No. 692,118. Patented Jan. 28, 1902.

A. S. CLIFT.

REVERSING DEVICE FOR OVERHEAD ELECTRIC CARRIERS.

(Application filed Apr. 19, 1901.)

(No Model.)

Fig. 1

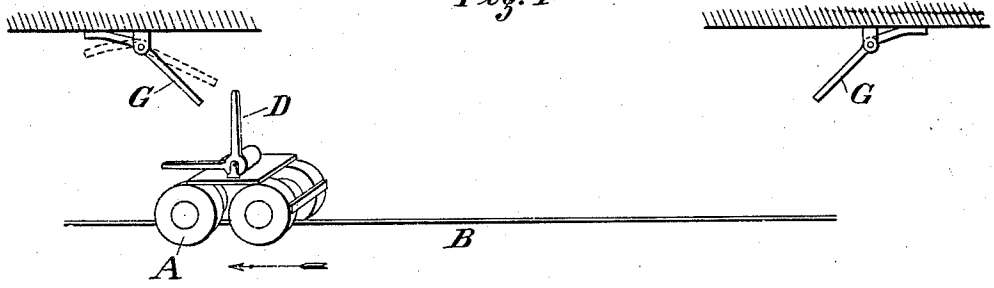
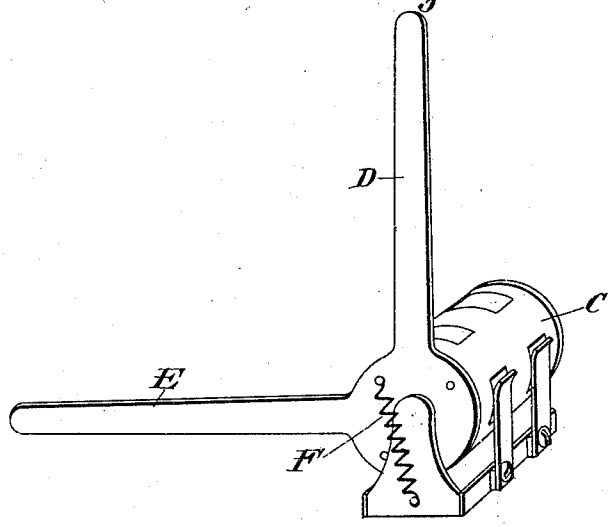


Fig. 2



Witnesses
Bert B. Jones.
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By his Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ARTHUR S. CLIFT, OF EAST ORANGE, NEW JERSEY.

REVERSING DEVICE FOR OVERHEAD ELECTRIC CARRIERS.

SPECIFICATION forming part of Letters Patent No. 692,118, dated January 28, 1902.

Application filed April 19, 1901. Serial No. 56,543. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR S. CLIFT, a citizen of the United States, and a resident of East Orange, Essex county, State of New Jersey, have invented certain new and useful Improvements in Reversing Devices for Overhead Electric Carriers, of which the following is a specification.

My invention relates to appliances for overhead electric carriers or cars, and has for its object to provide a means for automatically reversing the motor at desired points—such, for instance, as at the end of a particular line.

In the drawings forming part of this specification, Figure 1 represents a motor equipped with a reversing switch and shows also the device for operating the switch. Fig. 2 is an enlarged perspective view of the switch.

A represents the motor, running on the cable B.

C is a reversing switch of any desired construction. Attached to the switch are the arms D and E, by which the switch may be moved from one position to the other.

F is a spring arranged to hold the switch in either position under ordinary conditions of the movement of the carrier.

Secured to any suitable supports or in any suitable manner in the path of travel of the arms D and E is a pivoted arm G. The construction, as clearly indicated in Fig. 1, is such that the arm will yield in one direction only. The arms are placed at predetermined positions where it is desired to have the motor reversed.

The operation is as follows: In Fig. 1 the car is supposed to be traveling in the direction of the arrow and to be about at the end of its route, where it will be stopped by devices not necessary to describe. As the car passes under the arm G the arm D on the switch will be turned until the spring F is on the other side of the center, as will be clearly observed from the drawings. The spring F will then complete the reversing of the switch and hold it in position. When the current is again sent through the motor, the car will move in the opposite direction, and the arm E, which is now vertical, will pass under and lift the arm G, as indicated in dotted lines, Fig. 1. At the opposite end of the line the arm D will be arranged in the opposite manner and will again reverse the switch.

What I claim, and desire to secure by Letters Patent, is—

1. In a carrier for overhead electric railways the combination of the motor, a cylindrical reversing switch therefor and means for automatically turning the switch at predetermined points, and a spring tending normally to hold the switch in its extreme positions, substantially as described.

2. In a carrier for overhead electric railways, the combination of a motor, a cylindrical reversing switch, arms on said switch and means for engaging said arms at predetermined points to turn the switch, and a spring tending normally to hold the switch in its extreme positions, substantially as described.

Signed in the city, county, and State of New York this 5th day of March, 1901.

ARTHUR S. CLIFT.

Witnesses:

HM. HARDING,

JOHN J. RANAGAN.