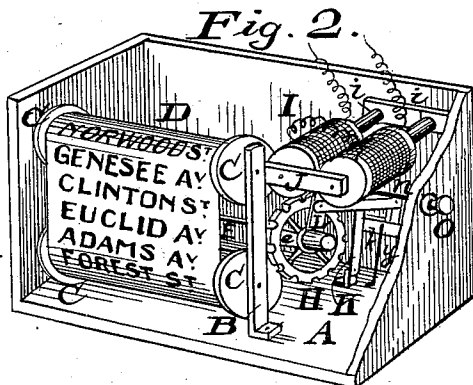
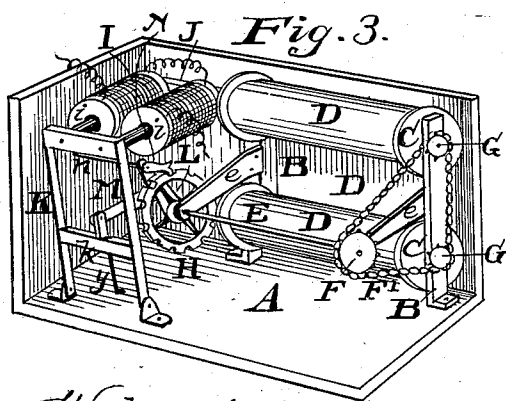
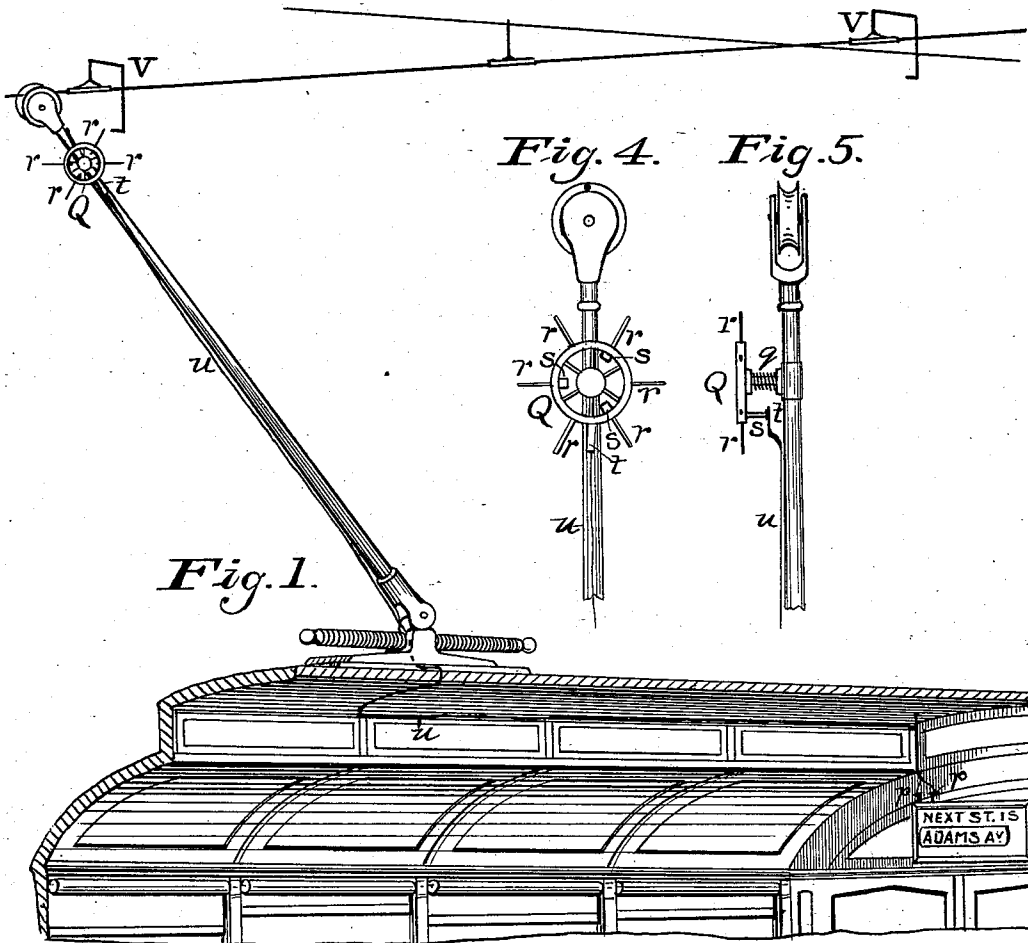


(No Model.)

E. B. & W. R. LODGE.
STATION OR STREET INDICATOR.

No. 568,859.

Patented Oct. 6, 1896.



Witnesses,
Max Goodman
Lewis W. Ford

Inventors,
Edward Ballard Lodge,
William Ralph Lodge,
By Geo. W. Tibbitts, Attorney.

UNITED STATES PATENT OFFICE.

EDWARD BALLARD LODGE, OF CLEVELAND, AND WILLIAM RALPH LODGE,
OF CUYAHOGA FALLS, OHIO.

STATION OR STREET INDICATOR.

SPECIFICATION forming part of Letters Patent No. 568,859, dated October 6, 1896.

Application filed June 15, 1896. Serial No. 595,621. (No model.)

To all whom it may concern:

Be it known that we, EDWARD BALLARD LODGE, residing at Cleveland, Cuyahoga county, and WILLIAM RALPH LODGE, residing at Cuyahoga Falls, Summit county, State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Station or Street Indicators for Electric-Railway Cars, of which the following is a specification.

