

No. 714,913.

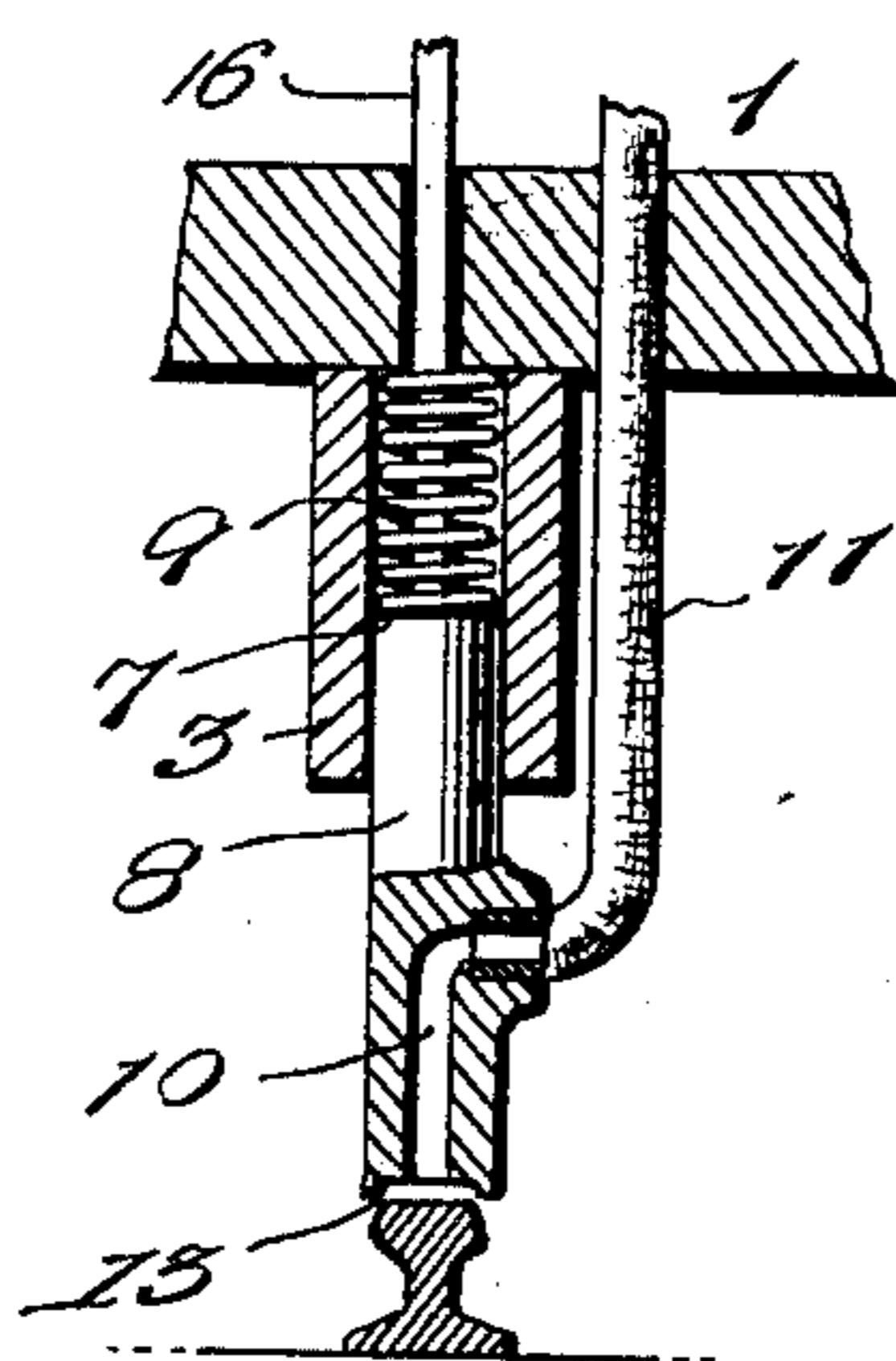
