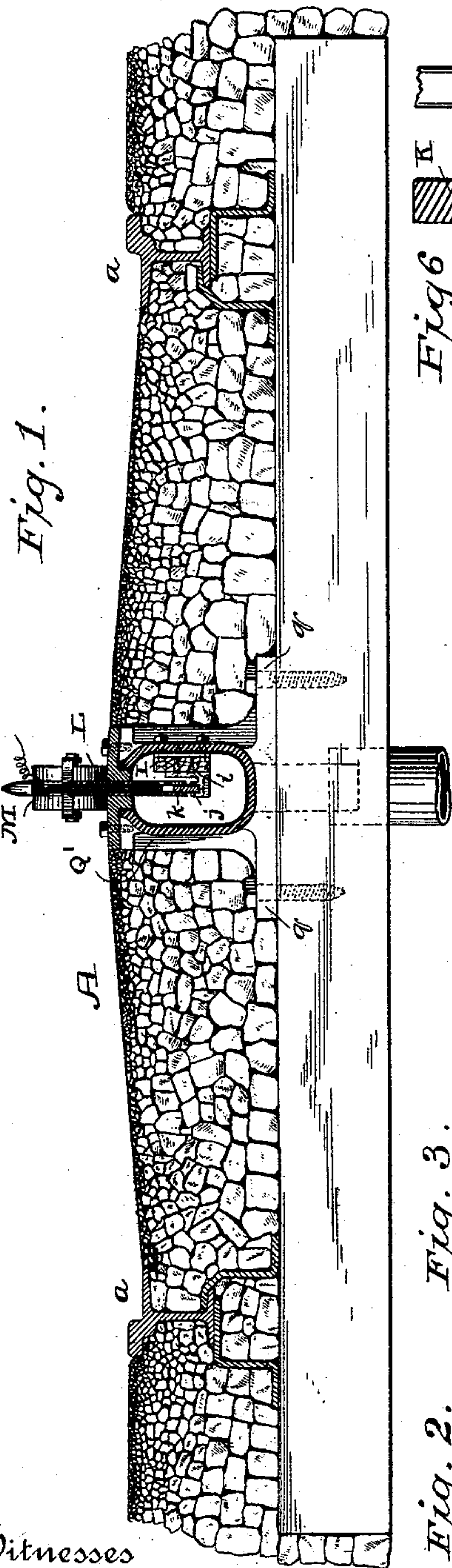


(No Model.)

