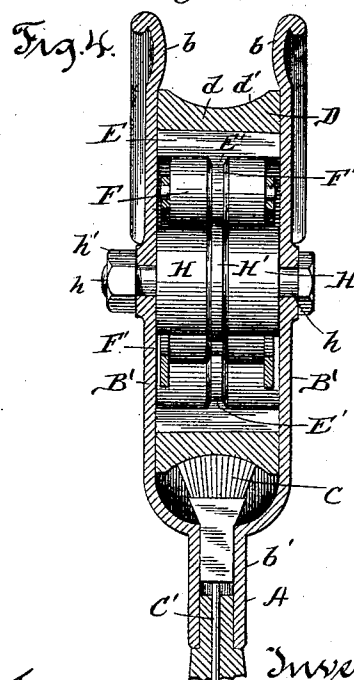
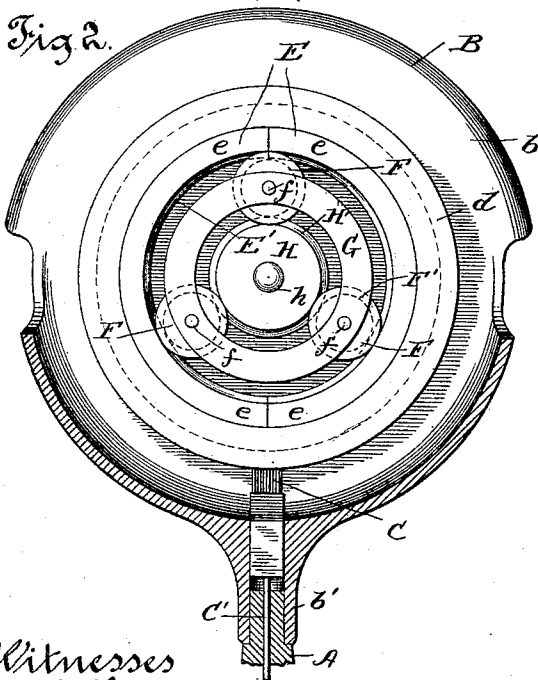
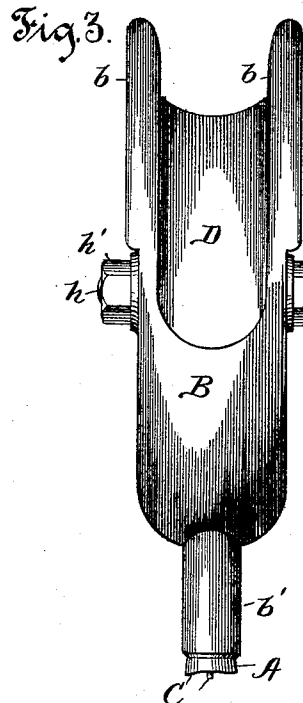
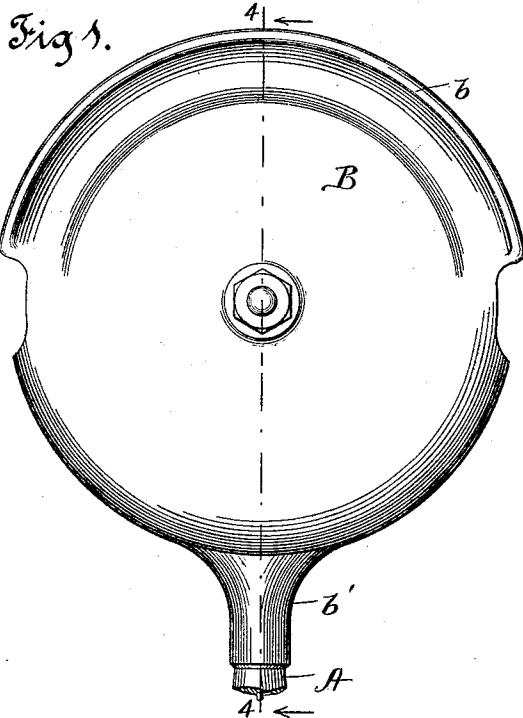


(No Model.)

J. W. KENEVEL.
ELECTRIC TROLLEY.

No. 495,940.

Patented Apr. 18, 1893.



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UNITED STATES PATENT OFFICE.

JEANNOT W. KENEVEL, OF CHICAGO, ILLINOIS.

ELECTRIC TROLLEY.

SPECIFICATION forming part of Letters Patent No. 495,910, dated April 18, 1893.

Application filed March 26, 1892. Serial No. 426,483. (No model.)

To all whom it may concern:

Be it known that I, JEANNOT W. KENEVEL, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Electric Trolleys, of which the following, in connection with the drawings accompanying and forming a part hereof, is a full and complete description, sufficient to enable those skilled in the art to understand and use the same.

