W. L. CLARKE, JR.

STREET INDICATOR.

APPLICATION FILED JAN. 31, 1920.

1,398,771.

Patented Nov. 29, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

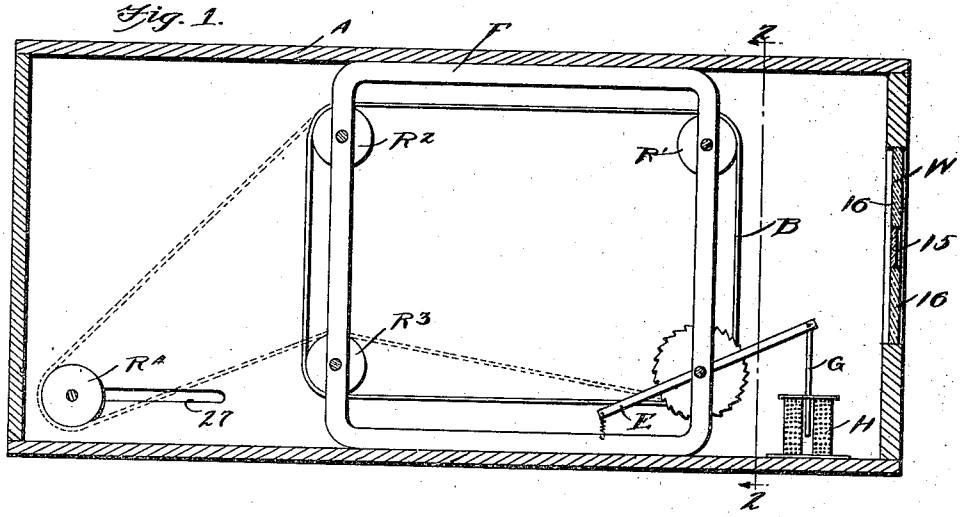


Fig. 2.

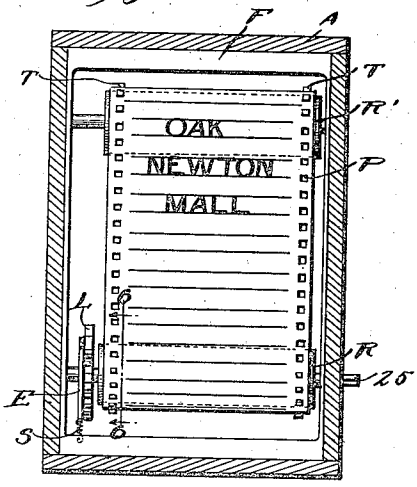
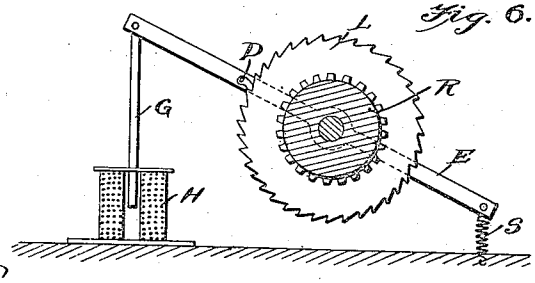


Fig. 6.



WITNESSES

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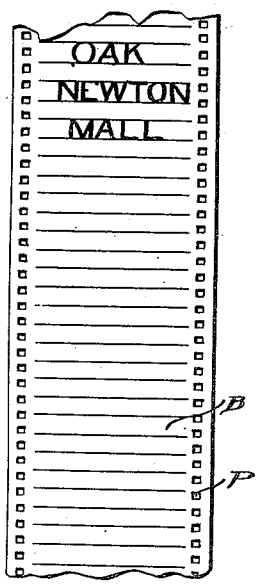
1,398,771.

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2 SHEETS—SHEET 2.

Fig. 3.

Fig. 4.



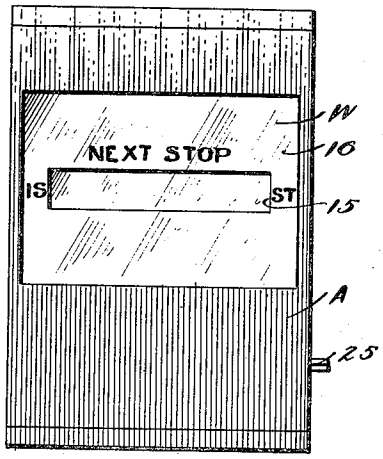


Fig. 5.

