

L. EHRLICH.  
FARE REGISTER.  
APPLICATION FILED DEC. 10, 1894.

922,867.

Patented May 25, 1909.

6 SHEETS—SHEET 1.

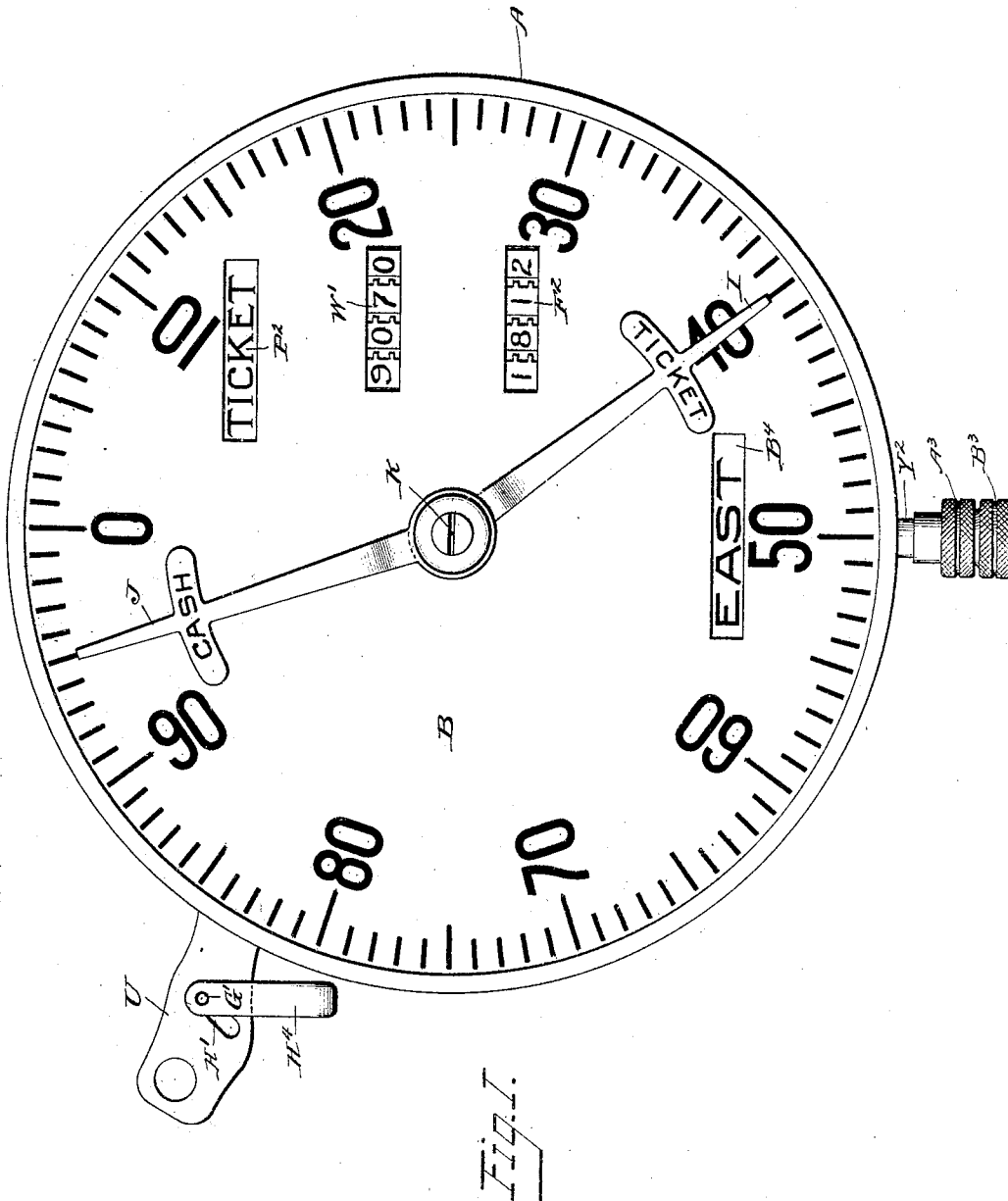


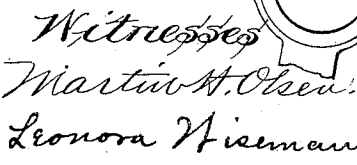
Fig. 1.

Witnesses  
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6 SHEETS—SHEET 2.



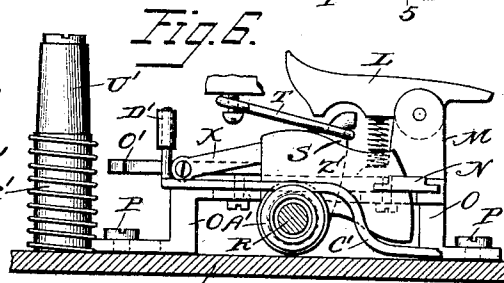
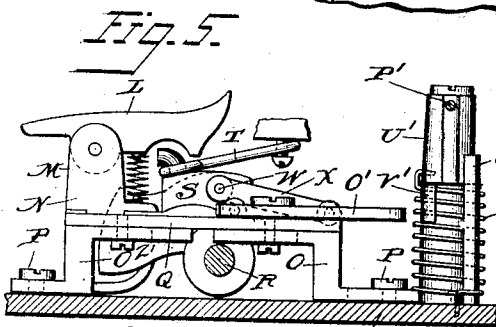
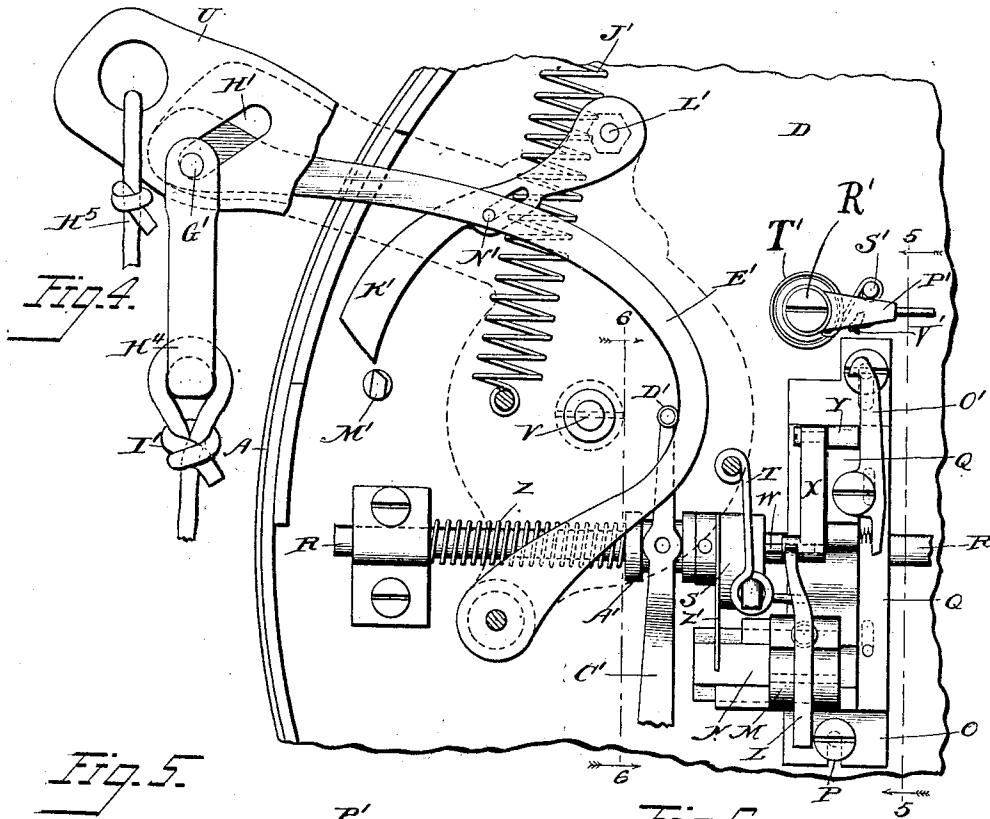
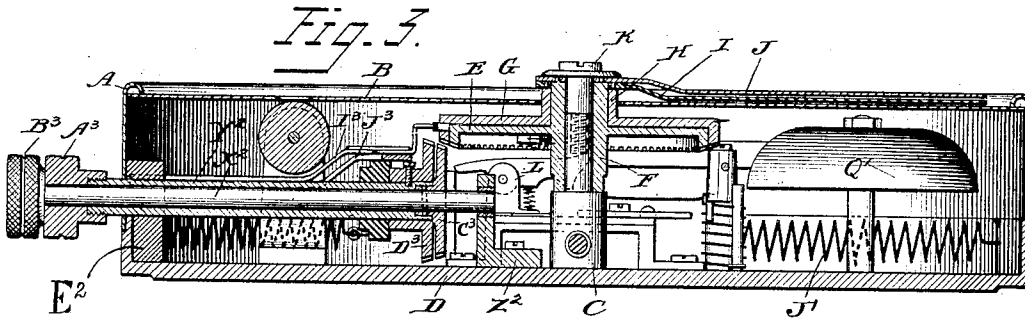
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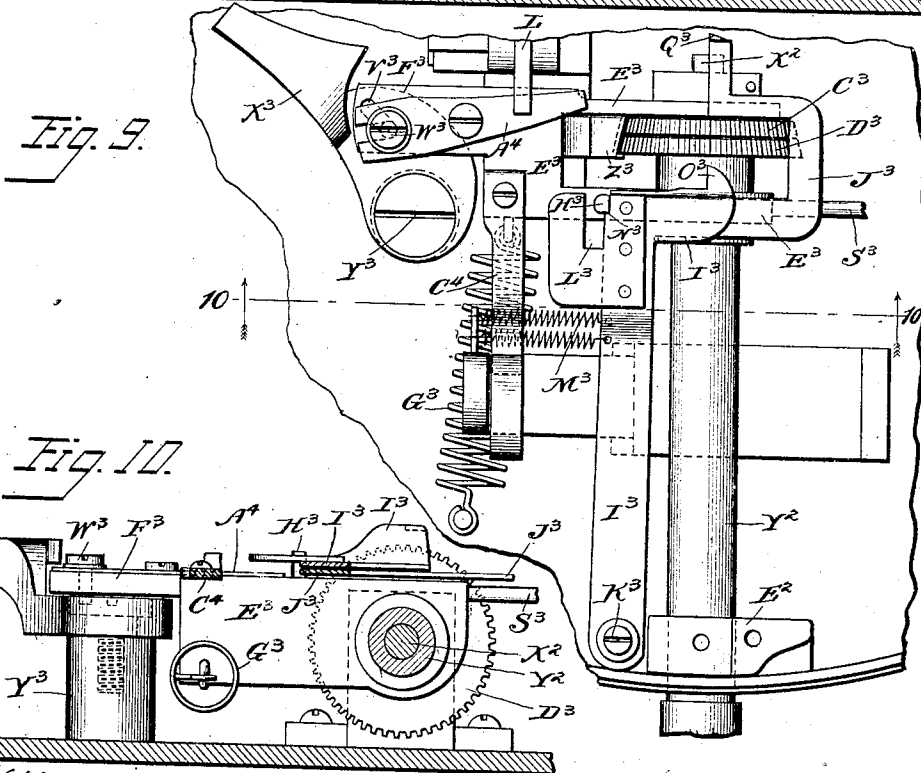
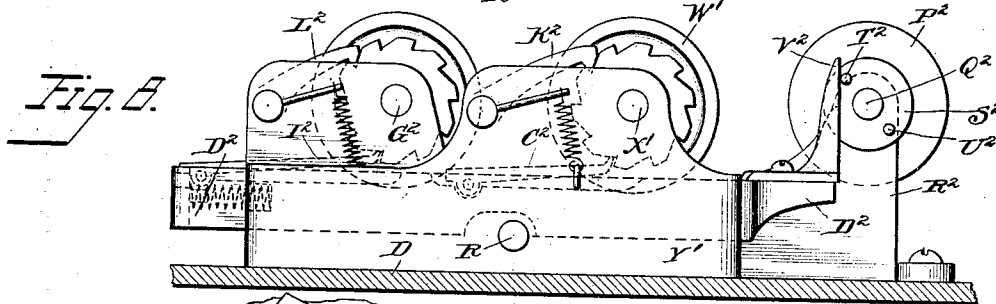
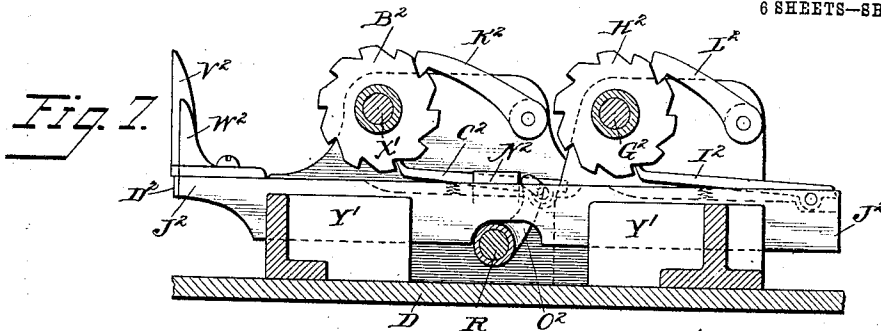
Witnesses  
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6 SHEETS—SHEET 4.



