(No Model.)

2 Sheets—Sheet 1.

H. A. SEYMOUR.

ELECTRIC RAILWAY.

No. 458,665. Patented Sept. 1, 1891.

FIG. I.

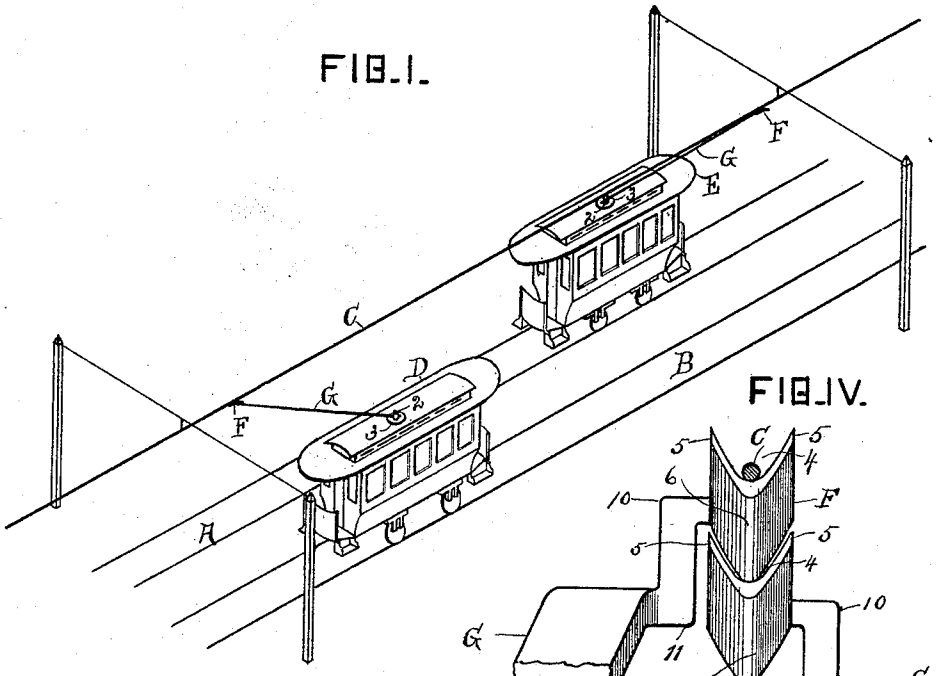


FIG. IV.

FIG. II.

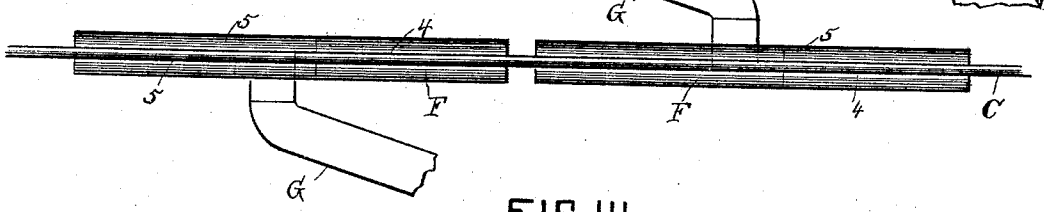
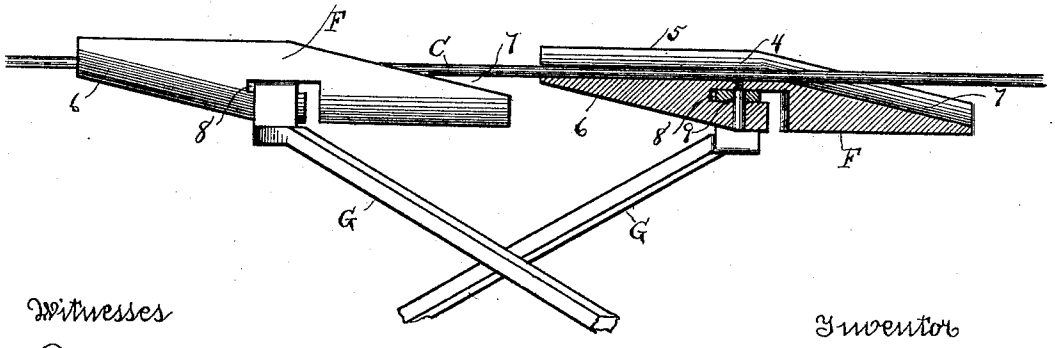


FIG. III.



