(No Model.) 2 Sheets—Sheet 1.

L. J., H. C. & J. H. HUNTER.

TICKET, TRANSFER, AND RECEIPT CONTROLLER.

No. 494,001. Patented Mar. 21, 1893.

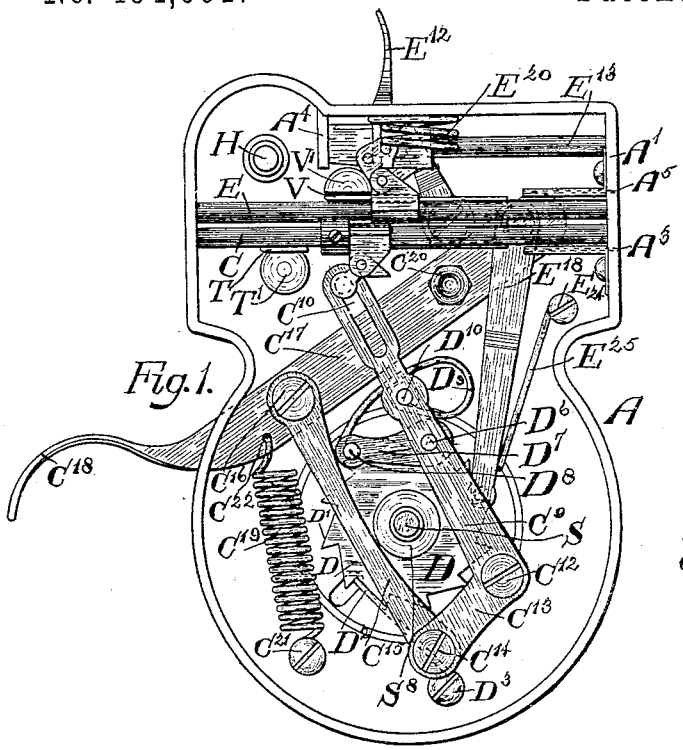

Fig. 1.

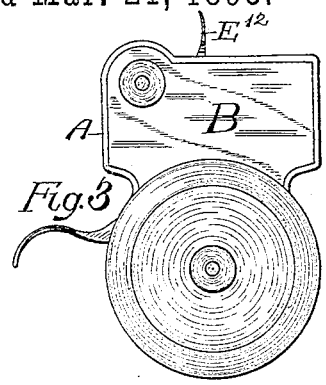

Fig. 3

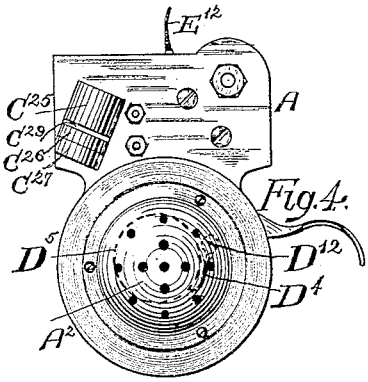

Fig. 4.

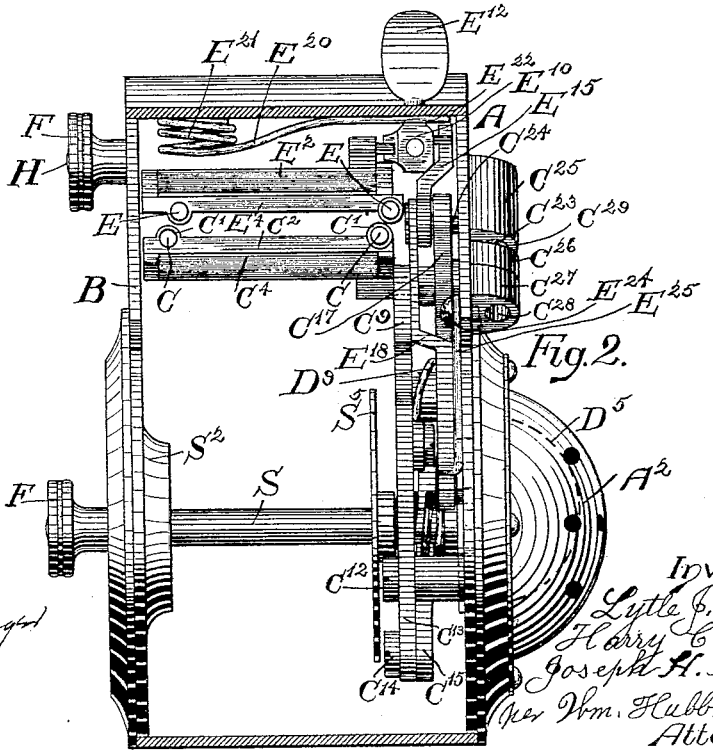

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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TICKET, TRANSFER, AND RECEIPT CONTROLLER.

