No. 686,161. Patented Nov. 5, 1901.

G. A. STENSON.

ANNUNCIATOR FOR STREET CARS.

(Application filed July 3, 1901.)

(No Model.)

Fig. 1.

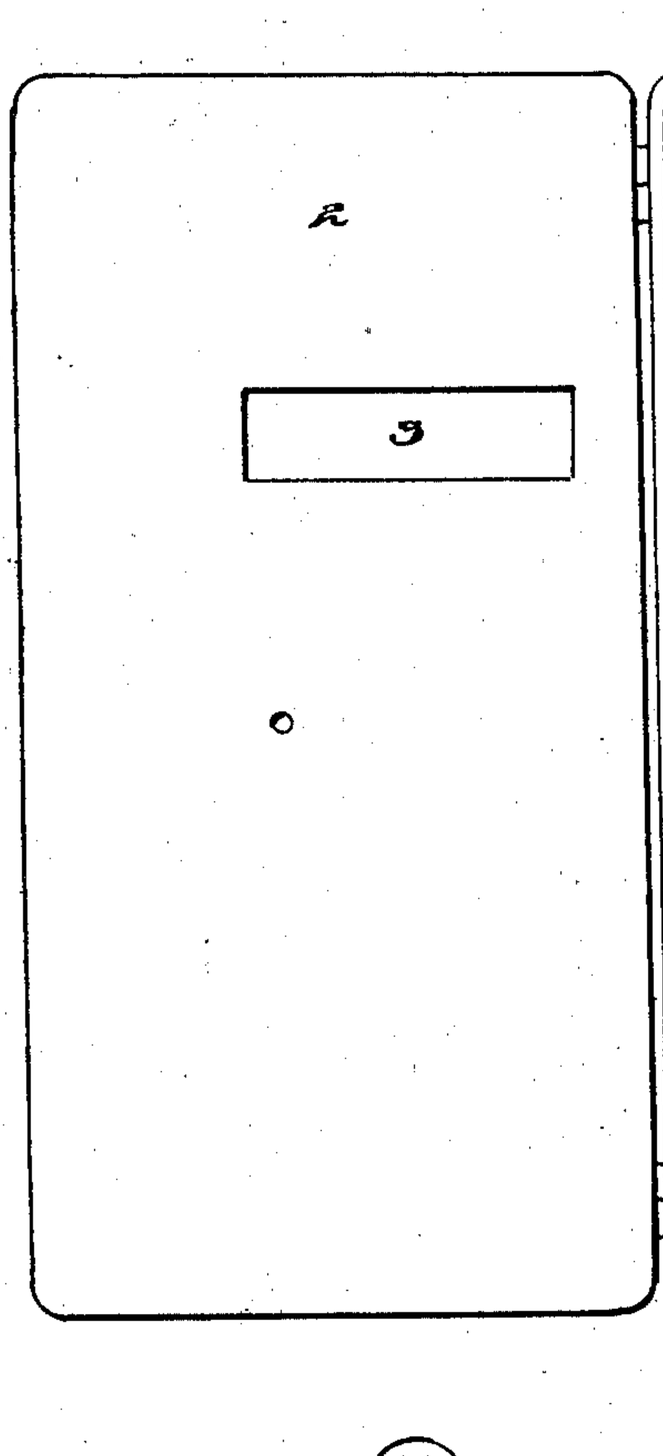


Fig. 2.

