

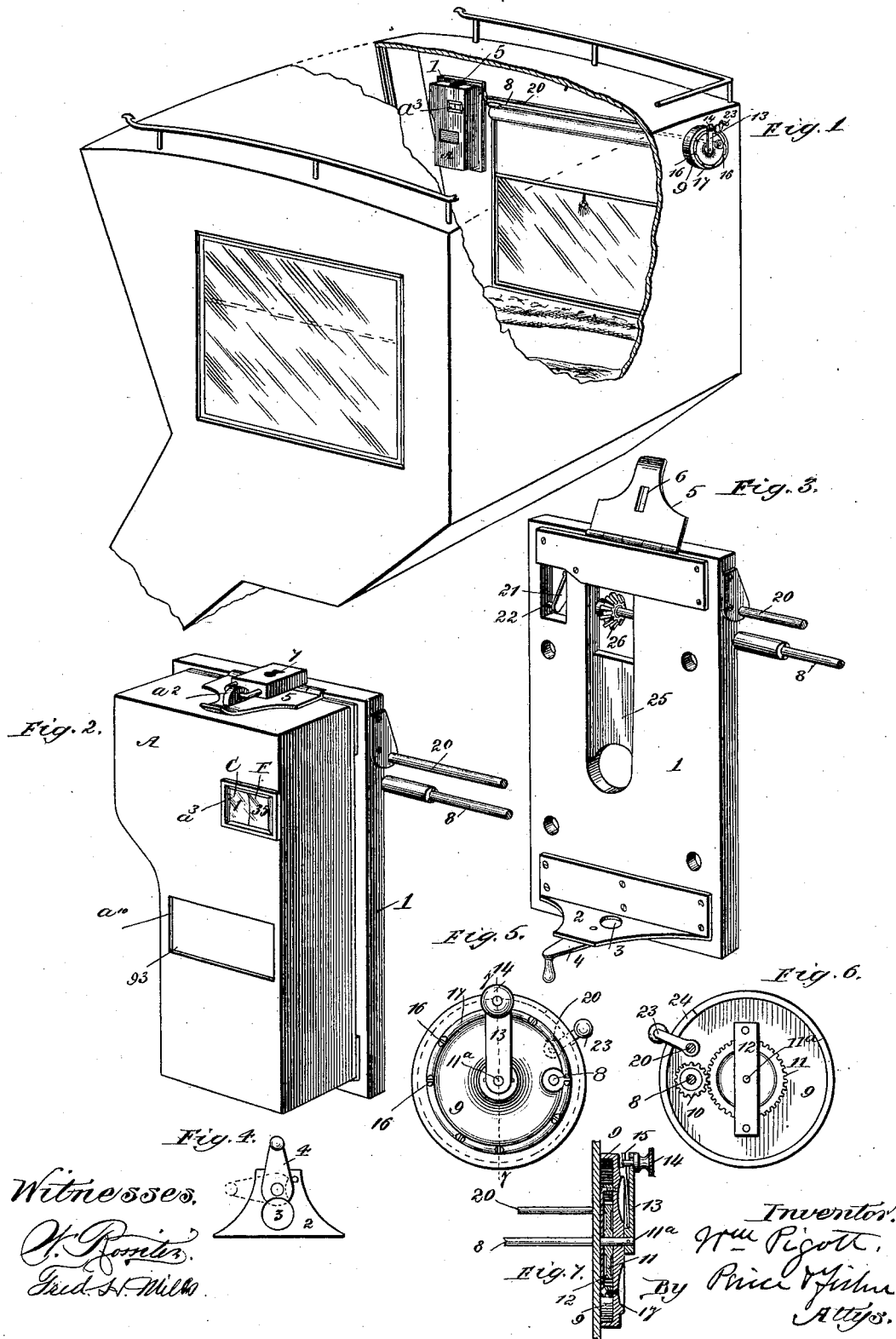
(No Model.)

5 Sheets—Sheet 1.

W. PIGOTT.
FARE REGISTER.

No. 383,008.

Patented May 15, 1888.



(No Model.)

5 Sheets—Sheet 2.

W. PIGOTT.
FARE REGISTER.

No. 383,008.

Patented May 15, 1888.

Fig. 8.

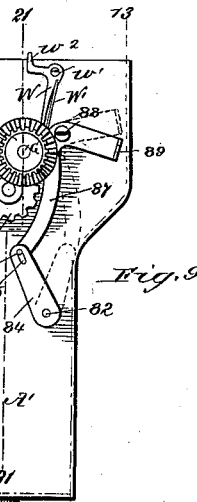
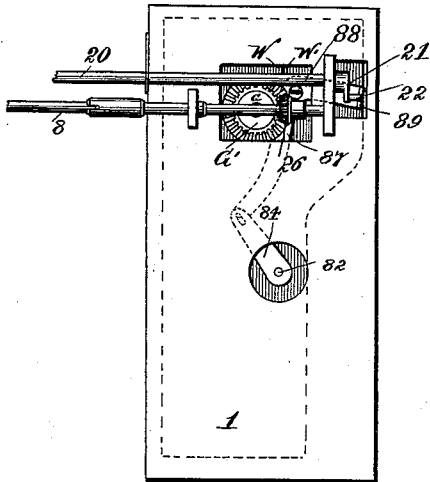


Fig. 10.

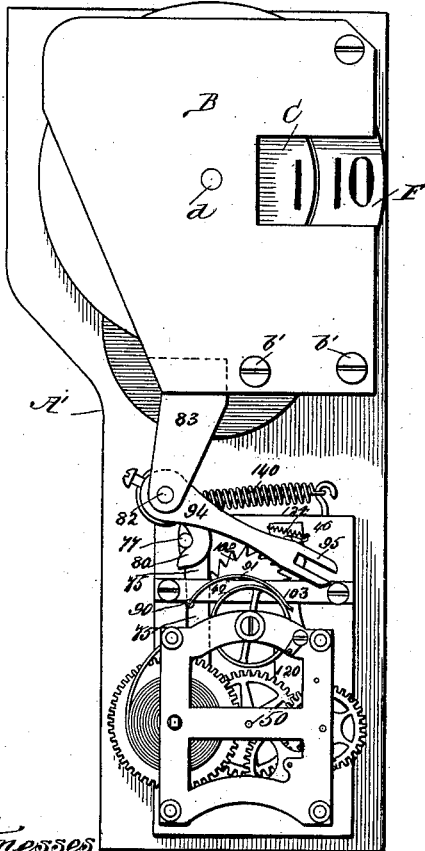


Fig. 11.

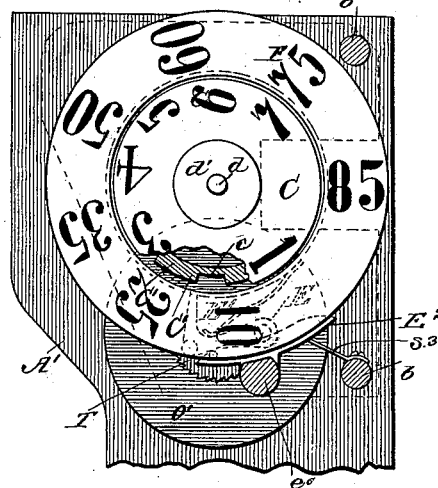
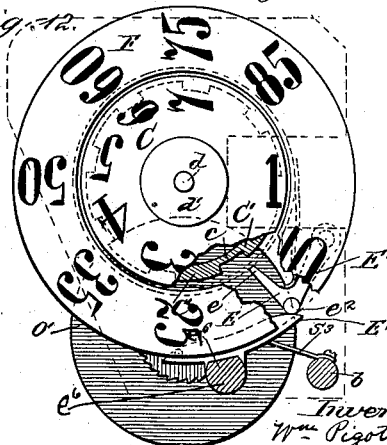


Fig. 12.



Witnesses
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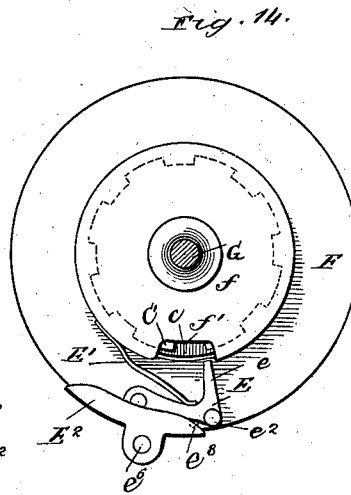
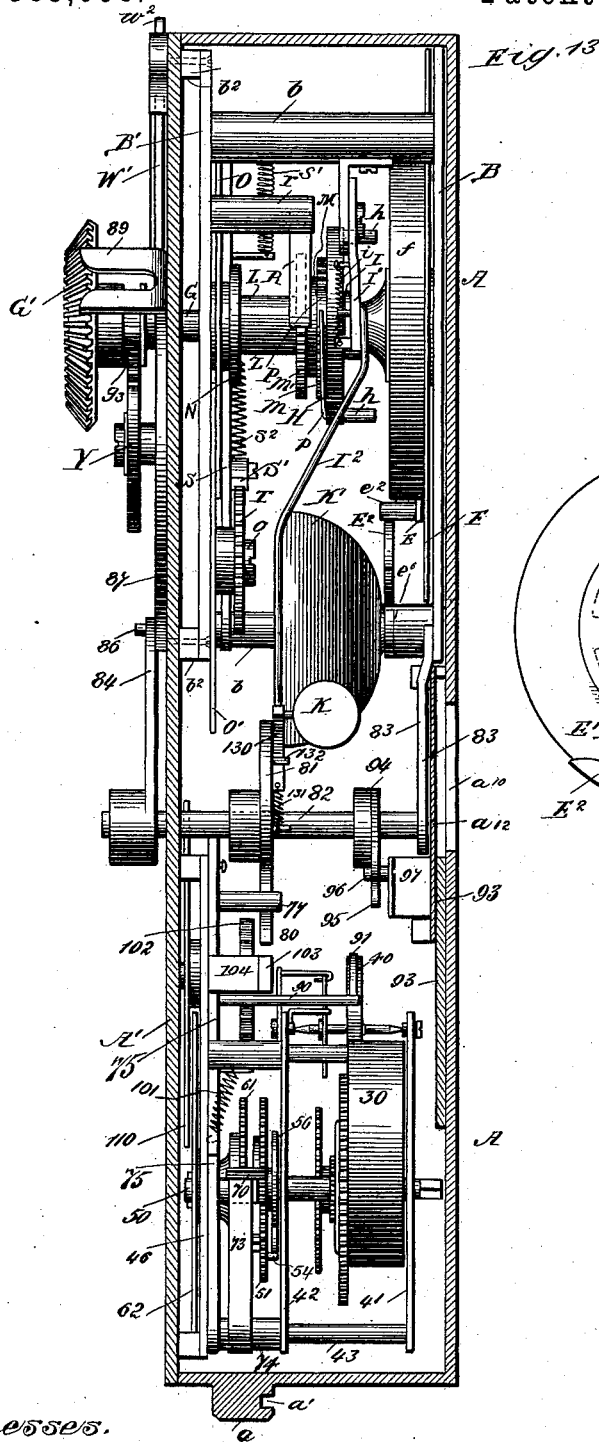
(No Model.)

