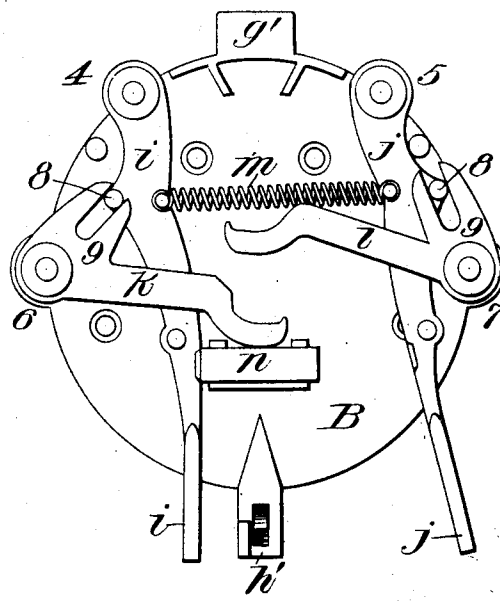
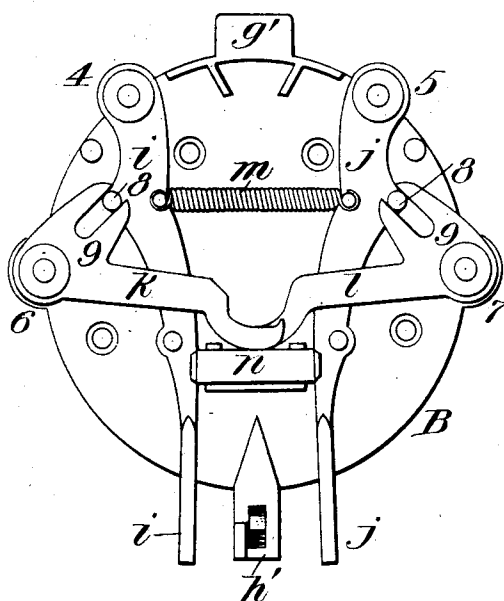
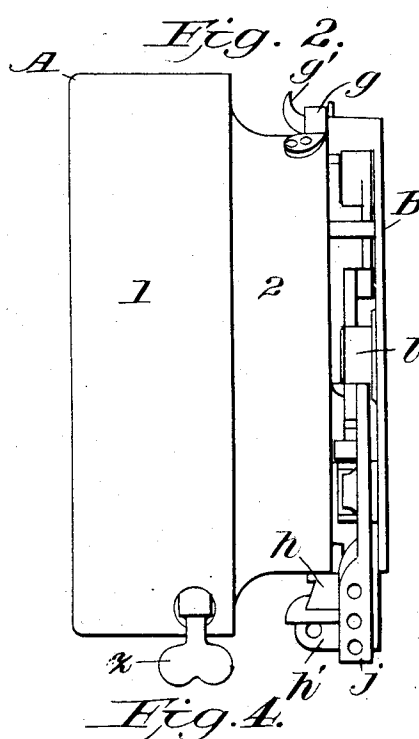
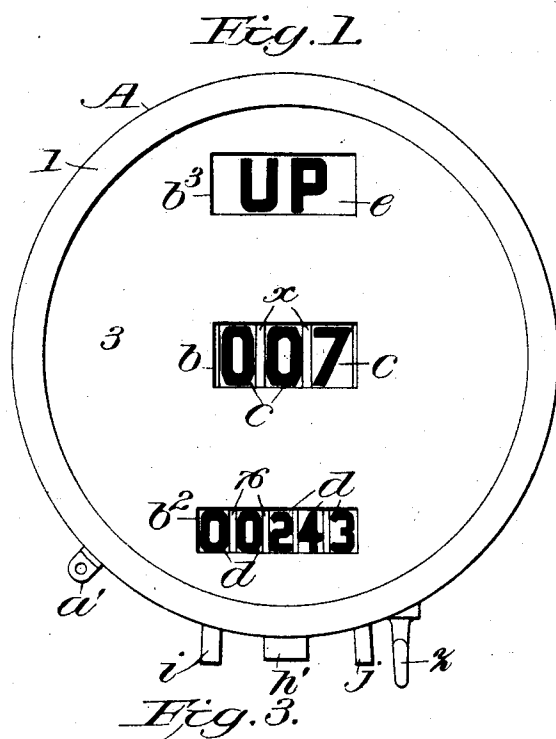


C. E. GIERDING.  
FARE REGISTER.

APPLICATION FILED MAR. 14, 1905.

4 SHEETS—SHEET 1.



WITNESSES:

*C. M. Walker.*  
*E. H. Loftus*

INVENTOR

*Charles E. Gierding*  
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Attorney.

No. 833,040.

