

No. 642,697.

Patented Feb. 6, 1900.

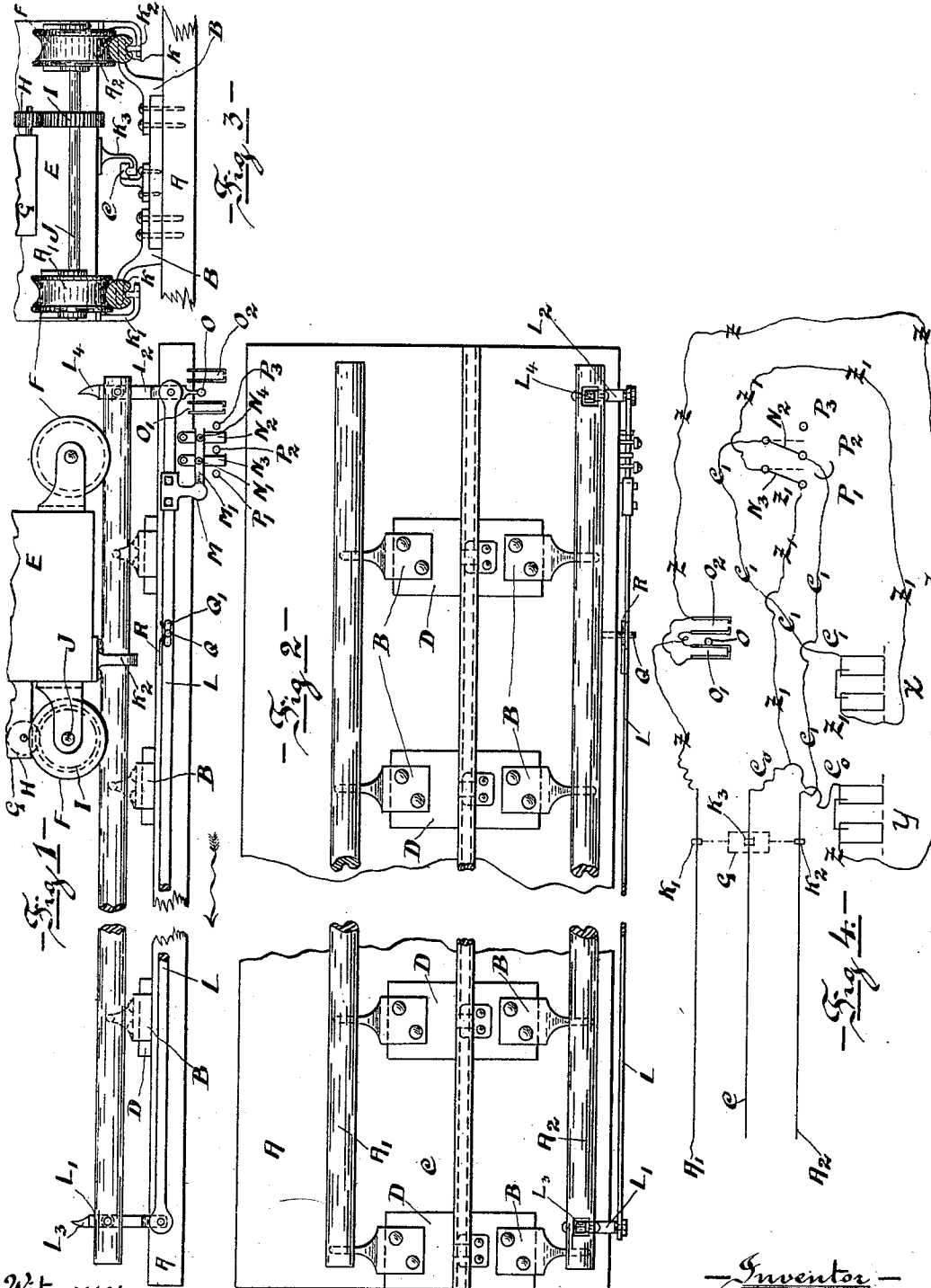
C. HUTCHINSON.

ELECTRICAL TRACK FOR RECEPTACLES.

(Application filed Nov. 14, 1898.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses—

Carey L. Gallagher

Charles W. Brower

Inventor—
Charles Hutchinson

by his Attorney—

August M. Trechow

No. 642,697.

Patented Feb. 6, 1900.

