E. SCHUPP.

INDICATOR FOR CARS.

APPLICATION FILED DEC. 10, 1908.

930,318.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

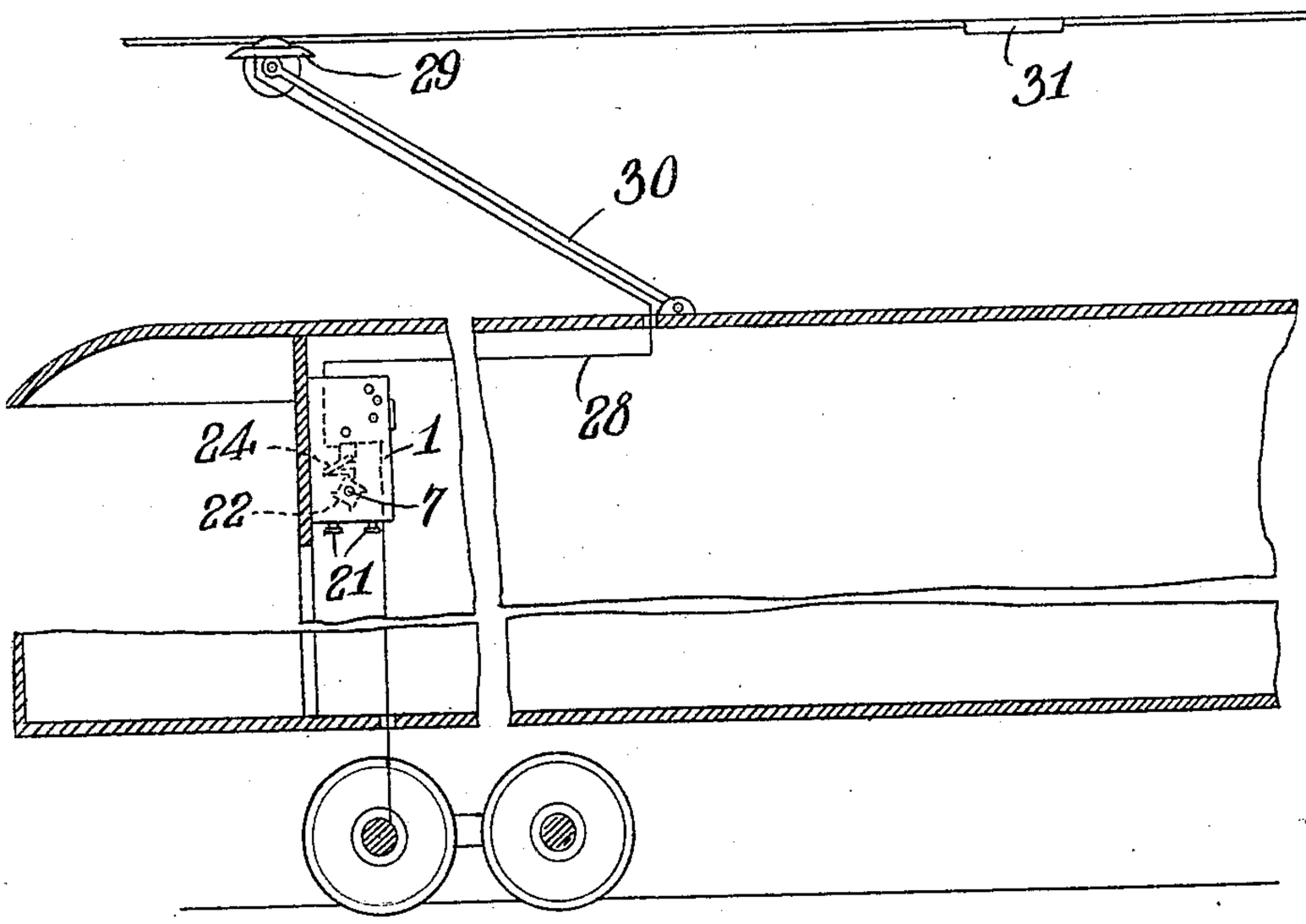

Fig. 1.

