(No Model.)

# P. PLODECK, Sr.

## CLOSED CONDUIT FOR ELECTRIC RAILWAYS.

No. 520,938. Patented June 5, 1894.

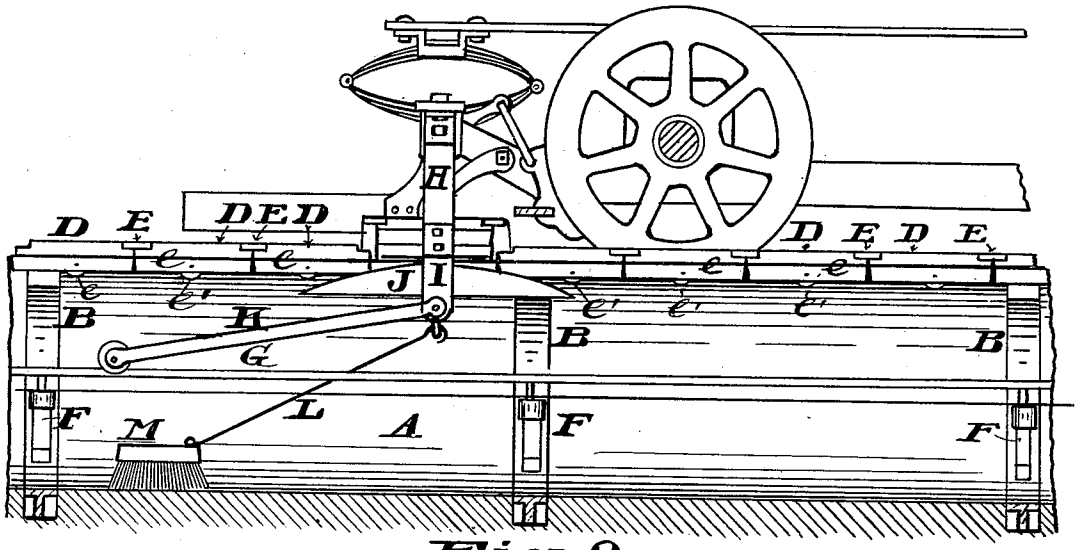


Fig. 2.

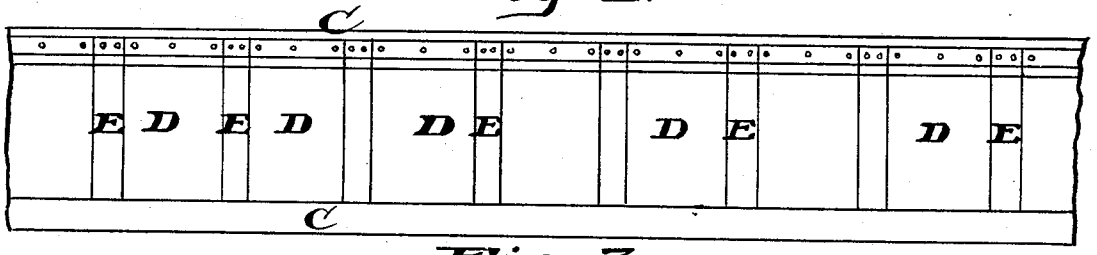


Fig. 3.

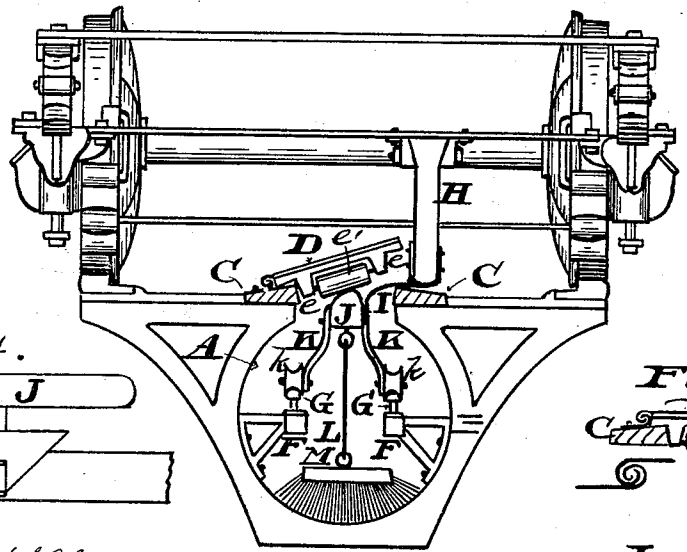


Fig. 1.

Fig. 4.

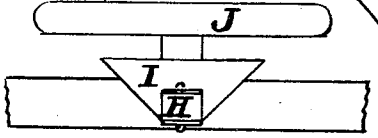


Fig. 5.


