

G. G. KIBBEE.
ELECTROMAGNETIC TRACK BRAKE FOR RAILWAY CARS.
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1,053,830.

Patented Feb. 18, 1913.

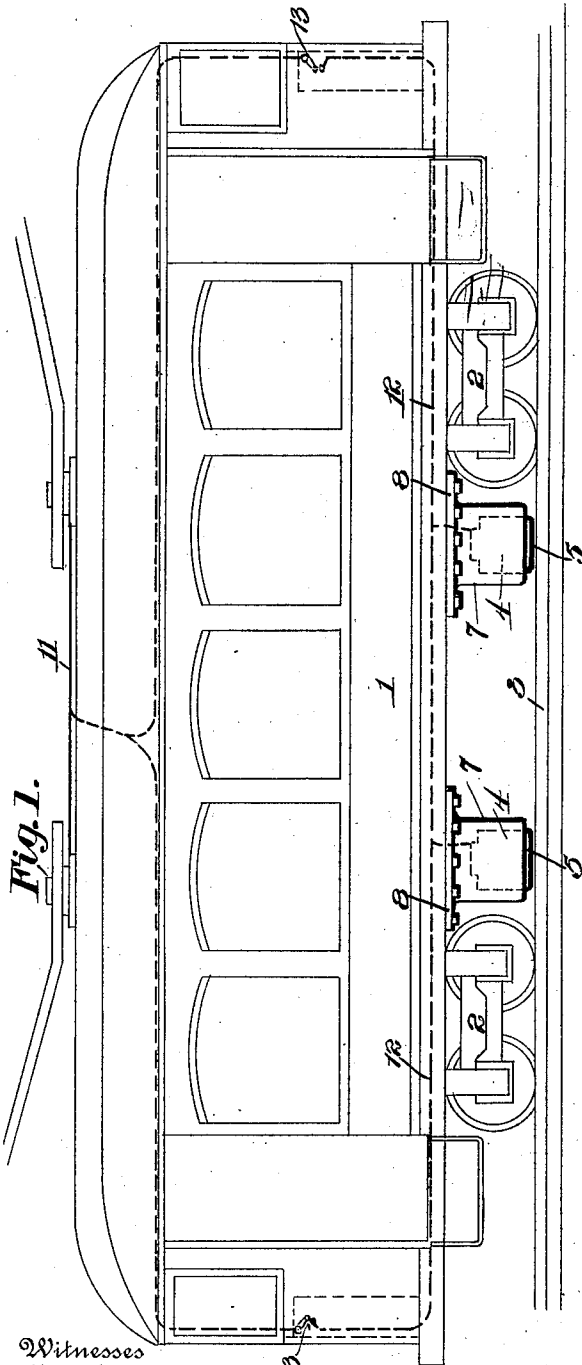


Fig. 1.

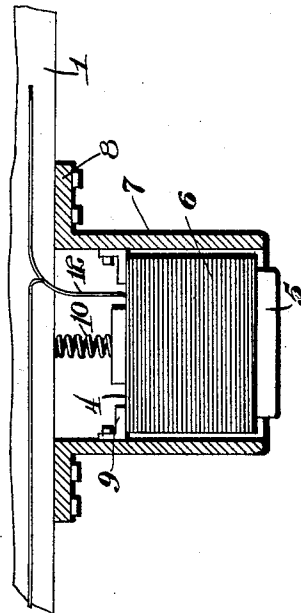


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

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ELECTROMAGNETIC TRACK-BRAKE FOR RAILWAY-CARS.

1,053,830.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed August 31, 1912. Serial No. 718,061.

To all whom it may concern:

Be it known that I, GEORGE G. KIBBEE, a citizen of the United States, residing at Forest City, in the county of Winnebago and State of Iowa, have invented new and useful Improvements in Electromagnetic Track-Brakes for Railway-Cars, of which the following is a specification.

This invention is an improved electro-magnetic track brake especially adapted for use on electric cars but also adapted for use on other railway cars, the object of the invention being to provide a brake of this kind which is extremely cheap and simple, is strong and durable and which is of maximum efficiency.

The invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawing:—Figure 1 is a diagrammatic elevation of an electric railway car provided with electro-magnetic track brakes constructed in accordance with my invention. Fig. 2 is a detail sectional view on a larger scale of one of my improved electro-magnetic track brakes.

In accordance with my invention, the body of an electric railway car is indicated at 1, the trucks at 2 and the track rails at 3. In accordance with my invention, I provide an electro-magnet 4 which is here shown as comprising a pole piece 5 and windings 6. The electro-magnet is arranged in a vertical position in a guide cylinder and hanger 7 which is open at its upper and lower ends and the bore of which is slightly greater in diameter than that of the electro-magnet to permit the electro-magnet to move freely in a vertical direction in the guide cylinder and hanger. Said guide cylinder and hanger is provided at its upper end with an outwardly projecting flange 8 which is bolted to the bottom of the car in a position to arrange the electro-magnet directly above one of the track rails.

In practice, any suitable number of the electro-magnets may be used. I prefer to employ four of them, two at each side of the car and arranged between the trucks as shown in Fig. 1.

In the inner side of each guide cylinder and hanger are stops 9 to limit the upward movement of the electro-magnet and I also provide each electro-magnet with a spring 10 which is sufficiently strong to raise the electro-magnet and normally hold the same a slight distance above the track rail. The lower end of the pole piece of each electro-magnet is slightly rounded to prevent the same, when applied, from striking against the ends of the rails at the joints. The electro-magnets are connected in circuit with the feed wires 11 which lead from the trolley by means of conducting wires 12 and a switch 13 is provided by means of which the circuit including an electro-magnet may be opened or closed at will. In order to apply the brakes, the switch is closed thereby causing the electro-magnets 4 to become energized and thereupon they become depressed and attracted to the upper surfaces of the track rails and grip the same with such force as to form effective brakes for stopping the car. Moreover, since the electro-magnet brakes are applied directly to the track rails they prevent the car from overturning in the event of an accident.

If preferred, the car may be provided with a suitable storage battery and the windings of the electro-magnet brakes may be connected in circuit with said storage battery.

While I have herein shown and described a preferred form of my invention, I would have it understood that changes may be made in the form, proportion and construction of the several parts without departing from the spirit of my invention and within the scope of the appended claims.

I claim:—

An electro-magnetic track brake for railway cars comprising a vertically arranged hanger and guide cylinder open at its upper and lower ends provided at its upper end with a flange adapted to be bolted to the bottom of a car and also having stops on its inner side near its upper end, a vertically movable electro-magnetic brake arranged in the bore of the said guide cylinder and hanger, and a spring in the upper portion

of the guide cylinder and hanger, having
its upper end connected to the car bottom
and its lower end connected to the upper end
of the said brake, said spring acting to nor-
5 mally raise the electro-magnetic brake and
hold the same in its upper end against the
stops.

In testimony whereof I affix my signa-
ture in presence of two witnesses.

GEORGE GRANT KIBBEE.

Witnesses:

J. A. PETERS,
AMOS KIBBEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