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6 SHEETS—SHEET 5.

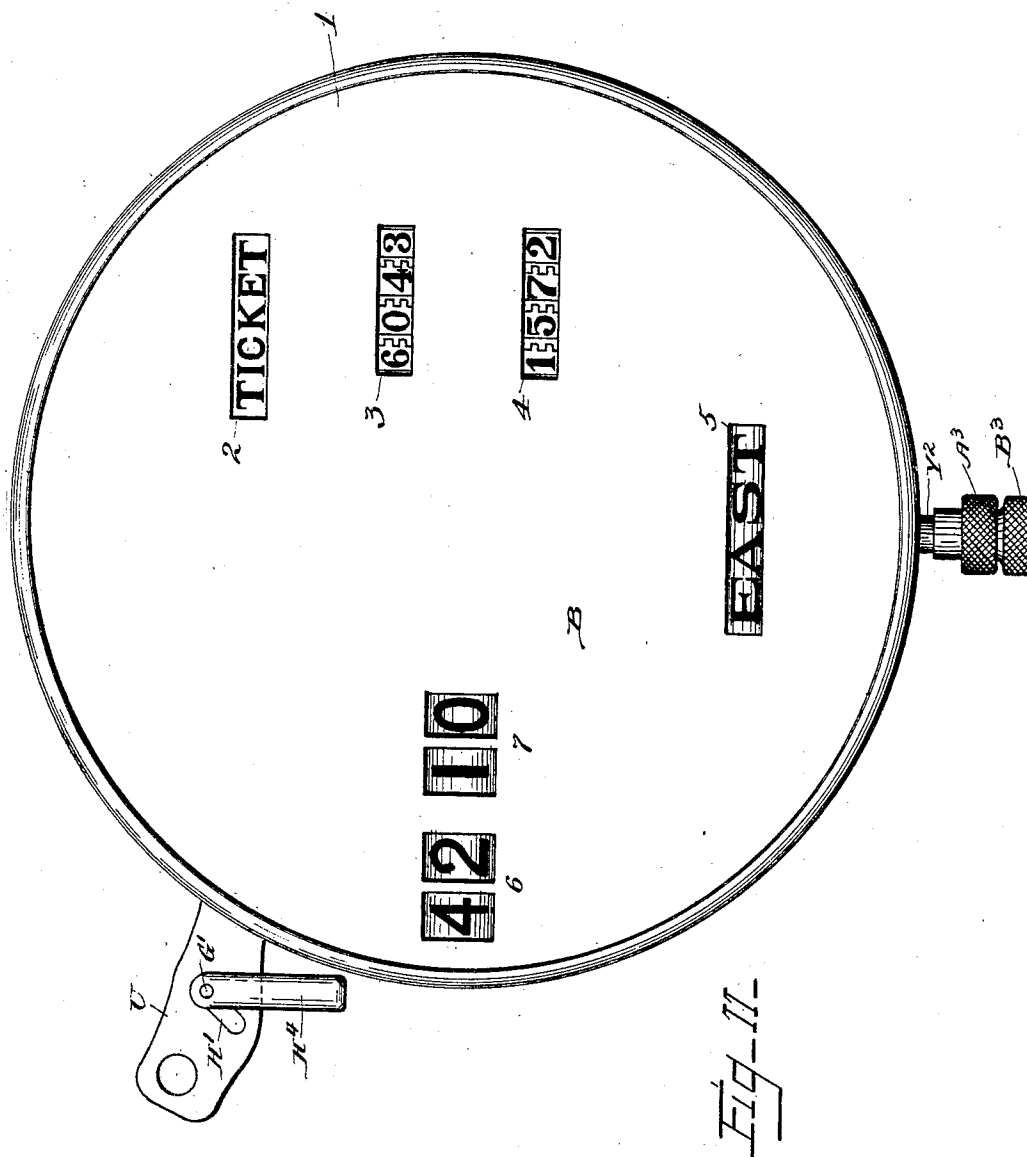


Fig. 11.

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6 SHEETS—SHEET 6.

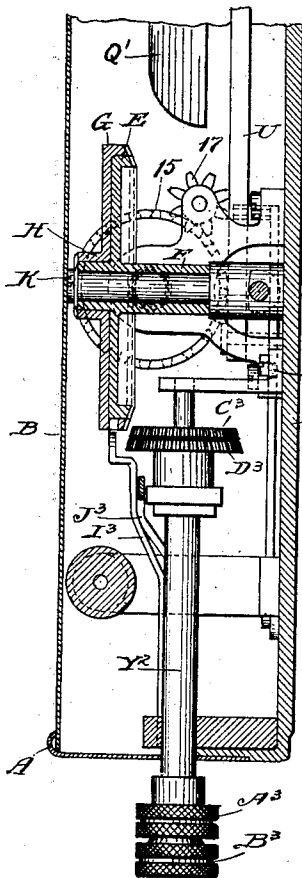


Fig. 12.

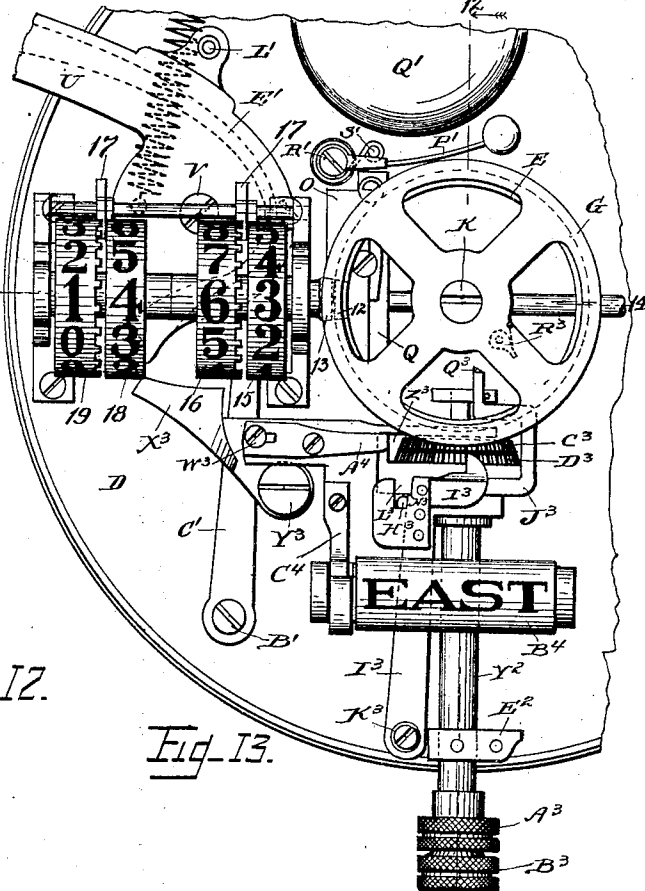


Fig. 13.

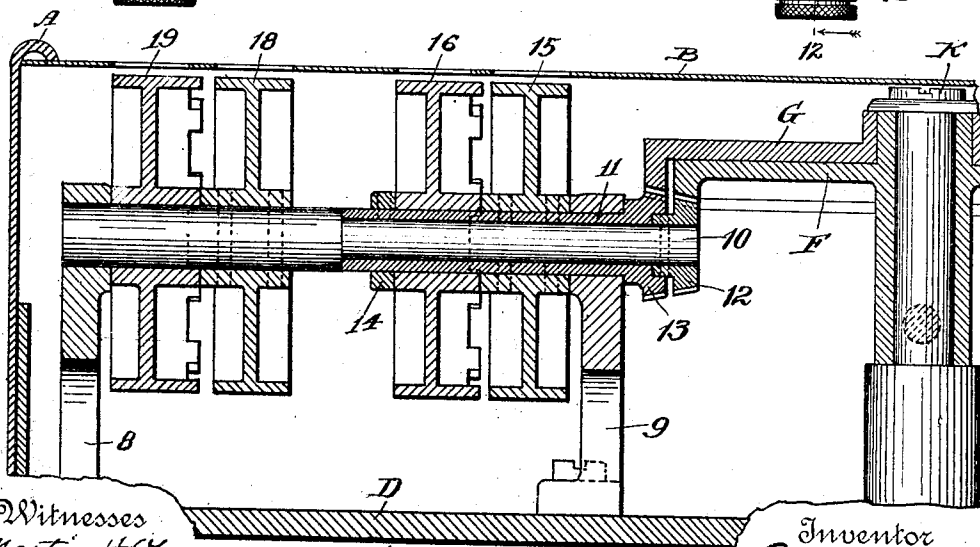


Fig. 14.

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# UNITED STATES PATENT OFFICE.

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## FARE-REGISTER.

No. 922,867.

Specification of Letters Patent.

Patented May 25, 1909.

Application filed December 10, 1894. Serial No. 531,337.

*To all whom it may concern:*

Be it known that I, LEO EHRLICH, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Fare-Registers, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

Like the machine shown and described in my prior patent No. 523,930, of July 31, 1894, my present machine is intended for use upon street railways and other transportation lines where two or more classes of fares are received, such as cash fares and transfers, cash fares and tickets, half fares and full fares, and so on, and to that end is provided with means for preserving separate registrations of the several classes of fares. In some respects my present machine is similar to that of my prior patent, while in others it is a modification of and a departure from such prior machine. Like that machine it embodies a trip register, upon which the total number of fares of all classes is registered, and which is adapted to be reset to zero or initial position at the end of each trip, and two or more independent permanent registers, (that is to say, registers which are not reset to zero at the end of each trip,) upon which permanent registers separate registrations of the several classes of fares are made and preserved; with suitable operating means for actuating the trip register and either one of the permanent registers at will, to register the corresponding class of fare.

In my prior machine the trip register consisted of the usual circular dial, with a pointer moving over the same, and means for actuating the pointer. The pointer was advanced one number at each operation of the machine, no matter which class of fare was to be registered, so that all of the fares of all classes received during a trip were added into one common total upon the trip register. The latter therefore indicated simply the total number of fares, and not the number of fares of each class. While, therefore, in that machine the permanent registers indicated at all times the total number of fares of each class received during a given period, as for instance a day or a week, depending upon the intervals at which the readings were taken from them, it was not possible at any time by looking at the trip register to ascertain how many of the fares registered upon it

during the trip were of one class and how many of another. One feature of my present invention is an improvement in this respect upon my prior machine and consists in the provision of a novel and hereinafter described multiple trip register, or a trip register which will indicate at all times the number of fares of each class received during the trip. My invention in this respect contains various forms of multiple trip-registers, two of which have been illustrated in the drawings and will be hereinafter described. In the first and preferred form the multiple register consists of a plurality of pointers, representing different classes of fares, cooperating with a single dial such as that shown in my prior patent. In the other form illustrated the multiple register consists of a plurality of wheel registers geared to the main actuating wheels of the register.

Inasmuch as upon most transportation lines where fare registers are employed but two classes of fares are received my improved trip register is shown as consisting of a double register, employing in the one instance two pointers moving over the dial to indicate thereon the two different classes of fares, and in the other two wheel registers for the same purpose; while two permanent registers are employed in each instance for preserving permanent registrations of such fares.

