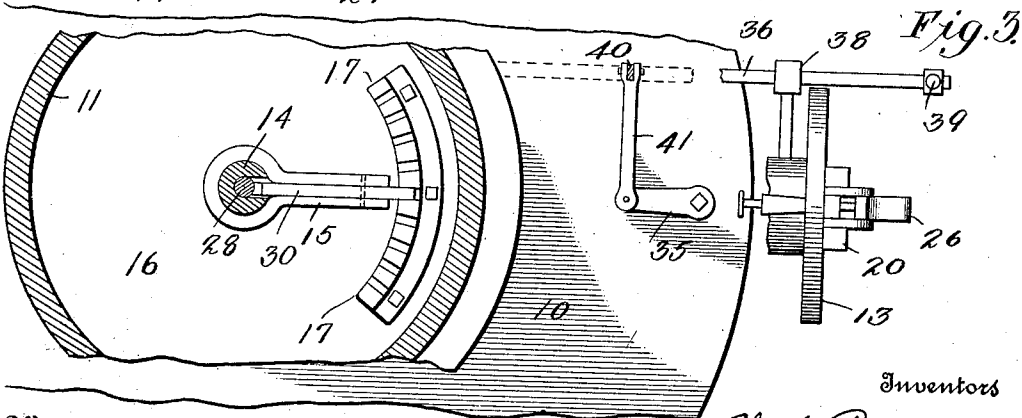
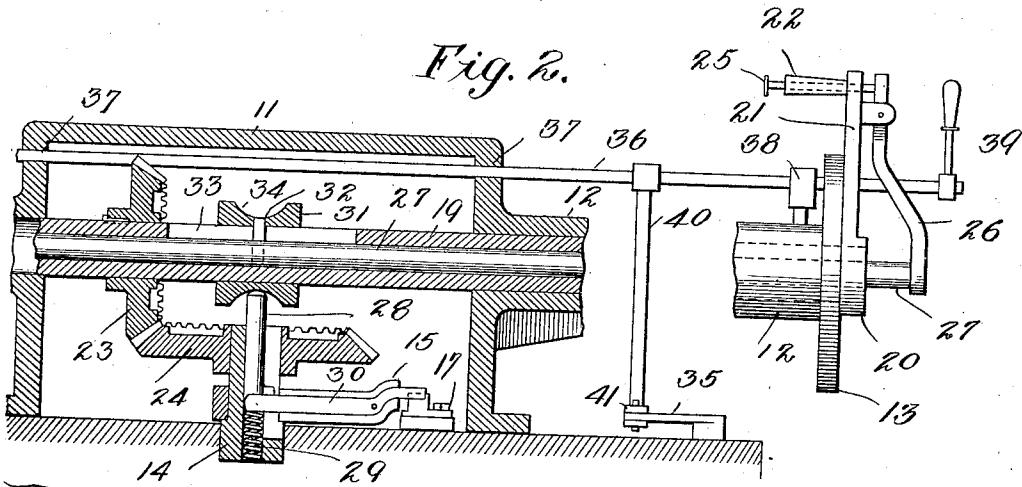
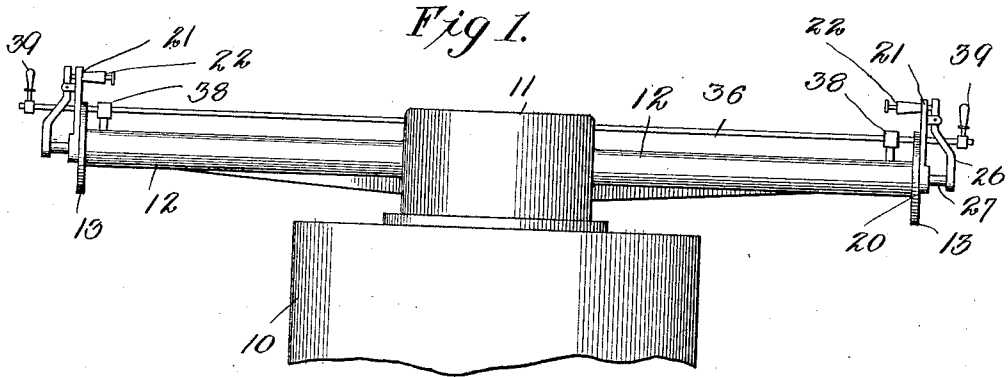


C. & J. G. MUNSON.
STREET CAR CONTROLLER.
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UNITED STATES PATENT OFFICE.

