

(No Model.)

2 Sheets—Sheet 1.

E. VERSTRAETE.

TROLLEY OR PLOW FOR ELECTRIC RAILWAYS.

No. 440,781.

Patented Nov. 18, 1890.

Fig. I.

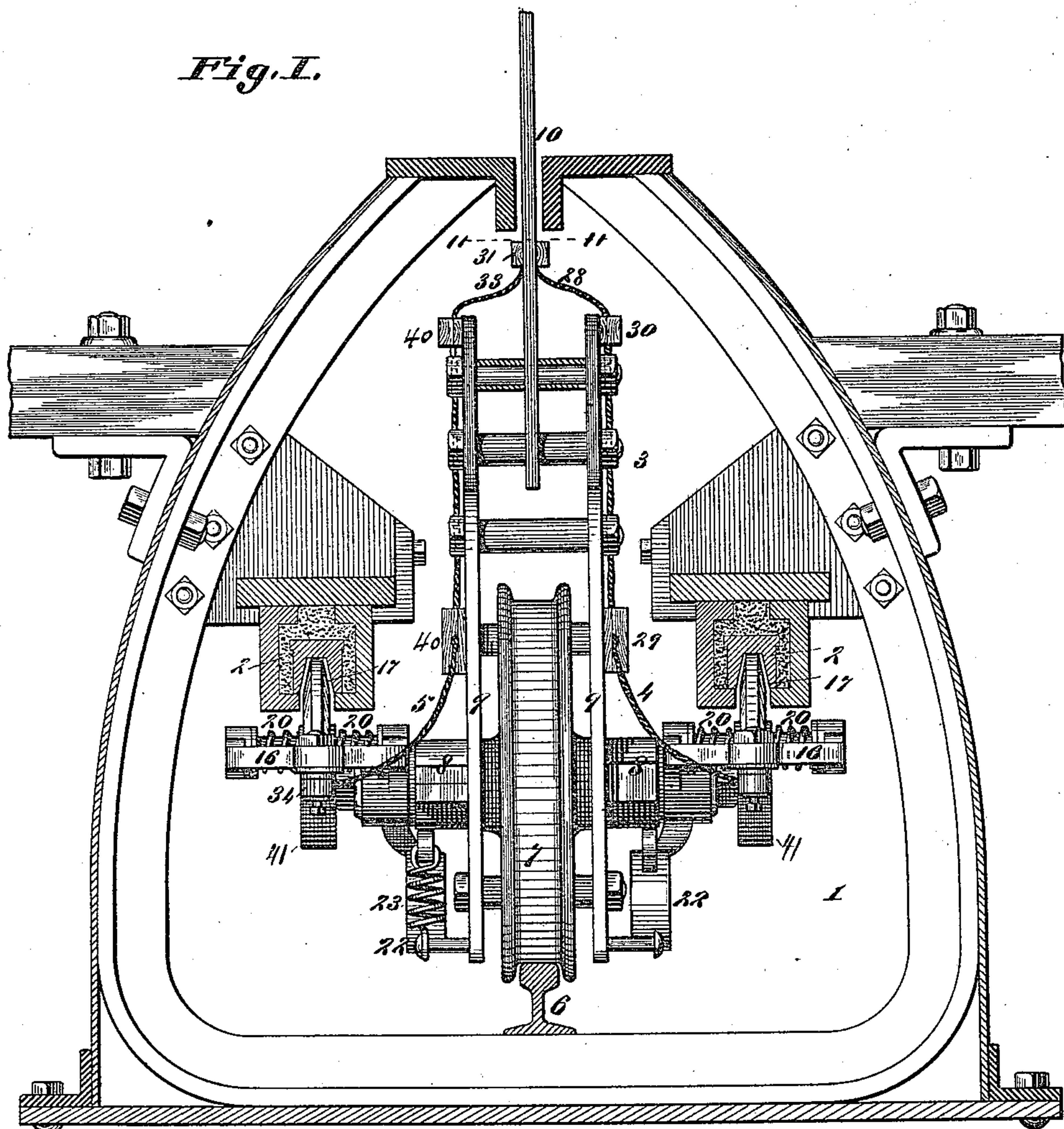
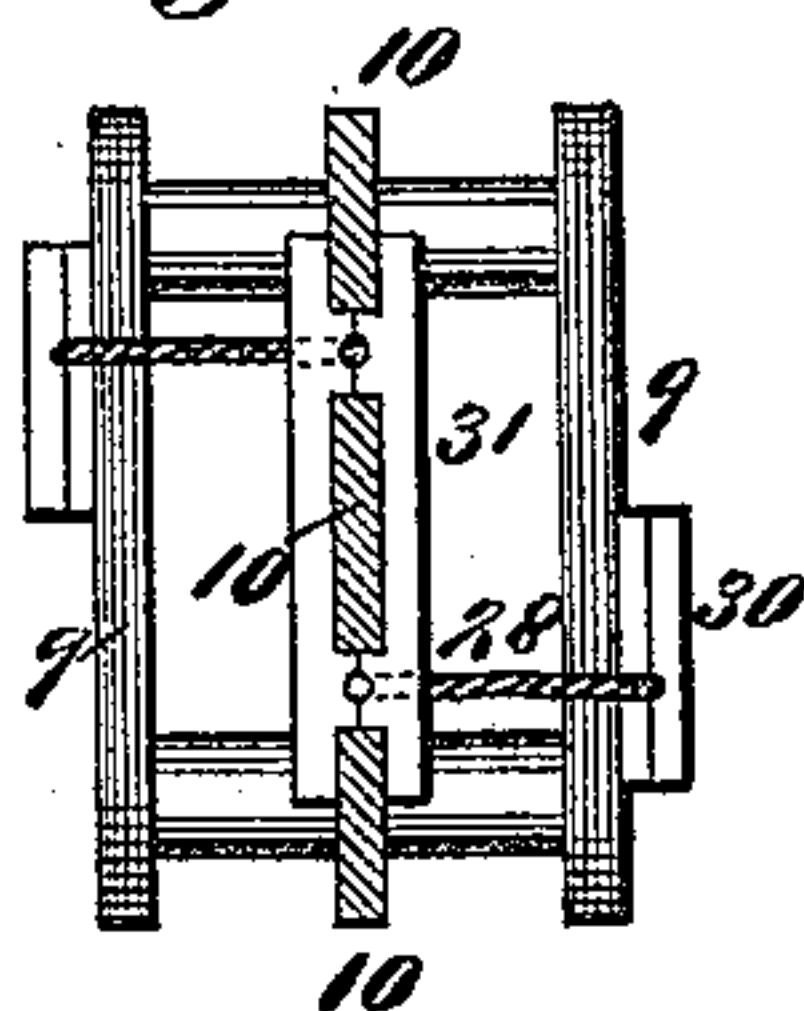


