

3 Sheets—Sheet 1.

No. 487,168.

Patented Nov. 29, 1892.

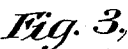


Inventor
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3 Sheets—Sheet 2.

No. 487.168.

Patented Nov. 29, 1892.



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(No Model.)

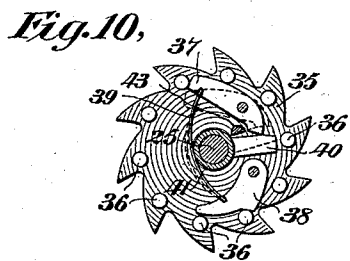
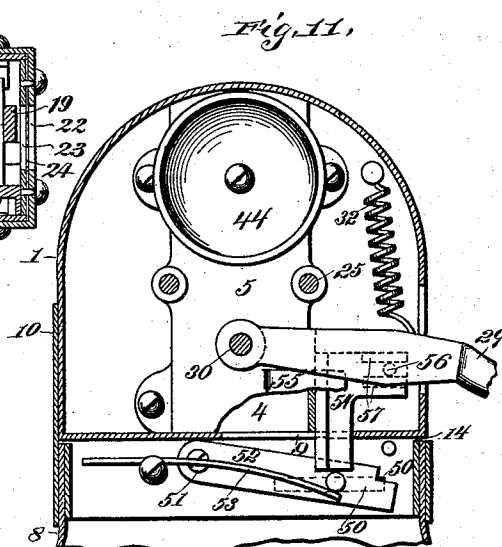
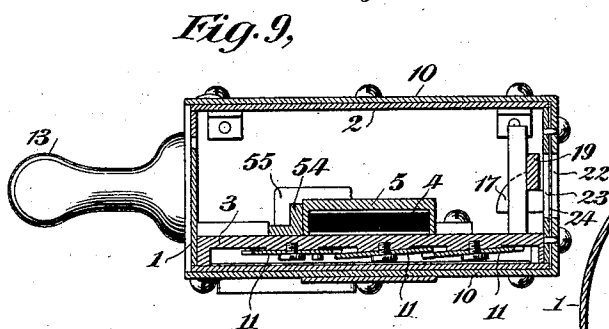
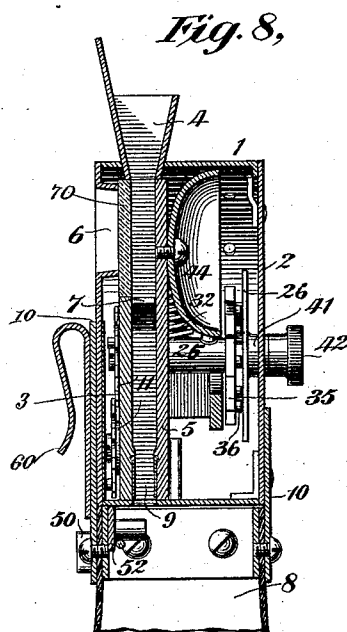
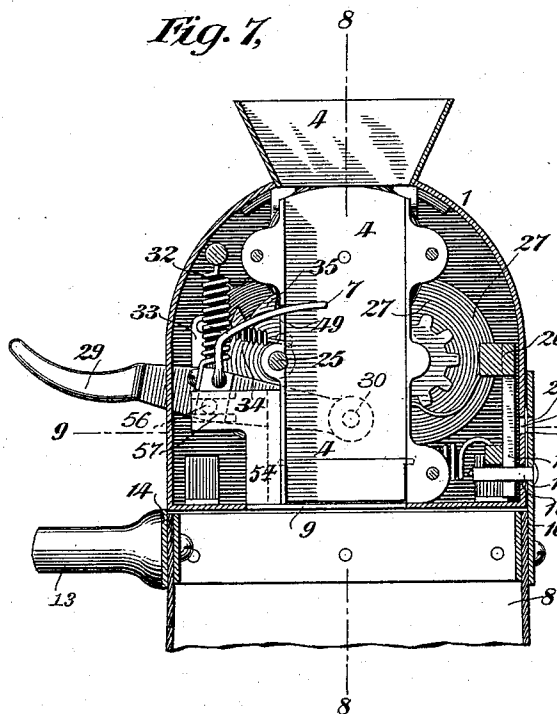
3 Sheets—Sheet 3.

J. E. ALLISON.

PORTABLE FARE RECEIVER AND REGISTER.

No. 487,168.

Patented Nov. 29, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

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PORTABLE FARE RECEIVER AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 487,168, dated November 29, 1892.

