No. 713,822. Patented Nov. 18, 1902.

E. P. WETMORE.

ELECTRIC RAILWAY.

(Application filed Nov. 30, 1901.)

(No Model.)

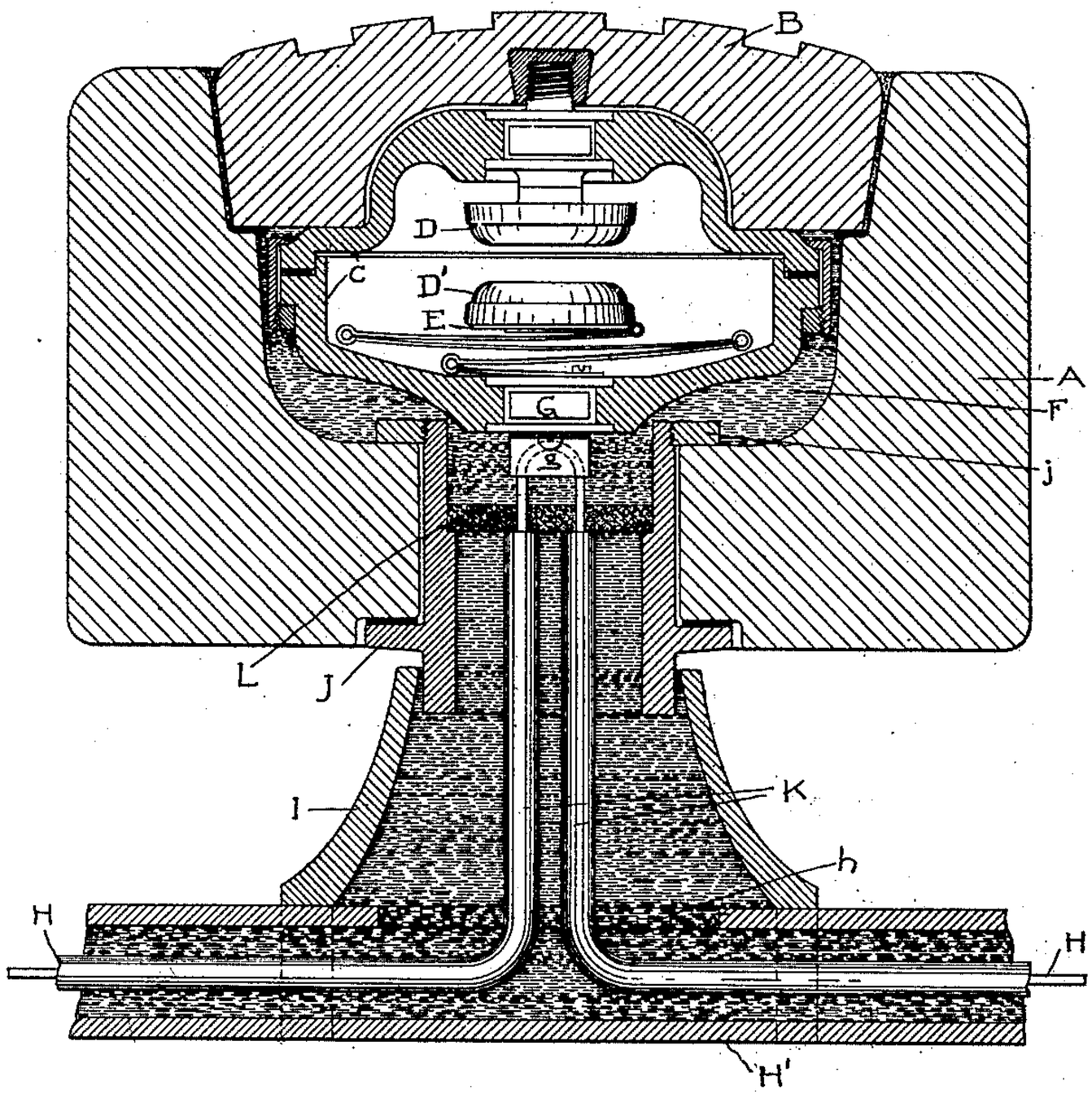

Fig 1

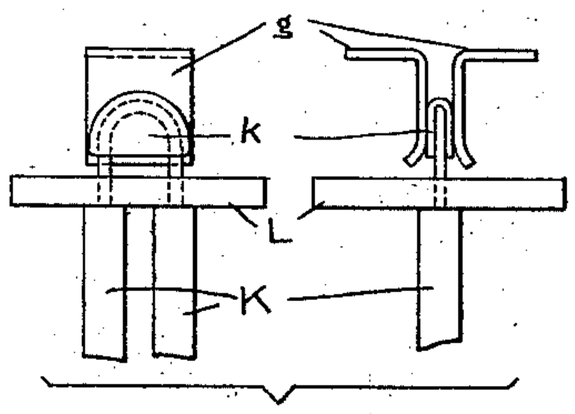

Fig 2

WITNESSES:

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INVENTOR

E. P. Wetmore,

BY

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UNITED STATES PATENT OFFICE.

