

No. 653,172.

Patented July 3, 1900.

C. J. COLEMAN.
MOTOR VEHICLE.

(Application filed Oct. 2, 1899.)

(No Model.)

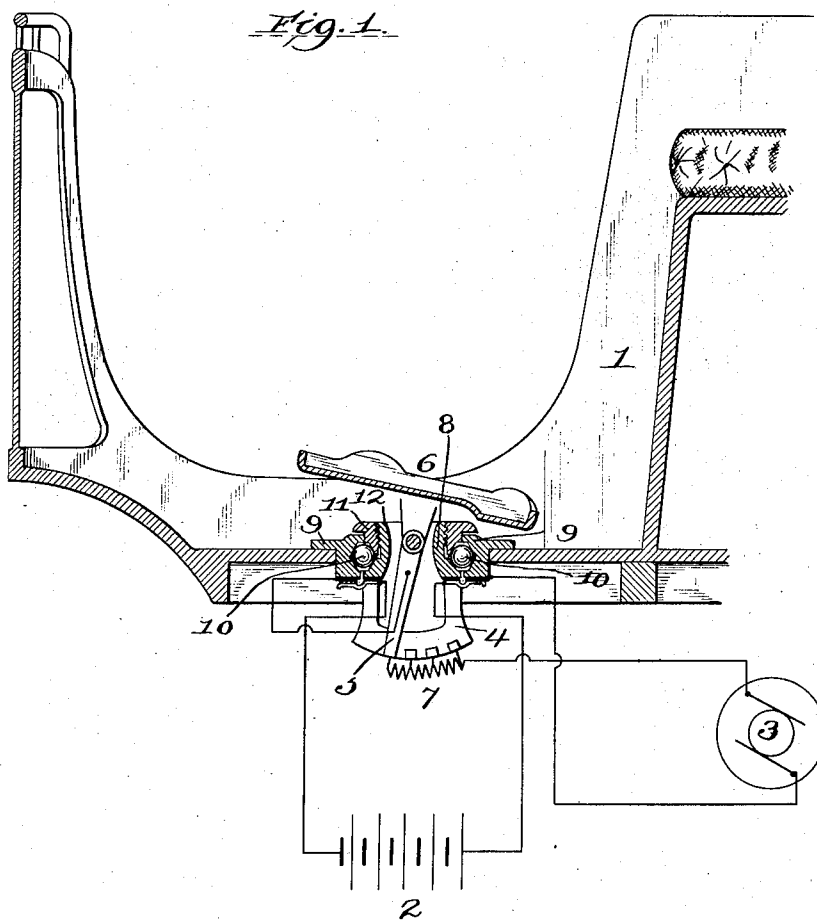
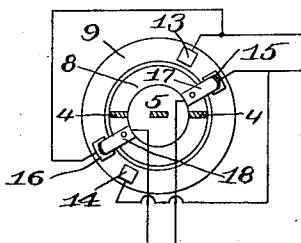


Fig. 2.



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MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 653,172, dated July 3, 1900.

Application filed October 2, 1899. Serial No. 732,357. (No model.)

To all whom it may concern:

Be it known that I, CLYDE J. COLEMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Motor-Vehicles, (Case No. 6;) and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to means capable of convenient actuation by the operator by which the operation of the driving electric motors of electrically-propelled vehicles are controlled and regulated.

The object in the main of the present improvement is to provide a simple and effective operative pedal connection between the current-controlling and the current-reversing mechanisms of the system, such operating-pedal being adapted to have movement in two different planes and so connected to said controlling and reversing mechanisms that a movement in one plane will independently operate the one mechanism and a movement in the other plane will independently operate the other mechanism, as will hereinafter more fully appear.

In the accompanying drawings, illustrative of the present invention, Figure 1 is a fragmentary longitudinal section of the seat portion of a motor-vehicle, illustrating the general arrangement of the present invention and diagrammatically the arrangement of the electrical circuits, motor, &c; Fig. 2, a detail bottom plan illustrating the arrangement of parts of the current-reversing mechanism or pole-changer and its line or circuit connections.

Similar numerals of reference indicate like parts in both views.

Referring to the drawings, 1 represents the seat portion of a motor-vehicle of any usual type and construction, 2 the storage battery or other source of electric power, and 3 the electric motor by which the vehicle is driven.

4 is the stationary member of the current-controller, formed with a series of insulated contact-sections, as usual, and 5 the movable member of the current-controller, which in

the present construction is of the quadrant-lever type, its lower end being adapted to serially contact with the series of contacts on stationary quadrant-shaped member 4 of the current-controller, while its upper end carries the foot-pedal 6, by which movement is imparted to such movable member of the current-controller.

