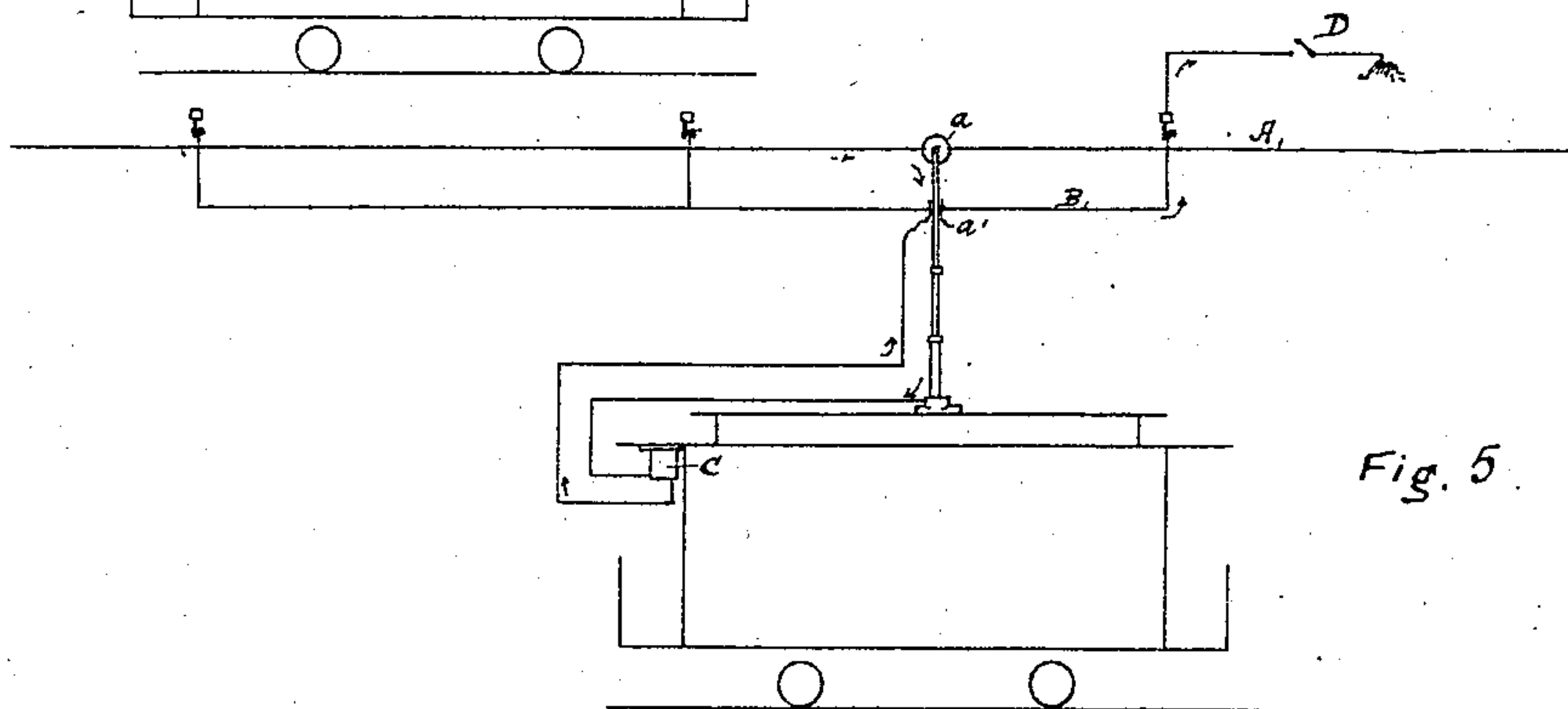
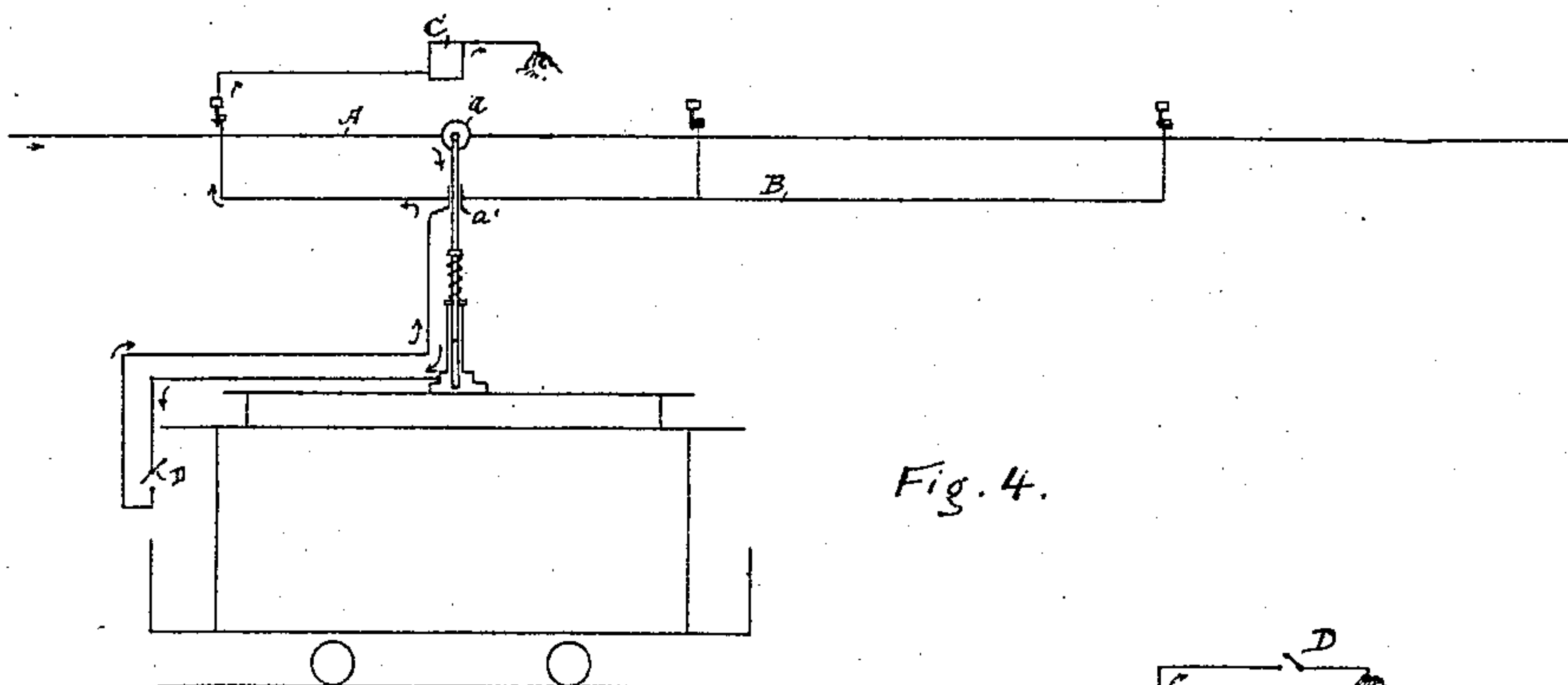
