

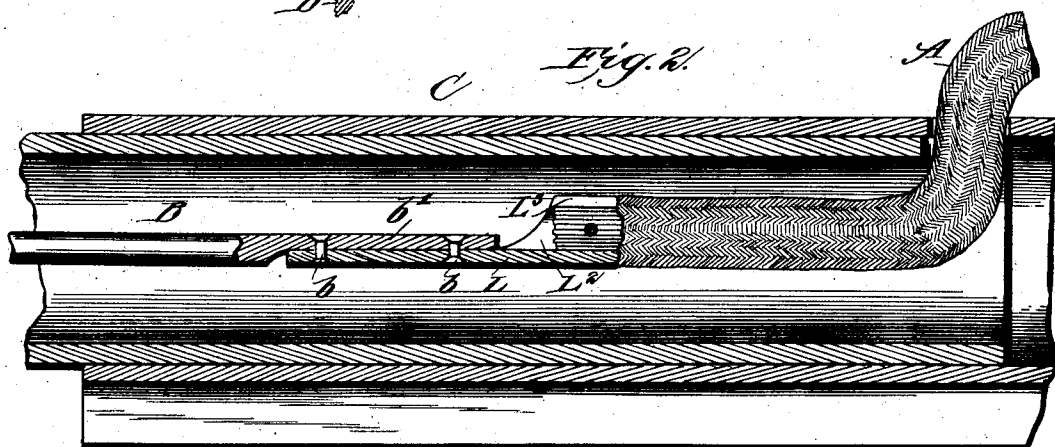
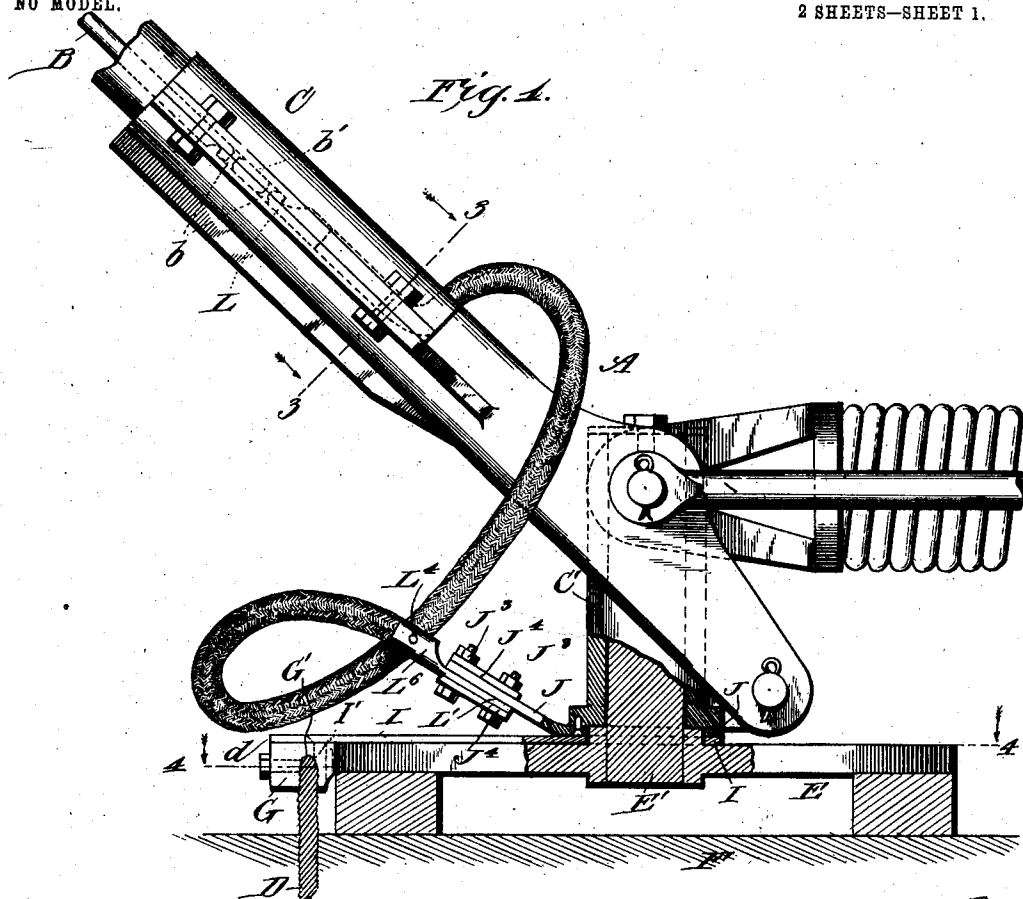
No. 761,565.

