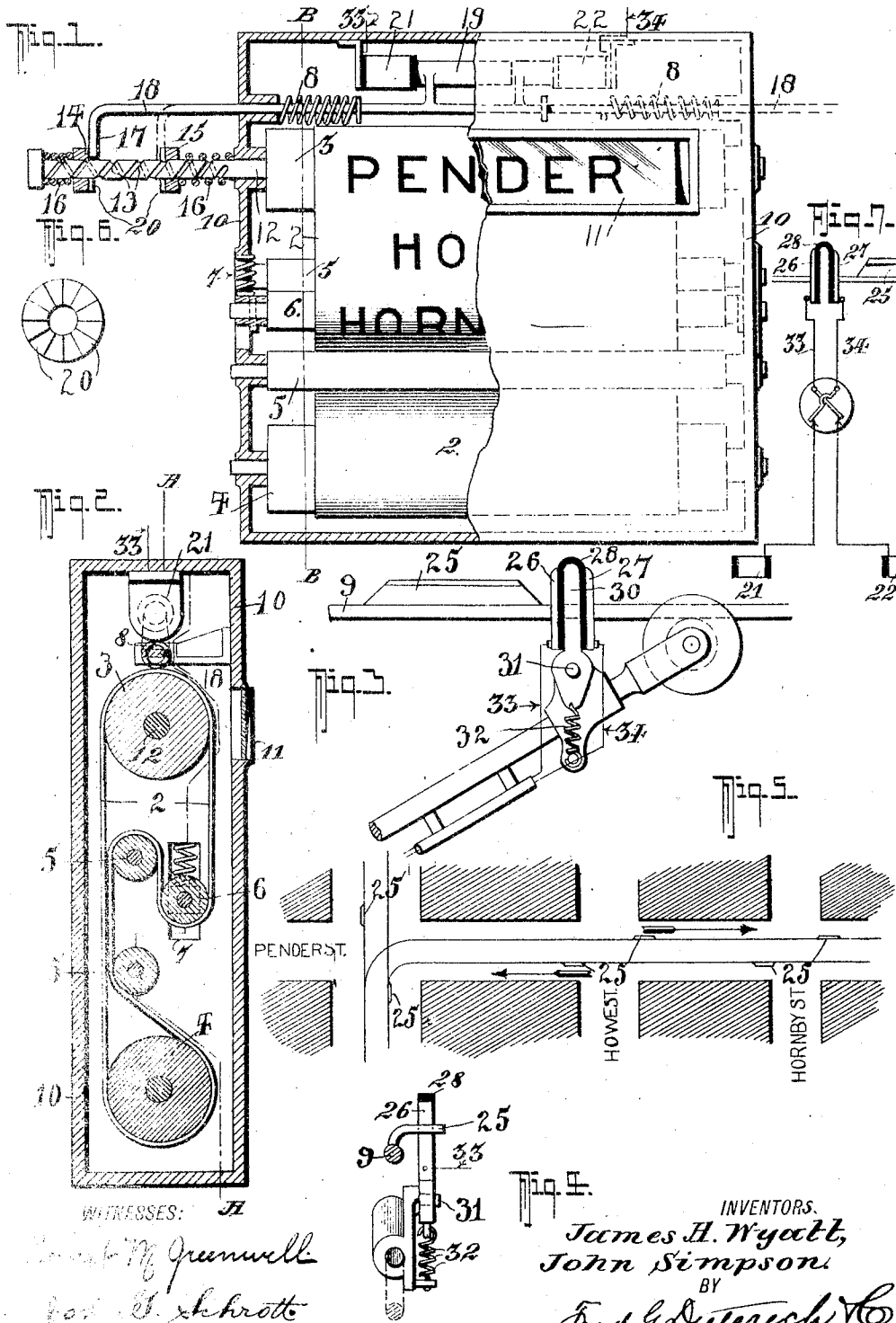


J. A. WYATT & J. SIMPSON.
STREET INDICATOR FOR CARS.
APPLICATION FILED JAN. 27, 1912.

1,058,398.

Patented Apr. 8, 1913.



UNITED STATES PATENT OFFICE.

JAMES A. WYATT AND JOHN SIMPSON, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

STREET-INDICATOR FOR CARS.

1,058,398.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed January 27, 1912. Serial No. 673,905.

To all whom it may concern:

Be it known that we, JAMES A. WYATT and JOHN SIMPSON, citizens of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Street-Indicator for Cars, of which the following is a specification.

This invention relates to a street indicator for cars and is designed to display the name of the street at which the car is next to stop, the mechanism to be automatically operable by the progress of the car and without the necessity of attention by the conductor, thereby leaving him free to attend to his other duties.

The mechanism of the invention, which is the subject of this application is operated electrically from a special contact provision with the trolley wire, which contact means is adapted to operate the mechanism in either direction, so that, if perchance, a car is required to return on the track for a short distance after having passed the contact by which the next street name is exhibited, return past that contact will move the mechanism backward.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Figure 1 is a face view and part section on the line A A in Fig. 2. Fig. 2 is a vertical section on the line B B in Fig. 1. Fig. 3 is a detail of the operating contact on trolley wire and trolley pole head. Fig. 4 is an end view of the same. Fig. 5 is a plan of a street railway showing the position of the operating contacts for each direction of movement. Fig. 6 is a detail face view of the nut by which the endless band roller is rotated. Fig. 7 is a diagrammatic view of the circuits involved.