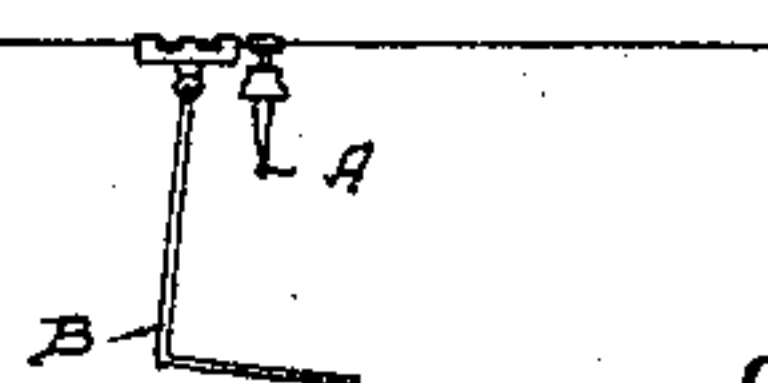
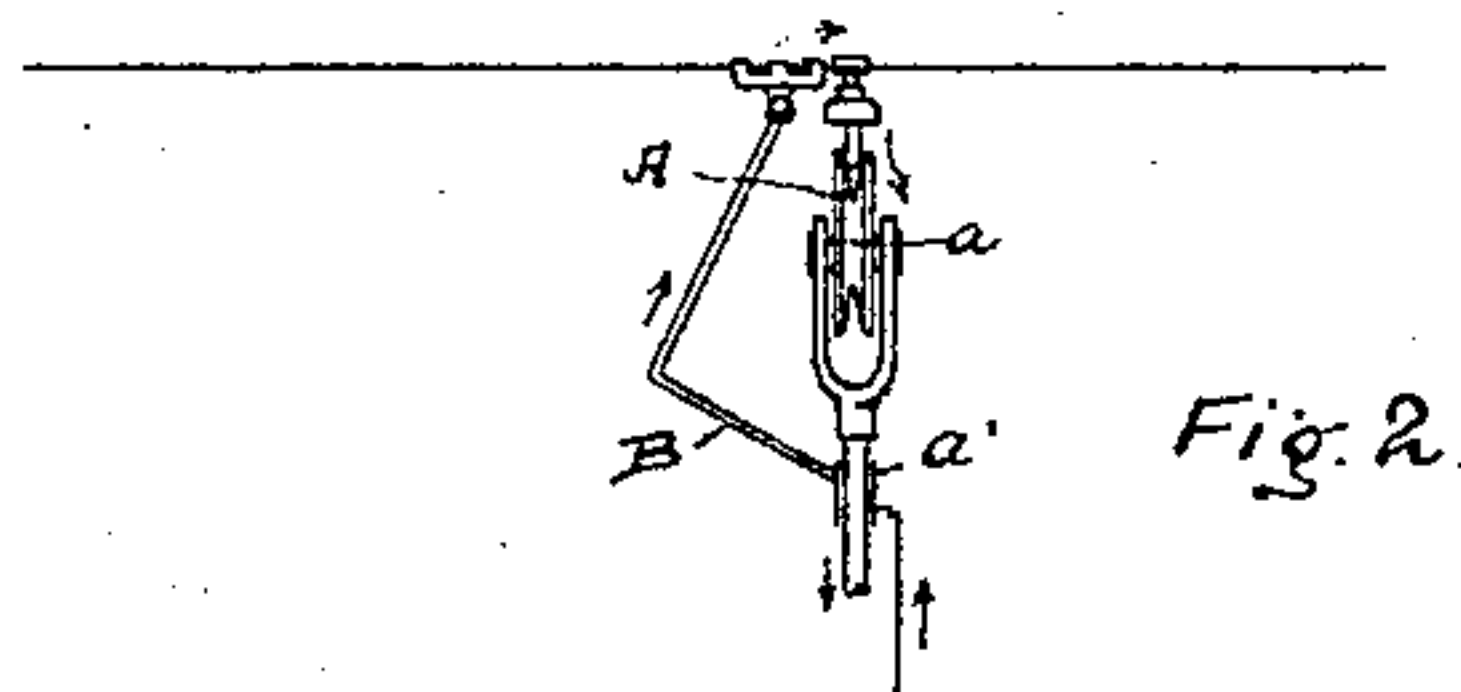
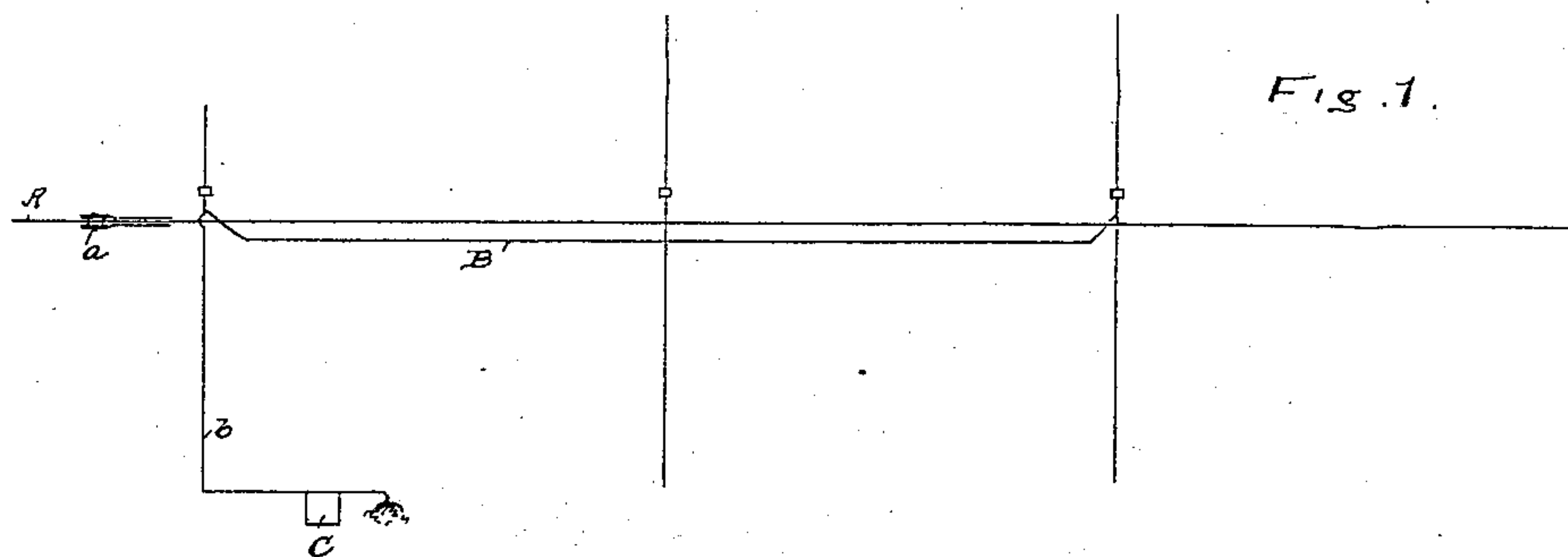