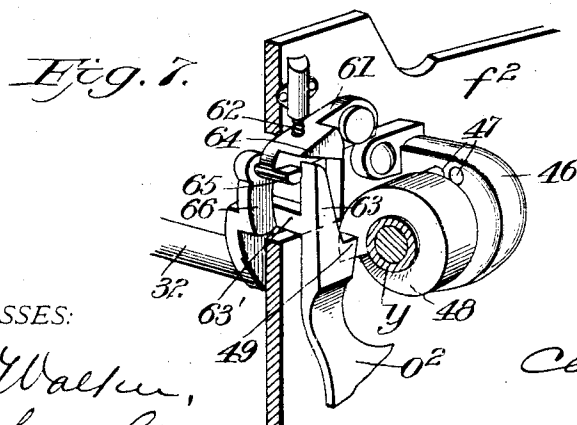
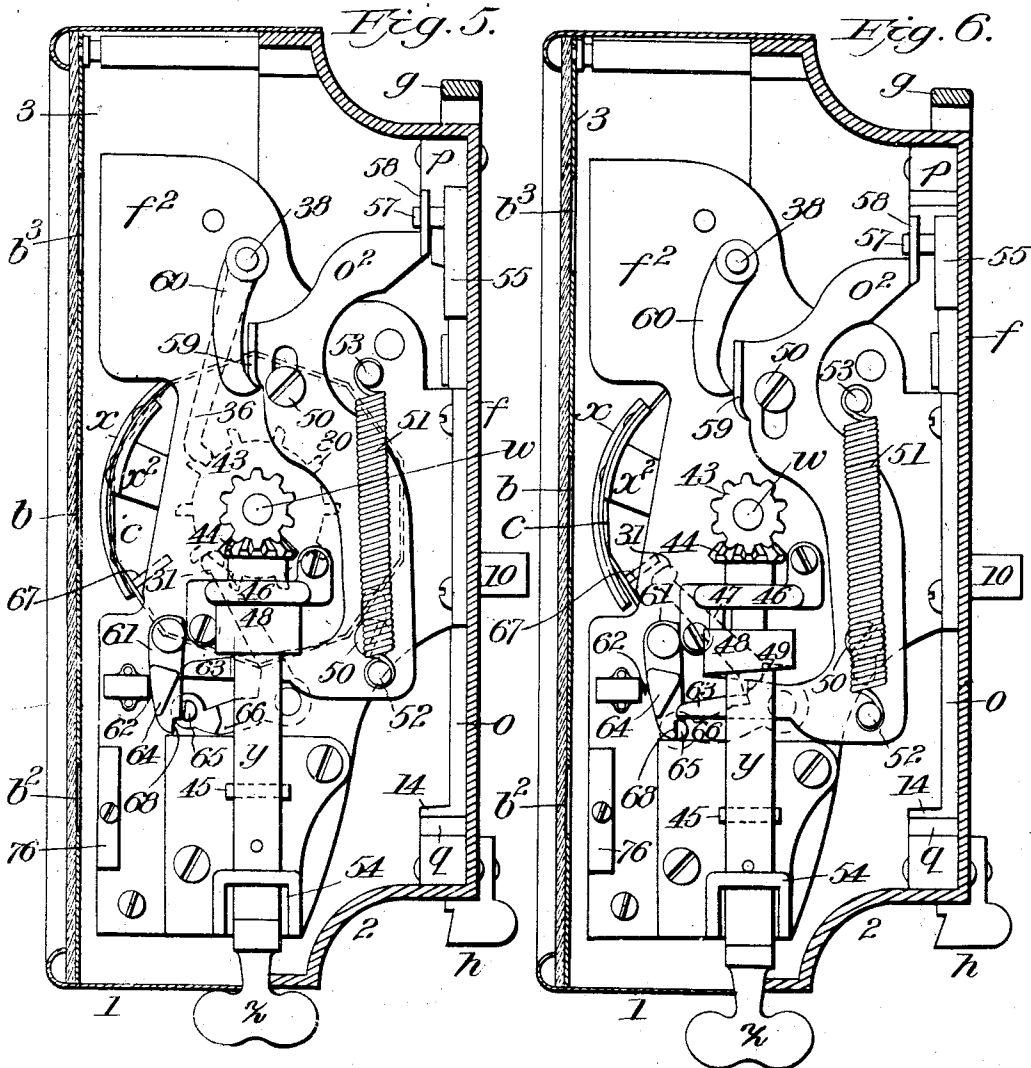
PATENTED OCT. 9, 1906.

C. E. GIERDING.

FARE REGISTER.

APPLICATION FILED MAR. 14, 1905.

4 SHEETS—SHEET 2.



WITNESSES:

