No. 775,808. PATENTED NOV. 22, 1904.

J. B. ELKER & J. F. TOBIN.

TROLLEY.

APPLICATION FILED JAN. 26, 1904.

NO MODEL.

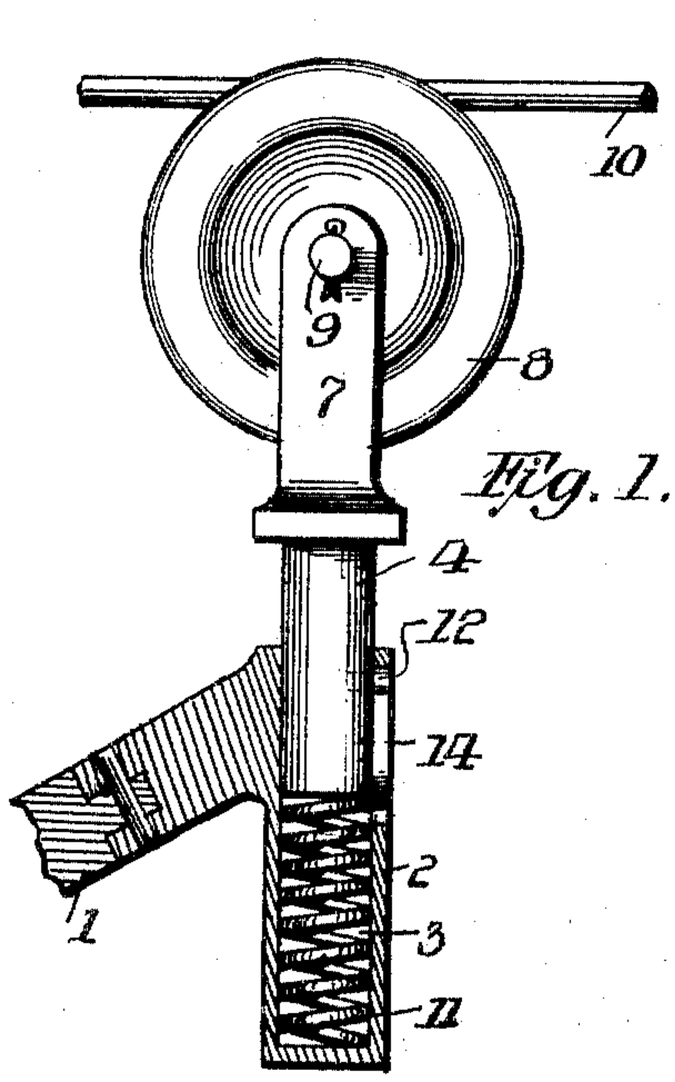

Fig. 1.

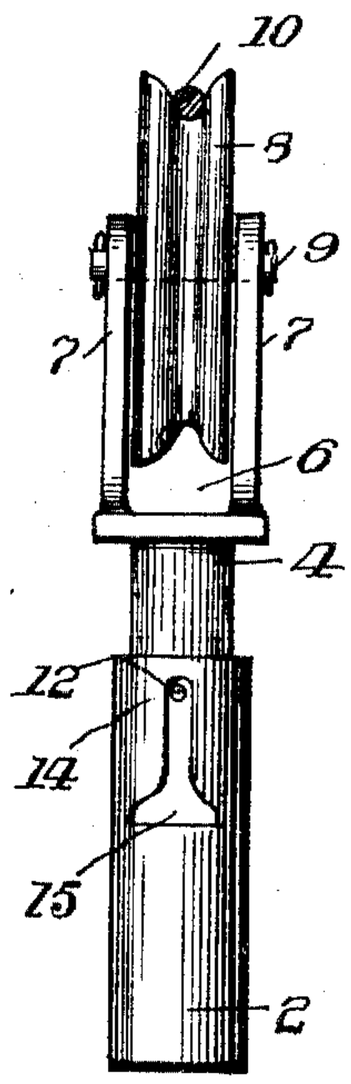

Fig. 2.

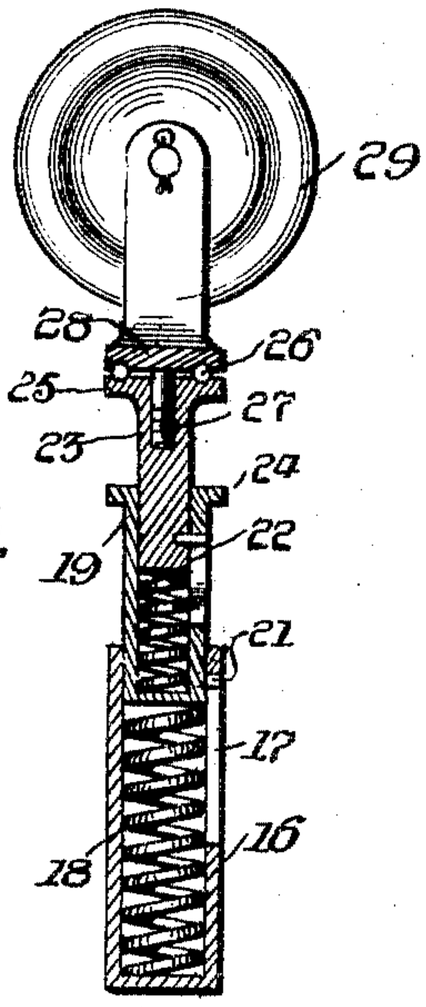

Fig. 3.