No. 494,001. Patented Mar. 21, 1893.

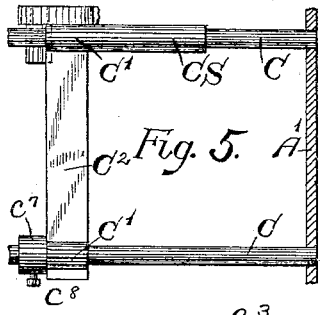

Fig. 5.

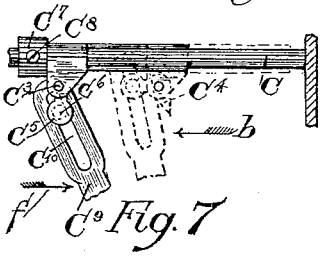

Fig. 7

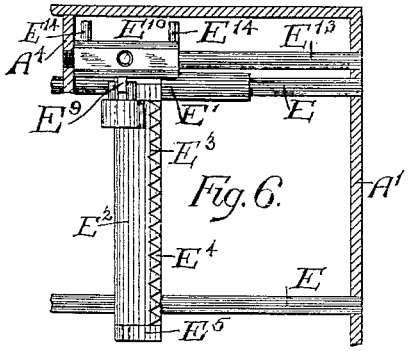

Fig. 6.

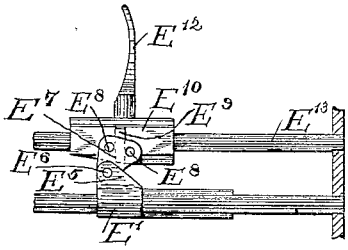

Fig. 8.

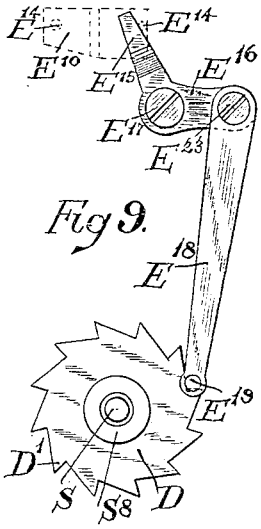

Fig 9.

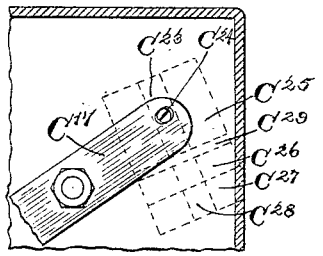

Fig. 10.

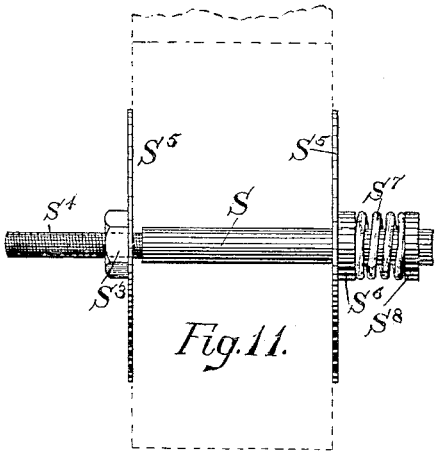

Fig. 11.

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UNITED STATES PATENT OFFICE.

LYTLE J. HUNTER, OF COVINGTON, KENTUCKY, AND HARRY C. HUNTER AND JOSEPH H. HUNTER, OF WINTON PLACE, OHIO.

TICKET, TRANSFER, AND RECEIPT CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 494,001, dated March 21, 1893.

Application filed January 28, 1892. Serial No. 419,521. (No model.)

To all whom it may concern:

Be it known that we, LYTLE J. HUNTER, a resident of the city of Covington, in the county of Kenton and State of Kentucky, and HARRY C. HUNTER and JOSEPH H. HUNTER, residents of the town of Winton Place, in the county of Hamilton and State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Ticket, Transfer, and Receipt Controllers, containing a strip of paper which represents tickets, receipts, transfers, or the like, and controlling the character of said tickets so that they may be delivered as a receipt or as a transfer at the will of the operator, of which the following is a specification.

The several features of our invention and the various advantages resulting from their use, conjointly or otherwise, will be apparent from the following description and claims.

