(No Model.)

J. M. HAMMILL.

ELECTRIC TROLLEY RAILWAY.

No. 534,956. Patented Feb. 26, 1895.

FIG. 1.

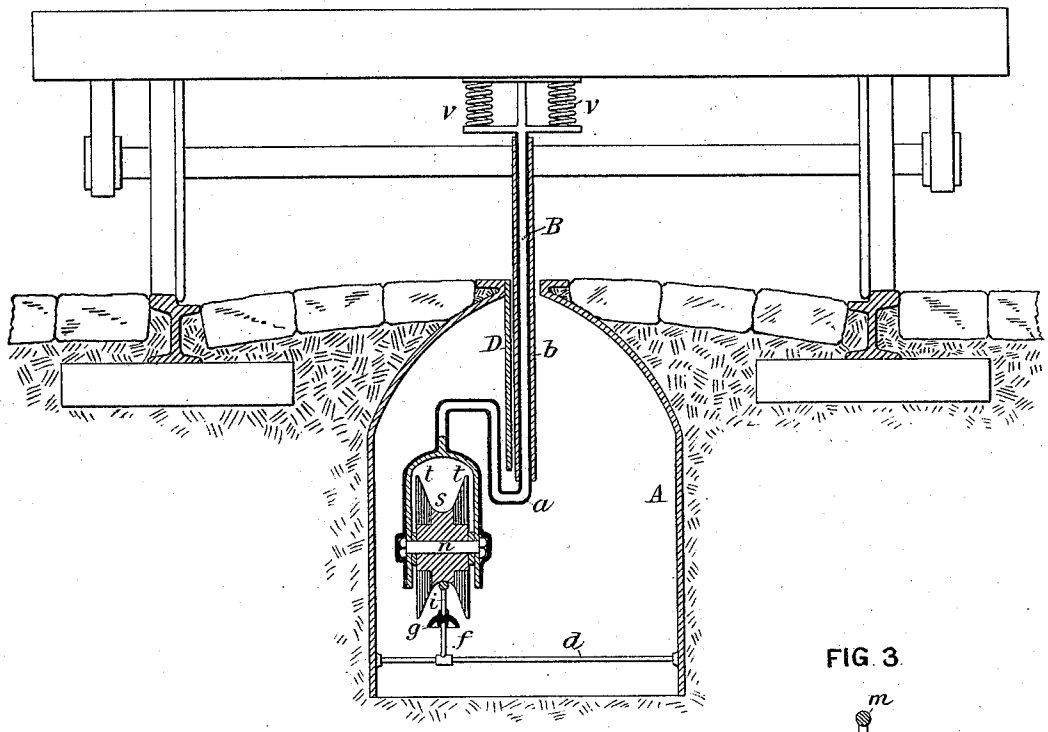


FIG. 2.

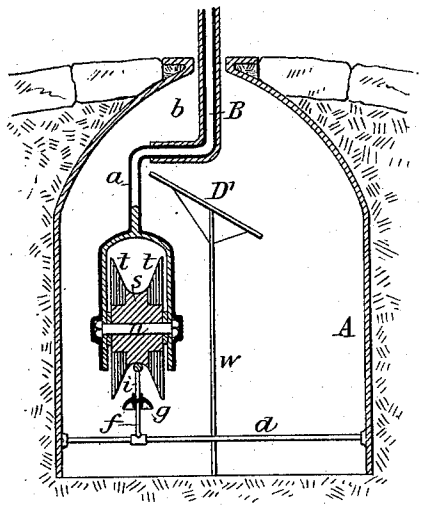


FIG. 3.