Again, in my prior machine the permanent registers were geared to and actuated by the trip register, or by the operating device through the medium of the trip register, so that when it was desired to reset the trip register, at the end of a trip, it had to be first disconnected from the permanent registers. This construction and this necessity are common to many fare registers of this class, as well as my own prior machine. In my present machine the trip register is wholly disconnected from the permanent registers, and while all three of the registers are actuated by the same operating device they are actuated directly by it and not one through the medium of the other.

Again, in my prior machine the trip register and the two permanent registers were actuated by a single operating lever, which was moved in one direction to actuate one permanent register, and in the other direction to actuate the other permanent register, while operating to actuate the trip

register upon its movement in both directions. In my present machine, while a single operating lever or handle is employed, it moves only in one direction from normal position, and to cause it to actuate at will either one of the permanent registers and the corresponding pointer of the trip register a shifter is provided by which the operating lever may be connected with and disconnected from either register at will, depending upon the class of fare to be registered. The two cords or ropes by which the machine is operated, and which usually extend along the upper part of the car within reach of the conductor as he is collecting fares, are so connected to the machine that upon pulling one cord one permanent register and its corresponding pointer of the trip register will be actuated, and upon pulling the other cord the other permanent register and other pointer will be actuated. The adjustment of the parts is preferably such that the operating lever is normally connected with one register and pointer, so that by simply operating said lever such register and pointer will be actuated to register one class of fares, usually the commonest one or the one of which the greatest number are received. When a fare of the other class is to be registered the shifter is operated to throw the operating lever into connection with such other register and pointer, so that upon then moving the lever the latter register and pointer will be actuated to register the second class fare. To this end one of the operating cords is connected to the lever alone, so that upon pulling said cord the lever will be operated to actuate the register with which it is normally connected, while the other cord is connected to both the lever and shifter, or at least has such a connection with the shifter, directly or indirectly, that upon pulling said cord the operating lever will be thrown into connection with the second register and its movement caused to actuate it. This second operating cord may be independently connected to the lever and to the shifter, but under the arrangement which I prefer and which has been illustrated in the drawings the cord is connected to the lever through the medium of the shifter, or a part moving with the shifter, so that upon pulling the cord the shifter will first be actuated to connect the lever with the second register and the lever itself be then moved to actuate such register.

While the several features of my present invention before mentioned are improvements upon my prior machine, yet they are distinct and separate improvements upon it and are not so related to or dependent upon each other that one may not be utilized without the other. Thus the feature of the double trip register may be employed in a machine in which the permanent registers are

normally connected with the trip register and actuated by or through it, as in my prior machine, or in a register in which a single operating lever movable in one direction to actuate one permanent register and in the other direction to actuate the other permanent register is employed. So, too, the feature of the permanent registers disconnected from and actuated independently of the trip register may be utilized in my prior machine and others, as well as in my present one; as may also the single operating lever movable in one direction only, and the shifter for connecting it at will with either one of the permanent registers.

My present machine like my prior one is also provided with a trip indicator automatically operated by the resetting of the trip register, and I have also shown it provided with a fare indicator similar to that employed in my prior machines. The fare indicator may be advantageously employed in connection with such a trip register, since the pointers when at rest do not indicate the character of the last fare registered, while the fare indicator does, so that by glancing at the fare indicator the character of the last fare registered may also be ascertained. So, too, such fare indicator may be utilized in connection with the two permanent registers, disconnected from and actuated independently of the trip register, as in my present machine, and a single trip register such as that of my prior machine, to the same advantage as in such prior machine.

My present machine contains other novel and useful features, consisting of new constructions, arrangements and modes of operation of parts, all of which will be hereinafter explained and particularly pointed out in the claims.

Having thus premised the general nature of my invention a detailed description will now be given of it in the form in which it is embodied in the machine illustrated in the accompanying drawings, in which,

Figure 1 is a face view of the register; Fig. 2 a corresponding view with the dial removed to expose the working parts of the register; Figs. 2<sup>a</sup> and 2<sup>b</sup> details of the two wheels of the trip register, showing the trip carried by them; Fig. 3 a cross-section longitudinally of the resetting shaft, with the pointers at zero instead of in the position they occupy in Figs. 1 and 2; Fig. 4 an enlarged detail plan view of the operative lever and shifter, and the actuating pawl of the trip register and associated parts; Fig. 5 a detail view on the line 5—5 of Fig. 4, showing in elevation the parts at the right hand side of said figure; Fig. 6 a similar view looking at said parts from the left, being a view approximately upon the line 6—6 of Fig. 4, omitting the operating lever and parts carried by it; Fig. 7 an enlarged detail view approximately on the



line 7—7 of Fig. 2, omitting the casing of the register; Fig. 8 a corresponding view on the line 8—8 of Fig. 2; Fig. 9 an enlarged detail plan view of parts of the resetting mechanism, the trip indicator being removed; Fig. 10 a sectional detail approximately on the line 10—10 of Fig. 9; Fig. 11 a face view of the complete register showing a different form of the multiple trip register; Fig. 12 a vertical sectional detail of the same approximately on the line 12—12 of Fig. 13; Fig. 13 a detail plan view with the face plate of the register removed to expose the parts beneath; and Fig. 14 an enlarged vertical section transversely of the machine, approximately on the line 14—14 of Fig. 13.

The same letters of reference are used to indicate identical parts in all the figures.

The working parts of the register are inclosed within the usual circular casing A and hidden by the numbered dial B of the trip register, Fig. 1, said dial being provided with suitable reading openings for the permanent registers, the trip indicator, and in this instance for the fare indicator. Mounted upon a central post C fixed to the bottom plate D of the casing, Fig. 3, is a wheel E having an extended hub F resting at its lower end upon the annular shoulder at the bottom of the reduced upper end of the post C over which it fits, and projecting at its upper end through the dial B. Loosely mounted upon the upper end of the hub of the wheel E is a second wheel G having its hub H extending through the dial B around the hub F but not quite to the upper end of the latter.

Fast upon the upper end of the hub H is one pointer I of the trip register, while the other pointer J of the same is fast upon the upper end of the hub F. The pointers fit over pins upon the upper ends of the hubs and are removably held in place by means of a screw K tapped at its lower end into the upper end of the post C having a flanged head fitting against the upper pointer. The two pointers may be distinguished from each other in any suitable manner, to indicate the respective classes of fares they are to register upon the dial. One may be shorter than the other for that purpose, as the hour and minute hands of a clock, and if desired two separate sets of numbers may be placed upon the dial, one to cooperate with one pointer to register one class of fares, and the other to cooperate with the other pointer to register the second class of fares; but I prefer to have the pointers of approximately equal length and to make them of contrasting colors, and also to place upon them words indicating the respective classes of fares. In the present instance the upper pointer J registers the cash fares and the lower pointer I the tickets or transfers, as indicated by the word "Cash" upon the former and the word "Ticket" upon the latter in the drawings,

and in the machine from which the drawings were prepared the upper pointer is painted black and the lower red, so that any one can tell at a glance the number of fares of each class registered upon the dial.

Each of the wheels E and G has formed upon its periphery a depending flange provided with gear teeth upon its lower edge, the flange of the wheel E fitting snugly within the flange of the wheel G, with their toothed lower edges in approximately, though in this instance not exactly, the same horizontal plane. The wheels E and G and their pointers are independently actuated by a single pawl L, Figs. 2, 3, 4, 5, and 6, which is shifted at will into engagement with the toothed flange of one wheel or the other. The adjustment of the parts is preferably such that the pawl is normally engaged with, or stands in position to actuate, one of the wheels, so that it is necessary to shift it only when the other wheel is to be actuated. In the present instance it is shown normally engaged with the teeth of the inner wheel E whose hub carries the upper pointer J of the trip register. This is the pointer which indicates cash fares, and as it is assumed in the present instance that there will be more cash fares received than transfers or tickets the pawl is shown in such position in order that at the majority of operations of the machine it will not be necessary to shift it. The pawl is pivoted between ears M projecting vertically from a plate N, Figs. 2 to 6, mounted to slide transversely in guide-ways upon the upper front end of a reciprocating frame O secured upon the base plate D by screws P passing through slots in its horizontal feet which rest upon the plate. Mounted upon the upper side of the frame O and connected therewith by screws passing through slots in the frame is a sliding plate Q, Figs. 2, 4, and 5, this connection of it with the frame O permitting it to reciprocate to a limited extent independently of the frame O, for a purpose hereafter described, and when moved beyond such limit to carry the frame O with it.

Extending diametrically across the machine adjacent to the base plate D is a rock shaft R journaled at its opposite ends in bearings upon said base plate and passing at its middle through a hole in the central post C. Fast upon this rock shaft immediately at the left of the frame O is an upwardly extending arm or block S Figs. 2, 4, 5 and 6. A link T connects the arm S with the under side of the operating lever U, said link having at its front end an eye fitting over a hook upon the arm S and at its rear end a second eye through which passes a screw entering the under side of the lever U. This lever is fulcrumed at V upon the upper end of a post, secured upon the base plate D, so that the lever stands in approximately the same horizontal plane as the flanges of the wheels E and G.

When the outer end of the lever is pulled downward the shaft R and block S will be rocked rearward. Projecting from the right hand side of the block S is a pin W which extends through a hole in the front end of a link X which is pivoted at its rear end to a lug Y upon the rear end of the sliding plate Q heretofore described, the result of which connection is that whenever the shaft R is rocked rearward by pulling down the outer end of the operating lever U the slide Q will be moved rearward. The first part of its movement will be independently of the frame O which carries the actuating pawl L, but during the latter part of its movement the slide will carry the frame O with it, as before explained, and cause the pawl to turn the wheel E. In this manner and by this means at each operation of the lever U the wheel E will be actuated by the pawl L and the pointer J advanced one number upon the dial B to register one cash fare. The means for shifting the pawl and actuating the wheel G to advance the pointer I, to register transfer or ticket fares, may be now described.

The rock shaft R is capable of limited longitudinal movement in its bearings and is yieldingly held in its right hand normal position by a spring Z coiled around it and confined between its left hand bearing and a collar A' fast upon said shaft, Fig. 4. The arm S which is fast upon the rock-shaft R as before described has secured to it a forwardly projecting segmental plate Z' which fits in a vertical slot in the left hand end of the sliding plate N which carries the pawl L, as heretofore described. When the machine is operated to actuate the wheel E and cash fare pointer the plate Z' plays idly up and down in the slot in the plate N, the receding curve of its lower forward edge permitting the rearward movement of said plate as the plate Z' rises; but when the shaft is moved to the left, by the means hereafter explained, the engagement of the plate Z' with the plate N will cause the shaft to carry the plate and actuating pawl with it, and bring them to the position shown in Fig. 4, with the pawl engaged with or in position to actuate the outer wheel G and pointer I. The connection of the block S and the link X by means of the pin W free to slide in the hole in the link X permits this movement of the shaft R and connected parts without affecting the frame O and sliding plate Q.

Pivoted at B' to the base plate D, Fig. 2, is the front end of a lever C' whose rear end is bent upward over the shaft R and collar A' and carries a pin fitting in a circumferential groove in said collar. The vertically extended rear end of this lever carries an anti-friction sleeve D' which rests against a long curved lever E' pivoted at its front end to the under side of the operating lever U at F', Figs. 2 and 4, and at its opposite end extend-

ing with the lever U through the opening in the circular wall of the casing and provided with a pin G' extending through a cam slot H' in the outer end of the lever U; and having secured to it a U-shaped clip or attaching piece H' for an operating cord I', the opposite arms of the piece H' embracing the lever U and being secured to the opposite end of the pin G'. If the lever U be held stationary while the cord I' is pulled the travel of the pin G' in the cam slot H' will pull the lever E' to the left and it will carry the rear end of the lever C' with it and shift the parts to the position shown in Fig. 4. If now, with the parts in this position, the outer end of the lever U be pulled downward to its limit of movement the shaft R will be rocked and the pawl L caused to actuate the wheel G and advance the pointer I to register one ticket or transfer upon the dial. The lever U is yieldingly held in and returned to normal position by a strong spring J', Figs. 2 and 4. This spring is strong enough to overcome the tension of the spring Z and friction of the parts when the lever E' is moved, so that the lever U will remain stationary until the pin G' of the lever E' travels the length of the cam slot H' and contacts with its lower end, after which the further pull upon the cord I' will move the lever U with the lever E' and cause the pawl L to actuate the wheel G. In this manner and by this means the parts may be shifted and the pawl actuated by simply pulling the cord I', the lever E' being thereby first given its movement independently of the lever U, to properly shift the pawl, and the two levers then moving together to actuate it.