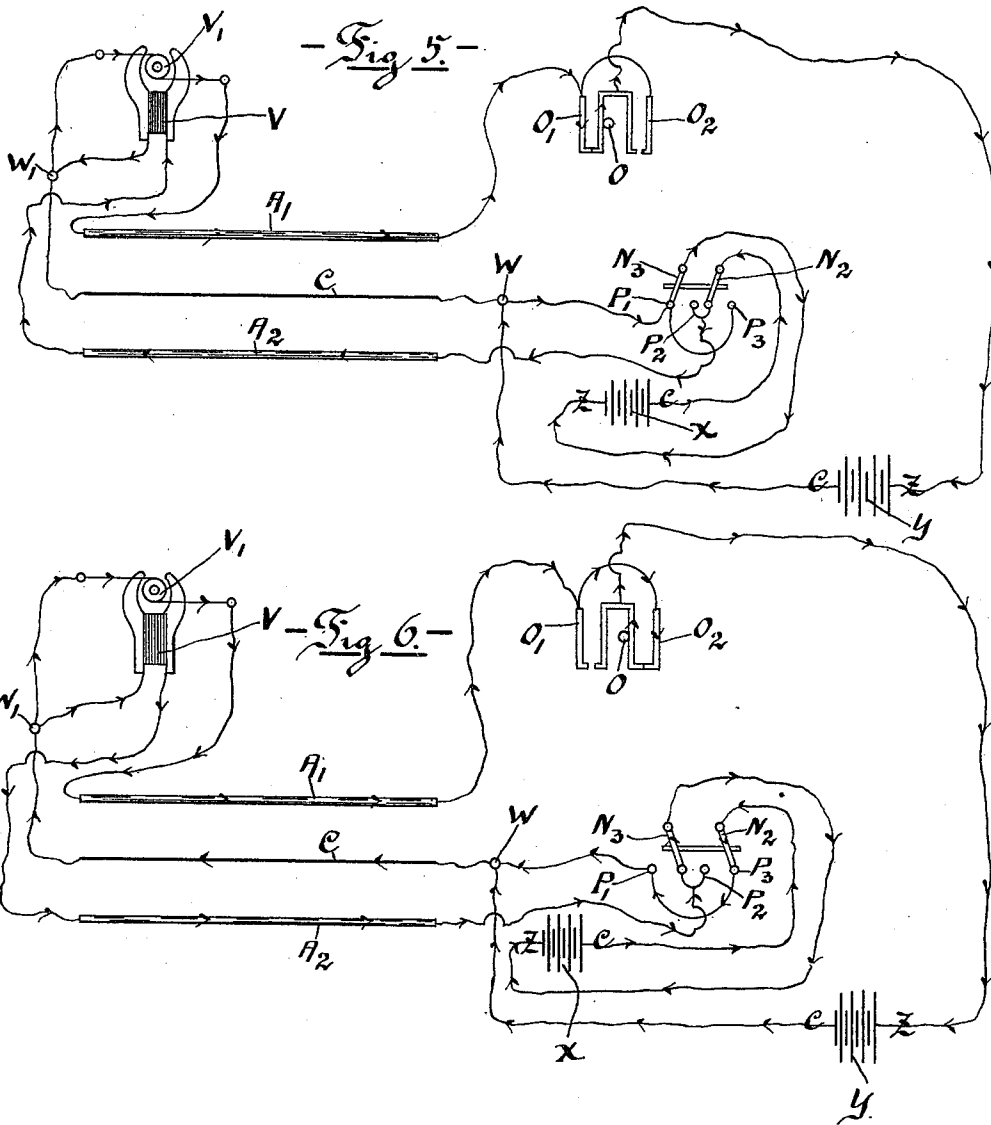
C. HUTCHINSON.

ELECTRICAL TRACK FOR RECEPTACLES.

(Application filed Nov. 14, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses

Percy L. Gallagher

Charles W. Brower

Inventor

Charles Hutchinson

by his Attorney

August M. Dreschow

UNITED STATES PATENT OFFICE.

CHARLES HUTCHINSON, OF ARLINGTON, NEW JERSEY.

ELECTRICAL TRACK FOR RECEPTACLES.

SPECIFICATION forming part of Letters Patent No. 642,697, dated February 6, 1900.