5 Sheets—Sheet 3.

W. PIGOTT.
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No. 383,008.

Patented May 15, 1888.



Witnesses.

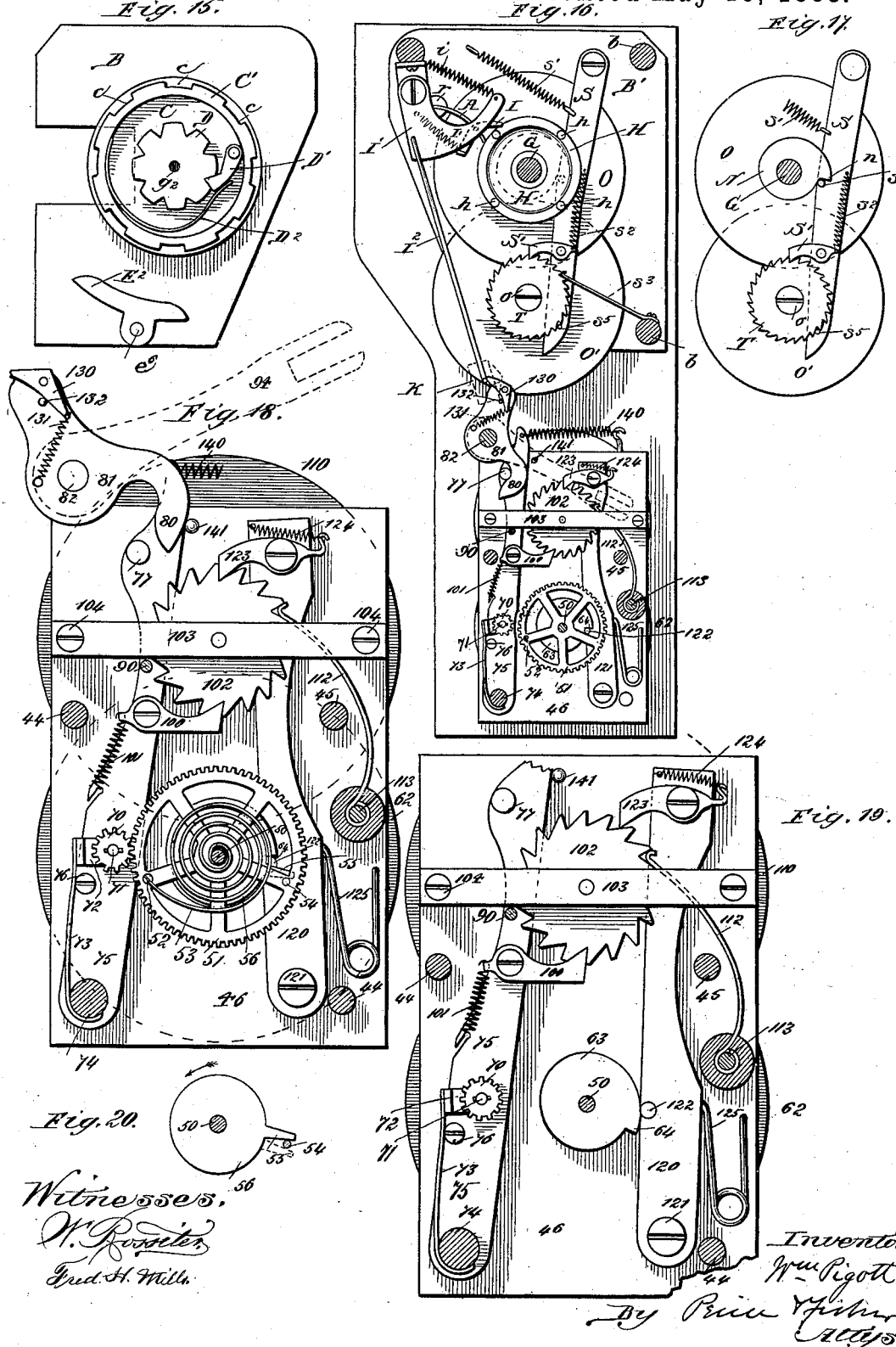
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Fig. 21.

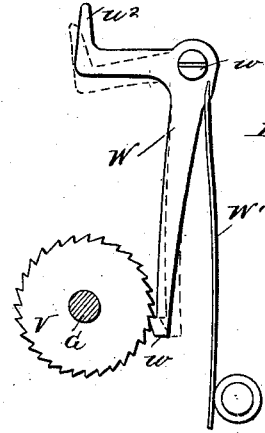
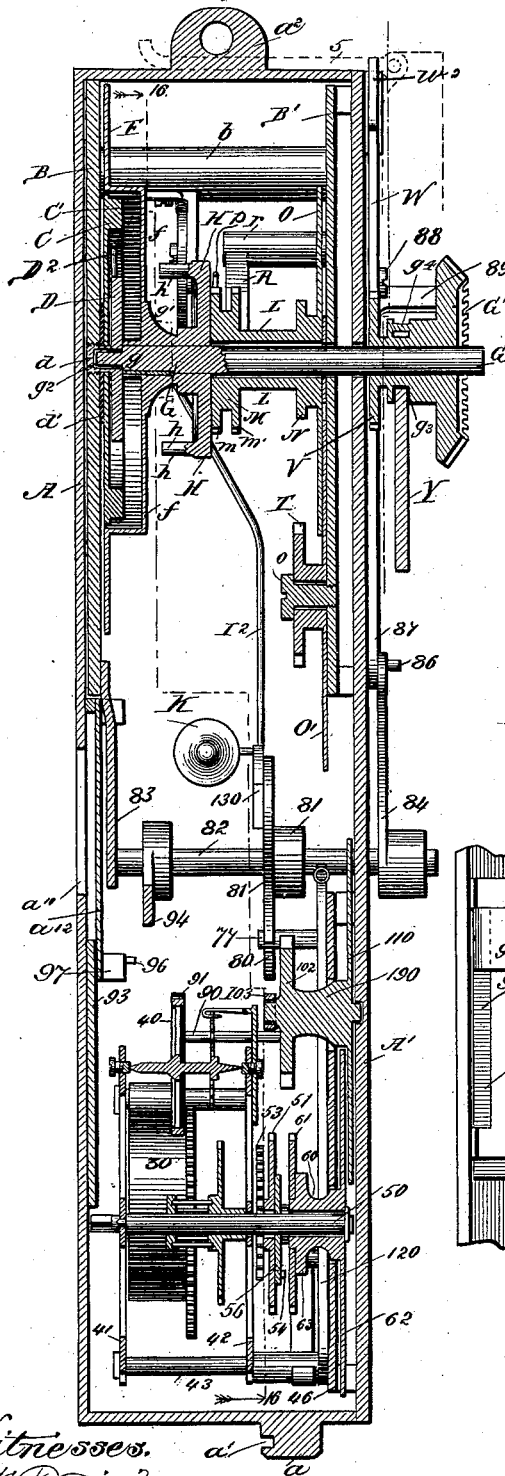


Fig. 22.

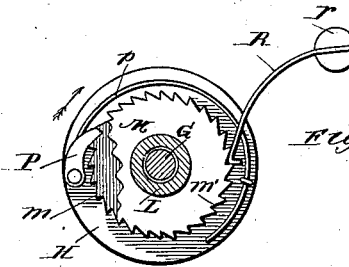


Fig. 23.

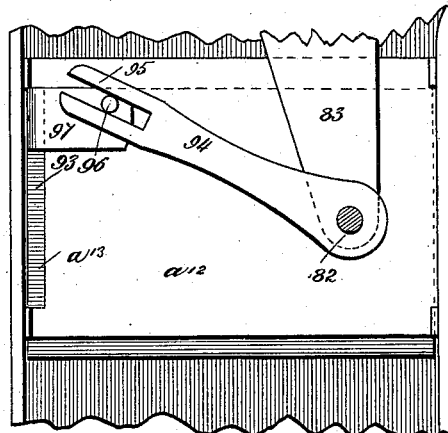


Fig. 24.

Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM PIGOTT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PIGOTT TIME AND FARE REGISTER COMPANY, OF SAME PLACE.

FARE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 383,008, dated May 15, 1888.

Application filed May 2, 1887. Serial No. 236,774. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PIGOTT, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Fare-Registers, of which the following is hereby declared to be a full, clear, and exact description sufficient to enable others skilled in the art to make and use the same.