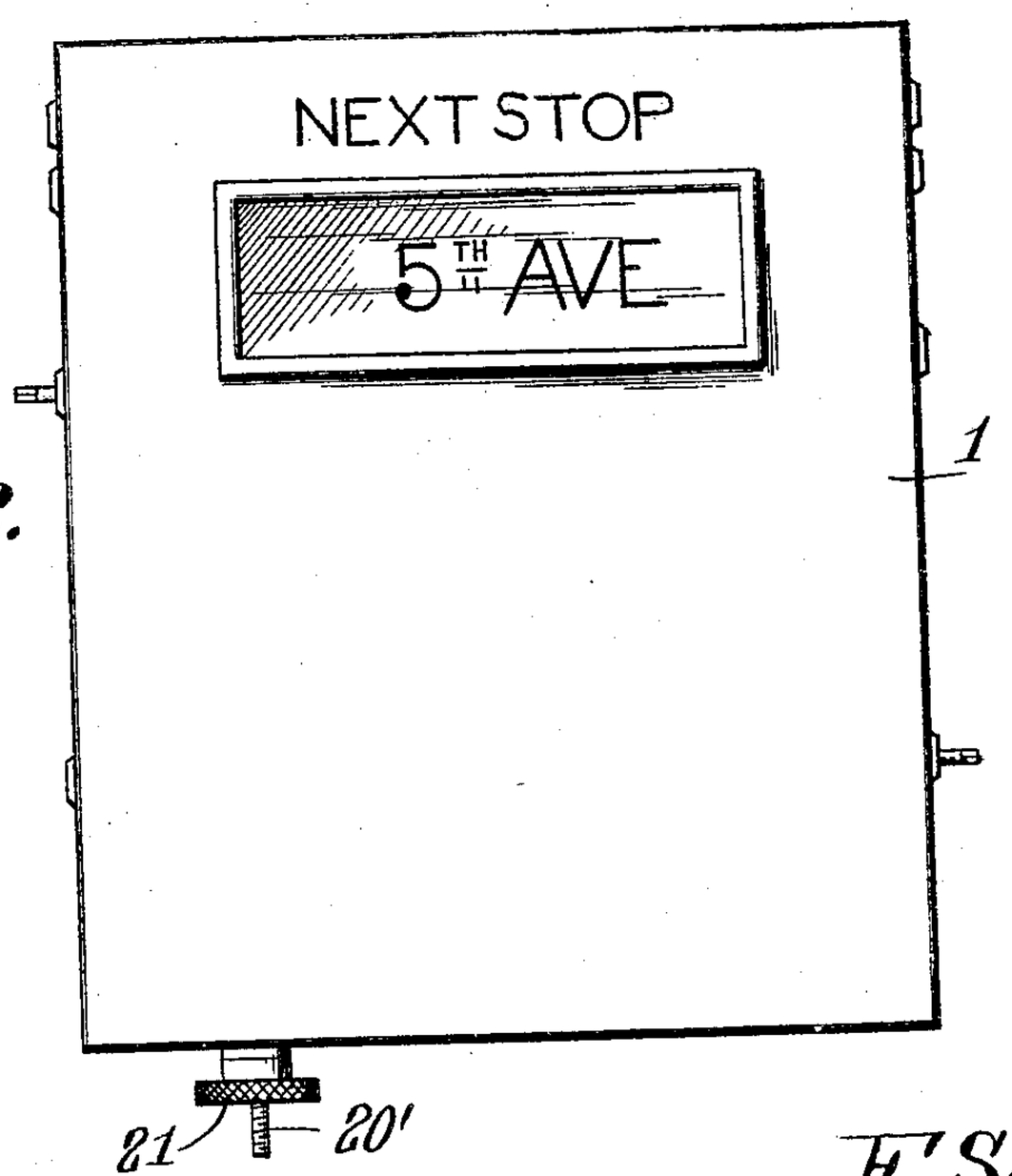

Fig. 2.

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Fig. 3.

