

(No Model.)

3 Sheets—Sheet 1.

J. EVANS.
FARE RECEIVER AND REGISTER.

No. 544,973.

Patented Aug. 20, 1895.

Fig. 1

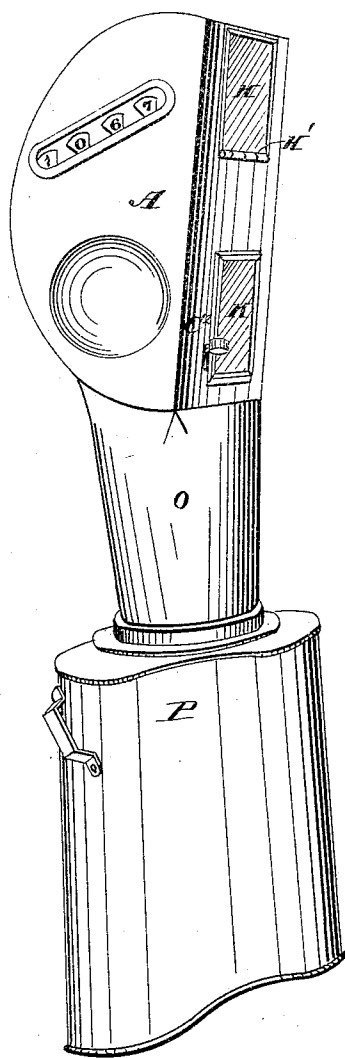
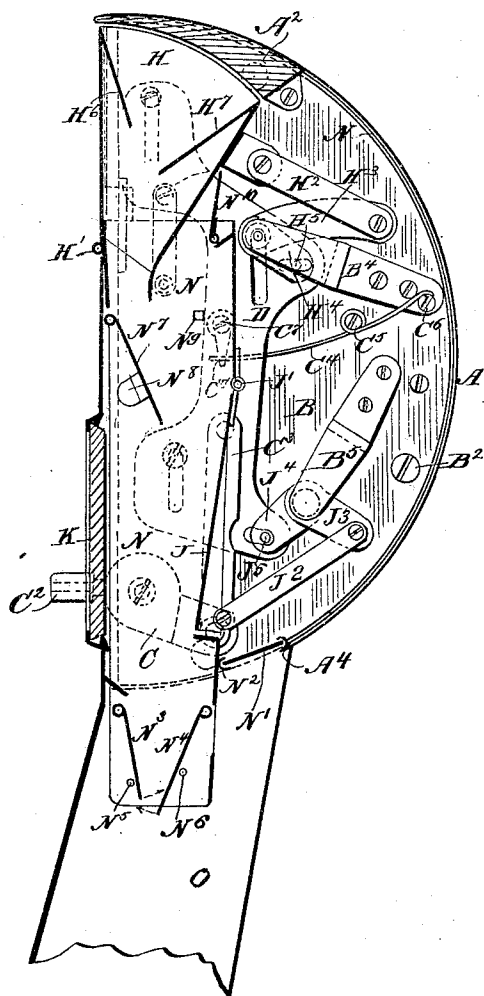