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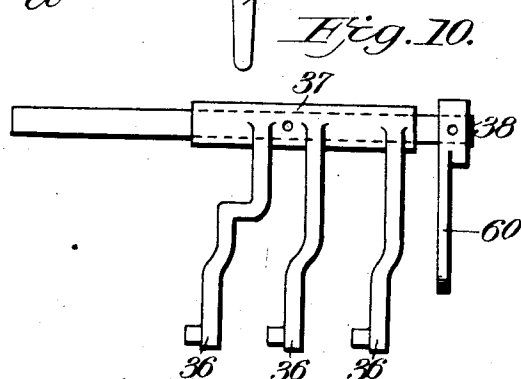
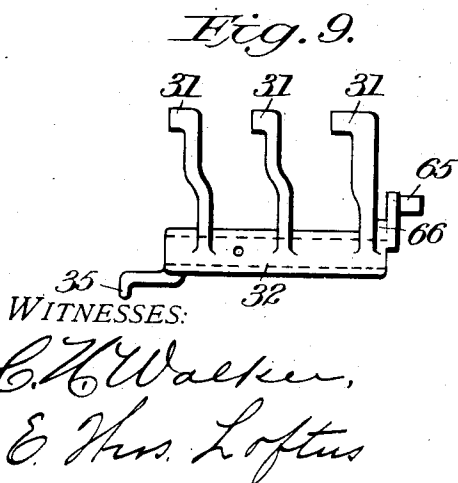
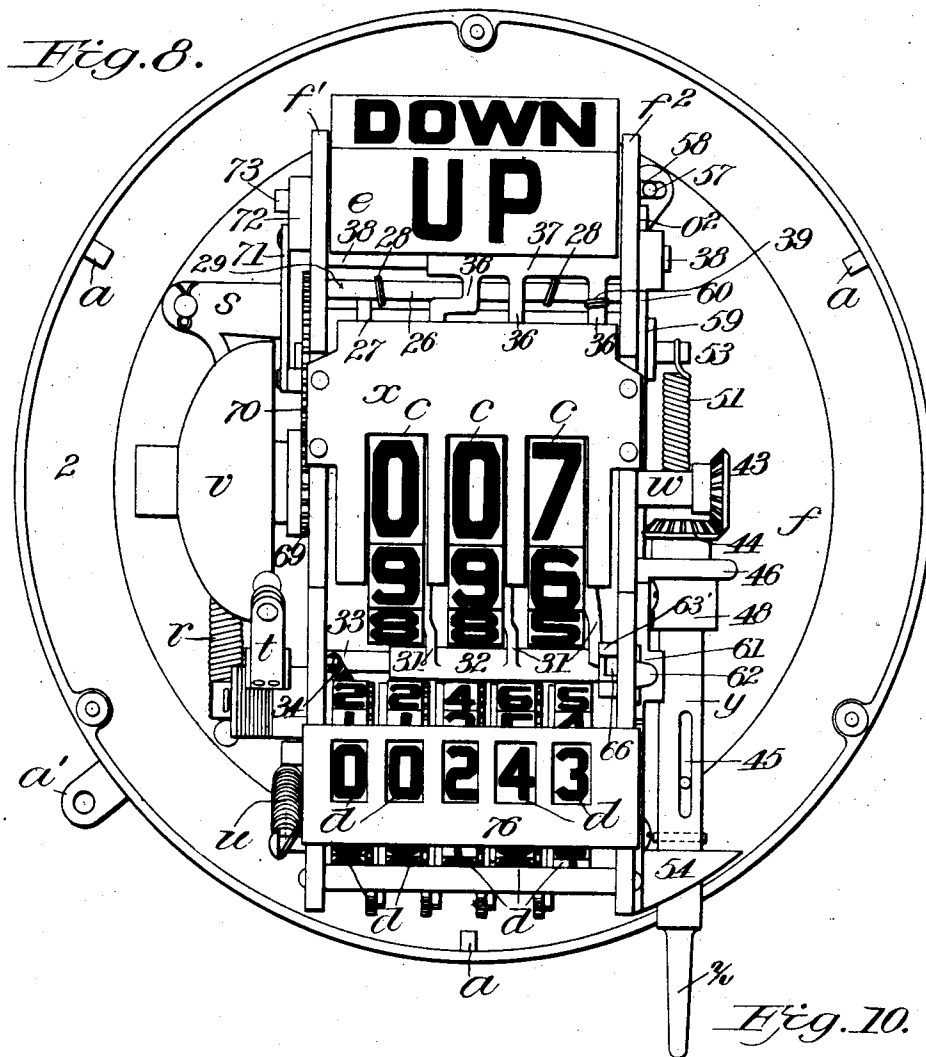
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Attorney.

C. E. GIERDING.

FARE REGISTER.

APPLICATION FILED MAR. 14, 1905.

