

(No Model.)

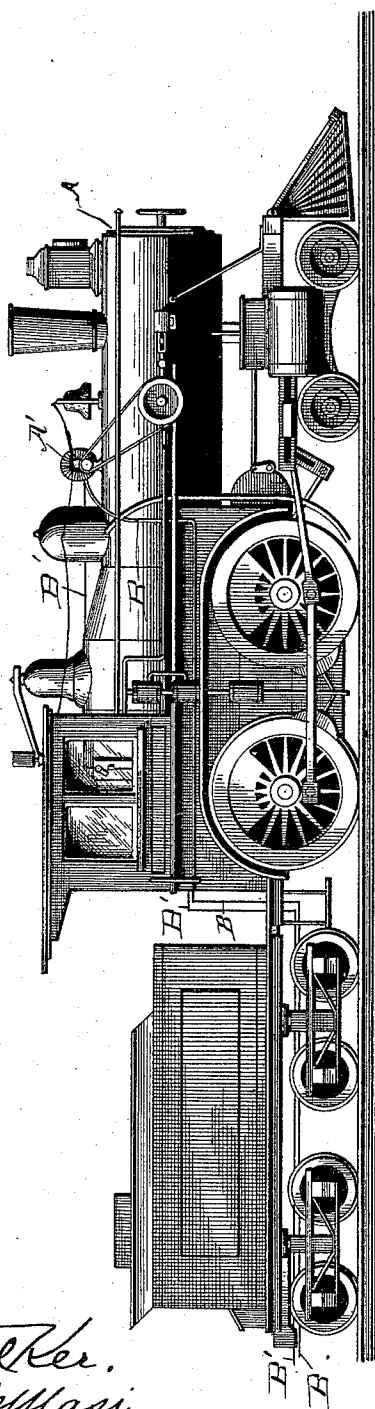
2 Sheets—Sheet 1.

J. REDMOND.
ELECTRIC CAR BRAKE.

No. 470,505.

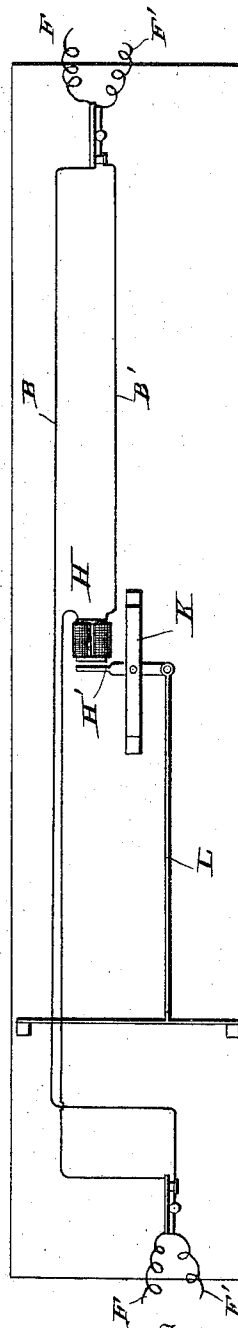
Patented Mar. 8, 1892.

Fig. 1.



Witnesses
Samuel Keer.
Philip P. Ullasi.

Fig. 2.



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Fig. 3.

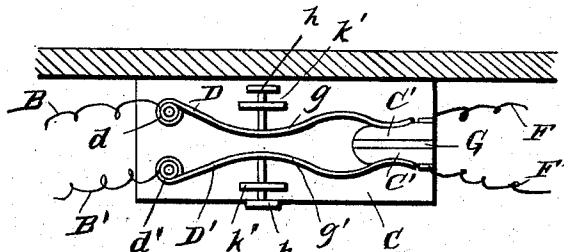


Fig. 5.

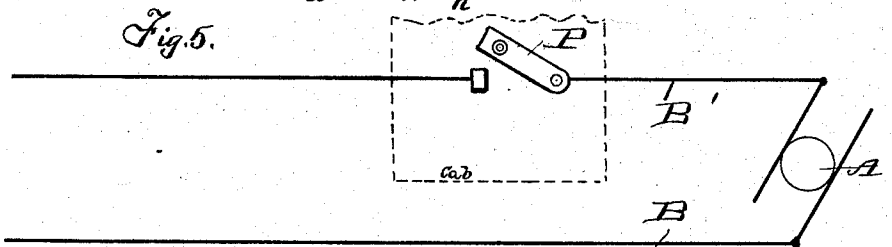
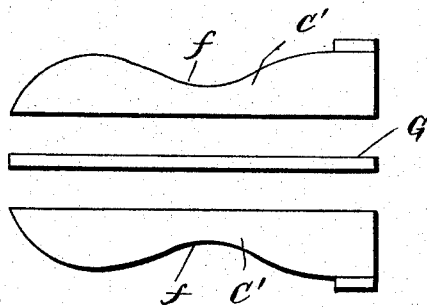


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN REDMOND, OF SEATTLE, WASHINGTON.