Witnesses

R. E. Auld.

S. G. Nottingham

Inventor

H. A. Seymour.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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FIG. V.

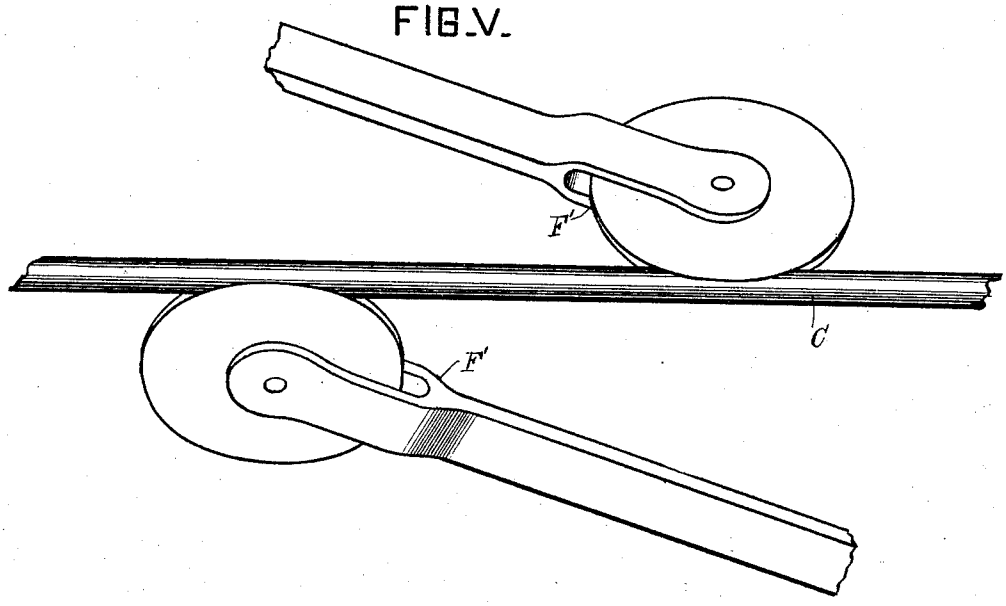


FIG. VI.

