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E. J. DACEY.

TROLLEY FOR ELECTRIC CARS AND THE LIKE.

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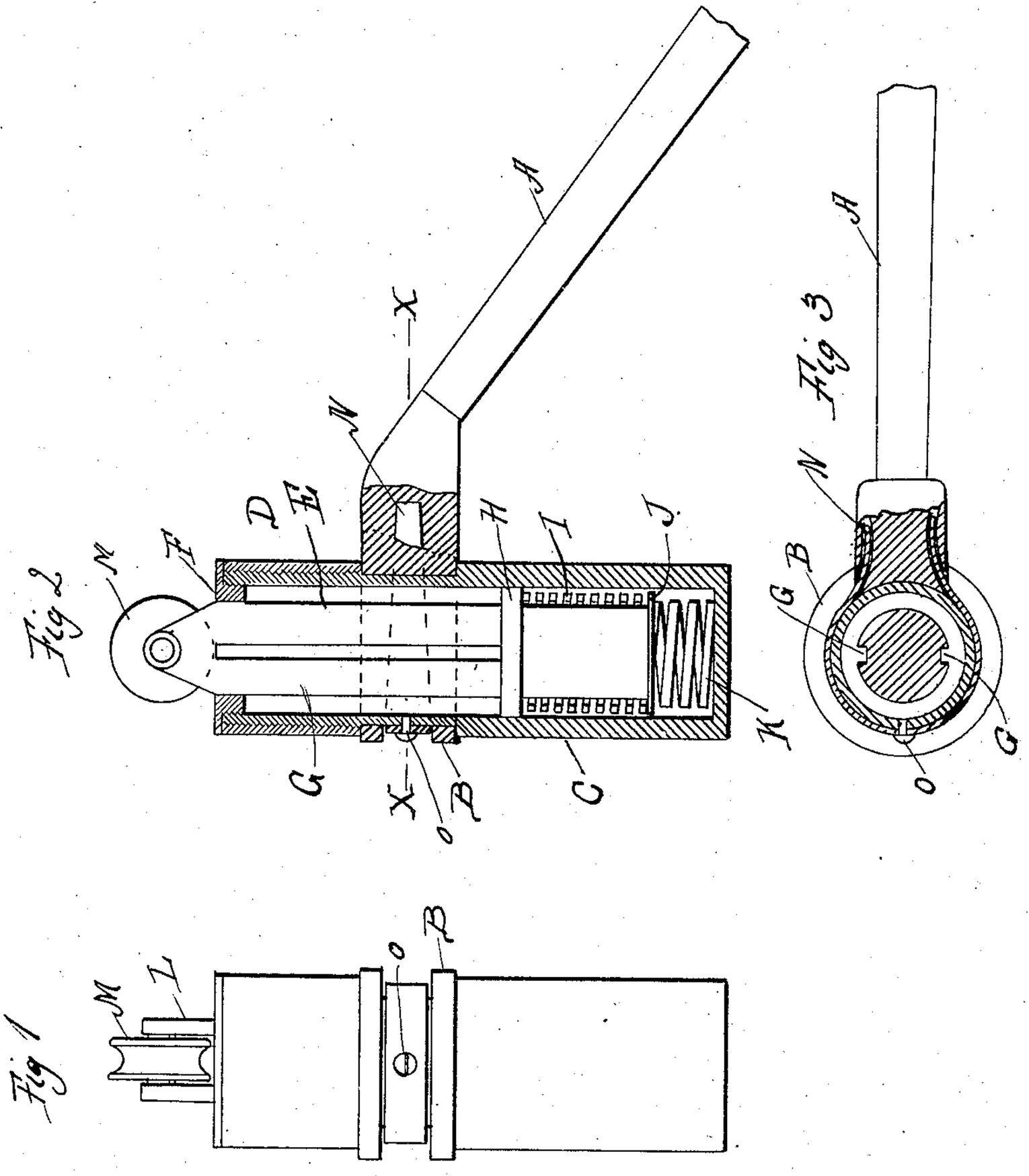

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TROLLEY FOR ELECTRIC CARS AND THE LIKE.

No. 891,410. Specification of Letters Patent. Patented June 23, 1908.

Application filed October 11, 1907. Serial No. 396,931.

To all whom it may concern:

Be it known that I, EDWARD J. DACEY, a citizen of the United States, residing at Prescottville, county of Jefferson, and State of Pennsylvania, have invented a certain new and useful Improvement in Trolleys for Electric Cars and the Like, of which the following is a specification.

