

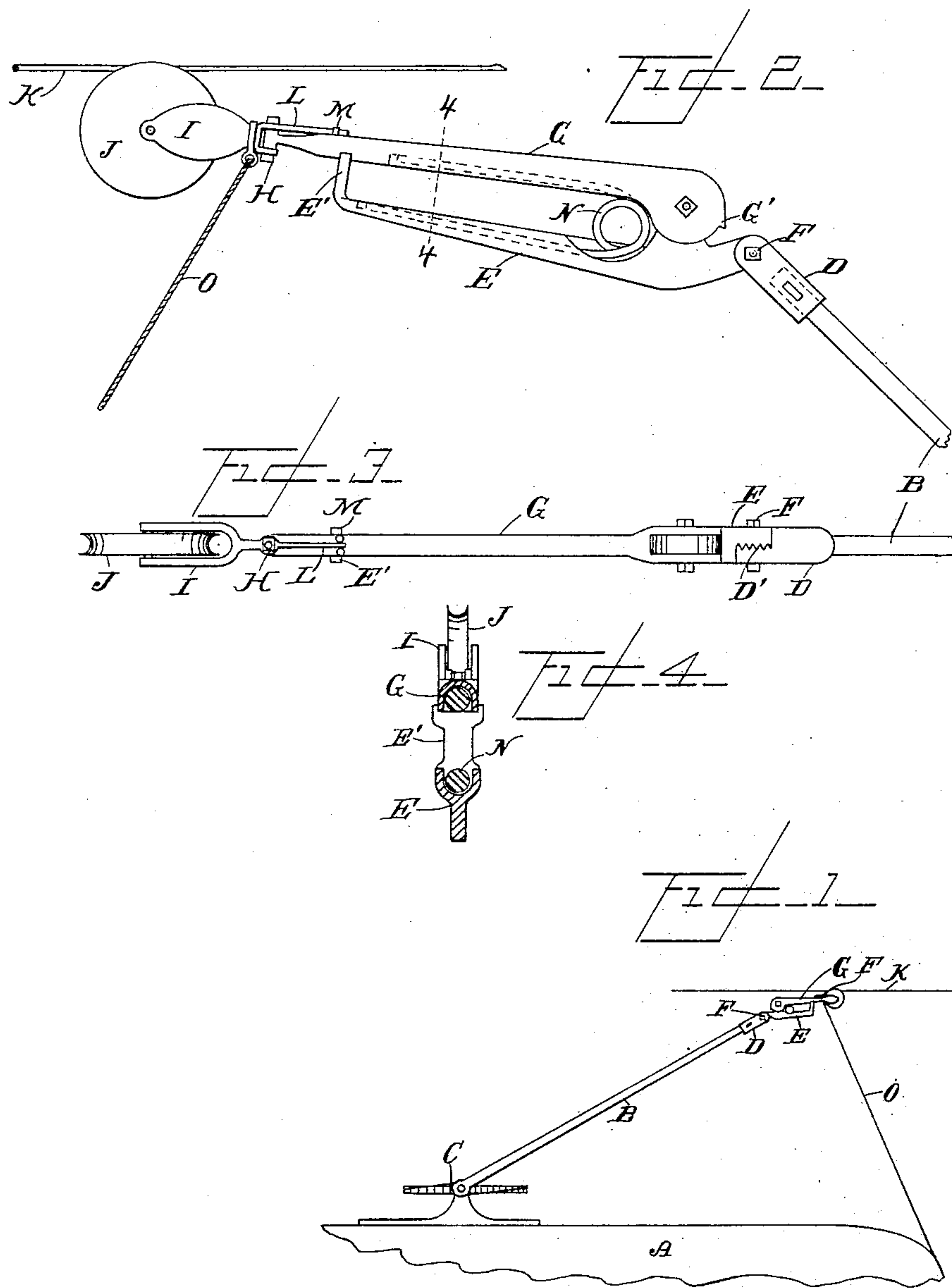
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PATENTED JAN. 26, 1904.

J. J. TARTT.  
TROLLEY POLE.

APPLICATION FILED MAR. 30, 1903.

NO MODEL.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOHN J. TARTT, OF LOS ANGELES, CALIFORNIA.

## TROLLEY-POLE.

SPECIFICATION forming part of Letters Patent No. 750,733, dated January 26, 1904.