PATENTED MAY 31, 1904.

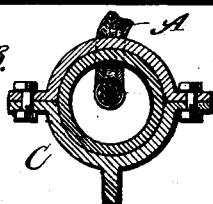
J. H. WALKER.
TROLLEY MECHANISM.
APPLICATION FILED JULY 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES: *Fig. 3.*
Frederick D. [Signature]
Perce B. [Signature]



INVENTOR
John H. Walker.
BY *Mum & Co.*
ATTORNEYS.

No. 761,565.

PATENTED MAY 31, 1904.

J. H. WALKER.
TROLLEY MECHANISM.
APPLICATION FILED JULY 29, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 4.

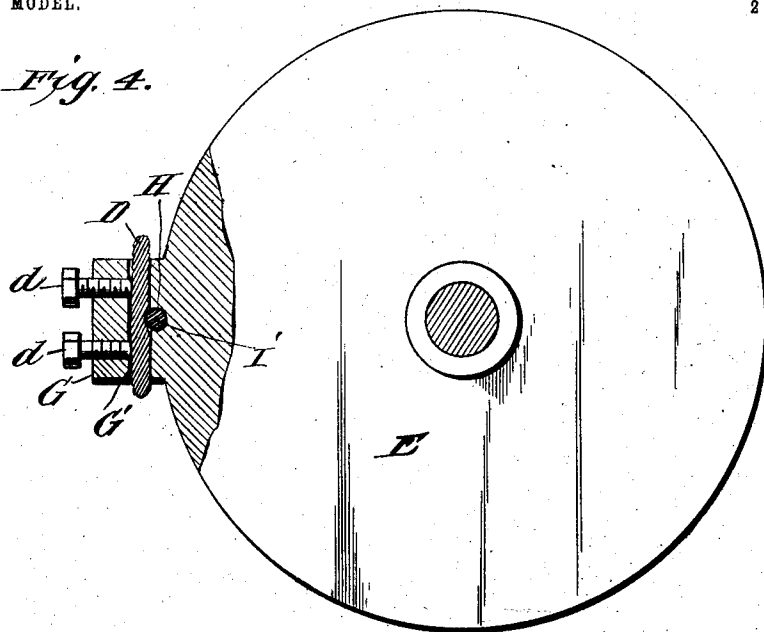


Fig. 5.

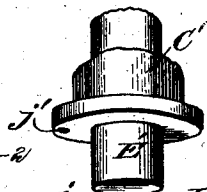


Fig. 6.

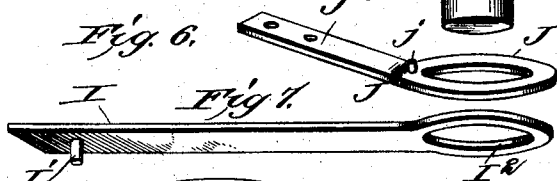


Fig. 7.



Fig. 9.

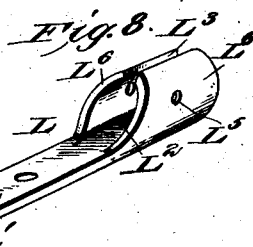
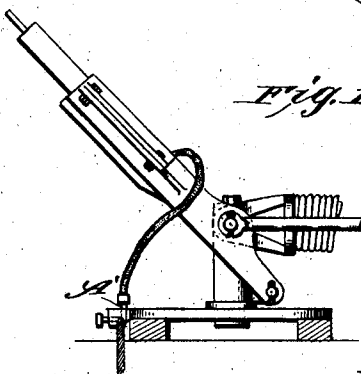


Fig. 8.

Fig. 10.



WITNESSES:

Frederick D. Burdett
Perry B. Surpin

INVENTOR

John H. Walker

BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN H. WALKER, OF LEXINGTON, KENTUCKY.

TROLLEY MECHANISM.

SPECIFICATION forming part of Letters Patent No. 761,565, dated May 31, 1904.

Application filed July 29, 1903. Serial No. 167,465. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WALKER, a citizen of the United States, residing at Lexington, in the county of Fayette and State of Kentucky, have made certain new and useful Improvements in Trolley Mechanism, of which the following is a specification.