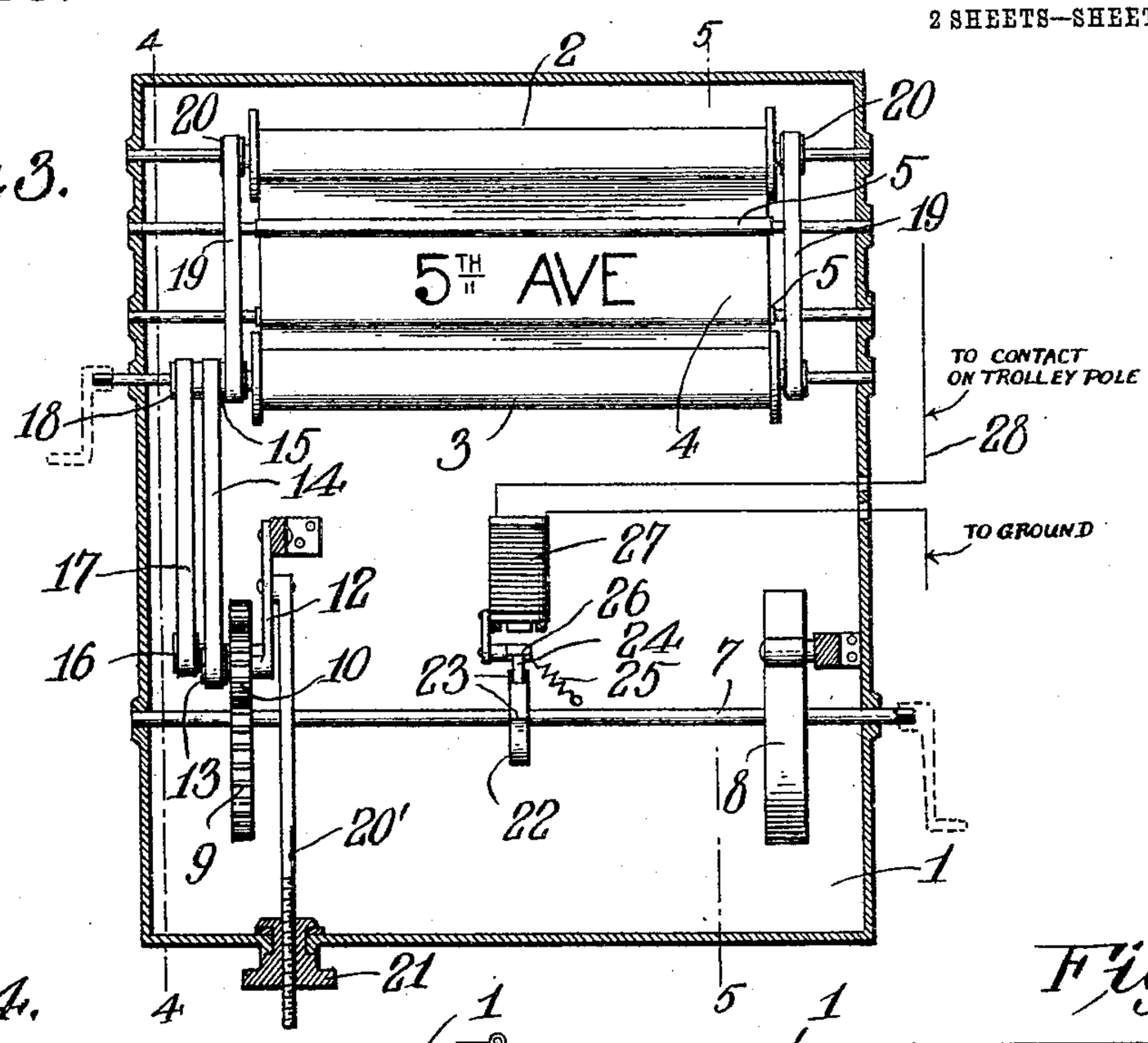


Fig. 4.