Fig. II.



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Fig. III.

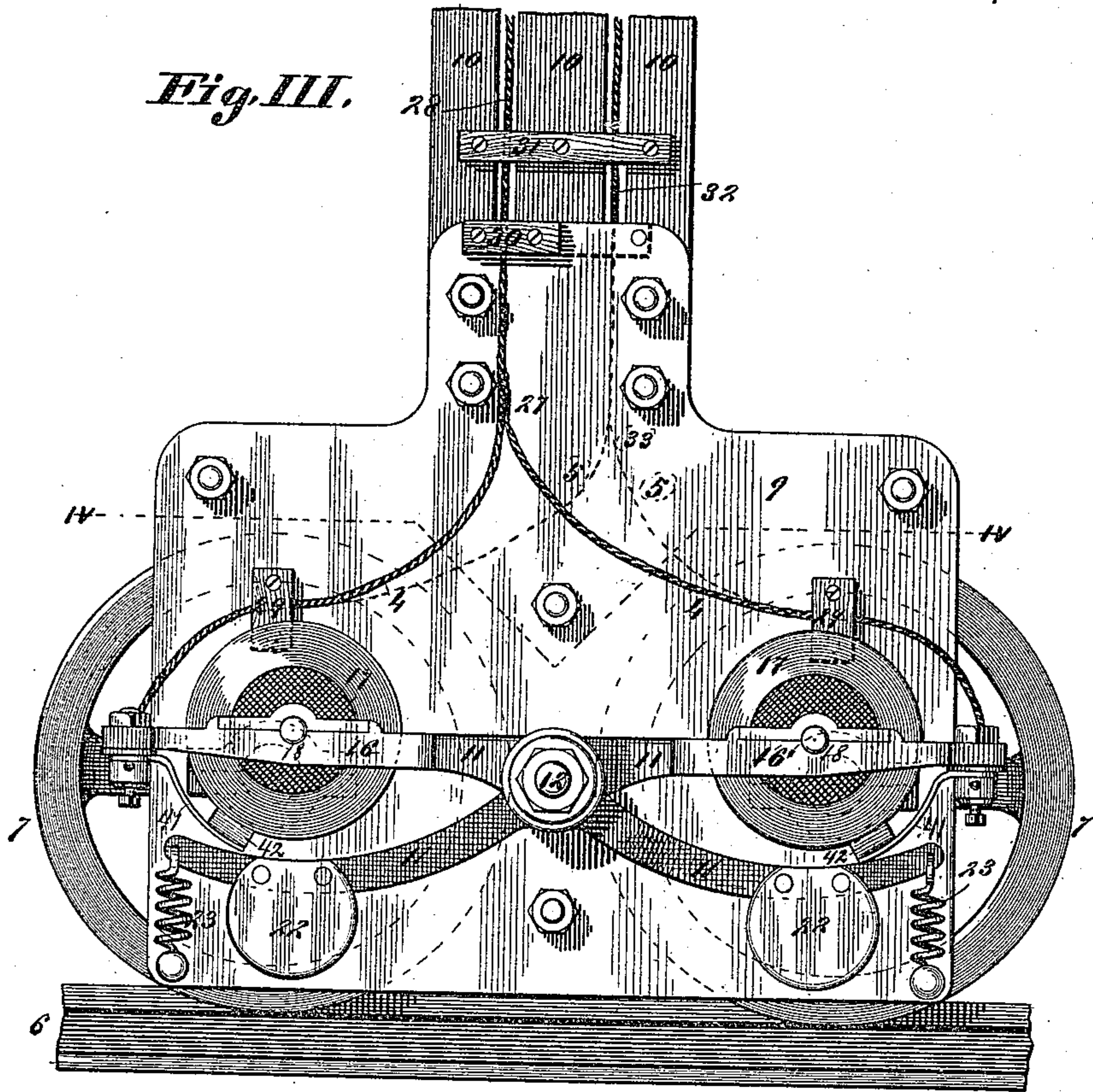
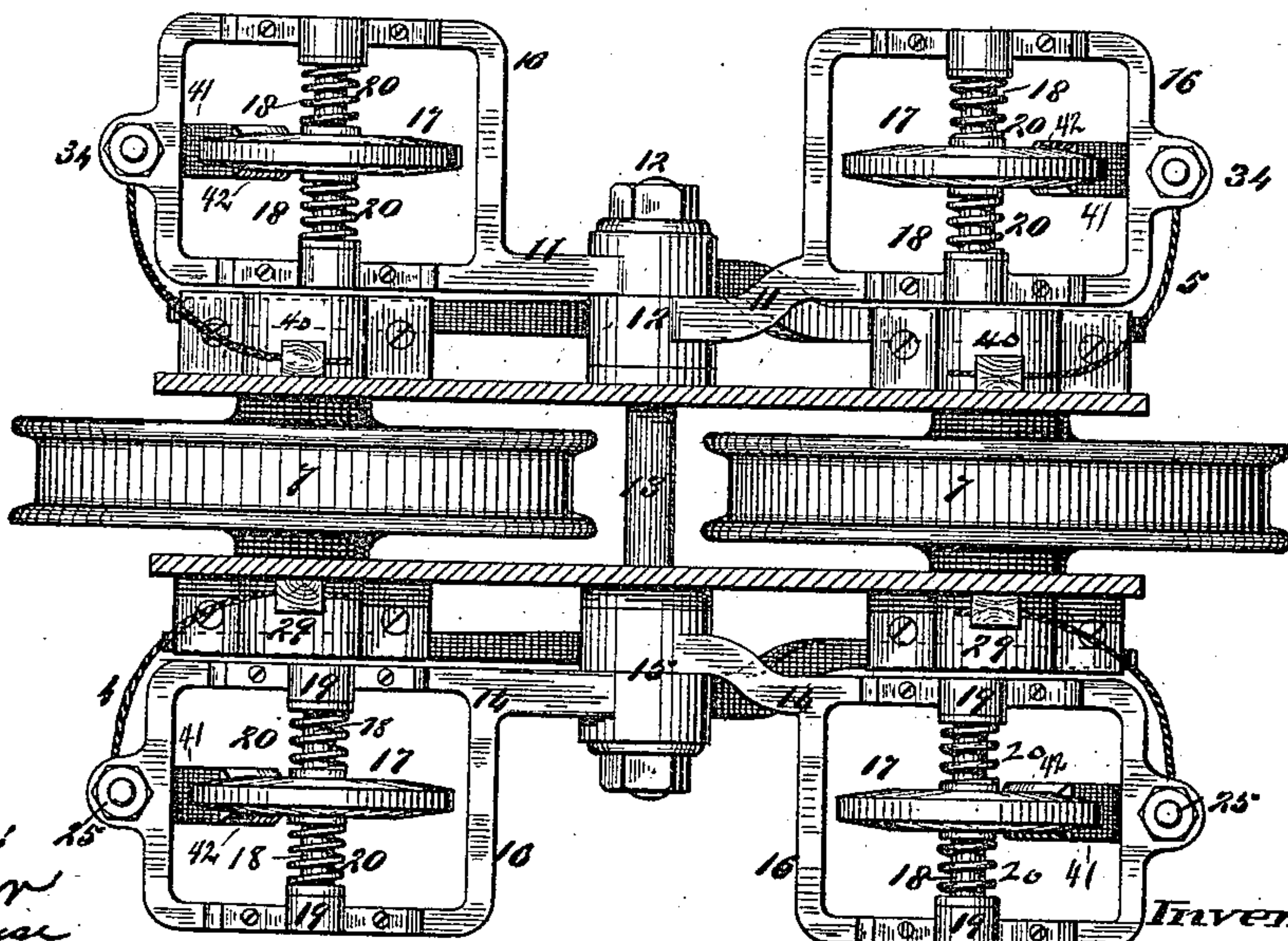