My invention relates to electric trolleys, that is, to pulleys inclosed in a suitable shield or case secured on the end of a rod, mounted on a car and adapted to be brought in contact with an overhead or underground wire and form an electric connection therewith, whereby an electric current can be obtained from the wire and conducted to the motors designed to propel the car and thereby actuate the same. In trolleys of this character the pulley thereof coming in contact with the overhead or underground electric wire and forming the electric connection named is designed to roll or trundle on such overhead or underground wire, and such pulley so coming in contact with the overhead or underground wire is ordinarily constructed of copper in order to insure the required electric connection; and the object of my invention is to obtain a trolley of the character named wherein the roller or pulley will turn with less friction than in those heretofore made; and which shall require no oiling; and further, to obtain an electric trolley whereof the copper of the pulley coming in contact with the overhead or underground wire can be removed without destroying the trolley and can be replaced with new copper at a comparatively small expense.

In the drawings, Figure 1, is a side elevation of a device embodying my invention; Fig. 2, a side elevation of the device with the casing thereof on the front removed to show the movable parts in the device; Fig. 3, an end elevation; and Fig. 4, a cross-section on line 4—4 of Fig. 1.

The same letter of reference is used to indicate a given part where more than one view thereof is shown in the several figures of the drawings.

A, is the rod on the upper end of which the trolley is secured.

B, is the casing of the device having cheek

plates B', B', extensions b, b, and part b' adapted to fit over the end of the rod A.

C, is the brush composed of copper wire, or plates, in electric contact with the roller; and C', is an electric conductor which may extend from the brush C to the motor in the car.

D, is the trolley roller. Trolley roller D is built up of the copper ring d, having groove d' on the periphery thereof, steel band E constructed of pieces e, e, the rollers F, F, F, having axial bearings f, f, f, respectively, rings G, G, serving as journal bearings for the several rollers F, F, F, and the central mandrel H around which the rollers F, F, F, revolve, and with which they are in contact. Mandrel H is secured rigidly in casing B by bolt h, and nut h'. Around the periphery of mandrel H there is the projecting rib H' and around the periphery of each of the rollers F, F, F, there is a groove F' corresponding with the projecting rib H', in which groove such projecting rib fits; and around the inner face of the band E formed by the two parts e, e, there is the projecting rib E' also fitting into the grooves F', F', F', on rollers F, F, F, respectively. The parts e, e, fit closely in the band d, so as to rotate therewith.

The several parts d, E, F, G, and H, constituting the trolley roller D, are assembled as follows: First, the rollers F, F, F, and mandrel H are fitted together, and the rings G, G, put in place on axial bearings f, f, f, respectively. Then parts e, e, are brought together over the rollers F, F, F, with projecting rib E', in the grooves F', F', F', respectively, and the band d pressed over them bringing them closely together and holding them firmly in place. The trolley roller D thus formed is then slipped into casing B, and bolt h inserted in place and firmly bolted by nut h'.

The operation of the trolley roller D is: The band d and band E turn as one ring on the rollers F, F, F, which together with rings G, G, will revolve around the rigid mandrel H. The projecting ribs E', and H', fitting into the grooves F', F', F', serve to keep the rings G, G, band E, and band d free from sufficient contact to produce objectionable friction with the cheek plates B', B' of casing B. When the band d has become so worn by contact in the ordinary manner with an electric wire, as to require removal and the substitution of a

new band therefor, the trolley roller D can be taken from the casing B by removing bolt *h*, and such band can then be driven off band E and replaced by a new one. The purpose
 5 of the slots F', F', F', and the projecting ribs E', H', being, as stated, to prevent side motion of the several parts, it is evident that if a projecting rib is placed on each of the rollers
 10 F, F, F, and corresponding grooves are placed in the band E and the mandrel H, such projecting ribs and grooves will be the equivalent of the projecting ribs and grooves herein described: and further, if the space between the
 15 band E and mandrel H be completely filled with rollers F, F, F, the rings G, G, forming journal bearings for such rollers may be dispensed with.

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

1. In an electric trolley, the combination of a casing, a stationary mandrel secured therein, rollers surrounding and rotatable round the mandrel and in contact therewith, a band
 25 composed of two pieces each of such pieces constituting the segment of a ring and such two-piece band surrounding and rotatable round the rollers and in contact therewith, and a metallic band surrounding such two-
 30 piece band and holding the pieces thereof

firmly in position, there being intermeshing projecting ribs and grooves extending around the mandrel, the rollers in contact therewith and the inner surface of the two-piece band, respectively, thereby holding them, respectively, in position laterally; substantially as described. 35

2. In an electric trolley, the combination of a casing, a stationary mandrel secured therein, rollers surrounding and rotatable round
 40 the mandrel, and in contact therewith, rings in which the axial bearings of the rollers are journaled, a band composed of two pieces each of such pieces constituting the segment of a
 45 ring and such two-piece band surrounding and rotatable round the rollers and in contact therewith, and a metallic band surrounding the two-piece band and holding the pieces thereof firmly in position, there being inter-
 50 meshing projecting ribs and grooves extending around the mandrel, the rollers in contact therewith and the inner surface of the two-piece band, respectively, whereby such mandrel, rollers and the two-piece band are held
 55 in place laterally; substantially as described.

JEANNOT W. KENEVEL.

In presence of—

CHARLES TURNER BROWN,
 KATIE A. HARGADEN.