Witnesses,

M. E. Norton

T. G. Botsford

Inventor,

Paul Plodeck, Sr.

by Geo. W. Tibbitts atty.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

PAUL PLODECK, SR., OF CLEVELAND, OHIO.

## CLOSED CONDUIT FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 520,938, dated June 5, 1894.

Application filed February 21, 1894. Serial No. 501,006. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL PLODECK, Sr., a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Closed Conduits for Electric Street-Railways, of which the following is a specification.

This invention relates to electric street railways, and consists of an underground conduit for the electric conductors and the trolley arms, said conduit covered by a row of lids which are lifted by the passing trolley arm connected to the truck of a car.

The object of my invention is to provide a means of completely closing the conduit, leaving no slot or open space in the roadway, and completely covering up and inclosing the electric trolley and conductor mechanism.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a cross-section of a conduit containing the trolley and electric conductor mechanism, and the lids covering the conduit, showing also an end view of a car truck having a hanger connecting with and carrying the trolley and the manner of operating the lids or covers. Fig. 2 is a longitudinal section of the same. Fig. 3 is a top or plan view showing the appearance of the lids in the roadway. Fig. 4 is a top view of the hanger and trolley carrier. Fig. 5 is a cross-section of the opening into conduit with a lid or cover closing the same.

A represents a conduit and B are yokes placed at suitable intervals in the conduit, which support the interior mechanism. In the top of the conduit and the yokes is made a longitudinal slot or opening, which may be from four to eight inches in width as desired. At each side of said opening are provided longitudinal flat bars C, C, supported on the yokes B. D D are lids for covering said slot or opening. These lids are made about square in form and have at the adjoining sides, rabbets, and E E are narrow plates fitted to lie in the rabbets and cover the joints between said lids, thereby completely shutting the opening into the conduit. The lids and plates are hinged independently to the bar C at one side of the opening by a hinge that will permit the lids to be turned upward to nearly a vertical position, but not clear over, neither can the lids be removed, except by first drawing the bolts or screws which secure the hinge of one of the lids to the bar, then the next lids may be slipped along to the open space made bp the removal of the one lid, as these are slip hinges without a pintle. The under sides of the lids have ribs *e*, *e*, between which are provided anti-friction rollers *e'*.

F are brackets provided at suitable intervals in the conduit to which are attached bars, suitably insulated, which carry or support the electric conductors G, G, two of which are provided, one being for the return circuit. A suitable electric feed wire may also be contained within this conduit.

H is a hanger detachably fixed to the rear cross bar of the car-truck, to the lower end of which is attached an arm I made of thin metal, and tri-angular in shape as seen in Fig. 4, the object of which is to provide diagonal sides on the arm I, which moves along over the bar C in close proximity thereto, and would push outwardly any stone, dirt or other loose obstruction that might lie near the moving edges of the lids, and clear the way and prevent any such obstacles getting in the way of the close shutting down of the lids after the lifter had passed.

J is the lid lifter consisting of a bar attached at its middle part to the depending arm I. It has a curved or arched top surface, capable of gradually lifting the lids D by the roller *e'* of the lids rolling on the said arched surface, and allowing the arm I to pass along under the raised edges of said lids. The arched bar will lift the lids running in either direction.

K K are trolley levers pivotally attached to each side of the bar J, and extend to the rear, having trolley wheels *k*, *k*, running on the conductors G, G. To the under side of the bar J is provided a loop or eye bolt to which may be hooked a rod L for the convenience of dragging a brush M when desired, for sweeping the conduit of dirt that may accumulate in time, and depositing same in pits (not shown), at convenient locations in the bottom of the conduit.

Having described my invention, I claim—

1. In a conduit for underground electric railways the combination with a conduit of hinged lids D, D, E, E, lids D D provided on

their under sides with friction rollers *e'*, covering the slot or opening in the roadway, substantially as described.

2. In a conduit for underground electric railways, the combination with conduit A and the hinged lids D, E, of a hanger H, connected to car truck, arm I, carried on lower end of said hanger, arched bar J attached to arm I, adapted to lift the lids D, E, substantially as and for the purpose set forth.

3. In a conduit for underground electric railways, the combination with conduit A, provided with lids D, E, for covering the opening in the roadway, of a hanger H attached to car-truck, arm I attached to hanger H, arched bar J attached to arm I adapted to lift the lids as described, of trolley levers K, attached to said bar J and arm I and trolley wheels *k*, *k*, adapted to run on the conductors G, G, substantially as described.

PAUL PLODECK, SR.

Witnesses:
GEO. W. TIBBITTS,
M. G. NORTON.