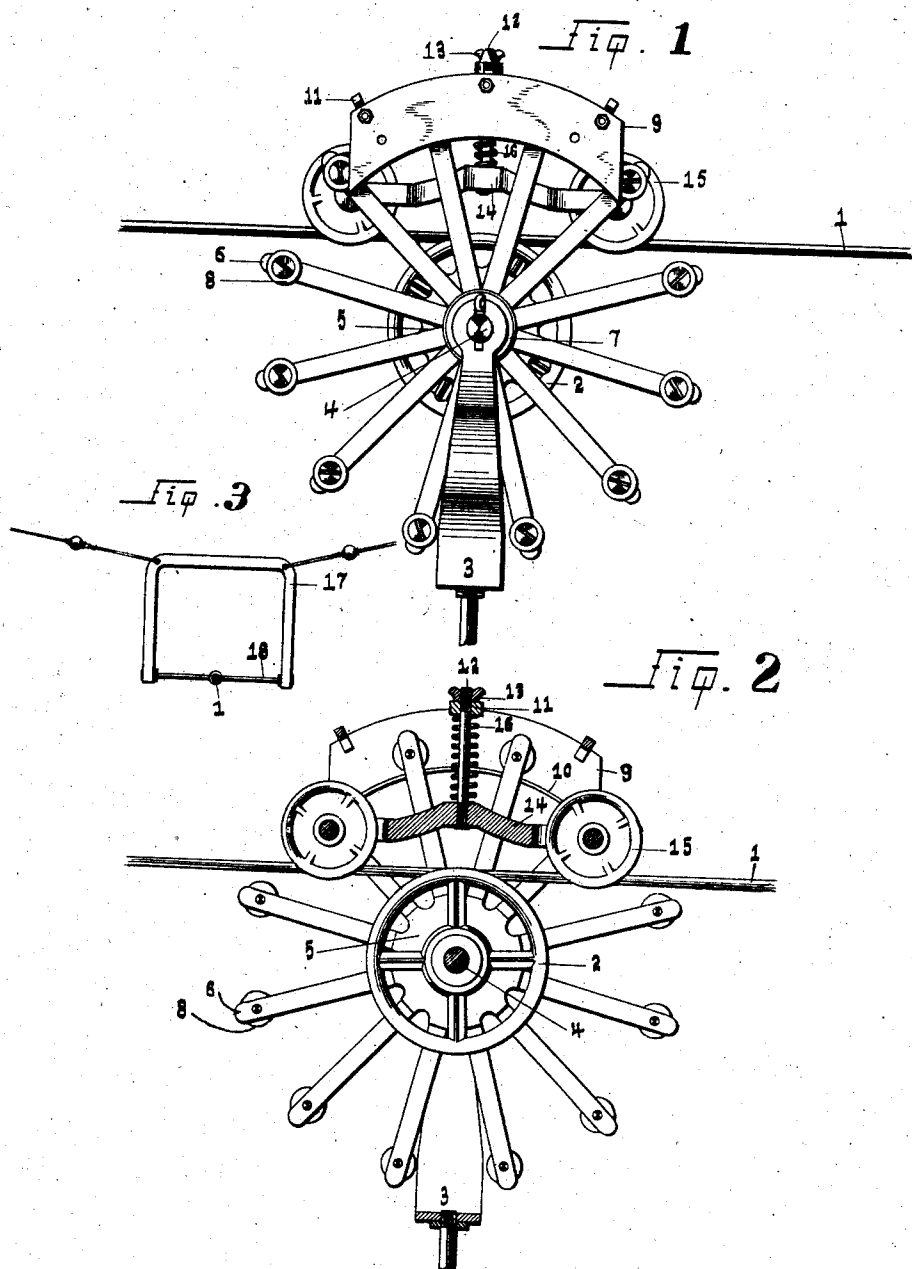


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E. J. MATTHEWS & R. C. GRUWELL.
TROLLEY PULLEY.

APPLICATION FILED SEPT. 26, 1906.



Witnesses

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EMANUEL J. MATTHEWS AND ROBERT C. GRUWELL, OF STOCKTON, CALIFORNIA.

TROLLEY-PULLEY.

No. 878,653.

Specification of Letters Patent.