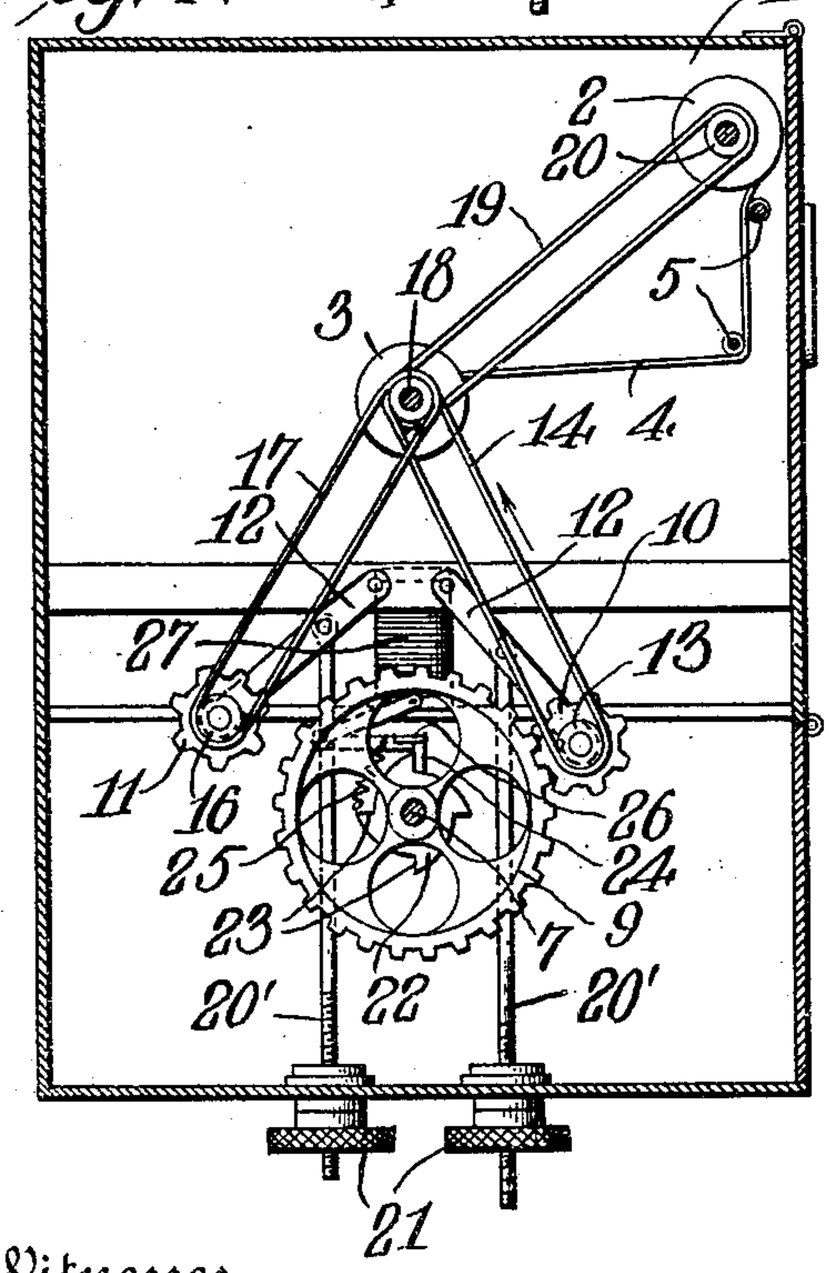
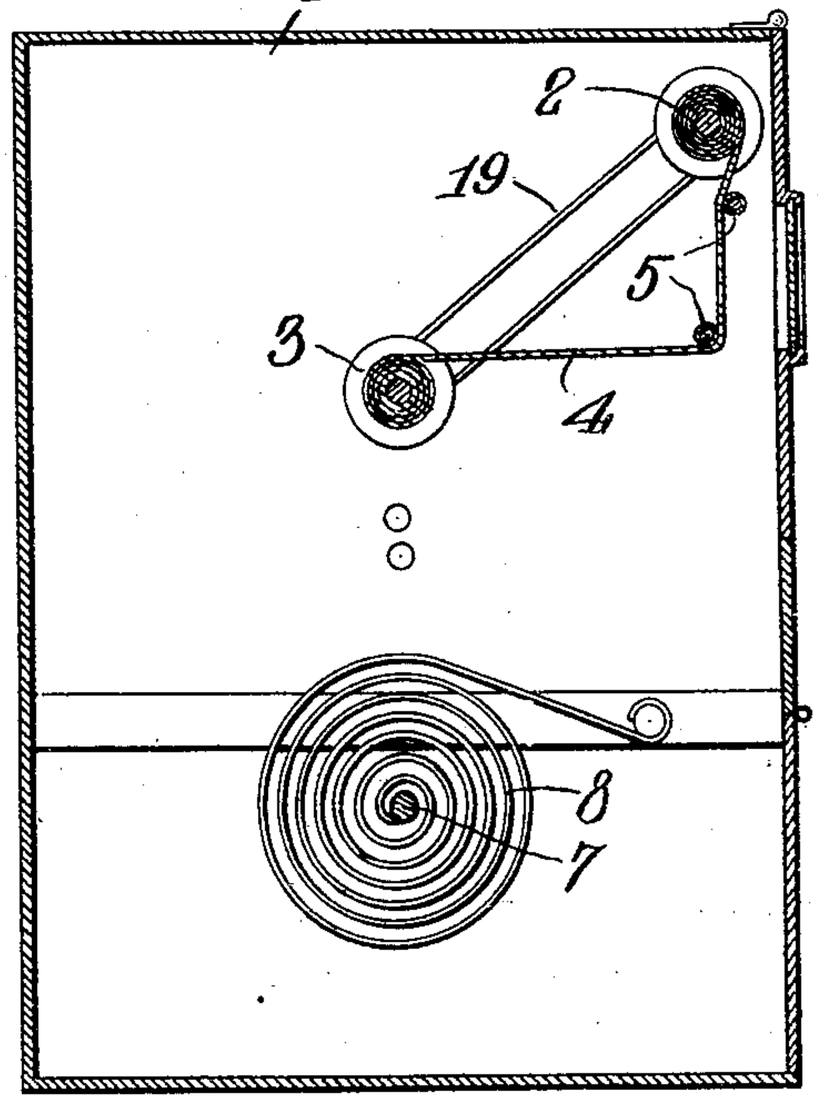