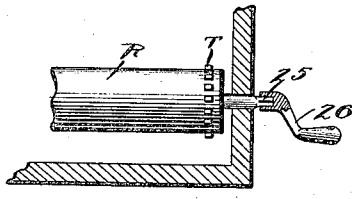
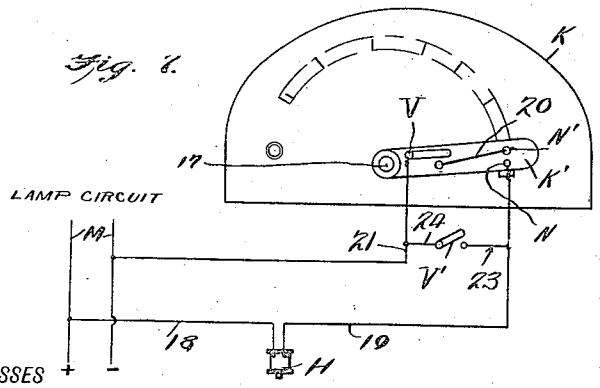


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

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STREET-INDICATOR.

1,398,771. Specification of Letters Patent. Patented Nov. 29, 1921.

Application filed January 31, 1920. Serial No. 355,363.

To all whom it may concern:

Be it known that I, WILLIAM LEE CLARKE, Jr., a citizen of the United States, and a resident of Tallahassee, in the county of Leon and State of Florida, have invented certain new and useful Improvements in Street-Indicators, of which the following is a specification.

My invention relates to changeable exhibitors and more particularly to a street indicator adapted for use on the cars of an electric railway.

A purpose of my invention is the provision of a street indicator which is operable by the controller lever of a car so that the motorman during manipulation of the controller as the car is passing from one street to another will automatically actuate the indicator to appraise the passengers of the name or number of the next street in advance and before the car has reached such street.

It is also a purpose of my invention to provide an indicator of the above described character which can be controlled at will by the motorman independently of the controller lever so that when a street car is traversing a congested district wherein a constant manipulation of the controller lever is necessary, or when it is prearranged that a car stop only at certain corners during its trip, the indicator is operated only at such times as to indicate the streets at which the car actually stops.

I will describe one form of indicator and one form of controlling means, each embodying my invention, and will then point out the novel features thereof in claims.

In the accompanying drawings:

Figure 1 is a view showing in side elevation one form of indicator embodying my invention, the casing for such indicator being shown in section.

Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a view showing in front elevation the indicator casing shown in Fig. 1.

Fig. 4 is a fragmentary detailed view of a portion of the belt shown in Figs. 1 and 2.

Fig. 5 is a fragmentary view partly in section showing the manual operable means for manipulating one of the feed rollers.

Fig. 6 is a vertical sectional view taken on the line 6—6 of Fig. 2.

Fig. 7 is a diagrammatic view showing one form of controlling means for the actuating means and the circuits comprised in such means.

Similar reference characters refer to similar parts in each of the several views.

Referring specifically to the drawings and particularly to Figs. 1, 2 and 3, A designates a casing of suitable form which is provided at its forward end with an opening and on which is mounted a window W having a transparent portion 15 and translucent portions 16. As shown in Fig. 3, portions 16 are provided with suitable indicia so that when the name or number of the street appears within the rear of the portion 15, the passengers of a car are apprised of the next street at which the car is to stop.

As shown in Figs. 1 and 2, a frame F is arranged within the casing A, such frame being preferably of rectangular formation and having journaled therein at points adjacent its four corners, feed rollers R, R′, R^2 and R^3. As shown in Fig. 2, the rollers R, R′, etc., are disposed in horizontal planes and are provided adjacent their opposite ends with a circular series of radially extending teeth T which are designed to work within squared perforations P formed at intervals in the marginal edges of the endless belt B. As shown in Fig. 1, the belt B is trained about the rollers R, R′, etc., in such manner that the forward stretch of the same is disposed in the rear of and parallel to the window W. As shown in Fig. 4, the outer side of the belt B has imprinted thereon the names or numbers of the several streets at which a particular car is adapted to stop during a trip, and these names and numbers are adapted to successively appear in the rear of the transparent portion 15 by intermittently moving the belt predetermined distances in the same direction. This movement of the belt B is effected through an actuating mechanism which comprises a ratchet wheel L fixed to the shaft of the roller R as shown in Fig. 1, a lever E fulcrumed on the roller shaft intermediate its ends, and a pawl D pivoted to the lever and adapted to engage the ratchet wheel for partially rotating the same when the lever is rocked. As shown in Figs. 1 and 6, the lever E is biased to a position wherein the pawl D is disposed above the axis of the roller R by means of

a spring S. The opposite end of the lever E is provided with a rod G which constitutes the core of a solenoid H.

