(No Model.)

H. H. FRANKLIN.

ELECTRIC RAILWAY CONDUIT.

No. 506,993. Patented Oct. 17, 1893.

Fig. 1

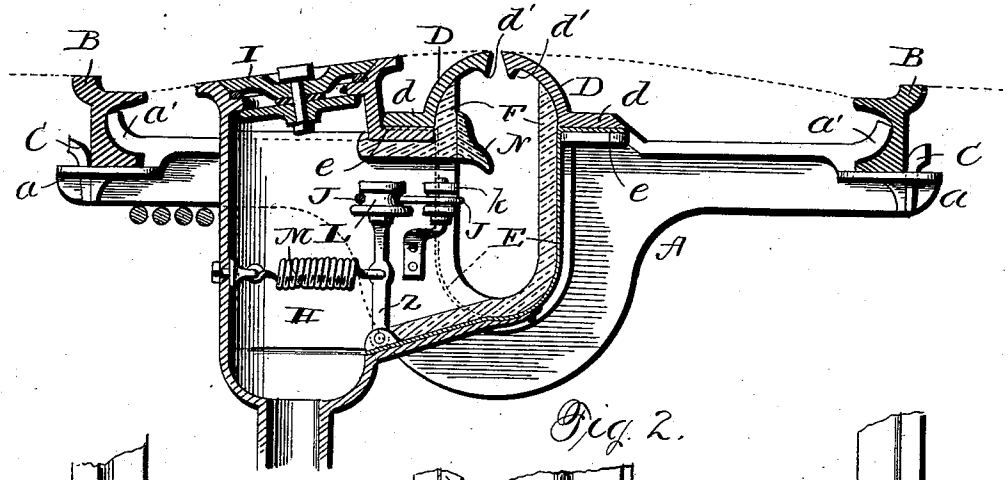
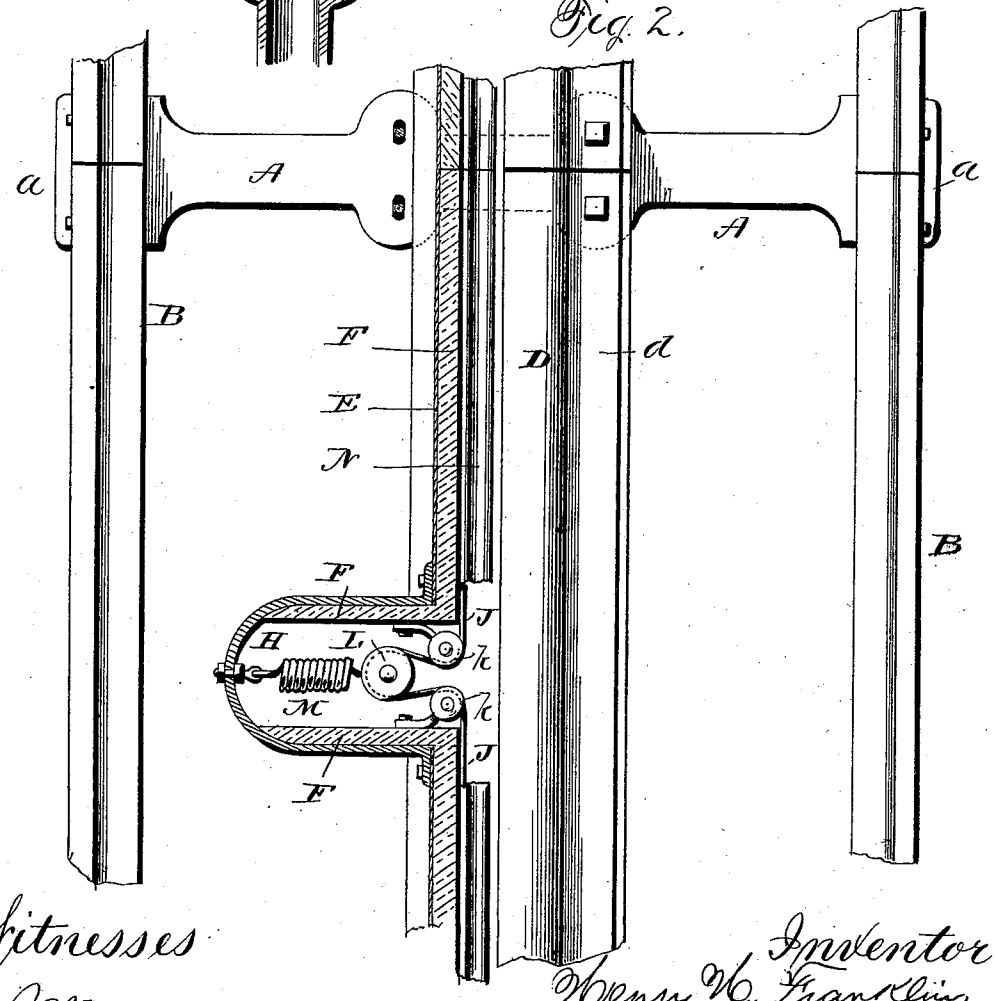


Fig. 2.



Witnesses
C. J. Williamson.
E. S. Trill.

Inventor
Henry H. Franklin,
by Franklin & Hough
his atty.

UNITED STATES PATENT OFFICE.

HENRY HARVEY FRANKLIN, OF BROOKLYN, NEW YORK.

