No. 680,567. Patented Aug. 13, 1901.

W. C. COTTRELL.

TROLLEY WHEEL.

(Application filed Nov. 22, 1900.)

(No Model.)

Fig. 1

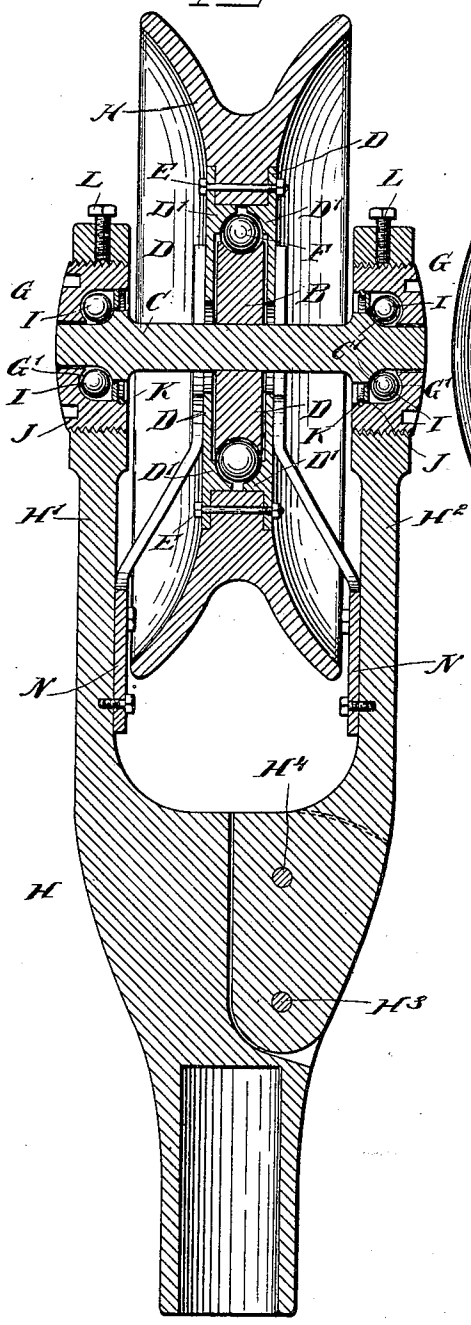
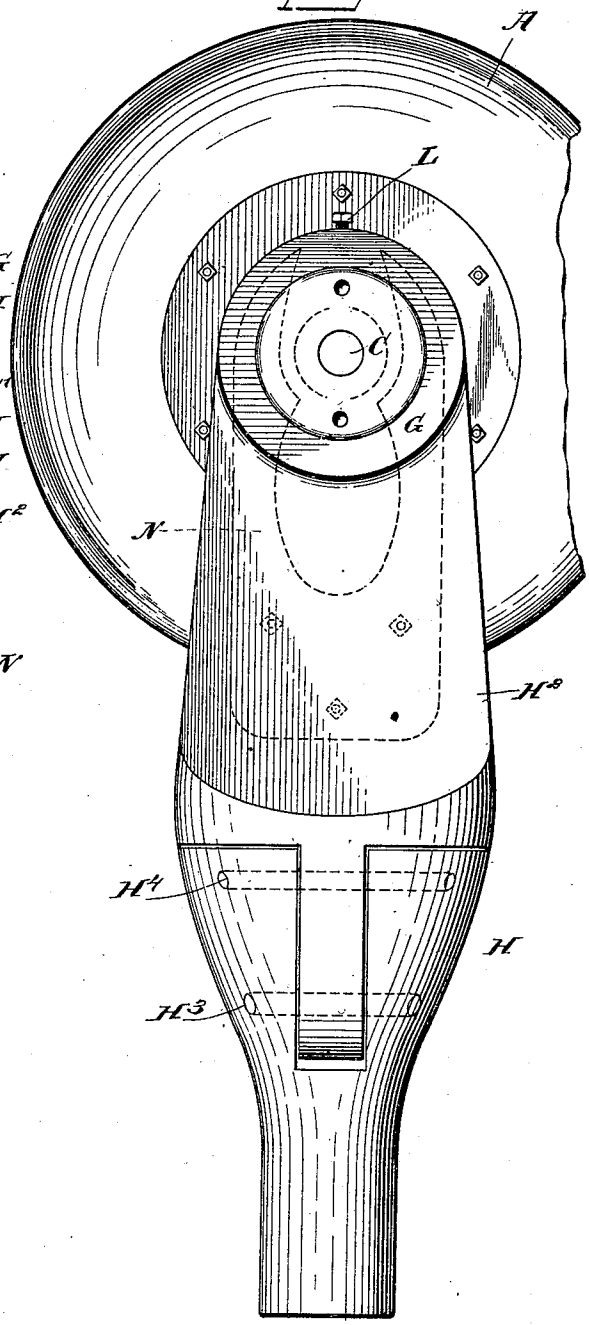


