No. 681,167. Patented Aug. 20, 1901.

G. L. FAIRBROTHER & A. H. MATHEWSON.

ELECTRICAL CONTROLLER ATTACHMENT.

(Application filed Apr. 19, 1901.)

(No Model.)

Fig 1

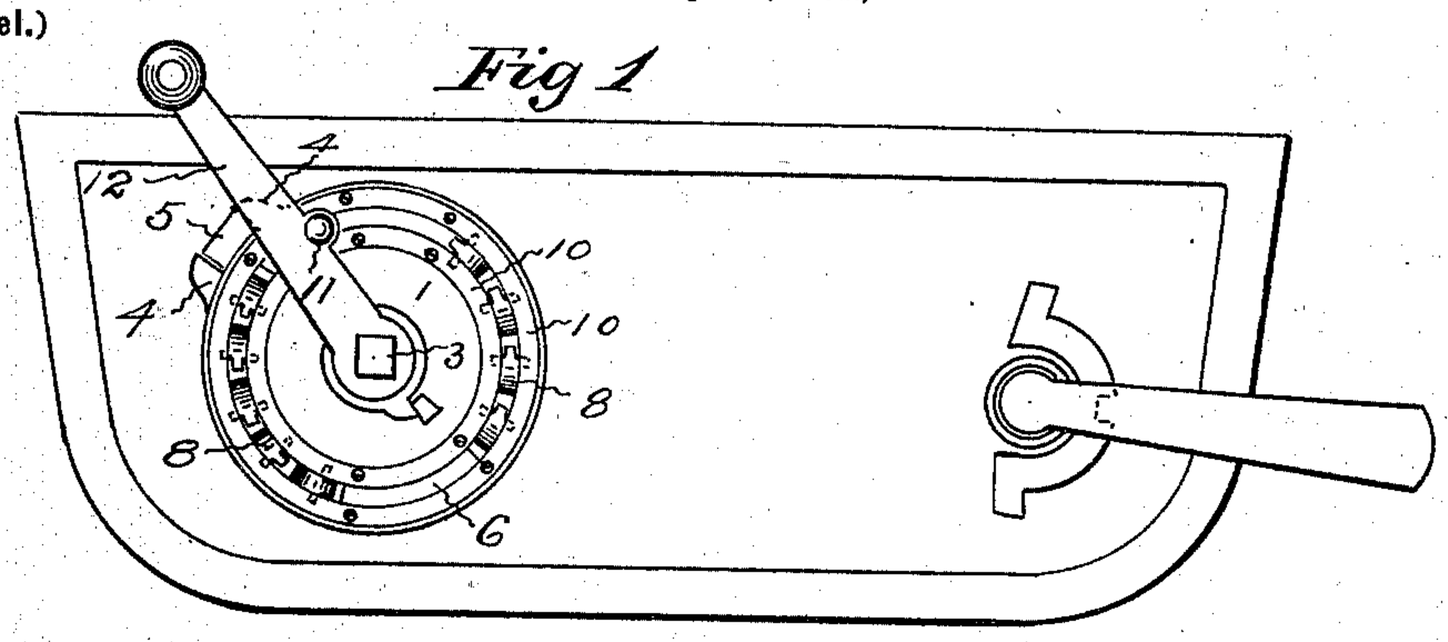


Fig. 2

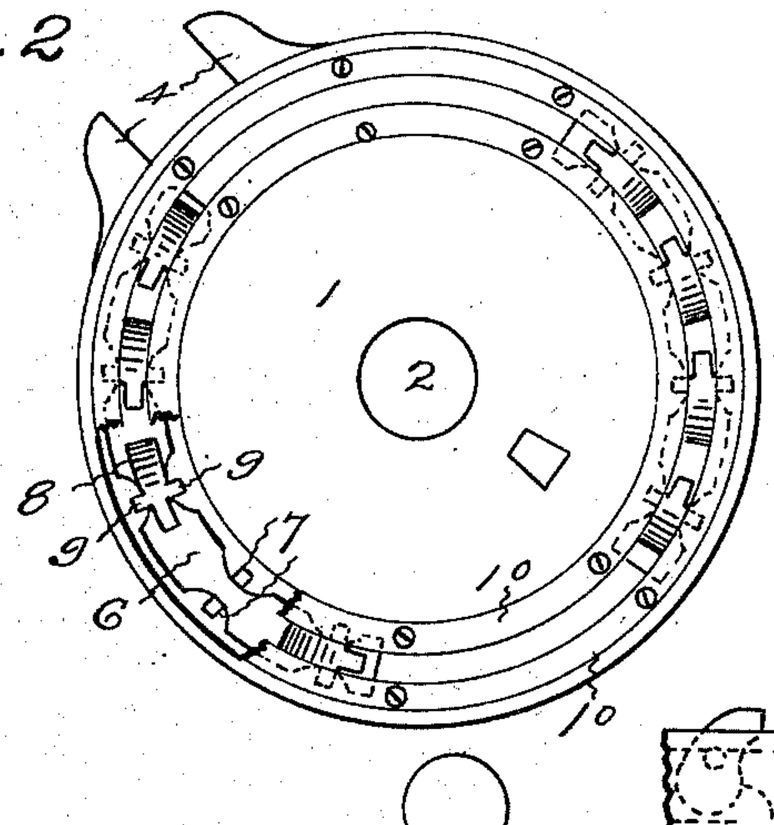


Fig. 4

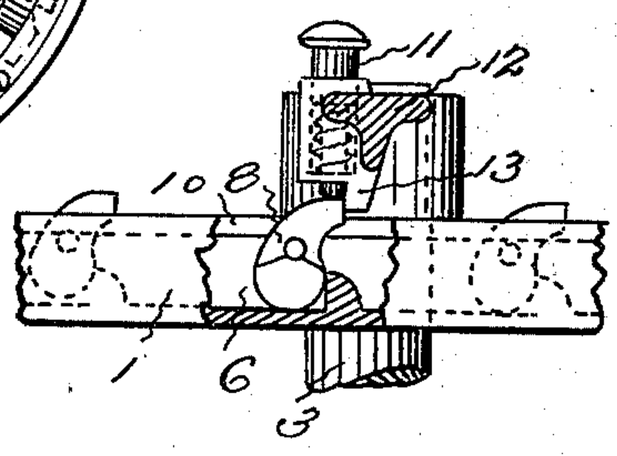


Fig. 3

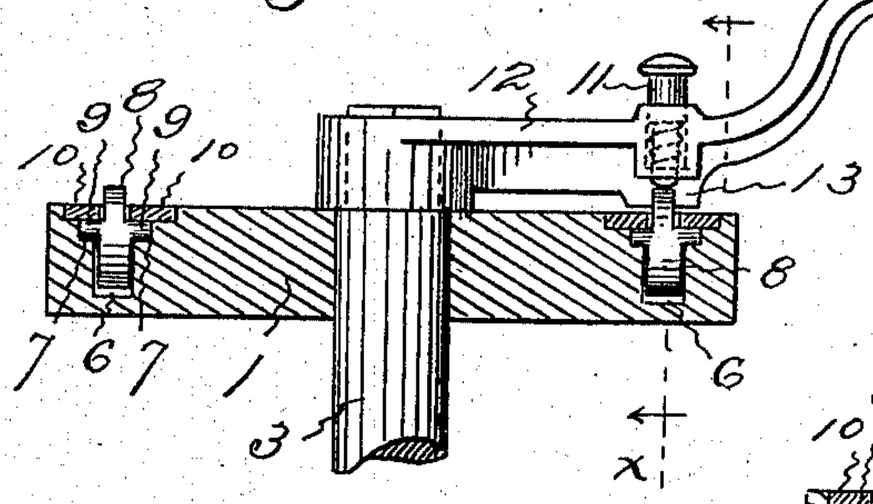


Fig. 5

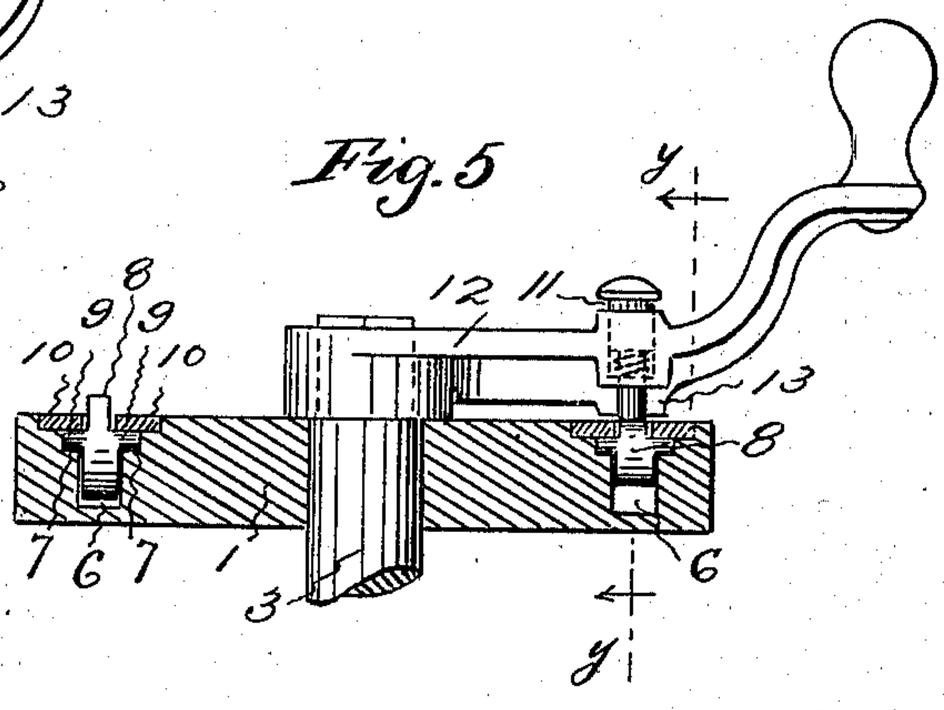
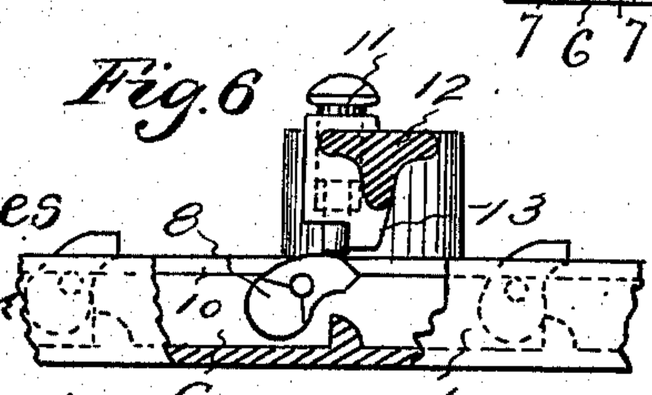


Fig. 6



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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONTROLLER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 681,167, dated August 20, 1901.

Application filed April 19, 1901. Serial No. 56,527. (No model.)

To all whom it may concern:

Be it known that we, GUY L. FAIRBROTHER and ALBERT H. MATHEWSON, citizens of the United States, residing at Thompsonville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electrical Controller Attachments, of which the following is a specification.

This invention relates to those attachments for electric-car controllers which require the motorman to dwell at each notch when turning on the current.

The object of the invention is to provide a simple, inexpensive, and durable device of this nature which may be quickly applied to and removed from the car-controllers of common type and which will require the motorman to make a complete stop at each notch without practically interfering with the rapid manipulation of the controller.