EARL PORTER WETMORE, OF LONDON, ENGLAND, ASSIGNOR TO THE LORAIN STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 713,822, dated November 18, 1902.

Application filed November 30, 1901. Serial No. 84,215. (No model.)

To all whom it may concern:

Be it known that I, EARL PORTER WETMORE, of London, England, have invented a new and useful Improvement in Electric Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to electric railways of the type shown in the patent to W. M. Brown, No. 558,151, of April 14, 1896, and more particularly to the contact-boxes employed therewith.

The object of the invention is to provide means of a novel, simple, and efficient character for effecting the electrical connection between the supply cable or feeder of the system and one of the inclosed contacts or electrodes of the contact-box, whereby a number of said boxes may be readily connected in series on a single cable or feeder without breaking the continuity of the latter; also, to provide means of this character which will permit the said connection to be easily and quickly attached and detached for the purpose of inspection or repair of the parts.

With this object in view my invention consists in the novel construction, arrangement, and combination of parts, all as hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of a contact-box embodying my invention; and Fig. 2 is a detail view showing in side and end elevation the means employed for effecting the connection with the supply cable or feeder, the parts being shown as slightly separated for the sake of greater clearness.

The contact-box shown in the drawings is in general of the character and construction described and claimed in the patent to G. H. McFeaters, No. 618,179, of January 24, 1899, to which reference may be had; but the particular improvement hereinafter described and claimed is clearly applicable to boxes having a different construction and arrangement of the contacts or electrodes and other details.

The letter A designates the insulating-body of the box; B is a compound metal cover; C, the two-part bell or vessel which incloses the contacts or electrodes D and D′, the latter of which is carried by a movable armature E, and F is a liquid or semiliquid insulating material, these parts being all substantially as in the said Patent No. 618,179.

G is a conductor electrically connected to the armature E and extending through the bottom of the bell or vessel C, terminating at its lower end in a split spring-clip *g*.

H designates the supply cable or feeder, which consists of a covered conductor inclosed in a suitable conduit or pipe H′. At the contact-boxes a hollow coupling I is secured to the conduit H′ and embraces at its upper end a flanged sleeve J, which extends up into the cavity of the contact-box and is removably secured at its upper end by means of a threaded nut *j*. At each of the boxes a loop K is formed in the supply cable or feeder, and this loop is carried up through a slot *h* in the wall of the conduit H′ and through the coupling I and sleeve J. At the apex of the loop the insulating-covering is removed from the cable, leaving the conductor bared, this bared portion being of U shape and adapted to receive the split spring-clip *g*, above described, in the manner shown in Fig. 1 of the drawings. For the purpose of giving a greater contact area between the said clip and the bared conductor the loop may be provided with a piece *k*, of copper or other conducting material, soldered or otherwise secured thereto, as shown in Fig. 2. For the purpose of holding the loop of the cable in proper position within the sleeve J a block L, of insulating material, is seated on a longitudinal shoulder of the sleeve in the manner shown.

It will be readily seen that by means of the construction above described a number of boxes may be connected in series on the supply cable or feeder without cutting or breaking its continuity and that, furthermore, such connection is made in a manner to permit the bell or vessel C of the boxes to be readily disconnected without disturbing the cable, as the said bell or vessel can be removed by simply lifting it out of engagement with the bared portion of the cable. It will also be noted that the parts forming the connection, as well as the entire looped and bared portion

of the cable, are surrounded by insulating material, thus preventing all danger of leakage and short-circuiting.

I do not wish to limit myself to the precise construction, arrangement, and combination of parts which I have herein shown and described, as changes may be made in the details thereof without departing from the spirit and scope of my invention.

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

1. In a contact-box for electric railways, the combination with the box and its contact devices or electrodes, and a supply cable or feeder having an unbroken loop extending within the box, of a conducting member electrically connected with one of the electrodes of the box and making a conductive engagement with the said loop.

2. In a contact-box for electric railways, the combination with the box and its inclosed contact devices or electrodes, of a supply cable or feeder having a U-shaped loop extending within the box and the conductor thereof bared at the upper portion of said loop, of a contact device electrically connected with one of the electrodes and detachably engaging the bared portion of said loop.

3. In a contact-box for electric railways, the combination with the box and its inclosed contact devices, of a supply cable or feeder having an unbroken loop extending from the cable-conduit within the said box, and having its conductor bared at the end portion of said loop, and a spring-clip electrically connected to one of the electrodes and detachably engaging the bared conductor.

4. In a contact-box for electric railways, the combination with the box, the bell or vessel inclosed therein, and the electrodes inclosed in said bell or vessel, of a supply cable or feeder having an unbroken loop extending into the box, and a conducting device electrically connected to one of the electrodes and electrically engaging the said loop.

5. In a contact-box for electric railways, the combination with the box, the bell or vessel inclosed therein and containing the circuit making and breaking devices, and a conducting-piece projecting externally of said vessel, of a supply cable or feeder having a loop extending into the said box and engaged by said conducting-piece, and a body of insulating material surrounding the said loop and conducting-piece.

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

EARL PORTER WETMORE.

Witnesses:

THOMAS LELLY WARDE,

GEORGE ISAAC BRIDGES.