Application filed December 19, 1891. Serial No. 415,576. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. ALLISON, a citizen of the United States, residing at Nashville, Davidson county, State of Tennessee, have invented certain new and useful Improvements in Portable Fare Receivers and Registers, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The invention consists in the certain novel and peculiar arrangements and combinations of the several parts of the device, all as hereinafter fully described, and then pointed out in the claims.

The accompanying drawings of a fare receiver and register embodying the invention are as follows:

Figure 1 is a front view of the device shown as supported by its rear hook upon the attaching-plate, which is secured upon the front of the body of the conductor by means of a belt and a neck strap, both of which are shown in part only for the convenience of illustration. Fig. 2 is a side view of the device. Fig. 3 is a sectional view, the plane of the section being indicated by line 3 3, Fig. 4. Fig. 4 is a sectional view, the plane of the section being indicated by line 4 4, Fig. 3. Fig. 5 is a view in section on a plane indicated by line 5 5, Fig. 6. Fig. 6 is a view of the opposite side of the device from that shown in Fig. 2. Fig. 7 is a view in section, the plane of which is indicated by line 7 7, Fig. 6. Fig. 8 is a sectional view, the plane of the section being indicated by line 8 8, Fig. 7. Fig. 9 is a horizontal section on line 9 9, Fig. 7. Fig. 10 is an enlarged detail view of the ratchet-wheel with the dogs carried by the adjacent register-wheel and the trip device for controlling the dogs, as hereinafter described. Fig. 11 is a detailed view of the operating-lever, the slide connected therewith, and the clipper operated by the slide, the several parts being shown in the position which they assume when the lever is depressed.

Referring to the drawings, in which the same numbers of reference indicate the same

or like parts throughout, 1 is a metallic casing or housing having a removable front plate 2, which is shown as secured in place by means of screws at the lower end and lugs and a lip at the upper end. Within the casing 1 is arranged the register and alarm, which for convenience of construction are mounted upon a removable plate 3, which to economize the number of parts is arranged so as to form one side of the coin-chute 4, the other sides of which are formed by the three-sided piece 5, the same being suitably secured to the bed-plate 3, though, if preferred, it may be made in one piece therewith.

The coin-chute 4 is provided with a flaring mouth at the top of the casing, and just below this is arranged a peep-window 6, provided with glass 70, by means of which visual access may be had to the coin held in the chute by the stop-finger 7, which is disposed within the chute, so as to check the passage of the coin deposited in the chute and hold it at the peep-window for inspection by the conductor, and before the coin is registered and finally deposited within the fare receptacle or pouch 8, which is removably secured to the base of the casing. This fare-receptacle 8; into which the coin-chute leads through a suitable opening 9 (see Figs. 7, 8, and 9) in the bottom of the casing, is a pocket-like receptacle with its upper end provided with a frame 10, fitting snugly over the lower end and extending quite high up on the rear side of the casing for the purpose of concealing the totalizer or permanent register-wheels 11, which are mounted upon the back of the bed-plate 3 and which are constructed and arranged to operate in the usual way, so that as the units-wheel completes one revolution it advances the tens-wheel one step, and as the latter passes through one revolution it automatically advances the hundreds-wheel one step, and so on, the wheels being read through the openings 12 12 (see Fig. 4) in the back of the casing and which openings are covered by the frame 10, as before stated. The lower and main part of the receptacle 8 is made, preferably, of a flexible material—for instance, leather—as shown, and it is provided at one side with a handle 13, by which

it may be carried in the hand of the conductor. The frame 10 of the receptacle has the rear side thereof made very broad, in order to extend a sufficient distance up over the rear side of the casing to cover the openings 12 12 therein, through which the wheels 11 11 of the permanent register are read, as before described. At the side of the frame 10 at which the handle 13 is located the frame is cut away, so that the edge 14 thereof comes about on a level with the bottom of the casing 1 when the receptacle is secured in position thereupon, the two parts being put together by entering one side of the casing in the cut-away end of the frame and then sliding either part sidewise until the side so entered abuts against the side of the frame 10 opposite the cut-away side, by which time the notches 15 15 of the frame 10 are forced over the studs 16 16, located one at each side of the casing near the bottom of the same. These studs and notches serve to secure the receptacle and casing together, in addition to the snap-lock, which I also provide. This snap-lock consists in a keeper or hook 17, which is mounted upon the inner face of the side of the frame 10 opposite the cut-away side. The keeper 17 projects inwardly and passes through a suitable opening 18, formed in the side of the casing and engages with a bolt 19, which is pivoted, preferably, upon a post 20, standing out from the bed-plate 3, and the bolt is provided with a suitable spring 21, which keeps it normally shot and locked with the keeper, which is passed through and withdrawn from opening 18 as the casing and receptacle are put together and taken apart. The bolt 19 is drawn by means of any kind of a small key, blade, or rod, which is thrust in through the keyhole 22, formed in the side of the frame 10, and thence through a hole 23, formed in the casing and registering with the hole 22 when the parts are put together. As the key thus comes within reach of the bolt a lateral movement of the key will draw the bolt clear of the keeper, whereupon the casing and receptacle may be taken apart and the contents of the latter removed and a reading of the permanent register 11, which is now exposed, may be taken.

