

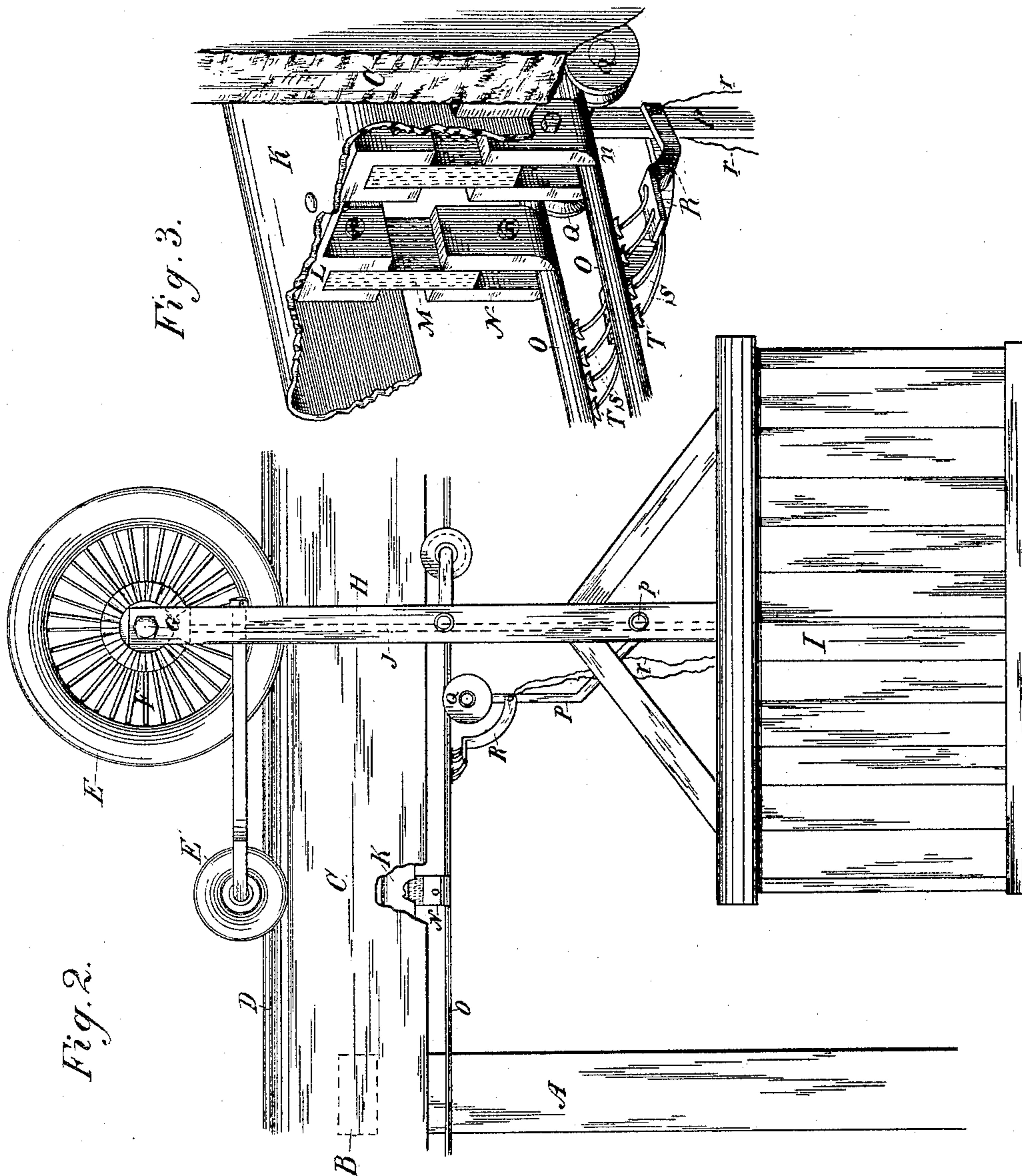
(No Model.)

2 Sheets—Sheet 2.

A. JACKSON.
ELEVATED ELECTRIC RAILWAY.

No. 327,690.

Patented Oct. 6, 1885



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UNITED STATES PATENT OFFICE.

ANDREW JACKSON, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO JOHN E. SAVAGE, OF SAME PLACE.

ELEVATED ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 327,690, dated October 6, 1885.

Application filed October 9, 1884. Serial No. 145,100. (No model.)

To all whom it may concern:

Be it known that I, ANDREW JACKSON, of the city and county of San Francisco, and State of California, have invented an Improvement in Elevated Electric Railways; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful electric railway, the object of which is to transport rapidly a small car or receptacle designed to contain small packages and other minor freight which it may be desirable to send from one point to another quickly.

My invention consists in an electric track, a car or receptacle containing an electric motor and suspended from said track by a suitable wheel adapted to travel thereon, suitably suspended and insulated continuous wires, a means for taking the current from said wires to the electric motor in the car, and a mechanism for transmitting the power of said motor to propel the suspending-wheel of the car or receptacle.

My invention further consists in novel details of construction, all of which I shall hereinafter fully explain by reference to the accompanying drawings, in which—

Figure 1 is an end elevation of my railway, the continuous parts being in cross-section. Fig. 2 is a side elevation of same. Fig. 3 is a detail perspective of the means for protecting, suspending, and insulating the wires.