Application filed November 14, 1898. Serial No. 696,381. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HUTCHINSON, a citizen of the United States, residing at Arlington, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Electric Conveyances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to the construction of a track for conveying a receptacle of whatsoever kind mounted on wheels—as, for instance, a cash-register—from any one point on the said track to a certain given position—viz., that place on the route of the said receptacle or register where the person desiring to use such receptacle or register may happen to be. The improvements in this track will be found to relate more especially to the simplicity in its construction, the method of applying the motive power, electricity, the facility of operating the receptacle from one point on the route to another, and the special arrangement of the wires connecting the batteries with the motor, having the contact-springs and pole-changing switch so attached as to be able to reverse the motion of the receptacle at any time without necessitating the special attachment of reversing-gears.

In describing my improved track I will call attention to the accompanying drawings, where like letters of reference indicate corresponding parts in the different views.

Figure 1 shows a side view of the track broken off in the middle, with the bottom of the receptacle mounted thereon, and a broken view of the motor attached to the receptacle. Fig. 2 is a top view of Fig. 1, the receptacle, however, being removed to show the construction of the track more clearly. Fig. 3 is an end view of Fig. 1, showing the gearing connections between the motor and the wheels. Fig. 4 is a diagram illustrating the connection of the armature and the field-batteries with the motor and the movement of the current through the wires; Fig. 5, a diagram showing the action of the batteries when they are in

series with each other; and Fig. 6 showing the action of the batteries when they act independently of each other, the currents issuing from the copper in both batteries and passing together through the center strip C at W'.

In Fig. 1, A indicates a counter; A' and A², the rails, secured on said counter by means of brackets B; and C, the copper strip, mounted on insulating-plates D.

E indicates the receptacle, mounted on wheels F and having the motor G secured to it. Pivoted in the motor is a pinion H, meshing with a spur-gear I, said spur-gear I mounted on a shaft J, which shaft has two of the four wheels of the receptacle secured on it at each end.

The rails A' and A², as best seen in Fig. 3, have a groove K running throughout their entire length for the purpose of receiving the brushes K' and K², attached to the bottom of the receptacle. A brush K³ is further attached centrally to the bottom of the receptacle for the purpose of contacting with the insulated copper strip C. The rails A' and A² and the strip C are mounted on the insulators D, as before stated, to keep the current intact. Pivoted to the rail A² by means of arms L' and L² is a bar L, which serves as an operating handle-bar for the receptacle-operator to start or shut off the current. The arms L' and L² do not act solely in the capacity of supports for the bar L, inasmuch as that could be done just as well by securing the bar L in brackets attached to the edge of the counter, but they act as safeguards against the rolling off the rails of the receptacle by reason of the parts L³ on L' and L⁴ on L² coming in contact with the wheels F, and being pivoted to the bar L with their lower parts at points L⁵ and L⁶ they will shut off the current. As a means for regulating the sidewise movement of the bar L a stud Q is affixed to the counter, which stud moves in a slot Q', the slot being long enough to permit the closing of, respectively, contact-springs O' and O², together with moving the pole-changing switch-arms N² and N³ to the contact-points P' and P² or P² and P³. In order to facilitate the finding of the central position again for the arm O and the perpendicular position of the pole-changing switch-arms N² and N³, a spring R is secured on the top of bar L, which

spring is bent slightly hollow in order to catch the stud Q when the bar is moved back to its central position. In order to start the current, the bar L has, in the first place, secured to it a lever M, whose arm M' is furnished with two holes, in which holes move the two pins N' and N⁴, each of which pins respectively form parts of the pole-changing switch-arms N³ and N². Secondly, bar L has a rod Q, which is placed midway between the contact-springs O' and O². Each of these springs has two arms, the opening or closing of which springs by the alternate moving of the arm O against one or the other creates or shuts off the electric current.

Having thus given in detail the various elements, their proper places in my improved track construction, and their mutual relation to each other, it now remains to show the operative method of the current when it is applied to the above-described means. This will be best observed by looking at the diagram in Fig. 4, where the same letters of reference will be found applied. Additionally, however, I have added a field-battery X and an armature-battery Y, which elements, when connected by wires with the rails A' A², the copper strip C, the pole-changing switch, the contact-points P' P² P³, and the contact-springs, will produce the current necessary to revolve the pinion H, gearing into the spur-gear I, which being keyed on the same shaft with a pair of the wheels F will revolve these, and thus carry the receptacle back and forth, according to the manipulation of the rod L to the right or left by the operator of the same. The wires leading from copper to zinc in respectively the field-battery X and the armature-battery Y, I call in the field Z and C⁰, and in the armature Z' and C'.