For the purpose of preventing movement of the operating lever U except when the pawl L is in proper position to actuate one or the other of the two wheels there is provided a stop lever K' which is pivoted to the under side of the lever U at L' and coöperates at its opposite end with a stop M' projecting upward from the base plate. The lever E' of the shifter is provided with a pin N' which passes through a slot in the lever K'. The adjustment of the parts is such that when the lever E' is in the position shown in Fig. 2 the lower end of the lever K' will rest immediately to the right of the line of the stop M' so that it will clear the stop when the outer end of the lever U is pulled downward, and when the lever E' is given its full movement to the left, as in Fig. 4, the lower end of the lever K' will rest immediately to the left of the line of the stop M' so that it will clear the same and pass downward upon the left hand side of the stop when the lever U is operated. At any point intermediate these two positions of the lever E', however, the stop M' will stand directly in the path of the lever K', so that the lever U will be locked from movement. The left hand edge of the lever K' is curved in the

arc of a circle concentric to the pivot V of the lever U when the lever K' is in normal position, Fig. 2, and the right hand edge of the lever is curved in the arc of a circle concentric to said pivot when the lever is in its shifted position, Fig. 4, the result of which is that as soon as the operating lever U is moved from normal position the engagement of one edge or the other of the lever K' with the stop M' will lock the shifter lever E' in fixed position relatively to the lever U, so that during the movement of the lever U the pawl will be maintained in engagement with one or the other of the toothed wheels, depending upon the position of the lever E' before the lever U began its movement. In this manner and by this means operation of the pawl except when in proper position to actuate one or the other of the wheels is prevented, and when its actuating movement is once begun it is held in position.

The sliding plate Q, which is mounted upon the frame O, as heretofore described, carries a hook pawl O' which actuates the striker arm P' of a gong Q', Fig. 2. The pawl O' is yieldingly held in normal position against the lug Y, Fig. 4, by a coiled spring interposed between its front end of a second lug similar to the lug Y upon the plate Q in front of the pivot of the pawl. The striker arm P' is pivoted upon the upper end of a post R' and yieldingly held in normal position, against a stop S', by a spring T' coiled around the post R' and secured at its lower end to a fixed point and at its upper end to the extended hub U' of the striker arm P', Figs. 5 and 6. This hub U' has depending from it a lug V' which stands in the path of the rear end of the pawl O'. When the plate Q is slid rearward by pulling downward the upper end of the operating lever U the hook of the pawl will catch over the lug V', and when the parts return to normal position the pawl will pull the lug forward with it and turn the hub U' and retract the striker from the gong against the tension of the spring T', until the hook of the pawl slips off the lug V', whereupon the spring will throw the striker arm and connected parts quickly back to normal position and cause the striker to sound the gong. The purpose of providing for the movement of the slide Q independent of the frame O, as has been heretofore referred to, is to permit the necessary movement of the actuating pawl O' of the gong-striker without unnecessary movement of the frame O which carries the actuating pawl L of the trip register, the required movement of the latter pawl being less than that of the pawl O'.

Having now described one form of my novel trip register and the means for actuating the same, I will next describe the two permanent registers which are independently actuated by the operating lever to separately

register the fares of the two different classes indicated by the pointers of the trip register. Each register consists of a train of registering wheels and a cooperating train of transfer gears by which the revolution of each wheel in the train is caused to advance the next higher wheel one number, in the usual or any suitable manner. In the present instance the wheels W' of the cash fare register are mounted upon a shaft X' supported at its opposite ends in the side plates of a frame Y' fixed to the base plate D, Figs. 2, 7 and 8. The right hand or primary registering wheel in the train is secured upon the left hand end of a sleeve A<sup>2</sup> loose upon the shaft X' and having fast upon its right hand end, just within the right hand side plate of the frame Y', a ratchet B<sup>2</sup> with which cooperates the actuating pawl C<sup>2</sup> of the register. This pawl is carried by a reciprocating slide D<sup>2</sup> mounted in guide-ways in the frame Y' and yieldingly held in its normal forward position by a spring interposed between its laterally projecting front end and the front side of the frame Y', Fig. 2.

The registering wheels of the ticket or transfer register F<sup>2</sup> are mounted upon a shaft G<sup>2</sup>, Figs. 7 and 8, fixed in the frame Y', and the primary wheel of the train has fast upon the right hand end of its projecting hub a ratchet H<sup>2</sup> with which cooperates an actuating pawl I<sup>2</sup> carried by a second slide J<sup>2</sup>, Figs. 2 and 7, also mounted in guide-ways in the frame Y' and held in normal position by a spring interposed between its front end and the front side of said frame. Holding pawls K<sup>2</sup> L<sup>2</sup> spring-pressed against the ratchets B<sup>2</sup> H<sup>2</sup> prevent backward movement of the registering wheels.

The slide D<sup>2</sup> is provided upon its inner side, immediately over the rock shaft R, with a lug M<sup>2</sup>, while the slide J<sup>2</sup> is provided upon its inner side immediately opposite the lug M<sup>2</sup> with a similar lug N<sup>2</sup>. The rock shaft has secured to and projecting upward from it a T-shaped arm O<sup>2</sup>, whose head is adapted to cooperate with the lugs M<sup>2</sup> N<sup>2</sup> of the respective slides. When the rock shaft is in its right hand normal position the lug M<sup>2</sup> of the slide D<sup>2</sup> stands in the path of the right hand end of the head of the arm O<sup>2</sup>, so that when the shaft and arm are rocked rearward by the operation of the lever U, in the manner heretofore explained, the slide D<sup>2</sup> will be thrown rearward and its pawl C<sup>2</sup> caused to turn the ratchet B<sup>2</sup> and advance the primary wheel of the cash fare register W' one number. At such movement of the parts the left hand end of the head of the arm O<sup>2</sup> will clear the lug N<sup>2</sup> of the slide J<sup>2</sup> and the latter will remain at rest and the ticket or transfer register F<sup>2</sup> will not be actuated; but when the rock shaft R is slid to its left hand position by means of the shifter heretofore described, the left hand end of the head of the arm O<sup>2</sup> will

be brought into line with the lug  $N^2$  of the slide  $J^2$ , so that when the shaft  $R$  and arm  $O^2$  are then rocked rearward the arm will contact with the lug  $M^2$  and carry the slide  $J^2$  with it and cause the pawl  $I^2$  to turn the ratchet  $H^2$  and advance the primary wheel of the ticket fare register  $F^2$  one number. In this manner and by this means whenever the lever  $U$  is operated by pulling the cord  $H^5$  the cash fare register  $W^1$  will be actuated to permanently register one cash fare; and when the shifter and lever are both operated, by pulling the cord  $I^1$ , the ticket fare register  $F^2$  will be actuated to register one ticket fare or transfer.

While I prefer to actuate the two pointers of the trip register and the two permanent registers by means of a single operating lever and shifter, yet, as heretofore stated, the two operating cords of the register might be independently connected with the respective pointers of the trip register and corresponding permanent registers, so that upon pulling one cord or the other the same ultimate result would be produced as under the construction which I have shown and described; or, if desired, instead of a single operating lever and a shifter, movable in one direction only from normal position, a single operating lever movable in one direction to register one class of fares and in the opposite direction to register the other class of fares, with suitable connections, might be employed to actuate the two pointers of the trip register and the two permanent registers of my present machine, as will be understood from my prior patent; both of these arrangements being within the contemplation of my broader claims in the present case.

The fare-indicator, under the arrangement shown in the drawings, is actuated by the slides  $D^2$   $J^2$  which carry the actuating pawls of the permanent registers. This fare indicator, as in my prior machine, consists of an oscillatory cylinder  $P^2$  secured upon a shaft  $Q^2$  mounted in supports  $R^2$  upon the base plate, Figs. 2 and 8. Fast upon the right hand end of the shaft  $Q^2$  is a disk  $S^2$  having projecting from it two pins  $T^2$   $U^2$ , the former standing in the path of an arm  $V^2$  projecting upward from the rear end of the slide  $D^2$ , and the latter in the path of a shorter arm  $W^2$  projecting upward from the rear end of the slide  $J^2$ , Figs. 2, 7, and 8. When the slide  $J^2$  is moved rearward, to actuate the ticket fare register in the manner before explained, the arm  $W^2$  upon its rear end will contact with the pin  $U^2$  and turn the cylinder  $P^2$  forward to expose the word "Ticket" at the sight opening in the dial, as shown in the drawings, while, when the slide  $D^2$  is moved rearward to actuate the cash fare register the arm  $V^2$  upon the rear end of the slide will contact with the pin  $T^2$  and turn the cylinder  $P^2$  rearward to expose

the word "Cash" at the sight opening. The fare-indicator may be yieldingly held in its opposite indicating positions by friction applied to it in any suitable or convenient manner, in the present instance by a spring (not shown) interposed between one end of the cylinder and its support  $R^2$ , so that the cylinder will always remain, at the end of an operation of the machine, in the position to which it had been moved, and thus continue to indicate the character of the fare which has been registered at such operation until the machine is again operated to register another fare. If the next fare should be of the same character, the fare indicator will remain stationary, but if it should be of a different character, the fare indicator will be shifted to expose the sign representing such class. From the above description it will be understood that by the employment of such fare indicator in connection with my novel trip register the register will at all times indicate not only the number of the fares of each class received during the trip, but will also indicate the character of the last fare registered, so that if any one watching the register for the purpose of ascertaining whether the conductor is properly registering the fares received should fail to note which one of the two pointers was moved at a given operation the fare indicator will furnish the information, since if the cash pointer was the last one moved the fare indicator will expose the word "Cash," while if the ticket pointer was the last one moved the indicator will expose the word "Ticket." It will be understood that this combination of the fare-indicator with a multiple trip register is a useful one independently of the employment of the permanent registers, and may be utilized to advantage even in the absence of the latter.

The remaining feature of my invention to be described relates to the resetting devices for the trip register. In my former machine, as before stated, the toothed wheel of the trip register was normally geared to the permanent register, or the rotary actuating shaft thereof, so that before the trip register could be reset it had to be disconnected from the permanent registers or from the actuating shaft, and this was accomplished by sliding the toothed wheel vertically upon its pivot. From the foregoing description of my present machine it will be seen that, while the trip register and the two permanent registers are actuated by the same operating lever, they are independently actuated and are wholly disconnected from each other, so that the trip register is free at all times to be reset to initial position. Instead of a single inwardly and outwardly sliding resetting shaft, as in my prior machine, and as is usual, there are employed in my present

machine such resetting shaft,  $X^2$ , and a resetting sleeve,  $Y^2$ , surrounding the shaft and free to be turned independently of it, Fig. 3. The shaft is mounted to slide and rotate at its rear end in a bearing in a bracket plate  $Z^2$ , secured to and projecting upward from the base plate  $D$ , while it and the sleeve surrounding it are supported near their front ends in a bearing  $E^2$  cast upon the base plate  $D$  adjacent the opening in the casing through which the sleeve and shaft pass. The sleeve  $Y^2$  has screwed upon its front end a milled thumb-piece  $A^3$  by which it may be turned, while secured upon the front end of the shaft  $X^2$  is a second thumb-piece  $B^3$  for turning the shaft. Fast upon the shaft near its rear end is a gear wheel  $C^3$ , while fast upon the rear end of the sleeve, immediately in front of the gear  $C^3$  is a second gear wheel  $D^3$ . The sleeve  $Y^2$  is thus held from longitudinal movement upon the shaft  $X^2$  by the gear  $C^3$  fitting against its rear end and the thumb-piece  $B^3$  fitting against the thumb-piece  $A^3$  upon its front end, while remaining free to turn upon the shaft. The two gears  $C^3$   $D^3$  are adapted to cooperate respectively with the gear-toothed flanges of the wheels  $E$  and  $G$  of the trip register. When the shaft  $X^2$  and the sleeve  $Y^2$  are slid inward the gear  $C^3$  will be brought into mesh with the gear of the gear wheel  $E$  and the gear  $D^3$  into mesh with the gear of the wheel  $G$ , so that by turning either thumb-piece  $A^3$   $B^3$  the corresponding wheel  $G$  or  $E$  may be turned to carry its pointer backward to zero.