(No Model.)

2 Sheets—Sheet 1.

J. Y. PORTER.
COMMUNICATING, SIGNALING, &c., TO OR FROM MOVABLE OBJECTS.
No. 539,298. Patented May 14, 1895.



Witnesses.

N. W. Basinger
D. Gutman

Joseph Y. Porter Inventor

By N. S. Ametutz Atty

(No Model.)

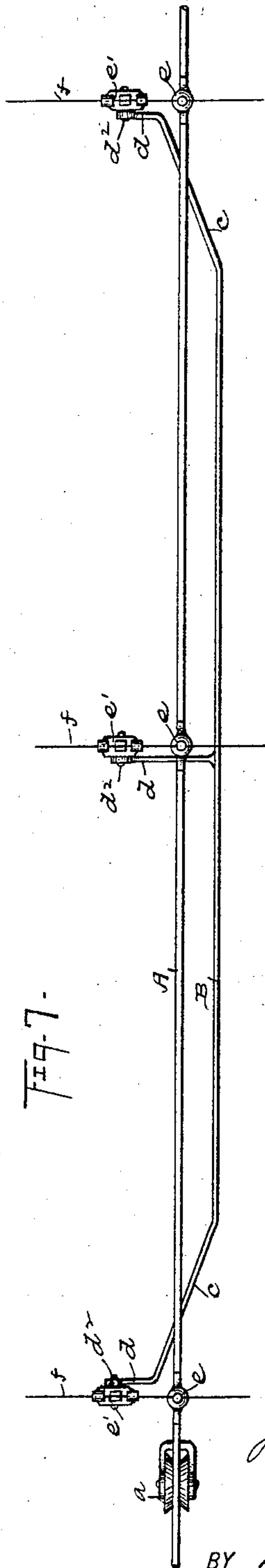
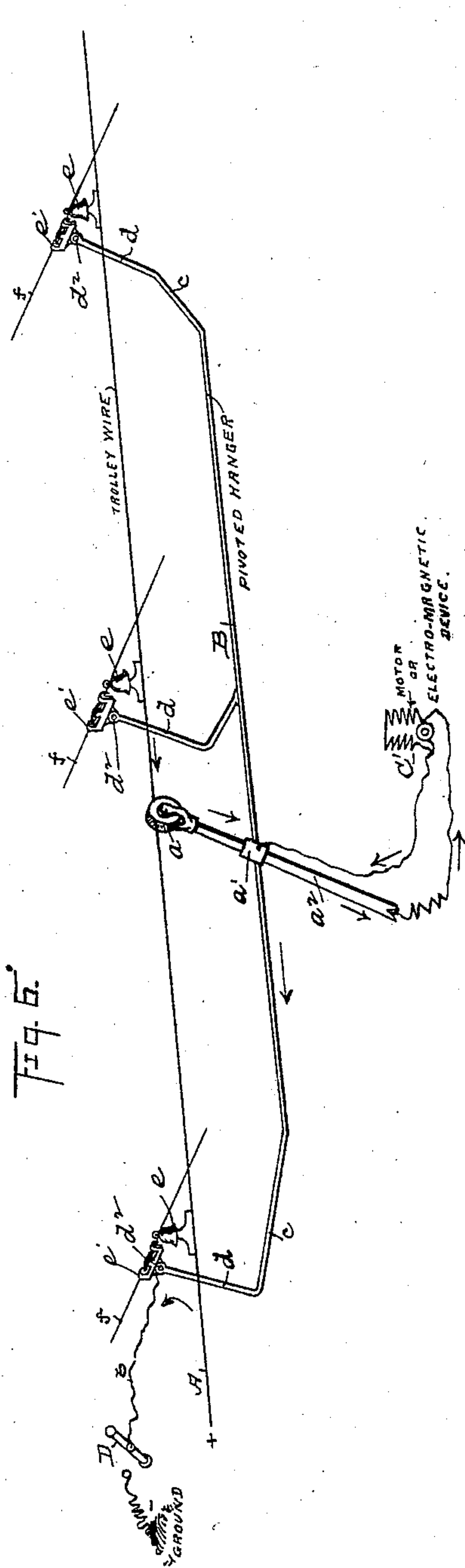
2 Sheets—Sheet 2.