By this arrangement, it will be seen that with the solenoid H deënergized, the lever E occupies the position shown in Fig. 6 under the action of the spring S. However, when the solenoid H is energized the rod G is drawn downwardly thus rocking the lever against the tension of the spring S and causing the pawl D to move downwardly. As the pawl D moves downwardly, it engages the teeth of the ratchet wheel L and thereby partially rotates the roller R to effect a feeding of the belt B. It will be understood that the movement of the pawl D is such that the belt B is moved a distance corresponding to the space between any two numbers or names of a street so that with each movement of the belt a different number or name appears within the portion 15 of the window W. It will be also understood that when the solenoid H is deënergized the lever E moves to its normal position under the action of the spring S so that when the magnet is again energized a similar movement of the belt B is effected.

Referring now to Fig. 7, it will be seen that the solenoid H is provided with a circuit the terminals of which are connected across the mains M of the lamp circuit of a car so that the current for illuminating the lamps is also utilized to energize the solenoid. This circuit for the solenoid H is adapted to be controlled by the controller lever K′ of a controller K. As shown in Fig. 7, the lever K′ swings about the point 17 as a center and over the controller box in the usual manner. Disposed within the path of movement of the lever K′ is a contact N which constitutes one terminal of the solenoid circuit. The other terminal of the solenoid circuit is the lever K′, so that when the lever engages the contact N during its movement from the normal position, as shown in Fig. 7, the solenoid H is energized through the following circuit: from the positive main of the lamp circuit through wire 18, winding of solenoid H, wire 19, contact N, contact N′ on the lever K′, and wire 20, and switch V to the negative side of the lamp circuit through wire 21. It will be noted that the contact N is disposed at such a point within the path of movement of the lever K′ that it is engaged by the contact N′ to close the circuit for the solenoid when the lever is adjacent its highest point within the arc or at that point at which the maximum power is applied to the motors of the car.

As above noted, the circuit for the solenoid H is also controlled by the switch V which is adapted to be arranged upon the controller lever K′. The switch V controls the circuit for the solenoid that in the closed position of the switch the solenoid H is energized only when the contact N′ engages the contact N. In the open position of the switch V the solenoid H cannot be energized when the contact N′ engages the contact N because the circuit is disrupted by the switch. This switch is designed to prevent the unintentional closing of the solenoid circuit by the lever K′ when the car is traveling through a congested district in which a constant manipulation of the lever is necessary as the car passes from street to street.

In order that the solenoid H may be energized at the will of the motorman and independently of the controller K, I have provided a button switch V′ which is adapted to be arranged at a convenient point for manipulation by the motorman so that he can actuate the indicator when it is prearranged that the car stop only at certain corners during a trip. The switch V′ controls the circuit for the solenoid H through wires 23 and 24 which are connected to the wires 19 and 21, respectively, so that the switch is in parallel with the switch V, thus the circuit for the solenoid may be closed irrespective of the position of the switch V or the controller lever K′.

As shown in Fig. 5, the feed roller R is provided with a squared extension 25 that projects exteriorly of the casing A and provides a head for a crank 26 so that by rotation of the crank a rotation of the roller R is effected. The purpose of this manual rotation of the roller R is to effect the manual adjustment of the belt B so that if for any reason it is desired to display the name or number of a particular street, the adjustment of the belt accordingly can be readily made.

As shown in Fig. 1, I provide an auxiliary feed roller R^4 which is adjustable toward and away from the other feed rollers so that the latter will accommodate a belt B which is greater in length than the total distance between the several rollers. The adjustment of the roller R^4 is obtained by mounting the stub shafts thereof within slots 27 formed in the opposite sides of the casing A, suitable means (not shown) being provided for locking the roller at any point within the length of these slots. With a belt B trained around the roller R^4, as shown in dash lines in Fig. 1, it is obvious that by adjusting the roller toward or away from the frame F, the belt will be caused to engage the surfaces of the roller with sufficient friction to effect the feeding of the belt when the roller R is rotated by the actuating mechanism.

From the foregoing description, taken in conjunction with the accompanying drawings, it will be manifest that I have provided a street indicator of simple and effi-

cient construction which is capable of being operated automatically through the medium of the control lever of a car or at will by the motorman through the button switch, so that the proper control of the indicator can be had to meet the most varying conditions in the movement of a car and at the same time accurately indicate the names or numbers of the streets at which the car stops.

Although I have herein shown and described only one form of indicator embodying my invention, it is to be understood that various changes and modifications may be made herein without departing from the spirit of the invention or the spirit and scope of the appended claim.

What I claim is:

In combination, a street indicator comprising magnetic means for actuating the indicator, a controller including a casing and a lever, a contact on the casing disposed in the path of movement of the lever, a contact on the lever adapted to engage the casing contact and coacting therewith to form a switch, a switch on the lever, a circuit including said magnetic means and said switches, and a third switch connected in parallel in said circuit with the first two switches and in such manner that said switch can control the circuit independently of the first two switches.

WM. LEE CLARKE, JR.