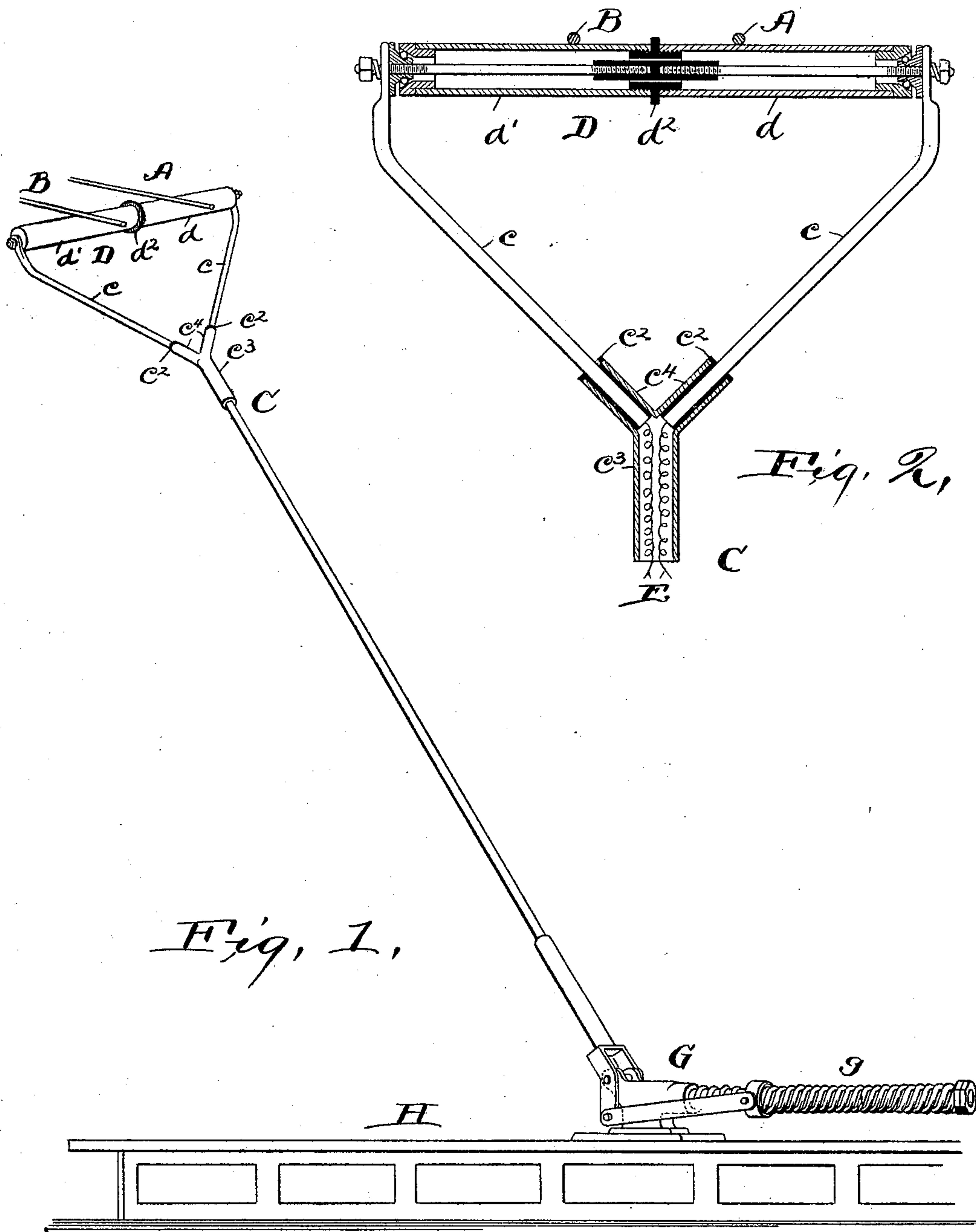


(No Model.)

S. H. SHORT.
TROLLEY FOR ELECTRIC RAILWAYS.

No. 582,882.

