

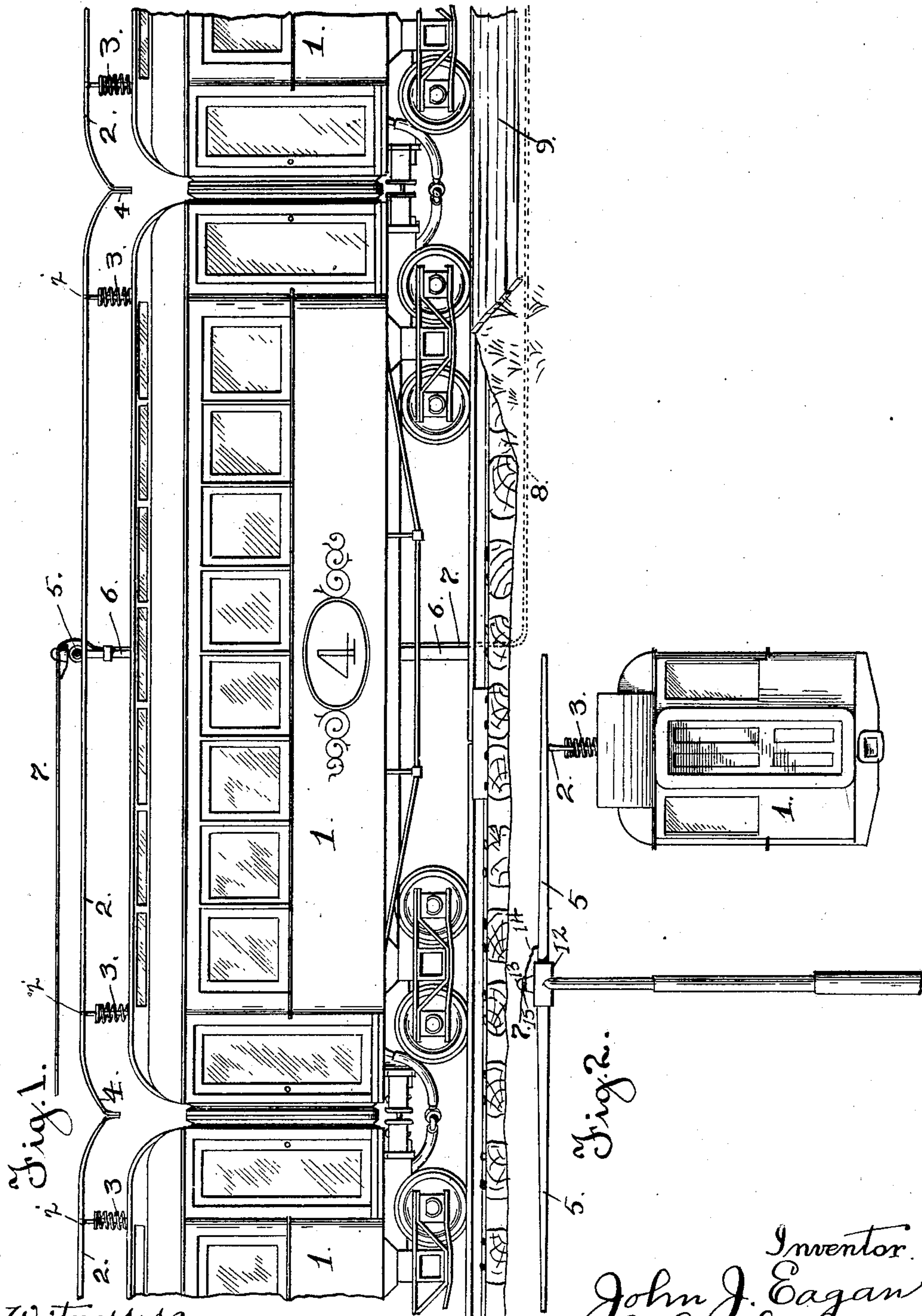
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J. J. EAGAN.

SYSTEM FOR TRANSMITTING ELECTRIC CURRENTS TO CARS.

APPLICATION FILED OCT. 18, 1905.



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UNITED STATES PATENT OFFICE.

JOHN J. EAGAN, OF SAN FRANCISCO, CALIFORNIA.

SYSTEM FOR TRANSMITTING ELECTRIC CURRENTS TO CARS.

No. 897,965.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed October 18, 1905. Serial No. 283,265.

To all whom it may concern:

Be it known that I, JOHN J. EAGAN, citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Systems for Transmitting Electric Currents to Cars, of which the following is a specification.

My invention relates to improvements in systems for transmitting electric currents to cars.