As the lock 17 19 controls the access to the fares deposited within the receiver, I provide the keyhole 22 of the lock with a frangible seal 24, such as paper, (see Figs. 6 and 9,) which may be numbered or marked in a peculiar manner, so as to prevent its being easily replaced by any unauthorized person. This detector-seal 24 is secured by means of paste or otherwise upon the inner side of frame 10, from where it may be easily removed or inspected when the receptacle is detached. Obviously the seal must be broken or pierced by the key or instrument employed in operating or picking the lock, and its mutilation thus affords a means of detection.

The permanent register 11 11 is actuated

by the shaft 25, upon which is mounted the units-wheel thereof, as well as the units-wheel 26 of the temporary register. The units-wheel of the permanent register being fast on the shaft 25, the wheel responds to each movement thereof which is imparted to the shaft by means of the lever 29, pawl 33, and ratchet 35, the shaft 25 at the same time advancing the units-wheel 26 of the temporary register through means of the pins 36 and dogs 37 and 38, which are hereinafter described. Each registering movement of the temporary register will therefore actuate the units-wheel of the permanent register in a corresponding manner. This units-wheel 26 controls a tens-wheel 27, and both of said wheels can be read at any time through suitable openings 28 28, formed in the front face of the casing, so that a passenger may see that his deposited fare is registered.

The registers are operated, primarily, through means of a lever 29, which is hinged or pivoted at its inner end to a post 30 (see Fig. 7) and has its outer free end projecting through an opening 31 in the casing, so as to be conveniently manipulated by the conductor. A spring 32 serves to hold the lever normally drawn up and returns it to such position after it has been pulled down to register a fare. The operating-lever 29 carries a pawl 33, (see Figs. 3, 4, and 7,) which by means of a spring 34 is held in constant engagement with a ratchet-wheel 35, secured fast upon the operating shaft 25 and provided upon one face with a set of pins 36 36, arranged in a circle and equal distances apart, so as to correspond with the teeth of the ratchet. These pins 36 are engaged by dogs 37 38, which are pivoted upon the opposing face of the register-wheel 26 and are provided with a spring 39, serving to keep them in engagement with said pins. The spring 39 is a flat steel strip, the ends of which are fixed in notches formed in the edges of the dogs, respectively. The dog 37 acts to lock the register-wheel by reason of the outer end of the dog engaging one of the pins. Under this condition the step-by-step movement given to the ratchet by its pawl and the connected operating-lever is imparted to the units-wheel 26 through means of the intermediate pins and dogs, and the same is accordingly advanced step by step. The wheels are unlocked when the dog 37 is moved from the full-line position to the dotted-in one, (see Fig. 10,) which movement is accomplished by the engagement therewith of the trip-arm 40, projecting at right angles from the sleeve 41, which is loosely mounted upon the end of the operating-shaft 25, and extends with the shaft to the outside of the casing 1, where at its end the sleeve is provided with a milled head or thumb-nut 42 for rotating the sleeve to operate the trip-arm 40 for unlocking the register-wheel 26, which turns loosely on the sleeve 41 and which is thereby turned back, the sweep of the trip-arm being limited by

the stop 43, located upon the wheel 26. In this way the wheel 26 of the temporary register may be given a backward rotation to correct an over-forward rotation, and such re-
 5 setting is effected without actuating the permanent register, owing to the disengagement of the dog 37 and its pin 36, rendering the two registers independent for the time being. After the trip-arm has moved the dog 37 out
 10 of engagement with its pin the arm brings up against the stop 43 and a continued backward rotation of the sleeve will, by virtue of the arm bearing against the stop 43 on the wheel, serve to turn said wheel back to the
 15 desired point. The dog 38 is held constantly in engagement with one of the pins 36 and prevents the turning forward of the wheel 26 by sleeve 41 and its arm without a corresponding registration by the permanent register, as in such forward movement of the trip device the dog 38 locks the register-wheel 26 to
 20 the ratchet-wheel 35, which being fast on the operating-shaft 25 will actuate the register 11 in an evident manner.