My invention relates to a new and useful improvement in trolleys for electric cars and the like, and has for its object to provide an exceedingly simple and effective arrangement by which the trolley wheel will always be held in contact with the feed wire regardless of the swinging movements of the pole, and a further object of my invention is to provide a spring cushion so as to absorb the shocks incident to the vibrations of the pole, and a still further object of my invention is to give the trolley wheel a limited swinging movement to facilitate following the feed wire around curves, thus preventing the wheel from jumping from said wire.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a front elevation of my improved trolley. Fig. 2, a vertical section taken at right angles to Fig. 1. Fig. 3, a section at the line X—X of Fig. 2.

In carrying out my invention as here embodied, A represents the trolley pole, its upper end being forked as indicated at B, and within this fork is set the cylinder C, the upper portion of which is of less diameter than the lower portion the reduced diameter passing through the fork and having threaded thereon the sleeve D which holds the cylinder against withdrawal from the fork but permits it to turn upon its axis as will be readily understood.

E represents a plunger which is fitted within the cylinder its upper end passing through the cap F which is threaded into the upper end of the cylinder, the plunger being splined in the cap as indicated at G in Fig. 3. This will permit the plunger to move up and down within the cylinder, but prevent it from revolving independent thereof.

H represents a circular shoulder formed or secured upon the plunger, and I is a spring coiled around the lower portion of the plunger and bearing upon the under side of the shoulder H. This coil spring is seated upon the disk J which in turn is supported by the coil spring K which serves as a cushion to absorb the shocks, as hereinafter set forth.

The upper end of the plunger is forked to form the harp L, and in this harp is journaled the trolley wheel M in the usual manner.

N is a flat spring partially surrounding the cylinder about mid-way thereof and secured to said cylinder by the screw O, the ends of said spring bearing against both sides of the fork B so as to normally hold the piston and consequently the trolley wheel in proper alinement with the feed wire while at the same time permitting said trolley to have a limited swinging movement when passing around curves, it being understood that when said trolley is thus deflected the ends of the spring N while allowing this deflection will return the trolley wheel to its normal alinement when the latter reaches the straight portion of the feed wire.

In practice the spring I is of very much less strength than the spring at the base of the trolley pole A which forces the latter upward and holds the trolley wheel M in contact with the feed wire so that under ordinary conditions the plunger will be maintained in the position shown in the drawing, but when by the movement of the car the pole A is caused to vibrate the trolley wheel comes in contact with the hangers or other obstructions upon the feed wire but the downward movement of the pole which would throw the trolley wheel off of the feed wire will not so affect said wheel for the reason that the spring I will force the plunger upward, compensating for the downward movement of the pole A and thereby keeping the trolley wheel in constant contact with the feed wire.

In the upward movement of the pole the plunger will be forced against the action of the spring I and its lower end will come in contact with the disk resting upon the spring K, and said spring will act as a cushion to absorb the shock which would otherwise be transmitted to the feed wire, and this is of great importance as it greatly lessens the

wear and tear upon the wires of the trolley system.

Of course I do not wish to be limited to the exact details of construction as these may be varied without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

1. In combination with a trolley pole of an electric car, a cylinder swiveled in the upper end of said pole, a spring for normally holding said cylinder in a central position but permitting it to be turned upon its axis in certain limits, a plunger fitted within said cylinder and splined thereto, a trolley wheel journaled in the upper end of said plunger, and means for maintaining said trolley wheel in contact with the feed wire when the pole swings downward, as specified.

2. The herein described combination of a trolley pole, a fork formed at its upper end, a cylinder swiveled in said fork, a sleeve threaded upon said cylinder to hold it in the fork, a spring secured to the cylinder, its upper end bearing against the heel of the fork, a plunger fitted within the cylinder, means for preventing said plunger from turning upon its axis independent of the cylinder, a coil spring for forcing said plunger upward, and a trolley wheel journaled in the upper end of the plunger, as specified.

3. In combination with a trolley pole, a fork formed upon the upper end thereof, a cylinder journaled in said fork, a sleeve threaded upon the end of the cylinder for holding it in the fork, a flat spring secured to the cylinder, the ends thereof bearing against the heel of the fork to permit a slight actual movement of the cylinder, a plunger fitted within the cylinder, a cap threaded into the upper end of the cylinder, said cap being splined to the plunger, a shoulder formed upon said plunger, a spring coiled around the lower end of the plunger and bearing against the under side of said shoulder, a disk upon which said spring rests, a cushion spring upon which said disk rests, and a trolley wheel journaled in the upper end of the plunger, as and for the purpose set forth.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

EDWARD J. DACEY.

Witnesses:
HARRY TANGEREN,
ELMER EARLEY.