Mounted to move longitudinally with the shaft  $X^2$  and sleeve  $Y^2$  is a frame  $E^3$ , Figs. 2, 3, 9 and 10, composed of a front and rear plate, through the former of which the shaft and sleeve pass, and through the latter of which the shaft alone passes, and between which the gears  $C^3$   $D^3$  are confined, Fig. 9, and a portion uniting said plates at their left hand ends and having a horizontal extension  $F^3$  projecting to the left. A strong coiled spring,  $G^3$ , connected at its rear end to the frame  $E^3$  and at its front end to a fixed point pulls said frame and the shaft  $X^2$  and the sleeve  $Y^2$  forward, and yieldingly holds them in their outer normal positions with the gears  $C^3$   $D^3$  disengaged from wheels  $E$  and  $G$ . Upon the upper side of the front plate of the frame  $E^3$  is a lug  $H^3$  which cooperates with two latch plates  $I^3$   $J^3$ , Figs. 2, 3, 9 and 10. These two plates are pivoted at their front ends at the same point,  $K^3$ , and in front of the plate  $E^3$  the plate  $I^3$  lies directly over the plate  $J^3$ , and hides the latter in Figs. 2 and 9. In the rectangular portion of each plate near its rear end is a slot  $L^3$  in the front end of which the lug  $H^3$  of the frame  $E^3$  fits when said frame and the resetting shaft and sleeve are in their outer normal position, as seen in Fig. 2. The two latch plates are pulled toward the left by two

springs  $M^3$ , Fig. 9, and the right hand side wall of the slot  $L^3$  in each of them has an offset in it near its rear end, forming a shoulder at  $N^3$  adapted to cooperate with the lug  $H^3$  upon the frame  $E^3$ . The result of this arrangement is that when the shaft and sleeve and frame  $E^3$  are pressed inward until the lug  $H^3$  has moved to the rear of the shoulders  $N^3$  of the latch plates, the springs  $M^3$  will pull said plates to their left and carry the shoulders in front of the lug, so that the shaft and sleeve and frame will be latched in their inward position and held against the stress of the spring  $G^3$  until the latch plates are tripped and the shoulders  $N^3$  disengaged from the lug  $H^3$ .

The rear end of the plate  $I^3$  has a right hand upwardly projecting extension terminating in a horizontal projection  $O^3$  adapted to cooperate with a plate  $P^3$  pivoted in a horizontal slot in the wheel  $G$ , Fig. 2<sup>a</sup>, and having its right hand end pressed outward by a spring into position to contact with the abrupt left side of the projection  $O^3$  of the latch plate  $I^3$  when the wheel  $G$  has been turned backward until its pointer  $I$  is brought to initial position. When the wheel and pointer reach said position the projecting end of the plate  $P^3$  will strike the projection  $O^3$  of the latch plate  $I^3$  and move the rear end of the latter to the right to normal position and disengage its shoulder  $N^3$  from the lug  $H^3$ .

The latch plate  $J^3$  is provided at its rear end with a curved arm extending around the gears  $C^3$   $D^3$  and provided at its rear end with a vertical projection  $Q^3$  adapted to cooperate with a trip  $R^3$  upon the underside of the wheel  $E$  adjacent its hub, Fig. 2<sup>b</sup>. When the wheel  $E$  has been turned backward until its pointer  $J$  reaches initial position said trip will contact with the projection  $Q^3$  upon the rear end of the curved arm of the latch plate  $J^3$ , and move said plate to the right to normal position and disengage its shoulder  $N^3$  from the lug  $H^3$  of the frame  $E^3$ . When the shoulders of both latch plates have been disengaged from the lug  $H^3$  of the frame  $E^3$ , in the manner above explained, the frame and the resetting shaft and sleeve will thereby be entirely released, and the spring  $G^3$  will at once reset them to their outer normal position. Until both pointers of the trip register have been reset to zero the lug  $H^3$  will remain engaged with the shoulder  $N^3$  of one or the other of the latch plates, so that not until both pointers have been reset will the parts be released and the spring  $G^3$  be permitted to restore them to normal position. So long as the pointers remain at zero the engagement of the trips  $P^3$   $R^3$  with the latch plates will hold the latter in normal position, so that if the resetting shaft and sleeve be pressed inward at such time the lug  $H^3$  upon the frame  $E^3$  will not be caught by the shoulders  $N^3$  of 130

the latch plates, and the spring  $G^3$  will return the parts to normal position as soon as the pressure upon them is removed. When either pointer is moved from normal position, however, the trip upon the wheel which carries such pointer will be moved away from its cooperating projection upon the corresponding latch plate and the latter will be left free to be engaged with the lug  $H^3$  whenever the resetting shaft and sleeve are pressed inward, so that even though only one pointer has been operated the resetting devices will be caught and held in resetting position by the corresponding latch plate when they are pressed inward, and will not be released until such pointer has been reset to zero. So, too, when both pointers have been operated the resetting of one of them alone to zero will not release the resetting devices, which will still be maintained in resetting position until the other pointer also is turned backward to zero.

The purpose of providing the spring-pressed or yielding trips  $P^3$   $R^3$ , instead of simply employing rigid projections upon the wheels to trip the latch plates, is to permit the trips to yield and clear the projections upon the latch plates as the pointers and wheels are moved in a forward direction, in case the number of either class of fares received during a trip should exceed the total number which the trip register is capable of registering, and the corresponding pointer be consequently given more than one complete revolution. Such a contingency is, however, quite remote, since it is in rare instances that more than one hundred fares of a given class are collected from one car during a single trip, and, in any event, all of the fares would be registered upon the permanent registers.

The front plate of the frame  $E^3$  has projecting from its right hand end a rod  $S^3$ , which, when the parts are slid inward to resetting position, rides under the front ends of two holding pawls  $T^3$   $U^3$ , whose rear ends engage the toothed flanges of the wheels  $E$  and  $G$  to normally prevent backward movement of said wheels, and disengages said pawls from said wheels to permit them and their pointers to be reset to initial position. When the resetting devices return to their outer position the rod  $S^3$  is withdrawn from the pawls and the latter are reengaged by their springs (not shown) with the wheels  $E$  and  $G$ . The actuating pawl  $L$  will also be disengaged from the wheel  $E$  when the resetting devices are moved to resetting position by means of the rear edge of the frame  $E^3$ , which will ride under the front end of said pawl and depress its rear end against the resistance of its spring, which latter will reengage the pawl with the wheel  $E$  when the resetting devices return to normal position.

The left hand extension of the frame  $E^3$  is

provided with a cam slot  $V^3$  through which passes a screw  $W^3$  carried by a locking lever  $X^3$  pivoted at  $Y^3$  to a post upon the base plate of the machine and adapted to cooperate at its left hand end with the lower or forward end of the operating lever  $U$ , Fig. 2. In the normal position of the parts the end of the lever  $X^3$  is out of the path of the lever  $U$ , but when the resetting devices are slid inward to resetting position the cam slot  $V^3$  acting upon the screw  $W^3$  will rock the lever  $X^3$  to the position shown in Fig. 9, bringing its left end directly in the path of the lever  $U$ , so that so long as the resetting devices are in such position the lever will be locked from operation. Likewise, when the resetting devices are in normal position any operating movement of the lever  $U$  will carry its lower end into the path of the lever  $X^3$ , so that only when the operating lever  $U$  is in normal position can the resetting devices be operated.

For the purpose of preventing backward movement of the resetting shaft and sleeve there is provided a pawl  $Z^3$ , Figs. 2, 9, and 10, pivoted at its lower end between the front and rear plates of the frame  $E$  and spring pressed at its upper end into engagement with the gears  $C^3$   $D^3$ . For the further purpose of positively locking the resetting shaft and sleeve when in their outer normal position, and preventing movement of them in either direction until slid inward to resetting position, there is pivoted near its middle upon the upper side of the extension  $F^3$  of the frame  $E^3$  a locking plate or lever  $A^4$ , whose right hand end normally fits against a shoulder upon the upper left hand side of the pawl  $Z^3$ , Fig. 2, and positively locks the latter in engagement with the gears  $C^3$   $D^3$ . The left hand end of this plate  $A^4$  is provided with a slot through which passes the screw  $W^3$  before referred to. When the resetting devices are pressed inward the movement of said screw and the plate  $A^4$  relatively to each other will throw the right hand end of said plate rearward to the position shown in Fig. 9, thereby disengaging it from the pawl  $Z^3$  and permitting the latter to yield and slip over the teeth of the gears as the latter are turned forward to reset the trip register. It will be understood that the shape of the pawl is such that its engagement with the gears will at all times prevent backward movement of them, but will prevent forward movement of them only when locked in engagement with them by the plate  $A^4$ .

My present machine is shown provided with a trip indicator  $B^4$  similar to that of my prior machine and operated in a similar manner by the resettings of the trip register, to-wit, by a pawl arm  $C^4$  carried by the frame  $E^3$  and cooperating with a ratchet upon the left hand end of the indicator to shift the latter at each resetting of the trip register in



the manner described in my prior patent and which will be understood without further explanation here.

So far as I am aware I am the first in the art to employ a multiple trip register of any sort whatever for indicating in a fare register the number of fares of different classes received during a trip, and, as before stated, this feature of my invention contemplates, in its broader scope, various different forms of multiple trip registers for the purpose described. Where I have claimed broadly a multiple trip register, either alone or in combination with other elements of the complete fare register, such claim contemplates the use of any form of multiple trip register by which the numbers of fares of different classes received during the trip may be indicated.

Having heretofore described in detail the preferred form of multiple trip-register which I employ, to-wit, a plurality of pointers co-operating with a dial, I will now add a brief description of the second form of such register which has been illustrated in the drawings for the purpose of explaining the scope of this feature of my invention. This second form of register is illustrated in Figs. 11 to 14 inclusive, to which reference will here be made.

As seen in Fig. 11 the register is provided with a plain face plate 1, instead of a numbered dial as in the preceding views, said face plate having an opening at 2 for the exposure of the fare indicator, an opening at 3 for the exposure of the permanent cash-fare register, another at 4 for the permanent ticket-fare register, and one at 5 for the trip indicator; near its left hand side the plate is provided with two openings, or pairs of openings, 6, 7, for the exposure of the numbers upon the wheels of the trip register, which in this instance take the place of the plurality of pointers employed in the other form of register. With the exception of the trip register the construction and mode of operation of the fare register as a whole are, or may be, the same as heretofore described, and hence will not be further referred to.

Journalled in bearings in the upper ends of supports 8 9 upon the base plate D of the machine, Fig. 14, is a transverse shaft 10 whose right-hand half or portion is of reduced diameter as compared with its left-hand portion and has mounted upon it a sleeve 11 which is free to turn upon it. The shaft has fast upon its right hand end a pinion 12 which meshes with the gear teeth upon the depending flange of the wheel F, while the sleeve 11 has fast upon its right hand end a pinion 13 meshing with the toothed flange of the wheel G. Confined upon the sleeve 11 between the support at the right and a collar 14 fast upon the sleeve at the left are two numbered wheels 15 16, the former fast upon the sleeve and the latter loose upon it. Each wheel

bears a series of numbers representing the nine digits, and a cipher, and the pinion 13 is so proportioned relatively to the wheel G that at each advance of said wheel the space of one tooth the sleeve 11 and wheel 15 will be turned one tenth of a revolution, to add one ticket-fare upon the wheel 15; while at each complete revolution of the latter wheel the wheel 16, by means of a pinion 17 coöperating in the usual manner with the two wheels, Fig. 12, will be advanced one number to register the complete revolution of the wheel 15. Fast upon the shaft 10 at the left of its middle is a wheel 18, similar to the wheels 15 16, while loose upon the shaft and confined between the wheel 18 and left hand support of the shaft is a second similar wheel 19. At each movement of the wheel F the space of one tooth the wheel 18 will be advanced one number, to register one cash fare, at each complete revolution it will, by means of transfer devices similar to those between the wheels 15 16, advance the wheel 19 one number.

Under the construction above described it will be seen that the wheels of the ticket-fare trip register are permanently geared to the wheel G, while the wheels of the cash-fare trip register are geared to the wheels F, so that when the wheels G F are reset to initial position the wheels of the two trip registers will be thereby turned backward to zero.