My present invention, while capable of use in whole or in part in a variety of other situations, is more especially designed as a register for fares collected by drivers of hansom-cabs or like vehicles let for hire. In this class of vehicles it is customary to provide different rates of fare for the two distinct kinds of service—that is to say, first, a distance or mileage rate, the amount of which will depend upon the distance traveled, with an additional charge for stoppage in event the passenger detains the cab; and, secondly, a time rate, under which one fixed charge is usually made for the first hour or fraction thereof of engagement and an additional charge is made for succeeding hours or portions thereof.

The object of my present invention is to provide an improved form of register which will serve to accurately register the precise amount of fares for both time and distance engagements exacted of and paid by the passengers, so that all danger of the owners of cabs being defrauded by false returns of the drivers will be avoided. This object of invention, so far as it pertains to the registration of fares collected for distance engagements, I have accomplished by a register of improved construction provided, first, with an indicator-dial which is freely movable in either forward or backward direction at the will of the driver, and which serves merely to indicate to the passenger the exact amount of fare which it is the driver's right and duty to demand, and, second, with a permanent or total-registering dial connected with the indicator-dial in such manner that it will be advanced by every forward movement thereof, and hence serve to register the amount of successive fares, but cannot be affected by the backward movement of the indicator-dial when the latter is restored to the zero-point after the passenger has paid the indebtedness indicated.

To this end my invention consists in various novel features of construction, which will be hereinafter fully described, illustrated in the accompanying drawings, and particularly defined in the claims at the end of this specification.

The object of my invention, so far as it relates to the accurate registration of the amount of fares collected by the driver for time engagements, I have attained by improved mechanism adapted to accurately register the total amount of fares received by the driver for time engagements; and in this connection my invention consists in various novel features of construction, to be hereinafter fully described with reference to the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a perspective view of a cab-body to which my improved registering mechanism is applied, a portion of the body being broken away to illustrate the position of the registering mechanism therein. Fig. 2 is a perspective view of the inclosing-casing of the registering mechanism in position upon its sustaining frame or board, portions of the operating-rods being shown. Fig. 3 is a perspective view of the sustaining frame or board with its attached parts. Fig. 4 is a detail view, from the under side, of the bracket whereon the inclosing-casing of the register rests. Fig. 5 is a front view of the ratchet-plate upon the back side of the cab-body, the crank-handles of the operating-rods being shown in position with respect thereto. Fig. 6 is a back view of the ratchet-plate, showing the gear-wheels adjacent thereto. Fig. 7 is a view in central vertical section on line 7 7 of Fig. 5. Fig. 8 is a back view of the sustaining frame or board with the operating-rods connected thereto, the registering mechanism being shown in position thereon. Fig. 9 is a back view of the register mechanism detached from the sustaining frame or board. Fig. 10 is a front view of the register mechanism removed from the inclosing-casing. Fig. 11 is a fractional view of the indicator-dial of the distance-register mechanism, a portion of the central disk being broken away, and portions of its operating mechanism being shown in full and in dotted lines. Fig. 12 is a view similar to Fig. 11,

with the parts in different position. Fig. 13 is a view in vertical section through the inclosing-casing on line 13 13 of Fig. 9, the registering mechanism being shown in side elevation. Fig. 14 is a back view of the annular plate of the indicator-dial of the distance-register, the main shaft G, being shown in section and the mechanism for moving the central disk of the indicator-dial being shown in side elevation. Fig. 15 is a detail back view of the central disk of the indicator-dial, showing also the star-wheel and its pawl, the front plate of the sustaining-frame, and the cam-plate thereon. Fig. 16 is a view in vertical cross-section on line 16 16 of Fig. 21 through the shaft of the indicator-dial in front of the spur-wheel and looking toward the registering-dials, various parts being shown in side elevation, and the operating mechanism of the time-fare registering dials and adjacent parts being shown also in side elevation. Fig. 17 is a detail back view of the disks of the total-registering dial of the distance-register, the mechanism for transmitting movement from the upper to the lower disks being shown in side elevation. Fig. 18 is an enlarged view in side elevation of the mechanism for transmitting movement from the clock-work to the disks of the time-fare-registering dial, parts being shown in vertical section. Fig. 19 is a view similar to Fig. 18, with gear-wheels between the clock mechanism and the fare-registering mechanism omitted. Fig. 20 is a detail plan view of the driving-plate upon the main shaft of the clock mechanism, this shaft and the stop of the gear-wheel that is adjacent to the plate being shown in section. Fig. 21 is a view in central vertical cross-section on line 21 21 of Fig. 9 through the inclosing-casing and the registering mechanism therein contained. Fig. 22 is a detail view of the mechanism upon the back of the inclosing-casing for locking the forward movement of the main shaft of the distance-register. Fig. 23 is a detail view through the main shaft of the distance-register, showing the back of the spur-wheel and the ratchet-wheel and pawls adjacent thereto. Fig. 24 is a fractional inside view of the front of the inclosing-casing, showing the slide or plate whereon the hour rate of fare will be exhibited, and showing the mechanism for operating this plate and the supplemental plate within the inclosing casing.

A designates the inclosing-casing, within which is sustained the mechanism that serves to register the amount of fares collected both from passengers engaging the cab for distance travel and by the hour. This inclosing-casing is preferably detachably held upon a sustaining board or frame, 1, permanently bolted to the inside of the cab-body near its front upper portion and in convenient view of the passenger, and in order to permit the casing A to be readily connected with and removed from its position within the cab the sustaining-frame 1 is provided at its lower portion with a base-bracket, 2, having a hole, 3, therein to admit

the lug or stud *a*, that projects from the bottom of the casing, this lug or stud *a* being provided with a slot, *a'*, (see Fig. 13,) within which will engage the pivoted latch-bar 4 when the casing has been set upon the bracket 2 in such manner that the stud *a* will project through the hole 3 thereof. The sustaining board or frame 1 is also preferably provided at its top with the hinged flap 5, having a slot, 6, formed therein, which, when the inclosing-casing A is set in position, will swing over the eye *a'*, formed upon the top of the casing and adapted to receive the shackle of a suitable lock, 7, and it will be readily seen that by means of the bracket 2 and the hinged flap 5 the inclosing-casing will be securely held in position within the cab and upon the sustaining frame or board 1.

By reference to Fig. 4 of the drawings it will be seen that the inner end of the pivoted latch-bar is cut away to permit the bottom lug or stud, *a*, of the casing to pass through the hole 3 of the base-bracket 2, and when the stud or lug has been thus passed through such hole the turning of the latch-bar 4 to one side, as shown by dotted lines, Fig. 4, will cause the end of the latch-bar to enter the slot *a'* and firmly bind against the lug or stud *a*, and thus tightly bind the casing to the base-bracket and prevent its shaking or jarring by reason of the movement of the cab.

To the back of the sustaining frame or board 1 is journaled the inner end of the operating-rod 8, the opposite end of which rod extends through the back of the cab-body near its top and is journaled in the ratchet-plate 9, the inner flange of which plate, as seen in Fig. 7, will bear upon the back outer face of the cab-body, and upon this outer end of the operating-rod 8 is keyed the pinion 10, the teeth of which engage with the cog-wheel 11, that is journaled on the shaft 11^a between the ratchet-plate 9 and the bracket-plate 12, as seen in Fig. 6 of the drawings. Upon the shaft 11^a of the cog-wheel 11 is fixed the turning crank 13, the outer end of which is provided with a button, 14, having its shank projecting through a hole in the end of the turning crank, and fixed to the free end of a spring pawl, 15, that is attached to the under side of the turning crank, and engages with the notches 16, that are formed upon the raised rib 17 on the face of the ratchet-plate, these notches 16 being placed at intervals apart corresponding with the distances between the numbers that are arranged upon the face of the indicator-dial, as will presently appear, so that when the driver of the cab draws outward the button 14, so as to free the pawl 15 from engagement with the teeth or notches 16 of the raised rib 17, he can move the turning crank 13 freely around the ratchet-plate 9 in order to impart the desired movement to the indicator-dial through the operating-rod 8 and mechanism to be presently described.

It may here be noted that the word "dial" is employed throughout the specification as a comprehensive term in designating the trip,

temporary, or indicator register, the permanent or total register, and the time-fare register, as the case may be, the word dial applying not merely to disks as such, but to other equivalent constructions or forms, and equally so whether one or more disks, &c., be chosen to make up the set. In such view the dial exhibits the state of the register to which it pertains in the same sense that a watch-dial displays the situation of the hour, minute, and seconds pointers, which together display the condition of the time-register.

At the back of the sustaining frame or board 1, near its top, is also journaled the slide operating shaft or rod 20, provided, as shown in Figs. 3 and 8, at its inner end, with the crank 21, having a pin, 22, the purpose of which will presently appear, and to the outer end of this rod 20, which is journaled in the ratchet-plate 9, is fixed a crank-handle, 23, that extends through the slot 24, formed in the rim of the plate 9, and is furnished with a suitable button. If desired, the crank-handle 23 may be provided with a spring-pawl adapted to engage with notches formed in the plate 9 at each end of the slot 24 to better hold the crank in either position.

Within the sustaining frame or board 1 is formed a suitable recess or cut away space, 25, to admit the beveled gear-wheel 26 and the various parts of the mechanism which project from the back of the inclosing-casing, as shown in Fig. 9.

From the foregoing description it will be seen that the sustaining frame or board 1 and the operating-rods connected therewith and leading therefrom through the back of the cab remain permanently in position upon the cab, while the inclosing-casing A, that contains the registering mechanism, can be readily removed from the cab by withdrawing the lock 7 and disengaging the latch-bar 4 from the stud or lug a , formed on the bottom of the inclosing-casing. My purpose in thus removably holding the inclosing-casing of the registering mechanism within the cab is to permit this mechanism to be conveniently withdrawn when the cab is out of service, or when it is desired to inspect the condition of the several registering-dials through the sight-openings that are formed in the back of the casing, as will presently appear.

