

(No Model.)

S. E. WHEATLEY.

# TROLLEY FOR UNDERGROUND ELECTRIC RAILWAYS.

No. 441,220.

Patented Nov. 25, 1890.

*Fig. 1.*

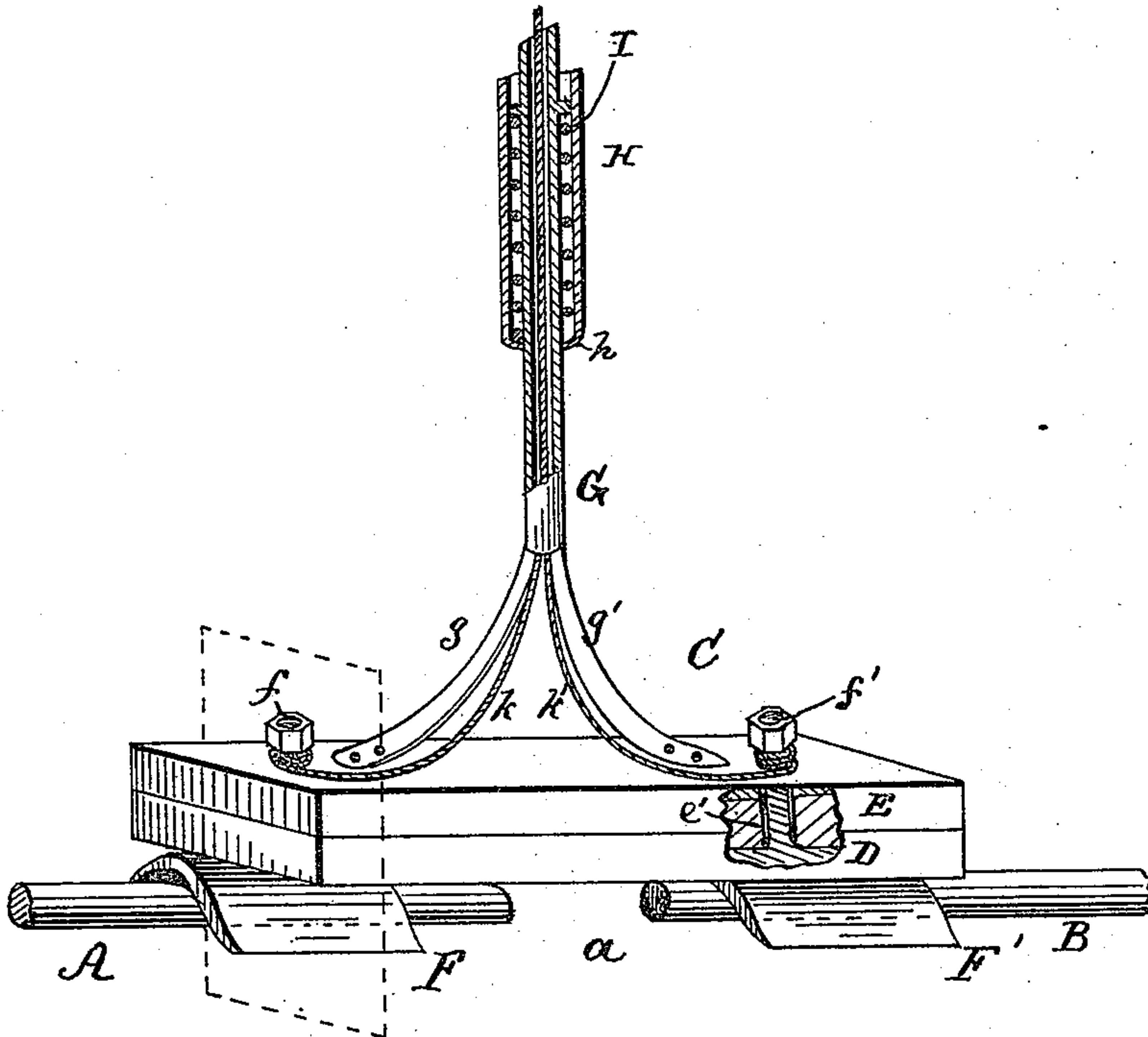


Fig. 2.

