

(No Model.)

A. L. RIKER.

TROLLEY FOR ELECTRIC RAILWAY SYSTEMS.

No. 411,613.

Patented Sept. 24, 1889.

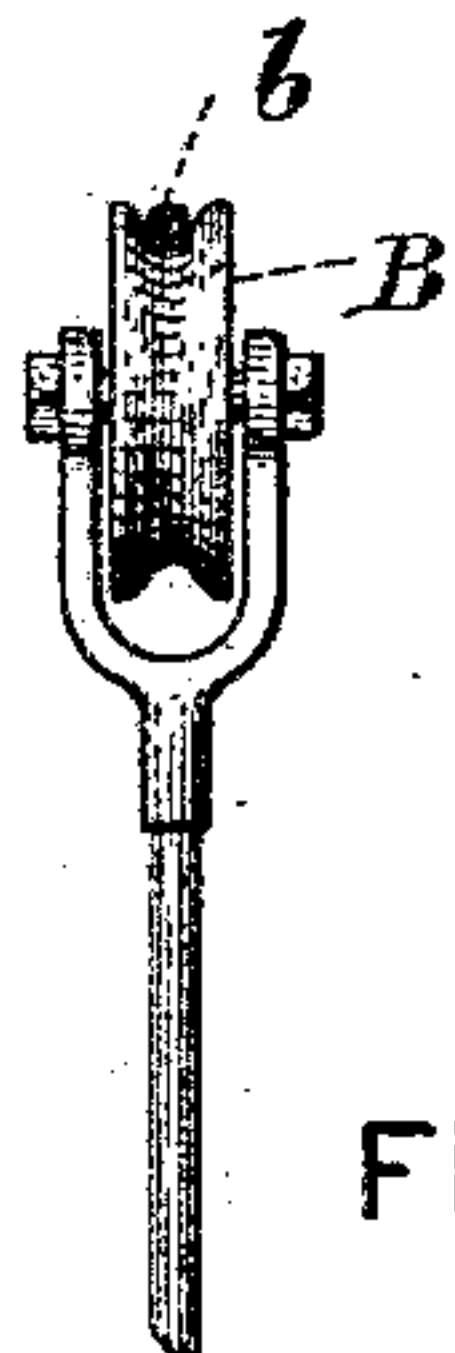


FIG. I.

