

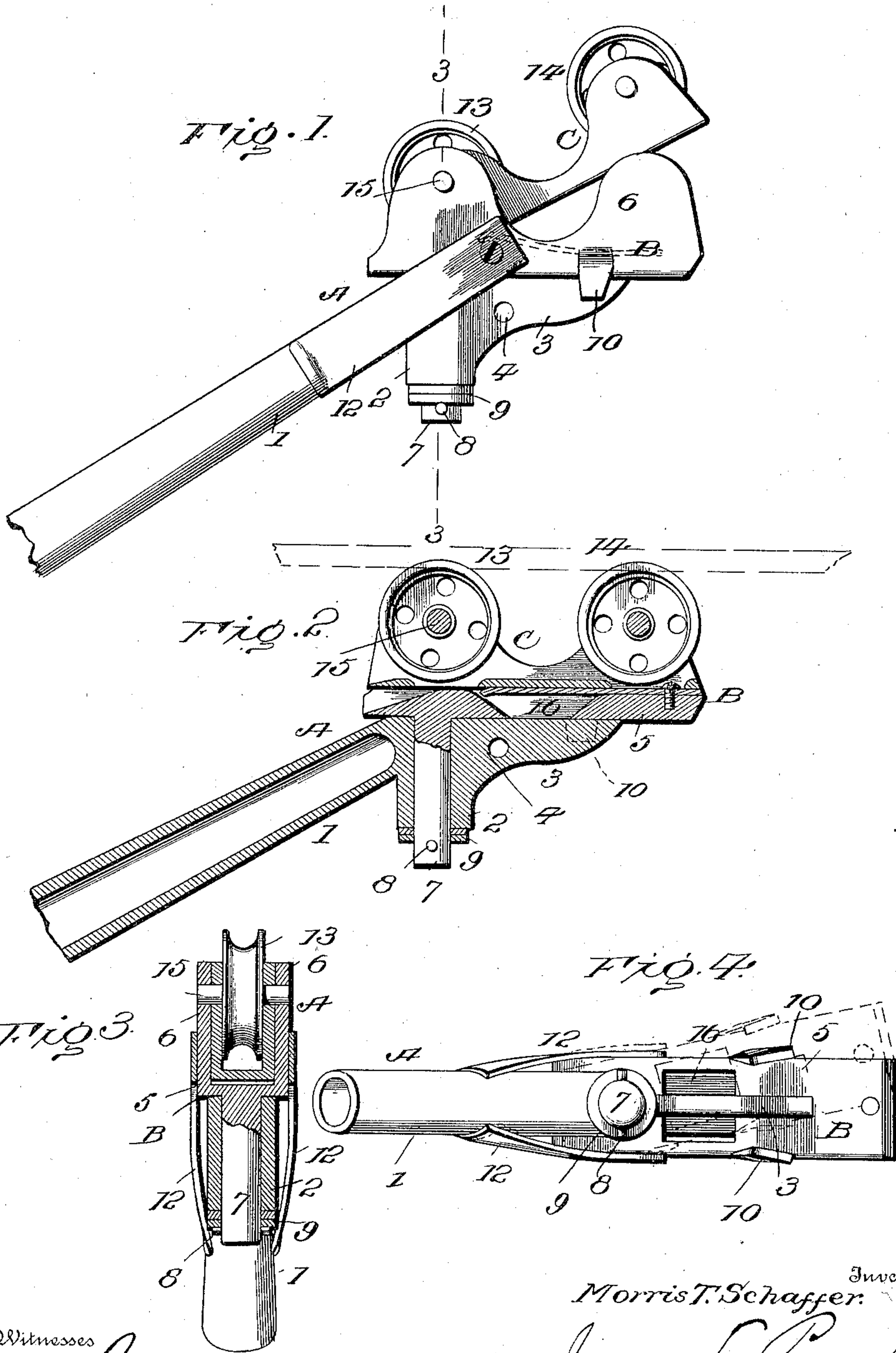
No. 656,790.

Patented Aug. 28, 1900.

M. T. SCHAFFER.
TROLLEY.

(Application filed May 4, 1900.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

MORRIS T. SCHAFFER, OF BETHLEHEM, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO EDWIN J. LICHTENWALNER, OF ALLENTOWN, PENNSYLVANIA.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 656,790, dated August 28, 1900.