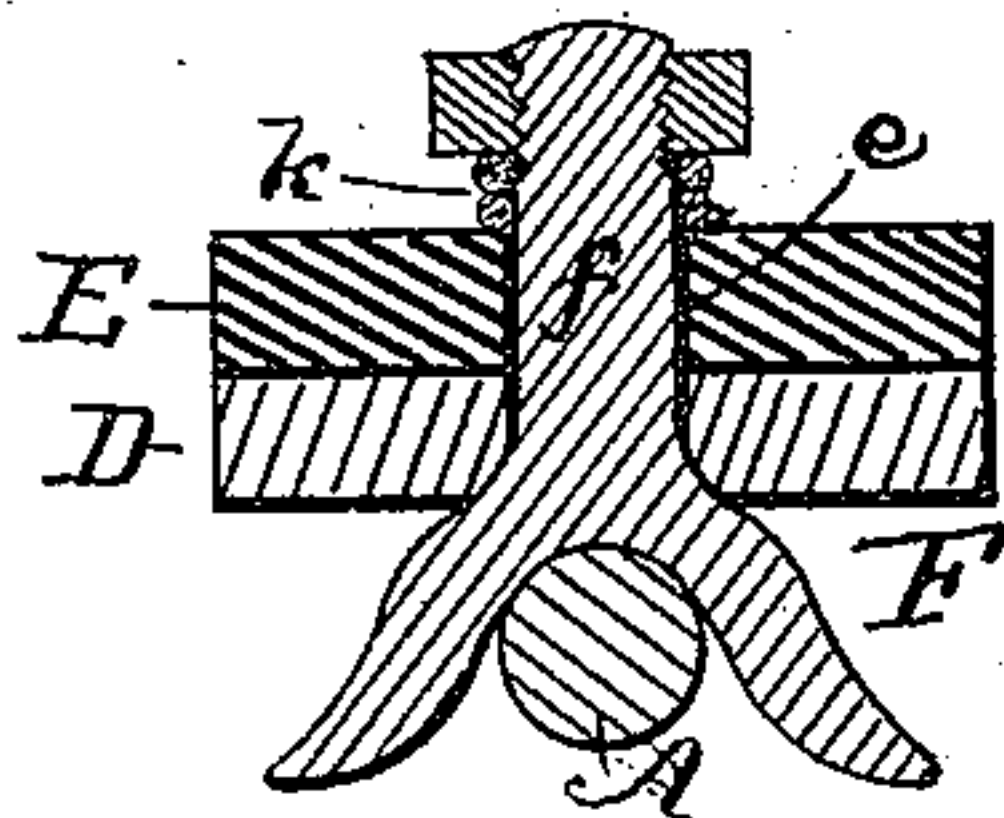
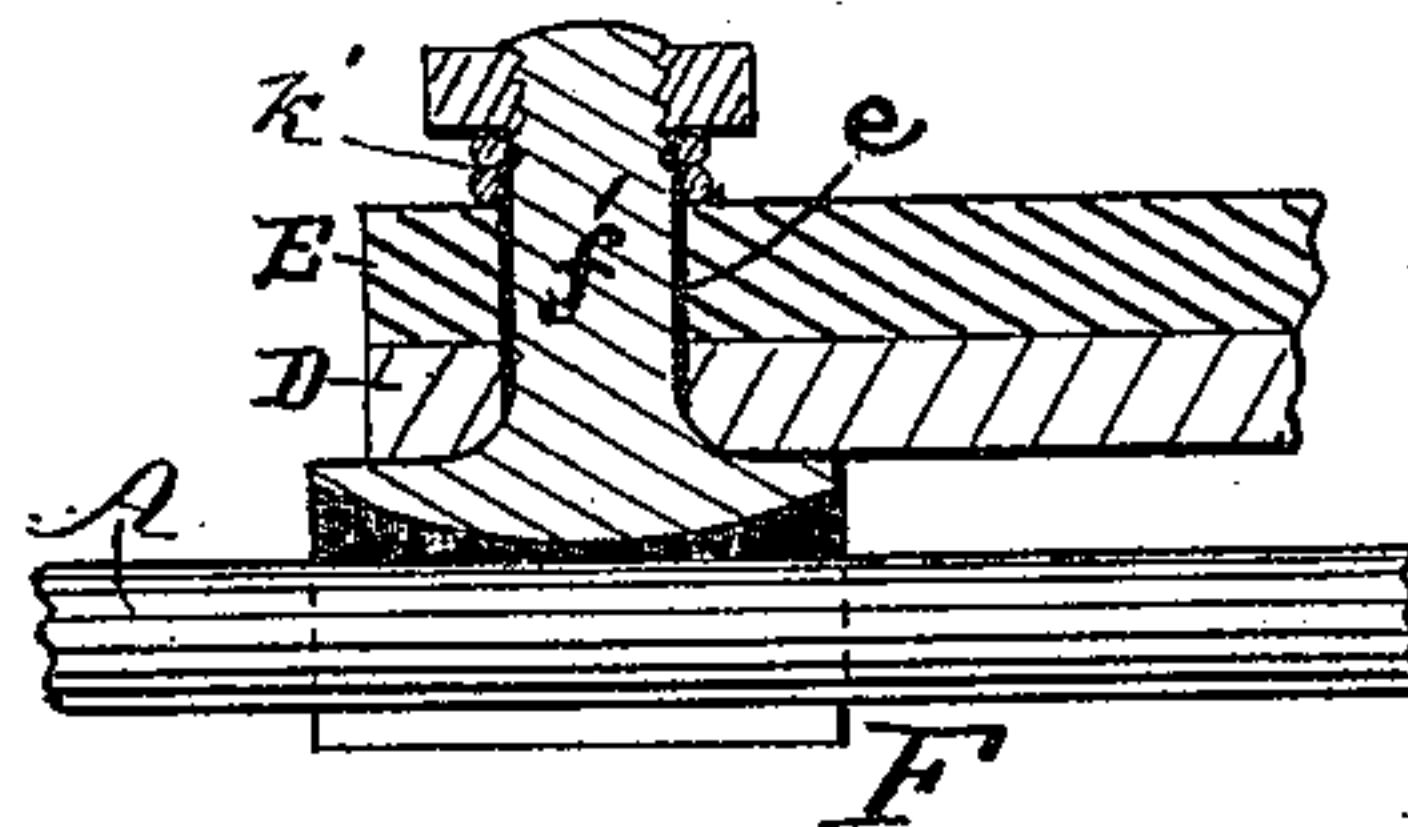