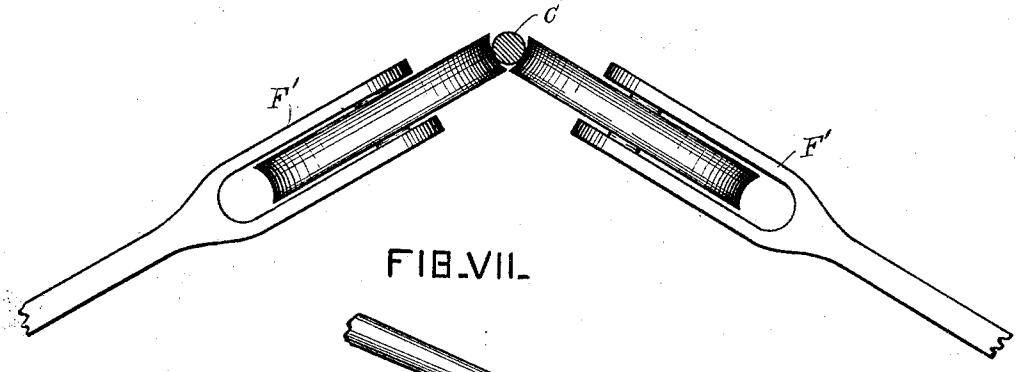
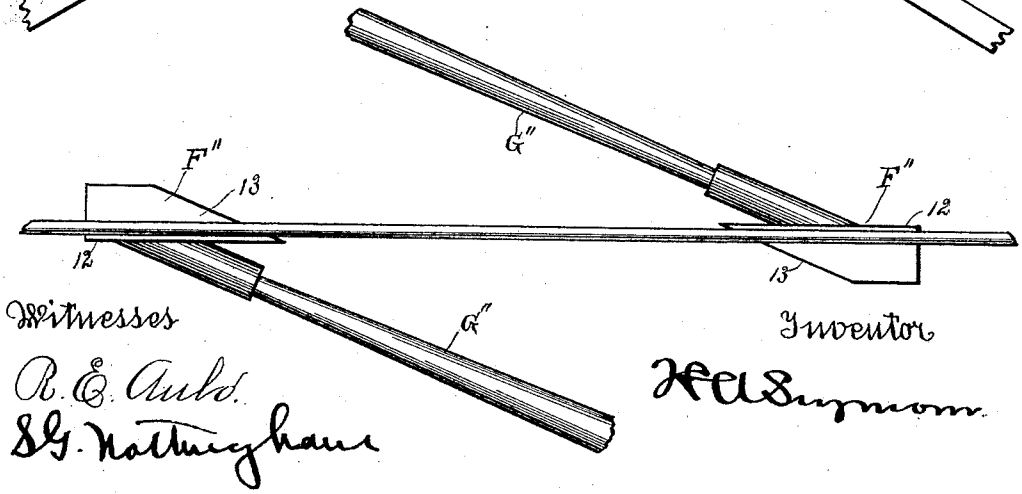


FIG. VII.



Witnesses
R. E. Auld.
S. G. Nottingham

Inventor
H. A. Seymour

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY A. SEYMOUR, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO THE SHORT ELECTRIC RAILWAY COMPANY, OF CLEVELAND, OHIO.

ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 458,665, dated September 1, 1891.

Application filed May 5, 1891. Serial No. 391,624. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. SEYMOUR, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Electric Railways; 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.

This invention relates to electric railways employing trolleys or traveling contacts for taking the current from a conductor parallel with the track, and while it has special reference to what is known as the "overhead trolley system" yet the several improvements constituting the same are included for all the uses to which they may, respectively, be adapted.

Heretofore it has been the practice in double-track roads to employ for each track a separate supply-conductor (whether this be in a conduit or strung overhead in any approved manner.)

The present invention has for its object to enable the same conductor to serve for cars running in opposite directions on the two tracks. To this end the cars are provided with trolleys adapted to travel on a suitably-arranged supply-conductor parallel with the double track when the said cars are on either track. To permit the passage of the cars, one of the trolleys may be pulled down by an attendant on one of the cars; but a further improvement consists in adapting the trolleys to pass without requiring the attention of an attendant, or to require the attention of an attendant only to replace the trolley when it gets off the conductor.

In the accompanying drawings, which form part of this specification, Figure I is a perspective view illustrating a portion of an electric railway in accordance with the present invention. Fig. II is a plan of the supply-conductor and two trolleys running in opposite directions. Fig. III is a sectional view of the same, partly in elevation. Fig. IV is an end view showing the trolleys in the act of passing. Figs. V and VI are views similar to Figs. II and IV, respectively, illustrating another form of trolley, also within the invention; and Fig. VII is a view similar to Fig. II, showing another form of trolley, also within the invention.