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WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH Y. PORTER, OF CLEVELAND, OHIO, ASSIGNOR TO J. W. MORRISON,
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COMMUNICATING, SIGNALING, &c., TO OR FROM MOVABLE OBJECTS.

SPECIFICATION forming part of Letters Patent No. 539,298, dated May 14, 1895.

Application filed February 14, 1894. Serial No. 500,164. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH Y. PORTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Communicating, Signaling, &c., to or from Movable Objects; 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.

My invention relates to improvements in communicating, signaling, &c., to or from moving objects, and it consists of the features pointed out in the annexed claims.

I design to communicate signals, power, or the like, from, or to moving objects in an electrical manner, substantially as herein set forth, of course, it being understood that I do not limit myself to any of the specific means shown for carrying my design into effect.

In order that the following description may be clear and easy of understanding, I would at this point assume certain conditions existing, viz: a moving object, a path for the communicating agent to traverse, located adjacent to such moving object wherever desired, and suitable means either upon the moving object, or located away from, and separate from the same, which is adapted to direct the communicating agent into whatever channels are desired for the conveying of signals, the transmission of power, or the medium of intelligences of whatever kind that may be desired.

In the accompanying drawings I illustrate the principles of my devices as follows, viz:

Figure 1 is a diagrammatic plan view of the connections. Fig. 2 is a diagrammatic end elevation of the connections in operative position, showing the same as an instance of adaptation only to the intelligible interpretation of the description contained herein. Fig. 3 is a diagrammatic elevation of Fig. 2 with the parts inoperative. Fig. 4 is a diagrammatic view, partly in elevation, of Fig. 1, illustrating the means of controlling the communicating agent when located upon the moving object; and Fig. 5 is a view similar to Fig. 4, showing the means of controlling the communicating agent when located outside of and separate from the moving object. Figs. 6 and

7 are enlarged detailed perspective and plan views of the pivoted hangers.

My invention substantially comprises suitable means through which I am enabled to convey communications, power, signals, or the like, from moving objects to a stationary location, or vice versa; and in it are embodied as substantial equivalents the following detailed instances of adaptation: First, I utilize, as shown in Fig. 1, an existing trolley-wire A, and adjacent it I place a second depending path B for current to travel on, which has no connection whatever with such trolley-wire and a collector *a*, which moves along the trolley-wire and which is attached to the moving object and passes the depending conductor B. A portion of the current in the trolley-wire A is shunted into the depending conductor B from where a path *b* is provided to a suitable signal or motor mechanism C located at any suitable point in the vicinity of the trolley-wire, and from there to the ground. The supplemental conductor B is pivoted so as to swing across the path of a trolley pole or current collector, and thus engage the insulated sleeve *a'*.