4 SHEETS—SHEET 3.

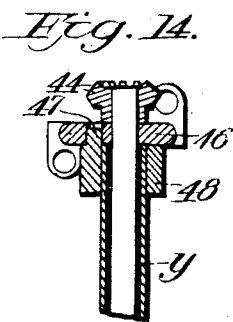
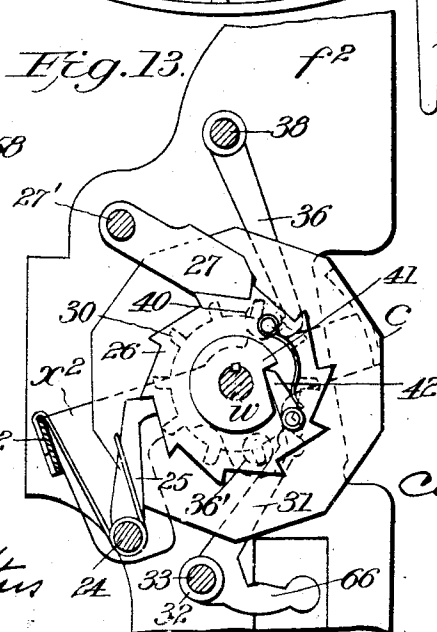
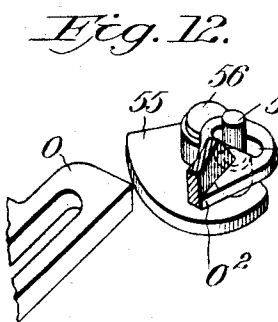
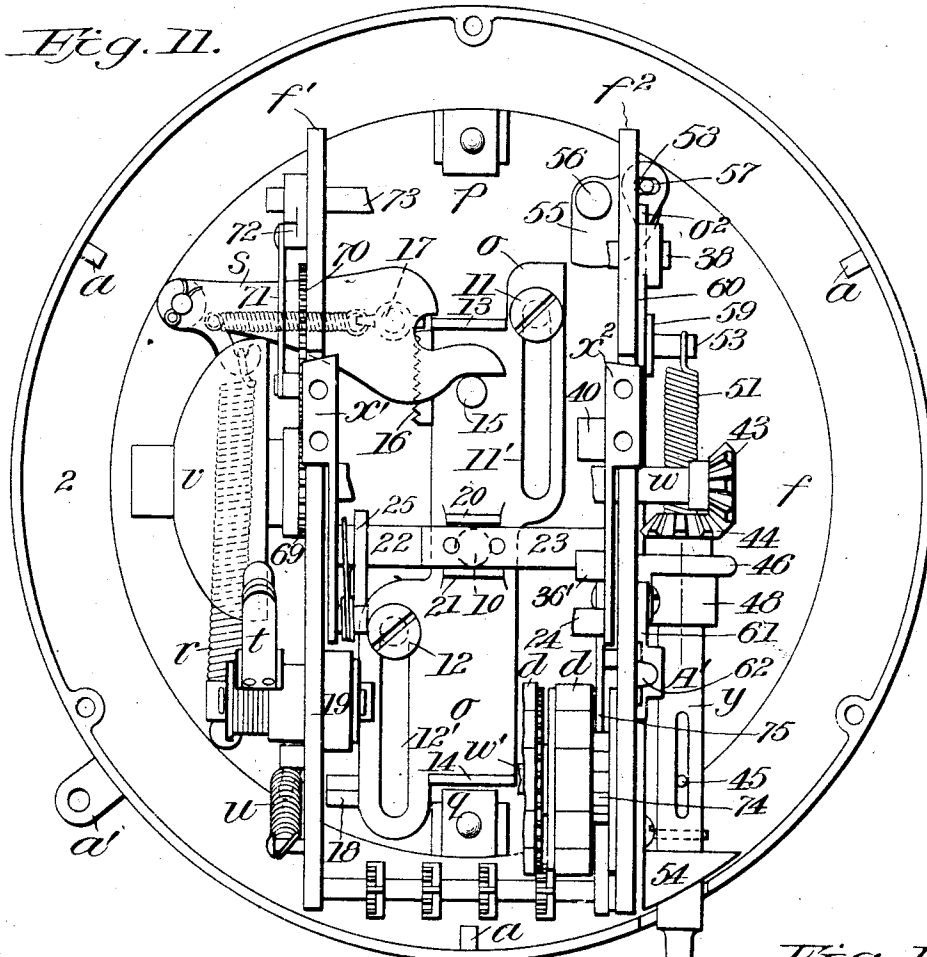


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FARE REGISTER.

APPLICATION FILED MAR. 14, 1905.

4 SHEETS—SHEET 4.



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# UNITED STATES PATENT OFFICE.

CHARLES E. GIERDING, OF NEWARK, NEW JERSEY, ASSIGNOR TO STERLING-  
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NEW JERSEY.

## FARE-REGISTER.

No. 833,040.

Specification of Letters Patent.

Patented Oct. 9, 1906.

Application filed March 14, 1905. Serial No. 249,992.

*To all whom it may concern:*

Be it known that I, CHARLES E. GIERDING, a citizen of the United States of America, and a resident of Newark, in the State of New Jersey, have invented a new and useful Improvement in Fare-Registers, of which the following is a specification.

This invention relates to those fare-registers in which the trip-register, or each trip-register, if there be two, is formed by rotary cylinders or wheels with numbered peripheries, hereinafter termed "numeral-wheels;" and the invention consists in certain novel combinations of parts, hereinafter set forth and claimed with reference to the resetting mechanism of such fare-registers, and to parts thereof interacting with the resetting mechanism.

The objects of the present invention are to simplify the construction of the resetting mechanism and to adapt the same to occupy more easily accessible space of limited extent adjacent to the respective numeral-wheels and to one of the frame-pieces of the register mechanism, to provide for disengaging certain escapement-hooks preliminary to the resetting operation by a simple device, and for locking up what are known as the "zero-stop hooks" in a more effective manner than heretofore, and to adapt the resetting mechanism to lock the main actuating-slide of the register by a slide-lock of novel and effective construction.

Four sheets of drawings accompany this specification as part thereof.

Figures 1 and 2 are respectively face and side views of the fare-register for which the specific resetting mechanism hereinafter described was especially designed. Figs. 3 and 4 are face views of the operating-back of said register, showing the parts respectively at rest and in operation. Figs. 5 and 6 represent one and the same vertical section through the register-casing, showing the principal parts of the resetting mechanism in elevation and showing the same respectively at rest and in operation. Fig. 7 is a fragmentary perspective view of parts of the resetting mechanism in the position in which they are shown in Fig. 6. Fig. 8 is a face view of the register with the front part of the casing removed, together with the dial-plate, and with the resetting-key replaced. Figs. 9 and 10 are detail views of the parts forming the zero-stop hooks and the escapement-hooks respectively. Fig. 11

is a face view of the register with the front of the casing, the dial-plate, and other parts removed and broken away so as to expose to view the main actuating-slide and the slide-locking device with the parts at rest. Fig. 12 is a perspective view of the slide-locking device, showing the same in effective position. Fig. 13 represents a cross-section through the shaft of the trip-register, showing the transmitting device of the resetting mechanism; and Fig. 14 is a fragmentary section on the line A', Fig. 11.

Like reference letters and numbers refer to like parts in all the figures.

