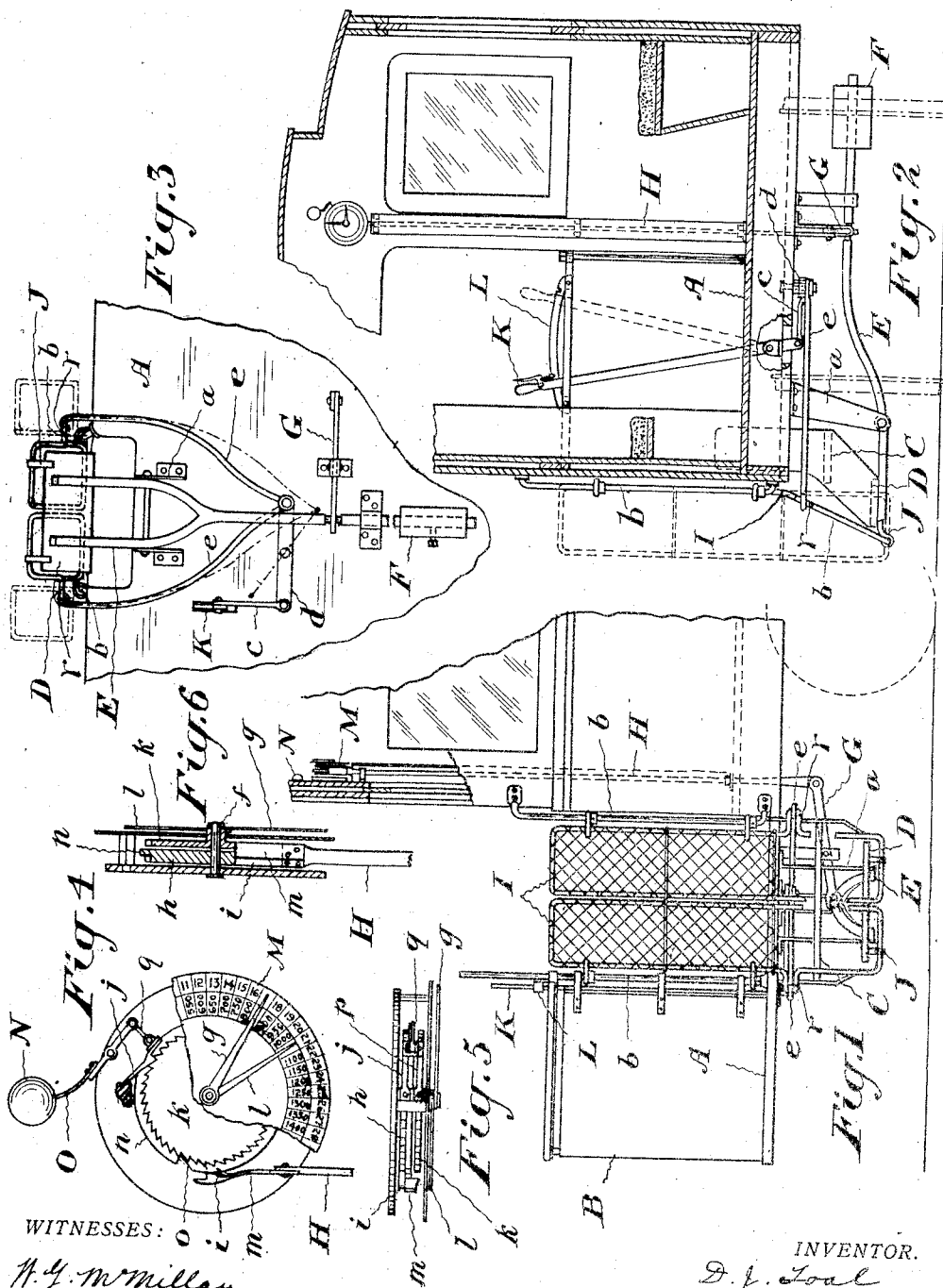


986,523.

Patented Mar. 14, 1911.



WITNESSES:

H. J. McMillan
 C. P. Hall.

INVENTOR.
 D. J. Toal
 BY
 Ridout & Mayhew
 ATTORNEY.

UNITED STATES PATENT OFFICE.

DAVID J. TOAL, OF GLEN OAK, ONTARIO, CANADA.

AUTOMATIC FARE-REGISTER.

986,523.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed March 14, 1910. Serial No. 549,365.

To all whom it may concern:

Be it known that I, DAVID J. TOAL, of Glen Oak, in the Province of Ontario, Canada, have invented certain new and useful
5 Improvements in Automatic Fare-Registers, of which the following is a specification.

The object of my invention is to devise simple and effective means for automatically registering the number of persons entering
10 a car or other place where it is desired to keep a record of persons entering and particularly to provide means whereby accidental registration when no one is entering is entirely prevented.

15 I attain my object by the constructions hereinafter particularly described and illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of a portion
20 of the rear end of a street car provided with my device. Fig. 2 is a sectional elevation of part of the rear end of a street car provided with my improvements and looking toward the rear. Fig. 3 is a plan view of a
25 portion of the mechanism. Fig. 4 is a front elevation of the registering dials partly broken away. Fig. 5 is a plan view of the same. Fig. 6 is a vertical side elevation partly in section.