Fig. 2



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Fig 3

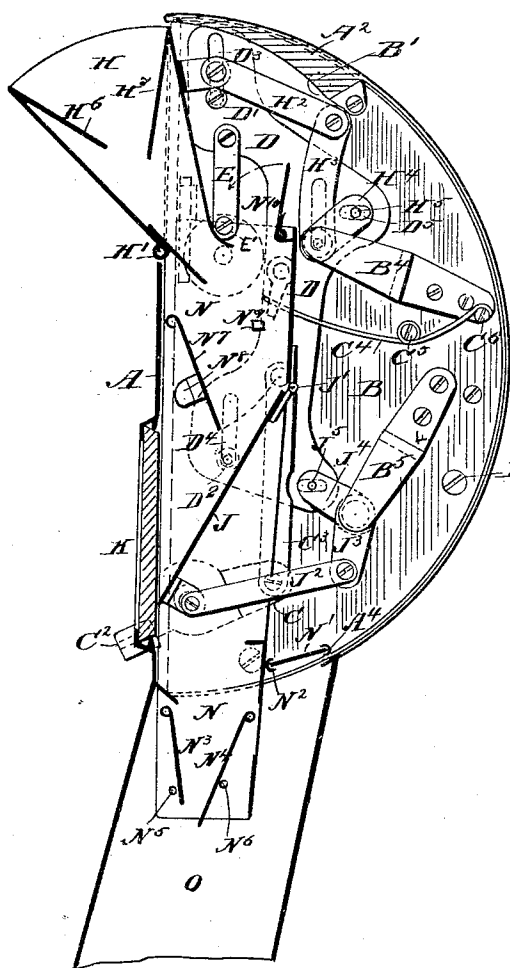


Fig 4

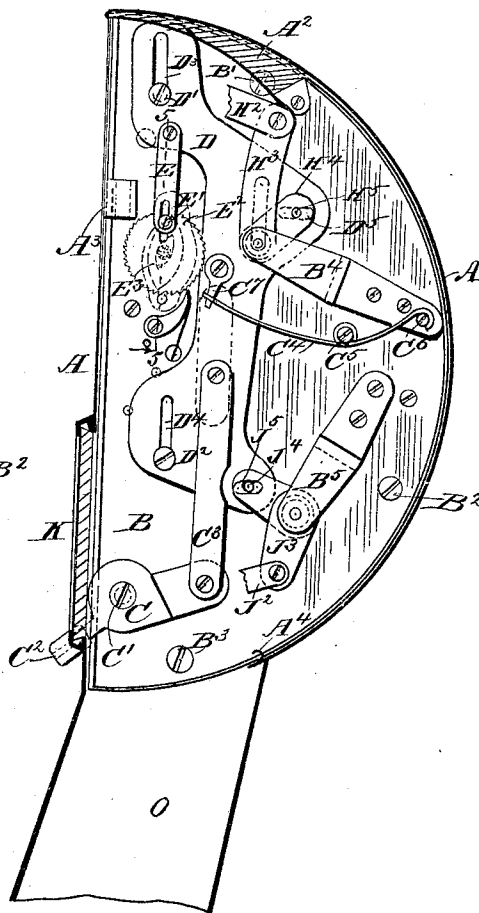
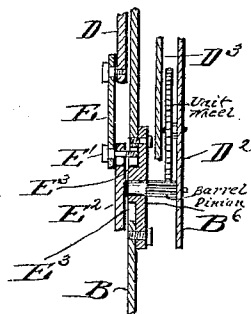


Fig 5



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Fig. 6

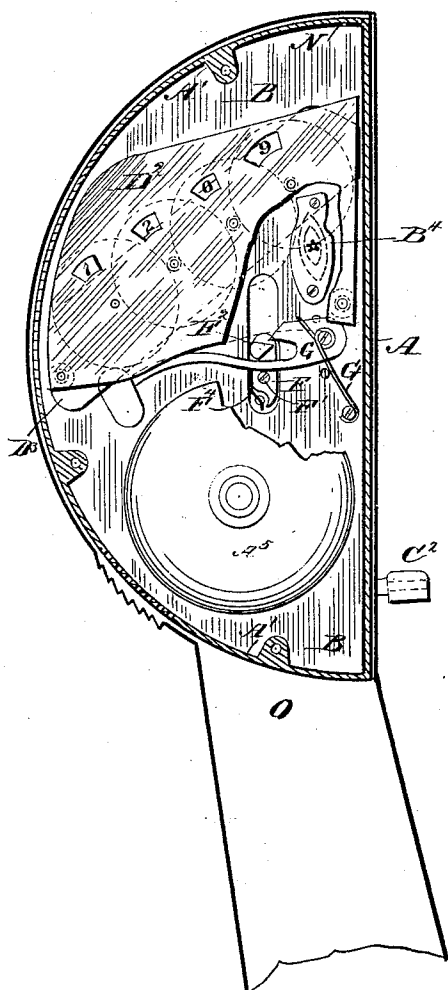
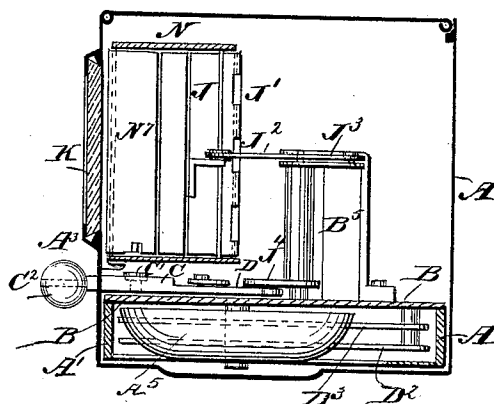


Fig. 7



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UNITED STATES PATENT OFFICE.