Fig. 3.



Witnesses

Witnesses  
Jas<sup>d</sup> Houghton.  
M. E. Lowell.

Inventor

Samuel E. Whattery

By

W. H. Singleton

His Attorney

# UNITED STATES PATENT OFFICE.

SAMUEL E. WHEATLEY, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
TO THE WHELESS ELECTRIC RAILWAY COMPANY, OF ALEXANDRIA,  
VIRGINIA.

## TROLLEY FOR UNDERGROUND ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 441,220, dated November 25, 1890.

Application filed July 21, 1890. Serial No. 359,383. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL E. WHEATLEY, a citizen of the United States, residing at Washington, in the District of Columbia, have  
5 invented certain new and useful Improvements in Trolleys for Underground Electric Railways; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled  
10 in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 Figure 1 is a perspective view, partly in section, of the device. Fig. 2 is a transverse section on the plane indicated by the dotted lines in Fig. 1. Fig. 3 is a longitudinal section of part of the device at one of the brushes.

20 This invention relates to an improved trolley to be used on electric railways, more especially to a trolley to be used where the working-conductor or trolley-line is in sections.

In the annexed drawings, the letters A and  
25 B indicate two sections of a working-conductor or trolley-line insulated at *a*. The trolley is indicated by the letter C. There is a holder consisting of a metallic plate D and an insulating-plate E, secured together and  
30 having therethrough the holes *e e'* near the ends. In these holes are the stems *f f'* of the two brushes F F'. These brushes are concavo-convex on their working-faces, so as to fit over and bear snugly against the working-  
35 conductor. The stems *f f'* fit loosely in the holes *e e'*, so that the brushes have a free movement in the holder. The holder is secured to the forks *g g'* of a tubular post G. This post passes through a sleeve H. This  
40 sleeve has a bore large enough to receive the post G and a surrounding spring I. This spring bears at its lower end upon an annu-

lus *h* of the sleeve H, and at its upper end upon the post G. The sleeve H is secured to the car, so that there is a yielding connection  
45 between the post and the sleeve. Running from the sleeves *f f'* are the wires *k k'*, which pass off to the motor. This forms a double trolley, always preserving the current to the motor. When the front brush reaches the  
50 break between two sections of the trolley-line, the current passes through the hind brush. By the time this brush reaches the break, the front brush has come upon the front trolley-line section, and the current is restored.  
55 With such a device a working-conductor in sections can be used without any break in the current to the motor. The shape and connection of the brushes causes them to close and surely bear on the trolley-line unaffected  
60 by any movements of the car, as the stems readily turn in the holes, so as to allow for any twisting of the holder. The resilient connection of the trolley allows for the easy working of the same.

65 Having thus described my invention, what I claim is—

1. The trolley composed of the holder having the holes *e e'*, and the two brushes F F', having stems *f f'*, which are held loosely in  
70 said holes, as set forth.

2. The combination of the concavo-convex brushes F F', having the stems *f f'*, the holder consisting of the metallic plate D, and the  
75 insulating-plate E, having the holes *e e'*, the stems *f f'*, held loosely in said holes, the forked tubular post G, the stem H, and the interposed spring I, as set forth.

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

SAMUEL E. WHEATLEY.

Witnesses:

GRAHAM L. GORDON,  
THOS. HOUGHTON.