(No Model.)

W. L. JUDSON.

CONDUIT FOR DRIVING MECHANISM OF STREET RAILWAYS.

No. 402,839. Patented May 7, 1889.

Fig. 1.

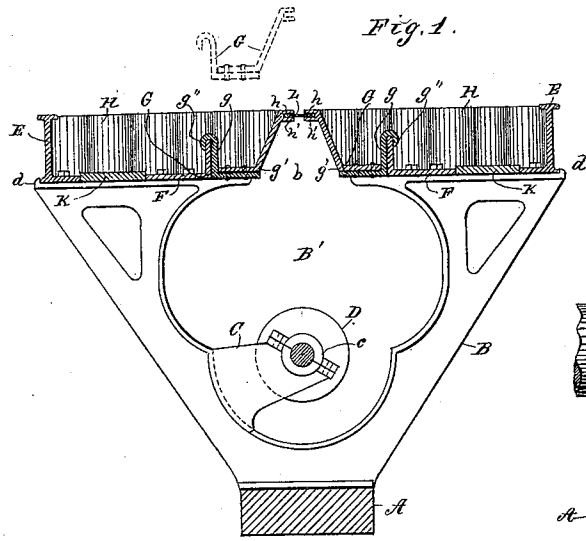


Fig. II.

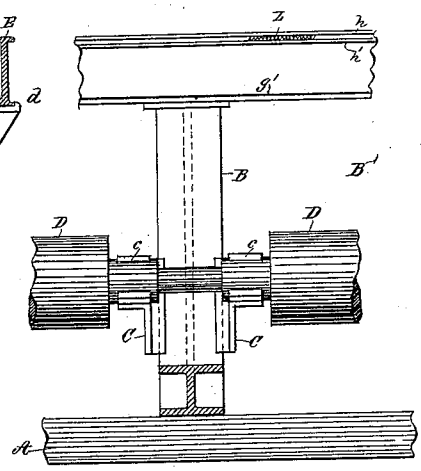


Fig. III.

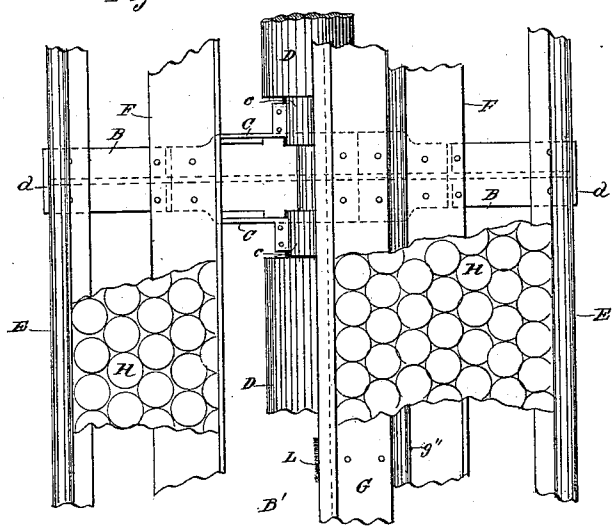


Fig. IV.



Witnesses
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UNITED STATES PATENT OFFICE.

WHITCOMB L. JUDSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE JUDSON PNEUMATIC RAILWAY COMPANY, OF SAME PLACE.

CONDUIT FOR DRIVING MECHANISM OF STREET-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 402,839, dated May 7, 1889.

Application filed November 17, 1888. Serial No. 291,174. (No model.)

To all whom it may concern:

Be it known that I, WHITCOMB L. JUDSON, a citizen of the United States, and a resident of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented a certain new and useful Improvement in Conduits for the Driving Mechanism of Surface Street-Railways, of which the following is a specification, reference being had to the accompanying drawings.

My invention is especially designed for use in connection with the particular system of street-railway propulsion set forth in another application executed by me of date November 10, 1888. The special feature of that system is the use of a continuous revolving driving-drum arranged along the line of the car's travel and a set of friction-wheels on the dependent portion of the car capable of engaging with said driving-drum at an angle to its axis. The rotary motion of the driving-drum is in this way converted into a rectilinear motion on the car. For supporting this driving-drum and giving ready access thereto, I have designed the particular yoke and conduit frame-work herein described. Some features of this conduit, however, are capable of general application to all kinds of conduit roads.

