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W. EDWARDS.
TROLLEY FOR ELECTRIC RAILWAYS.
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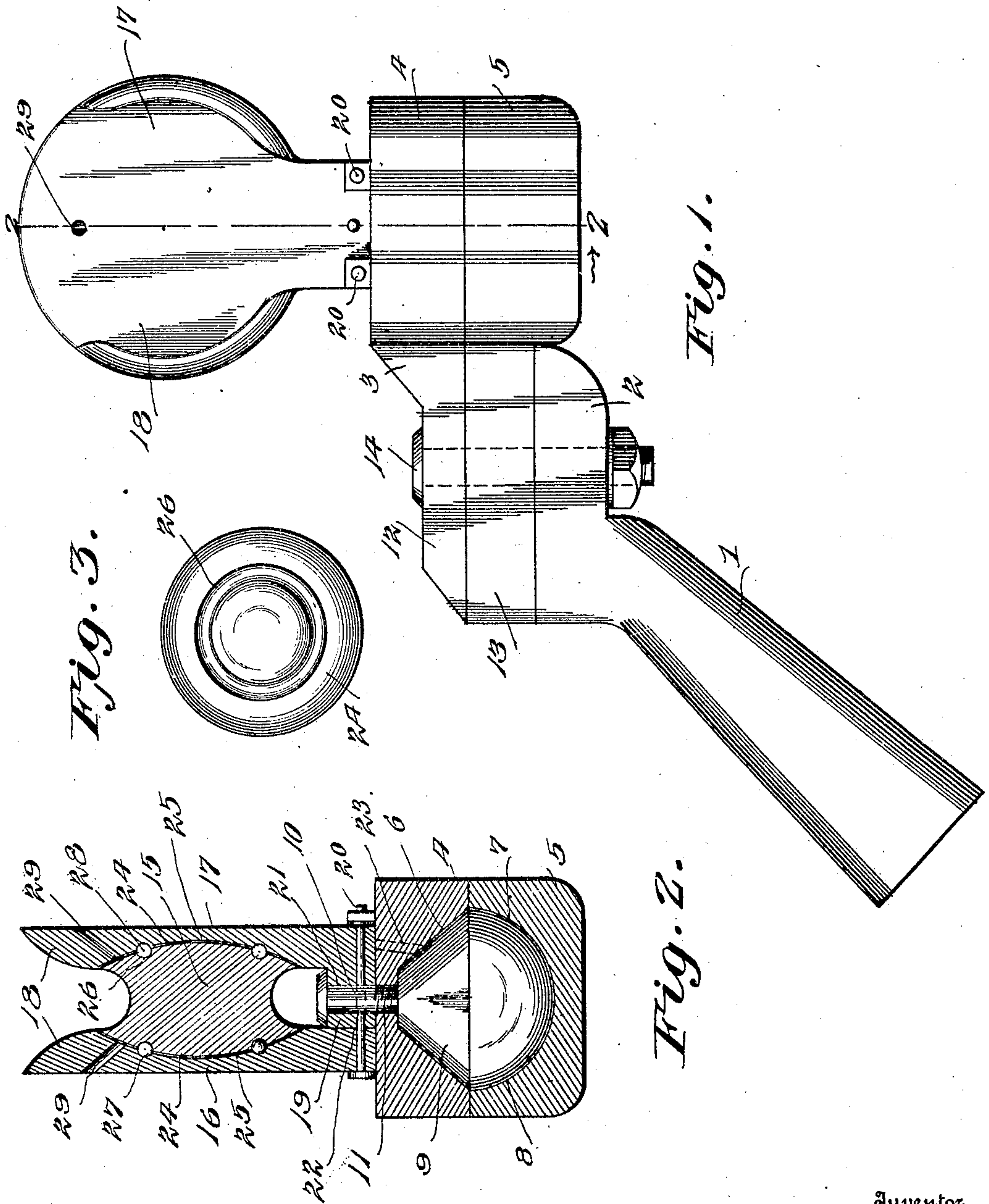


Fig. 1.

Fig. 2.