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD SCHUPP, OF LOS ANGELES, CALIFORNIA.

INDICATOR FOR CARS.

No. 930,318. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed December 10, 1908. Serial No. 466,856.

To all whom it may concern:

Be it known that I, EDWARD SCHUPP, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Indicators for Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in indicating devices for cars.

The object of the invention is to provide an indicator of this character adapted to be automatically operated as the car approaches a street or station, whereby the name of such street or station will be indicated to the passengers in the car.

A further object is to provide means whereby the operating mechanism may be reversed to properly display the names of the streets or stations upon the return of the car.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claims.

In the accompanying drawing, Figure 1 is a diagrammatic view of a portion of a car and trolley wire showing the arrangement of the electric contacting devices whereby the indicator is operated; Fig. 2 is a front view of my improved indicator; Fig. 3 is a vertical sectional view through the casing of the indicator showing the arrangement of the operating mechanism therein; Fig. 4 is a similar view taken at right-angles to and on the line 4—4 of Fig. 3; and Fig. 5 is a similar view taken on the line 5—5 of Fig. 3.

Referring more particularly to the drawings, 1 denotes the casing of the indicator, in the upper portion of which is arranged an upper winding roll, 2, and a lower winding roll, 3, around which is wound the belt or fabric strip, 4, containing the names of streets or stations. The strip, 4, passes under and over lower and upper guide rods, 5, so that a portion of the strip while passing between the rods will be held in a vertical plane so that the name may be readily observed through the display opening in the frame or casing.

In the lower portion of the casing is arranged an operating shaft, 7, with which, adjacent to one end, is connected a spring motor, 8, which may be of any suitable construction adapted to rotate the shaft, 7. On the shaft, 7, is also mounted a spur-gear, 9, with the opposite sides of which are adapted to be engaged spur gear pinions, 10 and 11, which are mounted on the ends of supporting arms, 12, the upper ends of which are pivotally connected to the casing in any suitable manner.