Referring to Figs. I to IV, A and B are the two tracks, and C the supply-conductor, shown as supported overhead by span-wires from posts outside the two tracks. The cars D and E are each provided with a trolley or traveling contact F at the outer end of a long pole G, which is pivoted at 2 on a turn-table 3 on top of the car, and is pressed upward constantly by springs, like the trolley-poles in common use. The trolleys on the cars are alike and are in the form of sliding shoes with a groove 4 between flanges 5 to receive the supply-conductor, a pointed nose 6 at one end and a mouth 7 at the other. Under the groove is a slot 8, into which the end of the pole G projects and in which it is pivoted at 9. The trolley-pole G is bent at 10 and 11, so that it may pass through the slot when the trolley or shoe is turned on the pivot 9 in the proper direction, and also may pass over the flange 5 of the other trolley when in the position of Fig. IV. The trolleys are so placed on the conductors that the noses 6 point toward the same end of the line, no matter in which direction the cars may be running. (See Fig. III.) The poles G trail behind the cars. As two cars pass each other, the nose 6 of one trolley enters mouth 7 of the other, and the first trolley enters between the conductor C and the second, as shown in Fig. IV, and then passes on, allowing said second trolley to resume its position on the conductor. When the car is run from, say, the up to the down track—as, for example, at the end of the route—the trolley may be detached from the conductor, the pole G be swung around, and the trolley F replaced on the conductor with its nose pointing in the same direction that it had previously before the trolley was removed from the conductor.

Referring to Figs. V and VI, the trolley F′ is in the form of a roller and is adapted to bear against the conductor C at such an angle that the two trolleys may pass on opposite sides without touching or without sufficient displacement to remove either from the supply-conductor. The trolleys F′ could be so arranged that one or both would be thrown from the conductor on meeting and have to be replaced by an attendant.

In Fig. VII an arrangement is shown in which sliding shoe-trolleys are displaced sidewise automatically on meeting. Each trolley F'' has a flange 12 at one side and is otherwise flat and the end is oblique, as shown at 13. It is fastened rigidly on the spring-pressed pole G'', which is suitably pivoted on the car-body, as are also the poles G' of Figs. V and VI.

In the arrangements where the trolleys have to be returned by the attendant they would not pass each other automatically on the conductor, as specified in the second, sixth, and seventh clauses of claim, hereinafter written; but they may one automatically displace the other, as specified in the third and fifth clauses.

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

1. The improvement in electric railways, consisting in a double trackway with a conductor common to the two tracks, and cars provided with trolleys which travel on said conductor with their respective cars on either track, substantially as described.

2. The improvement in electric railways, consisting in a double trackway with a supply-conductor common to the two tracks, and cars provided with trolleys which travel on said conductor with their respective cars on either track and pass each other on said conductor when moving in opposite directions, substantially as described.

3. The improvement in electric railways, consisting in a double trackway with a supply-conductor common to the two tracks, and cars provided with trolleys which travel on said conductor with their respective cars on either track and are provided with meeting ends or edges, whereby one may displace the other automatically on meeting, substantially as described.

4. The improvement in electric railways, consisting in a double trackway with a supply-conductor common to the two tracks, and cars provided with trolleys which travel on said conductor with their respective cars on either track and are adapted one to displace the other and cause its return automatically, and thus to pass each other on said conductor when moving in opposite directions, substantially as described.

5. A trolley provided with a meeting end or edge, whereby it may displace the other trolley on meeting the same on a conductor, substantially as described.

6. The combination, with a supply-conductor, of trolleys which may travel in opposite directions on said conductor and may pass each other thereon when meeting, substantially as described.

7. A trolley having a nose at one end and a mouth at the other, substantially as described.

8. The combination, with a supply-conductor, of trolleys having each a nose at one end and a mouth at the other and adapted to pass automatically on said conductor by one trolley entering between the conductor and the other trolley and allowing the latter to return to the conductor when the former has passed, substantially as described.

9. In combination with a supply-conductor, trolleys adapted one to displace the other on meeting and cause its return automatically, and thus to pass each other on said conductor when moving in opposite directions, substantially as described.

10. The combination, with a double line of railway and an electrical conductor common to both tracks of said line of railway, of trolleys adapted to run on said electrical conductor, said trolleys being so constructed and arranged as to pass each other on said conductor, substantially as set forth.

11. The combination, with a double line of railway and an electrical conductor common to both tracks of said line of railway, of trolleys which may travel in opposite directions on said conductor and which may pass each other thereon, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HENRY A. SEYMOUR.

Witnesses:
C. S. DRURY,
S. G. NOTTINGHAM.