JOHN EVANS, OF KENSINGTON, SOUTH AUSTRALIA.

FARE RECEIVER AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 544,973, dated August 20, 1895.

Application filed October 29, 1894. Serial No. 527,181. (No model.) Patented in New South Wales May 17, 1894, No. 5,051.

To all whom it may concern:

Be it known that I, JOHN EVANS, a subject of the Queen of Great Britain, and a resident of Kensington, in the Colony of South Australia, have invented a new and Improved Fare and Ticket Receiver and Register, (for which I received Letters Patent in the Colony of New South Wales, No. 5,051, dated May 17, 1894,) of which the following is a full, clear, and exact description.

My invention relates to improvements in portable fare receivers and registers, and has for its object to provide novel and convenient means for preventing losses which result from the retention of fares by dishonest conductors of cars and omnibuses, the improvement being also available in every case where a fare, ticket, or entrance-fee is charged which it is desired should be safely stored and correctly registered.

To this end my invention consists in the construction and combination of parts, as is hereinafter described, and indicated in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the complete device. Fig. 2 is a partly-sectional side elevation of the device with the receiver mechanism in closed adjustment. Fig. 3 is a similar view showing the receiving mechanism in opened position. Fig. 4 is a similar view of the device with the side of the case and some of the interior parts removed. Fig. 5 is a transverse sectional view of details on the line 5 5 in Fig. 4. Fig. 6 is a partly-sectional side elevation of the case opposite that shown in Figs. 2, 3, and 4, and exposing the registering mechanism within the case; and Fig. 7 is an inverted plan view of the device, the case being in section.

The main case A is preferably shaped as shown, it being semicircular, and for convenience the side shown in Fig. 1 is assumed to be the front of the case. A storage-receptacle P is connected to the case A by a short tube O, adapted to be opened at the rear, and any safe means may be employed to hold the tube closed.

All the moving parts of the combined re-

ceiving and registering apparatus are actuated by means of the lever C, fulcrumed on the set-screw C' near the bottom of the case, (see Fig. 4,) said screw being projected from a vertical wall-plate B, that is part of the inner case or frame. The lever C projects through a slot in the case A and has a knob C² on its outer end to permit of its convenient manipulation. The inner end of the lever C is loosely connected by a link C³ to the lower end of the upright reciprocating plate D, that is in turn connected to several working parts by cranks and other means, as is indicated in Figs. 2, 3, and 4. The plate D slides on the face of the wall-plate B and has its movement limited by the screw-studs D' D² that pass through slots D³ D⁴ formed in plate D and thence into plate B.

The wall-plate B, which carries all the working parts except those attached to the inner casing, is of a semicircular form, fitting the interior of the main case A, to which it is secured, and is held parallel thereto by the medium of a frame-piece A'. The latter being fastened to the case A by any suitable means is detachably connected with the wall-plate B by the screws B' B² B³.

In order to return the lever C from a depressed condition and restore connected parts to normal positions, a spring C⁴ is provided, that is coiled around a pivot-screw C⁵, secured in plate B, one end of said spring bearing against a post C⁶ in plate B and the other end engaging a hook C⁷ that is on plate D.

The mechanism of the registering apparatus is connected to the sliding plate D and comprises two parts—one for the registering-dials and one for the bell-hammer.