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Application filed September 26, 1906. Serial No. 336,293.

To all whom it may concern:

Be it known that we, EMANUEL J. MATTHEWS and ROBERT C. GRUWELL, citizens of the United States, and residents of Stockton, county of San Joaquin, State of California, have invented certain new and useful Improvements in Trolley-Pulleys; and we do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and the characters of reference marked thereon, which form a part of this specification.

This invention relates to trolley pulleys for electric lines or for tramways, our main object being to provide a pulley which will remain in contact with the wire and not keep jumping off the same no matter at how high a rate of speed the vehicles may run. This object we accomplish by means of a plurality of spokes rotatably arranged in connection with the pulley proper adapted to hold the pulley on the wire and still permit the same to pass the cross wires or supports. Also by such other and further construction as will appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of the device. Fig. 2 is a sectional side elevation of the same. Fig. 3 is a view of a wire hanger.

1 designates the wire on which the pulley, supported by the holder 3, bears, said pulley being mounted on a shaft 4 journaled in said holder 3. Mounted on said shaft 4 on both sides of said pulley 2 are hubs 5 provided with a series of spokes or fingers 6 said hubs being insulated from the shaft 4 by means of suitable material 7.

On the outer end of each of the spokes 6 is journaled a small roller 8.

9 are metal plates provided with small flanges 10 on their lower sides on which the rollers 8 are adapted to bear, said plates 9 being secured together by means of cross pieces 11. Extending through the center one of said cross pieces is a threaded pin 12 provided with a wing nut on the upper end thereof and said pin being secured to a frame 14 at the lower end in which frame are journaled two small pulleys 15 bearing on the upper side of the wire 1 and held securely in

connection therewith by means of a spring 16 encircling the pin 12, the tension of which is regulated by means of the wing nut 13.

In using our invention a hanger 17 must be used for holding the wire 1 to permit the device to pass over the cross wires 18.

In practice the spokes 6 prevent the wire 1 from jumping from the pulley 2 and yet when they come to a cross wire they engage the same and rotate and disengage themselves, the pulleys 15 also forming a more secure lock for the said wire.

When the device is used simply for electric lines the pulleys 15 and their parts may be left off the same as the spokes 6 will be all that is required to keep the wire 1 within bounds.

In connection with using the device on tramways or steel overhead railways the device is inverted and the cars depended from the parts 9 all the weight falling on the rollers 8 and spokes 6. This is of very great advantage as it pulls directly on a dead center on the wire thus doing away with the inconveniences occasioned by the use of the side hanger as is now the case in tram ways.

The above is a description of the details of construction of the present and preferred embodiment of our invention. Many small deviations from the exact detail of such construction may be resorted to however without departing from the spirit of our invention.

Having thus described our invention what we claim as new and useful and desire to secure by Letters Patent is:

1. A device of the class described comprising a holder and a shaft journaled in said holder, a pulley mounted on said shaft and adapted to travel beneath a trolley wire, a plurality of radiating arms mounted for rotation upon said shaft at each side of said pulley, a frame having guide pulleys spaced apart and adapted to travel above the trolley wire, a frame having spaced sides and between which the terminals of said radial arms are adapted to pass, and yieldable connecting means between said last mentioned frame and the pulley supporting frame.

2. A device of the character described comprising a holder, a shaft journaled therein, a pulley mounted on said shaft, a series of arms mounted on said shaft on each side of said pulley, a small roller journaled on the outer end of each of said arms, two metal plates joined together by cross bars, small flanges on the lower edges of said plates,

said rollers bearing on said flanges, as set forth.

3. A device of the character described comprising a holder, a shaft journaled therein, a pulley mounted on said shaft, a series of arms rotatably mounted on said shaft, small rollers journaled on the ends of such arms, two metal plates secured together by cross pieces, flanges on the lower edges of said plates, said rollers being adapted to bear on said flanges, a threaded pin mounted in the center one of said crosspieces and provided

with a wing nut on the upper end thereof and a frame on the lower end thereof a spring coil encircling said pin, and two small pulleys rotatably mounted on said frame, as set forth. 15

In testimony whereof we affix our signatures in presence of two witnesses.

EMANUEL J. MATTHEWS.

ROBERT C. GRUWELL.

Witnesses:

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