In the accompanying drawings making a part of this specification,—Figure 1 represents an elevation of the interior of the casing, and showing the mechanism thereof. In this view, the cover or side which is on the left hand side in Fig. 2, is removed, the spectator being at the left hand of said Fig. 2. Fig. 2 is a front elevation of the interior of the casing, and the mechanism therein contained, the casing which is on the right hand side of Fig. 1 being removed, and the spectator being at the right of said Fig. 1. Fig. 3 is an elevation of the exterior of that side of the device which is on the left of Fig. 2. Fig. 4 is an elevation of the exterior of that side which is on the right in Fig. 2. Fig. 5 is a plan detail view of the gripping mechanism for advancing the strip for full fares, in the position shown in Fig. 1. Fig. 6 is a plan detail view of the gripping mechanism for advancing the strip for half fares, in the position shown in Fig. 1. Fig. 7 is an elevation of the gripping mechanism for advancing the strip for full fares, showing on the left the paper strip having just been grasped by the gripper, and ready to be advanced. To the right of this, another position of this gripper is shown in dotted lines, viz: in its position after it has let go of the paper and just previous to its return to its position of rest as shown in Fig. 1. This view (Fig. 7) is taken from a point of view similar to that from which Fig. 1 is taken. This elevation (Fig. 7) is an elevation of that side of the device shown in Fig. 5 which is at the bottom of the latter, but showing the mechanism in the altered position mentioned. Fig. 8 is a side elevation of that side of Fig. 6, which is at the bottom of the latter, but showing the gripping mechanism in the position it assumes when it has grasped the half fare strip, and before advancing the latter. Fig. 9 is a detail view of the mechanism which rings the bell when the mechanism for advancing the half fare strip is operated. Fig. 10 is a detail elevation of mechanism for operating the punch. Fig. 11 is a front elevation of the devices for clamping the roll of paper and exerting a tension thereon.

A indicates the outer casing, of which the cover B forms a part.

The mechanism for advancing the strip of paper which contains the full fares is as follows:—C, C, are two parallel rods, preferably in the same horizontal plane. These rods constitute guideways, on which the gripping device is reciprocated. The gripping device consists of the upper jaw C^2 and the lower jaw C^4. Each end of the upper jaw C^2 is provided with a sleeve C′. Each sleeve C′ embraces its adjacent respective rod C, and slides thereon. One of the sleeves C′ extends in front of the jaw C^2 a sufficient distance to constitute a stop C S, so that as the jaw C^2 is advanced toward the front wall A′ of the casing, this stop C S will abut against the said wall at a time when the jaw C^2 has been advanced the proper distance. Upon one of the rods C and back of the adjacent sleeve of the jaw, a stop C^7 is present for limiting the backward throw or movement of the jaw. This stop C^7 is preferably adjustable upon the rod C for the purpose of regulating the amount of this backward movement of the jaw. The preferred mode of rendering this stop C^7 adjustable is that shown, and consists of the set screw C^8 screwed through the stop and impinging against the rod C. Below the rod C is a right angled lever C^9, C^{13}, fulcrumed at C^{12} to any suitable stationary portion of the device. The upper end of this lever is provided with a slot C^{10} in which works a pin C^6 connected to an arm C^5, whose upper end is

pivoted at C^3 to ears or projections from the upper jaw C^2 and is at the same time inflexibly connected to the lower jaw C^4. In practice, the arm C^9 of the lever is moved forward and toward the front of the casing A′. As it is moved forward, it elevates the free end of the jaw C^4 and brings it against the upper jaw C^2, thereby causing the paper strip, hereinafter more particularly mentioned, and which passes between the said jaws, to be thereby firmly grasped. The continued forward movement of the lever C^9 after the jaws have been closed upon the paper, operates to move the jaws forward upon their guides C, C, and carries the paper forward in the direction of the arrow *f*, (Fig. 7,) and out of the slit A^5 in the front of the case until the stop C S impinges against the abutment or wall A′. As lever C^9 is moved backward in the direction of the arrow *b* (Fig. 7), it operates to depress the free end of the jaw C^4, thereby releasing the paper from the grasp of the jaws, and as it, the lever, moves back, retracts the jaws until the sleeve of the latter strikes against the stop C^7. The preferred mechanism for thus reciprocating the upper end of the lever C^9 is as follows:—

To the end of the arm C^{13} of the right angled lever C^9, C^{13}, is pivoted at C^{14}, one end of a connecting rod C^{15}, whose other end is pivotally connected at C^{16} to a finger or hand lever C^{17}, pivotally fulcrumed at C^{20} to the casing or framework of the device. This lever C^{17} is provided with a handle C^{18}, which extends through the casing and to the rear thereof, substantially as shown. Elevation of the rear end of the lever C^{17} operates to move forward the upper end of the lever C^9 and closes the jaws on the paper and advances them to the front of the casing. In order to render the retraction of lever C^9 of the jaws automatic, we introduce a spring C^{19}, strained between the rear end portions of the hand lever C^{17} and a stationary point as C^{21}. For convenience of application and removal, one end of the spring is inserted through a hole C^{22} of the hand lever while the other end of the spring is secured at C^{21} by means of a set screw indicated by the said character C^{21}.