The connections of the registering-dials are as follows: To the upper portion of the plate D is pivoted one end of a link E, the opposite end of which carries a pin E', which passes through a slot in the ratchet-wheel E², and also into a cam-groove E³, partly formed in the plate B, the outside portion of the cam-groove being produced in the plate B and the inner portion consisting of a projection from a small plate B⁶, that is securely fastened to the plate B. The spindle of the ratchet-wheel E² passes through the plate B⁶, and is provided with teeth which gear into the units-wheel of the train of registering-dials, which dials are

pivoted on the plates D² D³, as shown in Fig. 5, these plates being fastened to the main plate B by suitable pillars and screws. In front of the dials, that are connected in sequence in an ordinary way, there is a window through which indicating-numbers on the dials may be read, as shown in Fig. 1. A bell A⁵, that is to audibly indicate when a fare or ticket is received, is struck by a hammer G when the lever C is depressed, the said hammer being raised by a dog F, that is pivoted to the sliding plate D on a screw F', and slides in a slot in the plate B as the plate D is moved. On the upper end of the dog F a tooth F² is projected through the plate B a sufficient distance to engage with and actuate the heel of the bell-hammer G, so as to lift the hammer-head, and the dog is pressed on by a spring F⁴, which insures the engagement of its tooth F² with the hammer. The bell-hammer is thrown against the bell by a spring G' that is supported and has an engagement with the hammer-heel forward of its pivot. The case A substantially incloses the bell and holes may be made in the case to permit the escape of sound.

The receiver H is hinged to the main case A at H' and swings in an opening in said case, the top of the receiver being loosely connected by a link H² to an arm H³ of a bell-crank that is pivoted at one end to the plate B and at the other end in a bracket B⁴. The pivot which fits into the plate B passes through a slot in the sliding plate D, similar to the slots D³ D⁴. The other arm H⁴ of the bell-crank is provided with a pin H⁵, which fits into the transverse slot D⁵ of the sliding plate D and is carried by the plate as it slides up and down.

The receiver H is provided with chutes-plates H⁶ H⁷, transversely disposed and converging at their lower edges, as shown in Figs. 2 and 3, two sides of the receiver extending down beyond the pivot H' of the receiver for conveyance of tickets or cash introduced at the top of the same. The mouth of the part H is covered by a flap A² that is fastened to the top of the case A, and protects the said mouth when the receiver is in closed adjustment.

Below the receiver H, and hinged at J' to the inner casing N, is the flap J that swings into a proper position to hold the ticket or money close to the window K for inspection, this occurring when the receiver is in open adjustment. The free end of flap J is connected by a link J² to one arm J³ of a bell-crank that is pivoted on the plate B, the other end of the said arm being pivoted to a bracket B⁵ that is secured on the plate B, as shown in Figs. 2 and 3. The other arm J⁴ of a bell-crank is provided with a pin J⁵, which engages a transverse slot in the plate D, and is moved up and down as said plate reciprocates.

The inner case N fits against the outer case A, and is held at the top by a pin that

enters a socket on the outer case, its lower end being secured thereto by a wedge-plate N' that engages grooves N² A⁴, (shown in Fig. 2,) these grooves being respectively produced on the inner and outer casings.

Within the inner casing N are pivoted two depending flaps N³ N⁴, that are caused to converge at their lower ends by a loose contact with the cross-pins N⁵ N⁶. Near the center of the inner casing N another pendent flap N⁷ is hung, the vibration of which is limited by contact with the cheek-pieces N⁸ N⁹, and above the flap N⁷, at the rear of the inner cross-wall of the receiver H, is held an upright flap N¹⁰, pressed toward the said inner or back wall of the receiver by a weak spring.