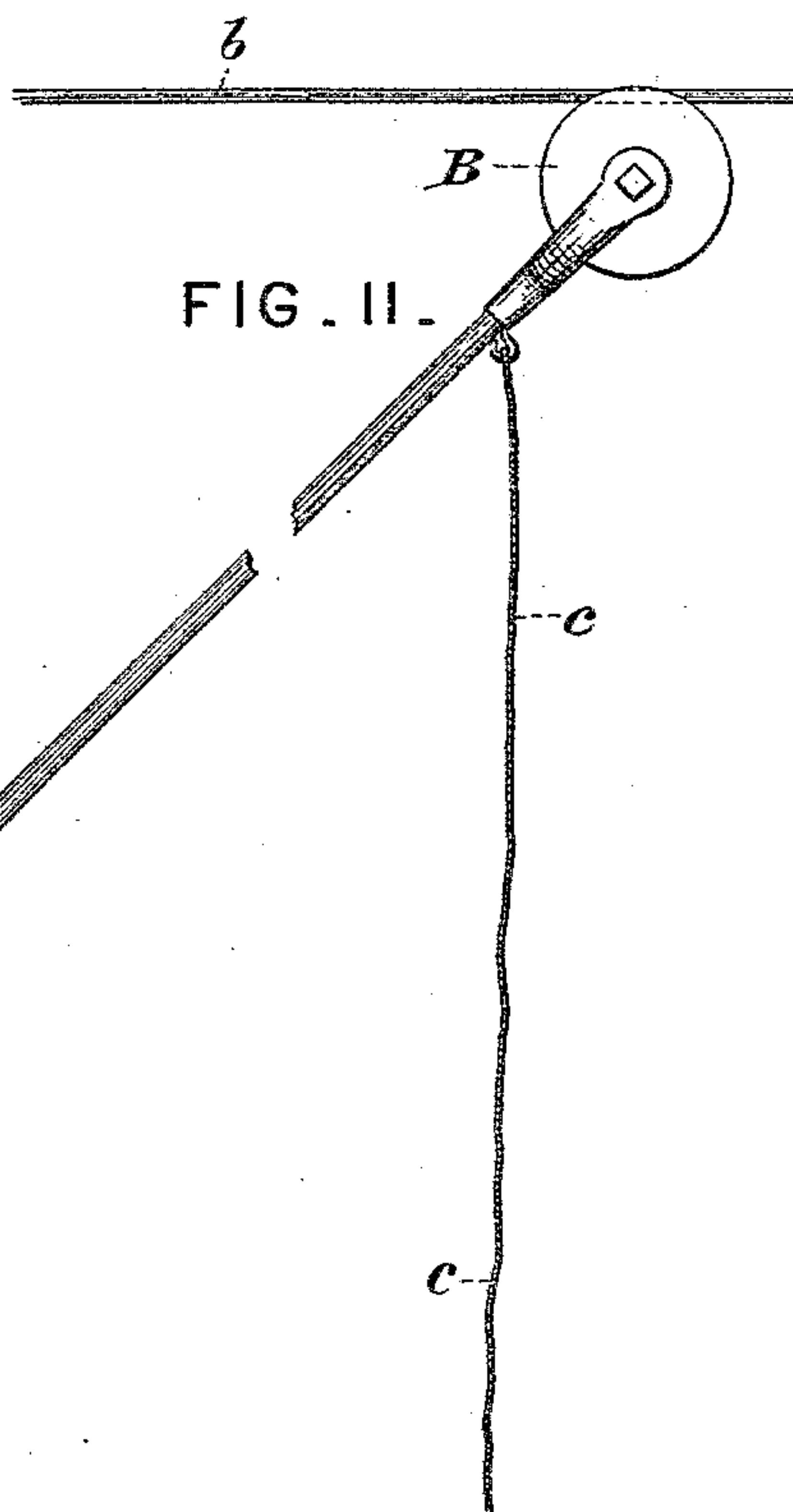
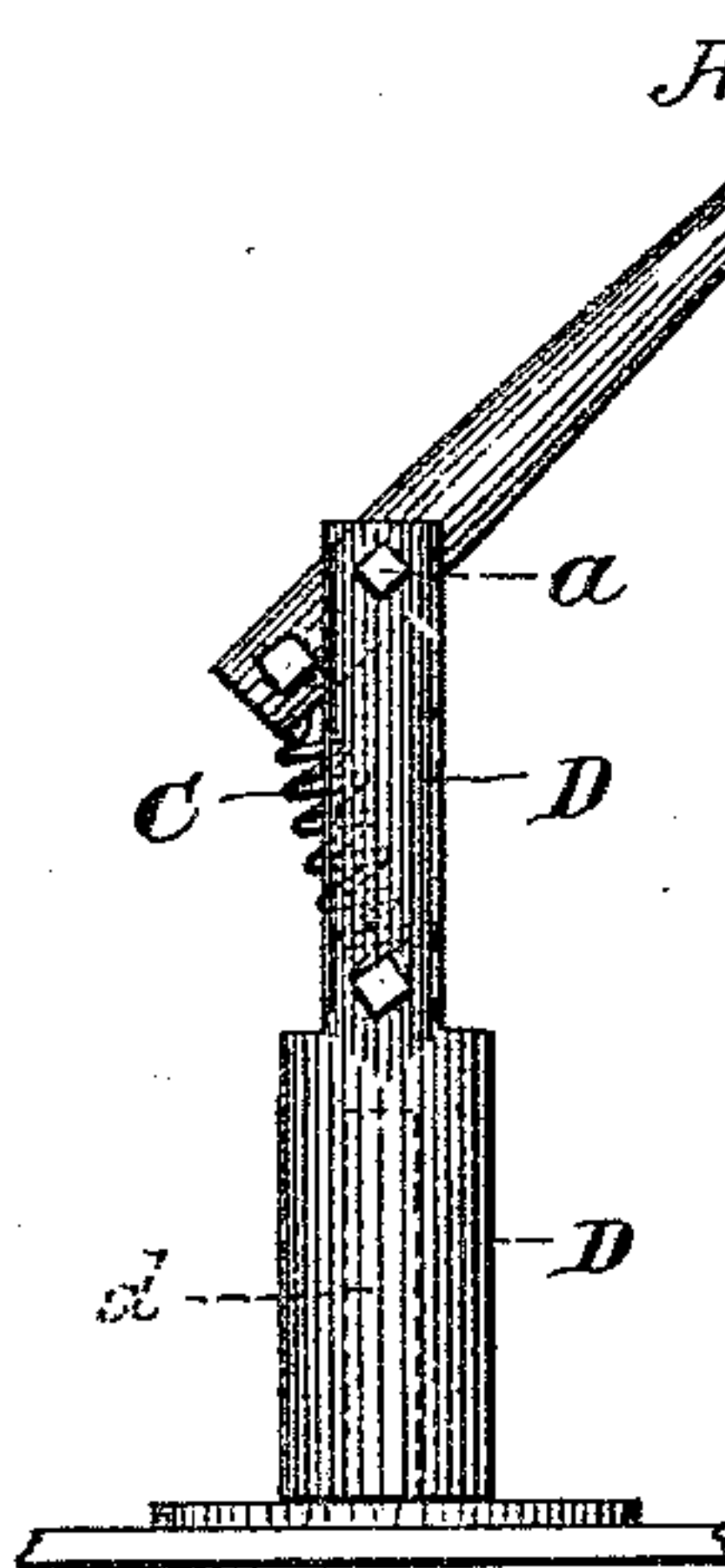