A represents one of a series of posts somewhat similar to telegraph-poles, said series extending the distance between any fixed points or stations.

Upon the top of the post is a cross-beam, B, to the ends of which are secured the pieces C, which extend longitudinally between the cross-beams of each post. Upon the top of the pieces C are the tracks D.

E is a wheel having a grooved periphery, *e*, and constructed in any manner consistent with lightness and strength, preferably after the manner of a bicycle-wheel. Upon the face of this wheel is a gear, F.

Mounted on the axle G of the wheel is a hanger, H, which is secured to the top of the car or receptacle I. The point of attachment of the hanger to the car is on one side of the

longitudinal center of the latter, so that the car projects inwardly sufficiently to preserve the center of gravity directly under the track, whereby the wheel E is adapted to remain in an upright position.

The car or receptacle contains any suitable electric motor, unnecessary here to represent, from which said machine extends upwardly shaft J, on the top of which is a pinion, *j*, meshing with the gear F of the wheel E.

Secured at suitable distances to the pieces C is a continuous shield, K, preferably made of tin, and having an inverted-U shape, as shown. To the under side of this shield is secured a brass bracket, L, in the arms of which vulcanized-rubber pieces M are inserted and held by bolts *m*.

N are clamps consisting of two pieces or jaws joined together by bolts *n*. In the upper portions of these clamps the vulcanized rubbers M are secured, while in their lower ends are grasped the wires O. From an inclined brace, *p*, extending between the top of the car and the hanger H, projects an arm, P, in the upper end of which is mounted a shaft carrying the grooved-face rollers or wheels Q, which are adapted to travel directly under and in contact with the wires O.

From the arm P extend, behind the wheels Q, two metal arms, R, to the upper end of which are secured a number of spring brass strips, S. The upper ends of these spring-strips are provided with copper plates or brushes T, which travel in contact with the wires O. From the arms R extend the two wires *r*, which are in connection with the electric motor within the car I.

In order to steady the wheel E upon the track, I have the trailing-wheel E' behind, secured by an arm to the hanger H.

A current of electricity is sent through the circuit formed by the two wires O, and this current is taken by the brushes T, and passes through the metal arms R and through the wires *r* to the motor within the car and sets it in operation. The power of the motor is transmitted through the shaft J, bevel-pinion *j*, and gear F to the wheel E, whereby said wheel is propelled and the car carried along.

The object of the shield K is to preserve

the wires from moisture, especially from rain and snow.

The wheels Q, traveling just in front of the brushes, hold up the wires, which between
5 their points of support are naturally inclined to sag, and this function of said wheels enables the brushes T to remain in sure and constant contact with the wires. The springy nature of the strips S, to which the brushes
10 are attached, furthers this object by keeping the brushes to their contact.

The parts herein described and shown upon one side of the line of posts are duplicated on the other side for the purpose of the return-
15 car. The manner of insulating the wires O, herein shown is simple and convenient. The car I is designed to contain small packages, which can thus be transported rapidly from point to point.

20 My invention need not be confined to an elevated-railway system, as the mode of transmitting the current through wires along the line of travel and taking it therefrom by means of brushes accompanying the car to
25 operate a motor in said car and thence driving the running-gear may be applied to street-railways by properly arranging the wires upon or under ground.

Having thus described my invention, what
30 I claim as new, and desire to secure by Letters Patent, is—

1. In an elevated electric railway, the longitudinal strips C, carrying the track, the inverted U-shaped shield K, secured to the inner surfaces of said strips, and the electric
35 wires O, suspended from and undersaid shield and suitably insulated therefrom, substantially as and for the purpose herein described.

2. In an elevated electric railway, the shield
40 K and the electric wires O, in combination with the means by which they are suspended and insulated from said shield, consisting of the metal bracket L, the vulcanized-rubber pieces M, secured in and suspended from said
45 bracket, and the metal clamps N, clamping the rubber pieces and suspending the wires, substantially as herein described.

3. In an electric railway having the suspended wires O, through which a current of electricity is sent, the traveling car or receptacle I, containing an electric motor, the rollers Q, carried by said car and adapted to travel under the wires, and the metallic brushes T, supported and carried by the car and adapted to travel in contact with the
55 wires behind the rollers Q, said brushes having an electric connection with the electric motor, substantially as and for the purpose herein described.

4. In an elevated electric railway having
6c the suspended wires O, through which a current of electricity is sent, the traveling car or receptacle I, suspended by a wheel from a suitable track and containing an electric motor, the rollers Q, supported from and by the
65 car by arm P and adapted to travel under the wires, the metallic brushes T, traveling against the wires behind the wheels and mounted on metallic spring-strips S, supported by metal arms R from arm P, and the wires
70 r, connecting the arms R with the electric motor in the car, substantially as herein described.

5. In an elevated electric railway, the track D, supported on longitudinal strips C, carried
75 by cross-beams of a line of posts, the car or receptacle I, containing an electric motor, the wheel E on the track, suspending said car and driven by suitable mechanism, as described, from the electric motor, the continuous suspended electric wires O, the mechanism for taking the current from said wires to the motor, consisting of the metallic brushes T and an electric connection between them and the motor, substantially as herein de-
85 scribed.

In witness whereof I have hereunto set my hand.

ANDREW JACKSON.

Witnesses:

C. D. COLE,
J. H. BLOOD.