The mechanism is provided with means for ringing a bell and notifying the conductor or other operator of the register and the passengers that a receipt has been advanced. The preferred mechanism for this purpose is as follows:—To the lever C^9 is pivotally connected at D^6 one end of a connecting rod or pawl D^7, whose other end is provided with a projection D^8, pressing against a tooth D′ of the ratchet wheel D. This projection is automatically and continuously thus pressed against the said ratchet by means of a suitable spring preferably of the form shown, namely, D^9, rigidly fixed at D^{10} to the lever C^9, the free end of this spring pressing against the projection D^8 aforementioned, and pressing the latter against the ratchet. Fixed by a stationary connection D^3 to the frame is a spring D^2 whose free end presses against the ratchet wheel. The free end of this spring is provided with an arm D^4 which extends into the hollow chamber formed by the swell A^2 on the register case, and is provided with an arm terminating in the bell hammer D^{12}, which impinges against a bell D^5. This hammer and bell are shown in dotted lines in Figs. 2 and 4. As the handle C^{18} of the lever C^{17} is elevated to advance the lower strip for the full fares as aforementioned, the lever C^9 is advanced and carries the pawl D^7 toward the front of the case and the projection D^8 of the said pawl presses against a tooth of the ratchet wheel and advances the latter the distance of one tooth. As the ratchet wheel is thus turned, a tooth thereof forces out and away from its center the free end of the spring D^2, and carries the arm D^4 away from the bell. As the ratchet wheel is revolved, the free end of the spring D^2 passes the point of the tooth and falls back into the recess immediately behind said elevated portion of said tooth and allows the hammer to come into conjunction with the bell and ring the same.

The mechanism for advancing the strip for the half fares is substantially as follows:—E^2 constitutes the upper jaw, and E^4 the lower jaw. The latter is provided at each end with a sleeve E′, respectively sliding upon its adjacent guide E. The guides are preferably horizontal, and are parallel and supported in the framework of the casing. One of these sleeves E′ is preferably longer than the other, and of suitable length so as to impinge against the front wall A′ or other suitable stop in order to prevent the jaws from being carried too far when the strip which they are designed to hold is advanced. At the rear of the sleeve E′ is a stop, (preferably a portion of the framework,) which regulates the rearward movement of the sleeve E′ and consequently of the jaws E^2, E^4. Upon the rod E^{13}, parallel to the adjacent guides E, slides a carriage or sleeve E^{10}. This carriage is provided with a handle E^{12}, extending up through a slot in the roof of the register case. The carriage is also provided with a projection E^9, which lies between and in proximity to the projecting pins E^8, E^5, projecting from the arm E^7. The lower end of this arm is rigidly connected to the upper jaw E^2. The latter is pivotally connected at E^6 at each end to arms E^5 arising from the lower jaw or from a connection therewith. Thus the upper jaw is free to oscillate on the pivots E^6. As the operator presses the handle E^{12} forward, the sleeve E^{10} slides upon the rod E^{13} and the projection E^9 pressing against the forward pin E^8, operates to close the upper jaw down upon the lower one, pinching the paper of the paper strip between them and the carriage E^{10}. The sleeves E′ and the jaws E^2, E^4, together slide forward until the long sleeve E′ impinges against the front wall A′. This strip is thus suitably advanced and

passes out through the opening A^5. The operator tears off that portion of the receipt which now lies outside of the case. Upon his letting go of the handle E^{12}, a suitable spring retracts the same. In the present illustrative instance, this spring consists of a coil E^{21}, fastened to the roof of the case, and its elastic free end E^{22} presses against the front side of the handle E^{12} just above the carriage E^{10}. Thus by the action of this spring, the handle E^{12} and carriage E^{10} together with the jaws E^2, E^4 and sleeves are retracted. As these parts begin to move backward, the handle E^{12} moving first, because of its being directly actuated by the spring E^{20}, causes the projection E^9 to impinge against the rear pin E^8 of the arm E^7, and thereby lifts the upper jaw away from the lower one and allows the paper strip to remain stationary while the jaws pass backward into their first position, namely that shown in Fig. 6. At the rear of the carriage E^{10} is a stop A^4, which may be shown as a portion of the frame work, which prevents the further retraction of the jaws.