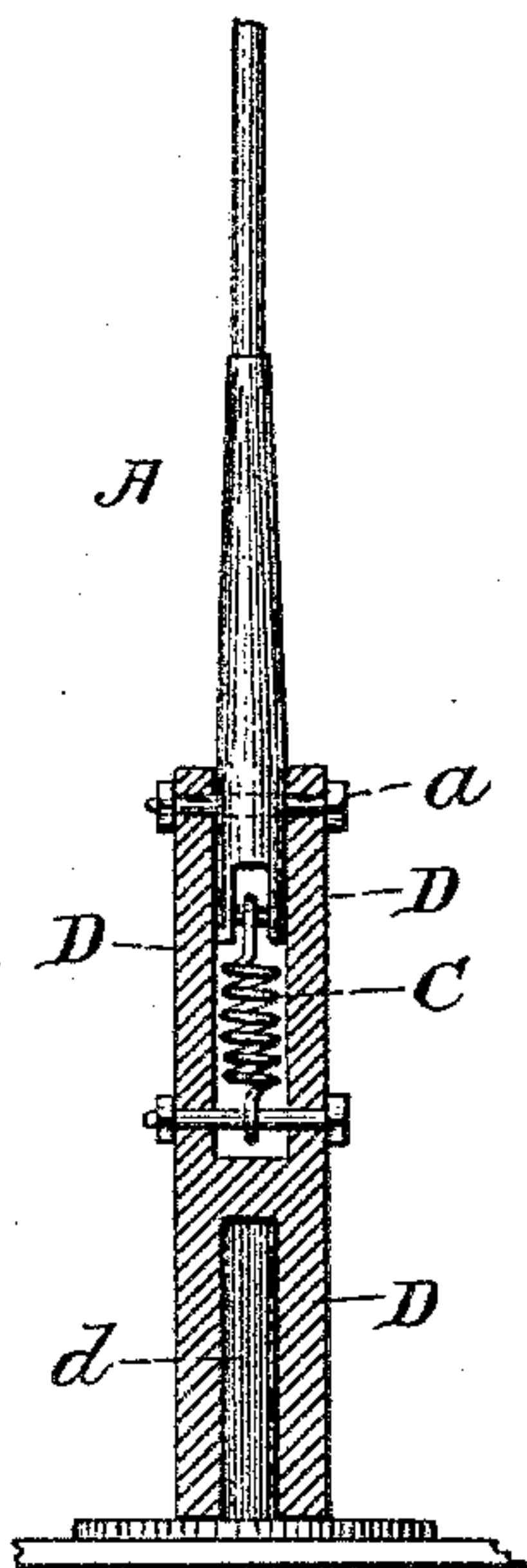