The inclosing-casing A is provided at the upper portion of its front side with the indicator sight-opening a^1 , and in its back is formed the sight-openings a^4 and a^5 , (see Fig. 9,) which expose the numbers upon the distance-total-registering dials, and with the sight-openings a^6 and a^7 , which permit the numbers upon the dials of the time-fare-registering mechanism to be seen, it being understood, however, that when the inclosing-casing is in position for use, as seen in Figs. 1 and 2, the indicator sight-opening a^3 only is exposed to view, while the sight-openings at the back of the inclosing-casing are hidden.

The mechanism which serves to register the

amount of fares collected for distance travel is placed within the upper part of the inclosing-casing A, and this mechanism will first be described.

The distance-register is held within a tie-frame or sustaining-frame consisting, preferably, of the front and back plates, B and B', united together by means of the cross-rods b , in which are embedded the screws b' , that pass through the plates B and B' of the frame. This frame of the distance-register will be held within the inclosing-casing A in any well-known manner, being preferably fastened, as by blocks b^2 , (see Fig. 13,) to the removable back plate A' of the inclosing-casing, occupying such position therein that the dials within the casing shall appear beneath the respective sight-openings in the front and rear plates thereof. The distance-register is provided with two dials, the rear one of which, designated the "total-registering dial," is designed to exhibit the total amount of fares collected for distance travel, while the front dial, denominated the "indicator-dial," is designed to show to each passenger the exact amount of fare that he shall pay to the driver. The indicator-dial consists of a central disk, C, and an annular ring, F, within which ring the central disk is set, and with the face of which the disk is in alignment. The central disk, C, of the indicator-dial is pivotally mounted upon the hub d of the star-wheel D, (see Fig. 21.) the outer end of this hub being screw-threaded to enter a correspondingly-threaded perforation in the front plate, B, of the frame, and between the central disk and this front plate, B, may be placed the friction-washer d' . Upon the inner face of the central disk, C, of the indicator-dial is pivotally fixed a pawl, D', the end of which is preferably V-shaped, to engage with corresponding indentations or notches in the periphery of the star-wheel D, (see Fig. 15,) and this pawl is forced into contact with the periphery of the star-wheel by means of the spring D², that is fixed to the inner side of the central disk, C. The purpose of the star-wheel D and the spring-pawl D' is to hold the central disk in such manner that the numbers on the outer face thereof shall come into exact position in front of the indicator sight-opening a^3 of the inclosing-casing, and it is apparent that the inclined faces of the notches of the star-wheel and the correspondingly-inclined end of the pawl will bring the wheel into exact position in front of the sight-opening, even in case it should accidentally be moved a slight distance to either side of such position. Upon the back of the central disk, C, is formed a notched ring or ratchet-wheel, C', provided around its periphery with the notches c , with which will engage the projecting end e of the pawl E, that is pivotally fixed to the inner or back face of the annular plate or ring F, and serves to impart movement from such annular ring or plate to the central disk, C, as will be presently explained. The annular plate F is preferably formed with a

cup-shaped chamber, *f*, at its back, within which rests the central disk, *C*, the star-wheel *D*, and the pawl *D'*, and through this cup-shaped chamber *f* and its sleeve *g'*, projecting therefrom, passes the part *g* of the main shaft *G*, to which the sleeve *g'* is keyed, so that the cup-shaped chamber and the annular ring or plate *F* shall at all times move when the main shaft is turned. The outer reduced end, *g''*, of the main shaft *G* is journaled within the hub *d* of the star-wheel *D*, and the opposite end of this shaft extends through the back plate *A'* of the inclosing-casing, and has keyed thereto the beveled gear-wheel *G'*, that is adapted to engage with the correspondingly-beveled gear-wheel *26*, that is fixed to the operating-rod *8*, (see Fig. 8,) when the inclosing-casing has been set in position for use within the cab. Upon the main shaft *G* and keyed thereto, as shown in the drawings, (see Fig. 21,) formed in a piece with the sleeve *g'* of the cup-shaped chamber *f*, is the spur-wheel *H*, from the outer face of which project the teeth or spurs *h*, which, when the main shaft is revolved, engage with the inner end of the pawl *I*, (see Figs. 13 and 16,) that is pivoted to the rocking plate *I'*, which carries the spring shank or rod *I''* of the hammer *K*, that strikes the bell *K'*, and the rocking plate *I'* is provided with the spring *i*, which serves to restore it to its normal position when the teeth of the spur-wheel *H* have passed from engagement with the pawl *I*, and thus causes the bell-hammer *K* to strike the bell. The cup-shaped chamber *f* of the annular plate *F* is provided upon its periphery with a cut-away space or notch, *f'*, (see Fig. 14,) through which will project the end of the pawl *E* when such pawl is to be forced into contact with the notched ring *C'*, for the purpose of imparting revolution thereto, and to the edge of this chamber *f*, or in other convenient position, is fixed the spring *E'*, the free end of which bears against the under side of the pawl *E* and serves to hold the same normally out of contact with the notched ring *C'*, a stop, *e''*, being provided to limit the outward movement of such pawl.

From the construction as thus far defined it will be seen that when motion is imparted from the operating-rod *8* and its beveled gear-wheel *26* (see Fig. 8) to the beveled gear-wheel *G'* the main shaft *G* will be revolved and the annular plate *F* will be turned to a corresponding distance in such manner that the figures upon the outer face of this plate will be brought successively opposite the indicator sight-opening *a''* in the front of the inclosing-casing.

The figures upon the face of the annular plate *F* indicate the number of cents or the fractions of a dollar, and the number and character of the figures employed will depend upon the charges which the driver is at liberty to make. Thus, for example, if the rate of fare is twenty-five cents per mile, with an additional charge of ten cents for each stoppage, the face

of the annular plate will have marked thereon the numbers 10, 25, 35, 50, &c.

It will be observed that to the inner side of the front plate, *B*, of the sustaining frame, and near the bottom thereof, is fixed a short stud, *e'*, (Figs. 13 and 15,) carrying the cam-plate *E''*, (see Figs. 13, 14, and 15,) against the upper side of which will ride the stud *e'*, that projects from the side of the pawl *E*, when in the course of the movement of the annular plate *F* the pawl is brought opposite the cam-plate *E''*, and hence it will be seen that when the annular plate *F* (see Figs. 12, 14, and 15) has made one complete revolution, either in forward or backward direction, the pawl *E*, that is carried by this annular plate, will strike the upper edge of the cam-plate *E''*, and will be forced inward until its end *e* passes through the opening in the side of the chamber *f* and enters one of the notches *c* of the ratchet-wheel or ring *C'*, Figs. 11, 12, and 14, that is formed upon the back of the central disk, *C*, and consequently will cause a partial revolution of this disk.

It is obvious that the extent of movement of the central disk will depend upon the length of the cam-plate *E''*, and the length of this plate will be determined by the size of the figures upon the central disk or by their distance apart. The figures upon the face of the central disk, *C*, denote dollars, whereas, as already stated, the figures upon the annular plate denote fractions of dollars, or cents; hence it will be seen that when the annular plate *F* has been turned one complete revolution, and has consequently exhausted the figures thereon, the pawl *E* will be forced by the cam plate *E''* into engagement with the notched ring *C'*, and will impart a sufficient movement to the central disk, *C*, to bring the one-dollar mark opposite the indicator sight-opening *a''* of the inclosing casing, after which the pawl *E* will escape from the cam-plate *E''*, and by the spring *E'* will be thrown out of engagement with the notched ring *C'*, so that the further movement of the annular plate *F* will cease to affect the movement of the central disk, *C*, until a second revolution of the annular plate *F* is completed. It is apparent that as the central disk, *C*, is thus intermittingly revolved by the annular plate *F* the star-wheel *D* (which star-wheel does not revolve and against the periphery of which rides the pawl *D'*) will serve to prevent any accidental movement of the central disk in either direction, and will also serve by reason of its inclined notches to bring the figures of the central disk, *C*, in exact position in front of the indicator sight-opening of the inclosing-casing. It is obvious that the beveled gear-wheel *G'* can be turned in backward direction for the purpose of restoring the annular plate *F* and the central disk, *C*, to their zero points, as will hereinafter more fully appear.

Upon the main shaft *G* is loosely mounted the sleeve *L*, upon the inner end of which is

formed the double ratchet-wheel M, (see Figs. 13, 21, and 23,) and upon the outer end of which is formed the cam-wheel N, (see Figs. 13, 16, 17, and 21,) with which is connected the disk O of the total-registering dial, this disk having marked upon its outer face suitable figures corresponding with the figures upon the annular plate F and denoting cents or fractions of a dollar.

From what has been already seen, the indicator-dial C F is at liberty to be moved both in forward and backward direction by the main shaft; but to the total-registering dial movement in the forward direction only will be imparted, and this movement of the total-registering dial is effected in the following manner: To the back of the spur-wheel H is pivotally connected the driving-pawl P, the free end of which engages with the inner section or portion, *m*, of the ratchet-wheel M, this pawl being forced normally into engagement with the teeth of the ratchet-wheel by means of the spring *p*, that is fixed to the side of the spur-wheel H and bears upon the end of the pawl. Hence it will be seen that when the main shaft G is turned in the forward direction, carrying with it the spur-wheel H, the pawl P will cause a corresponding forward movement of the ratchet-wheel M, and a like forward movement will thus be transmitted to the disk O of the total-registering dial. When, however, the main shaft G is turned backward to restore the indicator-dial to the zero-point, a pawl, R, (see Figs. 13, 21, and 23,) fixed to the post *r* and having its free end in engagement with the sections *m'* of the ratchet-wheel M, will dog the movement of this ratchet-wheel, and hence prevent the backward rotation of the disk O of the total-registering dial, the pawl P, however, riding backward freely over the teeth of the section *m* of the ratchet-wheel M as the spur-wheel H, to the back of which this pawl P is attached, is revolved by the main shaft G in backward direction. (See Figs. 21 and 23.) Hence it will be seen that, while the indicator-dial is free to move in either forward or backward direction, the disk O of the total-registering dial, being held in "one-way gear" with the indicator-dial through the medium of the double ratchet M, can be moved in the forward direction only.