Fig. IV.



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UNITED STATES PATENT OFFICE.

EDMOND VERSTRAETE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
PETER M. KLING AND GEORGE J. KOBUSCH, OF SAME PLACE.

TROLLEY OR PLOW FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 440,781, dated November 18, 1890.

Application filed February 21, 1890. Serial No. 341,342. (No model.)

To all whom it may concern:

Be it known that I, EDMOND VERSTRAETE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Trolleys or Plows for Electric Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to an improved construction of trolley or plow for transferring the electric current of a railway system from the conductors to the motor and from the motor back to the conductors.

15 This invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a transverse section through a conduit and the conductors of an electric railway system, showing my improved trolley or plow in end elevation. Fig. II is a transverse horizontal section taken on line II II, Fig. I. Fig. III is a side elevation of the plow or trolley. Fig. IV is a horizontal section taken on line IV IV, Fig. III.

25 Referring to the drawings, 1 represents a conduit which, so far as my present invention relates, may be of any desired construction.

30 2 represents the conductors, which also, so far as my present invention relates, may be of any desired construction, and I prefer to use the construction shown, described, and claimed in my application filed herewith, and serially numbered 341,340.

35 3 represents the trolley or plow to which this invention relates, and which acts as a medium for carrying the electricity from one of the conductors 2 to the motor on the car, and from the motor on the car back to the other conductor 2 through means of wires 4 5. The trolley may be supported on a rail 6, located in the bottom of the conduit, by means of grooved wheels or rollers 7, journaled in boxes 8, secured to the side pieces or frame 9 of the trolley.

10 represents the hanger by which the trolley is secured to the car.

50 11 represents levers pivoted at 12 to one side of the frame of the trolley by means of a rod or shaft 16', and 14 represents levers

pivoted at 15 to the other side of the frame of the trolley by means of the rod or shaft 13. (See Fig. IV.) These levers are provided at their upper ends with frames 16, preferably rectangular in shape, within which are located the contact disks or bearings 17, which press against the conductors. These disks are mounted loosely on shafts 18, journaled in boxes 19, secured to the frame 16, the disks being held centrally on the shafts by means of springs 20, which allow the disks to move slightly in a horizontal direction to conform to any irregularities in the conductors. The levers extend in a downward direction from the pivots 12 and 15, and their lower ends are provided with counter-balances 22 or with springs 23, by which they are connected to the frame of the trolley, or with both, for the purpose of holding the disks 17 up into contact with the conductors, at the same time permitting the disks to rise and fall slightly, so as to conform to any little irregularities there may be in the elevation of the conductors or of the track 6. It will be seen that by this construction the disks are held with a uniform or a substantially uniform pressure against the conductors, and that they are permitted to accommodate themselves to any irregularity of the conductors. The wires 4 pass from binding-posts 25 on the frame 16 at one side of the trolley to a point 27, where they are joined, and from where they extend in a single wire 28 to the motor on the car. (Not shown.) These wires are secured to the frame of the trolley by suitable clamps 29. The wire 28 is also secured to the frame by means of a clamp 30 and is secured to the hanger 10 by means of a clamp 31. The hanger is made in longitudinal sections, forming spaces to receive the wires, and the clamp 31 (see Fig. II) is formed so as to hold the wires in the vertical centers of the spaces, and thus prevent their contact with the slot-rails of the conduit or other objects. The wire 32, which carries the current back from the motor, joins with the wires 5 at 33, as shown in dotted lines, Fig. III. From here the wires 5 extend from binding-posts 34 on the opposite side of the frame of the trolley to the posts 25, the binding-posts 34 being located on the

frame 16 of this side of the trolley. The wires 33 and 5 are secured to the frame of the trolley by clamps 40.

I have shown the contact-bearings 17 in the form of disks; but they may be of any other suitable form or shape. The contact between the binding-posts 25, 25, 34, and 34 and the disks 17 is made by spring-arms having on their outer ends contact-blocks 42, the springs insuring a constant and effectual electrical connection.

I claim as my invention—

1. In a trolley or plow for electric-railway cars, the combination of the weight-actuated levers, contact-bearings carried by the levers, a frame to which the levers are pivoted, and wires for conducting the current, substantially as and for the purpose set forth.

2. In a trolley or plow for an electric-railway car, the combination of a frame, contact-bearings supported on rods or shafts, and springs 20, for permitting the bearings to ad-

just themselves to the irregularities of the conductors, substantially as set forth.

3. In a trolley or plow for electric-railway cars, the combination of the pivoted levers 11 and 14, having frames 16, disks mounted in the frame 16, weights or springs on the lower ends of said levers, wires for conducting the electric current, and clamps for holding said wires, substantially as and for the purpose set forth.

4. In a trolley or plow for electric-railway cars, the combination of the frame 9, levers pivoted to the frame, weights or springs for actuating the levers, laterally-yielding disks supported by the levers, a track or rail, and wheels for supporting the frame 9 on said track or rail, substantially as and for the purpose set forth.

EDMOND VERSTRAETE.

In presence of—

THOS. KNIGHT,
E. S. KNIGHT.