C. J. VAN DEPOELE.
SLOTTED CONDUIT FOR ELECTRIC CONDUCTORS.

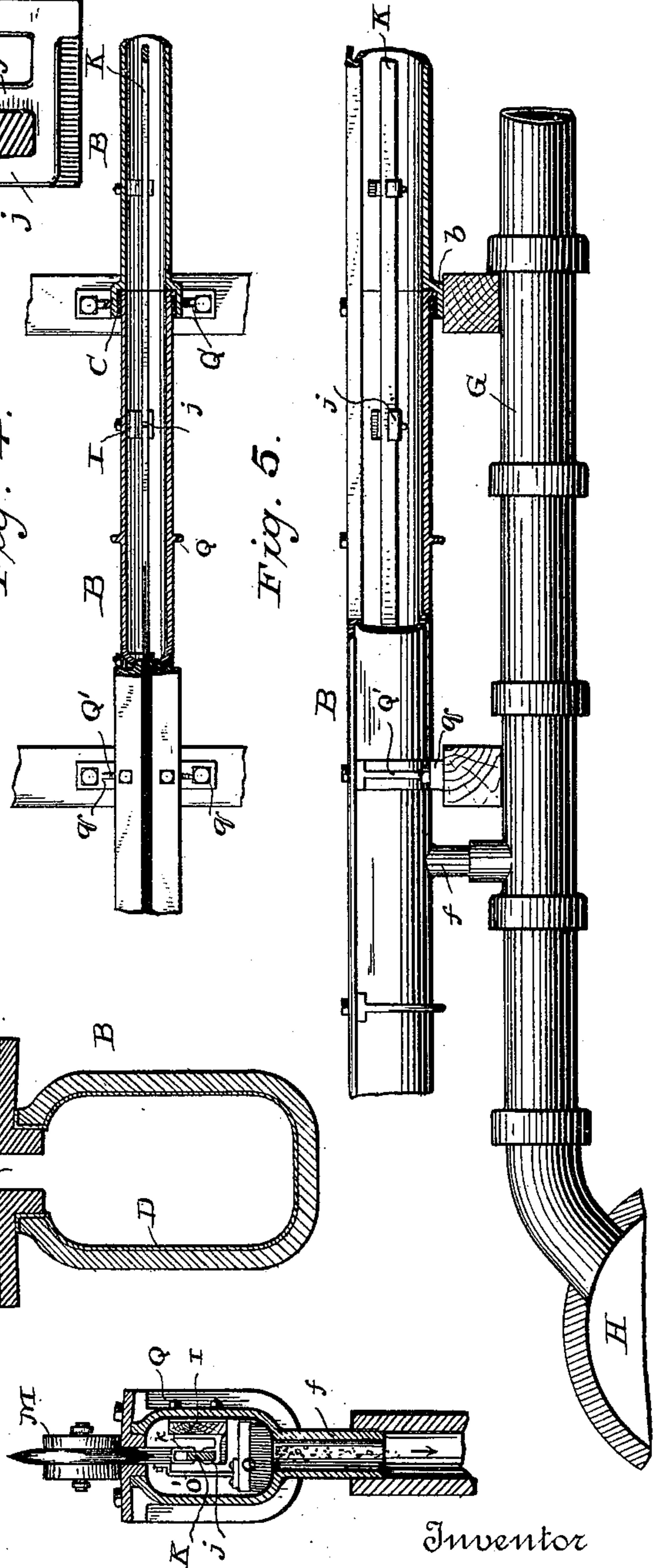
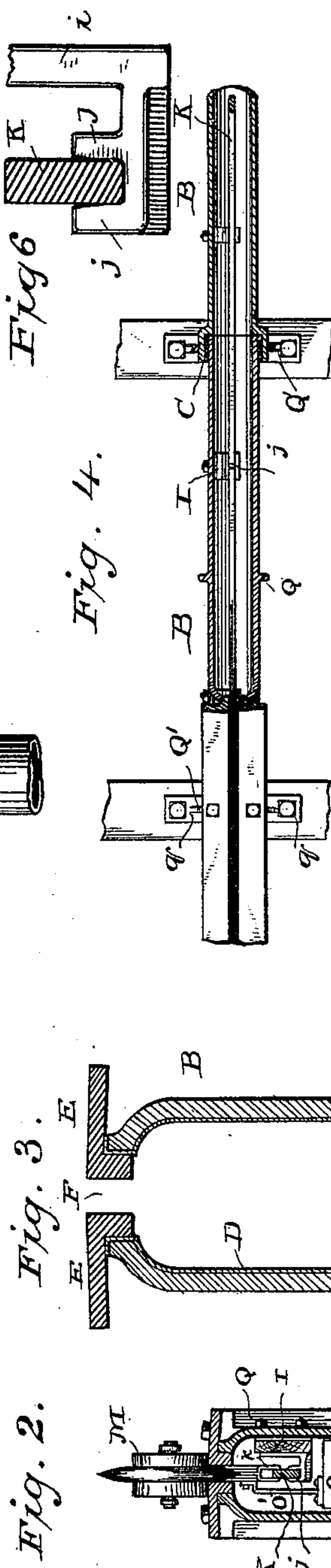
No. 403,800.

Patented May 21 1889.



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

CHARLES J. VAN DEPOELE, OF CHICAGO, ILLINOIS.

SLOTTED CONDUIT FOR ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 403,800, dated May 21, 1889.

Application filed June 6, 1888. Serial No. 276,258. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. VAN DEPOELE, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Slotted Conduits for Electric Conductors, (No. 5,) of which the following is a description.

My invention relates to an improved system of conductors for supplying current to traveling motors—such, for example, as are employed in connection with electric railways.