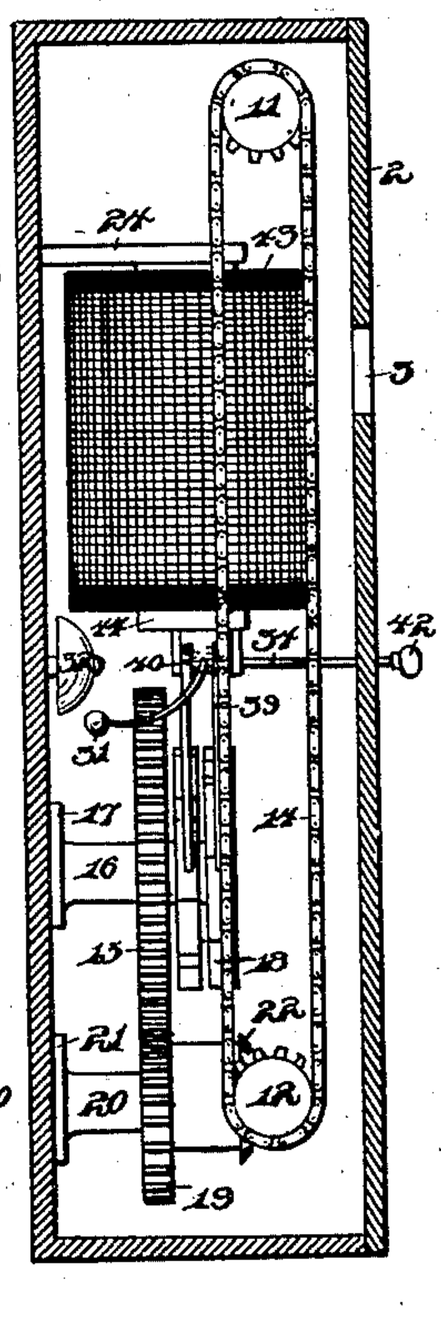


Fig. 3.

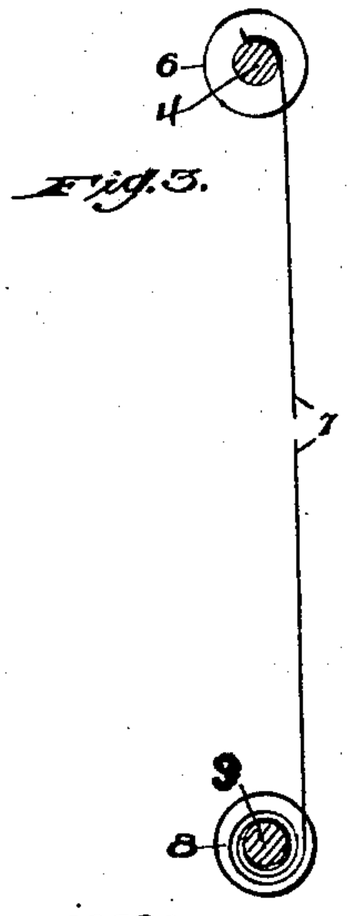


Fig. 4.

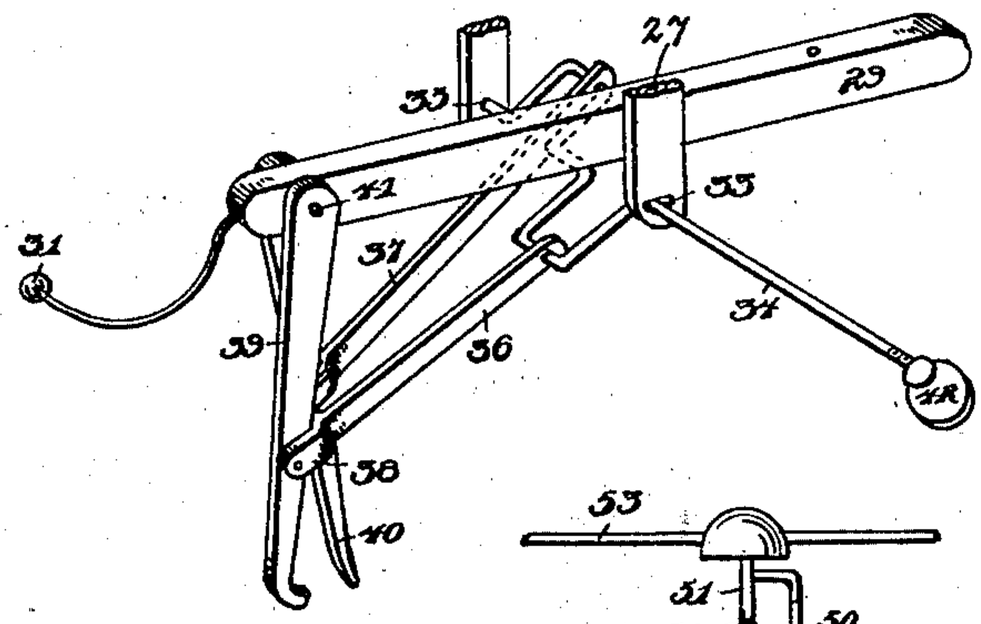
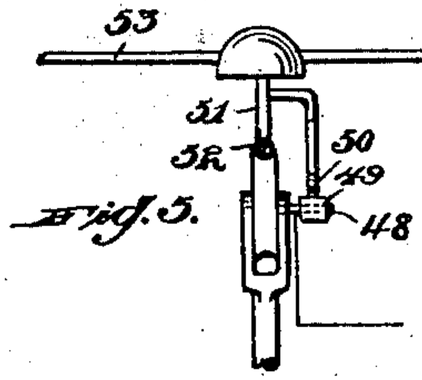


