W. H. ROBERTSON.

STREET SIGNAL.

APPLICATION FILED JAN. 13, 1917.

1,258,254.

Patented Mar. 5, 1918.

Fig. 2.

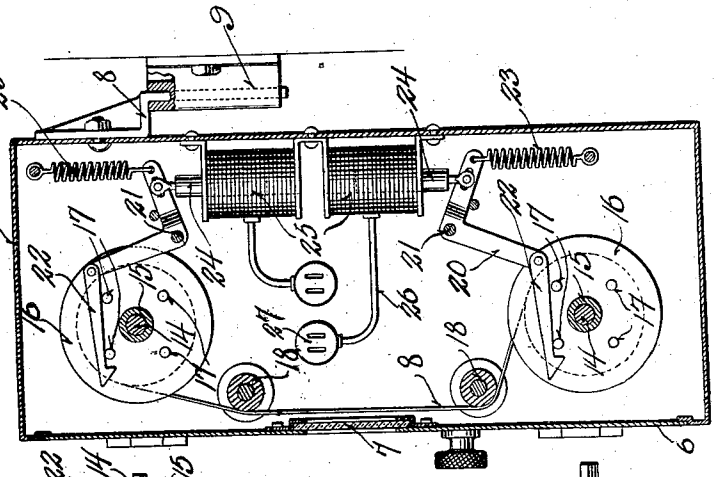
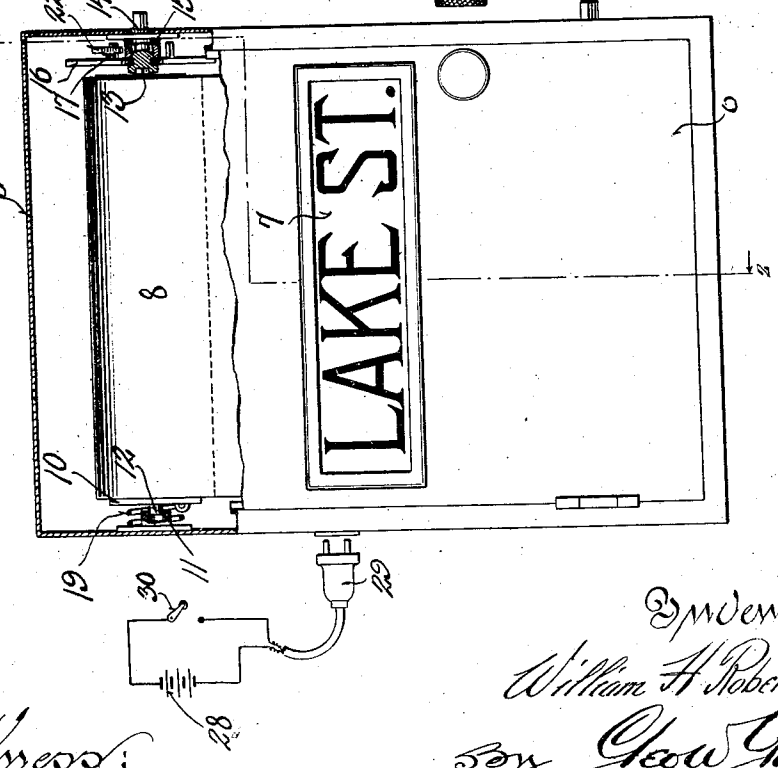


Fig. 1.



Witness:

Inventor:
William H. Robertson
by Geo. W. Young
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. ROBERTSON, OF MADISON, WISCONSIN.

STREET-SIGNAL.

1,258,254. Specification of Letters Patent. **Patented Mar. 5, 1918.**

Application filed January 13, 1917. Serial No. 142,151.

To all whom it may concern:

Be it known that I, WILLIAM H. ROBERTSON, a citizen of the United States, and resident of Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Street-Signals; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to new and useful improvements in street or station indicators for street cars or other vehicles.

It is in general the object of the present invention to simplify the structure and improve the efficiency of indicators of this nature, and it is more particularly an object to provide such an indicator which is adapted for actuation by the conductor of the car or other authorized person whereby to eliminate the mass of mechanism usually associated with automatic actuations of the indicator.

A more specific object resides in the provision of an indicator embodying a pair of rolls and a web wound thereon, wherein the rolls may be successively wound and unwound to properly display the names of streets or stations on street car or other routes wherein the car runs back and forth over the same path. It is in this connection further an object to provide an arrangement for rewinding the web whereby the indicator may be used on routes wherein the car makes a continuous loop.

A further object resides in the provision of an arrangement permitting a most ready removal and replacement of the rolls and web.

With the above and other objects and advantages in view, the invention resides more particularly in the novel combination, formation and arrangement of parts hereinafter described and pointed out in the appended claims.

In the drawings:

Figure 1 is an elevational view of an indicator device embodying my invention, with the upper portion of the casing broken away.

Fig. 2 is a vertical sectional view of an indicator device, as indicated by the line 2—2 of Fig. 1.

