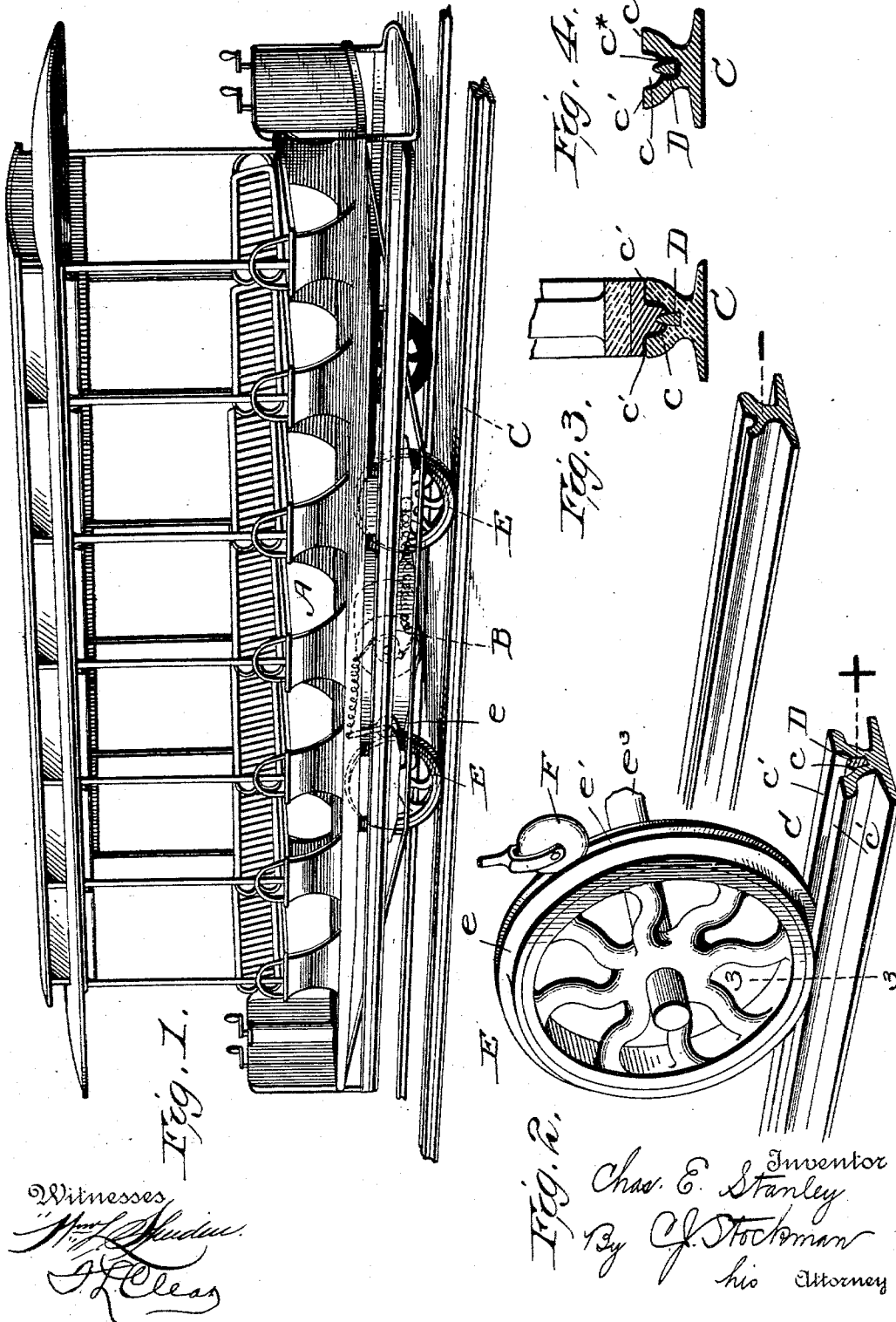


(No Model.)

C. E. STANLEY.
ELECTRIC RAILWAY.

No. 561,830.

Patented June 9, 1896.



UNITED STATES PATENT OFFICE.

CHARLES E. STANLEY, OF GALLIPOLIS, OHIO.

ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 561,830, dated June 9, 1896.

Application filed September 27, 1895. Serial No. 563,853. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. STANLEY, a citizen of the United States, residing at Gallipolis, in the county of Gallia and State of Ohio, have invented certain new and useful Improvements in Electric Railways; and I do 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 the letters of reference marked thereon, which form a part of this specification.