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE A. STENSON, OF WILMERDING, PENNSYLVANIA.

ANNUNCIATOR FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 686,161, dated November 5, 1901.

Application filed July 3, 1901. Serial No. 67,017. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. STENSON, a citizen of the United States of America, residing at Wilmerding, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Annunciators for Street-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in street-indicators, and is particularly adapted to be employed in connection with trolley-lines.

The invention has for its object the provision of novel means whereby the streets will be automatically indicated a short distance prior to the street that may be shown by the indicator.

Another object of the invention is to construct a mechanism that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its operation.

Another object of the invention is to construct a mechanism that may be easily reversed when reaching the end of the line or in case a belt-line may act as a continuous register.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a front view of the casing having my improved indicator arranged therein. Fig. 2 is a vertical sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is an end view of the apron attached to the rolls. Fig. 4 is a perspective view of a portion of the operating mechanism. Fig. 5 is a front elevation of the trolley-harp, trolley-wheel, and trolley-wire and attachments.

In the drawings the reference-numeral 1 indicates a rectangular casing to which is secured a hinged door 2, said door having an opening 3 formed therein.

The reference-numeral 4 represents a shaft extending through the casing and carrying on the outer end thereof a head 5. Upon this shaft is mounted a roller 6, carrying an apron 7, upon which is placed the names of the various streets and avenues of the route. This apron 7 extends downwardly over a similar roller 8, arranged in the lower portion of the casing, this roller 8 being mounted upon the shaft 9, carrying at its outer end the head 10. Upon the other end of the shafts 4 and 9 are arranged toothed wheels 11 12, over which is passed the endless chain 14 in order to communicate movement from one roller to the other.

The reference-numeral 15 represents a cog-wheel suitably mounted in the side of the casing upon a shaft 16, mounted in a bearing 17. Upon this shaft 16 is also keyed or otherwise rigidly secured a double ratchet-wheel 18. The cog-wheel 15 also meshes with the smaller cog-wheel 19, mounted upon the shaft 20, secured in the bearing 21, arranged to the side of the casing. This cog-wheel 19 carries on its face a beveled cog-wheel 22, meshing with the beveled cog-wheel 23, secured to the shaft 9, rotating the same.