Referring now more particularly to the accompanying drawings, there is provided a preferably rectangular casing 5 including a hinged door 6 at its front and provided with a window 7 through which desired symbols on a web 8 within the casing may be selectively displayed.

The casing is mounted in a convenient position by the engagement of an off-set depending tongue 8 on its back wall in a socket block 9 secured to a suitable support. In practice one of the socket blocks is provided at each end of a car and thus the casing may be changed from end to end of the car upon completion of a run.

The web 8 is mounted upon a pair of rollers 10 and for journally supporting these rollers in the upper and lower portions respectively of the casing, journal sleeves 11 are provided in the end walls of the casing and slidably receive pintles 12 on corresponding ends of the rollers. The other ends of the rollers carry squared projections 13 which engage in the socketed ends of stub shafts 14 journaled in sleeves 15 of the other end wall of the casing. Fixed on the stub shafts are ratchet wheels 16, each provided with an annular series of laterally projecting ratchet pins 17. Thus by rotating one of the ratchet wheels in successive steps, the web 8 will move past the window 7 of the door in corresponding steps, and said web is held adjacent the window by rollers 18 extending across the front portion of the casing immediately inwardly of the door. By shifting the rollers to disengage the projections 13 from the sockets of the stub shafts, it is thus possible to entirely detach the rollers and web whereby a fresh web may be inserted. To normally hold the rollers against displacement and at the same time to provide a friction detent preventing accidental movement of the rollers, the pintle ends have secured thereto relatively short coil springs 19 which bear against said pintle ends and against the adjacent end wall of the casing.

For selectively actuating the ratchet wheels, a pair of bell cranks 20 are mounted on pivots 21 disposed inwardly of the wheels and are provided with oppositely extending arms to which are pivoted pawls 22 resting upon the series of ratchet pins 17 and normally held in retracted position by springs 23 secured to the other arms of the bell cranks. Also loosely pivotally secured to the other arms of the levers are the armatures 24 of a pair of opposed solenoids 25, and from each of these solenoids, wires 26 extend to an individual plug socket 27.

It is noted that in the retracted position of each pawl its tooth lies outwardly of the rotative path of the corresponding series of ratchet pins 17 and thus the pawl does not interfere with independent movement of the wheel in either direction, consequently upon actuating either of the pawls, the web may be rotated in successive steps in either direction. Thus in a route wherein the car moves back and forth over the same tracks, it is merely necessary to alternately actuate the magnets in successive steps to procure a continuous indicating actuation of the web. In some instances, however, it may be desired to use the indicator on a route wherein the car makes a complete loop and in such instances the web would be rewound on one of the rollers by hand, it being noted that one of the stub shafts 14 is provided with projecting squared ends for a key member for effecting such rewinding.

The circuit for actuating a selective solenoid 25 includes a suitable source of power 28, a plug 29 adapted to engage selectively in one of the sockets 27 and a switch 30 under the control of the conductor or other operator. One of these circuits is preferably disposed at each end of the car, and its plug 29 is associated with a desired solenoid socket 27 when the circuit is utilized.

An exceedingly simple and conveniently operated device has thus been provided for positively indicating the various successive stations or streets along a route. While I have shown and described a preferred form of my invention, it is obvious that to meet various conditions of use differences in structure may be resorted to without departing in any manner from the spirit of the invention as interpreted by the accompanying claims.

What is claimed is:

1. In an indicator, the combination with a web carrying roll, of a ratchet wheel carried thereby, a pivoted bell crank having the free end of one arm disposed adjacent the uppermost tooth of said ratchet wheel, a pawl having one end pivoted to the end of said arm and its outer free end formed with a toothed portion, the intermediate portion of said pawl at all times resting by gravity against the ratchet wheel and the toothed portion thereof being normally held outwardly of the rotative path of said ratchet wheel whereby the same may be free to rotate independently of said pawl substantially as described.

2. In a device of the character described, the combination with a casing and a roll therein having a web wound therearound, of a ratchet wheel carried by the roll at one end, a bell crank pivoted to the casing below the axis of said roll and having one arm extending upwardly and adjacent said ratchet wheel, a pawl having one end pivoted to the end of said arm of the bell crank and passing over the ratchet wheel, said pawl having its free end normally held outwardly of the rotative path of the ratchet wheel and formed with a toothed portion, the intermediate portion of said pawl at all times resting by gravity against the uppermost teeth of the ratchet wheel, said ratchet wheel being free to rotate independently of said pawl, a solenoid secured to the rear wall of the casing, an armature slidably mounted in said solenoid and having its outer end pivotally secured in an elongated opening formed in the other arm of said bell crank near the end thereof and adapted upon energization of said solenoid to draw said pawl inwardly to thus bring said toothed portion in engagement with the teeth of the ratchet wheel to advance the same, and means engaging the end of said other arm of the bell crank whereby to return the toothed portion of said pawl to its normal position outwardly of the ratchet teeth substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand at Madison, in the county of Dane and State of Wisconsin, in the presence of two witnesses.

WILLIAM H. ROBERTSON.

Witnesses:
HENRY CASSON,
BERTHA E. DAVIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."