Beneath the main shaft G and the disk O of the total-registering dial, and upon a suitable stud or pin, *o*, is mounted the disk O' of the total-registering dial, this disk bearing upon its face figures denoting dollars, and movement is imparted from the disk O of the total-registering dial (which disk registers merely the number of cents or fractions of a dollar) to the disk O' in the following manner: A lever, S, (see Figs. 13, 16, and 17,) pivoted to the back plate B' of the sustaining-frame, has upon its side a projecting stud or pin, *s*, which is held in constant engagement with the periphery of the cam-wheel N by means of the coil-spring *s'*, connected to the lever and to a fixed point of the plate B', and to this lever S

is also pivotally connected near its lower portion the driving-pawl S', the free end of which is held in normal engagement with the ratchet-wheel T by means of the coil-spring *s''*, attached to the rear end of the pawl. The ratchet-wheel T is connected to or formed in piece with the hub of the disk O' of the total-registering dial, and is journaled upon the stud *o*. If, now, sufficient forward movement be imparted to the main shaft G to cause a complete revolution of the disk O of the total-registering dial, and consequently a complete revolution of the cam-wheel N, that is connected with such dial, the lever S will be forced outward by the bearing of the cam-wheel N upon the pin *s* and the pawls S' will be caused to ride backward upon the ratchet-wheel T, this ratchet-wheel being guarded against backward movement by the spring-check pawl *s''*, that engages with its teeth and is fixed to the post *b*. Near the lower end of the lever S is also fixed a guard-pin, *s'*, which, when the lever is drawn inwardly by the spring *s'*, engages with the teeth of the ratchet-wheel T and serves as an additional guard to prevent this ratchet-wheel from making more than the movement of one notch or tooth at each operation of the lever S. When the pin *s* has passed over the abrupt corner *n* of the cam-wheel N, the coil-spring *s'* will pull the lever S in forward direction, and in doing so will cause the pawl S' to impart a partial revolution to the ratchet-wheel T, and through this ratchet-wheel to the disk O' of the total-registering dial. Hence it will be seen that at each complete revolution of the upper disk, O, of the total-registering dial, a partial revolution of the lower disk, O', of this dial will be effected, and an additional dollar will be registered. Upon the main shaft G and outside of the inclosing-casing is keyed a ratchet-wheel, V, (see Figs. 9, 21, and 22,) with the teeth of which engages the end *w* of the elbow-lever W, that is pivoted, as at *w'*, to the back A' of the inclosing-casing and has its upper end, *w''*, projecting a slight distance above the top of the casing, and in such position that when the inclosing-casing A is placed upon the sustaining frame or board 1, and the hinged flap 5 is forced downward the upper end, *w''*, of the elbow-lever will be depressed thereby, and the lower end, *w*, of this lever W will be thrown out of engagement with the teeth of the ratchet-wheel V. A spring, W', attached to the side of the inclosing-casing, has its free end bearing upon the lever W, and serves to throw the lower end of this lever into engagement with the ratchet-wheel V when the casing is withdrawn from the cab.

My purpose in providing the ratchet-wheel V and the lever W is to guard against all danger of accidental forward movement of the main shaft when the inclosing-casing has been withdrawn from the cab. The upper disk, O, of the total-registering dial is marked with numbers (see *a'*, Fig. 9) indicating fractions of a dollar and corresponding with those upon

the annular plate F of the indicator-dial; but as the lower disk, O', of the total-registering dial, which, like disk O, is not to be turned in backward direction, but is to register the entire amount of fares (in dollars) collected during the day, the spaces between the figures (see *a*⁵, Fig. 9) on the face of this lower disk, O', will be but slight, in order to permit a larger number of figures to be placed thereon.

10 The rear portion of the hub of the beveled gear-wheel G' is provided with a peripheral groove, *g*², across which extends a tooth or pin, *g*¹, attached to the hub, (see Fig. 21,) which engages with the notches *y* of the locking-wheel Y, (see Figs. 9, 13, and 21,) the purpose of this wheel being to arrest the backward movement of the main shaft when the disk C and plate F of the indicator-dial have been reversed to a sufficient extent to bring their zero-

20 points in front of the indicator sight-opening of the inclosing casing, and as the teeth *y* are formed throughout only a portion of the periphery of the wheel Y (see Fig. 9) it is obvious that when the main shaft is turned back

25 to such extent that the tooth *g*¹ will strike the plain portion of the wheel Y the further movements of the main shaft will be arrested. As there is but one tooth, *g*¹, formed upon the hub of the gear-wheel G', it will require a number

30 of revolutions of the gear-wheel equal to the number of teeth or notches on the wheel Y before the movement of the shaft G will be arrested.

From the foregoing description the operation as an entirety of that part of my improved register designed to indicate and register the amount of fares collected by the driver from passengers engaging the cab for trip or mileage engagements will be seen to be as follows:

40 Assuming the disks of the indicator-dial to be at zero, if, now, a passenger engages the cab for one mile or less, the driver will draw outward the button 14 (see Figs. 1 and 5) and move the turning crank 13 until the spring-pawl 15 is opposite the notch corresponding with the figure 25 upon the face of the annular plate F of the indicator-dial, and this movement of the turning crank will cause a like movement of the operating-rod 8, and through

50 this rod and the intermediate mechanism the annular plate F will be turned in forward direction until the figure 25 on the face of this plate is brought opposite the indicator sight-opening *a*³ (see Fig. 2) of the inclosing casing, and this number 25 thus seen through the

55 sight-opening will indicate to the passenger the amount that he is to pay for the distance engagement. As the operating-rod and the main shaft G are thus moved to advance the annular plate F of the indicator-dial, a corresponding movement is imparted to the spur-wheel H, causing one of the spurs or teeth *h* of this wheel to engage with the end of the pivoted pawl I (see Fig. 16) and to move

65 the rocking plate I' backward until the pawl I escapes from the spur *h*, when the plate will be drawn forward by the coil-spring *i*

and the bell-hammer will be thrown into contact with the bell, the purpose of thus ringing the bell being to direct the attention of the passenger to the indicator-dial, and as well, also, to notify the driver that the proper register has been made. It is obvious that as the main shaft G is thus revolved to impart this forward movement to the annular plate F of the indicator dial the pawl P, that is attached to the back of the spur-wheel H, (see Figs. 13 and 23,) will impart a corresponding movement to the ratchet-wheel M, and through the medium of this ratchet-wheel and the sleeve L to the cam-wheel N and the disk O of the total-registering dial, and hence the disk O of the total-registering dial will be brought to such position that the number 25 upon the face thereof will show through the sight-opening *a*¹ in the back of the inclosing-casing. Upon the front of the inclosing-casing will preferably be placed a suitable notice directing the passenger to pay to the driver only the amount of fare shown by the indicator-dial, and hence it will be necessary for the driver to operate the register before he can collect his fare. In case the passenger should desire to employ the cab at mileage or distance rates for further travel, the driver, after the first mile has been traveled and registered, will again turn the operating-rod 8 until the indicator-dial shows through its sight-opening the exact amount of the passenger's indebtedness, and at each movement of the operating-rod the bell will be rung to direct the attention of the passenger to the dial. So, also, if a charge is to be made for a stoppage—as, for example, a charge of ten cents for a stoppage of ten minutes—the indicator-dial can be advanced a sufficient distance to show this additional amount. Thus, if the passenger has traveled, for example, five miles and has made one ten-minute stop, the operating rod will have been turned until the indicator-dial has been moved one complete revolution and a part of a second revolution, the first complete revolution of the annular plate F causing the pin or stud *e*² of the pawl E to ride upon the face of the cam E' (see Figs. 13 and 14) and force the end *e* of the pawl into engagement with a notch, *e*, of the ring C' on the back of the central disk, C, of the dial, and thus cause this disk to move in unison with the annular ring F until the pawl E has escaped from engagement with the cam and has been thrown out of engagement by the spring with the notched ring C' of the central disk. This movement of the central disk, C, will be sufficient to bring the one-dollar mark in front of the indicator sight opening of the inclosing-casing, and the further partial revolution of the annular ring will bring the number 35 opposite the indicator sight-opening *a*³, so that the amount exposed to view through the sight-opening will be \$1.35, showing the passenger the amount of his indebtedness for five miles of travel at the rate of twenty-five cents per mile, with an additional charge of ten cents

for a stoppage of ten minutes. It is obvious, also, that so long as the main shaft G is thus turned in the forward direction a like movement will be imparted to the total-registering dial in clutch gear therewith, so that when the annular ring or plate F has made one complete revolution the disk O of the total-registering dial will also have made a complete revolution, and the cam N (see Fig. 17) will have moved a sufficient distance to permit the pin s of the lever S to pass over the shoulder n of the cam-wheel and to allow the spring s' to draw this lever forward in such manner as to cause its pawl S' to partially rotate the ratchet-wheel T sufficient distance to bring the one-dollar mark upon the disk O' of the total-registering dial opposite the sight-opening a⁵ in the back of the inclosing-casing. When the passenger has paid the amount shown by the indicator-dial, the driver will lift the button 14 of the turning crank in such manner as to release the spring-pawl 15 from engagement with the notched rim 17 of the plate 9, and will turn the operating-rod backward, and through the medium of this rod the main shaft G, the annular ring F, and central disk, C, of the indicator-dial, until the zero-points of the ring F and disk C are opposite this sight-opening of the inclosing-casing, and when these zero-points are opposite this sight-opening it will be found that the locking-wheel Y will have been turned to such extent that the tooth g⁴ upon the hub of the gear-wheel G' will strike the plain face of the locking-wheel, and thus guard against any further movement of the operating-rod or of the main shaft in the backward direction. During this backward movement of the main shaft and of the indicator-dials the spur-wheel H will also be rotated; but during the backward rotation of this spur-wheel its teeth will merely strike and lift the end of the pawl I without causing a movement of the rocking plate I', and consequently without ringing the bell. It will also be seen that the pawl k, engaging, as it does, with the teeth of the section m' of the ratchet-wheel M, will guard this ratchet-wheel against movement in the backward direction, and consequently will prevent the disks of the total-registering dial from being brought backward when the indicator-dial is reversed for the purpose of bringing its zero-points in front of the sight-opening a³ of the inclosing casing. By thus placing the total-registering dial in one-way gear with the indicator-dial it is obvious that, while the indicator-dial is under constant control of the driver and may be moved backward or forward to indicate to each passenger the amount of his indebtedness, the total-registering dial will partake only of the forward movement of the indicator-dial, and will accurately register the sum total of the fares that have been collected from the passengers for trip or mileage engagements.