The invention comprises a specially-constructed tube or conduit, within which the main supply-conductor is carried along the line of the railway, and means for insulating said conductor from its support within the conduit-tube and for establishing and maintaining a continuous contact therewith.

The invention further includes devices for clearing the tube from extraneous matter, such as would ordinarily find its way thereinto.

Various other features of invention will be hereinafter fully set forth, and referred to in the appended claims.

In the drawings illustrating my invention, Figure 1 is a transverse sectional elevation showing a railway and a conduit structure embodying my invention and located midway between the rails. Fig. 2 is a transverse sectional view of a portion of the conduit, showing also portions of the traveling contact device and the conduit-clearing brush attached thereto. Fig. 3 is a transverse sectional detail showing the walls of the conduit-tube, the capping-plates, and the interior insulation. Fig. 4 is a top plan view of the conduit, portions thereof being broken away to show the interior construction. Fig. 5 is a view in elevation, showing a portion of the conduit structure with one side broken away to show the interior thereof, also one of the drainage-outlets and a special sewer-connection for receiving and carrying off the débris from the conduit. Fig. 6 is a detail view of one of the conductor-supports.

Similar letters denote like parts throughout.

As illustrated in the drawings, A indicates the roadway, and *a a* the rails between which is located the conduit structure. The con-

duit proper is composed of united sections of strong metallic pipe B, provided at their extremities with the well-known slip-joints *b*, into each of which the extremity of the succeeding section is placed, the joint being closed and made waterproof by any suitable packing, C.

As herein shown, the tubes B are substantially oblong in cross-section, the corners being smoothed off or rounded. A wide-open slot is formed along the upper side of the tubes. The sections B are formed in lengths of, preferably, sixteen feet each, although, of course, they may be made in longer or shorter pieces to secure the cheapest construction. The sections B are formed of cast-iron or other cheap durable metal, and are interiorly provided with a thick strong lining, D, of insulating material. The lining D may consist of canvas or other stout fabric coated inside and out with tar or bitumen or a mixture of those or similar water-proof insulating substances, which will cause it to adhere closely to the iron shell B, and also to present a smooth water-proof surface on the interior of the conduit.

The lining D may be placed in position in the sections B before they are assembled, or may be applied in any convenient lengths after the sections are secured in position. A simple manner of introducing the lining is to suspend the coated fabric in the tube previously coated with similar material and then expand and press it closely against the walls thereof by means of a piston preferably possessing some elasticity and conforming to the interior section of the conduit, said piston being drawn through the conduit on the inside of the lining, expanding the same into contact with the interior walls thereof.

Surface or capping plates E rest upon and protect the edges of the opening in the conduit-tube. The capping-plates may be L-shaped in cross-section, and when so formed their depending edges are inserted in the opening in the conduit-tube. The thickness of the capping-plates and the width of the opening in the sections B is so proportioned that when assembled, as indicated in the drawings, there will be a continuous slot or opening, F, between the inner surfaces of the

capping-plates E of, say, five-eighths of an inch in width for the passage of the traveling contact.

At convenient distances—for example, every ten or twenty feet—the conduit is provided with outlet-tubes *f*, which tubes extend into or make connection with a drain or sewer, G, preferably placed alongside or below the conduit when the same is erected, and arranged to communicate at desirable points with a receiving sewer, drain, or other convenient outlet, H.

It will be entirely obvious that where a convenient system of sewers already exists no special sewer G will be necessary; but where that is not the case I provide my conduit with a special structure, G, in order to prevent any interference with the proper working of the conduit by storm, water, or other débris.

To one side of the conduit and at convenient distances apart are secured supports I, which may be of wood, papier-maché, or other insulating substance. The supports I are securely bolted or otherwise attached to the side wall of the conduit, and are provided with brackets *i*, extending from their inner sides to the central line of the conduit. The brackets *i* are formed or provided with metallic chairs or clamps *j*, between which a bar of conducting metal may be forcibly inserted and securely supported in a central position with respect to the interior of the conduit and vertically below the slot F.