This invention has relation to that proposed type of electric-railway systems in which the electric conductor is located beneath the car, but not underground, and has for its object the production of a simple, practical, and efficient system of the type stated.

The object of the invention is to simplify and cheapen the cost of electrical railway systems by so constructing one of the lines of rails that without materially adding to its cost it will serve also as a conduit for the conductor and by also, with very slight change in the usual construction thereof, adapting the wheel of the car to take the electrical power from the conductor and deliver it to a trolley or other suitable device electrically connected with the motor on the car; and to this end the invention consists in certain peculiarities in the construction, arrangement, and combination of the several parts, substantially as hereinafter described, and particularly pointed out in the subjoined claims.

In the accompanying drawings, illustrating the invention, Figure 1 is a perspective view of an electromotor-car and of the rails upon which the same travels and shows the conductor within one of said rails. Fig. 2 is a perspective view of the grooved rail forming the conductor, the car-wheel thereon for taking the electricity from said conductor, and the trolley-wheel engaging the car-wheel and conducting the electricity to the motor. Fig. 3 is a view of two rails of the track and the wires leading thereto and therefrom, respectively, the conduit-rail being broken away at one point to more clearly show the conductor therein. Fig. 4 is a sectional view taken on the line 4 4 of Fig. 2.

The same letters of reference designate the same parts in the several views.

A designates the car-body, and B the electromotor supported thereby, which car and motor may be of any suitable construction.

In the embodiment of my invention herein shown one rail C of each up and down track is so constructed that it not only serves as a rail upon which the car-wheels E on that side of the car travels, but also serves as a conduit for the conductor D. This rail is herein designated as the "conduit-rail," and is formed with a longitudinal groove or conduit c, which is located immediately beneath and communicates with the ordinary groove c' in its tread and within which the conductor rests, and the rail also has, preferably, laterally-projecting parts c' on both sides of said groove c to afford additional bearing-surface for the treads of the wheels.

The rails may be of metal, having the walls of groove c insulated, as shown at c*, Fig. 5; but I prefer to construct the conduit-rail wholly of compressed paper, which has the advantages of being non-conductive and less noisy than metal rails, besides being durable and otherwise entirely practical for the purpose intended. One or both of the car-wheels on that side of the car contiguous to said conduit-rail has its tread e formed with a flange or projection e' of suitable construction to extend into the groove of the conduit-rail and engage the conductor therein, and said tread is suitably insulated from the axle e². The side walls of said flange e' are preferably in engagement with the side walls of the groove c in the conduit, so as to retain the wheel upon the rail, and its forward face may be grooved to insure most positive and complete contact with the conductor D, as shown.

Preferably the body e² of the wheel is formed of compressed paper. The current is taken from the tread of the wheel by a trolley-wheel F or other suitable device and is delivered thence to the motor B through any suitable electric connections.

The return of the circuit may be through the other rail of the track, as indicated in the drawings, or special means may be employed therefor without departing from the spirit of my invention.

It is obvious that my complete system will

include means and construction by which the direction of motion of the car may be reversed and for starting and stopping the car; but as such means are common to all approved systems and form no part of my present invention I do not deem it necessary to completely show or more specifically describe them herein.

It will be observed that I have provided an electrical railway system in which one of the rails of the track is adapted to serve also as a conduit without requiring expensive additions to the rail for this purpose, and in which also the car-wheels themselves, with but slight change in their usual construction, are adapted to serve as conductors of electricity from the prime conductor within the track-rail to the trolley, thereby reducing the cost to a minimum.

Having thus described my invention, what I claim is—

1. The combination with the track-rails, one of which has a wide groove in its head and a narrower groove in its web communicating with that in its head, and an electric conductor seated in said narrower groove and projecting into the wider groove, of the car-wheels running upon said rails and formed

with grooved flanges projecting into said wider groove and receiving the upper end of said conductor, the car-motor, and electrical connections between said wheel-flange and motor.

2. The combination with the T-rails forming the track, one line of said rails having longitudinal grooves in their heads and longitudinal grooves in their webs communicating with those in their heads, thus providing a conduit, and the conductor within said conduit, of the car-wheels running upon said track-rails, the rim of one of said wheels having a flange extending entirely around its periphery, said flange extending into said conduit and engaging said conductor and being exteriorly grooved, a trolley-wheel engaging said groove in the flange, the car-motor, and electrical connections between said trolley-wheel and motor.

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

CHARLES E. STANLEY.

Witnesses:

J. H. THOMAS,

W. G. BIRD.