My invention is an improvement in trolley mechanism, and particularly in the means for securing a practically perfect conductor connection between the conductor-wire carried by the trolley and the cable leading from the trolley-base to the motor; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation, partly in section, of the base of a trolley embodying my invention. Fig. 2 is a detail longitudinal section showing the joint between the upper end of the flexible connection and the wire within the trolley-pole. Fig. 3 is a cross-section on about line 3-3 of Fig. 1. Fig. 4 is a sectional elevation of the base-plate. Fig. 5 is a detail side view, partly broken away, showing the bearing-pin and the upright trolley-sleeve which turns thereon. Fig. 6 is a detail perspective view of the turntable conductor-plate. Fig. 7 is a detail perspective view of the base conductor-plate. Fig. 8 is a detail perspective view of one of the terminals or wire pieces for the flexible connection. Fig. 9 is a detail perspective view, partly broken away, of the base-plate; and Fig. 10 shows a somewhat different construction from that shown in Fig. 1.

By the present invention I seek to provide a practically perfect conducting connection between the wire conductor in the trolley-pole and the cable which extends to the motor, and in doing this I provide a flexible copper connection A, connected at one end with the copper wire B in the pole C and having its other end connected electrically, by means of copper connections, with the cable D, which leads to the motor, and may therefore be called the "motor-cable." The advantages of this will be readily understood by those skilled in the art, as it enables the passage of

practically all the current in the freest manner from the wire conductor B to the motor, avoiding the intervention of any steel or other conductors of low conductivity, which will necessarily reduce the feed of the current, and by permitting a free passage of the entire current supplied to the motor I am able to increase speed and power.

In carrying out my invention I may employ an ordinary trolley-pole carried in substantially the ordinary manner on a base-plate E, mounted on the car, the upper surface of the car being shown at F in Fig. 1 and the base-plate E being suitably secured in any desired manner upon the car. This base-plate has a pin E', upon which turns the upright sleeve C' of the trolley-pole, and at one end the plate E has a projecting lug G, having a horizontal opening G', through which the motor-cable D is passed and in which said cable D is clamped by the screws d, spaced apart. The base-plate also has a vertical opening H, which is intersected by the horizontal opening G', which receives a depending pin or lug I' on the base conductor-plate I, which latter may be of copper, with its pin or projection I' also of copper and integral with the plate I, as shown in Fig. 7, or said pin I' may be a separate pin—as indicated, for instance, in dotted lines at I in Fig. 1. When the base conductor-plate is applied, as shown in Figs. 1 and 4, with its pin or projection I' abutted by the cable D and the said cable is pressed by the screws d tightly against the pin I', a direct and close connection is made between the cable D and the copper pin I' to provide for the free passage of current from the plate I to the said cable D. This plate I is provided at one end with a ring I², concentric with the sleeve C' of the trolley and resting upon the base-plate E and forming a base upon which turns the ring J' of the turn-table conductor-plate J, which latter is keyed by a pin or projection j, fitting in a socket j' in the sleeve C', to the said sleeve C', so it turns therewith, as will be understood from Figs. 1, 5, and 6 of the drawings. This plate J has a projecting shank J², which inclines slightly upward and is tightly bolted to the shank L' at J³ be-

tween the two clamp-plates J¹, as shown in drawings, holding the flat surfaces of shanks closely together, keeping out sleet or frost from between the two surfaces, also same
 5 from corroding, &c. By this means the connection A and plate J can be readily connected and disconnected, as desired. The terminal L is provided with the socket L² to receive one end of the flexible cable connection
 10 A and is split at L³, so the rivet L⁴, passing through the openings L⁵ in the jaws L⁶, formed by the split or slot L³, can be drawn tightly together upon the end of the flexible connection A, the latter being preferably also
 15 soldered within the socket L² in order to secure a better conducting connection. These terminals L, of which I employ one at each end of the flexible copper connection A, are also preferably of copper. It will be noticed
 20 that I thus form a copper connection between the connection A and the motor-cable and that by arranging the turn-table conductor-plate J to turn upon the base conductor-plate I the surface between said parts will always
 25 be kept clean and polished by the movement thereof, thus improving the conduction between the said parts. The upper end of the flexible connection A is connected with the wire B by means of a terminal L, similar to that
 30 employed for securing the lower end of the connection A with the plate J, the shank of the upper terminal L being riveted at b to the flattened end b' of the wire B and being also preferably soldered to the flattened end b' in
 35 order to improve the connection.

By the described construction it will be noticed I secure a positive copper connection from the wire B to the motor-cable, thus avoiding any loss of current, and consequently of
 40 speed and power or any other loss, such as may result from an imperfect conduction of the current from the wire B to the motor-cable.