The metallic clamps, being placed at proper distances apart, serve also to electrically connect the pieces forming the main conductor, the ends of consecutive sections thereof being united by their common support. The several sections composing the conductor are inserted through the slot, and can be readily removed or replaced at any time.

A traveling contact device, L, extends downward through the slot F in the form of an arm or rib, and is provided at its lower extremity with a pair of elastic fingers or brushes, *k*, resting or pressing against the sides of the conductor K. The traveling contact is supported upon suitable carrying-wheels, M, moving upon the capping-plates and formed with a flange or projection, *m*, engaging the slot F to keep the carrying-wheels in place.

A traveling contact-truck (here only partly shown and referred to by way of illustration) is fully shown, described, and claimed in a separate contemporaneous application for Letters Patent filed by me June 6, 1888, Serial No. 276,256.

The tubular sections B are formed with any desired number of strengthening-ribs Q, which may be cast integral therewith. At the joints additional ribs, Q', are formed or attached, said ribs being extended laterally to form feet *q q*, which are placed upon and are supported by the cross-ties. The ribs Q Q' may be omitted, leaving only the feet *q q*, in which event the entire walls of the sections will re-

quire to be much thicker and stronger in order to safely carry the loads liable at any time to be hauled across or upon the conduit structure.

A novel feature of my invention consists in providing the traveling contact, of whatever form, with a brush or scraper, O, secured thereto by suitable arm, O', attached to and insulated from any convenient portion of the contact-truck. The brush O is of convenient size and adapted to move along the lower portion of the conduit, preferably below the conductor and its supports, and serves to collect débris and extraneous matter entering through the slot and to sweep or push it to the outlets *f*, through which it will drop into the drain G. Brushes or scrapers O, as described, may be attached to all the contact-trucks passing along the conduit, if found desirable; but ordinarily the passage of a brush through the conduit four or five times each day will be found sufficient. The brushes or scrapers being readily attachable and detachable, the number in use can be readily increased in muddy or slushy weather. After the passage of a brush through the conduit a quantity of water should be delivered into the drain G, sufficient to pass therethrough and carry off the accumulations deposited therein from the conduit.

It will be obvious that the conduit-clearing brush or scraper can be carried on a separate carriage; also, that it may be attached directly to some part of the moving vehicle with good results.

It will be apparent that the usefulness of the sweeping-brush attachment described is not restricted to the particular form of conduit herein shown, but is equally applicable and will be applied to any form of conduit having an unobstructed space for its passage.

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

1. A metallic conduit for electric conductors, having a continuous interior lining of insulating material and a conductor and independent supports therefor within the conduit, substantially as described.

2. A conduit for electric conductors, comprising slotted metallic sections provided with a lining of fibrous material, impregnated with and secured to the inner walls of the said conduit by a plastic insulating compound.

3. A metallic conduit for electric conductors, having a continuous interior lining of insulating material, provided with outlets at suitable distances, and connections between said outlets, and a continuous drain independent of the conduit structure and extending along the line of the conduit, substantially as described.

4. The combination of a conduit inclosing an electric supply conductor or conductors, and formed with outlets therefrom, connections between said outlets and a drain-pipe independent of the conduit structure and extending continuously along the conduit, and

connections between the drain-pipe and a suitable main sewer, substantially as described.

5 5. A conduit for electric conductors, comprising slotted metallic sections continuously united by suitable joints, a lining of insulating material applied to the inner walls thereof, and independent insulating conductor supports secured within the lining, substantially as described.

10 6. A conduit for electric conductors, comprising slotted metallic sections continuously united by suitable joints, a lining of insulating material within said conduit, metallic capping-plates resting upon the upper edges
15 of the conduit and separated to form a continuous open slot, and independent insulat-

ing conductor supports secured within the lining, substantially as described.

7. A conduit for electric conductors, comprising a tubular body, insulated supports 20 secured to the walls thereof and provided with metallic clamping fingers or jaws, and a conductor composed of sections the parts whereof are supported between and their ends electrically connected by the clamping-fingers. 25

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

CHARLES J. VAN DEPOELE.

Witnesses:

W. A. STILES,
JOHN EASON.