FIG. II.



*Attest:*  
*Geo. T. Smallwood,*  
*Philosophy*

*Inventor*  
*Andrew L. Riker*  
*by* *J. Poller*  
*his attorney.*

# UNITED STATES PATENT OFFICE.

ANDREW L. RIKER, OF NEW YORK, N. Y.

## TROLLEY FOR ELECTRIC-RAILWAY SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 411,613, dated September 24, 1889.

Application filed April 22, 1889. Serial No. 308,147. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW L. RIKER, of New York city, in the county and State of New York, have invented a new and useful  
5 Improvement in Trolleys for Electric-Railway Systems, which improvement is fully set forth in the following specification.

This invention has reference to the construction of trolleys for use on cars driven by  
10 electricity, in which the energy is conveyed to the vehicles by wires supported overhead.

As generally heretofore constructed the swinging arm of the trolley has been pivoted upon a base or support which is itself  
15 pivoted to the roof of the car, so that the whole device can turn on a vertical axis. When the car has reached a terminus, it is necessary to swing the device around in order to run the car in the other direction.

20 According to this invention the swinging arm is controlled by a spiral spring connected near the lower end thereof, and the said arm is pivoted in its support in such manner that it can be turned on its pivot until it passes a  
25 vertical line therefrom, and made to assume the proper angular position on either side of said vertical line. The support carrying this arm is itself pivoted on a fixed base or standard, and is capable of turning on a vertical  
30 axis, so that the roller may always keep in contact with the wire.

The accompanying drawings represent a trolley constructed in accordance with the invention, Figure I being a front view, partly  
35 in section, and Fig. II a side elevation.

A represents the swinging arm carrying at its upper end the grooved contact-roller B, and C represents a spiral spring connected at one end to the arm A and at the other to the  
40 support D. The said support D is bifurcated

at its upper end and between its two branches or limbs the arm A is pivoted at *a*. The spring C is placed between the two limbs of support D, and it tends to keep the arm A in a vertical position. The construction per-  
45 mits arm A to bend in either direction, obviating the necessity of walking around the car with the guide-cord to reverse the position of the trolley. The arm A is held in its angular position, as shown, by its contact  
50 with the wire *b*, from which the current is taken. By means of cord *c* the arm A can be inclined in either direction until the roller B comes under the wire *b*, when it is released, the tension of spring C preserving the con-  
55 tact between said roller and wire.

The lower part of support D is hollow, and it fits over a stationary pin or upright *d*, upon which it can turn. It is necessary to give the arm A some freedom of motion laterally, so  
60 that the roller B may always keep in contact with the wire *b*, when curves are turned, for example.

I claim—

The combination of the support pivoted  
65 so as to turn on a vertical axis, the swinging arm pivoted to said support and capable of turning on its pivot, so as to incline either forward or backward, and a spiral spring connected with said arm and support and tend-  
70 ing to resist the bending of said arm in either direction, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ANDREW L. RIKER.

Witnesses:

PHILIP MAURO,  
CHARLES J. HEDRICK.