(No Model.)

Z. T. FURBISH.

TROLLEY.

No. 545,686. Patented Sept. 3, 1895.

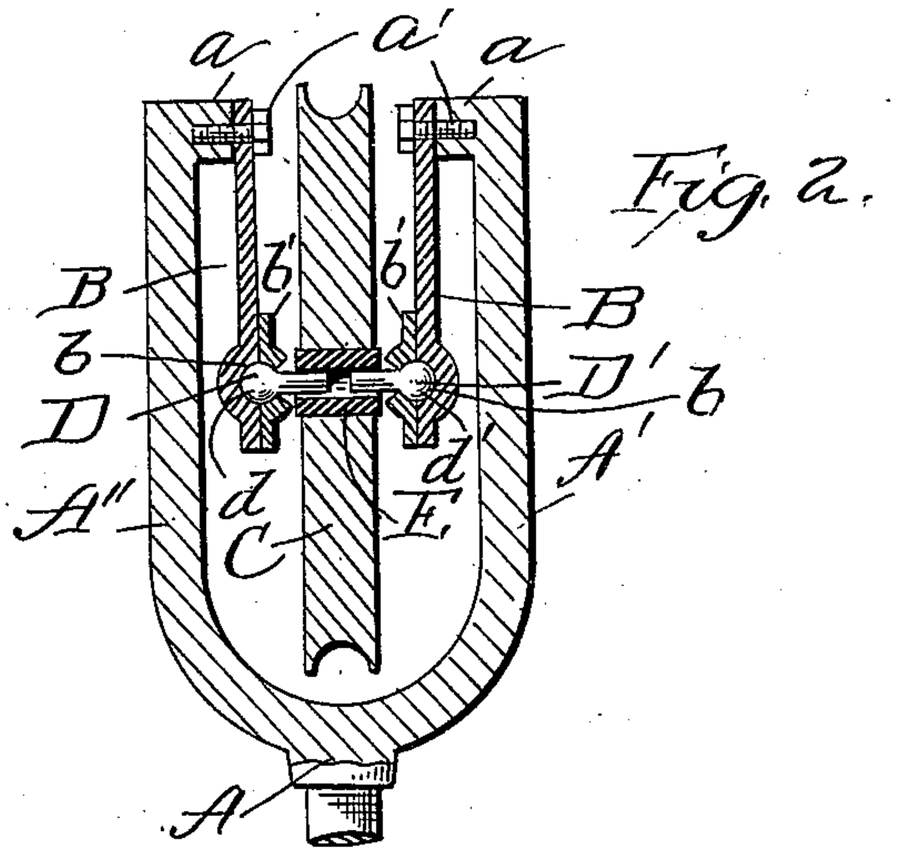

Fig. 2.