It will be evident from the illustration and description of two such widely differing forms of multiple trip registers, that still there are forms of such registers which may be employed in place of the ones which I have shown and described. Thus, an obvious substitute for the two pointers and dial would be two rotary dials carried by the respective wheels which in the present instance carry the pointers, the numbers upon said dials coöperating with fixed pointers or with sight-openings in the face plate of the register.

I claim—

1. In a fare register, the combination, with the dial of the trip register, of a plurality of pointers coöperating therewith to indicate different classes of fares, a single actuating device for said pointers, and combined actuating and shifting or setting means operated by a single uniform movement to cause said device to actuate either pointer at will, to register the corresponding class of fare, substantially as described.

2. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a plurality of toothed wheels for moving the respective devices, a single actuating pawl coöperating with said toothed wheels, and means for actuating said pawl and engaging it at will with either one of the wheels by a single movement or

operation, to register the corresponding class of fare, substantially as described.

3. In a fare register, the combination, with the dial of the trip register, of a plurality of toothed wheels, a plurality of pointers turning with the respective wheels and cooperating with the dial to indicate different classes of fares, a single actuating pawl cooperating with the wheels, and means for actuating said pawl and engaging it at will with either one of the wheels, to register the corresponding class of fare, substantially as described.

4. In a fare register, the combination, with the dial of the trip register, of a plurality of toothed wheels mounted upon the same axis at the center of said dial, a plurality of pointers turning with the respective wheels and cooperating with the dial to indicate different classes of fares, a reciprocating actuating pawl for said wheels adapted to be shifted into engagement with either wheel at will, and means for actuating said pawl and shifting it into engagement with one or another of said wheels, substantially as described.

5. In a fare register, the combination with the dial of the trip register, of a plurality of pointers indicating different classes of fares to move thereover, and a single operating lever or handle and connections for actuating either of said pointers at will by a single and uniform movement to register the corresponding class of fare, said lever and connections being always in position to register either class of fare; substantially as described.

6. In a fare register, the combination, with the dial of the trip register, of a plurality of pointers cooperating therewith to indicate different classes of fares, of a single actuating device for said pointers, and combined actuating and shifting means operated by a single uniform movement for actuating said device and throwing it at will into cooperation with one pointer or another, to register the corresponding class of fare, substantially as described.

7. In a fare register, the combination, with the dial of the trip register, of a plurality of pointers indicating different classes of fares mounted to move thereover, a single actuating device for said pointers, a single operating lever or handle for said actuating device, and a shifter for said device operated with the lever or handle by a single movement, whereby upon operating the lever alone one pointer will be actuated and upon operating the shifter and lever another pointer will be actuated, substantially as described.

8. In a fare register, the combination, with the dial of the trip register and a plurality of pointers cooperating therewith to indicate different classes of fares, of a single actuating device therefor, normally in position to cooperate with one of the pointers, a single

operating lever or handle and connections for actuating said device, a shifter for throwing it into position to actuate the other pointer, and two cords or other operating means connected one to the lever alone and the other to the lever and shifter, whereby upon pulling one cord one pointer will be actuated, to register one class of fare, and upon pulling the other cord the actuating device will be shifted and the other pointer be actuated by it, to register the other class of fare, substantially as described.

9. In a fare register, the combination, with the dial of the trip register, of two pointers indicating different classes of fares movable thereover, a single actuating device for said pointers normally in position to move one of them, an operating lever or handle and connections for actuating said device, a shifter for said actuating device carried by and movable relatively to the operating lever, and two cords or other operating means connected one directly to the lever and the other connected to it through the medium of the shifter, whereby upon pulling one cord the actuating device is caused to move one of the pointers, and whereby upon pulling the other it is shifted and caused to move the other pointer, substantially as and for the purpose described.

10. In a fare register, the combination, with the dial of the trip register, of two toothed wheels, two pointers turning with the respective wheels and cooperating with the dial to indicate different classes of fares, a single actuating pawl for the two wheels, normally in position to engage one of them but adapted to be shifted to position to engage the other, an operating lever or handle and connections for actuating said pawl, and a shifter for shifting the pawl, whereby upon operating the lever alone the pawl will cooperate with one wheel to move one pointer and whereby upon operating the lever and shifter the pawl will be shifted into cooperation with the other wheel to move the other pointer, substantially as described.

11. In a fare register, the combination, with the dial of the trip register, of two toothed wheels mounted upon the same axis at the center of said dial, two pointers turning with the respective wheels and cooperating with the dial to indicate different classes of fares, a single reciprocating pawl for the two wheels, normally in position to engage one of them, an operating lever or handle and connections for reciprocating said pawl, a shifter for shifting the pawl into position to engage the other wheel, and two operating cords connected one to the lever alone and the other to the lever and shifter, whereby upon pulling one cord the pawl will cooperate with one wheel to move one pointer, and whereby upon pulling the other cord the pawl will be shifted into cooperation with the



other wheel to move the other pointer, substantially as described.

12. In a fare register, the combination, with the dial of the trip register, of two toothed wheels mounted upon the same axis at the center of said dial, two pointers turning with the respective wheels and cooperating with the dial, to indicate different classes of fares, a reciprocating actuating pawl for said wheels normally in position to engage one of them, an operating lever or handle and connections for reciprocating the pawl, a shifter for the pawl carried by and movable relatively to said lever, and two cords or other operating means connected one directly to the lever and the other connected to it through the medium of the shifter, whereby upon pulling one cord the pawl will be reciprocated to turn one wheel and its pointer, and whereby upon pulling the other it will be shifted and reciprocated to turn the other wheel and its pointer, substantially as described.

13. In a fare register, the combination, with a trip register employing a dial and a plurality of pointers cooperating therewith to indicate different classes of fares, of one or more permanent registers for preserving a permanent registration of the fares of one or more of the classes registered by the pointers, and means operating independently of the permanent registers for resetting each pointer separately; substantially as described.

14. In a fare register, the combination, with the numbered dial of the trip register, of a plurality of pointers cooperating therewith to indicate different classes of fares, a corresponding number of permanent registers for separately registering the fares of each class, means for actuating at will either one of said pointers and the corresponding permanent register, and means operating independently of the permanent registers for resetting each pointer separately; substantially as described.

15. In a fare register, the combination, with the numbered dial of the trip register, of a plurality of pointers cooperating therewith to indicate different classes of fares, a corresponding number of permanent registers for separately registering the fares of each class, a plurality of operating cords and connections for actuating the respective pointers and registers, and means, operating independently of the permanent registers for resetting the pointers; substantially as described.

16. In a fare register, the combination, with a trip register employing a dial and a plurality of pointers cooperating therewith to indicate different classes of fares, of a plurality of permanent registers disconnected therefrom, for separately registering the fares of each class, operating means for directly actu-

ating either pointer and permanent register at will, and resetting means for the pointers; substantially as and for the purpose described.

17. In a fare register, the combination, with a trip register, of a plurality of permanent registers disconnected therefrom for separately registering the fares of each class, a single operating lever or handle and connections for actuating all of the registers, and a shifter for throwing said lever into and out of connection with the respective permanent registers, whereby upon operating the lever alone the trip register and one permanent register will be actuated, and upon operating the lever and shifter the trip register and other permanent register will be actuated, substantially as described.

18. In a fare register, the combination, with a trip register, of two permanent registers for registering different classes of fares, a reciprocating actuating device for the two registers normally in position to cooperate with one of them, an operating lever or handle and connections for reciprocating said device and actuating the trip register, a shifter for shifting said device into position to cooperate with the other register, and two cords or other operating means, one connected to the lever alone and the other connected to the lever and shifter, whereby upon pulling one cord the lever alone will be operated to actuate the trip register and one of the permanent registers, and upon pulling the other cord the lever and shifter will both be operated, to actuate the trip register and the other permanent register, substantially as described.

19. In a fare register, the combination, with a trip register, of two permanent registers, for registering different classes of fares, a reciprocating actuating device for the two registers normally in position to cooperate with one of them, an operating lever or handle and connections for reciprocating said device and actuating the trip register, a shifter carried by and movable relatively to the operating lever and connected with the reciprocating actuating device, for shifting it into position to cooperate with the other register, and two cords or other operating means connected one directly to the lever and the other connected to it through the medium of the shifter, whereby upon pulling one cord the lever alone will be operated to actuate the trip register and one of the permanent registers, and upon pulling the other cord the lever and shifter will both be operated, to actuate the trip register and the other permanent register, substantially as described.

20. In a fare register, the combination, with a trip register, of two permanent registers for registering different classes of fares, two reciprocating slides for actuating the pawls of the respective registers, a vibrating

arm normally in position to engage and move one of said slides but adapted to be shifted into position to engage and move the other slide, an operating lever or handle and connections for actuating the trip register and vibrating said arm, and a shifter for moving said arm into position to engage the slide of the other register, whereby upon operating the lever alone the arm will move one slide to actuate one register, and whereby upon operating the lever and shifter the arm will be shifted and move the slide of the other register, substantially as described.

21. In a fare register, the combination, with a trip register, of two permanent registers for registering different classes of fares, two reciprocating slides for actuating the pawls of the respective registers, a vibrating arm normally in position to engage and move one of said slides but adapted to be shifted into position to engage and move the other slide, an operating lever or handle and connections for actuating the trip register and vibrating said arm, a shifter for moving said arm into position to engage the slide of the other register, and two operating cords, one connected to the lever alone and the other to the lever and shifter, whereby upon pulling one cord the lever alone will be operated to actuate the trip register and one of the permanent registers, and upon pulling the other cord the lever and shifter will both be operated, to actuate the trip register and the other permanent register, substantially as described.

22. In a fare register, the combination, with a trip register, of two permanent registers for registering different classes of fares, two reciprocating slides for actuating the pawls of the respective registers, a vibrating arm normally in position to engage and move one of said slides but adapted to be shifted into position to engage and move the other slide, an operating lever or handle and connections for actuating the trip register and vibrating said arm, a shifter for the vibrating arm carried by and movable relatively to said lever, and two operating cords connected to the lever, one directly and the other through the medium of the shifter, whereby upon pulling one cord the lever alone will be operated and upon pulling the other the lever and shifter will both be operated, substantially as and for the purpose described.

23. In a fare register, the combination, with the trip register employing the dial and the two pointers cooperating therewith to indicate different classes of fares, the two permanent registers for registering the two classes of fares, a single actuating device for the two pointers and a single actuating device for the two registers, an operating lever or handle and connections for actuating said devices, and a shifter for shifting said devices

into position to cooperate with one or the other of the pointers and registers, substantially as and for the purpose described.

24. In a fare register, the combination, with the trip register employing the dial and the two pointers cooperating therewith to indicate different classes of fares, of the two permanent registers for registering the different classes of fares, a single actuating device for the two pointers, normally in position to cooperate with one of them, a single actuating device for the two registers normally in position to cooperate with one of them, a single operating lever or handle and connections for actuating said devices, and a shifter for moving said devices from normal position into position to cooperate with the other pointer and register, whereby upon operating the lever alone one pointer and the corresponding register will be actuated, and whereby upon operating the shifter and lever the other pointer and other register will be actuated, substantially as and for the purpose described.

25. In a fare register, the combination, with a multiple trip register for separately registering fares of different classes received during a trip, of a plurality of permanent registers for permanently registering fares of different classes, a fare indicator for indicating fares of different classes, and means for actuating by a single movement either desired member of the trip register and the corresponding permanent register and moving the fare indicator to indicate such class of fare, substantially as described.

26. In a fare register, the combination, with a multiple trip register consisting of a dial and a plurality of pointers cooperating therewith to indicate different classes of fares, of a plurality of permanent registers for separately registering the different classes of fares, a fare indicator for indicating the different classes of fares, and means for actuating by a single movement either pointer and the corresponding permanent register and moving the fare indicator to indicate such class of fare, substantially as described.

27. In a fare register, the combination, with a trip register employing a dial and a plurality of pointers cooperating therewith to register different classes of fares, of fare-indicating devices for indicating the different classes of fares, and means for actuating either pointer at will and the fare indicator by a single movement the pointers of the trip register operating to indicate at all times the total number of fares of each class received during the trip, and the fare-indicating devices operating to indicate at all times the character of the last fare registered, substantially as described.

28. In a fare register, the combination, with a trip register employing a dial and a plurality of pointers cooperating therewith

to indicate different classes of fares, of a plurality of permanent registers for separately registering the different classes of fares, fare-indicating devices for indicating each class of fare, and means for actuating either pointer and permanent register at will and by the same movement indicating the corresponding class of fare by means of the fare indicator, substantially as described.