The register proper and its operating-back are shown, respectively, at A and B in Figs. 1 to 4, inclusive. The external characteristics of the specific register A include a round casing formed by parts 1 and 2, made, respectively, of sheet metal and of cast-iron, connected with each other by bayonet-joints (represented by their pins at *a* in Fig. 8 and Fig. 11) and adapted to be secured against unauthorized separation by a pair of locking or sealing lugs, (represented at *a'* in Fig. 1, Fig. 8, and Fig. 11,) through which the shackle of a small padlock or a seal may be passed. At the front of the casing a circular dial-plate 3 is exposed to view, as in Fig. 1, through a sheet of glass. This dial-plate has three index openings, of which the middle opening *d* exposes to view the numerals on the trip-register wheels *c*, the lower opening *b*<sup>2</sup> exposes to view the numerals on the respective totalizer-wheels *d*, and the upper opening *b*<sup>3</sup> exposes to view the respective signs of the direction-indicator *e*, the indications of which appear alternately or successively behind said opening. These indications, as in other fare-registers, may be "up" and "down," as shown, or any other like signs indicating successive trips at the end of which the trip-register is to be reset.

The back of the register-casing (shown at *f* in Figs. 5, 6, 8, and 11) is formed in this specific register integral with the rear half 2 of the casing, and a hanging staple *g* at top and a hanging catch-lug *h* at bottom to interlock with a horn *g'* at top and a latch-lug *h'* at bottom on the operating-back B are riveted to the casing part 2. The other characteristics of the specific operating-back B are a flat body-casting with which said top horn *g'* and said latch-lug *h'* are integral, two pairs of pivot-lugs 4 and 5 and 6 and 7 on the edges of said body-casting, a pair of levers *i* and *j*,

fulcrumed at 4 and 5, respectively, and projecting downwardly at their respective sides of said latch-lug  $h'$ , a pair of inwardly-projecting levers  $k$  and  $l$ , fulcrumed at 6 and 7, respectively, and connected with said downwardly-projecting levers by stud-pins 8 and forks 9 on the respective levers, a tensile spring  $m$ , common to all, connecting said downwardly-projecting levers  $i$  and  $j$  near their fulcrums, and a buffer  $n$ , attached to the front of the body-casting and arranged to cushion said levers  $i$  and  $j$  and also the inner ends of said inwardly-projecting levers  $k$  and  $l$ . These inner ends overlap, as indicated in Figs. 3 and 4, and engage in common the customary stud-pin 10 on the back of the main slide  $o$  of the register mechanism. This stud-pin is shown in Figs. 5 and 6 and in dotted lines in Fig. 11 and in the specific register is integral with the slide and of larger size than has heretofore been employed, so as to possess the requisite strength in a superior degree, while said overlapping inner ends of the inwardly-projecting levers  $k$  and  $l$  render it unnecessary to carefully locate said stud-pin in hanging the register. Said main slide  $o$  is guided within the register-casing by a pair of screws 11 and 12, Fig. 11, attaching it to the back  $f$  of the casing and embraced by longitudinal slots 11' and 12' in the slide. The respective ends 13 and 14 of the slide are flanged to thicken them, and a pair of buffers  $p$  and  $q$  are attached to the back of the casing in proper position to cushion the slide at the respective ends of its stroke. The slide is normally held in contact with the lower buffer  $q$  by a retracting spring  $r$ , Figs. 8 and 11, acting through a vertically-swinging lever  $s$ , the free end of which contacts with a stud-pin 15 on the slide. Complete strokes are insured in a customary manner by a ratchet-rack 16, Fig. 11, formed on one edge of the slide, and a spring-controlled pawl 17, pivoted to the back  $f$  of the register-casing and interlocking with said ratchet-rack throughout the registering strokes of the slide. Said ratchet-rack 16 is conveniently arranged at the upper end of the slide. Near its lower end the slide carries a projection 18, Fig. 11, suitably arranged and beveled to contact with the trip-lever 19 of a bell-hammer  $t$ , actuated by a spring  $u$  and arranged to strike a gong-bell  $v$ . This bell is conveniently supported on the left-hand end of a horizontal shaft  $w$ , having its bearings in a pair of frame-pieces  $f'$  and  $f''$ , which, together with said back  $f$  of the register-casing, to which said frame-pieces are rigidly attached, support the whole of the register mechanism. Said horizontal shaft  $w$  is common to all the trip-register numeral-wheels  $c$  and is normally stationary, said wheels rotating thereon in the registering operation. For transmitting motion from the main slide  $o$  to said numeral-wheels  $c$  the slide  $o$  is constructed with a pair of lugs 20

and 21, Fig. 11, on its face, and a pair of lever-pieces  $x'$  and  $x''$ , pivoted on said horizontal shaft  $w$ , are constructed with projections 22 and 23, overlapping each other between said lugs 20 and 21 and preferably riveted together, so as to be inseparable. Said lever-pieces  $x'$  and  $x''$  carry between them a rock-shaft 24, parallel to said horizontal shaft  $w$ , provided with actuating-pawls 25 for the several numeral-wheels  $c$ , and ratchet-wheels 26, Fig. 13, engaged by these pawls, are attached sidewise to the several numeral-wheels. The upper ends of the customary spring-pressed detent-pawls 27 for said ratchet-wheels are shown in Fig. 8, and their springs (indicated at 28) are stretched from a rod 29, Fig. 8, parallel with the pivot-rod 27', Fig. 13, common to said pawls 27. Said frame-pieces  $x'$  and  $x''$  also carry between them, immediately behind the dial-plate 3, an actuation-indicator  $x$ , contrasting in color with the face of said dial-plate, which when the register is at rest frames the individual numerals at the front of the numeral-wheels  $c$ , as in Figs. 1 and 8, and when the register is actuated to register a fare moves between said numeral-wheels and the dial-opening  $b$ , so as to show that the fare is being registered and to indicate the fact if the registering operation is not fully completed.

