In order to prevent the piling up of coins within the chute 1 until the same become accessible at the mouth 2, there is provided a branch chute 36 leading to a receptacle 37. The main chute is so formed as upon the same being open and unobstructed to permit coins to drop downwardly along the course first described, but if coins are to accumulate in the chute in such manner as to obstruct the passage adjacent the branch 36, the parts are so formed as by means of the defectors 38 and 39 to divert the coins into the receptacle 37, thus rendering them inaccessible and also furnishing proof that the instrument is either broken down or has been tampered with.

The operation of the above described embodiment of this invention is substantially as follows: Assuming the parts to be in the normal position indicated in full lines in the drawing, a coin is inserted in the mouth 2 and immediately falls to the contact lever 7. This part is rocked as above described to complete the circuit through the magnet 16 and is held firmly against its coacting contact until lever 17 is swung from beneath the same by engagement with stop 20. The en-

ergizing of magnet 16 results not only in the actuation of register 29 through the above described means, but by means of the lug 30 acts to feed the coins one at a time to the contact lever 7 irrespective of the rate at which they are inserted. The attraction of the armature of magnet 16 also feeds a coin, as 40, to the receptacle 5 and thus provides a space in the casing 3 for the coin which has completed the circuit. If the coins accumulate in the chute, they are diverted in the receptacle 37 as above described.

It will thus be seen that there is provided a construction in which the several objects of this invention are achieved and the above described advantages are, among others, present.

The entire device is simple, inexpensive and durable and its action is such as to be thoroughly reliable and substantially proof against either accidental or intentional misuse. The device, moreover, is such as to be well adapted for use upon a street car, inasmuch as the parts are unaffected by jarring and vibration, and by reason of its thoroughly automatic action the personal equation of the street car conductor does not enter into its use.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a device of the class described, in combination, a normally unobstructed chute, coin controlled means adapted to register the number of coins passing through said chute, and automatic means actuated by said first means and adapted to admit coins to said first means one at a time.

2. In a device of the class described, in combination, a normally unobstructed chute, coin controlled means adapted to register the number of coins passing through said chute, and means actuated by said first means and adapted automatically to obstruct the passage through said chute to said first means with the same in inoperative condition.

3. In a device of the class described, in combination, a normally unobstructed chute, coin controlled means adapted to register

the number of coins passing through said chute, and means actuated by said first means and adapted to obstruct the passage leading thereto until the same has returned to normal condition.

4. In a device of the class described, in combination, a chute, means comprising an electro magnet, means projecting within said chute adapted upon being engaged by a coin to complete a circuit through said magnet, and means actuated by said magnet adapted to obstruct the passage through said chute to said circuit completing means during the completion of said circuit.

5. In a device of the class described, in combination, a chute, means comprising an electro magnet, a pivoted contact lever projecting within said chute and adapted upon engagement by a coin to complete a circuit through said magnet, a member adapted to be moved into said chute and obstruct the passage leading to said contact lever, an armature for said magnet, and means connecting said armature with said member and adapted upon said armature being attracted to move the same into obstructing position.

6. In a device of the class described, in combination, means adapted to hold a coin exposed to view, a chute leading thereto, a receptacle connected with said first means, means adapted upon a coin being dropped into said chute to move a coin from said first means to said receptacle and means adapted to register the number of actuations of said last means.

7. In a device of the class described, in combination, means adapted to hold a plurality of coins exposed to view, a chute leading to one end thereof, a receptacle connected with the opposite end thereof, registering means and means adapted upon a coin being dropped into said chute to move a coin into said receptacle from the adjacent end of said first means and actuate said registering means.

8. In a device of the class described, in combination, means adapted to hold a coin exposed to view, a chute leading thereto, a receptacle connected with said first means, means adapted upon a coin being dropped into said chute to move a coin from said first means to said receptacle, registering means, and means controlled by a coin within said chute adapted to actuate said registering means.

9. In a device of the class described, in combination, means adapted to hold a coin exposed to view, a chute leading thereto, a receptacle connected with said first means, means comprising an electro magnet, means projecting within said chute and adapted to complete a circuit through said magnet upon being engaged by a coin, a register, means adapted to move a coin from said first means into said receptacle, and means controlled by

said magnet adapted to actuate said last means and said register.