The different circuit connections may be briefly described as follows: In the case of Fig. 4 the current passes from the trolley wire A to the trolley wheel *a* and the trolley pole, then to the switch D, and from here to the insulated sleeve *a'*, thence to the hanger B and the magnetic device inclosed in box C and then to ground. (See also Fig. 7.) In the case of Fig. 5, the current passes down the trolley pole, to the electro-magnetic device, such as a bell, or any desired mechanism, inclosed within the box C placed upon the car. From here the current passes to the sleeve *a'*, thence to the hanger B and then to switch D and to the ground.

The trolley wire H is supported in the usual manner by the insulators *e* which are held by the span wires *f* and the supplemental hanger B is pivotally supported by its depending arms, *d* from the supports *e'* to which they are pivoted at *d'*. The ends of the conductor B are beveled as shown at *c*.

The parts are shown larger than their proper proportion in Fig. 7, so that their relative position would be defined.

In the perspective view, Fig. 6, the switch

is shown at D and the electric magnetic device C' which may be placed at any place on the car. The same is connected diagrammatically with the trolley wire a^2 and the sleeve a' .

5 It will now be seen that as the collector a and the moving object, which may be a car, vehicle, or any kind of a conveyance, passes along the trolley-wire A, the circuit connection through the motor mechanism C' is complete as long as an insulated sleeve a' of the collector a is in contact with the depending conductor referred to, and if a controlling mechanism D, as shown in Fig. 4, be placed on the moving object, the motor mechanism C' can be stopped or started at will while the collector sleeve a' is in contact with the depending conductor B; or on the other hand, if the controlling device D, as in Fig. 5, is located outside of the moving object and the motor or signaling mechanism C' located upon the moving object it can be operated as desired during the time that the collector sleeve a' or any projecting portion of the moving object is in contact with the depending conductor B. Thus it will be seen that so long as the depending conductor is in circuit with the moving object, or is placed in an active circuit through any means carried by the moving object, signals, &c., may be transmitted either from the vehicle or to it, as may be desired.

I would, at this point, note that I do not limit myself to the number of locations or points contiguous to any path which the vehicle might traverse, where I locate my arrangement of conductors so as to enable me to carry on communications to or from such vehicle while it is stationary or in a moving condition. Nor do I limit myself to the specific means employed in the arrangement in the conductors which enable me to carry out these features; neither to the length of the supplemental conductor B, referred to as a depending conductor and shown as such in the figures of the drawings.

It is obvious that instead of using a ground return to the circuit connections through the object C which is capable of being moved, I could with equal facility arrange my circuit connections entirely independent of such vehicle and adapt arrangements and devices upon such vehicle which would control my circuit connections equally well.

It is also apparent that I could dispense with the trolley-wire shown in the drawings, and carry my source of current upon the moving vehicle, or retain the same at pre-determined locations separate from such vehicle.

The depending conductor B has its ends slightly beveled as shown in Fig. 1, so that the collector sleeve a' will readily pass along the same without liability to injure the collector and conductor. This depending conductor may ride in contact with the sleeve a' in any suitable manner by gravity or otherwise. From the sleeve a' on the collector a wire leads to the circuit controller D or the magnetic devices C as desired. (See Figs. 4 and 5.) It is immaterial whether I first lead my circuit connections so as to bring the current over the depending conductor B from the trolley-wire A, then to sleeve a' and wire to controller or magnetic devices and then to ground through the movable vehicle, or make them as shown.

What I claim is—

1. A trolley or current supply wire, parallel conductors and insulated supports therefor, pivoted connections between such supports and the conductors, and a current collector engaging the trolley wire; the said conductors being free to move across the path of travel of the collector, substantially as set forth.

2. A trolley wire, a parallel pivoted conductor and a depending portion thereof extending below such wire, the same being free to swing across the vertical plane of the trolley wire without engagement therewith, substantially as set forth.

3. A supplemental conductor depending beneath a trolley wire, pivoted fastenings therefor, and beveled portions at the ends of the said conductor, and a current collector engaging the trolley wire; said beveled ends facilitating the easy engagement of the collector with the supplemental conductor, substantially as set forth.

4. A trolley wire, a current collector projecting against the same from a car, a supplemental conductor insulated from the trolley wire, pivoted hangers therefor, and an insulated sleeve or contact upon the current collector against which the supplemental conductor slides, and electro-magnetic or circuit controlling devices in circuit with the supplemental conductor and the sleeve, substantially as set forth.

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

JOSEPH Y. PORTER.

Witnesses:

N. S. AMSTUTZ,
GEO. H. SCHWAN.