This invention relates to station or street indicators for electric-railway cars in which the indicator is operated by means of an electric current derived from the trolley-wire through the trolley-pole; and the invention consists in the new constructions and combinations substantially as hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of the interior of a railway-car, showing the front of the indicator and the wire connection through the trolley-pole to and with the trolley-wire. Fig. 2 is a perspective view of the indicator having portions of the casing removed to show the internal working parts. Fig. 3 is a similar view as Fig. 2, but showing the reverse side of the said working parts. Fig. 4 is a side view of the upper part of the trolley-pole, showing the circuit-closer as adapted to operate for directing a shunted current from the trolley-wire to the indicator. Fig. 5 is a transverse view of the same.

A, Figs. 2 and 3, represents a box or casing for containing the working parts of the indicator.

B B are posts or bars suitably attached to the bottom or walls of the box to provide bearings for two rollers C C. D is a ribbon on which is printed the names of stations or streets, having its ends attached to the said rollers, and which is to be rolled or wound from one of the rollers to the other, respectively, by means as follows:

E is a shaft supported in brackets *e e*, attached to the posts B B. On one end of said shaft is attached a sprocket-wheel F. On the ends of the roller-journals are also attached sprocket-pinions G G. F' is a chain belt playing on said sprockets. On the op-

posite end of the shaft F is also attached a notched wheel H.

I is an electromagnet supported on a bar J, attached to the post B. This magnet is of the solenoid type, and the cores *i i* are attached to the cross-bar of a vibratory frame K, pivoted at its lower end to the floor of the box A.

L is a vibratory lever loosely supported on the hub of the wheel H.

M is a connecting-rod connecting lever L with a bar *k* on the frame K. On the upper and moving end of the lever L is provided a pawl N, which engages with the notches in the rim of wheel H. The pawl may be reversed or turned over to engage with the notches for rotating said wheel H in either direction, and for convenience of turning it from the outside of the box a rod *n*, which forms the pivot in the end of the lever L for the pawl, extends out through the end wall of the box A, and is provided with a knob and pointer O to indicate the position of the pawl.

Q is a wheel fixed to turn on a bracket *q*, attached to the upper part of the trolley-pole.

r r are arms or extended spokes projecting radially from the rim of the wheel. To the inner ends of each alternate arm or spoke *r* is provided a contact-point *s*, which contacts with a spring *t* on the pole, from which extend the wires *u* down to and into the car and connected with the binding-posts *p p* on the box A, Fig. 1.

V V are brackets attached to the trolley-wire, depending in such a manner that as the pole travels the arms *r r* of the wheel Q will strike the lower ends of said brackets and turn the wheel. Two of these brackets are used for each station or street and are placed several feet apart, the first for turning the wheel for making contact, the second one for breaking contact. This arrangement is for the purpose of having the contact remain for a short time to allow the current ample time to actuate the electromagnet I.

From the foregoing the operations of this device will be seen to be as follows: The first of the two brackets V which the trolley-pole meets strikes the arm *r* which has no contact-point and turns wheel Q sufficiently to

bring the contact-point of the next arm into contact with the spring *t* on the pole. Now a shunted circuit is made from the trolley-pole through the bracket *q* and wheel Q and the wire *u* to the electromagnet I in the box A. Said magnet then pulls the frame K toward it and, through the medium of the connecting-rod M, lever L, and pawl N, turns the wheel H one notch, and thereby turns the rollers C C, carrying the ribbon, and bringing the name of the next street or station into view. When the trolley-pole reaches the second bracket V, the arm *r* which has the contact-point is struck, the wheel Q is turned and breaks the contact, and presents the next arm *r* which has no contact-point into position to be struck on reaching the next street or station. The current having been cut off from magnet I, the frame K falls back again by gravity and the impetus of a spring *y*, and the pawl N is drawn back another notch, and the indicator is set ready for changing again at the next street or station, the name of the last remaining in view until such street or station is reached. When the indicator is used in the night-time, a light is to be placed in the box back of the ribbon.

It will thus be seen that this device works automatically and that passengers may at all times see where the car or train is.

Having described our invention, we claim—

1. In a station or street indicator, the com-

bination of box A, posts B B, rollers C C, ribbon D, having station or street names printed thereon, shaft E journaled in brackets *e e*, sprocket-wheel F on said shaft, chain belt F' connecting said sprocket with pinions G G, on ribbon-rollers C C, notched wheel H on opposite end of shaft E, electromagnet I, supported on bar J, pivoted frame K, connected with cores *i i* of electromagnet, lever L on hub of wheel H, connecting-rod M, connecting frame K with said lever L, pawl N on end of lever L engaging with the notches in wheel H, all constructed and adapted to operate substantially as described and for the purpose specified.

2. The combination with trolley-pole and trolley-wire, of the brackets V V, mounted on the trolley-wire, bracket *q* attached to trolley-pole, armed wheel Q, having contact-pins *s*, and mounted on said bracket *q*, spring *t* on the trolley-pole adapted to contact with said pins *s*, and wire *u* connecting said spring *t* with the electromagnet I in the indicator-box A, all constructed and adapted to operate substantially as described and for the purpose specified.

EDWARD BALLARD LODGE.
WILLIAM RALPH LODGE.

Witnesses:

GEO. W. TIBBITTS,
LEWIS W. FORD.