ELECTRIC CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 470,505, dated March 8, 1892.

Application filed October 17, 1891. Serial No. 408,991. (No model.)

To all whom it may concern:

Be it known that I, JOHN REDMOND, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Electric Brakes; 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a view of locomotive with dynamo. Fig. 2 is a bottom view of the car. Fig. 3 is a longitudinal sectional detail view. Fig. 4 is a detail view of plugs and the strip G. Fig. 5 is a diagrammatic view showing the current-closing key or switch.

This invention has relation to means for electrically operating the brakes of railway-cars, electric street-railways, or any other cars to which applicable; and it consists in the novel construction and combination of parts hereinafter disclosed.

Located at a convenient point on the locomotive and driven by a small engine receiving power from the locomotive A is a dynamo A'. Suitable electrical connections are made between the dynamo and the circuit-wires B B'. These wires are heavily insulated and extend throughout the train, being connected between the cars by wires F F', connected as hereinafter described, passing through the cab, where the circuit may be made and broken by the use of an ordinary key or switch P.

At each end of each car is secured a board or plate C, to which are fastened at their inner ends heavy springs D D', having their said ends coiled around posts d d', to which are respectively connected the wires B B'. The opposite ends of these springs engage or press against plugs C' C', of conducting material, to which are respectively connected one end of the wires F F', connected at their opposite ends to similar plugs on the next car. These plugs are held removably between the springs D D', and are separated from each other by an insulating-strip G, secured to the board C. Said plugs are provided with depressions f, the springs having corresponding curves f' fitting therein. Intermediate of

their ends the springs are bent or curved toward each other, as shown at g g'. The tension of the springs may be adjusted by the screws h, which bear thereagainst, said screws working in brackets h'.

Underneath each car is supported an electro-magnet H, having an armature-lever H', said armature and lever forming a part of the circuit. The lever H' is pivoted upon a bar or support K, which is secured to the sills of the car-bottom. To said lever is connected the brake-bar-operating rod L. When therefore the key in the cab is operated to make or complete the circuit, the electro-magnets are energized and the armature-levers are attracted thereto, operating the brake-bars to apply the brakes or shoes. When a car or a portion of the train is uncoupled, the tension on the wires F F' will withdraw the plugs C' C' from engagement with the springs, which will therefore approach each other, bringing the curves g g' in contact and automatically making the connection for the balance of the train.

To insure the plugs C' C' being removed at the right end of the connecting-wires F F' by the operation of uncoupling, the tension on the springs g g' on the forward part of the train is usually partially removed by means of the screws h h, so as to offer less resistance to the removal of said plugs at that end of the connections than at the other.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In an electric-brake system for railway-cars, the combination of the generator, the circuit-wires connected therewith, a circuit-closing key or lever located in the cab, an electro-magnet carried by each car and having a pivoted armature-lever, said magnet forming a part of the circuit, connections between said lever and the brake-shoes, whereby the latter will be applied when the magnets are energized, and couplings for the circuit-wires between the respective cars, comprising the spring to which said wires are connected, the removable conductor-plugs engaged thereby, the insulator-strip separating said plugs, and wires connecting the respective plugs in adjoining cars, substantially as specified.

2. The herein-described coupling for cir-

cuit-wires of railway-trains, comprising the
springs, the removable conductor-plugs en-
gaged thereby, and the insulating-strip sepa-
rating said plugs, said springs and plugs being
5 in the main circuit, substantially as specified.

3. The herein-described coupling for cir-
cuit-wires of railway-trains, comprising the
board or base, the springs connected at one
end thereto and at their opposite ends press-
10 ing against conductor-plugs removably seated
between them and separated by a permanent
insulating-strip, said springs having interme-
diate approaching curved portions and at one

end being electrically connected each with one
of the circuit-wires, and wires connected to said 15
plugs at one end and at their opposite ends
to the circuit-wires on the next car, whereby
when tension is given said connecting-wires
said plugs will be withdrawn and the springs
come in contact, substantially as specified. 20

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

JOHN REDMOND.

Witnesses:

R. J. HUSTON,
J. T. DE BOLT.