The reference-numeral 24 represents a frame which is secured within the outer casing 1 and has suitable fastening means, such as screws 25, extending into insulated material 26, as shown in Fig. 1 of the drawings. This frame 24 carries a hanger 27, formed integral therewith, and to the upper bar of the frame is secured a spiral spring 28. The lower end of the spring 28 is connected to a lever-arm 29, which constitutes the armature and carries on its end a tapper 31, adapted to engage the gong 32, also arranged within the casing. At the lower end of the hanger 27 is arranged a slot 33, through which extends the double crank-arm 34, said arm being secured in the opposite arm of the hanger, as shown at 35. This double crank-arm 34 has connected thereto levers 36 37, having bifurcated ends 38, pivotally secured to pawls 39 and 40, these pawls being attached at 41 to the end of the lever-arm or armature 29. At the end of the double crank-arm 34 is arranged a knob 42. The reference-numeral 43 represents a magnet in which is arranged a core 44. Binding-posts 46 45 are secured

at the upper end of the magnet. Wire 47 of the binding-post 45 extends to the side of the trolley-harp, upon which is arranged a bracket 48, carrying a roller 49, said roller coming in contact with the arm 50, connected to the hanger 51 of the trolley-wire 52. The said hanger is secured to the guy or cross wire 53. The wire 54 of the binding-post 46 is grounded, forming an electrical circuit through the wheel to the track.

The operation of my improved indicator is as follows: A short distance from the street that is to be indicated the roller 49 will make contact with the arm 50, thereby forming a circuit to the indicator that will energize the magnet 43 and draw the lever 29 or armature against the core 44, thereby expanding the spring 28, operating the double ratchet-wheel one notch, rotating the gear-wheel 15, which in turn operates the gear-wheel 19, rotating the beveled cog-wheel 22, and communicating movement to the beveled cog-wheel 23, thereby rotating the shaft 9, moving the roller 8, and imparting movement to the apron. Simultaneously with this operation the chain will be operated, thus rotating both rollers 7 and 8 in unison. When the contact is again broken and the magnet deënergized, the spring 28 will retract, and thus actuate the lever-arm 29, thereby allowing the pawl 39 to engage the next tooth, and the device will be ready for the next operation. When it is desired to reverse the device, the knob 42 is turned, thereby reversing the position of the levers 36 and 37, which in turn reverses the position of the pawls 39 and 40. The pawl 40 will then be brought into play upon the other side of the double ratchet-wheel, which pawl will reverse the operation of the wheel, depressing the same by the expansion of the spring 28, at which time the current is broken after the contact has been made. It will be noted that at every operation of the lever-arm the tapper 31 will engage the gong 32 and will sound the same.

The many advantages obtained by the use of my improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An annunciator for street-cars, comprising in combination with trolley attachments for completing a circuit to the annunciator, a casing, a frame mounted therein and insulated therefrom, a magnet carried by said frame, a lever-arm constituting the armature of said magnet, a spring connected to said lever-arm and to the frame for holding the arm normally out of engagement with the core of the magnet, a tapper carried by said lever-arm, a bell, an indicating-apron mounted on rollers journaled in the casing, gearing for operating said apron, a double ratchet-wheel, a double crank-arm, and arms pivoted to the pawls at their one end and connected to the double crank-arm at their other ends, substantially as described.

2. An electrically-operated annunciator for street-cars, comprising in combination with trolley attachments for completing a circuit to the annunciator, a casing, an indicating-apron mounted on rollers journaled in the casing, a frame mounted in the casing and insulated therefrom, a magnet mounted in said frame, a lever-arm constituting the armature of the magnet and spring-held normally out of engagement with the core of the magnet, gearing for operating the indicating-apron, a double ratchet-wheel, a pair of pawls pivoted to the lever-arm for engagement with said ratchet-wheel, one of said pawls inactive when the other is active, and means for reversing said pawls, as and for the purpose described.

3. In an indicator, the combination of a frame, a magnet secured therein, an independent circuit to operate said magnet, a lever-arm secured in said frame, a spring secured to said lever-arm, a hanger, a double crank-arm secured to said hanger, arms secured to said double crank-arm, reversible pawls secured to said lever-arm and said arms, a double ratchet, and suitable mechanism to operate the indicator-apron, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE A. STENSON.

Witnesses:
JOHN NOLAND,
E. E. POTTER.