The object of my invention is to provide an over-head system for transmitting electric currents to trains of cars, whereby the use of a wire extending above the road or street to be traveled by the car for contact with a trolley is obviated, greatly lessening the danger from broken or fallen wires, and also adding strength to the power transmitting system, minimizing the amount of repairs necessary to the same and reducing the expense of such repairs, as well as simplifying the same, the current being transmitted through arms to the cars. I attain such object having the advantages set forth by the novel construction and combination of parts shown in the accompanying drawing, described in the following specification and claimed in the appended claims.

Referring to the accompanying drawing Figure 1 shows a portion of a train of electric cars. Fig. 2 is a detail view of the cross-arm hereinafter mentioned and an end view of an electric car in contact with one of the same.

In the figures, 1 represents an electric car of any suitable type either motor or passenger car having a rod 2 adapted by means of springs 3 to engage a cross arm 5 extending from a pole 6, the pole also carrying feed wire 7 which wire may be adapted to be insulated and lie under the ground as at 8 for the purpose of keeping the connection between both sides of an intersecting road or street as shown at 9, removing the necessity of the wire passing above the ground, at such point. The preferable arrangement for the contact of said rods is shown at 4 the rods curving downwardly and then depending vertically so as to form an even surface for contacting, and such curved portions becoming gradually thinner to their ends so as to give elasticity to the same. Should one end of a car be raised in passing over an obstruction the elasticity of such curved portions sustaining the increased pressure would prevent the breaking or bending of one or more

of the rods in contact. The sustaining pole as shown in Fig. 2 is surmounted by a block and a button of non-conducting material secured thereon in opposite ends of which blocks are secured the cross-arms 5, the branch wire passing through an aperture in the button to an arm through which it is desired that the current shall pass to rod 2 and thence downward through the vertical wire or rod shown as encircled by the spiral spring 3 to the motor on the car. The rod 2 is sustained by the spiral spring 3 and by which said rod 2 is kept in contact with the cross-arm 5, and can be depressed or elevated as may be necessary on account of inequalities in the road bed or in other respects. The top of the spiral spring 3 may be clamped or secured to the vertical wire or rod by any appropriate means.

The branch feed wire shown as connected to wire 7 in Fig. 1 passes from said wire under the button to the arm 5, the main feed wire passing through an aperture in said button downward and along the pole, where it is insulated and clamped to such pole and thence under the road or street and upward along a similar pole on the opposite side of the road or street to which it is clamped as shown in Fig. 1 and which pole and parts 5 and 7 and their connections or contacting parts are the same as shown in Fig. 1. Holes 2' are provided in the base of said rods wherein the vertical wires surrounded by springs 3 may rest. The curvature of the arms 2 as shown at 4 prevents the contact of the forward ends of the said rods with the arms 5.

Although I prefer the arrangement hereinbefore described, the provision for running the wire underground may be omitted and the wire extended across the intersecting roads or streets as between the same, the arrangement shown in Fig. 2 being employed.

The poles may be placed at distances of one hundred feet respectively along the line of the railroad.

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

1. In a system for transmitting electric currents to cars, a plurality of poles supporting current transmitting horizontal arms, main feed wires insulated at the apex of said poles, branch feed wires leading to said arms, mutually engaging rods curving downwardly at their ends to contact with said arms, spiral springs out of contact with said rods mount-

ed on said cars, vertical wires sustained by said springs interiorly to engage said rods, substantially as described.

2. In a system for transmitting electric
5 currents to cars, a plurality of poles supporting current transmitting horizontal arms, main feed wires insulated at the apex of said poles, branch feed wires leading to said arms, mutually engaging rods curving downwardly
10 at their ends to contact with said arms and becoming gradually thinner to such ends, spiral springs out of contact with said rods mounted on said cars, and vertical wires sustained by said springs interiorly to engage
15 said rods, substantially as described.

3. In a system for transmitting electric currents to cars, a plurality of poles supporting current transmitting horizontal arms, main feed wires insulated at the apex of said
20 poles, branch feed wires leading to said arms, mutually engaging rods curving downwardly at their ends to contact with said arms and becoming gradually thinner to such ends, such ends consisting of vertical branches,

springs out of contact with said rods mounted on said cars, and, vertical wires sustained by said springs interiorly to engage said rods, substantially as described. 25

4. In a system for transmitting electric currents to cars, a plurality of poles supporting current transmitting horizontal arms, main feed wires insulated at the apex of said poles, branch feed wires leading to said arms, mutually engaging rods curving downwardly
30 at their ends to contact with said arms, and having holes in the base thereof, springs out of contact with said rods mounted on said cars, vertical wires sustained by said springs interiorly to engage said rods, and means
35 for conducting the current underground across intersecting streets, substantially as described. 40

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. EAGAN.

Witnesses:

E. GRAHAM,
CHAS. SONNTAG.