

(No Model.)

2 Sheets—Sheet 1.

L. EHRLICH.
FARE RECEIVER AND REGISTER.

No. 462,114.

Patented Oct. 27, 1891.

Fig. I.

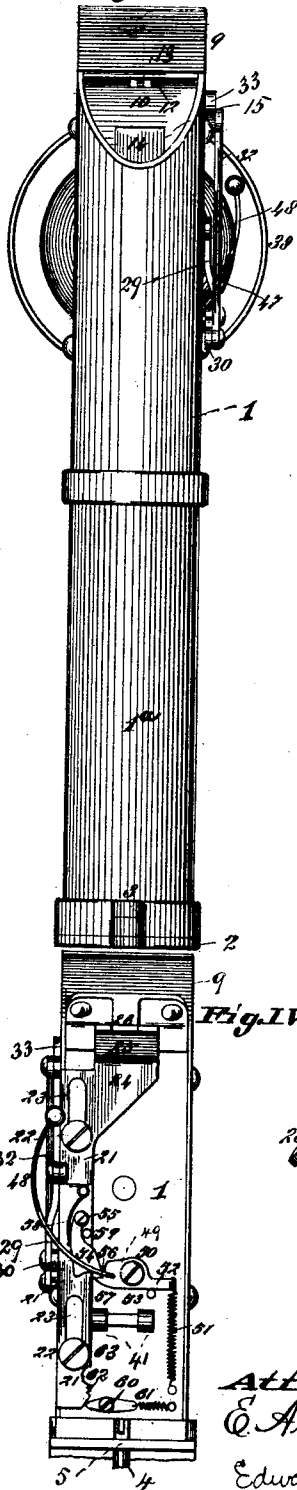


Fig. II.

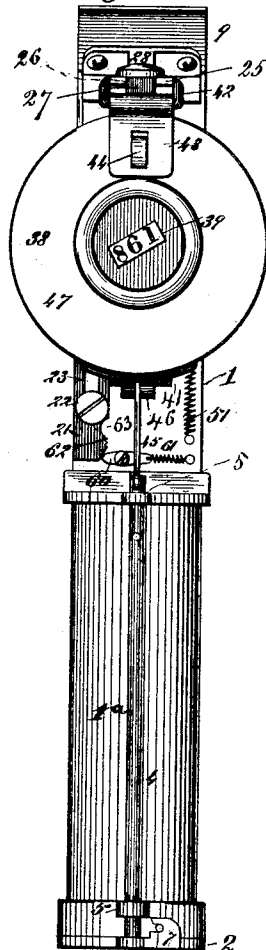


Fig. III.

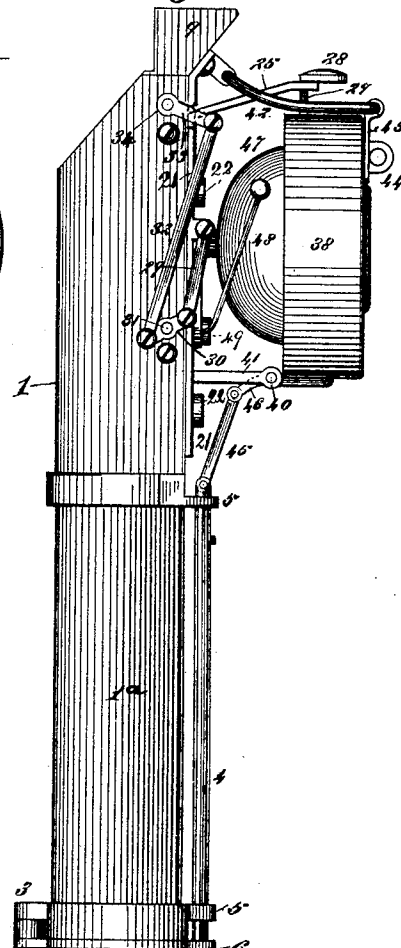


Fig. IV.

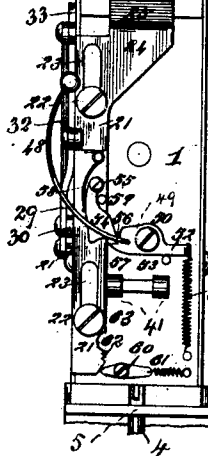


Fig. V.