ELECTRIC-RAILWAY CONDUIT.

SPECIFICATION forming part of Letters Patent No. 506,993, dated October 17, 1893.

Application filed July 13, 1893. Serial No. 480,388. (No model.)

To all whom it may concern:

Be it known that I, HENRY HARVEY FRANKLIN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electrical Conduits; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to underground conduits for electric railways, and has for its object the provision of a slotted or open conduit whose original construction shall be easy, to which access for repairs or other purposes can be readily had, and which will insure the perfect insulation of the conductor electrically and keep it free from moisture. These and other objects to appear, are obtained by the construction and arrangement of parts hereinafter specified and shown in the drawings in which—

Figure 1 is a cross section of an electric road, constructed in accordance with my invention; Fig. 2, a plan view thereof with parts removed.

In the construction of a railroad embodying my invention I employ cast iron frames or yokes A, to tie and support the track rails B, B and the conduit, said yokes comprising each a central U-shaped portion for the conduit and substantially horizontal extensions from the upper end of each side of the U to whose outer ends *a* the rails are attached. Said outer ends have seats for the rails and to secure the latter to the seats they have curved upturned lips *a'* which engage a flange on the inner face of the rails and co-operate with keys or wedges C that pass through openings in the ends *a* and engage the outer sides of the rails. The slot rails D, D are bolted by horizontal flanges *d* to the yoke on each side of the U-shaped portion thereof, and from said flanges arch inwardly toward each other so as to cover or house the upper end of the U excepting the narrow slot space.

The conduit consists of a U-shaped sheet iron or other metal shell E that is placed in the yokes and bolted thereto between the same and the rail flanges *d* by means of horizontal flanges *e*, and a U-shaped lining F made of insulating or non-conducting material. The lining F can be molded or formed in the shell after the latter is put in place, or if preferred it can be previously made in lengths or sections and then placed in the shell. I prefer to carry the upper ends of the lining above the joint between the rails D, D and the shell flanges *f*, *f*, so as to cover said joints, but of course the space between the sides of the lining is much greater than the width of the slot.

At intervals, the conduit opens laterally into vertical chambers or pits H at one side of the conduit, between it and the track rail B on one side, said holes are lined by a metal shell, and have their open upper ends closed by a removable water-tight cover I, and at their lower ends connect with a sewer for the discharge thereto of water finding its way to the conduit. The insulating lining F is preferably carried out into the openings H on two sides as shown. The supports for the conducting wire J are placed only in the holes or pits H, and consist of two pulleys *k*, *k* mounted each on a fixed bracket secured to the sides of the pit directly opposite each other, and a third pulley L disposed between the others and journaled on the upper end of a pivoted arm *z* that is pulled in a direction from the conduit by a coiled spring M, that has one end fixed to the arm and the other to the side of the pit. The pulleys lie in the same horizontal plane at about the vertical center of the conduit, and operate to hold the conductor J tightly in place against the side of the insulating lining F, said conductor being passed through the slot into the conduit, is drawn up by means of a hook, between the pulleys *k*, *k*, and is passed over the pulley L. The pulleys are grooved and constitute the sole support of the conductor, and thus enable the placing and removal of the conductor to be most easily done. To do the former it is simply dropped through the slot and then run over the pulleys as described. The pulleys are preferably made of insulating material. The employment of the movable pulley I is to provide for variations in the length of the wire due to changes in the temperature, said pulley allowing shortening

and taking up slack, when lengthening occurs automatically. Immediately above the wire J is placed a guard or shield N, of non-conducting material which protects the same from objects passed through the slot, as well as protecting those persons foolhardy or ignorant enough to try to reach it, while to prevent passage of water down the sides of the conduit, and thus perfectly prevent the access of moisture to the conductor, I provide a rib or lip d' on the under side of the slot forming edge of each rail D. Water passing down such edge will drip off the ribs d' and fall to the center of the conduit, not of course being able to pass to the sides of the latter, as the ribs lie in lower planes than the immediately adjacent portion of the conduit.

What I claim to be new in my invention, and desire to secure by Letters Patent, is—

1. In an electric conduit, the yokes and flanged slot rails, the shell having flanges between those of said rails and the yokes, and an insulating lining for the shell, substantially as shown and described.

2. An electric conduit having an insulating lining, openings or pits communicating with it at its side, a conductor, and supports for the latter only in the openings that hold it against the insulated conduit side, substantially as shown and described.

3. In an electric conduit having an insulating lining, openings or pits communicating with it at its side, a conductor, and movable supports in said openings that hold the conductor against the insulated conduit, substantially as shown and described.

4. As an improvement in electric conduits a conductor the two fixed pulleys and yielding movable pulley, substantially as shown and described.

5. In a support for electric conduit conductors, the two fixed pulleys, the movable pulley mounted on a pivoted arm, and the spring to draw the latter from the former, substantially as shown and described.

6. An electric conduit having an insulating lining, openings or pits communicating with it at its side a conductor carried along and against the side of the conduit, the fixed pulleys in said holes around which the conductor is passed, the movable pulley between the others around which said conductor is passed, the pivoted arm carrying said pulley, and the spring connected to said arm and a relatively fixed point, substantially as shown and described.

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

HENRY HARVEY FRANKLIN.

Witnesses:
ERNST HANSON,
JOHN Z. LOTT.