The embodiment of the invention that is illustrated by the accompanying drawings has an annular plate adapted to be placed upon the top of a controller, with a recess containing pivoted lugs which normally stand with their upper ends projecting into the path of a part of the controller-handle, which bears a plunger arranged to depress the lugs out of the path of the handle after they have stopped its movement, as more particularly hereinafter described, and pointed out in the claims.

Figure 1 of the views shows a plan of a controller of the so-called "General Electric" type provided with one of the attachments. Fig. 2 shows a plan, on a larger scale, of one of the attachments. Fig. 3 shows a diametrical section of one of the attachments, with the controller-handle obstructed by a lug. Fig. 4 shows a section on the plane indicated by the broken line $x\,x$ on Fig. 3. Fig. 5 shows a diametrical section similar to Fig. 3, with the obstructing-lug depressed out of the path of the handle; and Fig. 6 shows a section on the plane indicated by $y\,y$ on Fig. 5.

The plate 1 has a central perforation 2, so that it may be placed upon the top of a controller about the spindle 3, and feet 4, arranged to extend each side of the usual handle-stopping projection 5, so as to hold the plate from movement when in position. In the upper face near the periphery of the plate is an annular groove 6. Sockets 7 are made in portions of the side walls of this groove. The lugs 8 are placed in the groove with their trunnions 9 loosely resting in the sockets 7. Rings 10 are secured over the trunnions to retain the lugs in place. These rings are set down so that their tops will be flush with the upper face of the plate. The lower ends of the lugs are made heavy, so that they will normally hang down and cause the upper ends to project between the retaining-rings above the upper face of the plate.

A spring-plunger 11 is placed in a perforation through the controller-operating handle 12, adjacent to the ordinary stopping-lug 13. The groove is made in the plate so that the lugs will project upwardly in the path of the stopping-lug on the handle.

When the motorman swings the handle around for turning on the current, the handle-lug 13 engages the upper end of a swinging lug 8, and the movement of the handle is stopped until the plunger is pressed down and forces the end of the swinging lug out of the path of the handle-lug, leaving the handle free to be moved until it is stopped by the engagement of its lug with the next swinging lug. The swinging lugs are so located that they stop the handle over the notch-marks of the ordinary controller. The swinging lugs are so shaped and hung that the handle can be turned backwardly for shutting off the power without manipulating the plunger. The handle-lug riding upon the upper face of the swinging lugs tips them out of the way when the handle is turned backwardly.

This attachment may be quickly placed on or removed from the top of the ordinary controller and may be moved from one end of a car to the other with the operating-handle. The construction is such that all of the parts may be cast to shape. There is nothing to wear or get out of adjustment, and while the swinging lugs stop the handle at each notch the stopping is no practical objection, for the reason that manipulation of the plunger by the finger of the motorman for pressing the lug out of the path of the handle after the handle is stopped can be quickly accomplished.

We claim as our invention—

1. An attachment for an electric controller consisting of a plate, swinging lugs supported by the plate in the path of a part of the controller-operating handle, and means attached to the handle for pushing the lugs out of the path of the handle, substantially as specified.

2. An attachment for an electric controller consisting of a plate with an annular recess, oscillating lugs supported by the plate in the recess so that they normally project into the path of a part of the controller-operating handle, and means attached to the handle for oscillating the lugs out of the path of the handle, substantially as specified.

3. An attachment for an electric controller consisting of a plate with a central perforation and projecting feet, swinging lugs annularly arranged upon the plate in the path of a part of the controller-operating handle, and means attached to the handle for pushing the lugs out of the path of the handle, substantially as specified.

4. An attachment for an electric controller consisting of a plate with an annular recess, swinging lugs supported by the plate in the recess, rings for retaining the lugs in position, and a spring-plunger carried by the handle for pressing the lugs out of the path of the handle, substantially as specified.

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