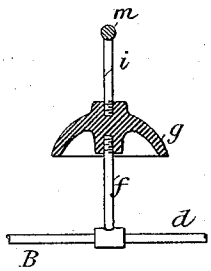
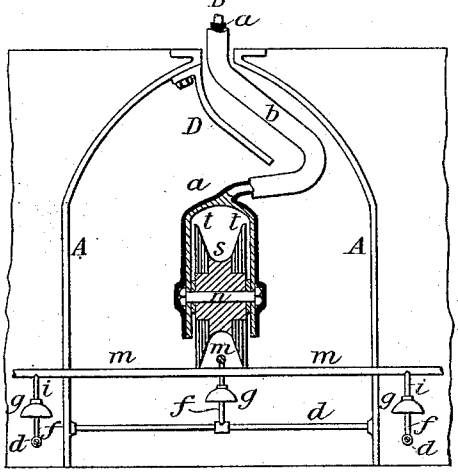


FIG. 4.



WITNESSES

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ELECTRIC TROLLEY RAILWAY.

SPECIFICATION forming part of Letters Patent No. 534,956, dated February 26, 1895.

Application filed January 23, 1894. Serial No. 497,788. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA M. HAMMILL, a citizen of the United States, and a resident of Aldan, Delaware county, Pennsylvania, have invented certain Improvements in Conduit Electric Railways, of which the following is a specification.

One object of my invention is to prevent contact of the conducting portion of a trolley with a crossing line, a further object being to so mount the trolley wire in an underground conduit that the latter may be constructed without any casing at the bottom, the trolley wire being so supported as to be effectively insulated from the sides of the conduit. These objects I attain in the manner hereinafter set forth reference being had to the accompanying drawings, in which—

Figure 1, is a section of part of the road bed of an electric railway with underground conduit, trolley wire and trolley constructed in accordance with my invention. Fig. 2, is a sectional view illustrating a slight modification. Fig. 3, is an enlarged sectional view illustrating the method of supporting the trolley wire; and Fig. 4, is a diagram illustrating another modification and showing, also, the construction adopted at the point where one trolley wire crosses another.

In Fig. 1, A represents the conduit of suitable form and dimensions having at the top a contracted slot for the passage of the conducting rod or arm B of the car, this rod being provided with a suitable insulating covering *a*, and that portion of the rod which passes through the slot being also provided with an outer covering *b* which serves to sheath or armor the insulating covering and prevent abrasion or cutting away of the same by contact with the edges of the slot.

The conduit A is without any casing at the bottom, but strung across the conduit at suitable intervals are rods or wires *d* upon which are mounted posts *f* carrying insulating blocks *g* and upon the latter are mounted posts *i* which carry the trolley wire *m* so that while said wire is properly supported it is effectively insulated from the walls of the conduit.

The conducting rod B is forked at the lower end and carries the spindle *n* of the trolley, the latter consisting of a central conducting portion *s* for contact with the trolley wire and opposite non-conducting flanges *t* which, by contact with a crossing wire, will serve to prevent contact of the conducting portion of the trolley with said crossing wire, the arrangement of the wires being illustrated in Fig. 4.

From one side of the slot of the conduit depends a plate D which serves to prevent access to the trolley wire by means of a rod or wire introduced through the slot so that mischievous persons are prevented from incurring injury by this means.

The upper end of the conducting rod or arm B is preferably acted upon by springs *v* on the car, which tend to depress the said rod or arm so as to keep the trolley constantly in contact with the conductor, and the lower end of the said conducting rod or arm B is suitably bent in order to pass around the lower end of the plate D.

In Fig. 2 I have illustrated a modified form of guard for the trolley wire, said guard consisting of a plate D′ mounted upon posts *w* arranged at suitable intervals throughout the length of the conduit, the conducting rod or arm being suitably bent so as to avoid contact with the guard plate.

By constructing the conduit A without a bottom casing the expense of the same is lessened and the accumulation of water within the conduit is prevented.

Having thus described my invention, I claim and desire to secure by Letters Patent—

The combination of the slotted conduit and the conductor located therein, the shield interposed between the slot and the conductor, the trolley wheel having insulating flanges, the trolley arm bent around the shield, and having throughout an external insulating coating or covering and an outer casing surrounding that portion of the insulated trolley arm which passes through the slot of the conduit, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSHUA M. HAMMILL.

Witnesses:
FRANK BECHTOLD,
JOSEPH H. KLEIN.