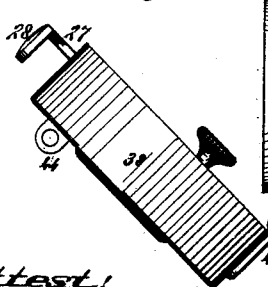
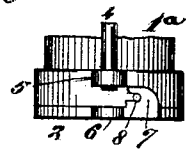


Fig. VI.



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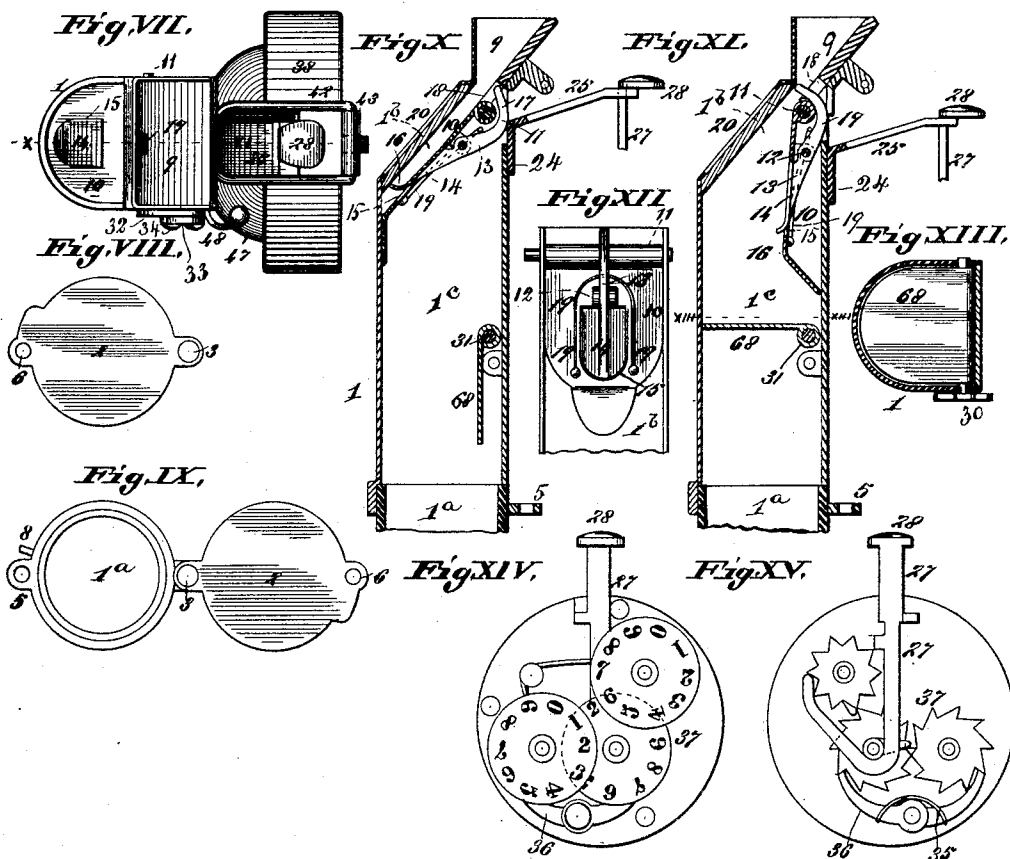
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

LEO EHRLICH, OF ST. LOUIS, MISSOURI.

FARE RECEIVER AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 462,114, dated October 27, 1891.

Application filed July 3, 1890. Serial No 357,652. (No model.)