The flow of the current when the spring O' has been closed and the switch-arms N² and N³ are in contact with P' and P², as explained by the diagram in Fig. 4, will be seen more clearly in the diagram in Fig. 5. The batteries are here, as stated in the description of the different figures, in series with each other, and if, for instance, we commence with the armature-battery Y and follow the current from copper to zinc it will be seen by the direction of the arrow-heads that the current will flow from copper up to the point W and from there turn to the right, pass through the switch-arm N³, through the field-battery X, the switch-arm N², and the rail A² into the field V and out again and at the point W' turn into the armature V', and from there into the rail A', through the closed spring O', and back to zinc in the armature-battery Y. This course of the current has been proved to be an established fact in the so-called "three-wire system" as adopted by Thomas A. Edison, the requirement for the successful operation of this system being that the resistance in the respective batteries is equal and the reversing faculty as applied in my invention being dependent on the im-

proved switch introduced by me in connection with my current-opening and current-closing springs throwing the batteries in series with each other. Referring to Fig. 6, which shows the current reversed, so that the receptacle will move in the opposite direction, this will come to pass by the manipulation of the rod L moving the knob O so as to close the spring O², the switch-arms N² and N³ simultaneous therewith being moved into contact with P² and P³. The batteries are as a consequence no longer in series with each other, and if the current be followed, as indicated in the diagram by the arrow-heads, from the copper in the armature-battery Y and also from the copper in the field-battery X it will be seen that the said currents meet at point W and together pass through the copper strip C and at point W' divide, one current passing through the field V and returning through the rail A², and passing through the switch-arm N³ goes back to zinc in field-battery X, and the other current passing through the armature V' will return through the rail A' and through the closed spring O² will go back to zinc in the armature-battery Y.

What I therefore in accordance with the above description claim, and desire to secure protection for by Letters Patent, is—

1. The combination in an electric conveyance of the motor, the wire conductor, the rails and contact-strip, current-reversing means operated at any desired point of the track for the purposes set forth substantially as it is described.

2. The combination in an electric conveyance of the motor, the wire conductor, the rails and contact-strip and the wheels of a mounted receptacle, current-reversing means attached to the rails, means for operating the receptacle and controlling the reversing means for the purposes set forth substantially as described.

3. The combination in an electric conveyance of the motor, the wire conductor, the rails and contact-strip and the wheels of a mounted receptacle, current starting and reversing means connecting the wire conductor with the rails and contact-strip and having a controller attached, safety-levers pivoted to the rails coöperating with the wheels mounting the receptacle as and for the purposes described.

4. The combination in an electric conveyance of a receptacle mounted on wheels, a pair of rails and a contact-strip located intermediate said rails mounted on isolating-plates, current-reversing means furnished comprising an electric circuit having contact-springs and a pole-changing switch, batteries creating and circulating said electric current for the purposes set forth substantially as it is illustrated and described.

5. The combination of a body mounted on wheels with the rails supporting said wheels, an electric current created by means of a field and armature battery and transmitted

by a wire conductor to a motor attached to the said body, gearing means operating intermediate the wheels and the motor, brushes secured to the body and contacting with the rails and an isolated strip, contact-springs and a pole-changing switch attached to the wire conductor substantially as it is described.

6. The combination of a receptacle mounted on wheels, rails and a contact-strip mounted on isolating-plates, brushes secured to the receptacle contacting with the rails and the contact-strip, a wire conductor having a pole-changing switch and contact-springs attached connected with a field and armature battery, manipulating means secured to the rails having said pole-changing switch attached thereto and operating the contact-springs for the purposes set forth substantially as described.

7. The combination in an electric conveyance of a cash-receptacle mounted on wheels,

a pair of rails having a groove on the under side, a metal contact-strip located intermediate the rails, insulators placed at adequate distances having the rails and strip attached thereto, a manipulating-rod pivoted to the rails, levers pivoted in the rails having the manipulating-rod pivotally secured to them, means attached to said levers for shutting off the electric current, an electric wire conductor having contact-springs and a pole-changing switch attached connecting an armature and a field-battery suitably with the motor on the cash-receptacle substantially as it is illustrated and described.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of October, A. D. 1898.

CHARLES HUTCHINSON.

Witnesses:

FREDERICK E. APPLEY,
AUGUST M. TRESCHOW.