

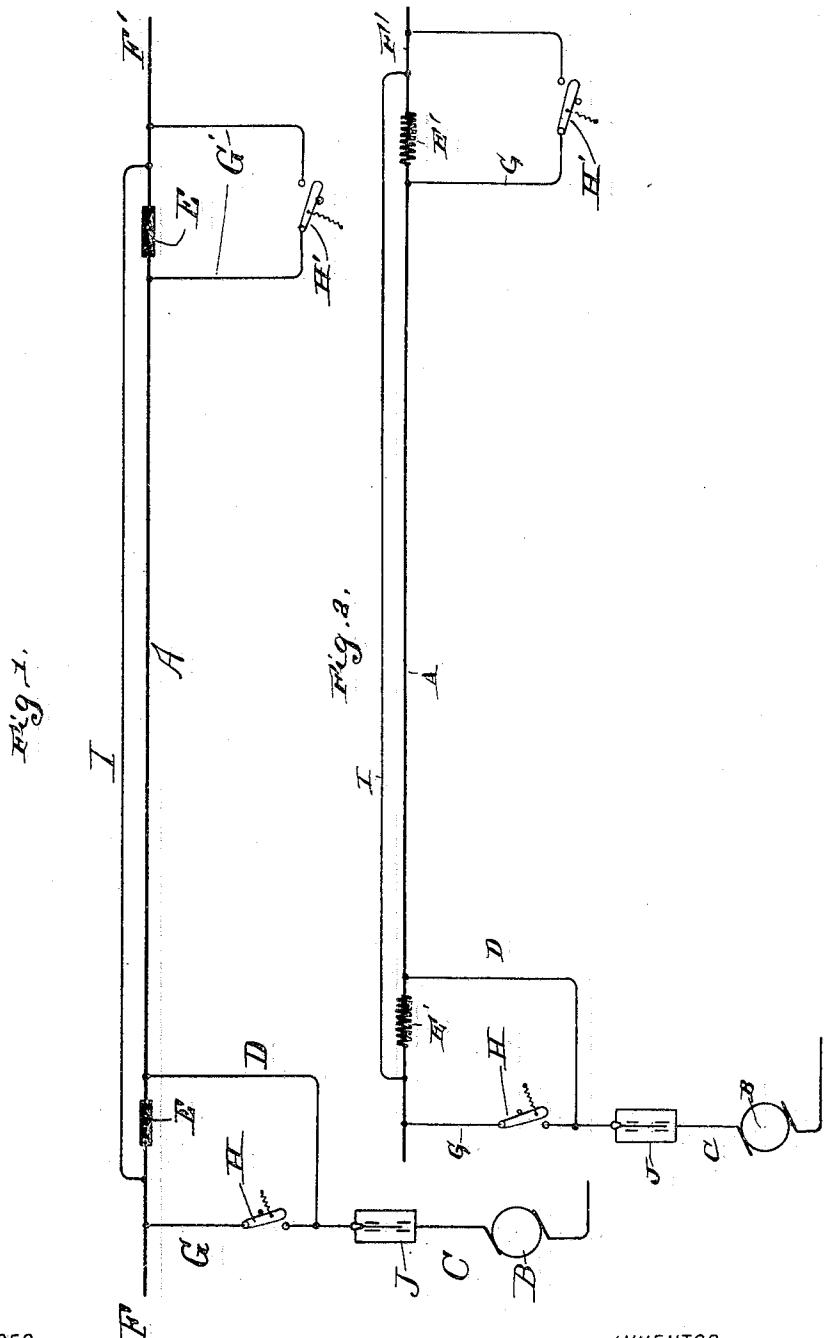
No. 809,798.

PATENTED JAN. 9, 1906.

H. M. HARDING.

## MEANS FOR CONTROLLING OVERHEAD ELECTRIC CARRIERS.

APPLICATION FILED APR. 21, 1902.



**WITNESSES:**

WITNESSES: 11  
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# UNITED STATES PATENT OFFICE.

HENRY M. HARDING, OF NEW YORK, N. Y.

