

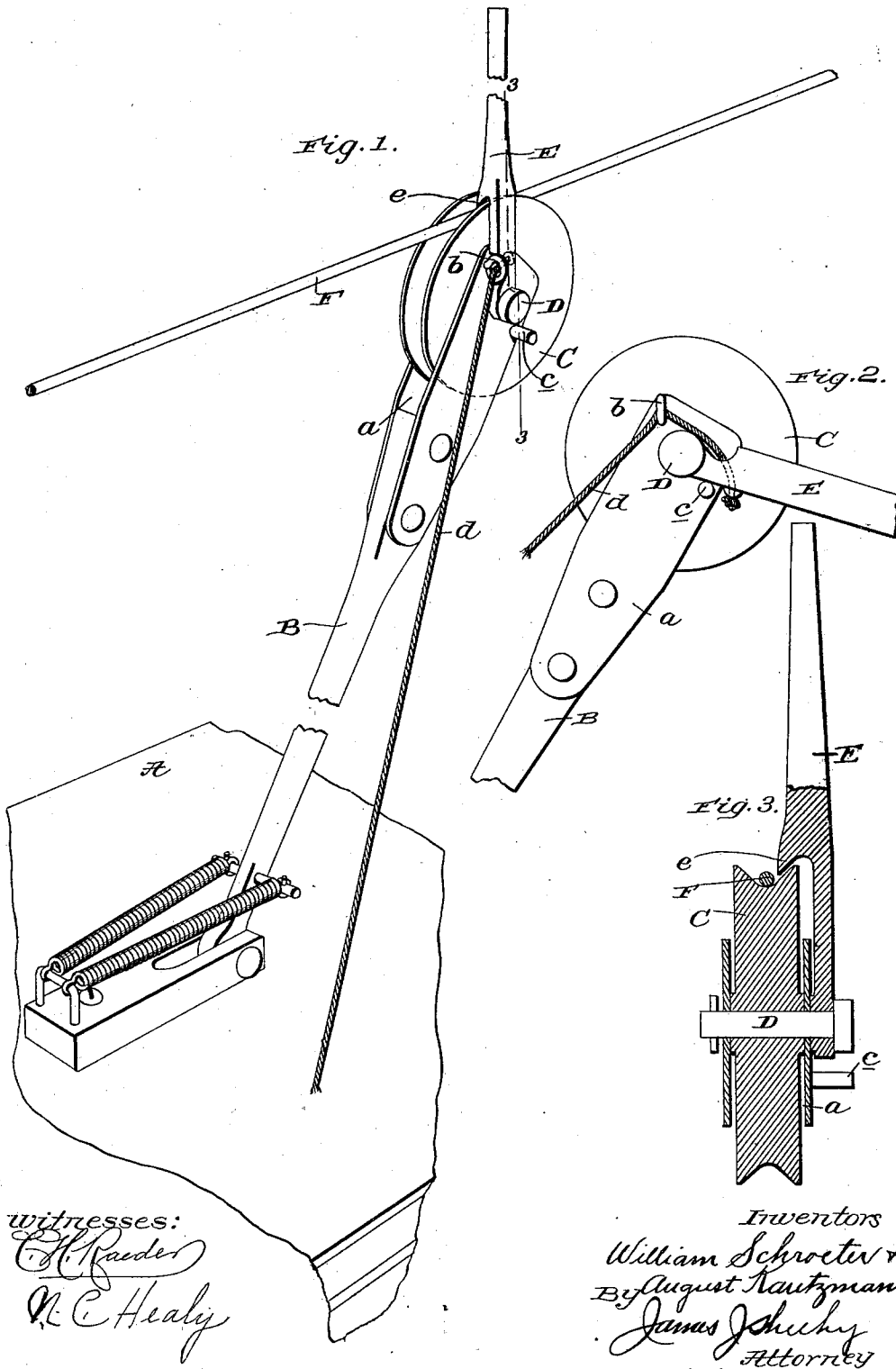
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Patented Dec. 11, 1900.

W. SCHROETER & A. KAUTZMANN.
TROLLEY POLE.

(Application filed June 11, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

WILLIAM SCHROETER AND AUGUST KAUTZMANN, OF DALLAS, TEXAS.

TROLLEY-POLE.

SPECIFICATION forming part of Letters Patent No. 663,788, dated December 11, 1900.

Application filed June 11, 1900. Serial No. 19,882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM SCHROETER and AUGUST KAUTZMANN, citizens of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Trolley-Poles, of which the following is a specification.