Application filed March 30, 1903. Serial No. 150,294. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. TARTT, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Trolley-Poles, of which the following is a specification.

My invention relates to trolley-poles for an overhead electric system; and the objects thereof are to provide a trolley-pole which will cause the trolley-wheel to make a very firm contact with the trolley-wire and which will readily turn curves. I accomplish these objects by the trolley-pole described herein and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the top portion of a car equipped with my improved trolley-pole. Fig. 2 is an enlarged side elevation of the upper end of the trolley-pole. Fig. 3 is a plan of the parts shown in Fig. 2. Fig. 4 is a cross-section on the line 4 4 of Fig. 2 looking toward the trolley-wheel.

In the drawings, A is the car, and B is the body portion of the trolley-pole, having the usual spring-operated base C. On the top of the body portion is socket D, which is fastened thereto in the usual manner. The upper end of the socket is offset and provided with a roughened or serrated surface D', which registers with a like roughened surface in the end of the lower arm E, which is secured thereto by bolt F, thereby providing a vertically-adjustable joint which when the arm is set at any particular angle holds it securely in that position without any danger of slipping. To this lower arm is pivoted an upper arm G, to the front of which is connected by a hinged joint H, which has a lateral movement, the trolley-harp I, carrying the trolley-wheel J, which wheel contacts with the trolley-wire K. The trolley-harp is normally held in line with the arm G by spring L, preferably a flat spring, secured to the harp and having the free end thereof passing between pins or stops M, secured to the top of arm G, which allows the harp to turn when rounding slight curves without disturbing the position of the body of the pole. These arms are grooved in their opposing surfaces, and

in these grooves are mounted the free ends of the coiled spring N, whose force is exerted to cause the free ends of the arms to separate, and thereby put an additional tension upon the trolley-wheel to keep it in contact with the trolley-wire. The upper arm is provided with a stop G', which is adapted to strike the lower arm to limit the separation of the free ends of the arms. The free end of the lower arm is provided with an upturned end E', which provides a rest for the end of the upper arm. If desired, the adjustable joint between the lower arm and body can be omitted and the lower arm be an extension of the body of the pole, the upper arm being suitably pivoted on the upper side thereof and the spring connected thereto, so as to spring-press the free end of the arm away from the body of the pole.

In the operation of my device the arm E is rigidly secured to the socket D to give it the desired angle. Rope O is used to guide the trolley-wheel to the wire in the usual manner. The usual tension of the trolley-wheel upon the wire is caused by the spring at the base of the pole. This tension is such that the free end of the arm G contacts with arm E, as shown.

When running at considerable speed, the trolley-wheel has a tendency to vibrate downward away from the wire, owing to the angle at which the pole is carried. This makes poor contact, and a loss of power is occasioned thereby, and often in its return movement the wheel misses the wire entirely and the pole or harp strikes the span-wire and the car must be stopped to replace the wheel on the wire. By mounting the trolley-harp upon an arm which is pivotally connected to the body of the trolley-pole near the wire and by giving such arm an upward spring-pressure, owing to its close position to the wire, the wheel is kept in firm contact with the wire, as there is no considerable leverage, like that which exists when the spring-pressure is exerted all at the base of the trolley-pole.

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

1. In a trolley-pole, an arm adjustably se-



cured for vertical movement to the end of the body of the trolley-pole; a second arm pivoted to the first arm on the upper side thereof; a trolley-harp attached to said last arm; a spring  
5 between said arms adapted to cause their free ends to separate.

2. In a trolley-pole, an arm adjustably secured for vertical movement to the end of the body of the trolley-pole; means to cause said  
10 connection to become rigid; a second arm pivoted to the first arm on the upper side thereof and having stops on its upper side; a trolley-harp attached to said last arm by a hinged joint movable horizontally; a spring affixed to  
15 said harp and passing through the stops on said arm.

3. A trolley-pole comprising a spring-operated base; a body connected to said base; an arm adjustably secured for vertical movement to said body; means to make said con- 20  
nection rigid; a second arm pivoted to said first arm; a spring between said arms adapted to throw their free ends apart; a trolley-harp connected to said second arm.

In witness that I claim the foregoing I have 25  
hereunto subscribed my name this 23d day March, 1903.

JOHN J. TARTT.

Witnesses:

G. E. HARPHAM,  
MARGARETE C. NICKELESON.