May 5, 1925. 1,536,488

E. F. L. FRITZ

TROLLEY

Filed Feb. 28, 1924

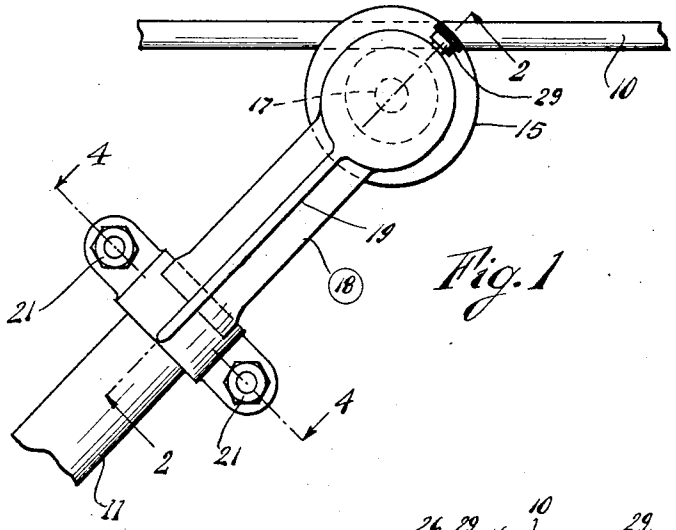


Fig. 1

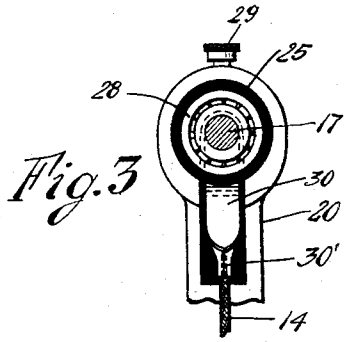


Fig. 3

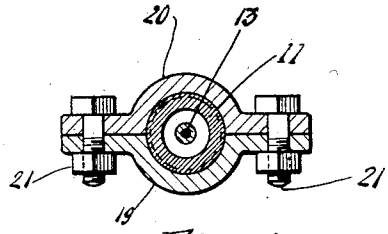


Fig. 4

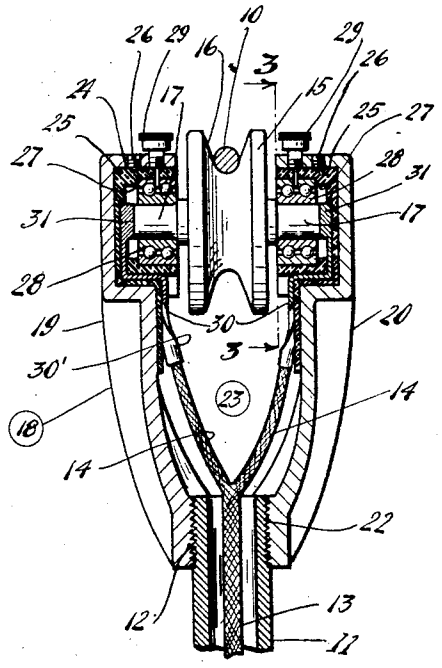


Fig. 2

Witnesses:

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UNITED STATES PATENT OFFICE.

EMIL F. LEWIS FRITZ, OF CHICAGO, ILLINOIS.

TROLLEY.

Application filed February 28, 1924. Serial No. 695,666.

To all whom it may concern:

Be it known that I, EMIL F. LEWIS FRITZ, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Trolleys, of which the following is a specification.

This invention relates to novel improvements in trolleys for overhead feed wires for electric traction and has for its principal object the provision of an improved construction of this character which will be highly efficient in use.

Among the several objects of the invention is the provision of a device of the character to be hereinafter set forth adapted to be used in connection with an overhead feed wire for electric traction and mounted in such a manner as to minimize friction and electric resistance, to insure a positive connection between the trolley wheel and overhead feed wire whereby the current is continuous and constant as long as the trolley and overhead feed wire are in operative contact.

A further object of the invention is to provide a device constructed in such a manner as to permit rapid repairing when occasion requires.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing showing the preferred form of construction, and in which,

Fig. 1 is a fragmentary view in elevation of a trolley pole showing the trolley wheel carrier associated therewith;

Fig. 2 is a sectional view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken substantially on line 3—3 of Fig. 2; and

Fig. 4 is a sectional view taken substantially on line 4—4 of Fig. 1.