7 is a rheostat or variable resistance the coils of which are connected in series with the insulated sections or contact-pieces of the stationary quadrant member of the current-controller and adapted in the shifting movement of the controller member 5 to introduce a variable resistance into the motive circuit or to wholly break the same as usual in such class of electrical devices.

In cases where an arrangement of batteries is depended upon to afford a variable electromotive force and current to the motor such batteries will be connected to the present current-controller in the usual well-known manner, so as to be capable of being used in series or in series multiple at the will of the operator, and accordingly the term "current-controller" in the present description is intended to cover a means for controlling the electromotive force of the electrical circuit of the vehicle-motor regardless of the particular arrangement and connections of such circuit and regardless of the fact that the circuit to the field or the circuit to the armature is the circuit which is reversed in effecting a reversal of the motor with the present invention.

The present invention involves, broadly, the combination of a foot-pedal capable of movement in two distinct planes and having operative connections with the movable members of the current-controlling and current-reversing mechanisms to enable a ready and convenient actuation of either mechanism in an independent manner by the foot of the operator.

In the practical carrying out of the present invention the movable member or lever of the current-controller heretofore described will be pivoted in the annular ring 8, which is adapted to turn in a horizontal plane in the annular supporting-ring 9, secured to the vehicle-body, as illustrated in Fig. 1. A ball-bearing connection between the above-de-

scribed rings is preferable, and accordingly such rings will be formed with the usual ball-races to receive the series of intermediate bearing-balls 10, the assemblage of the parts, as well as their proper relative adjustment, being attained through the instrumentality of the annular cone-piece 11, screwing upon the extension-neck 12 of the ring 8, as illustrated in Fig. 1.

- 10 The current-reversing switch or pole-changer of the present invention will comprise opposed pairs of insulated contacts 13, 14, 15, and 16, arranged upon the under surface of the fixed bearing-ring 9, with conducting connections, as illustrated in Fig. 2, and a pair of movable contact points or fingers 17 and 18, carried by the movable bearing-ring 8 and having conductor connections with the source of electrical energy, the arrangement being such that with a partial rotation of the bearing-ring 8 through the instrumentality of the pedal and the foot of the operator the motor-circuit can be changed to actuate the motor in either a forward or backward direction or to entirely break the circuit when so desired.

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

- 30 1. In a system of electrical propulsion for motor-vehicles the combination of a current-controller, a current-reversing switch, and a pedal capable of a combined rocking and swiveling movement, and operatively connected with such controlling and reversing mechanisms, substantially as set forth.

2. In a system of electrical propulsion for motor-vehicles the combination of a current-controller, a current-reversing switch, a pedal having movement in a vertical and in a horizontal plane, and operative connections between said pedal and the controlling and reversing mechanisms, substantially as set forth.

- 45 3. In a system of electrical propulsion for motor-vehicles, the combination of a current-controller, a current-reversing switch, a pedal having movement in a vertical and in a horizontal plane, a movable ring carrying the

movable members of the controlling and reversing mechanisms, and a fixed ring carrying the stationary member of the reversing mechanism, substantially as set forth.

4. In a system of electrical propulsion for motor-vehicles the combination of a current-controller, a current-reversing switch, a pedal having movement in a vertical and in a horizontal plane, a movable ring carrying the movable members of the controlling and reversing mechanisms, a fixed ring carrying the stationary members of the reversing mechanism, ball-races formed in the adjacent faces of said rings, a series of interposed balls, and an adjustable cone-piece securing the parts in relative position, substantially as set forth.

5. In a system of electrical propulsion for motor-vehicles the combination of a current-controller having a lever-shaped movable member, a current-reversing switch, a pedal carried by the movable lever member of the controller, a movable ring having pivotal connection with the movable controller member and carrying the movable member of the current-reverser, and a fixed ring carrying the stationary member of the current-reverser, substantially as set forth.

6. In a system of electrical propulsion for motor-vehicles, the combination of a current-controller, having a lever-shaped movable member, a current-reversing switch, a pedal carried by the movable lever member of the controller, a movable ring having pivotal connection with the movable controller member and carrying the movable member of the current-reverser, a fixed ring carrying the stationary member of the current-reverser, ball-races formed in the adjacent faces of said rings, a series of interposed balls, and an adjustable cone-piece securing the parts in relative position, substantially as set forth.

In testimony whereof witness my hand this 22d day of August, 1899.

CLYDE J. COLEMAN.

In presence of—

ROBERT BURNS,
M. H. HOLMES.