The improved mechanism of that part of my register designed to register the total amount of fares collected by the driver for time or

hour engagements is placed within the lower portion of the inclosing casing A, and is illustrated more particularly in Figs. 9, 10, 13, 16, 18, 19, 20, and 21 of the drawings. In this mechanism the operation of the time fare-registering dial is effected in two ways—viz., by suitable clock-work of ordinary construction, the movement of which will be arrested when the cab is not hired, and also by the shifting of a slide or plate which will operate the time-fare-registering mechanism independently of the clock-work. The time-fare-registering mechanism is given an initial movement and the clock mechanism is released by moving the slide in the front of the inclosing-casing upward a sufficient distance to expose to the passenger's view the hour rate of fare, which, preferably, is marked upon said slide, and to insure this lifting or upward movement of the slide a notice is ordinarily placed upon the face of the inclosing-casing informing passengers that they need not pay except for the time during which the slide is up and the hour rate of fare is thereby exposed to view. The clock mechanism does not begin to actuate the time-fare registering dial until the first hour of engagement has elapsed, for the reason that the upward movement of the slide which exposes the hour rate of fare to view itself causes the registration to be made for the first hour. This initial registration of the first hour is made at the outset, for the reason that when a cab is engaged by the hour the passenger must pay for one full hour rate whether the cab is used by him for the entire hour or not, and if the operation of the time-fare-registering mechanism were dependent simply upon the movement of the clock-work the time-fare-registering dial might show but a fraction of an hour, whereas the driver would have been paid for a full hour. It will be seen that the clock mechanism shown is of ordinary construction, having the usual mainspring, 30, and suitable cog-wheels transmitting movement from said mainspring to the balance-wheel 40, and this clock mechanism is held between the usual side plates, 41 and 42, that are tied together by the posts 43. With the frame of the clock mechanism is connected by means of the tie-bolts 44 and 45 the side plate 46, which serves to sustain the time fare-registering disks and the mechanism connecting them with the clock-work.

Upon the shaft or arbor 50 of the clock mechanism, which shaft extends approximately to the back of the inclosing-casing, is loosely journaled the gear-wheel 51, from the outer rim of which laterally projects the pin 52, to which is connected one end of the flat coiled spring 53, the opposite end of this spring being connected to the shaft 50, as shown in Fig. 18 of the drawings, and from the opposite or inner face of this gear-wheel 51 projects the stop or pin 54, adapted to engage with the arm 55, that projects from the periphery of the driving-plate 56, which is firmly keyed upon the shaft 50.

My purpose in loosely mounting the gear-wheel 51 upon the shaft 50 and in employing the coiled spring 53, connected with said gear-wheel and the shaft, is to cause the stop or pin 54 of the gear-wheel to return to a position upon the rear side of the arm 55 of the driving-plate 56 when the clock mechanism is stopped, and to enable the gear-wheel 51 to remain inert during one complete revolution of the driving-shaft 50, and until the arm 55 of the driving-plate 56 shall at the end of such revolution strike the pin 54 and then begin to move the gear-wheel, for it is obvious that, as will hereinafter more fully appear, the movement of parts necessary to effect the starting of the clock mechanism causes the fare for the first hour to be registered, and hence the gear-wheel 51 of the clock mechanism does not need to come into operation until the first hour has elapsed. Upon the shaft 50 is also loosely mounted the sleeve or hub 60, upon the inner end of which is fixed a gear-wheel 61, corresponding in size to the gear-wheel 51, and upon the opposite end of this hub 60 is formed or suitably held the lower disk, 62, of the time-fare-registering dial of the time mechanism, the outer face of this dial being provided with figures denoting fractions of a dollar, which figures are visible through the sight-opening *a'* (see Fig. 9) when the inclosing-casing is removed from the cab. Upon the hub 60 is also formed the cam plate or rib 63, (see Fig. 19,) having an abrupt shoulder, 64, which plate serves to transmit motion from the lower disk, 62, of the time-fare-registering dial to the upper disk, 110, of such dial, as will be presently more fully explained.

Motion is communicated from the gear-wheel 51 to the gear-wheel 61 through the medium of the gear pinion 70, that is journaled to the stud 71, that projects from the bracket 72, which is fixed to the upper end of the spring plate 73, the lower end of this plate being fixed to the post 74, as shown in Figs. 18 and 19, the tendency of the spring-plate 73 being to force the gear-pinion 70 into normal engagement with the gear-wheels 51 and 61, as shown in Figs. 13 and 18 of the drawings, and when the gear-pinion 70 is thus in engagement with the gear-wheels 51 and 61 the movement of the clock mechanism (after the first hour has elapsed) will be communicated to the time-fare-registering mechanism, as will hereinafter more fully appear.

In order to throw the gear pinion 70 out of engagement with the gear-wheels 51 and 61, and consequently disengage the time-fare-registering mechanism from the clock mechanism, I have provided the swinging arm or lever 75, pivoted at its lower end to the post 74 and provided with the stud 76, that bears against the spring-plate 73, which sustains the gear-pinion, so that when this swinging lever 75 is swung backward, as will be presently explained, the stud 76, engaging with the plate 73, will throw the pinion 70 out of engagement with the gear-wheels 51 and 61. Near the up-

per end of the swinging lever 75 is placed a stud, 77, with which will engage the releasing-hook 80 of the rocking plate 81, that is keyed to the shaft 82, one end of this shaft being journaled in the bracket 83, that depends from the front plate, B, of the sustaining-frame, while its opposite end is journaled in the back plate A' of the inclosing-casing. Upon the rear end of this shaft 82 is fixed the rocking lever 84, the upper end of which is provided with a slot, 85, (see Fig. 9,) through which projects the pin 86, that connects the rocking lever 84 with the lower end of the elbow-lever 87, that is pivotally sustained by the pin 88, projecting from the rear side of the inclosing-casing, as seen in Fig. 9, the purpose in thus connecting the levers 84 and 87 being to permit these levers to be swung into the position shown by the dotted lines in Fig. 9. The upper arm of the elbow-lever 87 is provided with the forked end 89, (see Figs. 9 and 13,) which, when the inclosing-casing has been set in position upon the sustaining plate or board 1, will engage with the projecting pin or stud 22 upon the end of the crank-arm 21 of the operating-rod 20, that leads to the back of the cab, as already described. (See Fig. 8.) From this construction it will be seen that when the operating-rod 20 is turned by the movement of the crank-handle 23 the elbow lever 87 will be swung to the position shown by the dotted lines, Fig. 9, thereby moving the rocking lever 84, which in turn will rock the shaft 82, Figs. 13, 16, and 18, and will cause the hooked end 80 of the plate 81 to engage with the stud 77 of the swinging lever 75 and force backward this lever until the pin 76 thereof moves backward the spring-plate 73 and the gear-pinion 70, and thereby disengages the said pinion 70 from the gear-wheels 51 and 61. (See Figs. 13 and 18.) This backward movement of the swinging lever 75, and consequent disengagement of the gear-wheels which unite the clock mechanism and the time-fare-registering mechanism, is to be effected when the passenger has paid his fare for the time engagement and the clock mechanism is to be stopped; and in order to stop the movement of the clock mechanism at this time I have provided the swinging lever 75 with the rod 90, that carries at its free end the curved plate 91, (see Figs. 10 and 13,) which extends over the balance-wheel 40 of the clock mechanism and will be brought to bear upon the periphery of such balance wheel 40 when the swinging lever is moved backward to throw the clock mechanism and the time-fare-registering mechanism out of engagement. As the passenger will be notified to pay only for the time during which the hour rate of fare is exposed to view, it is obvious that the slide-plate 93, (so termed because it is caused to slide,) upon the outer face of which this hour rate will be displayed, must be brought opposite the sight-opening *a'* in the front of the inclosing casing at the same time that the clock mechanism is thrown into operation and into engagement with the time-fare-registering

mechanism, and in order to effect the lifting of the plate 93 in front of the sight-opening a^{10} , I have provided the shaft 82, near its front end, with a rocking arm, 94, (see Figs. 10 and 24,) having the forked end 95, that engages with the pin 96, projecting inwardly from the bracket 97, Figs. 13, 21, and 24, that is affixed to the back of the slide or plate 93. Upon the inside of the inclosing casing, opposite the sight-opening a^{10} , is fixed the plate a^{12} , and between this plate and the front of the inclosing casing the slide or plate 93 is held in a manner free to move, the plate a^{12} , Fig. 21, being furnished with the slot a^{13} , through which passes the bracket 97. (See Fig. 24.) It will thus be seen that when the shaft 82 is turned in order to cause the hooked end 80 of the rocking plate 81 to release the swinging lever 75 and permit the gear-pinion 70 to connect the gear-wheels 51 and 61 the rocking arm 94 will be moved upward and will lift the slide or plate 93 until it is brought opposite the sight-opening a^{10} in the front of the casing A, and thus displays to the passenger's view the hour rate of fare; and it is also apparent that when the shaft 82 is operated to cause the disengagement of the clock-work and the time-fare-registering mechanism, and to stop the clock, the rocking arm 94 will be swung downward and the plate 93 will be moved away from in front of the sight-opening a^{10} .