30 In the drawings like letters of reference indicate corresponding parts in the different figures.

A is the rear platform of a car and B the dash board surrounding the same. The
35 usual entrance opening is provided in the dash in line with the steps C. The lower step D instead of being fixed as usual is made vertically movable and for this purpose is secured to the outer end of the lever
40 E suitably fulcrumed on the bracket a secured to the under side of the platform of the car. The inner end of this lever is provided with a counterbalancing weight F which tends to retain the step in its normal
45 position. As the depression of the step is intended to operate a register the following mechanism is provided for that purpose. A lever G is suitably fulcrumed below the platform intermediate its ends. One end is
50 suitably engaged with the lever E and the other is pivotally connected with the lower end of a connecting rod H adapted to operate the register in a manner I will shortly describe.

55 From this construction it is evident that any person entering the car and stepping on

the step D will depress the same and thus register his entrance. There is always, however, the possibility of the oscillations of the car causing the accidental operation
60 of the register and a further possibility of tricks being played with the mechanism. In order to completely prevent any such trouble I provide the entrance to the platform with a suitable gate I which may be of
65 any suitable type but is preferably of the double type shown, the halves being hinged at opposite sides of the opening preferably on vertical rods b. These halves are suitably shaped, as shown, to follow the contour of the steps and the lower end of one or both halves is provided with a lug or projection J adapted when the gate is closed to engage beneath the step D and thus prevent
70 its depression. 75

The gates are operated in the following manner. A suitable hand lever K is fulcrumed on the platform and provided with the usual means of engaging a notched quadrant L. The lower end of this lever is
80 connected by means of a pivoted link c with a short lever d fulcrumed intermediate its ends at the under side of the platform. The other end of this lever is connected by means of the connecting rods e with the
85 oppositely extending cranks r formed on the halves of the gate. Thus by means of the hand lever K the gate may be opened whenever necessary to permit the entry of passengers and subsequently closed and held
90 closed, thus effectively preventing any accidental or premeditated registration.

While any suitable registering mechanism might be employed I prefer to use the mechanism illustrated in detail in Figs. 4, 5 and
95 6 of the drawings. M is a suitable dial. Through this dial extends the suitably journaled spindle f carrying the units hand g. This spindle is rigidly connected with the ratchet wheel h which ratchet wheel is engaged by the spring actuated pawl i on the
100 upper end of the connecting rod H. j is a spring retaining pawl tending to hold the ratchet wheel as moved. Through the medium of this ratchet wheel the connecting
105 rod H is thus adapted to register units, the dial being suitably divided for that purpose. A second ratchet wheel k is sleeved on the spindle f and carries a second hand l intended to register the number of revolutions of the dial made by the first hand. A
110 second spring actuated pawl m on the con-

necting rod is adapted to coöperate with this second ratchet wheel, but is normally held out of engagement therewith through the medium of the disk *n* connected with the first ratchet wheel *h*. A notch *o* is formed at one point in the periphery of this disk and thus once in each revolution of the first ratchet wheel the second pawl *m* is allowed to engage and move the second ratchet wheel one tooth. A second spring actuated retaining pawl *p* serves to hold the second ratchet wheel as moved. A bell *N* is provided of which *O* is the hammer centrally fulcrumed and connected by the pivoted link *q* with the retaining pawl *j*. Thus every time the pawl is moved by the rotation of the ratchet wheel *h* the bell is rung and attention thus called to the registration of the entrance of the passenger.

From the above description it will be seen that I have devised a very simple means for recording the number of passengers entering the car, and that these means are almost entirely out of sight, interfering therefore in no wise with the appearance of the car. Therefore the registration means are rendered entirely safe from accidental registration or premeditated tampering by the means I have described.

What I claim as my invention is:

1. In an automatic car register the combination of a lever fulcrumed beneath the platform of the car; a step connected to one end of the lever; a counterbalancing device for said lever; a fare register; an oper-

ating connection between the register and the lever; a gate adapted to guard the step comprising half gates connected to vertically journaled rods; cranks formed on said rods; a forked lever having its forked ends pivotally connected with said cranks; a hand lever fulcrumed on the car; operating connections between the single end of the forked lever and the hand lever; and projections on the half gates adapted to engage beneath the aforesaid step when the gate is closed.

2. In an automatic car register the combination of a lever fulcrumed beneath the platform of the car; a step connected to one end of the lever; a counterbalancing weight connected to the other end of the lever; a fare register; an operating connection between the register and the lever; a gate adapted to guard the step comprising half gates connected to vertically journaled rods; cranks formed on said rods; a forked lever having its forked ends pivotally connected with said cranks; a hand lever fulcrumed on the car; operating connections between the single end of the forked lever and the hand lever; and projections on the half gates adapted to engage beneath the aforesaid step when the gate is closed.

Signed this 25th day of Feby. 1910.

DAVID J. TOAL.

In the presence of—

H. C. TOAL,
LIZZIE T. FISHER.