Our invention relates to trolley-poles for electric cars, and more particularly to those equipped with trolley-wire finders—*i. e.*, devices which when raised so as to project above the trolley are calculated to find or contact with the trolley-wire and guide the trolley into engagement therewith. It has for its general object to provide a simple, inexpensive, and highly efficient trolley-wire finder, and one which is readily applicable to trolley-poles such as at present in use and is adapted to be quickly and easily raised to an operative position and when released is adapted to gravitate to a position below and out of the way of the trolley-wire.

With the foregoing in mind the invention will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective view illustrating a trolley-pole equipped with our improved wire-finder, said finder being shown in its raised or operative position. Fig. 2 is a detail side elevation illustrating the wire-finder in its inoperative position. Fig. 3 is an enlarged detail section taken in the plane indicated by the broken line 3 3 of Fig. 1.

In the said drawings similar letters designate corresponding parts in all of the several views, referring to which—

A is a portion of an electric car; B, a trolley-pole connected to the car in the ordinary or any approved manner and having the usual bifurcated upper portion *a*; C, a trolley mounted on a transverse bolt D in the bifurcated portion of the pole and having the usual channelled or grooved periphery, and E our improved wire-finder or wire-finding arm.

The trolley-pole is provided on one side of its bifurcated portion and at a point above and slightly in advance of the bolt D with a screw-eye or other suitable guide *b* and is also provided on the same side of its bifurcated portion and at a point slightly below and in

rear of the bolt with a stop *c*, which may be screwed into or otherwise connected to said side of the bifurcated portion. The eye *b* is designed to receive and guide a line *d*, attached to the wire-finding arm, and is also adapted to limit the upward and forward movement of said arm when the same is raised, while the stop *c* is designed to limit the gravitating movement of the arm when the same is released and serve as a stop therefor.

The arm E may be formed entirely of wood, partly of wood and partly of metal, or entirely of metal, although we prefer to form it in whole or part of metal, so that when it engages the trolley-wire (indicated by F) electrical connection will be established between said wire and the lights in the car, so as to illuminate the car and enable the party who is handling the line *d* to see the trolley-wire and the position of the trolley with respect thereto. Said arm E is pivotally mounted on the bolt D at the side of the bifurcated portion of the trolley-pole, so as to enable it to swing in a vertical plane, and is provided at an intermediate point of its length with a lateral finger *e*, which is designed to rest and move in the peripheral groove of the trolley, as best shown in Figs. 1 and 3. By virtue of said finger *e* being arranged and adapted to move in the peripheral groove of the trolley C it will be observed that it is enabled to guide the arm E in its vertical movements and is also adapted to prevent lateral deflection of said arm even in the event of the parts becoming loose through wear.

It will be noticed that when it is desired to equip a trolley-pole such as at present in use with our improved wire-finding finger it is simply necessary to provide, in addition to the finger, a new bolt D and a guide *b* and stop *c*, said guide and stop being adapted to be readily attached to one side of the bifurcated upper portion of the pole.

In practice when the trolley jumps the wire, as frequently happens, the conductor of the car has but to draw down on the line *d*, so as to raise the arm E to the position shown in Fig. 1, and then swing the trolley-pole laterally until the said arm engages the trolley-wire, when upon the trolley-pole being released the arm will quickly guide the trolley to the wire. When the line *d* is re-

leased, the arm E will gravitate or swing downwardly until it engages the stop c, upon which it will rest until it is again necessary to use it. In this connection it will be observed that the arm E returns of itself to its inoperative position and that the necessity of employing springs or an extension on the arm such as is liable to foul the trolley-wire is obviated.

- 10 When the arm E is formed in whole or part of metal and is therefore adapted to establish electrical connection between the trolley-wire and the lights in the car, it will be observed that the car will be illuminated at night as soon as the arm E contacts with the trolley-wire, and hence the conductor will be enabled to readily place the trolley in contact with said wire.

It will be appreciated from the foregoing that our improvements are extremely simple and inexpensive and do not add materially to the cost of the trolley-pole to which they are applied.

Having thus described our invention, what we claim is—

1. The combination of the trolley-pole of an electric car, a peripherally-grooved trolley carried thereby, a vertically-swinging wire-

finding arm mounted at one side of the trolley and concentrically with respect thereto and having a lateral finger arranged in the peripheral groove of the trolley, and means connected with said wire-finding arm whereby it may be adjusted by a person on the car, substantially as and for the purpose set forth.

2. The combination of the trolley-pole having the bifurcated upper portion and the guide b and stop c arranged on one side thereof, a transverse bolt arranged in the bifurcated portion of the pole, a trolley mounted on the bolt within the bifurcation of the pole and having a grooved periphery, the wire-finding arm mounted on the bolt at the side of the bifurcated portion of the pole and having a lateral finger arranged in the peripheral groove of the trolley, and a line connected to said arm and extending through the guide b, substantially as specified.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM SCHROETER.
AUGUST KAUTZMANN.

Witnesses:

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