As already stated, a movement of the time-fare-registering mechanism is to be made independent of the clock-work at the time that the passenger engages the cab, for the purpose of registering the first hour of engagement, and in order to effect this initial movement the swinging lever 75 is provided with a pivoted driving-pawl, 100, (see Figs. 18 and 19,) to the rear end of which is connected a coiled spring, 101, which serves to hold the free end of the pawl in engagement with the ratchet-wheel 102, the hub of which wheel is journaled within the plate 46 of the casing and the cross-plate 103, that is supported by the posts 104, that project from the plate 46. Upon the inner end of the hub 190 of the ratchet-wheel 102 is formed or suitably fixed the upper disk, 110 (see Fig. 13) of the time-fare-registering dial, (see Fig. 9,) the outer face of which is provided with a series of numbers progressively indicating the sums of charges for hour engagements (for example, \$.75, \$1.50, \$2.25, &c.,) which numbers may be seen through the sight-opening a^6 in the back of the inclosing casing. A spring-pawl, 112, fixed to the post 113 and having its free end in engagement with the ratchet-wheel 102, will serve to guard this ratchet-wheel against movement in backward direction.

From the foregoing description it will be seen that when the shaft 82 is turned for the purpose of causing the plate 93 to exhibit through the sight-opening a^{10} the hour rate of fare, and for the purpose of starting the clock mechanism, the releasing of the pin 77 (upon the lever 75) from the hooked end 80 of

the rocking plate 81 will permit the pawl 100 of the swinging lever 75 to impart a partial revolution to the ratchet-wheel 102 as the swinging lever is moved inward by the coiled spring 140, and this movement of the ratchet-wheel 102 will give a partial revolution to the upper disk, 110, of the time-fare-registering dial sufficient to make the initial register of the first hour of engagement.

In order to transmit motion from the lower disk, 62, of the time-fare-registering dial (which shows only fractions of a charge for hour engagements — as, for example, forty cents for a half-hour after the first hour, sixty cents for three-quarters of an hour after the first hour, &c.) to the upper disk, 110, of the time-fare-registering dial, I have provided the swinging lever 120, which is pivotally connected, as at 121, (see Figs. 18 and 19,) to the side plate 46, and is provided with a projecting stud or pin, 122, that rides upon the periphery of the cam-rib 63, formed upon the hub 60, which carries the lower disk, 62, of the time-fare-registering dial. Upon the upper end of this swinging lever 120 is pivotally held the pawl 123, the free end of which is held in engagement with the teeth of the ratchet-wheel 102 by means of the coiled spring 124, that is connected to the lever and to the rear end of the pawl, and the lever 120 is forced normally inward, so that the pin or stud 122 shall bear upon the periphery of the cam-rib 63 by the spring 125, that is fixed to the plate 46 and has its free end bearing against the swinging lever. From this construction it will be seen that as the gear-wheel 61 and the lower disk, 62, revolve the cam-rib 63 will force outward the pin 122 and the swinging lever 120 until the gear-wheel 61 and the disk 62 have made one complete revolution, at which time the pin 122 will pass over the shoulder 64 of the cam-rib 63, and the spring 125 will then throw the swinging lever 120 inward, thereby causing the pawl 123 to impart a partial revolution to the ratchet-wheel 102 and a corresponding movement of the upper disk, 110, of the time-fare-registering dial.

As already stated, a notice will be placed upon the front plate of the inclosing casing A informing the passenger that when engaging the cab by the hour he need pay only for the time during which the hour rate of fare exhibited on the face of the sliding plate 93 is exposed to view; and in order to better direct the attention of the passenger to the fact that the slide or plate 93 has been lifted to expose the hour rate of fare thereon through the sight-opening a^{10} , I have devised the following mechanism, whereby the operation of lifting the slide or plate 93 will also ring the bell. This bell-ringing mechanism consists of a pawl, 130, which is pivotally held upon the upper end of the rocking plate 81, (see Figs. 16 and 18,) the lower end of this pawl being connected to the coiled spring 131, which holds the pawl normally in contact with the stop-pin 132 on said plate, while the free upper end of the pawl pro-

jects beyond the end of the rocking plate 81 into such position that it will strike the lower portion of the spring-rod 1² of the bell-hammer. (See Figs. 13 and 21.) From this construction it will be seen that when the shaft 82 is turned for the purpose of lifting the slide or plate 93, as has been already described, the upper end of the pawl 130 will engage with the lower portion of the rod or shank 1² of the bell-hammer, and will force this rod downward until the end of the pawl slips away from the rod and permits the hammer to be thrown into contact with the bell, it being obvious, also, that as the shaft 82 is turned in the opposite direction to drop the slide 93 the upper end of the pawl 130 will slip freely past the lower portion of the shank or rod 1² and be in position to again engage therewith.

From the foregoing description the operation as an entirety of that part of my improved form of register adapted to register the total amount of fares received from passengers for time or hour engagements will be seen to be as follows: When the passenger has engaged the cab by the hour, the driver by turning the operating-rod 20 through the medium of the swinging crank-handle 23, in the manner already described, will cause the crank 21 of this rod to rock the shaft 82 by means of the elbow-lever 87 and the rocking lever 84, and this rocking of the shaft 82 will produce simultaneously the following results: The rocking arm 94 will be swung upward (see Figs. 18 and 24) and will lift the sliding plate 93 until the hour rate of fare upon the face of this plate shall be exposed to the passenger's view through the sight-opening a^0 in the front of the inclosing-casing. At the same time the movement of the rocking plate 81 will cause the pawl 130 upon the upper end of such plate to engage with the lower end of the shank or rod 1² of the bell-hammer, (see Figs. 13 and 16,) causing the bell to be sounded, as already described. At the same time, also, this rocking of the shaft 82 and consequent movement of the rocking plate 81 will release the hooked end 80 of this plate from engagement with the pin 77 of the swinging lever 75, and will permit this lever to be drawn inward by the coiled spring 140 until the upper end of the lever bears upon the stop 141, projecting from the side plate 46, (see Fig. 18,) and as the swinging lever is thus moved inward its pawl 100 will impart to the ratchet-wheel 102 and to the upper disk, 110, of the time-fare-registering dial a partial revolution sufficient to register the amount of fare to be paid for the first hour's engagement. The inward movement of the swinging lever 75 will also move inward the rod 90, that is carried thereby, and will hence release the curved plate 91 from its bearing upon the periphery of the balance-wheel 40 of the clock mechanism and allow this mechanism to begin operation, (see Figs. 10 and 13,) and at the same time the spring-plate 73 will force the gear-pinion 70 into engagement with the teeth of the gear-wheels 51 and 61, so that after the

expiration of the first hour (which, as already seen, has been registered at the outset) the movement of the clock mechanism will cause a corresponding movement of the lower disk, 62, of the time-fare-registering dial, and when this lower disk has made one complete revolution a partial movement of the upper disk, 110, of the time-fare-registering dial will be effected through the medium of the cam rib or plate 63, the swinging lever 120, the pawl 123, and the ratchet-wheel 102, in the manner already described.

By reference particularly to Figs. 18, 20, and 21 of the drawings it will be seen that when the gear-pinion 70 is first thrown into engagement with the gear-wheels 51 and 61 the pin 54 of the gear-wheel 51 is upon the rear side of the arm 55 of the driving-plate 56, having been thrown into this position by the tendency of the spring 53 to uncoil, one end of this spring being connected to the gear-wheel 51, while its opposite end is connected to the shaft 50, and it is obvious that the movement of this shaft by the clock mechanism will have no effect to move the gear-wheel 51 until the arm 55 of the driving-plate 56 has made one complete revolution, so that it will engage with and turn the pin 54 of the gear-wheel, as shown by dotted lines, Fig. 20. As the driving-plate 56, now in engagement with the pin 54 of the gear-wheel 51, continues to revolve, it will obviously impart corresponding movement to the gear-wheel 51 and through the medium of the gear-pinion 70 and the gear-wheel 61 to the time-fare-registering dial. When the passenger has paid his fare, the driver, by reversing the movement of the operating-rod 20, will cause the shaft 82 to rock, thereby forcing downward the sliding plate 93 below the sight-opening a^0 in the front of the inclosing-casing, and at the same time this movement of the shaft 82 will cause the hooked end 80 of the rocking plate 81 to engage with the stud 77 upon the swinging lever 75 and force this lever backward until the curved plate 91 bears upon and checks the movement of the balance-wheel 40 of the clock mechanism, and until the pin 76 forces the gear-pinion 70 out of engagement with the gear-wheels 51 and 61. It is obvious that when the gear-pinion 70 is thus released from engagement with the gear-wheel 51 the coiled spring 53, by reason of its tendency to uncoil, will turn backward the gear-wheel 51 until the pin 54 of this wheel strikes upon the rear side of the arm 55 of the driving-plate 56, so that when the clock mechanism is again started to begin the registering of a new fare the driving-plate 56 must make a complete revolution before its arm 55 can begin to operate the gear-wheel 51, and through the medium of this gear-wheel the time-fare-registering dial.

From the foregoing description it will be seen that the amount due for the full hours of the time during which the passenger has employed the cab will be accurately registered upon the upper disk, 110, of the time-fare-

registering dial, while the amount to be charged for any fraction of an hour will be registered by the lower disk, 62, of the dial. Thus, for example, if a passenger has used the cab for three hours and a half and the charge be seventy-five cents per hour and forty cents per half hour, the upper disk, 110, will have received three movements—viz., the initial movement from the swinging lever 75 and pawl 100 to register the first hour, and two movements from the swinging lever 120 and pawl 123 incident to the two complete revolutions made by the cam-rib 63 and the lower disk, 62. The upper disk, 110, will therefore show (if at starting it was at the zero-point) \$2.25, being the charge for three full hours, while the lower disk will show through its appropriate sight-opening forty cents, being the charge for one-half an hour.

