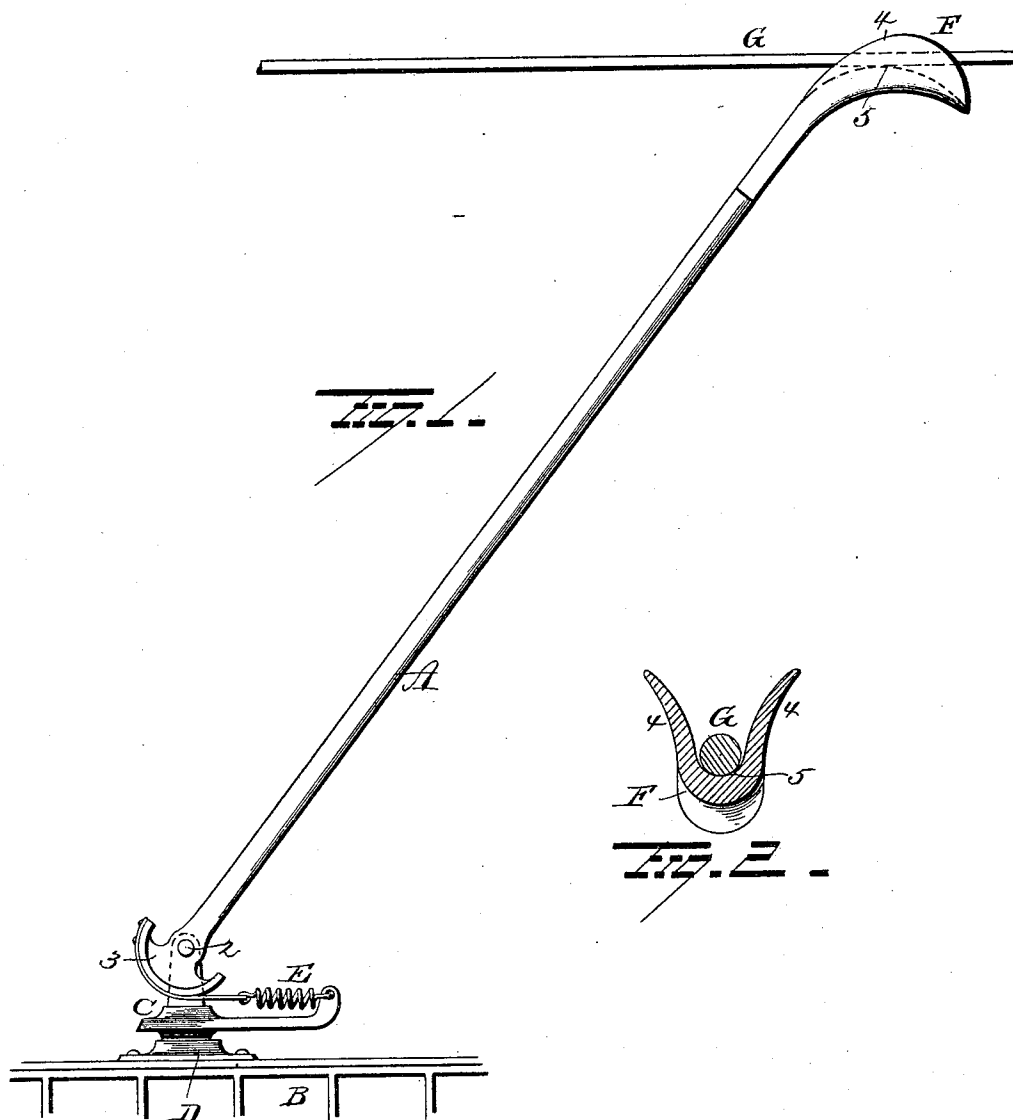


(No Model.)

S. H. SHORT.
SLIDE SHOE TROLLEY.

No. 459,689.

Patented Sept. 15, 1891.



Witnesses
E. M. Whigham
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UNITED STATES PATENT OFFICE.

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

SLIDE-SHOE TROLLEY.

SPECIFICATION forming part of Letters Patent No. 459,689, dated September 15, 1891.

Application filed April 15, 1890. Serial No. 348,031. (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 Slide-Shoe Trolleys; 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 more particularly to the trolleys or travelers which in electric railways move along the suspended overhead conductors for establishing an electrical connection between such conductors and the motors or electro-dynamic machines on the vehicle to be propelled thereby; but the improvements constituting said invention are of course included for all the uses to which they or any of them may be applicable.

In practice the sliding grooved shoe is secured by means of a socket or otherwise upon the outer end of a trolley-pole which at its inner end is flexibly connected with the car and is pressed by one or more springs.

In the accompanying drawings, which form part of this specification, Figure 1 is a side view of a trolley or traveler constructed in accordance with the invention, and Fig. 2 is a section of the new or improved contact or shoe.

The trolley-pole A is flexibly connected with the roof B of the car by being journaled at 2 in the bracket of plate C, which is swiveled to the plate D, fastened securely on the car-roof. It is pressed upward by means of the spiral tension-spring E, connected at one end with the plate C and at the other end with a sector 3 on the trolley-pole. Other arrangements to flexibly connect the trolley-pole with the car and to hold it by spring-pressure may be used. At the outer end of the trolley-pole is the sliding grooved shoe F, secured, as shown, to the pole by means of a socket. The supply wire or conductor G is suspended by any known or suitable means and fits in the groove, and the shoe F, being pressed upward against the wire by the spring E, makes contact with the under side of said wire.

In order to fit the shoe the better to its use, the following features of construction are adopted:

First, the wings 4 are flared laterally, (see Fig. 2;) second, they diminish in width outwardly, their outer edges being curved about an axis or axes transverse to the wire G, or, in other words, being rounded longitudinally. (See Fig. 1.) These features of construction favor the ready application of the shoe to the conductor and also ease in running, since the shoe is not apt to bind upon the conductor under the influence of lateral movements. In use the wings 4 project beyond the wire or supply-conductor, as shown, the groove in the shoe being of considerably greater depth than the thickness of the wire G.

Third, the bottom 5 of the groove is arched longitudinally (see Fig. 1) more or less, and particularly at the ends, so that the shoe may rock slightly on an axis at right angles to the wire or in the direction of the length of the conductor. The conductor being flexible and yielding and the road-bed itself more or less uneven, it is evident that the shoe tends constantly to alter its position on the wire G, and it is desirable, therefore, to embody in the shoe the features just stated or otherwise to adapt it to ride as evenly as possible under all variations. The shoe is of course to be made of conducting material, such as metal. It is attached to the trolley-pole, so that it forms or may form an oblique angle therewith.

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

1. A trolley comprising a spring-pressed swiveled pole and a sliding grooved contact-shoe rigidly secured to the upper end of the pole and projecting rearwardly therefrom, said shoe being formed with a curved bearing-surface, substantially as set forth.

2. A trolley consisting of a sliding grooved shoe having the wings flared laterally with their outer edges rounded longitudinally, and having also the bottom of the groove arched longitudinally, substantially as set forth.

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

SIDNEY H. SHORT.

Witnesses:

A. B. CALHOUN,
JOHN C. DOLPH.