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STREET-CAR CONTROLLER.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CHARLES MUNSON and JOHN G. MUNSON, citizens of the United States of America, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Street-Car Controllers, of which the following is a specification.

This invention relates to improvements in street car controllers and is more especially designed as a remote controlling mechanism for electrically propelled vehicles.

An object of the device is the provision of a means positioned at a distance from a motor controller and by which the controller may be accurately governed by an operator positioned at such distant point.

In the usual operation of electric street cars, the controller operable by the motorman is positioned substantially centrally of the car platform, necessitating the maintenance of such a station by the operator. It is often advisable that the motorman be positioned at a side window of the car or cab and in which position he can readily observe both in advance of and at the side of the vehicle. For allowing the motorman to maintain his position at either side of the car or platform thereof the present invention is devised and by the aid of which the motorman may accurately regulate the speed and direction of the motor while so maintaining his position at either side of the car. Such an arrangement also allows the operator to change from one side of the car to the other when desired for instance when the car is running in different directions.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings forming a part of this application and in which like reference characters designate corresponding parts throughout the several views, Figure 1 is a side elevation of the device. Fig. 2 is a longitudinal vertical central section taken through a portion thereof, and Fig. 3 is a plan view of Fig. 2, portions thereof being removed.

Referring more in detail to the drawings, the controller box 10 of usual construction

designed for a central position upon the car platform is shown having a casing 11 mounted thereon. Tubular arm extensions 12 are provided from opposite sides of the casing 11 and projecting to points adjacent the opposite sides of the platform, the same are provided with indicator plates 13.

The central controller post 14 is provided with a radial arm 15 adapted to swing circumferentially over the top 16 of the controller box and adjacent the ratchet plate 17 thereon, the latter being provided with positioning teeth 18 and adapted to engage the controller arm in a manner hereinafter set forth.

Positioned through the extensions 12 and the casing 11 is the continuous tubular shaft 19 having its ends projecting out of the opposite ends of said extensions. Said projecting ends 20 of the shaft 19 have secured thereto the cranks 21 provided with tubular handles 22 and whereby said shaft 19 may be rotated in either direction and its position determined by its relation assumed with the said plate 13.

The shaft 19 having the bevel gear 23 keyed thereto and meshing with the companion gear 24 upon the upper end of the controller shaft 14, it is evident that a turning of the crank 21 accomplishes the rotation of the controller post 14 and its arm 15, so that the indicator plate 13 accurately shows to the motorman the exact position assumed by the controller arm 15 upon the ratchet plate 17.

For the purpose of locking and releasing the controller arm 15 with respect to the teeth of the ratchet plate, the handle 22 is provided with a pin 25 extending centrally therethrough which engages the bent lever 26 in such a manner as to press inwardly upon the end of a rod 27 extending the entire length through the shaft 19, whenever the pin 25 is pressed inwardly by the hand of the operator upon the handle 22.

Centrally of the controller post 14, a vertically movable pin 28 is mounted being normally elevated by the bottom spring 29 and through its engagement with the inner end of a latch 30 pivoted to the controller arm 15, a normal locking of said latch with the ratchet plate 17 is accomplished.

A grooved sleeve 31 is slidably mounted upon the shaft 19 and within the casing 11 being operatively secured by the pin 32

to the longitudinal movable rod 27, said pin positioned between said rod and sleeve extending through the slot 33 of the shaft 19. The groove 34 of said sleeve is adapted to normally receive the upper end of the pin 28 so that any sidewise movement in either direction of the sleeve 31 results in depressing the pin 28 against the spring 29 and thereby releasing the latch 30 to allow a free actuation of the controller arm 15 upon any movement of either one of the terminal controlling levers 21.

Upon the controller box top, a reversing lever 35 of the usual form is provided, the forward and rearward movement of which controls the backward and forward movement respectively of the motor. An actuating rod 36 preferably journaled through perforations 37 in the opposite sides of the casing 11 and the bosses 38 mounted upon the extensions 12 is provided at each end with a hand lever 39 by which said rod is rotated. An arm 40 secured to said rod 36 is pivotally linked to the free end of the reversing lever 35 by the connector 41 so that a movement of the lever 39 forwardly actuates the lever 35 to control the motor forwardly, while a rearward movement of the hand lever 39 moves the lever 35 to reverse the motor.