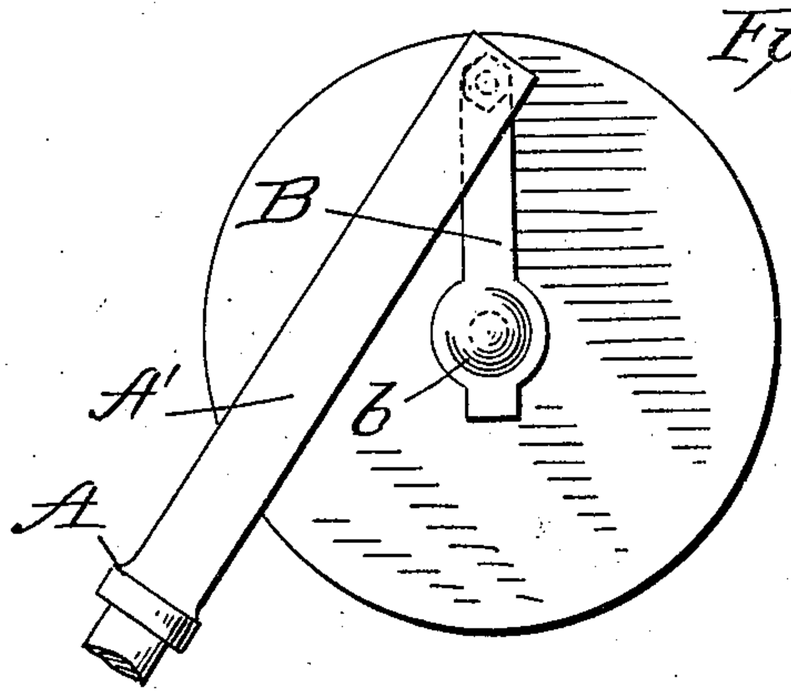

Fig. 1

Attest
Walter Dwaldsay.
F. L. Middleton

Inventor
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Atty.

UNITED STATES PATENT OFFICE.

ZACHRY T. FURBISH, OF AUGUSTA, MAINE.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 545,686, dated September 3, 1895.

Application filed July 12, 1895. Serial No. 555,720. (No model.)

To all whom it may concern:

Be it known that I, ZACHRY T. FURBISH, a citizen of the United States, residing at Augusta, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Trolleys, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in trolleys for overhead electric railways; and the object of the invention is to provide a construction in which free movement is permitted to the wheel in all directions, thus insuring its constant contact with the wire and reducing the friction at wire-crossings and on curves.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the trolley, and Fig. 2 is a section on line 2 2 of Fig. 1.

A in the drawings represents the forked end of the trolley-pole, the arms A′ and A″ of which pass on either side of the trolley-wheel. The upper ends of these arms are provided with inwardly-extending projections *a*, and to these are pivotally connected the depending arms B, the connection being, preferably, by means of screws *a′*, passing through the arms B into the projections. In the lower ends of these arms B are secured the ends of the two-part shaft upon which the trolley-wheel C is journaled, and by this arrangement the bearing-shaft of the trolley-wheel is free to swing back and forth to accommodate itself to irregularities in the wire without regard to the position of the trolley-pole. The shaft, as before stated, upon which the trolley-wheel is mounted is a two-part shaft, comprising the two sections D and D′, the inner ends of which are arranged to slide in a hub E, while the outer ends have balls *d d′* formed thereupon, which are secured in sockets in the lower ends of the arms B. The sockets are formed, preferably, by rounded depressions *b*, in which the balls are confined by caps *b′*. The inner ends of the parts of the shaft, as before stated, are free to slide longitudinally within the hub, and this movement permits one arm to be swung in one direction without a corresponding movement of the other arm, even if the other arm moves in the other direction. This permits the wheel to easily and quickly turn into different vertical planes to accommodate itself to variations in the wire, such as are found in rounding curves, and renders the wheel much less liable to jump the wire. The inner ends of the two parts of the shaft, while sliding freely therein, will not be drawn out, as the arms of the pole will not permit the wheel to turn sufficient for this; but, if desired, some well-known retaining device might be provided to limit the movement of the ends of the shaft in the hub.

Having thus described my invention, what I claim is—

1. A trolley comprising the forked rod, the depending arms secured thereto, and the trolley wheel journaled between said arms, and being adapted to incline laterally in relation to the same, substantially as described.

2. A trolley comprising the forked rod, the depending arms pivoted to the arms of the fork, the two part shaft having its outer ends pivotally connected with the lower ends of the depending arms, and the trolley-wheel mounted upon said two part shaft, substantially as described.

3. A trolley comprising the forked rod, the depending arms, the sockets formed in the end thereof, the two part shaft having the spherical or bulbous heads fitting said sockets, and the wheel journaled in said shaft and having a hub for confining the free end of the shaft.

In testimony whereof I affix my signature, in presence of two witnesses, this 28th day of June, 1895.

ZACHRY T. FURBISH.

Witnesses:

ELGIN C. VENILL,

WILLIAM H. STEVENS.