To all whom it may concern:

Be it known that I, LEO EHRLICH, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Fare Receivers and Registers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved device for receiving and registering street-car fares; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a front elevation illustrative of my invention. Fig. II is a rear elevation thereof. Fig. III is a side elevation of the same. Fig. IV is a rear elevation, the bell and register case or box being omitted. Fig. V is a detail view with the register box or case in its open position. Fig. VI is a detail side elevation of the lower end of the receiver. Fig. VII is a top view of the receiver and register. Fig. VIII is a bottom view of the receiver, showing the valve or gate closed. Fig. IX is a similar view showing the valve or gate open. Figs. X and XI are detail vertical sections of the receiver, taken on line $x x'$, Fig. VII, Fig. X showing the parts in the position they occupy before the fare is registered, and Fig. XI showing the position of the upper end of the lever when a fare is deposited and the parts in the position they occupy after the fare is registered. Fig. XII is a rear view of the main valve and its lever. Fig. XIII is a horizontal section taken on line XIII XIII, Fig. XI. Figs. XIV and XV are elevations showing the register mechanism.

Referring to the drawings, 1 represents a receiver and 1^a a receptacle, which are preferably made in the form of a tube, as shown in Figs. I, II, and III. The receiver has an ante-chamber 1^b and a receiving-chamber 1^c communicating with the receptacle. At the lower end of this tube there is a gate or valve 2, pivoted to the lower end of the receptacle, as shown at 3, Figs. I, II, III, VI, VIII, and IX. This gate or valve is adapted to be opened out from the position shown in Fig. VIII to the position shown in Fig. IX to permit the fares to be dropped from the receptacle. It

is held in its closed position by a rod 4, held and guided by perforated lugs 5 on the receptacle and through which it passes, and its lower end is adapted to fit in a perforated projection 6 on the gate or valve opposite the hinge 3, as shown in Figs. II and III. The rod is shown elevated to permit the gate or valve to be opened in Fig. VI. The valve is provided with a notched lug 7, which receives a pin 8 on the lower end of the receptacle when the valve is closed and which assists the hinge in supporting the valve from vertical movement when it is closed. This pin, in connection with the lug, also serves as a stop to prevent the valve from moving too far around when being closed, thus causing the perforation in the projection 6 of the valve to register or come opposite the opening in the lower lug or projection 5 on the receptacle. The rod 4 is raised and lowered by mechanism, which will be hereinafter described.

The receiver is provided with a hopper 9, into which the fares are deposited by the passengers as the conductor presents the apparatus before them. From the hopper each fare moves into the ante-chamber 1^b down an inclined valve 10, hinged at 11, lowered into the receiving-chamber 1^c, and then dropped into the receptacle, as shown in Figs. X, XI, and XII. The valve has pivoted to it at 12 a lever 13. The lower end 14 of the lever is preferably widened out, as shown in Fig. XII, and this end of the lever fits in an opening 15 in the valve, its lower extremity being turned inwardly, forming a projecting nose 16. The upper end 17 of the lever is curved, as shown in Figs. X and XI, and is adapted to pass through an opening 18 above the hinge 11 of the valve 10 into the throat of the hopper 9, so as to close the entrance to the ante-chamber. The normal position of the lever is that shown in Fig. X, the lower end 16 of the lever extending beyond the face of the valve, and the lever is held in this position by a suitable spring 19. (Shown most clearly in Fig. XII.) When a fare is dropped into the hopper and it slides down into the ante-chamber 1^b onto the valve 10 it comes in contact with the nose 16 of the lever and forces the upper end of the lever into the position shown in Fig. XI, thus preventing another fare be-

ing deposited until the fare which has been received is dropped down into the receiving-chamber 1^o, the end 17 of the lever having entered and crossed the throat of the hopper and remaining there while the valve is being opened and closed to drop the fare into the receiving-chamber. By the use of this pivoted lever only one fare can be deposited at a time, as stated, and as the dropping of each fare into the receiving-chamber necessitates the operation of the register hereinafter described, it will be understood that each fare will necessarily have to be registered.

20 represents a glass plate located in the upper part of the receiver in front of the valve 10 and through which a fare can be seen in the ante-chamber before it is dropped down into the receiving-chamber.

I will now describe the mechanism for operating the valve 10, which also registers the fares and which may also operate a gong or bell for indicating the registry.