For enabling the upper jaw E^2 to better grasp the paper and hold it against the lower jaw, the front edge of the said jaw is provided with suitable teeth or projections E^3. Whenever desired, the lower or movable jaw C^4 arranged to carry forward the paper strip for full fares is likewise serrated.

The mechanism for enabling the bell to be rung when the paper strip for half fares is advanced is as follows:—The carriage E^{10} is provided with two studs or projections E^{14}, E^{14}. A bell crank lever having arms E^{15}, E^{16}, is pivoted at E^{17} to the frame or other stationary fixture of the device. The free end of the arm E^{15} is located between the two studs E^{14}. The free end of the arm E^{16} of the lever is pivotally connected at E^{23} to the connecting rod E^{18}, whose lower end is provided with a pin or other projection E^{19} which impinges against a tooth D′ of the ratchet wheel D. As the carriage is advanced as aforesaid, the rear pin E^{14} impinges against the rear side of the arm E^{15} of the bell crank lever and carries the same forward, thereby depressing the free end of the arm E^{16} and moving the connecting rod E^{18} downward, thereby moving the ratchet wheel forward one tooth and causing the said ratchet wheel to ring the bell in the manner aforementioned. The pin E^{19} is kept in proper engagement with the ratchet wheel D by means of a suitable spring. In the present illustrative instance, this spring consists of a spring bent around and fixedly connected to a projection E^{24}, fixed to the stationary part of the case or framework of the device. The free end of the straight portion of the spring bears against the rod E^{18} and thereby presses the projection E^{19} continually against the ratchet. Where the projection E^{19} is a screw whose thread engages a screw cut in the stationary part in which it is affixed, the spring can be easily inserted and easily removed when necessary. As the carriage E^{10} is retracted, the forward pin E^{14} thereof impinges against the free end of the arm E^{15} of the lever E^{15}, E^{16}, and moves the free end of the said lever backward, thereby elevating the connecting rod E^{18} and causing the projection E^{19} to pass up and back of a tooth of the ratchet in readiness to again be advanced and rotate the ratchet when the carriage E^{10} is moved forward.

The paper strip for full fares is wound upon an axial reel provided with a central hole which may be slipped upon the stationary axis S, or the paper may be wound in a roll without the reel, the hole being left at the center, and this paper then be adjusted upon the stationary shaft S by having the latter pass through the central hole in the roll before referred to.

For the purpose of frictionally retarding the roll and giving it the right tensional resistance so that it may feed properly in connection with the mechanism for advancing it, and carry it out of the device hereinbefore described, any suitable frictional device may be employed. One description of said device is as follows:—On the right hand end of the shaft S, shown in Figs. 2 and 11, is a disk S^5, which slides upon the shaft, and is concentric therewith. To the right of this disk and surrounding the shaft is a spring S^7. The right hand end of spring S^7 bears against a shoulder S^8 of the axis S. Interposed between this spring and the disk is a sleeve S^6, preferably present as a bearing against which the spring S^7 can press.

In cases where it is not desirable to have an adjustable bearing for the roll at the left hand end portion of the shaft, as shown in Fig. 11, and hereinafter described the roll will be placed upon the shaft S and the cover will then be placed in position in the case. The cover is preferably provided with the stationary bearing S^2 against which the left hand side of the roll will be pressed by the action of the spring S^7 pressing the disk S^5 against the right hand side of the roll and move the roll over until it frictionally bears against the cover.

In case the bearing at the left hand end of the roll should be adjustable, an adjustment is effected as follows:—A disk S^5 corresponding to the disk S^5 previously mentioned, is located on that diminished portion S^4 of the shaft which carries a screw thread and a nut S^3 screwed upon the portion S^4 of said shaft S, and bears against the disk S^5. When the roll is in position upon the shaft S, the spring S^7 will, in connection with the sleeve S^6 and right hand disk S^5 press the roll of paper over against the left hand disk S^5, and cause it to bear against the nut or adjustable stop S^3. Obviously by turning this nut S^3, the roll may be forced toward the spring S^7, thereby increasing the frictional pressure upon the roll, or the nut S^3 may be screwed away from the spring S^7, thereby diminishing the frictional pressure upon the roll. These devices may

also be used when desired to keep the roll in alignment with the mechanism for advancing and carrying it out of the case.

The preferred mode of supporting the roll of paper for half fares is by means of the spindle H, one end of which is fixed in the frame of the device. Upon this spindle or shaft the roll of paper for the half strip is concentrically located.