The operation is as follows: The conductor or party operating the device turns the apparatus so that he can see the window K and then presses the knob C², which rocks the lever C on its pivot C', and through the link C³ moves the sliding plate D upward, which actuates the several connected parts as follows: The plate D draws the link E with the pin E' up. The pin E', following the cam-groove E³, turns the ratchet-wheel E², which, through the teeth on the end of its spindle, actuates the series of registering-dials. The ratchet-wheel E², by its pawl, is prevented from turning backward, so that the operation that is commenced will be completed without slip or retrograde movement. The plate D also moves the dog F along the slot in the plate B, causing the tooth F² to engage the heel of the hammer G and rock the head of said hammer away from the bell until the heel of the hammer-arm slips off of the tooth F², which will permit the stress of the bent spring G' to return the hammer, so as to strike the bell. The sliding plate D also moves the pin H⁵ upward, and through the bell-crank H³ H⁴ and the link H² opens the receiver H. The plate D also moves the pin J⁵ up, which, through the bell-crank J³ and J⁴ and link J², pushes the flap J over to the window K, as shown in Fig. 3. The passenger or other depositor now places the fare or ticket in the receiver H, that has been outwardly projected by the movement of parts which have been described, and said ticket or fare falls through the guiding chutes and walls of the receiver, resting against the flap J and transparent wall of the window K in view of the ticket or fare collector. As soon as the fare or ticket is inspected and found correct the conductor releases the handle C², and the sliding plate D is moved down, drawing the receiver H into the case A and withdrawing the flap J from the window K, thus allowing the fare or ticket to fall into the storage-receptacle P. The downward-sliding movement of the plate D completes the movement of the pin E' in the cam-groove E³ and causes the ratchet-wheel E² to make a complete revolution, and said movement also brings the dog F down past the heel of the bell-hammer G, the spring F⁴ allowing the tooth F² to fall back and slide below the

toe on the hammer-heel or into the position shown in Fig. 6.

The pendent flaps that are located in the inner case N and also in the receiver H are designed to prevent the fraudulent abstraction of fares or tickets after their deposit in the receiver and subsequent passage into the receptacle P. To explain this: If it is assumed that a fare has been allowed to pass into the storage-receptacle and for its removal the apparatus is turned upside down, the flaps N³ N⁴ will prevent anything passing into the inner case N. If the conductor should hold a fare or ticket at the window K and then try to remove it by turning the device bottom-side up, it will most likely be caught by the flap N⁷; but if it should pass N⁷ it would pass into the case behind the receiver H, where it would probably remain until removed through the proper aperture, or if it passes into the receiver H it will be arrested by one of the chute-plates H⁶ H⁷.

In service the apparatus is carried by means of a strap that passes through loops on the receptacle P, and a cross-strap (not shown) may be provided to hold the device against the body of the person carrying it when not in service.

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

1. A fare box, comprising a case, a hinged receiver adapted to swing into and out of the case, a verifying window in the case, a hinged flap arranged below the receiver and adapted to be moved toward the window, a tube on the lower part of the case, a storage receptacle connected to said tube, a registering apparatus in the case, an operating lever projecting from the case, and operative connections between the lever and the receiver, and also between the said lever and the registering apparatus, substantially as described.

2. A fare box, comprising a main case, an inner casing forming a downward passage, a storage receptacle communicating with said passage, a receiver the lower end of which is hinged to the casing at the top of the passage, a lever projecting from the main case and

operatively connected with the receiver, and a registering device operatively connected with the said lever, substantially as described.

3. In a fare box, the main case provided with a channel for the passage of the fare or ticket, a hinged flap arranged in said channel, a link pivoted to the flap, a crank lever having one arm pivoted on the link, the crank lever being fulcrumed on the case, a sliding plate connected by a pin with the other arm of the crank lever, another link pivotally connected with the sliding plate, and an operating lever fulcrumed in the case and pivoted to the second link, substantially as described.

4. A fare box, comprising a main case provided with an opening, a receiver hinged to the main case and adapted to rock in said opening, a link pivoted to the receiver, a crank lever fulcrumed in the case and having one arm pivoted to the link, a sliding plate operatively connected by a pin with the other arm of the crank lever, an operating lever fulcrumed in the case, and a connection between the sliding plate and the operating lever, substantially as described.

5. A fare box, comprising the main case provided with a window, and with a channel for the passage of a fare or ticket, a movable receiver at the upper end of the said passage, the receiver also having a downward passage a hinged flap located in the channel near said window in the case, a registering apparatus arranged in the main case, a lever pivoted in the case and projecting therefrom, and operatively connected with the receiver, with the flap, and with the registering apparatus, another hinged flap in the channel above the first mentioned flap, two other hinged flaps located in the channel below the first mentioned flap, and a storage receptacle on the main case below the channel therein and communicating therewith, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN EVANS.

Witnesses:

CHARLES NICHOLAS COLLISON,
ARTHUR GORE COLLISON.