Referring to the drawing showing the preferred form of construction, 10 indicates an overhead feed wire, and 11 a trolley pole which has its lower end in operative connection for supporting purposes with the roof of a car (not shown). The trolley pole 11 in the present instance is preferably hollow in construction and provided at its upper end with screw threads 12, and through the trolley pole 11 is preferably extended a conductor 13 provided with branch conductors 14, as best shown in Fig. 2. The trolley wheel is indicated at 15 and is provided with the usual grooves 16 for working engagement with the overhead feed wire 10 and the trolley wheel 15 is provided with opposite aligned journals 17, as best shown in Fig. 2. The trolley wheel carrier is indicated at 18 and comprises symmetrical parts 19 and 20 fixed together at their lower ends by means of bolts 21, said parts having threaded engagement with the threaded end portion of the pole 11, as shown at 22. The symmetrical parts 19 and 20, when connected, provide a fork 23, as best shown in Fig. 2, and the upper ends of said parts are circular in shape and have their opposing faces cored to provide recesses 24. Within these recesses 24 I mount cups 25 of hard insulating material and these cups are held against rotation by set screws 26. Within these cups and abutting shoulders 27 I prefer to mount roller or ball bearings 28 which receive and support the journals 17 of the trolley wheel. Grease cups 29 with removable caps are mounted on said upper ends of parts 19 and 20, and suitable channels extend therefrom through the insulating members 25 to the ball races of said bearings 28, to afford proper lubrication.

The branch conductors 14 have their free ends connected, by suitable clamping sleeves or means 30′ to conductor fingers 30 which extend within the cups 25 with their free ends 31 in electrical contact with the adjacent end faces of the journals 17. If desired and if required these fingers at the contacting points can be made of such resilient material that they will have a tendency to constantly keep in contact with the end faces of the journals in the manner illustrated in Fig. 2.

From the above description and by reference to the accompanying drawing it is apparent that I provide a combination and arrangement of parts which accomplish all the objects of the invention and the construction is of such nature that a positive contact is assured and that the current is continuous as long as the trolley wheel and overhead feed wire are in operative contact and that the arrangement greatly reduces friction and electrical resistance.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is ca-

pable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent, is:

1. In combination with a trolley pole, of a support comprising symmetrical parts detachably secured together and having threaded connections with the pole at one end thereof and being provided with inwardly facing recesses, a trolley wheel having opposite fixed shaft ends journaled in the recesses, and a conductor member having portions extending along the inside of said symmetrical parts into the recesses and being in contact with the end faces of said shaft ends.

2. In combination with a trolley pole, of a trolley wheel support comprising symmetrical detachable parts having threaded connection with the pole at one end thereof and provided with opposite recesses, a trolley wheel having opposite shaft ends journalled in the recesses, a conductor member extending through the pole and provided with branch conductor members, and conductor fingers fixed to the branch conductors and having portions extending into the recesses in contact with the adjacent end faces of the shaft ends.

3. In combination with a trolley pole, of a trolley wheel support comprising symmetrical parts having threaded connection with the pole at one end thereof and having recesses formed in its opposite adjacent faces, cups formed of non-conductive material mounted in the recesses, a trolley wheel having opposite journals extending into the recesses, friction reducing means supporting the journals within the recesses, and conductor means extending through the pole along the inside of said symmetrical parts having portions extending into the recesses in contact with the end faces of the journals.

4. In combination with a trolley pole, of a trolley wheel support comprising symmetrical parts having threaded connection with the pole at one end thereof and having recesses formed in its opposite adjacent faces, cups formed of non-conductive material mounted in the recesses, a trolley wheel having opposite journals extending into the recesses, friction reducing means supporting the journals within the recesses, a conductor member extending through the pole and provided with branch conductor members, and conductor fingers fixed to the branch conductors and having portions extending into the recesses in contact with the adjacent end faces of the journals.

5. In combination with a trolley pole, of a trolley wheel support comprising symmetrical parts having threaded connection with the pole at one end thereof and having recesses formed in its opposite adjacent faces, cups formed of non-conductive material mounted in the recesses, a trolley wheel having opposite journals extending into the recesses, friction reducing means supporting the journals within the recesses, conductor means extending through the pole and having portions extending into the recesses in contact with the end faces of the journals, and lubricating means mounted at the upper ends of said symmetrical parts and communicating with said friction reducing means.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

E. F. LEWIS FRITZ.

Witnesses:
FREDA C. APPLETON,
MARGARET AUER.