It will be readily understood that in the use of my improved register the owner of the cab or his agent will at the beginning of the day make a note of the positions of the various dials as shown by the several sight-openings in the back side of the inclosing-casing, and by comparing the numbers indicated at the end of the day with those indicated at the outset can readily ascertain the amount of money that has been received by the driver of the cab.

It will be readily understood that various modifications may be made in the constructions without departing from the spirit of my invention. I do not wish the invention, therefore, to be understood as limited to the precise details of construction set forth.

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

1. In a fare-register, the combination, with the indicator-dial freely movable in either direction and a total-registering dial in one-way gear with said indicator-dial, of a shaft for turning said dials and an operating-rod geared with said shaft and extending through the cab-body in proximity to the driver's seat, substantially as described.

2. In a fare-register, the combination, with an indicator dial and freely moving therewith in either direction, provided with an operating-shaft, of a total-registering dial mounted upon said shaft and in one-way gear with the indicator-dial, an inclosing-casing provided with sight-openings opposite said dials, an operating-rod detachably geared with the outer end of said shaft, a crank-handle for said operating-rod, and a ratchet-plate for determining the position of said crank-handle, substantially as described.

3. In a fare-register, the combination, with the registering mechanism, of an inclosing-casing for said mechanism, a sustaining-frame for said inclosing-casing, suitable fastenings for detachably connecting said casing and frame, and an operating rod fixed to the cab-body and leading from said sustaining-frame in proximity to the driver's seat and in detachable gear with the registering mechanism, whereby

said registering mechanism can be readily withdrawn from the cab for purposes of inspection, substantially as described.

4. In a fare register, the combination, with the distance-registering mechanism, comprising an indicator-dial freely movable in either direction and a total-registering dial in one-way gear therewith, of an inclosing-casing for said mechanism having sight-openings therein, an operating-shaft for said dials extending through said inclosing-casing and provided at its end with a gear-wheel, and an operating-rod fixed to the cab-body and provided at one end with a gear-wheel to engage with the gear-wheel upon the shaft of the registering mechanism while said mechanism is in use, and having its opposite end extending in proximity to the driver's seat and provided with a crank-handle, substantially as described.

5. In a fare-register, the combination, with an indicator-dial freely movable in either direction and consisting of a movable annular plate and a central disk within said plate, of a total-registering mechanism in one-way gear with said indicator-dial, an operating-shaft whereon both of said dials are sustained, and an inclosing-casing having sight-openings therein opposite said dials, substantially as described.

6. In a fare-register, the combination, with a main drive-shaft, and with a gear wheel for operating said shaft, of indicator and registering dials respectively arranged at opposite ends of said shaft, the indicator dial being fixed to and moving with the shaft in either direction and the registering-dial being loosely journaled on said shaft, and an intermediate pawl-and-ratchet mechanism for locking the registering-dial in one-way gear with said shaft, substantially as described.

7. In a fare-register, the combination, with a main drive-shaft, and with a gear-wheel for revolving said shaft in either direction, of an indicator-dial consisting of an annular dial-plate connected with the main shaft and a dial-disk set within said annular plate and sustained freely upon the shaft, and a pawl-and-ratchet mechanism intermediate said plate and disk to actuate the latter by movement of this annular plate in either direction, substantially as set forth.

8. In a fare-register, the combination, with a main drive-shaft revolving freely in either direction, and with an indicator-dial consisting of an annular dial-plate fixed to said shaft and a dial-disk set freely thereon and within a cup-shaped chamber of said plate, of a pawl-and-ratchet mechanism intermediate said plate and disk to actuate the latter by movement of the annular plate in either direction, a fixed trip projecting into the path of said pawl, and a stationary star-wheel set upon said main shaft independently of the movement thereof, and a locking pawl secured to the dial-disk to engage with said star-wheel, substantially as described.

9. In a fare-register, the combination, with

a main drive-shaft, and with an indicator-dial mounted upon and revolving with said shaft in either direction, of a gear-wheel set upon said shaft to actuate the same and having
5 grooved hub and detent thereon, and a locking-wheel received circumferentially within said groove and notched in part about its periphery to engage said detent, whereby the indicator-dial may be reset at the zero-point,
10 substantially as described.

10. In a fare register, the combination, with the registering mechanism, the inclosing casing therefor, and the sustaining-frame for said casing, of a shifting flap extending from said
15 frame and a locking-pawl in the path thereof, secured to said casing and dogging with the main drive-shaft of the registering mechanism, substantially as set forth.

11. In a fare register, the combination, with
20 a clock mechanism, of a time-fare-registering mechanism in gear therewith and suitable actuating mechanism under the control of the driver, whereby the dial of said registering mechanism can be operated in forward direc-
25 tion independently of the clock mechanism, substantially as described.

12. In a fare register, the combination, with a clock mechanism, of a time-fare registering mechanism in gear therewith and a pawl-and-
30 ratchet wheel for imparting forward movement to the dial of said time-fare registering mechanism independently of the clock mechanism, substantially as described.

13. In a fare register, the combination, with
35 a clock mechanism, of a time fare registering mechanism, a stop for checking the movement of the clock mechanism, and a suitable actuating mechanism for imparting forward movement to the dial of said register mechanism in-
40 dependently of the clock mechanism, substantially as described.

14. In a fare-register, the combination, with a clock mechanism, of a time fare registering mechanism, a movable gear for throwing the
45 said mechanisms into and out of connection, a stop for arresting the clock mechanism, and a pawl-and ratchet wheel for imparting movement to the registering mechanism independ-
50 dently of the clock mechanism, substantially as described.

15. In a fare-register, the combination, with a clock mechanism, of a time fare-registering mechanism operated thereby and a movable
55 pinion for throwing said clock mechanism into engagement with the registering mechanism, substantially as described.

16. In a fare-register, the combination, with a clock mechanism and a time-fare-registering mechanism, of a movable gear-pinion for throw-
60 ing said mechanism into and out of engagement and a lever for operating said gear-pinion, substantially as described.

17. In a fare register, the combination, with a clock mechanism and a time-fare-registering
65 mechanism, of two gear-wheels for connecting the clock mechanism and the time-fare-registering mechanism and a movable gear-pinion

for throwing said gear-wheels into engagement, substantially as described.

18. In a fare-register, the combination, with
70 a clock mechanism and a time-fare-registering mechanism, of intermediate gear mechanism comprising gear-wheels connected with said registering mechanism and with the clock mechanism, one of said gear-wheels being
75 loosely mounted on a shaft of the clock mechanism, a driving-plate on said shaft adapted to engage with said gear-wheel, a movable gear-pinion for throwing said gear-wheels into en-
80 gagement, and suitable means for imparting an independent movement to said loosely-mount-
ed gear-wheel, substantially as described.

19. In a fare register, the combination, with the time-fare-registering mechanism and the clock mechanism, of a gear-wheel loosely
85 mounted on a shaft of said clock mechanism, a driving-plate for revolving said gear-wheel, a spring for imparting an independent revolution to said gear-wheel, and a movable pin-
90 ion for connecting said gear-wheel with said registering mechanism, substantially as de-
scribed.

20. In a fare register, the combination, with the clock mechanism and the time-fare regis-
95 tering mechanism, of gear-wheels for connecting said mechanisms, a movable pinion for throwing said gear-wheels into engagement, a lever for controlling the movement of said pin-
ion, and a stop-plate connected with said lever for arresting the movement of the clock, sub-
100 stantially as described.

21. In a fare-register, the combination, with the clock mechanism and the time-fare-regis-
105 tering mechanism, of gear-wheels for connecting said mechanisms, a movable pinion for throwing said gear-wheels into engagement, a lever for operating said pinion, a ratchet-wheel connected with the dial of the register-
ing mechanism, and a pawl connected with the lever and engaging with the teeth of said
110 ratchet-wheel, substantially as described.

22. In a fare register, the combination, with the clock mechanism and the time-fare-regis-
115 tering mechanism, of gear-wheels connected with said mechanisms, a movable pinion for throwing said gear-wheels into engagement, a lever for operating the movable pinion, a stop-
plate connected with said lever for arresting the movement of the clock mechanism, the
120 ratchet-wheel connected with the dial of the registering mechanism, a pawl connected with said lever and engaging with said ratchet-wheel, and a pawl for arresting the backward movement of said ratchet-wheel, substantially
as described.

23. In a fare-register, the combination, with the clock mechanism and the time-fare-regis-
125 tering mechanism, of gear-wheels connected with said mechanisms, a movable pinion for throwing said gear-wheels into engagement, a
130 lever for operating said movable pinion, a rocking plate for controlling the movement of said lever, and a shaft for operating said rock-
ing plate, substantially as described.

24. In a fare-register, the combination, with the clock mechanism and the time-fare-registering mechanism, and suitable devices for throwing said mechanisms into engagement, 5 of a dial for said registering mechanism comprising two disks, a ratchet-wheel for operating one of said disks independently of the other, and suitable mechanism for operating said ratchet-wheel, substantially as described.

10 25. In a fare-register, the combination, with the clock mechanism, of a time-fare-registering mechanism having a dial comprising two disks, one of said disks having a cam-plate con-

nected therewith, and the other of said disks having a ratchet-wheel connected therewith, 15 and a lever for transmitting movement from one of said disks to the other, said lever being provided with a stud for engagement with the cam-plate, and with a pawl for engagement with the ratchet-wheel, substantially as de- 20 scribed.

WILLIAM PIGOTT.

Witnesses:

GEO. P. FISHER, Jr.,
I. B. CARPENTER.