

No. 827,090.

PATENTED JULY 31, 1906.

J. M. FLEMING.
TROLLEY POLE HEAD.
APPLICATION FILED JULY 13, 1905.

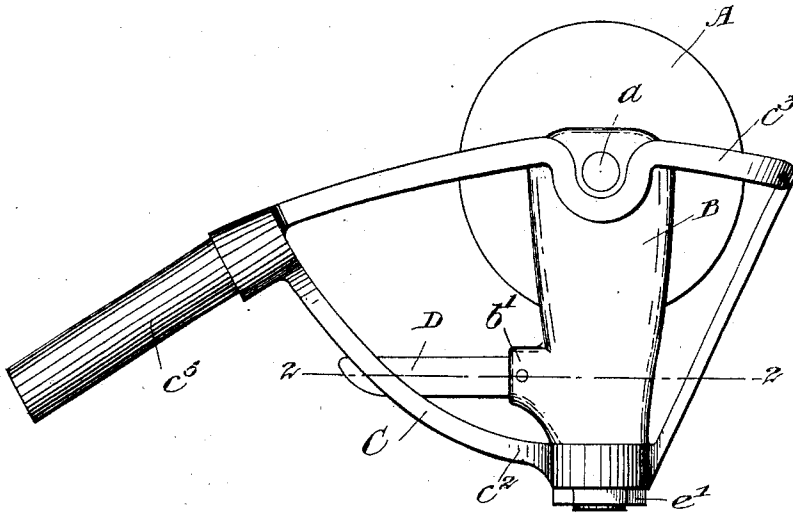


FIG. 1.

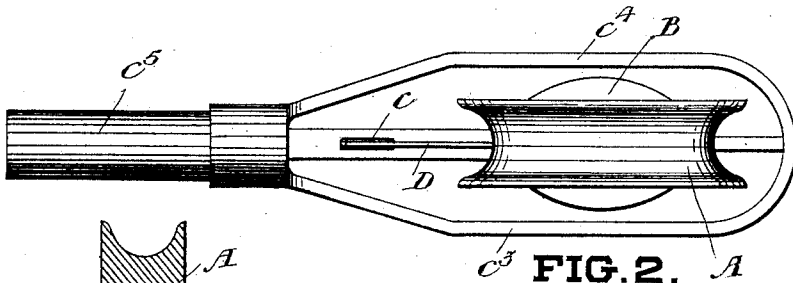


FIG. 2.

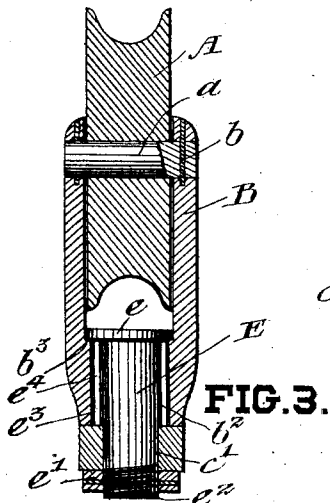


FIG. 3.

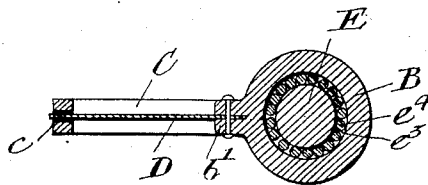


FIG. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN MILLER FLEMING, OF OTTAWA, CANADA.

TROLLEY-POLE HEAD.

No 827,090.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed July 13, 1905. Serial No. 269,528.

To all whom it may concern:

Be it known that I, JOHN MILLER FLEMING, machinist, residing at the city of Ottawa, in the county of Carleton, Province of Ontario, Canada, have invented certain new and useful Improvements in Trolley-Pole Heads; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to improvements in trolley-pole heads; and the objects of my invention are to provide a head which will so support the harp and wheel as to enable the latter to conform to all turns or irregularities in the wire, and thus do away almost altogether with the wear at present experienced on the wheels, due to the friction between the wire and sides of the wheels in turning curves, further objects being to provide a guard which will prevent the wire in the event of the wheel being disengaged from it from becoming entangled with the harp or other part of the head; and it consists, essentially, of a frame normally supporting the harp at substantially right angles to the trolley-wire, the upper portion of said frame extending around the harp and forming a guard therefor, a swiveling connection between said harp and said frame, resilient means for normally retaining said harp in its central position with the wheel in alinement with the trolley-wire, the various parts of the device being constructed and arranged in detail, as hereinafter more particularly described.

Figure 1 shows a side elevation of my trolley-pole head. Fig. 2 shows a top view of the same. Fig. 3 shows a sectional view through the center of the harp. Fig. 4 shows a sectional view on the line 2 2, Fig. 1.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is a trolley-wheel of any of the well-known forms, rotatably supported on the axle *a*, supported by the harp B. The connection between the axle and the harp may be of any desired form, that I have shown consisting of pins *b*, which extend through slots in the end of the harp and axle. The harp is secured to a frame C by means of a swiveling connection, and a flat spring D, secured to projecting lugs *b'* on the harp B, extends through a slot *c* in the frame C, thus normally resiliently holding the harp in a central position with the wheel in alinement with the trolley-wire.

The swiveling connection between the harp and frame comprises a cylindrical plug E,

which extends through a hole *b²* in the bottom of the harp and a like hole *c'* provided in the frame. An enlarged head *e* is secured to the end of the plug E and abuts an annular shoulder *b³* on the harp, and a nut *e'* is adapted to fit on the screw-threaded end *e²* of the plug, and so hold the plug, harp, and frame together. An annular space *e³* is left between the plug and the harp, and in this a plurality of cylindrical rollers *e⁴* are placed, which enable the swivel to turn with much greater ease. The frame C comprises a lower member *c²*, which supports the harp and upper members *c³* *c⁴*, which extend around the harp and wheel and form a guard therefor, thus preventing the wire, should it become disengaged, from becoming entangled in the harp. A cylindrical end *c⁵* may be secured to the harp, adapted to fit in the end of the trolley-pole.

It will thus be seen that I have devised an end for a trolley-pole which will so support the wheel that it will have entire freedom of movement in all directions about a central line, and so can exactly conform to all curves in the trolley-wire, thus avoiding almost entirely the wear caused by the friction on the sides of the trolley-wheel.

It is to be understood that in carrying out the construction of my device certain changes may be made in the details thereof without departing materially from the spirit of my invention.

What I claim as my invention is—

1. In a device of the class described the combination with a trolley pole and harp of a frame supporting said harp at substantially right angles to the trolley-wire and comprising an upper guarding member extending around the harp in substantially the same plane as the top thereof, a lower harp-supporting member connected to the upper member by two dependent members and a swiveling connection between said frame and harp as and for the purpose specified.

2. In a device of the class described the combination with a trolley-pole, of a harp and frame supporting said harp, at substantially right angles to the trolley-wire and comprising a lower harp-supporting member, and upper members extending around the trolley wheel and harp and forming a guard therefor, a cylindrical plug extending through holes in said harp and said frame, an enlarged head for said plug adapted to abut an annu-

lar shoulder provided on said harp, a plurality of friction-rollers interposed between said plug and said harp and a nut adapted to screw on the end of said plug and thus hold
5 the harp, frame and plug together, a spring secured to said harp and extending through a slot provided in said frame as and for the purpose specified.

Signed at the city of Ottawa, in the county of Carleton and Province of Ontario, this 3d 10 day of July, 1905.

JOHN MILLER FLEMING.

Witnesses:

RUSSELL S. SMART,
MAY LYON.