When desired, tensional devices for limiting the rapidity of its unrolling may be present, as may also devices, when needed, for keeping the roll in alignment with the mechanism for advancing the half fare strip out of the case.

The cover B is secured to the case in any suitable manner. A very convenient mode is as follows:—The screw thread S^4 of the shaft S projects through the cover, as does also the screw thread on the spindle H. Upon each of these is screwed a hand or thumb nut F, whereby the cover is secured in place.

Where it becomes necessary to receive for fares tickets already previously sold and not furnished by this registering device itself, and it is deemed necessary to punch the said tickets the punching device is provided in connection with the mechanism for giving a receipt with the following device:—The upper end of the lever C^{17} is provided with a laterally projecting stud or projection C^{24} which works in a slot extending into the sleeve C^{25}. One end of this pin C^{24} is fixedly attached to the punch C^{23}, working in a passage way C^{28}, located in the said sleeve C^{25}, and also in the corresponding lower sleeve C^{26}, C^{27}. Between the sleeve C^{25} and the lower compound sleeve is a lateral slit or opening C^{29}. The pin C^{24} is allowed to work loosely in the head of the lever C^{17} as shown, so that as the head of the said lever C^{17} is moved in the arc of a circle it shall not cause the pin C^{24} to bind against the stud of the slot in which it works. This opening C^{29} in which the said pin C^{24} works in the head of the lever C^{17} is therefore of an elongated character. The lower sleeve is preferably compound, the upper portion C^{26} being of extra hard steel, thereby forming a proper knife edge at the upper edge of the orifice C^{28} as the punch C^{23} descends into the opening in the said compound sleeve. In practice, the operator places the end of the ticket in the opening C^{29} and then operates the lever C^{17}, thereby depressing the punch C^{23} and causing it to pass through said ticket and into the opening C^{28} in the lower half of the punch and thereby punch a hole in the ticket. At the same time a full fare receipt from the paper strip within the register case is delivered through opening A^3. Whenever a receipt is delivered either through opening A^3 or A^5, the operator tears off the same, using the edge of the case at the orifice through which the strip has come as the cutting edge. The roll or strip of paper for full fares is shown by dotted lines in Fig. 11. The paper from this roll extends from the back side of the roll upward to the rear of the tension device T, T′, to be hereinafter described, and thence between the jaws C^2, C^4, and thence forward and through the slit or opening A^3. The forward end of this strip is flush with the front face of the register until advanced by the jaws, as aforementioned. The roll or strip of paper for half fares on spindle H, extends from the lower side of said strip to the rear of the tension device V, V′, thence between the jaws E^2, E^4, and thence forward and between the sides of slit A^5, and as far as the front face of the register until farther advanced by the jaws.

When cash fare is received, the bell is simply rung and the receipt advanced and delivered in the same manner, as heretofore described in connection with ticket fares.

The operations of the register have been fully described in connection with the description of the various parts thereof. Further description of these operations, therefore, need not be made.

Between the roller carrying the full fare paper strip and the jaws, we provide a device whose construction and purpose is as follows:—A broad, flat horizontal spring T extends across the path of the paper strip beneath the same, and presses the paper down against the flat surface of an arm T′. Such pressure frictionally holds the paper strips stationary, except when the jaws grasp it and perforce carry it forward as heretofore mentioned. Then after the jaws have opened, the paper is held stationary while they are retracted and until they advance. A similar tensional device is shown in relation to the roll of paper for the half fares, and consists of the spring plate V, pressing the paper of said strip up against the flat surface of the arm V′. This device performs the same functions in relation to the half fare paper strip and to the jaws E^2, E^4, that the device T, T′ performs in relation to the full fare paper strip, and the jaws C^2, C^4.

Among the various advantages which may be mentioned as resulting from the use of our invention, are the following:—

This machine issues to each passenger a receipt for either cash or ticket fare, and at the same time rings a gong which is notice to the passenger that his fare has been received. If the fare be a ticket fare, the machine also cancels the same by punching a hole in the ticket, the same instant, in which the receipt is delivered and the bell rung, thus preventing any possible discrepancy.

Secondly, the person or persons, or company operating the street car route charges the conductor with the number of receipts on the rolls placed within the machine when delivered to him, these receipts being numbered consecutively, and when he turns in his machine with his report, credits him with the number of unissued receipts remaining on the roll. Thus the conductor stands charged with the receipts issued and pays to the party

or parties operating the street car line in lieu of the same either cash or canceled tickets.