Toothed wheels 30 (represented in dotted lines in Fig. 5) are attached to the several numeral-wheels  $c$  for the purpose of controlling their movements and interact with the "stop-hooks" 31. (Shown detached by Fig. 9.) These hooks are carried in common by a hollow rock-shaft 32 and are mounted on a horizontal pivot-rod 33 and held in normal position by a spring 34, stretched from a crank-arm 35, Fig. 9, on the left-hand end of said rock-shaft 32 to a stud-pin on the adjacent frame-piece  $f'$ . The right-hand one of said stop-hooks 31 is normally engaged by a stud 36', Fig. 11, on the right-hand lever-piece  $x''$ , and when the lever-pieces  $x'$  and  $x''$  are moved in the registering operation, the hooks 31, being freed from this restraint, are lowered by their spring 34, so as to drop into the paths of the approaching teeth of said toothed wheels 30, which contact therewith at the end of the registering movement. Other features of these stop-hooks 31 peculiar to the resetting mechanism are hereinafter more particularly described. Said toothed wheels 30 are also engaged at the end of each registering movement by what are termed "escapement-hooks" 36, (shown detached by Fig. 10,) united by a sleeve 37, common to all. The horizontal pivot-rod 38 within said sleeve 37 is pinned fast thereto, so as to provide for retracting the hooks 36 by means of said pivot-rod 38. The extremities of these hooks 36 are normally in contact with the several toothed wheels 30 and serve to prevent the recoil of the numeral-wheels  $c$  at the

end of each registering movement. The hooks are held in their effective position for this function by a spring (indicated at 39 in Fig. 8) stretched from the right-hand hook 36 to a relatively fixed part behind the same and are elevated to free the toothed wheels 30 at the beginning of each registering movement by a stud 40, Fig. 11, on the right-hand lever-piece  $x^2$  coming in contact with said right-hand hook 36 at the proper movement.

To provide for resetting the trip-register numeral-wheels  $c$  or such of them as may be moved from zero during a given trip, a reversed cam 41, Fig. 13, is splined to said horizontal shaft  $w$  at the left-hand side of each numeral-wheel, and a spring-pressed pawl 42 is pivoted to the contiguous ratchet-wheel 26 and is so arranged with reference to the numbers on the periphery of the numeral-wheel that its extremity coincides with the shoulder of said cam when the wheel is at zero.

A pair of beveled gears 43 and 44 connect the protruding right-hand end of said horizontal shaft  $w$  with the upper end of a telescopic vertical shaft  $y$ , the lower sleeve member of which is movable lengthwise independently of the upper member, a pin-and-slot connection 45 between the two members preventing independent rotation. The upper bearing 46 of said vertical shaft  $y$  is provided with one member of the customary pin-and-hole locking device 47, Figs. 6 and 14, whereby the resetting-shafts are normally locked against rotation. The other member of this locking device 47 is conveniently carried by a crown-cam 48 at the upper end of said lower member of the vertical shaft  $y$ . The inclined surface of the cam 48 engages a shouldered surface 49 on a secondary slide  $o^2$ , that is attached to the right-hand frame-piece  $f^2$  by guide-screws 50 and is normally retracted by a spring 51, stretched from a stud 52 thereon to a stud 53 on said right-hand frame-piece  $f^2$ .

A pulling and turning key  $z$ , protruding at the lower edge of the register-casing, as in Figs. 1 and 2, and screwed into the lower end of said sleeve member of the vertical shaft  $y$  beneath its lower bearing 54, provides for pulling this sleeve member and therewith said secondary slide  $o^2$ . One effect when the resetting-key  $z$  is pulled is to move into effective position an eccentric 55 to lock the main slide  $o$ . This lock 55 turns on a pivot 56, attached to the back  $f$  of the register-casing, and is provided with a crank-pin 57, that is embraced by a loop 58, carried by the upper end of said secondary slide  $o^2$ , so that when said secondary slide  $o^2$  is pulled for the resetting operation the main slide  $o$  is locked in the manner illustrated by Fig. 12. A simultaneous effect of pulling said secondary slide  $o^2$  is produced by a cam 59, carried by the upper end of the latter at its front edge,