21 represents a sliding plate, the upper end only of which is seen in Figs. X and XI, held to the back of the receiver by set-screws or pins 22, which pass through slots 23 in the plate (see Fig. IV) and enter the back of the receiver. This plate is capable of being moved vertically from the position shown in Fig. X to the position shown in Fig. XI. The upper end 24 of the plate 21 has an outwardly-extending portion 25, which is notched, as shown at 26, Fig. IV, to receive the push-pin 27, having a head 28. The plate 21 is connected by a link 29 to the inner end of a lever 30, which is pivoted at 31 to the receiver. (See Fig. III.) The other end of the lever 30 is connected by a link 32 to a crank 33, secured to one of the projecting journals 34 of the valve 10. It will thus be seen that when the plate 21 is depressed by applying pressure to the pin 27 the crank 33 will be raised and the valve 10 opened from the position shown in Fig. X to the position shown in Fig. XI, thus dropping the fares into the receiving-chamber. When the pressure is removed from the pin 27, the parts are restored to their normal position by a spring 35, (see Fig. XV,) applied to the escapement-lever 36 of the register mechanism 37.

There is nothing peculiar or novel about the register mechanism, which is inclosed in a case 38, and it will therefore be unnecessary for me to give any description of it. Any suitable mechanism may be used and any form of spring may be used to return the push-pin 27 and the plate 21, with the parts to which it is connected, as explained, to their normal position. The case has an opening 39 in its face, through which the numerals on the register-disks may be seen. The case 38 of the register mechanism is pivoted at 40 to an arm 41, extending outwardly from the rear wall of the receiver. The normal position of the case is shown in Fig. III, and when in this position the movement of the push-pin 27 operates the valve 10 through means of the parts

described and also operates the register mechanism. The case is held in this position by means of a hinged hasp or strap 42, having a plate 43 on its outer end and which is perforated to receive a projection 44 on the case 38, the projection being also perforated to receive a suitable lock. By throwing the catch or hasp upwardly, as shown in Fig. V, the case 38 may be turned outwardly on its hinge 40 to the position shown in Fig. V. In doing so the rod 4, which, as stated, locks the valve or gate 2 in its closed position, is elevated through means of a link 45, which connects the upper end of the pin to the extension 46 on the case 38. Thus the outward movement of the case 38 unlocks the gate or valve 32 and permits of the removal of the fares from the receptacle. While the case is in its normal position, the gate or valve 2 is held closed, thus preventing the opening of the valve or gate 2 and the extraction of the fares, the intention of course being that the key to the lock which secures the hasp to the case would be retained in the office of the company, so that only an authorized person having possession of the key can open the receptacle and remove the fares.

For the purpose of giving a signal upon the registering of each fare, a gong or bell 47 is secured to the back wall of the receiver 1 behind the case 38, as shown in Fig. III. This bell is sounded through means of a hammer 48, secured to a block 49, (see Fig. IV,) the block being pivoted at 50 to the back of the receiver. The hammer is held out of contact with the bell by means of a spring 51, which holds the extended end or heel 52 of the block 49 against a projection or pin 53, protruding from the back wall of the receiver. As the plate 21 is depressed a dog 54, pivoted to the plate at 55, turns the block 49 on its pivot 50 and moves the hammer away from the bell, the dog having a point 56, which bears against a point 57 of the block 49. The dog is held into engagement with the block by means of a spring 58 and is prevented from being moved too far by the spring by means of a pin 59. It will thus be seen that when the plate 21 is depressed the hammer will be drawn back from the gong or bell until the point 56 of the dog passes the point 57 of the block, and then the hammer will be released and allowed to strike the bell under the influence of the spring 51. As the plate ascends the dog moves outwardly against the influence of the spring 58 by coming in contact with the projection 57 of the block, and as soon as it passes the projection it is forced inwardly again by the spring 58, and its point 56 again engages with the point 57 of the block.