In these drawings 2 represents an endless band of flexible material on which the street names of the route are printed in sequence. This band 2 passes over two main rollers 3 and 4 of which 3 is the operating roller. In order to increase the length of the band, it may pass over various idlers 5, and a movable idler 6 may be introduced by which the band may be maintained tight by supporting the bearings of this roller in an elongated slot 7 and by providing a spring or by weighting the roller 6. The rollers over which this endless band 2 passes are mount-

ed in a casing 10, the front of which is provided with an elongated glazed aperture 11 through which the next street name is displayed.

The operating roller 3 of the endless band 2 is moved through the distance necessary to expose successively the various street names by the following mechanism: Its axle 12 is carried through the casing at one end and has a quick pitch screw thread 13 cut in it on which thread nuts 14 and 15 are endwise movable against the resistance of springs 16. Between these nuts 14 and 15 is introduced the downwardly turned end 17 of a bar 18 which is secured to the core 19 of the solenoids 21 or 22 so as to be endwise movable with that core as it is drawn within the coil. These coils are energized by an electric current drawn from the trolley wire when contact with it is made in a particular manner to be later described.

The faces of the nuts 14 and 15 with which the downwardly turned end 17 engages, are provided with ratchet teeth 20 which will prevent rotation of the nut and compel rotation of the screw when either nut is moved from its normal position against the resistance of the spring 16, but when the solenoid core 19 and its contact bar 18 are returned to their normal central position by the spring 8 the nut 14 or 15 in returning to its normal position is, by the ratchet form of the teeth, free to rotate, so that it will not rotate the screw 12 and the actuating roller 3 backward from the position it was turned to by the outward movement.

The current to energize either solenoid 21 or 22 is derived from a contact 25 secured to the trolley wire 9 and projecting upward therefrom a sufficient distance to clear the flange of the trolley wheel and thereafter bent laterally so that it will be engaged by a contact, plate 26 or 27 secured on suitable insulation 28 one on each face of a rocking arm 30 which is pivotally mounted on a pin 31 projecting from one side of the trolley head. This arm 31 is maintained in an upright position by a spring 32.

Each contact plate 26 and 27 is independently connected by wires 33, 34 which pass down the trolley pole to one or other of the solenoids 21 or 22. When the car is moving in the one direction contact at the de-

sired place with the trolley wire will derive a current from that wire to energize one of the solenoids and will operate one of the nuts to rotate the operative roller 3 and move the endless band.

The provision of the two contact plates 26 and 27 separately connected to opposed solenoids is to enable the car to be run backward without deranging the order of the street names, as in running backward the opposite contact face 27 will make contact and energize the opposite solenoid to rotate the mechanism backward.

The indicator during the return trip may be reversed by a switch that will cross connect the wires 33 34, but preferably the street names on the endless band of one trip will be arranged alternately with those of the return trip, so that at the end of the journey the conductor may move the rollers to the half pitch to take the names of the return trip in their proper sequence and the movement of the mechanism will continue in the same direction.

The contact members 25 are secured to the trolley wire just beyond each street in the direction of movement of the car, see Fig. 5, so that as soon as the car leaves or passes one street the contacts will engage and the mechanism will be operated to display to the passengers within the car the name of the next street.

Importance is attached to the manner of mounting the contact plates 26 27 on the trolley head, as the arm 30 which carries the contact plates will yield to the impact and will be dragged under the contact 25 of the trolley wire in electrical contact all the way. Instead of deriving the operating current from the trolley wire, it may be found advisable to provide a battery to operate the mechanism and govern the battery circuit by the current derived from the trolley wire.

Having now particularly described the invention and the manner of its operation, we hereby declare that what we claim as new and desire to be protected in by Letters Patent, is:

1. In a street indicator for trolley cars, a casing having a display aperture, an endless band on which are the names of the streets which band is inclosed in said casing, rollers including an actuating roller having an axle, means for operating the actuating roller of this system to turn the band in either direction said means comprising a prolongation of the axle of the actuating roller said prolongation having a quick pitch screw thread cut in it, two nuts threaded on this screw and springs to maintain them in the approximate mid-length of the screw the adjacent faces of the nut having ratchet teeth, an endwise slidable bar two

solenoids in axial alinement and having a common core to which said bar is connected, said bar having a downwardly turned end which enters between the adjacent faces of the two nuts, a contact arm pivotally mounted on the head of the trolley pole and having plates insulated from the arm and from one another, a contact projecting laterally from the trolley wire, a spring maintaining said trolley arm in the upright position and means for electrically connecting each plate to the coil of one of the solenoids.

2. In a street indicator for trolley cars, the combination with an endless band on which the names of the streets are displayed and rollers which include an actuating roller having an axle and over which said band passes, of means for operating said actuating roller in either direction said means comprising a screw thread on the axle of the roller on which screw thread are a plurality of nuts, springs maintaining the nuts in a predetermined position, means for endwise moving the nuts and for preventing their rotation electro operative means for actuating said last named means including means whereby a current may be supplied from the trolley wire by a temporary electrical connection therewith.

3. In a street indicator for trolley cars, the combination with an endless band on which the names of the streets are displayed, an actuating roller having a projecting journal including a screwed end over which roller said band passes, means for operating said actuating roller said means comprising a contact arm, two solenoids in axial alinement with one another, the coils of which are separately connected to opposite faces of said contact arm, said contact arm being pivotally mounted on the head of the trolley pole, a contact laterally projecting from the trolley wire, and an endwise movable bar having a downwardly turned end, said solenoids having a common core which is secured to said endwise movable bar, two nuts having ratchet faces toward the downwardly turned end of the bar to cooperate therewith, the nuts being threaded on said screw end of said journal, springs maintaining the solenoid core in the mid-position of its movement, and springs maintaining the nuts toward the mid-position of the screw.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES A. WYATT.
JOHN SIMPSON.

Witnesses:

ROWLAND BRITAIN,
WM. S. SOUTAR.