29. In a fare register, the combination of a longitudinally movable rock shaft for actuating various parts of the machine, an operating lever and connections for rocking said shaft, a shifter and connections for moving it longitudinally, and two operating cords, one connected to the lever alone, and the other to the lever and shifter, whereby upon pulling one cord the lever will be actuated to rock the shaft, and upon pulling the other cord the lever and shifter will both be actuated to rock the shaft and move it longitudinally, substantially as described.

30. In a fare register, the combination of a longitudinally movable rock shaft for actuating various parts of the machine, an operating lever and connections for rocking said shaft, a shifter carried by and movable relatively to the operating lever and connected to the shaft for shifting the latter longitudinally, and two operating cords connected to the lever, one directly and the other through the medium of the shifter, whereby upon pulling one cord the lever alone will be operated to rock the shaft, and upon pulling the other cord the lever and shifter will both be operated, to rock the shaft and shift it longitudinally, substantially as described.

31. In a fare register, the combination of the operating lever U, and the shifting lever E' pivoted thereto and having the pin G' projecting through the cam slot H' in the lever U, and parts actuated by the levers U and E' respectively substantially as and for the purpose described.

32. In a fare register, the combination of the operating lever U, the shifting lever E' pivoted thereto and having the pin G' projecting through the cam slot H' in the lever U, the attaching piece H' secured to the pin G', the operating cords H' and I' connected respectively to the lever U and attaching piece H', and parts actuated by the levers U and E' respectively substantially as described.

33. In a fare register, the combination of the longitudinally movable rock shaft R, the operating lever U connected to an arm upon said shaft, to rock the latter when the lever is moved, the shifting lever E' pivoted to the lever U and having a pin G' extending through the cam slot H' in the lever U, the lever C' pivoted at one end at a fixed point and engaging the lever E' at its other and cooperating with a grooved collar on the shaft R, and parts operated by the shaft R

substantially as and for the purpose described.

34. In a fare register, the combination, with the toothed wheels E G of the trip register, of the reciprocating frame O, the plate N mounted to slide transversely thereon, the actuating pawl L mounted upon the plate N, and means for reciprocating the frame O and for shifting the plate N to engage the pawl with one wheel or the other, substantially as described.

35. In a fare register, the combination, with the toothed wheels E G of the trip register, of the reciprocating frame O, the plate N mounted to slide transversely thereon, the actuating pawl L mounted on the plate N, the operating lever U connected to the frame O for reciprocating the latter and actuating the pawl, the shifting lever E' pivoted to and carried by the lever U and having a pin G' projecting through the cam slot in the lever U, and connections between the lever E' and plate N for shifting the latter to engage the pawl with one wheel or the other, substantially as described.

36. In a fare register, the combination, with the toothed wheels E G of the trip register, of the reciprocating frame O, the plate N mounted to slide transversely thereon, the actuating pawl L mounted on the plate N, the operating lever U connected to the frame O for reciprocating the latter and actuating the pawl, the shifting lever E' pivoted to and carried by the lever U and having the pin G' projecting through the cam slot H' in the lever U, the lever C' pivoted at one end to a fixed point and cooperating at its other with the lever E', and a connection between the lever C' and plate N for shifting the pawl, substantially as and for the purpose described.

37. In a fare register, the combination, with the dial B, of the two wheels E G having the depending peripheral flanges toothed upon their lower edges and fitting one within the other, the pointers J I carried by the respective wheels and cooperating with the dial, the actuating pawl cooperating with the toothed flanges of the wheels, and means for actuating the pawl and shifting it into engagement with the respective wheels, substantially as described.

38. In a fare register, the combination, with the dial B, of the two wheels E G having the depending peripheral flanges toothed upon their lower edges and fitting one within the other, the pointers J I carried by the respective wheels and cooperating with the dial, the reciprocating frame O, the plate N mounted to slide transversely thereon, the actuating pawl L carried by the plate N and cooperating with the toothed flanges of the wheels, the longitudinally movable rock shaft R, the arm or block S fast thereon, and connections between said arm and the frame O for reciprocating the latter when the shaft and

- arm are rocked, the plate Z' fast upon the shaft and coöperating with a slot in the plate N, the operating lever U connected to the arm S for rocking the shaft, the shifting lever 5 E' pivoted to the lever U and having the pin G' extending through the cam slot H' in the lever U, and the lever C' engaging a collar A' fast upon the shaft R and coöperating with the lever E', substantially as and for the purpose described.
39. In a fare register, the combination, with the permanent registers W' and F<sup>2</sup> and their ratchets B<sup>2</sup> and H<sup>2</sup>, of the two slides D<sup>2</sup> J<sup>2</sup>, the pawls C<sup>2</sup> I<sup>2</sup> carried thereby and coöperating with the ratchets B<sup>2</sup> H<sup>2</sup>, the rocking arm O<sup>2</sup> coöperating with the projections M<sup>2</sup> N<sup>2</sup> upon the respective slides, and means for actuating the arm O<sup>2</sup> and shifting it into coöperation with the respective slides, substantially as and for the purposes described.
40. In a fare register, the combination, with the two permanent registers W' and F<sup>2</sup> and their ratchets B<sup>2</sup> H<sup>2</sup>, of the two slides D<sup>2</sup> J<sup>2</sup>, the pawls C<sup>2</sup> I<sup>2</sup> carried thereby and coöperating with the ratchets B<sup>2</sup> H<sup>2</sup>, the longitudinally movable rock shaft R, the arm O<sup>2</sup> fast thereon and coöperating with the projections M<sup>2</sup> N<sup>2</sup> upon the respective slides, the operating lever U connected to an arm fast upon the shaft R for rocking the shaft, and the shifter for moving the shaft longitudinally to cause the arm O<sup>2</sup> to coöperate with either slide, substantially as and for the purpose described.
41. In a fare register, the combination, with the two permanent registers W' F<sup>2</sup> and their ratchets, and the slides D<sup>2</sup> J<sup>2</sup> and actuating pawls carried thereby, of the oscillatory fare indicator P<sup>2</sup> coöperating with the respective slides, substantially as and for the purpose described.
42. In a fare register, the combination, with the permanent registers W' and F<sup>2</sup> and their ratchets, the slides D<sup>2</sup> J<sup>2</sup> having the arms V<sup>2</sup> W<sup>2</sup>, and the pawls C<sup>2</sup> I<sup>2</sup> carried by the respective slides and coöperating with the ratchets, of the oscillatory fare indicator P<sup>2</sup> having the pins T<sup>2</sup> U<sup>2</sup> standing in the path of the arms V<sup>2</sup> W<sup>2</sup> of the slides and coöperating therewith in the manner and for the purpose described.
43. In a fare register, the combination of a trip register employing a dial and two coöperating pointers representing different classes of fares, a single actuating device for both pointers, an operating lever and connections for actuating said devices, means for shifting it into position for coöperation with one or the other pointer at will, and a lock controlled by the shifting means and coöperating with the operating lever for preventing movement of the latter except when the actuating device is in proper position to coöperate with one pointer or the other, substantially as described.
44. In a fare register, the combination of a dial, two toothed wheels, two pointers carried by the respective wheels and coöperating with the dial to register fares of different classes, a single actuating pawl for the two wheels, adapted to be shifted from one into engagement with the other, operating and shifting means for the pawl, and locking means for the operating means controlled by the shifting means for preventing operation of the register except when the pawl is in proper position to coöperate with one or the other of the wheels, substantially as described.
45. In a fare register, the combination of the two permanent registers, a single actuating device therefor adapted to be shifted into coöperation with either register, operating and shifting means for said device, and locking means for the operating means controlled by the shifting means, for preventing operation of the machine except when the actuating device is in proper position to actuate one or the other of the permanent registers, substantially as described.
46. In a fare register, the combination of an operating lever, a shifter carried by and movable relatively to the operating lever, a locking arm or lever pivoted to and carried by the operating lever and coöperating with the shifter, and a stop coöperating with said arm, substantially as and for the purpose described.
47. In a fare register, the combination of the operating lever U, the shifting lever E' pivoted thereto and having the pin G' extending through the cam slot H' in the lever U, the locking arm K' pivoted to the lever U and having a slot and pin connection with the lever E', and a stop M' coöperating with the arm K', substantially as and for the purpose described.
48. In a fare register, the combination of the operating lever U, the shifting lever E' pivoted thereto and having the pin G' coöperating with the cam slot H' in the lever U, the locking arm K' pivoted to the lever U and having a connection with the lever E', one edge of said arm being curved in an arc concentric to the pivot of the lever U when the arm is in one of its shifted positions, and the opposite edge of said arm being curved in an arc concentric to the pivot of the lever when the arm is in its other position, and the stop coöperating with the arm, whereby operation of the lever U except when the shifting lever E' is in proper position is prevented, and whereby when movement of the lever U has begun the shifting lever E' is locked in position by the engagement of one edge or the other of the locking arm with the stop, substantially as and for the purpose described.
49. In a fare register, the combination, with a multiple trip register employing two

toothed wheels and cooperating registering devices indicating different classes of fares, of a longitudinally movable resetting shaft, a resetting sleeve rotatable thereon, and two gears turning respectively with the shaft and sleeve and adapted to cooperate with the toothed wheels of the trip register, substantially as and for the purpose described.

50. In a fare register, the combination, with a multiple trip register employing two toothed wheels, and two cooperating registering devices indicating different classes of fares, of a longitudinally movable resetting shaft, a resetting sleeve rotatable thereon, two gears turning respectively with the shaft and sleeve and adapted to cooperate with the toothed wheels of the trip register, two latches for respectively holding the shaft and sleeve in resetting position, two trips carried by the respective wheels and cooperating with the two latches to release the resetting shaft and sleeve when the wheels have been returned to initial position, and a spring for resetting the shaft and sleeve when released by the latches, substantially as described.

51. In a fare register, the combination, with a multiple trip register employing two toothed wheels and two pointers carried thereby and cooperating with a dial to register fares of different classes, of a longitudinally movable resetting shaft, a resetting sleeve rotatable thereon, and two gears fastened respectively upon the shaft and sleeve and adapted to cooperate with the toothed wheels of the trip register, substantially as and for the purpose described.

52. In a fare register, the combination, with a multiple trip register employing two toothed wheels and two pointers carried thereby and cooperating with a dial to register fares of different classes, of a longitudinally movable resetting shaft, a resetting sleeve rotatable thereon, two gears secured respectively upon the shaft and sleeve and adapted to cooperate with the toothed wheels of the trip register, two latches for respectively holding the shaft and sleeve in resetting position, two trips carried by the respective wheels and cooperating with the two latches to release the resetting shaft and sleeve when the wheels have been returned to initial position, and a spring for resetting the shaft and sleeve when released by the latches, substantially as described.

53. In a fare register, the combination, with a multiple trip register employing two toothed wheels and two pointers carried thereby and cooperating with a dial to register fares of different classes, of a longitudinally movable resetting shaft, a resetting sleeve independently rotatable thereon, two gears secured respectively upon the shaft and sleeve and adapted to cooperate with the toothed wheels of the trip register, a frame

sleeve, two latch plates having shoulders cooperating with a lug upon said frame to hold the shaft and sleeve in resetting position, with the gears engaged with the toothed wheels, two trips carried by the respective wheels and cooperating with the respective latch plates to disengage them from the lug upon the frame when the wheels are returned to initial position, and a resetting spring for the shaft and sleeve connected to the movable frame, substantially as described.

54. In a fare register, the combination, with the two wheels E G of the trip register, each having a depending peripheral flange toothed upon its lower edge and fitting one within the other, of the longitudinally movable resetting shaft X<sup>2</sup>, the sleeve Y<sup>2</sup> free to turn thereon, and the gears C<sup>2</sup> D<sup>2</sup> fast upon the shaft and sleeve respectively and adapted to cooperate with the wheels E G in the manner and for the purpose described.