Patented May 18, 1897.



Witnesses.
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UNITED STATES PATENT OFFICE.

SIDNEY H. SHORT, OF CLEVELAND, OHIO.

TROLLEY FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 582,882, dated May 18, 1897.

Application filed December 22, 1896. Serial No. 616,639. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY H. SHORT, a citizen of the United States, residing at 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.

My invention relates to improvements in the construction of trolleys especially adapted for use in making proper connections between a motor-car and two overhead conductors, one of which conducts the current from and the other to the generator.

The object of my invention is to provide a simple and effective single-trolley device adapted to be carried by a motor-car whereby the proper connections between the two conductor-wires and the motor may be made.

The invention consists in the construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view showing my invention in use; and Fig. 2 is a front view, partly in section, of the upper end of the trolley.

Referring to the parts by letters, A B represent, respectively, the two conductor-wires.

C represents the trolley-arm. The connection between the trolley-arm and the car H is such that the free end of the trolley-arm has no lateral movement when in service, but is vertically movable, and is constantly pressed upward to hold the contact-roller against said conductors.

One construction for making the described connection is shown in Fig. 1, wherein H represents the car, G a stand which is fixed on the top of the car and to which the trolley-arm C is pivoted on a horizontal pivot, and *g* a spring which exerts its force to throw the free end of the trolley-arm upward. This particular construction is not a part of the present invention, and it is believed that a fuller description is unnecessary.

The upper end of the trolley-arm is forked, the two forks *c c* being extended laterally on both sides of the main arm. In the upper ends of the fork-arm the contact-roller D is

journalled. This roller is made up of two metallic sections *d d'* and an intermediate insulating-section *d²*, said sections *d d'* being screwed to the section *d²* or rigidly secured thereto in any other suitable manner. An external annular flange may separate the surfaces of the two sections *d d'*, and thereby prevent the conductor A, for example, which is intended to contact with section *d*, from sliding into contact with the section *d'*.

The two forks *c c* may act as conductors for the current flowing to or from the respective roller-sections *d d'*, and they must be insulated from each other to prevent short-circuiting the motor on the car. This result may be satisfactorily effected by making the two fork-arms as independent pieces and inserting their lower ends in insulated sockets *c² c²* on the top of the main trolley-arm. The Y-shaped metallic connection *c³* may receive the upper end of the arm C. In the two branches *c⁴ c⁴* of said connection insulated sleeves *c² c²* may be secured, which receive and serve as sockets for the lower ends of the forks *c c*. The wires E E, which are connected with the forks *c c*, respectively, may be connected with a motor which is carried by the car.

Having described my invention, I claim—

1. In an electric railway, the combination of the two conductors A, B, a motor-car, and a trolley-arm secured thereon by means which cause the upward vertical movement, but prevent lateral movement of the free end thereof, with a horizontal contact-roller mounted in the upper end of said trolley-arm, and having the surface at one end which contacts with the conductor A, insulated from the surface at the other end which contacts with the conductor B, and insulated conductors connecting said respective contact-surfaces with opposite sides of the motor, substantially as and for the purpose specified.

2. In an electric railway, the combination of the two conductors A and B, and a motor-car, with a trolley-arm mounted on the car, and having at its upper end two laterally-extended metal forks which are insulated from each other, and a contact-roller mounted in said forks and consisting of two metallic end sections and an intermediate insulating-section to which the metal sections are con-

nected, substantially as and for the purpose specified.

3. The combination of a trolley-arm, having at its free end two laterally-extended insulated forks, with a roller mounted in said
5 forks, having two insulated end sections, and having between said sections an annular external flange, substantially as and for the purpose specified.

10 4. The combination of a trolley-arm, having the two insulated diverging sockets c^1 c^2 , two

metal forks inserted in said sockets, with a contact-roller journaled in said forks and consisting of two metallic end sections, and an intermediate insulating-section, substan- 15 tially as and for the purpose specified.

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

SIDNEY H. SHORT.

Witnesses:

E. L. THURSTON,

E. B. GILCHRIST.