10. In a device of the class described, in combination, a casing adapted to hold a coin exposed to view, a chute leading thereto, a receptacle connected with said casing, means comprising an electro magnet, means projecting within said chute and adapted upon engagement by a coin to complete a circuit through said magnet, a register, a member adapted to move a coin from said casing into said receptacle, and spring retracted means comprising a lever connected with the armature of said magnet adapted to actuate said register and said member.

11. In a device of the class described, in combination, a chute, a register, means comprising an electro magnet, means projecting within said chute and adapted upon engagement by a coin to complete a circuit through said magnet, a pivoted lever, a connection between said lever and the armature of said magnet, a connection between said lever and said register whereby said magnet is adapted to actuate said register, and means adapted to insure the firmness of contact with which said circuit is completed.

12. In a device of the class described, in combination, a chute, means comprising an electro magnet, a pivoted lever projecting within said chute and adapted upon being engaged by a coin to rock into engagement with a coacting contact and complete a circuit through said magnet, a register, means controlled by said magnet adapted to actuate said register, and means adapted to insure firmness of contact of said lever with said coacting contact.

13. In a device of the class described, in combination, a chute, means comprising an electro magnet, a pivoted lever projecting within said chute and adapted upon being engaged by a coin to rock into engagement with a coacting contact and complete a circuit through said magnet, a register, means controlled by said magnet adapted to actuate said register, and means adapted to insure firmness of contact of said lever and adapted automatically to release the same upon said circuit being broken.

14. In a device of the class described, in combination, a chute, means comprising an electro magnet, a register, means controlled by said electro magnet adapted to actuate said register, a pivoted lever projecting within said chute and adapted to be rocked upon a coin engaging the same, a contact into operative relation with which said lever is adapted to rock and complete a circuit through said magnet, and a second lever mounted to swing automatically beneath said first lever and force the same against said contact.

15. In a device of the class described, in combination, a chute, means comprising an

electro magnet, a register, means controlled by said electro magnet adapted to actuate said register, a pivoted lever projecting within said chute and adapted to be rocked upon a coin engaging the same, a contact into operative relation with which said lever is adapted to rock and complete a circuit through said magnet, and a second lever mounted to swing automatically beneath said first lever and force the same against said contact, said levers having inclined ends adapted to co-act one with another.

16. In a device of the class described, in combination, means adapted to hold a plurality of coins, a chute leading thereto, and a branch leading from said chute and adapted to receive coins therefrom upon the same accumulating therein.

17. In a device of the class described, in combination, means adapted to hold a plurality of coins, a chute leading thereto, and a branch leading from said chute and adapted to receive coins therefrom upon the same accumulating therein, and deflecting means adapted to tend to throw coins toward said branch.

18. In a device of the class described, in combination, a chute, a branch leading from said chute adjacent its upper end, a receptacle adapted to receive coins from said branch, registering means adapted to be actuated by coins passing through said chute beyond said branch, and means adapted to tend to divert coins from said chute into said branch.

19. In a device of the class described, in combination, a chute, means comprising an electro magnet, means projecting within said chute adapted upon being engaged by a coin to complete a circuit through said magnet, means actuated by said magnet adapted to obstruct the passage through said chute to said circuit completing means during the completion of said circuit, a casing connected with said chute adapted to hold coins exposed to view, a receptacle connected with

said casing, and means controlled by said magnet adapted to move a coin from said casing into said receptacle.

20. In a device of the class described, in combination, a chute, a register, means comprising an electro magnet, means controlled by a coin within said chute adapted to complete a circuit through said magnet, means controlled by said magnet adapted to actuate said register, and means actuated by said magnet adapted to obstruct the passage leading to said circuit completing means.

21. In a device of the class described, in combination, a chute, a register, means comprising an electro magnet, means controlled by a coin within said chute adapted to complete a circuit through said magnet, means controlled by said magnet adapted to actuate said register, a casing adapted to receive coins from said chute and hold them exposed to view, a receptacle connected with said casing, and means controlled from said magnet adapted to move a coin from said casing into said receptacle.

22. In a device of the class described, in combination, a chute, a register, means comprising an electro magnet, means controlled by a coin within said chute adapted to complete a circuit through said magnet, means controlled by said magnet adapted to actuate said register, a casing adapted to receive coins from said chute and hold them exposed to view, a receptacle connected with said casing, means controlled from said magnet adapted to move a coin from said casing into said receptacle, and means controlled from said magnet adapted to obstruct the passage through said chute.

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

ROBERT C. ADAMS.

Witnesses:

H. W. BROWN,
H. M. SEAMANS.