Fig. 2



WITNESSES:

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WILLIAM C. COTTRELL, OF ASBURY PARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO HOUSTON FIELDS, OF FREEHOLD, NEW JERSEY.

TROLLEY-WHEEL.

SPECIFICATION forming part of Letters Patent No. 680,567, dated August 13, 1901.

Application filed November 22, 1900. Serial No. 37,332. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. COTTRELL, a citizen of the United States, and a resident of Asbury Park, in the county of Monmouth and State of New Jersey, have invented a new and Improved Trolley-Wheel, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved trolley-wheel which is simple and durable in construction, not liable to get out of order, arranged to run very easily, and to insure proper admission of the electricity from the feed-wire to the motors.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a cross-section of the improvement, and Fig. 2 is a side elevation of the same.

The wheel proper consists, essentially, of an outer section A, an inner section B, secured to the axle C, and plates D, extending over the joint between the outer and inner wheel-sections A and B, the plates being secured by bolts E to the outer wheel-section A, and said plates having annular inner projections D′, forming with the grooved peripheral surface of the inner wheel-section B a ball-race containing balls F. By the arrangement described the outer wheel-section A is free to revolve independently of the inner section B, and by the use of the ball-bearings a very easy running of the section A is obtained. The outer wheel-section A is formed on its periphery with the usual groove for engaging the trolley-wire.

The axle C extends with its outer ends into ball-cups G, screwed into the sides H′ H^2 of the yoke H, adapted to be secured to the outer end of the trolley-pole in any suitable manner. The section H^2 is preferably hinged at H^3 and is normally locked in position by a pin H^4, which when withdrawn permits of swinging the side H^2 outward for removal of the axle C and the wheel carried thereby in case repairs are necessary.

Each of the ball-cups G is formed at the inside with an annular groove G′ for containing balls I, also engaging an annular shoulder C′ on the axle C, said shoulder C′ and groove G′ forming a ball-race for the balls I. By the arrangement described the axle C is mounted on ball-bearings to insure a very easy running of the axle and consequently of the inner wheel-section B.

In order to hold the balls I in position in the cups G, I employ retaining-rings J, fitted in the inner ends of the cups and held in position by spring-rings K, fitting in the recesses in the wall of the cup, as is plainly indicated in Fig. 1. Set-screws L screw in the sides H′ H^2 to secure the cups G in position after the cups have been adjusted—that is, screwed inward or outward to hold the balls I in proper position in the ball-races.

In order to prevent electricity from passing through the usual ball-bearings and the axle ball-bearings, I provide brushes N, secured to the sides H′ H^2 and engaging the outer faces of the plates D, so that the electricity passes directly from the outer wheel-section A to the plates D and by the brushes N to the yoke H, and then by the pole to the pole-head and motors of the car on which the trolley-wheel is used.

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

1. A wheel comprising inner and outer sections independently revoluble, and annular plates secured to the side faces of one section and projecting beyond the same into engagement with the side faces of the other section to hold the two sections engaged, said plates having annular projections extending inwardly between the sections of the wheel to form a bearing-surface for the one upon the other.

2. A wheel, comprising inner and outer sections independently revoluble, annular plates secured to the side faces of one section and projecting beyond the same into engagement

with the side faces of the other section to hold the two sections engaged, said plates having annular projections extending inwardly between the sections to form a bearing-surface, and bearing-balls arranged to run on said surface.

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

WILLIAM C. COTTRELL.

Witnesses:
ARTHUR F. COTTRELL,
WILLIAM W. HENDERSON.