Fig. 3.

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TROLLEY FOR ELECTRIC RAILWAYS.

No. 849,666.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER EDWARDS, a citizen of the United States of America, residing at Cedargrove, in the county of Kanawha and State of West Virginia, have invented new and useful Improvements in Trolleys, of which the following is a specification.

This invention relates to improvements in trolleys for electric-railway cars, &c., and has for its object to provide an improved construction and arrangement of parts whereby the trolley-wheel is mounted upon the pole in such manner as to freely follow curves or other irregularities in the trolley-wire, thereby preventing displacement of the wheel from the wire when the car is rounding a curve or when the wheel encounters deflected portions of the wire.

The invention further has for its object to revolvably support the wheel without the use of the ordinary axle and to thereby reduce the number of parts and decrease the cost of construction.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the trolley-wheel and supporting parts. Fig. 2 is a vertical transverse section on the line 2-2 of Fig. 1. Fig. 3 is a side view of the trolley-wheel.

Referring now more particularly to the drawings, the numeral 1 designates a socket adapted to be applied to the upper end of a trolley-pole and having an upper rearwardly-extending horizontal ear or lug 2, forming a support for a wheel carrying bracket 3.

The bracket 3 comprises upper and lower sections 4 and 5, which are, respectively, provided in their meeting faces with recesses 6 and 7, cooperating to provide a socket 8, the lower portion 7 of said socket being of hemispherical and the upper portion 6 thereof of frusto-conical form. Mounted to turn within this socket is a correspondingly-shaped head 9, having a threaded stem 10, projecting upwardly and loosely through an opening 11 leading from the apex of the socket portion 6 through the horizontal plane upper face of the upper bracket-section 4. The sections 4 and 5 are respectively provided with ears 12 and 13, which are pivotally connected

with the ear 2 by a bolt 14, on which the bracket is adapted to swing laterally or sideways in a horizontal plane.

The trolley-wheel 15 is mounted to revolve between the arms or sections 16 and 17 of a vertically-divided harp or yoke 18, the member 17 of which is provided with an inwardly-extending lug 19, abutting against the base of the section 16 and connected therewith by a bolt 20, which detachably holds the sections assembled. The stem 10 of the head 9 passes upward through an opening 21 in said lug 20 and has a transverse aperture 22 for the passage of the bolt 20, which bolt thus also serves to fixedly connect the harp with the head 9 to turn therewith, so that the trolley-wheel may assume any angle laterally to the bracket to more effectually follow the curves or sinuosities in the line-wire. The head 9 couples the socket-sections 4 and 5 to prevent independent movement thereof and adapt them to swing in unison on the bolt 14. A bore 23 is formed in section 4 for the introduction of a suitable lubricant in socket 8.

The wheel 15 is preferably formed of solid metal and has convex sides 24, which fit within concaved recesses 25 in the harp-sections 16 and 17, said sides and recesses being, respectively, formed with annular grooves coacting to provide raceways for the reception of antifriction bearing-balls 28. The wheel is thus mounted to revolve freely in and between the arms of the yoke in such manner as to be securely held in position without the use of an axle or other fastening, thereby enabling the mountings commonly used to be dispensed with and the cost of construction correspondingly reduced. The sections of the harp are provided with ducts or channels 29, through which an oil or other lubricant may be conveniently introduced to the bearing-faces of the harp and wheel.

It will be seen that the construction of the trolley is simple and inexpensive and that it permits a wheel to readily follow the curves in a line-wire without jumping therefrom.

Having thus described the invention, what is claimed as new is—

A trolley comprising superposed horizontal sections having recesses forming a socket, a head turning in said socket and having an upwardly-projecting shank or stem, a harp

composed of two sections having bearing-concavities, one of said sections being provided with an inward extension through which said stem extends, an axleless trolley-wheel having convex sides journaled in said
5 concaved bearing-recesses, a bolt passing through the sections of the harp and through the stem to rigidly connect the latter there-

with, and means for pivotally connecting the bracket with a trolley-pole.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER EDWARDS.

Witnesses:

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