The construction shown in Figs. 1, 6, and 7 may be preferred on short cars, where it is
 45 usual to carry the trolley-pole around the end of the car, and where, therefore, the cable A would sometimes become twisted if connected at its lower end directly with the non-revolving base E; but on any cars in which the trolley-
 50 pole can never be taken around the end of the car, and thus reversed from side to side, I may employ the construction shown in Fig. 10, in which the base conductor-plate I and the turn-
 55 table conductor-plate J are dispensed with, and the lower end of the cable A has connected directly with it a pin or projection A' to enter the vertical opening H in the base E instead of providing the pin or projection I' on the base conductor-plate. Manifestly this construction shown in Fig. 10 is within the broad
 60 principle of my invention, and while I prefer to employ the plates I and J it will be understood that I do not desire to be limited in the broad features of my invention thereto.

65 Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination substantially as herein described, of the base having a horizontal opening for the motor-cable, the motor-cable in
 70 said opening, and the screws clamping the motor-cable in said opening, said base-plate being also provided with a vertical opening intersecting the horizontal opening for the motor-cable at a point between the clamping-
 75 screws for said cable, the base conductor-plate having a pin or projection fitting in the vertical opening in the base, and in contact with the motor-cable, said base conductor-plate having a ring concentric with the pivot of
 80 the trolley-pole, the trolley-pole, its bearing-sleeve, the turn-table conductor-plate having a ring fitting on the ring of the base conductor-plate, and keyed to the sleeve of the trolley-
 85 pole and having a projecting shank, the conductor-wire in the trolley-pole, the flexible copper connection, and the terminals at the opposite ends of said connection, said terminals having shanks secured respectively to the
 90 copper conductor of the trolley-pole and the shank of the turn-table conductor-plate, and having split sockets to receive the ends of the flexible connection, and means for clamping said sockets upon the connection, all substantially as and for the purposes set forth.

2. The combination with the motor-cable, and the trolley-pole conductor, of the flexible connection having one end connected with the
 95 trolley-pole conductor, the turn-table conductor-plate connected with the other end of the flexible connection, and the base conductor-plate bearing at one end in connection with the turn-table conductor-plate and having
 100 electrical connection at its other end with the motor-cable, substantially as set forth.

3. In a trolley mechanism, the combination of the motor-cable, the trolley-pole and its conductor, a base conductor-plate, connections between the same and the motor-cable, the turn-table conductor-plate bearing against
 110 the base conductor-plate, and connections between the turn-table conductor-plate and the trolley-conductor, substantially as set forth.

4. In a trolley mechanism, the combination of the motor-cable, the trolley-pole and its
 115 conductor, the base having a transverse opening for the motor-cable, and an intersecting opening at an angle thereto and intersecting the opening for the motor-cable, and a conductor having a pin or projection fitting in
 120 the intersecting opening and in contact with the motor-cable in the transverse opening, and connections between said pin or projection and the conductor of the trolley-pole, substantially as set forth.

5. In a trolley mechanism, the combination of the motor-cable, the base having a transverse opening to receive the motor-cable, and clamping-screws for said cable and also provided with an intersecting opening intersect-
 125

ing the opening for the motor-cable at a point between the clamping-screws, and a conductor pin or projection in said intersecting opening and in contact with the motor-cable, substantially as set forth.

6. The combination in a trolley mechanism, with the motor-cable, and the trolley-pole and its conductor, of the base having a transverse opening receiving the motor-cable, and an intersecting opening intersecting said transverse opening, the flexible copper connection connected at one end with the trolley-pole conductor and a conductor pin or projection having electrical connection with the opposite end of the flexible copper conductor and fitting in the intersecting opening of the base-plate in contact with the motor-cable held in the transverse opening thereof, substantially as set forth.

7. The combination of the motor-cable, the base-plate having a transverse opening for the motor-cable, and an intersecting opening intersecting said transverse opening, the base conductor-plate having a ring forming a bearing for the turn-table conductor-plate, and a shank provided with a pin or projection entering the intersecting opening of the base-

plate and connecting with the motor-cable, the trolley-pole and its conductor, and the turn-table conductor-plate bearing against the ring of the base conductor-plate, and connections between said turn-table conductor-plate and the trolley-pole conductor, substantially as set forth.

8. The combination of the base conductor-plate having a projecting arm for connection with the motor-conductor, the turn-table conductor-plate, overlying the base conductor-plate and having a projecting arm for connection with the trolley-pole conductor substantially as set forth.

9. The combination of the base conductor-plate, the trolley-pole sleeve, the turn-table conductor-plate keyed to the trolley-pole sleeve, and having a projecting arm for connection with the trolley-pole conductor, and means for electrical connection of the motor-conductor with the base conductor-plate, substantially as set forth.

JOHN H. WALKER.

Witnesses:

SOLON C. KEMON,
PERRY B. TURPIN.