This machine is easy to operate both by the conductor and the company. It is durable and will not get out of order. It is economical to manufacture. It is compact and easily carried by the conductor. We regard it as absolute security against discrepancies or fraud of any kind by the conductors, or the clerical force of the party or parties operating the street car line.

This machine does away with cash slips.

While the various features of our invention are preferably employed together, one or more of said features may be used without the remainder. In so far as applicable, one or more of said features may be employed in connection with machine other than the one herein specifically set forth.

We do not herein claim the combination of the guide ways and means for closing and advancing the jaws along said guide ways, nor the same with a tension device, save as herein stated. Broad claims for such subject matter are presented in our application, Serial No. 446,316, filed September 19, 1892.

What we claim as new and of our invention, and desire to secure by Letters Patent, is—

1. In a ticket transfer and receipt controller, the combination of the jaws reciprocating on the guideways, the jaws pivotally connected to one another, one of the jaws being provided with the lever C^9, for working said jaw and means for operating said lever, and for reciprocating said jaws, the paper roll, and axial support substantially as and for the purposes specified.

2. In a ticket transfer and receipt controller, the combination of the jaws reciprocating on the guideways, one jaw C^2 provided with ears to which the jaw C^4 is pivoted, and the lever C^5 fixed to the jaw C^4, and provided with projection C^6, and lever C^9 fulcrumed at C^{12}, and having slot C^{10} in which the projection C^6 operates, substantially as and for the purposes specified.

3. In a ticket transfer and receipt controller, the combination of the jaws reciprocating on the guideways, one jaw C^2 provided with ears to which the jaw C^4 is pivoted, and the lever C^5 fixed to the jaw C^4, and provided with projection C^6, and lever C^9, C^{13}, fulcrumed at C^{12}, and having slot C^{10} in which the projection C^6 operates, and link C^{15}, and lever C^{17} pivotally fulcrumed at C^{20}, substantially as and for the purposes specified.

4. In a ticket transfer and receipt controller, the combination of the jaws reciprocating on the guideways, one jaw C^2 provided with ears to which the jaw C^4 is pivoted, and the lever C^5 fixed to the jaw C^4, and provided with projection C^6, and lever C^9, C^{13}, fulcrumed at C^{12}, and having slot C^{10} in which the projection C^6 operates, and link C^{15}, and lever C^{17} pivotally fulcrumed at C^{20}, and the spring C^{19}, connected to the frame and to lever C^{17}, substantially as and for the purposes specified.

5. In a ticket transfer and receipt controller, the reciprocating jaws and means for closing them, the tension device for holding a paper strip, the bell and mechanism for ringing it, and mechanism substantially as described for simultaneously advancing the jaws and ringing the bell, substantially as described.

6. In a ticket transfer and receipt controller, the reciprocating jaws and means for closing and advancing them, the case having delivery orifice A^3 and tension device for holding a paper strip, the ratchet wheel D, spring D^2 carrying arm D^4, clapper D^{12} and roll D^5, and mechanism for enabling the lever for operating the jaws to simultaneously operate said ratchet wheel, in combination substantially as described.

7. In a ticket transfer and receipt controller, the combination with the reciprocating jaws and means for closing and advancing them, the case provided with delivery orifice, tension device for holding the paper, and the ratchet wheel D, and spring lever pawl D^2, carrying arm D^4, and clapper D^{12} and bell D^5, the lever C^9 and link C^{15}, and the pawl D^7 pivoted to lever C^9 and operating on the ratchet D, all substantially as described.

8. In a ticket transfer and receipt controller the jaws reciprocating on guides and pivoted together, and having lever E^7 fixed to one of the jaws, and provided with projections E^8, E^8, and the reciprocating carriage E^{10}, having projection E^9, between the projections E^8, E^8, and wall provided with slit A^3, substantially as and for the purposes specified.

9. In a ticket transfer and receipt controller the jaws reciprocating on guides and pivoted together, and having lever E^7 fixed to one of the jaws, and provided with projections E^8, E^8, and the reciprocating carriage E^{10}, having projection E^9, between the projections E^8, E^8, and handle E^{12}, projecting through and located in a slot in the register case, and wall provided with slit A^3, substantially as and for the purposes specified.

10. In a ticket transfer and receipt controller in combination with the reciprocating jaws and means for closing and advancing them, and wall having delivery orifice A^5, and tension device for holding the paper strip stationary, and the ratchet wheel D, and spring D^2 carrying arm D^4 and clapper D^{12} and bell D^5, and the lever C^9, C^{13}, and link C^{15}, and lever C^{17}, and pawl D^7, pivoted at D^6 to the lever C^9, and spring D^9, and spring E^{20} for retracting the jaws, substantially as and for the purposes specified.