Each registration is audibly announced by a bell or gong 44, the striker 45 of which is connected with the rocking lever 46, (see Figs. 3 and 4,) which is pivoted upon the end of the post 30, upon which the operating-lever
 30 29 is hinged. The rocking lever 46 is provided with a tooth or projection 47, which is held against the teeth of the ratchet 35 (see Fig. 3) by a spring 48 in such a way that as the ratchet advances one step or tooth in registering the rocking lever 46 is given a snap
 35 movement whereby the gong is sounded.

The stop-finger 7, which has been before referred to, is connected rigidly with the operating-lever 29, and is suitably curved, and
 40 extends from the lever through an opening 49 in the side of the coin-chute 4 into said chute and lies in the path of the coin at such a point as to hold the coin at the peep-window before the coin is registered and deposited in the receptacle. When the operating-lever
 45 is depressed to register the coin after it is deposited in the chute, the finger 7 is withdrawn from its path and the coin thus escaping it falls into the receptacle, after which the stop-finger moves back for the next operation. The finger being mounted rigidly and directly on the operating-lever, it is not at all liable to get out of adjustment, so that it will always act with a true and positive
 50 movement and hold the coin at the proper point for inspection. The receiver is also provided with a device for clipping or cutting the ends off of tickets, the cut or clipped off pieces being deposited in the fare-receptacle 8 and registered at the same time. The end of the ticket to be clipped is inserted in the opening 50, (see Figs. 3, 4, and 6,) formed in the rear side of the frame 10, upon the inner side of which frame is pivoted at 51 a
 60 knife or cutter 52, which is held retracted by a spring 53 and is arranged to sweep across

the opening 50 whenever the knife is depressed. The knife is forced down so as to cut the inserted ticket by means of a slide 54 bearing down upon it, the slide being ar-
 70 ranged within the casing 1, from the bottom of which it is projected through opening 9. (See Fig. 11.) This slide is the shape of an inverted L, with the vertical leg thereof working in a guide 55, (see Fig. 9,) and it is actu-
 75 ated by the operating-lever 29, from which a stud 56 projects into a groove 57 in the slide 54, so as to make a sliding joint therebetween. At each depression of the lever 29 the slide is forced against the knife and depresses it,
 80 thereby cutting off the inserted end of the ticket. (See Fig. 11.)

At the back of the receiver is a hook 60, which is preferably mounted upon the frame 10 of the fare-receptacle, and it is designed to
 85 hook with a staple or loop 61 on a breast-plate 62, as shown in Figs. 1 and 2. This breast-plate may be fastened securely upon the body of the conductor by means of a belt 64, one end of which is secured to one of the four
 90 eyes 63 and passing horizontally around the body has its other end releasably secured to another eye of the plate by a snap-hook 65 and a neck-strap 66, (see Fig. 1,) which is at-
 95 tached by one end to an upper eye 63 and extends up across the chest and around the neck of the wearer, and thence down over the other side of the chest to the upper corner of the plate, where it is detachably secured by a snap-hook 67. This supporting-plate is worn by the
 100 conductor in the manner described and the receiver may be readily mounted upon it and removed therefrom and carried in the hand by the handle 13, though obviously it can be operated quite as well when supported upon
 105 the breast-plate as when carried in the hand.

I desire it to be understood that my invention is not limited to the specific form shown, as various modifications may be made in the construction of the same without departing
 110 from the spirit of the invention, as pointed out in the claims.

Having thus described my improvements in fare-receivers, what I claim as my invention, and desire to secure by Letters Patent, is—

1. A fare-receiver having a permanent register and a co-operating temporary register, a casing inclosing said registers and formed with openings through which said registers may be read, a detachable receptacle or pouch
 120 having a frame fitting over one end of the said casing and formed with an extension covering the openings through which the permanent register is read, and a lock for locking the receptacle and casing together, whereby
 125 the permanent register may only be visible when the receptacle is detached.

2. In a fare-receiver, the combination, with a register provided with a casing, of a receptacle detachably secured to the casing and
 130 formed with an opening for inserting the end of a ticket and provided with a cutter or blade

sweeping across said opening for clipping the end of an inserted ticket, said cutter or blade connected with and operated by said register, whereby the clipping of a ticket may be registered.

3. The combination, with a permanent register, of a temporary register and a dog intermediate the two registers for locking them together in their forward movement and a hand-operated trip device for said dog for disengaging it and permitting the backward rotation of the temporary register independently of the permanent register.