and a hook-shaped lever-arm 60, engaged by said cam 59 when the secondary slide  $o^2$  is pulled, said lever-arm 60 being pinned fast to the protruding right-hand end of said pivot-rod 38 of the escapement-hooks 36, which are thus disengaged from the toothed wheels 30 at the beginning of each resetting operation and held out of contact therewith until its conclusion. Another effect of pulling said secondary slide  $o^2$  simultaneous with the locking of the main slide  $o$  and the retraction of the escapement-hooks 36 is the release of a little spring-pressed locking-lever 61, that is pivoted to the near frame-piece  $f^2$  and is normally held against the pressure of its incased spring 62 in the position in which it is shown in Fig. 5. It is so held by a projection 63 on the secondary slide  $o^2$  in contact with the apex of a cam projection 64 on the locking-lever, as shown in said figure, and when released the lever 61 presses against a laterally-projecting stud-pin 65 on a lever-arm 66, integral with said rock-shaft 32 of the stop-hooks 31. A laterally-projecting stud 63' on said projection 63 contacts with said arm 66. As the resetting-key  $z$  is turned in the direction of least resistance the inclined face of said cam 48 presses against said shouldered surface 49 of the secondary slide  $o^2$  and forcibly lowers this slide to a limited additional extent. In this forcible downward movement of the slide  $o^2$  the main-slide lock 55 is turned somewhat farther above the main slide  $o$  and the extremity of the lever-arm 60 rides on a straight continuation of the upper cam 59 of the secondary slide  $o^2$  without materially affecting the functions of these parts. The pressure of the cam 48 against said shouldered surface 49 of the secondary slide is more directly transmitted by the contact of said projection 63 on the slide with said stud-pin 65 on the lever-arm 66, connected with the stop-hooks 31, and the latter are gradually cammed into the position in which one of them is shown in dotted lines in Figs. 6, 7, with their extremities in the path of zero-stops 67, attached to the several trip-register units-wheels  $c$ . When the extremities of said stop-hooks 31 reach the most effective position, a shoulder 68 of said locking-lever 61 interlocks with said stud-pin 65 and fastens the stop-hooks 31 for the instant in said effective position. A moment later the zero-stops 67 come into contact therewith, the stud-pin of the resetting-shaft lock 47 comes opposite the hole of said lock, and the secondary slide  $o^2$  and therewith the lower member of the resetting-shaft  $y$  are restored to normal position by their retracting-spring 51. The escapement-hooks 36 and the stop-hooks 31 are simultaneously restored to their normal positions, as above described, by their respective springs 39 and 34.

Motion is transmitted to the direction-in-

indicator *e* by a pinion 69, Figs. 8 and 11, splined to the horizontal shaft *w*, a spur-wheel 70 in mesh therewith carrying a crank-pin, a pitman 71, coupled to this crank-pin, and a crank-arm 72, fast on the rock-shaft 73 of the direction-indicator in a customary manner. The totalizer represented at *d* in Fig. 1 and more fully shown in Figs. 8 and 11 is of a known construction, comprising numeral-wheels *d* on a shaft *w'*, parallel with said horizontal shaft *w* and preferably below the same, and said shaft *w'* of the totalizer, carrying therewith its units-wheel, is actuated by an ordinary pawl-and-ratchet device, (indicated at 74 in Fig. 11,) the pawl-carrier of which is connected with the superjacent lever-piece *x*<sup>2</sup> of the trip-register by a pitman 75, Fig. 11. An apertured plate 76, attached to the front edges of the frame-pieces *f'* and *f*<sup>2</sup>, frames each of the numerals in the reading-line of the totalizer in a customary manner.

For the purposes of the present invention said operating-back B, the secondary actuating mechanism, including said main slide *o*, the bell mechanism, actuation-indicator, direction-indicator, and totalizer may be of any known or improved construction, except that the present invention has been made in part with special reference to the adaptation of the improved resetting mechanism to the other parts of the specific fare-register above described and shown in the accompanying drawings. The principal combinations of parts hereinafter claimed are also embodied in the resetting mechanism and connected parts of the double register shown in the drawings forming part of my application for patent, filed November 25, 1904, Serial No. 234,231. As there illustrated, the horizontal shaft (herein lettered *w*) may be common to two or more sets of trip-register numeral-wheels, and the shape and arrangement of the parts admit of considerable variation in adapting the improvement to different registers. Other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention and desire to patent under this specification—

1. A fare-register having, in combination, a numeral-wheel trip-register, means for actuating the same in the registering operation including a main slide, a register-casing within which said main slide is guided, a frame-piece within said casing perpendicular to its back, a vertically-movable secondary slide guided on said frame-piece, means for periodically resetting said trip-register including a pulling and turning key and a vertical shaft member which is coupled to said key and is adapted to pull said secondary slide, and means for controlling the resetting operation actuated by said secondary slide.

2. A fare-register having, in combination,

a numeral-wheel trip-register, means for actuating the same in the registering operation including a main slide, a register-casing within which said main slide is guided, a frame-piece within said casing perpendicular to its back, a vertically-movable secondary slide guided on said frame-piece, means for periodically resetting said strip-register including a pulling and turning key and a telescopic vertical shaft the lower member of which is coupled to said key and is adapted to pull said secondary slide, and means for controlling the resetting operation actuated by said secondary slide.

3. A fare-register having, in combination, a numeral-wheel trip-register, means for actuating the same in the registering operation including a main slide, a register-casing within which said main slide is guided, a frame-piece within said casing perpendicular to its back, a vertically-movable secondary slide guided on said frame-piece, means for periodically resetting said trip-register including a pulling and turning key and a vertical shaft member which is coupled to said key and is adapted to pull said secondary slide, and a main-slide lock moved into effective position by said secondary slide when the latter is pulled.

4. A fare-register having, in combination, a numeral-wheel trip-register, means for actuating the same in the registering operation including a main slide, a register-casing within which said main slide is guided, a frame-piece within said casing perpendicular to its back, a vertically-movable secondary slide guided on said frame-piece, means for periodically resetting said trip-register including a pulling and turning key and a telescopic vertical shaft the lower member of which is coupled to said key and is provided with a crown-cam contacting with a projection on said secondary slide and means for controlling the resetting operation actuated by said secondary slide when said key and therewith said lower shaft-section is pulled and turned.