My invention consists in the construction hereinafter fully described, and particularly pointed out in the claims. Its leading feature is a removable combined slot-rail and paving-block trough detachably connected to the supporting-yokes. Another feature of importance is a continuous brush supported from the slot-rails and stretching across the slot for excluding snow and dust from the conduit.

In the drawings, like letters referring to like parts throughout, Figure I is a vertical cross-section. Fig. II is a vertical longitudinal section of the supporting-yokes in the plane of the slot, showing the driving-drum and its bearing in side elevation. Fig. III is a plan of Fig. I with the slot-rail and paving-block trough on one side and part of the road-bed on both sides removed, and Fig. IV is a plan of one section of the slot-brush detached.

A is a sleeper adapted to form the bottom of the conduit and support the yokes.

B are Y-shaped yokes, resting at their junction upon the sleeper A, and provided between their spreading arms with the conduit-space B′.

C are bracket-arms attached to one side of the yokes and projecting into the vertical center of the conduit-space. They are preferably formed integral with the yoke-castings. Each bracket is provided with a bearing, *c*, for the driving-drum D. The top plates of the yokes are cut away above the conduit-space, leaving the slot-space *b*. The arms of the yokes are provided on their outer ends with vertical flanges *d*.

E are track-rails, of the ordinary construction, secured to the outer edges of the yokes.

F are angle-iron girders bolted to the yokes at corresponding points outside the inner ends of the top plates. The vertical flanges of these angle-iron girders serve as a line of support for the combined slot-rail and block-trough G. This slot-trough is formed of a pair of angle-irons, *g* and *g′*, having their base-plates securely bolted together.

The outer angle-iron, *g*, is provided with a downturned flange or hook, *g″*, adapted to engage the upper edges of the vertical plate of the angle-iron F. The inner angle-iron, *g′*, inclines upward and inward, and is provided with lateral flanges *h* and *h′*. The bottom of the trough G rests on the inner ends of the top plates of the yokes, and is held from lateral displacement by the hook *g″*, overhanging the vertical flange of the girders F. This trough G is formed in sections of a length to reach from one yoke to the other. It is therefore readily removable to give access to the interior of the conduit.

H are the paving-blocks, part of which are supported on planks K in the customary manner, part on the base-plate of the girders F, and part in the trough G.

The inner angle-irons, *g′*, of the trough G do not touch each other, but are separated by the proper distance to leave the necessary slot-space.

L is a slot-protecting brush, which is made up of sectional brushes placed within the

space between the flanges h and h' on the inner angle-irons, g'. The filaments of the opposite sections of the brush interlace across the slot-space and serve to exclude snow, dust, and dirt from the conduit.

By attaching the shaft-supports C to one side of the yokes B a clear space is afforded on the other side of the conduit for the passage of a sweeping broom or brush to clear the conduit of snow and dust.

It will be readily understood that other means might be provided for detachably connecting the troughs G to the yokes B. The construction shown, however, is the one which I prefer for the purpose.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In underground power-conduits for surface street-railways, the combination, with supporting-yokes provided with slot-spaces, of girders secured to said yokes on the opposite sides of said slot-spaces and a combined slot-rail and paving-block support detachably connected to said girders, substantially as described.

2. In underground power-conduits for surface street-railways, the combination, with supporting-yokes provided with slot-spaces, of girders secured to the top plates of the yokes on the opposite sides and slightly removed from said slot-spaces, provided with vertical flanges, and removable combined slot-rails and paving-block troughs resting upon said yokes on the opposite sides of said slot-space and provided with hook-shaped flanges engaging with the vertical flanges of said girders, substantially as described.

3. The combination, with the supporting conduit-yokes B, having slot-spaces, of the L-shaped girders F, secured to said yokes on the opposite sides of said slot-spaces, and the combined slot-rail and paving-block supports G, provided with the hook-like flange g'', engaging with the vertical flanges of the girders F.

4. In power-conduits for street-railways, provided with a longitudinal slot, a protecting-brush mounted in the walls of said slot and spanning the same for the exclusion of snow, dirt, and dust, substantially as described.

5. In power-conduits for street-railways, provided with longitudinal slots, the combination, with slot-rails provided with brush-seats on their inner opposing faces, of brushes mounted in said seats, having their filaments interlacing across said slot, substantially as described.

WHITCOMB L. JUDSON.

In presence of—

JAS. F. WILLIAMSON,

EMMA F. ELMORE.