From this description, it will be seen that the motorman sitting at either side of the car is in a position to readily operate both the reversing hand lever 39 and the speed controlling lever crank 21, 22. The elements being positioned as shown in Figs. 2 and 3, the handle 22 is grasped and an inward impulse given to the pin 25 whereupon the central rod 22 is longitudinally moved inwardly forcing the collar 31 upon the pin 28 and pressing the latter so that the latch 30 disengages from the teeth of the ratchet plate 17. The crank lever 21 may then be shifted by means of the handle 22 and through the agency of the shaft 19 and the pinions 23 and 24, the controller arm 15 is positioned as desired, its position being viewable upon the indicator plate 13. A releasing of the pin 25 allows the latch to automatically again engage the teeth of the ratchet plate 17, while as above noted a movement of the hand lever 39 governs the operation of the reversing lever 35 of the motor.

While the forms of the invention herein shown and described are what are believed to be preferable embodiments thereof, it is nevertheless understood that changes may be made in form, proportion and details of construction without departing from the spirit and scope of the invention as set forth in the appended claims.

Having thus fully described our invention and in what manner the same is designed for use, what we claim as new and desire to se-

cure by Letters Patent of the United States is:—

1. A device of the class described, comprising in combination with a controller arm, a casing positioned thereover, a revoluble shaft, gearing between said shaft and arm, an actuating crank at each end of said shaft, a ratchet plate, a latch upon said arm adapted for engagement with said plate, and means including a pin carried by said crank for actuating said latch.

2. A device of the class described, comprising in combination with a controller box, a ratchet plate positioned thereon, a controller arm adjacent said plate, a latch pivoted to said arm, a controller post upon which said arm is secured and having a central opening therein, a vertically movable spring pressed pin mounted in said opening and engaging said latch, a tubular shaft extending each side of said arm, gearing between said post and shaft, a crank lever upon each end of said shaft, and means adjacent each crank lever for controlling said pin.

3. A device of the class described, comprising in combination with a controller box, a ratchet plate positioned thereon, a controller arm adjacent said plate, a latch pivoted to said arm, a controller post upon which said arm is secured and having a central opening therein, a vertically movable spring pressed pin mounted in said opening and engaging said latch, a tubular shaft extending each side of said arm, a crank lever at each end of said shaft, a pinion upon said shaft, a gear upon said post meshing with said pinion, and means adjacent each crank lever for actuating said pin.

4. A device of the class described, comprising in combination with a controller box, a ratchet plate positioned thereon, a controller arm adjacent said plate, a latch pivoted to said arm, a controller post upon which said arm is secured and having a central opening therein, a vertically movable spring pressed pin mounted in said opening and engaging said latch, a tubular shaft extending each side of said arm, a crank lever at each end of said shaft, a pinion upon said shaft, a gear upon said post meshing with said pinion, a stationary indicator disk adjacent each crank lever, a longitudinally movable rod within said shaft, a circumferentially grooved sleeve secured to said rod and engaging the upper end of said pin, and means including a pin upon said crank lever for shifting said rod.

5. A device of the class described, comprising in combination with a controller box, a ratchet plate positioned thereon, a controller arm adjacent said plate, a latch pivoted to said arm, a controller post upon which said arm is secured and having a central opening therein, a vertically movable

spring pressed pin mounted in said opening
and engaging said latch, a tubular shaft ex-
tending each side of said arm, a crank lever
at each end of said shaft, a pinion upon said
5 shaft, a gear upon said post meshing with
said pinion, a stationary indicator disk ad-
jacent each crank lever, a longitudinally
movable rod within said shaft, a circumfer-
entially grooved sleeve secured to said rod
10 and engaging the upper end of said pin,
means including a pin upon said crank lever
for shifting said rod, a housing surrounding
said gear, pinion, plate and arm, tubular

extensions carried by said housing with said
shaft journaled therein, a reversing lever, a 15
rod journaled in said housing, links con-
necting said rod and reversing lever, and a
hand lever upon each end of said rod adja-
cent each of said crank levers.

In testimony whereof we affix our signa- 20
tures in presence of two witnesses.

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JOHN G. MUNSON.

Witnesses:

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ETHELYN GRAU.

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