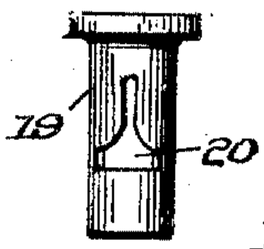

Fig. 4.

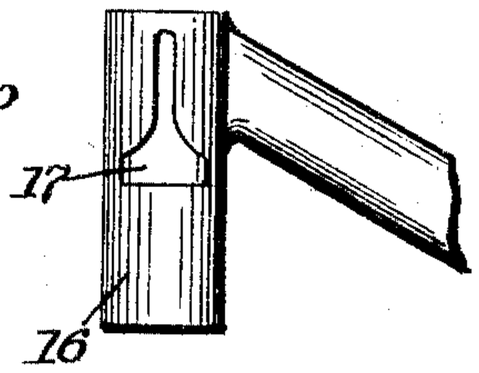

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH B. ELKER AND JAMES F. TOBIN, OF PITTSBURG, PENNSYLVANIA.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 775,808, dated November 22, 1904.

Application filed January 26, 1904. Serial No. 190,725. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH B. ELKER and JAMES F. TOBIN, citizens of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Trolleys, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in trolleys, and has for its object to provide means whereby the trolley will be prevented from leaving the wire during its operation.

Another object of our invention is to provide a trolley which will normally travel over the wire in a vertical position, thus providing means whereby the trolley-wheel will be normally held in engagement with the wire and prevented from leaving the same.

Briefly described, our invention comprises a trolley-wheel which is mounted in a bifurcated shank portion which is engaged in the annular casing carried at the angle of the trolley-pole proper, and in this casing we provide means whereby the shank portion carrying the trolley-wheel is always forced upwardly, whereby the trolley will be in continual engagement with the wire, the means carried in the casing providing a tension between the end of the trolley-pole and the wire, whereby the wheel will have a tendency to remain on the wire until displaced by the conductor of the car.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this application, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a vertical sectional view of our improved trolley. Fig. 2 is an edge view thereof. Fig. 3 is a vertical sectional view of a modified form. Fig. 4 is a side elevation of one of the sleeves of the modified form. Fig. 5 is a side elevation of the casing.

In carrying out our invention we employ a trolley-pole 1 of the ordinary construction, and upon the end of this trolley-pole we mount a casing 2 by any desired means, this casing extending downwardly and forming an annular pocket 3, in which is adapted to ride the shank portion 4, the upper part of which is bifurcated, as indicated at 6, forming arms 7, in which is journaled the ordinary trolley-wheel 8 by means of the pin 9. This casing 2 is formed at an acute angle to the trolley-pole, whereby the trolley-wheel and casing will travel at right angles to the trolley-wire 10, and in the pocket 3 of the casing 2 we provide a spring 11, the upper end of which is adapted to engage the under face of the shank portion 4 and normally hold the wheel in engagement with the wire. In case the trolley-pole is moved from the wire, we have provided a pin 12, which is secured to the shank portion 4, and the outer end of this pin is adapted to engage the slot 14, formed in the casing 2, the lower end of said slot being widened, as indicated at 15, whereby when the car carrying the trolley-pole travels around a curve the widened portion 15 of the slot 14 will permit the trolley-wheel to rotate to a given extent, whereby the wear of the wheel is considerably reduced.

In Fig. 3 of the drawings we have illustrated a modified form wherein the casing 16 is employed, which is similar in construction to the casing 2, this casing 16 having a slot 17 formed therein, which is similar to the slot 14, and in this casing we provide a spring 18, which is adapted to engage the under edge of the sleeve 19, this sleeve having a slot 20 formed in its side, similar in construction to the slot 14, and we provide a pin 21, carried by this sleeve to engage in the slot 17 of the casing 16, and in the sleeve 19 we provide a spring 22, which is adapted to engage the under face of the shank portion 23, which carries a pin 24 to engage in the slot 20 of the sleeve 19. The shank 23 upon its upper edge is provided with an annular groove 25, forming a race for the ball-bearings 26, and in this shank portion 23 we secure, by means of the screw-threaded stem 27, the bifurcated arms 28, which carry the trolley-wheel 29.

While we have herein shown ball-bearings as being used in this construction, it is obvious that the same may be dispensed with and the construction employed in Fig. 1 of the drawings used. While in Fig. 1 of the drawings we have used only one spring, it will be understood that any number of these springs may be used to increase the tension between the wire and the trolley-wheel.

It will be noted that various slight changes may be made in the details of construction without departing from the general spirit of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a trolley, the combination of a pole, an annular casing secured to the end of said pole, a shank portion having bifurcated arms mounted in said casing, a trolley-wheel rotatably mounted in said arms, means carried by said casing to engage the under face of the shank portion, a pin carried by said shank portion, said casing having a slot formed therein and adapted to engage said pin, said slot having its one end of a greater width than the other end, substantially as described.

2. In a trolley, the combination with a pole, of a casing secured thereto, a trolley-wheel, means for resiliently mounting said wheel extending within the casing, said casing having a longitudinal slot therein terminating in a transverse slot at the lower end of said longitudinal slot, and a pin carried by said means to engage in said slots.

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

JOSEPH B. ELKER.
JAMES F. TOBIN.

Witnesses:
H. C. EVERT,
E. E. POTTER.