5. A fare-register having, in combination, a numeral-wheel trip-register, means for actuating the same in the registering operation including a main slide, a register-casing within which said main slide is guided, a frame-piece within said casing perpendicular to its back, a vertically-movable secondary slide guided on said frame-piece, means for periodically resetting said trip-register including a pulling and turning key and a telescopic vertical shaft the lower member of which is coupled to said key and is provided with a crown-cam contacting with a projection on said secondary slide and a main-slide lock moved into effective position by said secondary slide when said key and therewith said lower shaft-section is pulled and turned.

6. A fare-register having, in combination, trip-register numeral-wheels, a normally sta-



tionary horizontal shaft on which said wheels rotate in the registering operation, means for actuating said wheels in the registering operation, toothed wheels attached to the respective numeral-wheels for controlling their movements, escapement-hooks arranged to interlock with said toothed wheels during each registering actuation to prevent the recoil of the numeral-wheels, a normally locked vertical shaft geared to said horizontal shaft, a key by which said vertical shaft is unlocked and both shafts are rotated at the end of each trip, means for transmitting motion from said horizontal shaft to said numeral-wheels or such of them as have been moved from zero in the registering operation, so as to turn them to zero, and means for retracting said escapement-hooks preliminary to each resetting operation comprising a spring-retracted slide moved against the tension of its spring by said vertical shaft and constructed with a cam at its upper end and a crank-arm interacting with said cam and connected with said escapement-hooks.

7. A fare-register having, in combination, trip-register numeral-wheels, a normally stationary horizontal shaft on which said wheels rotate in the registering operation, means for actuating said wheels in the registering operation, toothed wheels attached to the several numeral-wheels for controlling their movements, escapement-hooks connected with each other by a sleeve-shaped rock-shaft and arranged to interlock with said toothed wheels during each registering actuation to prevent the recoil of the numeral-wheels, a normally locked vertical shaft geared to said horizontal shaft, a key by which said vertical shaft is unlocked and both shafts are rotated at the end of each trip, means for transmitting motion from said horizontal shaft to said numeral-wheels or such of them as have been moved from zero in the registering operation, so as to turn them to zero, and means for retracting said escapement-hooks preliminary to each resetting operation comprising a spring-retracted slide moved against the tension of its spring by said vertical shaft and constructed with a cam at its upper end, a crank-arm and a horizontal pivot-rod turned by said crank-arm and upon which said sleeve-shaped rock-shaft is made fast.

8. A fare-register having, in combination, trip-register numeral-wheels, a normally stationary horizontal shaft upon which said wheels rotate in the registering operation, means for actuating said wheels to register fares, a normally locked vertical shaft geared to said horizontal shaft, a key by which said shaft is unlocked and both shafts are rotated at the end of each trip, means for transmitting motion from said horizontal shaft to said numeral-wheels or such of them as have been moved from zero in the registering operation, so as to turn them to zero, toothed wheels

attached to the several numeral-wheels for controlling their movements, stop-hooks serving in one position to interlock with said toothed wheels at the end of each registering actuation to prevent overmovements, zero-stops carried by the several wheels and arranged to abut against said hooks in another position of the same, and means for moving said hooks into the position last named comprising a cam on said vertical shaft and a movable part moved by said cam and engaging a part connected with said hooks during the resetting operation, whereby said hooks are cammed into effective position preparatory to the contact of said stops therewith at zero.

9. A fare-register having, in combination, trip-register numeral-wheels, a normally stationary horizontal shaft upon which said wheels rotate in the registering operation, means for actuating said wheels to register fares, a normally locked telescopic vertical shaft comprising an upper member geared to said horizontal shaft and a sleeve-shaped lower member, a pulling and turning key attached to the lower end of said lower member, means for transmitting motion from said horizontal shaft to said numeral-wheels or such of them as have been moved from zero in the registering operation so as to turn them to zero, toothed wheels attached to the several numeral-wheels for controlling their movements, stop-hooks serving in one position to interlock with said toothed wheels at the end of each registering actuation to prevent overmovements, zero-stops carried by the several numeral-wheels and arranged to abut against said hooks in another position of the same, and means for moving said hooks into the position last named comprising a cam on said lower member of the vertical shaft, a spring-retracted slide moved against the tension of its spring by said cam, a spring-pressed locking-lever normally retracted by said slide and released when the slide is pulled, and a lever-arm having a stud-pin to interact with a projection on said slide and to interlock with said locking-lever at the end of the resetting operation, whereby said hooks are cammed into effective position preparatory to the contact of said stops therewith at zero and are locked in this position during said contact.

10. A fare-register having, in combination, trip-register numeral-wheels, a normally stationary horizontal shaft on which said wheels rotate in the registering operation, means for actuating said wheels in the registering operation including a reciprocating main slide, a normally locked vertical shaft geared to said horizontal shaft, a key by which said vertical shaft is unlocked and rotated at the end of each trip, means for transmitting motion from said horizontal shaft to said numeral-wheels or such of them as have been moved

from zero in the registering operation so as to turn them to zero, a spring-retracted secondary slide moved against the tension of its spring by said vertical shaft and provided  
5 with a loop at its upper end, and an eccentric-shaped main-slide lock having a fixed pivot and provided with a crank-pin interacting with said loop and movable with said secondary slide, whereby said main-slide lock

is turned on its pivot and is made to engage 10 with the upper end of said main slide at the beginning of each resetting operation, substantially as hereinbefore specified.

CHARLES E. GIERDING.

Witnesses:

GEO. MELLONE,  
ALLAN B. WALLACE.