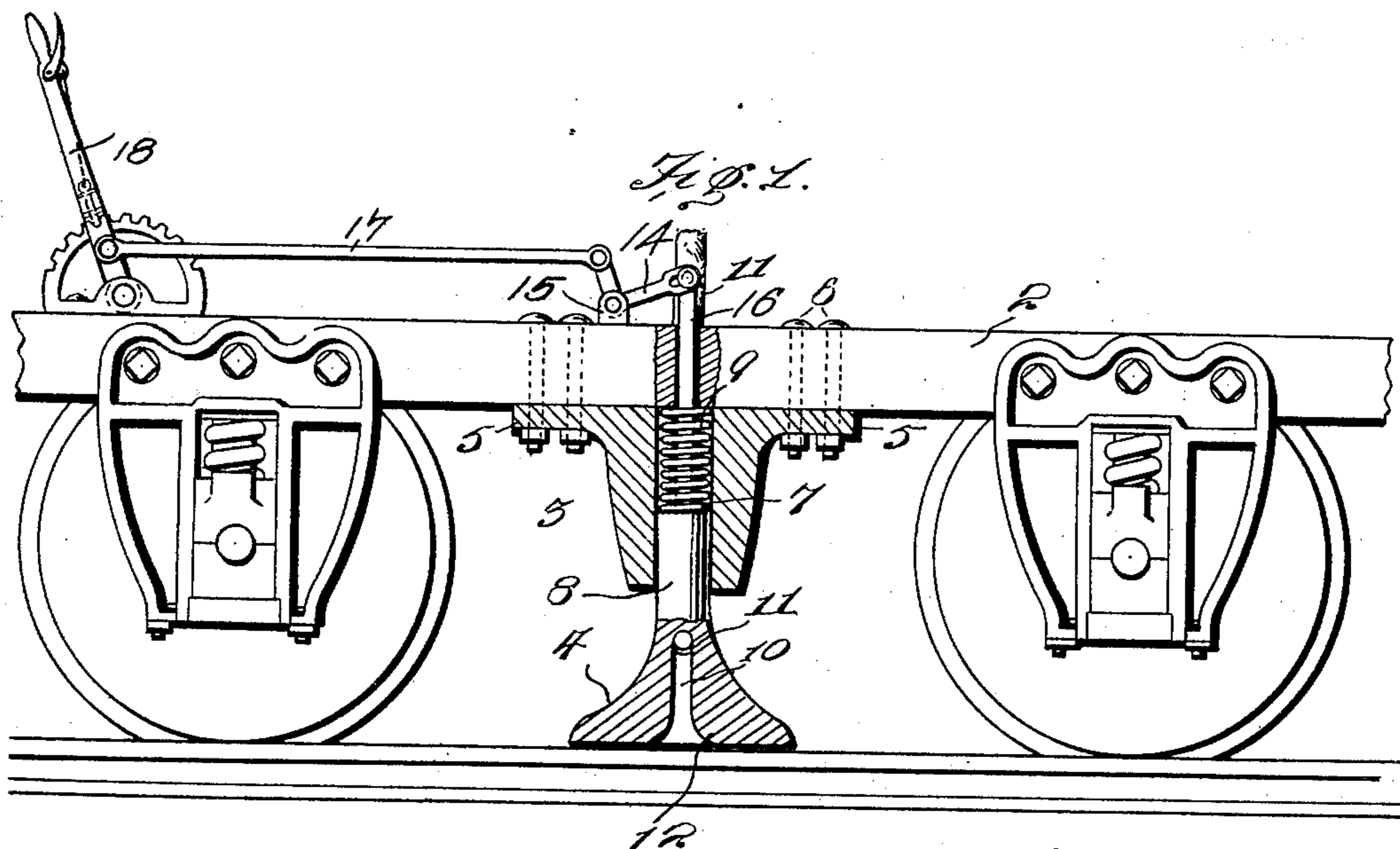
Patented Dec. 2, 1902.

