(No Model.)

S. H. SHORT.

TROLLEY FOR ELECTRIC RAILWAYS.

No. 446,931. Patented Feb. 24, 1891.

FIG. II.

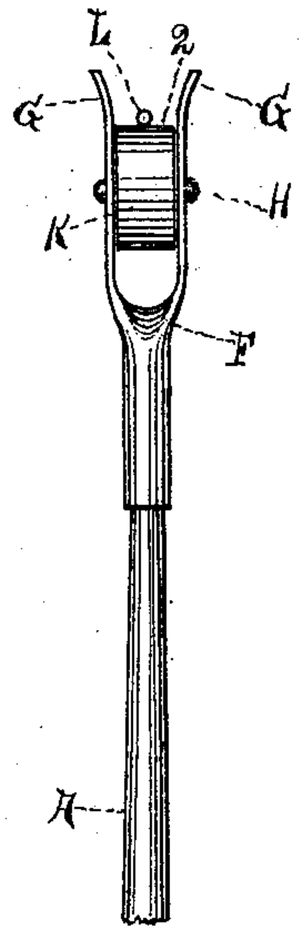

FIG. I.

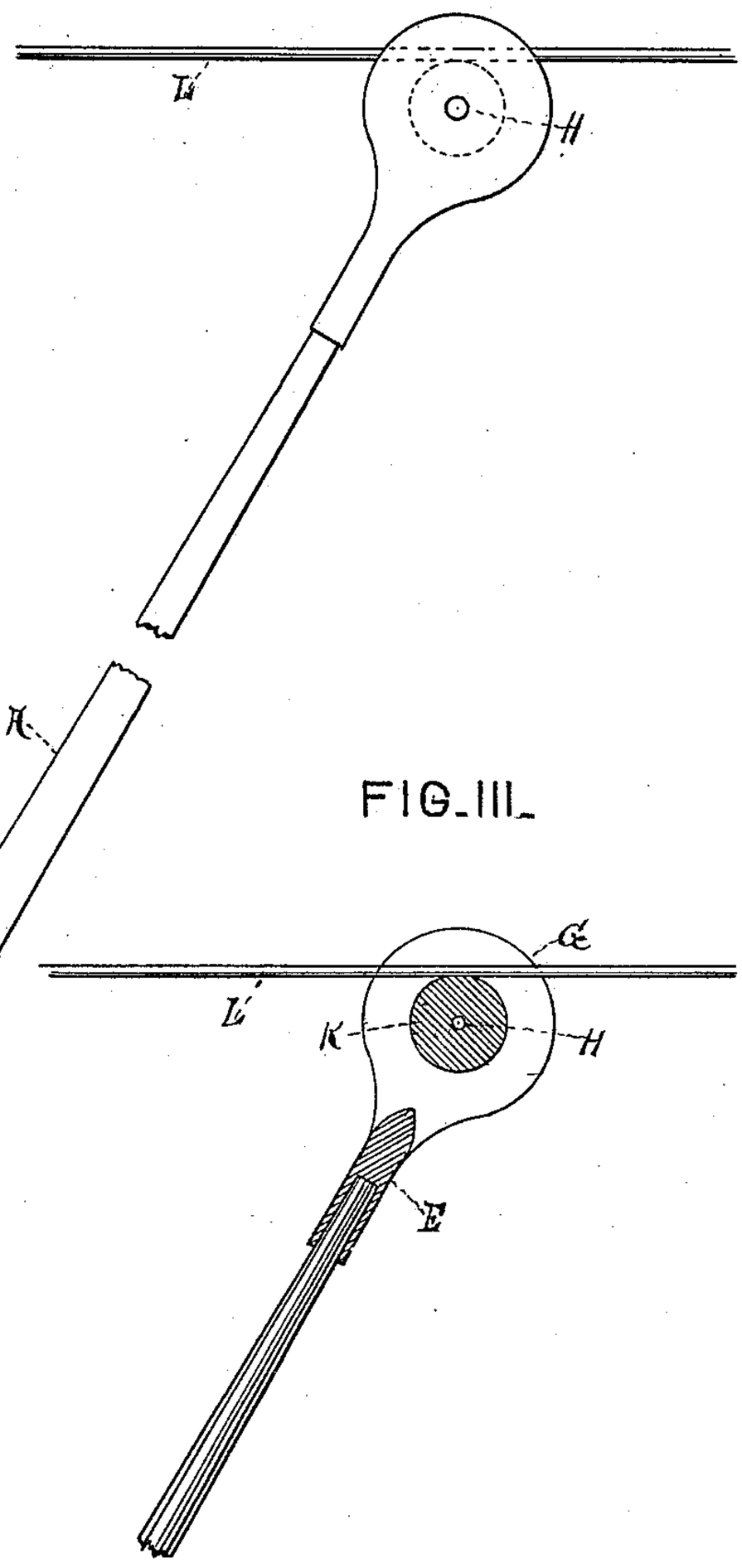

FIG. III.