In order to prevent a partial movement of the plate 21, which might drop the fares into the receiving-chamber without registering them, I have provided a dog 60, pivoted to the back of the receiver and held in its normal position by a spring 61. The point of

this dog engages teeth or notches 62 on the lower end of the plate 21. Now, if the plate is moved down but a portion of its distance, the dog will engage these notches and prevent the return of the plate, and consequently prevent the upper end 17 of the lever 13 from moving back out of the throat of the hopper 9, for until the valve 10 is closed (and it cannot close without the plate 21 reaching its upper position) the upper end of the lever will traverse the throat of the hopper and prevent the insertion of another fare. When the plate 21 is moved all the way down, the outer end of the dog 60 is received by a depression or notch 63 in the plate 21, and then when the plate moves upwardly the point of the dog will slip over the notches or teeth 62 and not prevent the upward movement of the plate, as it would do were the plate only depressed a portion of the distance, permitting the point of the dog to engage the teeth 62. I thus avoid the possibility of fares being received without being registered.

I prefer to pass the pivot of the lever 30 through the receiver, its opposite ends being journaled in the sides of the receiver, as shown in Fig. XIII. On this pivot I locate a valve 68, as shown in Figs. XI and XIII, forming the bottom of the receiving-chamber, upon which the fare drops as the valve 10 is opened and which sustains the fare until the valve 10 closes, when it will be dropped down into the receptacle. It will be understood that when the valve 10 is closed the valve 68 will be in its open position, as shown in Fig. X, and as the valve 10 is opened the valve 68 will be raised to the position shown in Fig. XI. Then as the valve 10 is closed the valve 68 will be opened, as described.

It will be understood that I do not confine myself to the shape of the receiver, as this may be varied without affecting the invention.

It will also be understood that the mechanism operating the valve and the register may be inclosed by a suitably-shaped case made to surround them.

I claim as my invention—

1. The combination of a receiver, a receptacle located beneath the receiver, through the lower end of which the fares pass out, a valve closing said lower end, mechanism for dropping the fares into the receptacle as they are deposited, mechanism for registering the fares, and a connection between the case of the registering mechanism and the valve, whereby the valve is fastened and unfastened, substantially as described.

2. The combination of a receiver, a receptacle, a valve at the lower end of the receptacle through which the fares are removed from the receptacle, a rod holding said valve in its closed position, a register, and mechanism for dropping the fares into the receptacle, said

register being connected to said rod, substantially as and for the purpose set forth.

3. The combination of a receiver having a hopper and ante-chamber and a receiving-chamber, a valve located beneath the hopper, means for operating the valve to drop the fare into the receiving-chamber, and a lever pivoted to said valve, the lower end of said lever being adapted to enter the ante-chamber when the valve is closed, and the upper end of said lever being adapted to enter the throat of the hopper when a fare is deposited, substantially as and for the purpose set forth.

4. The combination of a receiver provided with a hopper, a valve located beneath the throat of the hopper, means for operating the valve, and a lever pivoted to the valve having ends 16 and 17, substantially as and for the purpose set forth.

5. The combination of a receiver provided with a hopper, a spring-actuated valve located beneath the throat of the hopper, a lever pivoted to the valve, having ends 16 and 17, and means for operating the valve, said lever being so constructed that when a fare is received its upper end will enter the throat of the hopper, substantially as and for the purpose set forth.

6. The combination of a receiver having a hopper, a valve 10, located beneath the throat of the hopper and having an opening in its lower part, a lever pivoted to the back of the valve and having a lower end 16 extending through the valve-opening and an upper end 17 extending over the valve, and a spring 19, the whole being arranged to operate substantially as and for the purpose set forth.

7. The combination of a receiver having a hopper, a valve located beneath the throat of the hopper, a register, and mechanism for operating said valve and register, consisting of a push-rod, a sliding plate, and links and lever connecting the sliding plate to the valve, substantially as and for the purpose set forth.

8. The combination of a receiver having a hopper, a valve located beneath the throat of the hopper, valve-operating mechanism, a register mechanism, a sliding plate, to which said valve mechanism and register mechanism are connected, and means for preventing a partial movement only of said plate, substantially as and for the purpose set forth.

9. The combination of a receiver having a hopper, a valve located beneath the throat of the hopper and provided with a pivoted lever, valve-operating mechanism, a register mechanism, a movable plate connected with the register mechanism and valve mechanism and having notches or teeth 62, and a dog 60, arranged and operating substantially as and for the purpose set forth.

LEO EHRLICH.

In presence of—

THOS. KNIGHT,
A. M. EBERSOLE.