## MEANS FOR CONTROLLING OVERHEAD ELECTRIC CARRIERS.

No. 809,798

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed April 21, 1902. Serial No 103,900.

*To all whom it may concern:*

Be it known that I, HENRY M. HARDING, a citizen of the United States, and a resident of the city, county, and State of New York, have 5 invented certain new and useful Improvements in Means for Controlling Overhead Electric Carriers, of which the following is a specification.

My invention relates to devices used for telpherage, and has for its object to insure the automatic stopping of the carriers as they approach the station.

Figure 1 is a view showing my invention when insulation is used to separate the end 15 connection from the main line. Fig. 2 is a view showing my invention when resistance is substituted for the insulation.

A represents the conductor from which the telpher secures its operating-current. This 20 current is supplied by a dynamo B through wires C and D. In this conductor and at or near the stations at each end are placed resistances E E of such a character that the amount of current passing through the sections F F' at each end will be sufficient to move the empty or unloaded telpher, but not 25 sufficient to move the same when loaded.

Running from the junction of the wires CD is a wire G, the other end of which is connected with the section F. This wire is provided with a spring-switch H, which is normally open, so that no current passes through said wire. It will be seen that by closing the 30 switch the section F will become energized direct from the dynamo B. At the other end of the wire I provide a loop G', one end of said loop being attached to the conductor A between the two resistances and the other end to the section F'. This loop is provided with 35 a spring-switch H' of a similar character to the spring-switch H, which is normally open, so that by closing said switch H' the section F' will be energized by the current passing through A.

45 J is the main switch by which the current may be cut off from the entire system.

The operation of the device is as follows: Supposing the loaded car to be at the left-hand station, looking at the drawings, with 50 its trolley on the section F of the conductor, the current flowing through said conductor is not strong enough to move the car. However, on closing the switch H the section F receives current from the dynamo and the car 55 will move, the trolley passing from the section F onto the main conductor A. The

switch is then allowed to open and the car travels along with the full force of the current. When, however, the car reaches such a position that its trolley passes onto the section F', it will automatically stop, as the current running through F' is not sufficient to move it. This stopping may be assisted, if desired, by any of the well-known automatic 60 brake systems, such as that shown in the patent to Clift, No. 688,828, December 17, 1901. When the telpher reaches the limit of its motion, the current is reversed therethrough by an automatic switch K'; but the telpher cannot move toward the other end of the line 65 until its load has been discharged. Upon the discharge of said load the telpher will start back automatically, as the current in the section F' is just strong enough to move the unloaded telpher. If, however, it is desired to 70 load at the section F' and carry a return load, the wire F' may be energized with sufficient force to move the loaded telpher by closing the switch H, as heretofore described.

It is sometimes desirable to control the motion of the telpher from either end of the line, or, in other words, to be able to energize the sections F or F' from either end of the line. This may be effected by the conductor I, which connects the sections F and 80 F' at the points indicated in the drawings. It will be readily seen that by closing either of the switches H or H' the sections F and F' 85 will become energized with the full force of the current.

I may, if I so desire, substitute for the resistances E E' insulation-pieces placed at the same points. This changes the system only in one particular—namely, that no current flows through sections F F' normally, so that 90 the car will always be started back by closing the spring-switch H or H'. So far as the loaded car is concerned, the action of the system will be precisely the same—namely, that the car will automatically stop when its trolley has passed on to either the section F or F'. 95

I claim—

1. A means for controlling overhead electric carriers consisting of a main conductor, a section at each end thereof, a resistance between each of said sections and the main line of such a character that insufficient current flows through said sections to move the loaded carrier, and means for fully energizing said sections, substantially as described. 105

2. A means for controlling overhead electric carriers consisting of a main conductor,

a section at each end thereof, a resistance between each of said sections and the main line of such a character that insufficient current flows through the said sections to move the 5 loaded carrier, and means for fully energizing said sections from either end of the line, substantially as described.

In testimony whereof I have hereunto set my hand, in the city, county, and State of New York, this 19th day of April, 1902.

HENRY M. HARDING.

In presence of—

E. M. HARMON,  
JOHN J. RANAGAN.