Witnesses

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Inventor

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By his attorney.

H. A. Seymour.

UNITED STATES PATENT OFFICE.

SIDNEY H. SHORT, OF CLEVELAND, OHIO, ASSIGNOR TO THE SHORT ELECTRIC RAILWAY COMPANY, OF SAME PLACE.

TROLLEY FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 446,931, dated February 24, 1891.

Application filed November 12, 1890. Serial No. 371,169. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY H. SHORT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Trolleys for Electric Railways; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to trolleys or travelers which in electric railways move along and in contact with an electrical conductor connected with a generator of electricity, and has special reference to trolleys or travelers employing a roller for the contact device.

Heretofore it has been customary to employ a contact-roller with a comparatively deep groove on its periphery, and this groove receives the conductor or line-wire between its flanges. A difficulty is experienced with this form of contact-roller on account of its aptness to leave the line-wire in turning curves. At this time the line-wire rests against the flanges of the roller in such a way that there is a tendency to lift the line-wire or to depress the trolley, and this tendency may become sufficiently great to cause the trolley to escape from the line-wire.

Another objection to the deeply-grooved trolley-roller is that the wear is apt to take place mainly or altogether on one line.

In the present invention a trolley is produced not open to the difficulty and objection mentioned—a roller with a rather wide and flat periphery—that is to say, with a periphery which is a true cylinder and which is journaled between two stationary ears or plates which project more or less beyond the said roller. The flat or cylindrical periphery permits the line-wire to travel across it and wear over the whole surface, and the ears or guards prevent it from leaving the wire. These ear or guard plates may be made in different ways, for the invention extends generally to a trolley such as just explained; but it is preferred to have them made part of a detachable head, and particularly a detachable head composed of a socket and fork. The bracket or brackets for the roller, the ears or guards, and the part to be secured to the spring-pressed pole or other support may be made integral with one another or in one piece of metal. Such arrangement constitutes a special feature of invention, which extends to a trolley having such a head with a contact-roller in general, as well as with a contact-roller having a flattened periphery, whether this be flat or only comparatively so.

In the accompanying drawings, which form part of this specification, Figure I is a side elevation of a pole-trolley constructed in accordance with the invention; and Figs II and III are respectively a profile and a vertical section of the trolley-head.

The pole A is mounted, as shown, on a horizontal axis or hinge in the bracket B, which is swiveled to the plate C on top of the car, and a spring D between the arm belonging to pole A and an arm of bracket B tends to lift the pole A.

The trolley-head, as shown, consists of a socket E, a bracket-fork or pair of brackets F, two ears or guards G, a journal-pin H, and a roller K, with flat periphery 2, (see Fig. II,) considerably wider than the diameter of the supply-conductor L. The ears or guards G project from the brackets F beyond the periphery of the roller K, so as to receive between them the line-wire L, which rests on the flat periphery 2 of the contact-roller K. As shown, the ears or guards G, the brackets F, and the socket E are all in one piece of metal. The roller K is also of conducting material. It and the ears or guards G are connected with the conductor on the car in any ordinary or suitable way. It will be seen that with this construction the socket in the trolley-head is slipped over and forced down upon the end of the pole A, upon which it may be held by friction only. The trolley-head can thus be removed from the pole for inspection and repair without cutting or otherwise destroying any of the structural elements.

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

1. A trolley or traveler provided with a contact-roller with a cylindrical periphery,

and ears or guards projecting alongside said roller beyond its periphery, substantially as described.

2. A pole-trolley comprising, in combination with a spring-pressed pole, a contact-roller with a cylindrical periphery, and ears or guards projecting beyond said periphery, substantially as described.

3. In an electric trolley, the combination of a pole with a trolley-head detachably mounted thereon and composed of a contact-roller, brackets on which the roller is journaled, provided with a part for securing the head to the pole, and ears or guards constituting extensions of said brackets and projecting beyond the periphery of said roller, substantially as described.

4. A separable head for a trolley-pole, comprising a contact-roller with a cylindrical periphery, brackets on which the said roller is journaled, provided with a part, such as a socket, for detachably securing the head on the trolley-pole, and ears or guards constituting extensions of said brackets and projecting beyond the periphery of the roller, substantially as described.

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

SIDNEY H. SHORT.

Witnesses:
A. B. CALHOUN,
C. J. LEEPHART.