O. KEEN.

TRACK BRAKE FOR ELECTRIC CARS.

(Application filed Apr. 23, 1902.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

ORLANDO KEEN, OF ALLENTOWN, PENNSYLVANIA.

TRACK-BRAKE FOR ELECTRIC CARS.

SPECIFICATION forming part of Letters Patent No. 714,913, dated December 2, 1902.

Application filed April 23, 1902. Serial No. 104,357. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO KEEN, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and useful Track-Brake for Electric Cars, of which the following is a specification.

This invention relates generally to track-brakes for cars, and particularly to one adapted for use upon electric cars.

The object of the invention is in a simple, thoroughly-effective, and practical manner to obviate accidents on electric railways caused by a car getting from under the control of the motorman in running down steep grades.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a track-brake for cars, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof, and in these drawings—

Figure 1 is a view in side elevation of a car-truck, exhibiting the track-brake of this invention applied thereto, the brake being in section. Fig. 2 is a view in transverse section through the brake, taken on a line at right angles to Fig. 1.

Referring to the drawings, 1 designates an ordinary car-truck, which may be of the usual or any preferred construction, and therefore needs no detailed description. Secured to the wheel-piece 2 of the truck is a hanger 3, with which is associated the brake-shoe 4. The hanger is disposed intermediate of the truck-wheels and is provided with ears 5, through which pass bolts 6 for securing it to the bolster. The hanger is provided with a bore or chamber 7, in which is housed the shank 8 of the shoe, and arranged in the chamber above the shank is a spring 9, one end of which bears against the bolster and the other end against

the shank. It is to be understood that there is to be one of these shoes between each pair of wheels on each side of the truck, and as this will be readily understood detailed illustration is deemed unnecessary. The shoe is provided with a channel or bore 10, arranged intermediate of its ends and opening laterally near the lower end of the hanger, and with this latter terminal of the channel connects a pipe 11, communicating with the sand-box, (not shown,) the valve of which is to be under the control of the motorman. The lower terminal of the channel is flared or enlarged at 12 in order that the sand may be spread practically across the entire width of the rail, and the contact-face of the shoe is concaved or shaped closely to fit the rail, as shown at 13.

The normal tendency of the spring 9 is to force the shoe against the rail, the spring to be of such strength that when it is released from retention by mechanism presently to be described it will force the shoe against the track and hold it there with sufficient power to set up such frictional resistance between the shoe and the sanded rail as positively to stop the car on any grade however steep.

The mechanism for holding the shoe out of engagement with the rail comprises in this instance a bell-crank lever 14, pivoted at its bend between ears 15, carried by the bolster. One member of the bell-crank lever is pivotally connected with a stem 16, rigid with the shank of the shoe and projecting upward beyond the wheel-piece, and its other member is connected with one end of a draw-rod 17, the other end of which is connected with a locking-lever 18, disposed at any preferred point on the truck or on the front platform of the car, thus to be in reach of the motorman.

The operation of the brake is as follows: So long as the car is running on a level or a slight upgrade or so long as the motorman has the car under absolute control the lever will be locked in position to hold the shoe out of contact with the rail; but should the car get from under the control of the motorman, as by failure of the ordinary brakes to work, the lever 18 will be moved to the rear, thus to allow the spring to force the shoe against the rail and at the same time the valve of the

sand-box is opened to permit sand to pass to the shoe and thence out upon the track. This cushion of interposed sand will cause such frictional resistance between the shoe
5 and the rail as to stop the car. It is to be understood that the lever 18 will be connected up with the brake-shoe on the opposite side of the truck and also with the brake-shoes carried by the rear of the truck, so that in
10 operating the lever all of the shoes are simultaneously applied.

The advantage of supplying the sand to the track between the wheels is that where ice is upon the track the shoe and sand together
15 will operate to clear the track of ice in advance of all the wheels except the two front ones, so that if all the brakes be applied with sufficient force to lock the wheels these by sliding over the sanded track will coöperate
20 with the shoes to effect stopping of the car.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

The combination with a truck, of an orificed hanger, a shoe having a shank mounted
25 within the orifice, a spring arranged in the hanger and bearing against the shank, the shoe being provided intermediate of its ends with a vertical bore or channel and having
30 its contact-face shaped to conform to the surface of a rail, a pipe for supplying sand to the shoe, and shoe locking and unlocking mechanism operatively connected with the shank.

In testimony that I claim the foregoing as
35 my own I have hereto affixed my signature in the presence of two witnesses.

ORLANDO KEEN.

Witnesses:

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JOHN A. HEFFRICH.