4. The combination, with a permanent register provided with an operating-shaft projecting from the casing of the register, of a temporary register connected with said shaft and a dog for locking the two registers together in their forward movement, a trip-arm for disengaging the dog and leaving the temporary register free to be rotated backward independently of the permanent register, and a loose sleeve mounted upon the projecting end of the said shaft and carrying said trip-arm, said sleeve being accessible from the exterior of the casing of the register for manipulation in turning back or resetting the temporary register.

5. The combination, with a permanent register having an operating-shaft, of a temporary register having its units-wheel mounted loose upon said shaft and a ratchet-wheel mounted fast on said shaft, said ratchet provided with a dog for locking the ratchet and units-wheel together in the forward rotation thereof, and a trip device also mounted upon said shaft for disengaging the dog, whereby the temporary register may be turned back without actuating the permanent register, said trip device extending to the exterior of the casing for convenient manipulation.

6. The combination, with a shaft and a permanent register controlled thereby, of a register-wheel mounted loose upon said shaft and a ratchet-wheel mounted fast on the shaft, an operating-lever provided with a pawl for actuating said ratchet, a dog for locking the register-wheel and ratchet together in their forward movement, and a trip device for disengaging said dog to unlock the two said wheels and by which the said register-wheel may be turned back or forward, and a second dog for locking the ratchet and register wheels together in the forward movement of the trip device, whereby the turning forward of the said register-wheel by the trip device may correspondingly actuate the permanent register.

7. The combination, with a shaft projecting from the casing of the register and a ratchet-wheel mounted fast on said shaft and a lever and pawl for actuating said ratchet, of a loose sleeve arranged upon the projecting end of the shaft and provided at its inner end with a trip-arm, a register-wheel mounted loose on said shaft, and a dog mounted upon the register-wheel for locking it to the

ratchet in its forward movement, said dog engaged and operated by said trip-arm upon rotating said sleeve backward, whereby the register-wheel may be turned back or reset without actuating the ratchet.

8. The combination, with a shaft projecting from the casing of the register and a permanent register controlled thereby, of a ratchet-wheel mounted fast upon said shaft and provided upon its face with a series of pins or projections corresponding with the teeth of the ratchet, a lever and pawl for operating said ratchet, a loose sleeve arranged upon the projecting end of the shaft and provided with a trip-arm, a register-wheel loosely mounted upon said sleeve and provided with two spring-dogs engaging the pins or projections of the ratchet, one dog locking the said register-wheel and ratchet together in their forward movement and engaged by said trip-arm to effect the unlocking of said register-wheel and ratchet in turning the register-wheel back and the other said dog locking the register-wheel and ratchet together in the turning forward of the register-wheel by the trip device, whereby the said register-wheel cannot be turned forward by the trip or resetting device without actuating the permanent register in a corresponding manner.

9. The combination, with the shaft controlling a permanent register, of a ratchet-wheel 35, mounted fast upon the shaft and provided with a set of projections or pins 36, a lever and pawl for actuating said ratchet, a sleeve 41, mounted loosely upon the end of the shaft and provided with a trip-arm 40, and a register-wheel 26, loosely mounted upon said sleeve and provided with a dog 37, adapted to engage with the pins 36 and engaged by the said trip-arm, whereby the backward rotation of said sleeve or trip device may unlock the wheels and permit the turning back of the register-wheel independently of the permanent register, substantially as and for the purpose set forth.

10. The combination, with the shaft controlling a permanent register, of a ratchet-wheel 35, mounted fast upon the shaft and provided with a set of projections or pins 36, a lever and pawl for actuating said ratchet, a sleeve 41, mounted loosely upon the end of the shaft and provided with a trip-arm 40, and a register-wheel 26, loosely mounted upon said sleeve and provided with the dogs 37 and 38, adapted to engage the pins 36, the said dog 37 being engaged by the trip-arm, whereby the backward rotation of said sleeve or trip device may unlock the wheels and permit the register-wheel to be turned back independently of the permanent register and the turning forward of the sleeve or trip device may actuate both the temporary and permanent register in a corresponding manner, substantially as and for the purpose set forth.

11. The combination, with a fare receiver and register, of a pivoted spring-actuated cut-

ter 52 for clipping tickets, a register, and the
pivoted operating-lever for actuating the reg-
ister, and a slide 54, having a sliding joint
connecting it with the operating-lever and act-
5 uated thereby and engaging and operating
the cutter when depressed, substantially as
and for the purpose set forth.

In testimony whereof I have hereunto set
my hand, this 15th day of December, 1891, in
the presence of the two subscribing witnesses. 10
JAMES E. ALLISON.

Witnesses:

C. S. CALDWELL,
T. C. BLAKE.