11. In a ticket transfer and receipt controller the jaws reciprocating on guides and pivoted together, and having lever E^7 fixed to one of the jaws, and provided with projections E^8, E^8, and the reciprocating carriage E^{10}, hav-

ing projection E^9, between the projections E^8, E^8, and handle E^{12}, projecting through and located in a slot in the register case, and wall provided with slit A^3, and spring E^{20}, pressing against the said handle, substantially as and for the purposes specified.

12. In a ticket transfer and receipt controller the jaws reciprocating on guides and pivoted together, and having lever E^7 fixed to one of the jaws, and provided with projections E^8, E^8, and the reciprocating carriage E^{10}, having projection E^9 between the projections E^8, E^8, and handle E^{12}, projecting through and located in a slot in the register case, and wall provided with slit A^3, and spring E^{20} provided with coil E^{21} and extension arm bearing against said handle, substantially as and for the purposes specified.

13. In a ticket transfer and receipt controller the reciprocating jaws and carriage E^{10}, and means substantially as described for reciprocating them, and wall provided with slit A^3, the carriage E^{10}, having the projections E^{14}, E^{14}, and the lever E^{15}, E^{23}, having the connecting rod or pawl E^{18}, and ratchet wheel and means for enabling the latter to ring the bell, substantially as and for the purposes specified.

14. In a ticket transfer and receipt controller the jaws reciprocating on guides and pivoted together, and having lever E^7 fixed to one of the jaws, and provided with projections E^8, E^8, and the reciprocating carriage E^{10}, having projection E^9, between the projections E^8, E^8, and wall provided with slit A^3, and carriage E^{10} having the projections E^{14}, E^{14}, and the lever E^{15}, E^{23}, and pawl E^{18}, pivoted to the lever arm E^{16}, and ratchet wheel, and spring E^{20} elastically bearing against the said pawl, and the pawl D^2 and arm D^4 and clapper D^{12}, and bell D^5, substantially as and for the purposes specified.

15. In a ticket transfer and receipt controller the jaws C^2, C^4, reciprocating on the guideways and wall provided with slit A^3, and tension device, and lever for reciprocating said jaws and punch C^{23}, located in guides, the punch connected to the end of the said lever, for enabling the ticket to be punched as a receipt is advanced, substantially as and for the purposes specified.

16. In a ticket transfer and receipt controller the jaws C^2, C^4, reciprocating on the guideways and wall provided with slit A^3, and tension device, and lever for reciprocating said jaws and punch C^{23}, located in guides, the punch connected to the end of the said lever, for enabling the ticket to be punched as a receipt is advanced, and mechanism for ringing the bell, and mechanism substantially as described for enabling the said lever to ring said bell, substantially as and for the purposes specified.

17. In a ticket transfer and receipt controller the jaws C^2, C^4, reciprocating on the guideways, and wall provided with slit A^3, and tension device, and lever C^9, C^{13}, having slot C^{10}, and lever C^5 fixed to the movable jaw, and engaging lever C^9, in slot C^{10}, and connecting rod or link C^{15}, lever C^{17}, fulcrumed at C^{20}, and punch connected to one end of this lever C^{17}, and the pawl D^2, and arm D^4 and clapper D^{12}, and bell D^5, ratchet wheel D and pawl D^7, connected to lever C^9, and spring D^9, connected to lever C^9, and said pawl, substantially as and for the purposes specified.

18. In a ticket transfer and receipt controller the jaws C^2, C^4, reciprocating on the guideways and wall provided with slit A^3, and tension device, and lever C^9, C^{13}, having slot C^{10}, and lever C^5 fixed to the movable jaw, and engaging lever C^9 in slot C^{10}, and connecting rod or link C^{15}, lever C^{17}, fulcrumed at C^{20}, and punch connected to one end of this lever C^{17}, and the pawl D^2, and arm D^4 and clapper D^{12}, and bell D^5, ratchet wheel D and pawl D^7, connected to lever C^9, and spring D^9, connected to lever C^9, and said pawl, and spring C^{19}, for retracting lever C^{17}, substantially as and for the purposes specified.

19. In a ticket transfer and receipt controller the combination of the mechanism for advancing the jaws, and the tension device consisting of the axis or spindle S, having the concentric disk S^5, sliding on said axle, and spring S^7, at the side of said disk, and the opposing concentric disk S^5 sliding on the spindle and nut S^3 bearing against said disk and engaging a screw thread on said spindle, substantially as and for the purposes specified.

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Attest:
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