55. In a fare register, the combination, with the two wheels E G of the trip register, each having a depending peripheral flange toothed upon its lower edge and fitting one within the other, of the longitudinally movable resetting shaft X<sup>2</sup>, the sleeve Y<sup>2</sup> free to turn thereon, the gears C<sup>2</sup> D<sup>2</sup> fast upon the shaft and sleeve respectively and adapted to cooperate with the wheels E G, the frame E<sup>2</sup> movable longitudinally with the shaft and sleeve and provided with the lug H<sup>2</sup>, the latch plates I<sup>2</sup> J<sup>2</sup> having the shoulders N<sup>2</sup> cooperating with the lug H<sup>2</sup>, the trips P<sup>2</sup> R<sup>2</sup> upon the wheels E G cooperating with the projections O<sup>2</sup> Q<sup>2</sup> of the respective latch plates, and the resetting spring G connected to the frame E<sup>2</sup>, substantially as and for the purpose described.

56. In a fare register, the combination, with the operating lever U and the frame E<sup>3</sup> movable longitudinally with the resetting shaft of the trip register, of the locking lever X<sup>3</sup> having a slot and pin connection with the frame E<sup>3</sup> and cooperating with the lever U in the manner and for the purpose described.

57. In a fare register, the combination, with the operating lever U, and the frame E<sup>3</sup> movable longitudinally with the resetting shaft of the trip register, of the locking lever X<sup>3</sup> pivoted at one end to the post Y<sup>3</sup> and cooperating at its other with the lever U, and carrying the pin or screw W<sup>3</sup> passing through the cam slot V<sup>3</sup> in the frame E<sup>3</sup>, substantially as and for the purpose described.

58. In a fare register, the combination, with the longitudinally movable resetting shaft and its gear C<sup>3</sup>, of the frame E<sup>3</sup> movable longitudinally therewith, the pawl Z<sup>3</sup> pivoted in said frame and engaging the gear, and the locking plate A<sup>4</sup> pivoted upon the frame E<sup>3</sup> and cooperating at one end with the pawl Z<sup>3</sup>, to lock the latter in engagement with the gear when the shaft and frame are in normal position, and at its opposite end

with means to rock it upon its pivot when the shaft and frame are moved to resetting position, to unlock the pawl, substantially as described.

- 5 59. In a fare register, the combination, with the longitudinally movable resetting shaft and its gear C<sup>3</sup>, of the frame E<sup>3</sup> movable longitudinally therewith, the pawl Z<sup>3</sup> pivoted in said frame and engaging the gear, 10 the operating lever U, the locking lever X<sup>3</sup> cooperating therewith and having the slot and pin connection with the frame E<sup>3</sup>, and the locking plate A<sup>4</sup> pivoted upon the frame E and cooperating at one end with the pawl 15 Z<sup>3</sup>, and at its other with the pin carried by the lever X<sup>3</sup>, substantially as and for the purpose described.

60. In a fare register, the combination, with a multiple trip register employing a 20 plurality of registering devices indicating different classes of fares, of a single actuating device for said registering devices normally in coöperative relationship with one of them, and operating means for causing said actuating device to operate any one of the registering 25 devices to register the corresponding class of fare and to cause it to associate itself with the particular registering device if not in coöperative relationship with it at the 30 time of the operation; substantially as described.

61. In a fare register, the combination, with a multiple trip register, employing a 35 plurality of registering devices indicating different classes of fares, of a single actuating device for said registering devices and normally in coöperative relation with one of them, and combined shifting and actuating means for causing said actuating device to 40 operate the one of the registering devices corresponding to the particular class of fare sought to be registered without previous adjustment; substantially as described.

62. In a fare register, the combination, 45 with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a single actuating device for said registering devices and normally in coöperative relation with one of 50 them, and combined shifting and actuating means operated by a single movement without previous adjustment to cause said actuating device to operate the one of the registering devices corresponding to the particular 55 class of fare sought to be registered; substantially as described.

63. In a fare register, a multiple trip register employing a plurality of registering devices for indicating the numbers of fares of 60 different classes received during a trip in combination with a single actuating device for independently operating said registering devices with the same degree of movement and without previous adjustment; substantially 65 as described.

64. In a fare register, a multiple trip register employing a plurality of registering devices for indicating the numbers of fares of different classes received during a trip, in combination with means adapted to coöperate 70 with all of said devices and to be brought into actuating relationship with and to actuate by a single movement without previous adjustment the particular device corresponding to the class of fare to be registered; substantially as described. 75

65. In a fare register, a multiple trip register employing a plurality of registering devices to indicate different classes of fares, in combination with a corresponding plurality 80 of operating cords, and actuating mechanism operated by the cords for actuating either one of said devices at will to register the corresponding fare, said mechanism being adapted to so actuate and to be brought into 85 coöperative relation with the particular device, all by a single movement of the proper cord; substantially as described.

66. In a fare register, a multiple trip register, composed of a numbered dial and a plurality of pointers coöperating therewith to indicate different classes of fares, in combination with means operated by a single uniform movement without previous adjustment to engage and actuate the proper pointer corresponding to the class of fare to be registered; 95 substantially as described.

67. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices, indicating different classes of fares, of a plurality of wheels 100 for moving the respective devices, and single operating mechanism adapted at the will of the operator by a single uniform movement without previous adjustment to coöperate 105 with any one of such wheels to cause registration of the particular class of fare to be registered; substantially as described.

68. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a plurality of wheels 110 for moving the respective devices, and operating mechanism normally in coöperative relation with only one of said wheels and adapted by a single uniform movement without previous adjustment to operate any one 115 of such wheels to cause registration of the particular class of fare to be registered; substantially as described. 120

69. In a fare register the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a plurality of wheels 125 for moving the respective devices, and operating mechanism operated by a single uniform movement without previous adjustment to bring it into coöperative relationship with the proper wheel and to actuate the same to cause registration of the particular 130



class of fare to be registered; substantially as described.

70. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a plurality of wheels for moving the respective devices, a single actuating device cooperating with said wheels and means for operating said device by a single uniform movement and engaging it at will without previous adjustment with the particular wheel corresponding to the class of fare sought to be registered; substantially as described.

71. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a plurality of wheels for moving the respective devices, a single actuating device cooperating with said wheels and means actuated by a single uniform movement for operating said device and engaging it at will without previous adjustment with the particular wheel corresponding to the class of fare sought to be registered; substantially as described.

72. In a fare register, a multiple trip register employing a plurality of registering devices for indicating the numbers of fares of different classes received during a trip, in combination with mechanism adapted to be shifted to cooperate with and actuate the registering device corresponding to the class of fare to be registered, means for operating said mechanism, and means assuring shifting movement of said mechanism before its actuating movement; substantially as described.

73. In a fare register, a multiple trip register employing a plurality of registering devices for indicating different classes of fares received during a trip, in combination with a single actuating device for said registering devices, a single operating lever or handle for said actuating device, and a shifter cooperating with said device and operated by the lever; substantially as described.

74. In a fare register, a multiple trip register employing a plurality of registering devices for indicating different classes of fares received during a trip, in combination with a single actuating device for said registering devices, a single operating lever or handle for said actuating device, and a shifter operated with the lever by a single movement for shifting said device; substantially as described.

75. In a fare register, a multiple trip register employing a plurality of registering devices for indicating different classes of fares received during a trip, in combination with a single actuating device for said registering devices, a single operating lever or handle for said actuating device, a shifter for said device, and means for operating such device by a single movement but the shifter head

of the actuation or registering action of the said device; substantially as described.

76. In a fare register, the combination, with a multiple trip register employing two registering devices, of a single actuating device therefor normally in position to cooperate with one of the registering devices, a single operating lever and connections for actuating said device, a shifter for throwing it into position to actuate the other registering device, and two cords connected one to operate the lever alone and the other the lever and shifter; substantially as described.

77. In a fare register the combination, with a multiple trip register employing two registering devices, of a single actuating device therefor normally in position to cooperate with one of the registering devices, a single operating lever and connections for actuating said device, a shifter carried by and movable relatively to the operating lever, and two cords connected one to the lever and the other to it through the medium of the shifter; substantially as described.

78. In a fare register, the combination, with a multiple trip register employing two registering devices, of a plurality of toothed wheels for moving the respective devices, a single actuating pawl cooperating with said wheels, a single operating lever for actuating said pawl and a shifter carried by and movable relatively to said lever for shifting the pawl for engagement from one to the other of said wheels; substantially as described.

79. In a fare register, the combination, with a multiple trip register employing two registering devices, of a plurality of toothed wheels for moving the respective devices, a reciprocating actuating pawl for said wheels normally engaged with one of them but shiftable to a position of engagement with another thereof, and means for actuating said pawl and shifting it into engagement with one or another of said wheels; substantially as described.

80. In a fare register, the combination, with a multiple trip register employing two registering devices, of a plurality of toothed wheels for moving the respective devices, a single actuating pawl cooperating with said wheels and combined means for shifting said pawl into engagement with the proper wheel and by the same movement actuating such pawl to advance the wheel and register the fare; substantially as described.

81. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices for indicating the numbers of fares of different classes received during a trip and a corresponding plurality of permanent registers for separately registering the total fares of each class, of mechanism adapted to be shifted to cooperate with and actuate the registering device corresponding to the class of fare to be regis-

tered and also the corresponding permanent register and means for shifting and operating said mechanism by a single uniform movement without previous adjustment; substantially as described.

82. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices for indicating the numbers of fares of different classes received during a trip and a corresponding plurality of permanent registers for separately registering the total fares of each class, of mechanism normally positioned in coöperative relation to one of the registering devices and its corresponding permanent register but adapted to be shifted to coöperative relation to another of said devices and combined means for shifting and operating said mechanism by a single uniform movement without previous adjustment or operation of registering the fare; substantially as described.

83. In a fare register the combination, with a multiple trip register employing a plurality of registering devices for indicating the numbers of fares of different classes received during a trip and a corresponding plurality of permanent registers for separately registering the total fares of each class, of mechanism normally positioned in coöperative relation to one of the registering devices and its corresponding permanent register but adapted to be shifted to coöperative relation to another of said devices, a single operating lever for said mechanism, and a shifter carried by and having a movement relative to said lever for shifting said mechanism; substantially as described.

84. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a corresponding plurality of permanent registers, and means for actuating any one of the registering devices together with its corresponding permanent register by a single movement such movement being the same in degree for each class of fare and without previous adjustment; substantially as described.

85. In a fare register, the combination with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of a corresponding plurality of permanent registers, single means for actuating any one of the registering devices together with its corresponding permanent register and single means for separately re-setting either department of the multiple trip register without disturbing the permanent registers; substantially as described.

86. In a fare register, the combination of permanent registers, mechanism for actuating said registers and normally in coöperative relationship with one of them but adapted

to be shifted into coöperative relationship with any other one thereof, means for operating said mechanism and means for locking the machine against operation except when the actuating mechanism is in proper position to actuate one of the registers; substantially as described.

87. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of mechanism for resetting said devices to initial position and means for compelling a resetting of all the devices before further operation of the machine; substantially as described.

88. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of mechanism adapted to be shifted into engagement with said registering devices for resetting the same to initial position, and means for keeping said mechanism in said shifted position, thereby preventing restoration of said mechanism to normal position until all the registering devices are reset; substantially as described.

89. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices indicating different classes of fares, of two wheels adapted to actuate said devices, a longitudinally movable resetting shaft adapted, when moved longitudinally, to turn one of said wheels, a sleeve around said shaft adapted to turn the second wheel and means for preventing restoration of said shaft and sleeve until both wheels have reset their registering devices to initial position; substantially as described.

90. In a fare register, the combination, with a multiple trip register employing a plurality of registering devices, of a corresponding plurality of permanent registers, actuating mechanism which is adapted to actuate any one of said registering devices and its permanent register at will and which is adapted to be shifted to actuate the proper registering device, and means for shifting and operating said mechanism by a single movement which movement is the same in degree for each class of fare; substantially as described.

91. In a fare register, the combination, with the permanent registers and their respective ratchets, of two slides, actuating pawls carried thereby and coöperating with the ratchets of the respective registers, a single actuating device for the respective slides, and means for operating it and shifting it into position to coöperate with the one or the other of the slides; substantially as and for the purpose described.

92. In a fare register, the combination, with the permanent registers and their re-



spective ratchets, of two reciprocating slides, actuating pawls carried thereby and cooperating with the ratchets of the respective registers, a single actuating device for the  
5 respective slides, and means for operating it and shifting it into position to cooperate with the one or the other of the slides by a

single operating movement; substantially as and for the purpose described.

LEO EHRLICH.

Witnesses:

W. PALMER CLARKSON,  
ALLEN C. ORRICK.