Application filed May 4, 1900. Serial No. 15,538. (No model.)

To all whom it may concern:

Be it known that I, MORRIS T. SCHAFFER, of Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Trolleys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to trolleys for electric-railway cars.

The object is to provide simple, inexpensive, and highly-efficient means for insuring engagement between the trolley and the trolley-wire, and especially to prevent the trolley from leaving the wire when contacting with switches and also requiring less tension than ordinary trolleys.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a cross-sectional view on line 3 3, Fig. 1. Fig. 4 is a bottom plan view.

Referring to the drawings, A designates a bracket designed to be mounted on the outer end of a trolley-pole. It is formed with an angularly-extended sleeve 1, in which the end of the pole is designed to fit, a depending hollow boss 2, and a rearwardly-extended arm 3, in which a rope-hole 4 is formed.

B is a base-block formed with a bottom 5 and two parallel sides 6. From this base-block depends a post 7, which is extended through the boss 2 and is held at its lower end by a cross-pin 8, bearing against a spring-washer 9. The base-block rests on the arm 3 and is provided with two depending lugs 10, which act as stops upon coming in contact with the arm 3, and thereby limit the lateral movements of the base-block. The latter is held in its normal position, with its sides equidistant from the lugs, by means of two plate-springs 12, secured to the sides of the base-block and bowed or curved so that their upper ends will bear tightly against opposite points of the sleeve 1.

C is a frame in which are mounted two trolley-wheels 13 and 14, arranged in tandem.

The axle-pin 15 of the forward wheel 13 is passed through coincident openings in the sides of the base-block, and thereby forms the pivot connection between the block and the wheel-carrying frame. The latter element is normally held in an inclined position under the tension of a heavy plate-spring 16, secured at one end to the bottom 5, said spring fitting snugly between the sides 6. By means of this spring the trolley-wheels are held in engagement with the conductor-wire.

From what has been said it will be seen that the base-block by being swiveled at one end is free to have limited lateral movements, but is held in its normal position by the springs 12, and that the wheel-carrying frame is held in its normal inclined position to insure engagement between the wheels and the conductor-wire by the spring acting against its under side. In this way I obtain all the advantages resultant from arranging the trolley-wheels in tandem, and by swiveling their supporting-frame at one end and allowing the support of the frame to have lateral movements contact between the wheels and the conductor-wire cannot be easily broken. This is particularly true when the conductor-wire is on other than a straight line, also at the location of switches.

I claim as my invention—

1. The combination with the base-block, of a frame pivotally mounted thereon at one end, wheels supported by said frame, and a spring acting on the latter for holding it normally in an inclined position in relation to the base-block, as set forth.

2. The combination with the bracket, of the base-block mounted thereon and capable of limited lateral movements, a wheel-carrying frame pivotally mounted in said base-block, and means tending to hold said frame in an inclined position, as set forth.

3. The combination with the bracket, of the base-block pivotally mounted thereon, springs for holding said base-block in its normal position, stops for limiting the lateral movements of said base-block, a wheel-carrying frame mounted in said base-block, and means for holding said frame in a normally-inclined position, as set forth.

4. The combination with the bracket having a hollow boss, and a rearwardly-extended arm, of a base-block having a post fitted in said boss, lugs depending from said base-block
5 for limiting the lateral movements thereof, springs for holding said base-block in its normal position, a wheel-carrying frame pivotally mounted in said base-block, and a spring for normally holding said frame in an inclined position, substantially as set forth.
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5. The combination with the base-block pivotally mounted at one end and capable of being moved laterally, and stops for limiting such lateral movements, of a frame pivotally mounted at one end on said base-block,
15 a spring secured to the latter and engaging said frame for normally holding it in an inclined position, and wheels arranged in tandem and mounted in said frame, substantially as set forth.
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6. The combination with the frame having a tubular sleeve, a hollow boss and an arm, of a base-block having a depending post held in said base, spring-arms secured to said base-block and engaging opposite sides of said sleeve, stops for limiting the lateral movements of the base-block, a frame swiveled at one end between the sides of said base-block, a spring normally holding said frame in an inclined position, and wheels, arranged in tandem, mounted in such frame, substantially as set forth.
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In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MORRIS T. SCHAFFER.

Witnesses:

WM. H. TOWDEN,

E. J. LICHTENWALER.