On the shaft of the pinion, 10, or fixedly connected to said pinion, is a pulley, 13, which is connected by a belt, 14, to a pulley, 15, on the shaft of the lower winding roll, 3, whereby when the pinion 10 is thrown into engagement with the gear, 9, motion will be imparted to the winding roll, 3, to wind up the strip thereon and thus display the name of the street or station which is being approached by the car. On the shaft of the pinion, 11, or fixedly connected to said pinion, is a pulley, 16, which is connected by a belt 17, to a double pulley, 18, which is loosely mounted on the shaft of the lower winding roll, 3. The pulley, 18, is connected by a short belt, 19, to a pulley, 20, fixedly mounted on the shaft of the upper winding roll, 2. By this arrangement of the belts and pulleys, the pinion 11, when thrown into engagement with the gear, 9, will operate the upper winding roll to cause the strip to be wound in the opposite direction from that in which it is operated by the engagement of the pinion, 10, with the gear, 9. The pinions, 10 and 11 are thrown into and out of engagement with the gear 9 by means of operating rods, 20′, which are connected at their upper ends to the supporting arm, 12, of the pinions, 10 and 11. The lower ends of the rods, 20′, are threaded and project through the bottom of the casing, 1, and are engaged by operating wheels, 21, which are suitably connected to the casing of the indicator. By this arrangement when the car reaches the end of the route, the conductor or motorman may disengage one pinion from the gear and throw the opposite pinion into engagement therewith by turning the wheels, 21, to shift or change the relative position of the rods, 20′, thus causing a reverse movement of the name strip so that when the car returns over the route, the names of the stations or streets will be properly indicated. The shaft, 7, of the operating mechanism is held against movement by the motor connected thereto, by means of a locking mechanism comprising a ratchet disk, 22, which is fixedly mounted

on the shaft, 7, and is provided with a series of teeth, 23, which are engaged by a stop pawl, 24, which is suitably pivoted upon an arm, 24′, fixed to the casing of the indicator and is adapted to be engaged with the notches, 23, of the ratchet disk preferably by a light spring, 25.

The pawl or dog, 24, has arranged thereon an armature, 26, of an electro-magnet, 27, arranged in an electric circuit, 28, one terminal of which is connected to a contact 29 secured to the upper end of the trolley pole, 30. The contact, 29, is adapted to be brought into engagement with a contact, 31, arranged on the trolley wire preferably midway between the stations or streets along the route of the car so that as the car approaches such station or street, the contact, 29, will be engaged with the contact, 31, and electricity conducted therefrom to the electro-magnet, which will energize the same and cause the pawl containing the armature, 26, to be retracted out of engagement with the locking notches of the wheel or disk, 22, thus releasing the operating shaft, 7, and permitting the motor connected therewith to rotate the same, which motion is transmitted through one or the other of the pinions, 10 or 11, to the winding rolls, whereby the strip will be wound in the proper direction to display the name of the street or staion being approached. The shaft of the lower roll 3 and the operating shaft 7 may be provided with crank handles as indicated by the dotted lines so that the rolls 2 and 3 may be turned by hand and the spring motor 8 wound up.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

1. In an indicating device of the character described, upper and lower winding rolls, a name strip adapted to be wound and unwound on said rolls, an operating shaft, a gear on said shaft, an operating pinion pivotally mounted at each side of said gear, means to move either of said pinions into and out of engagement with the gear, means to connect said pinions with said winding rolls whereby motion is imparted to the latter from said gear to cause the same to wind the strip in the proper direction, a motor operatively connected to said gear, locking mechanism to hold said shaft against rotation and electro-magnetic means to periodically and automatically release said locking mechanism.

2. In an indicating device of the character described, a pair of winding rolls, a name strip adapted to be wound and unwound on said rolls, an operating shaft, a gear mounted on said shaft, a pair of pivotally mounted pinion supporting arms, a pinion carried by each of said arms, an operating rod connected to each of said pinions supporting arms whereby they may be actuated to engage one or the other of said pinions with said gear, operating wheels having a threaded engagement with said rods whereby the latter are moved, means to connect said pinions with said winding rolls, whereby the motion of the former is imparted to the latter to wind the strip thereon in the proper direction, an operating mechanism connected to said shaft, a locking mechanism to hold said shaft against rotation, and means whereby said locking mechanism is automatically released.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD SCHUPP.

Witnesses:
B. E. HULBERT,
D. M. GREENE.