

No. 844,918.

PATENTED FEB. 19, 1907.

W. M. BROWN.
CAR MAGNET SUPPORT.
APPLICATION FILED JAN. 25, 1906.

2 SHEETS—SHEET 1.

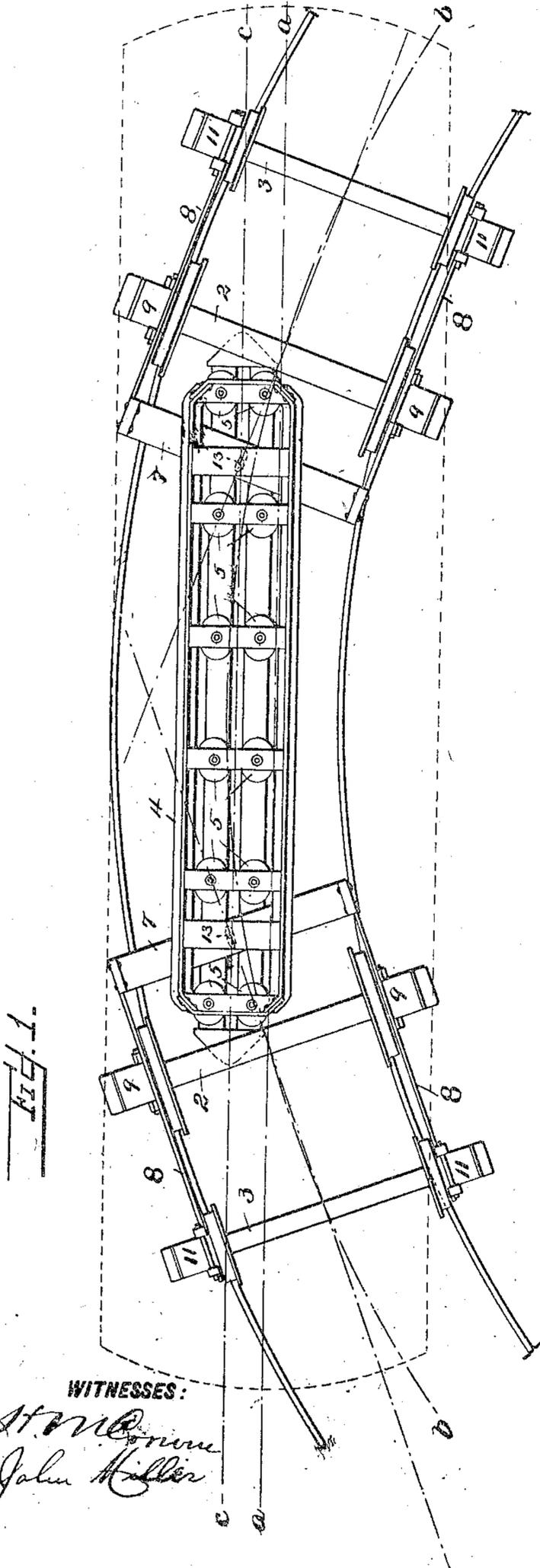
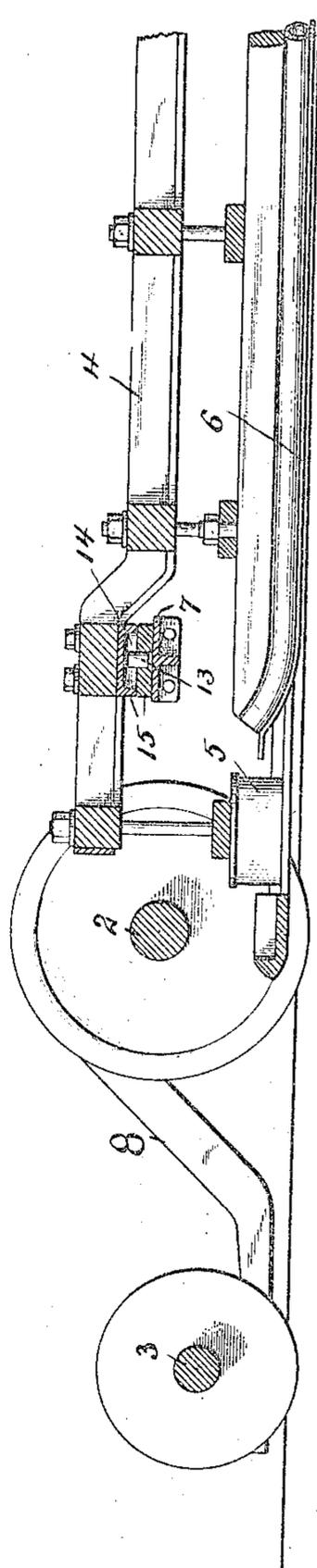


Fig. 5.



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CAR-MAGNET SUPPORT.

No. 844,918.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM MILTON BROWN, of Johnstown, Cambria county, Pennsylvania, have invented a new and useful Improvement in Car-Magnet Supports, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a plan view showing my invention as applied to a pair of car-trucks with the parts in the positions which they assume when the trucks are passing around a curve in the track, the position of the car-body being indicated in dotted lines. Fig. 2 is a plan view of one of the trucks and a portion of the magnet-support. Fig. 3 is a side view of Fig. 2. Fig. 4 is a section on the line IV IV of Fig. 2, and Fig. 5 is a section on the line V V of Fig. 2.

My invention has relation to magnet-supports for the car-magnets of cars which are used in connection with that class of surface-contact electric railways in which the circuit-closing magnets are carried by the cars. In railways of this class it is very desirable that the contact boxes or studs which are embedded in the track shall be arranged at the center of the track—that is, midway between the track-rails at all points—as well on curves, as on straight tracks. Such an arrangement has been possible where single-truck cars have been used, as the car-magnets can be so carried on the trucks that the longitudinal center of the magnet-support will at all times be approximately over the center of the track. With double trucks, however, this has not been heretofore possible, owing to the fact that the magnet-support must extend from one truck to the other, and prior to my invention no method has been devised, in so far as I am aware, by which the support could be connected to the trucks in such a manner as to maintain its proper relation to the track center in passing around curves.

The object of my invention is to accomplish this result in a simple manner and to so arrange the support that it will maintain practically the same position on a double-truck car as if it were carried between the axles of a single truck.

With this object in view my invention consists in the novel construction, arrangement, and combination of parts, all substantially as

hereinafter described, and pointed out in the appended claims.

Referring to the drawings, the numerals 2 designate the inner or adjacent axles, and 3 the outer or end axles, of a pair of car-trucks of a double-truck car. In the form shown these trucks are of the well-known maximum traction type.

4 designates the longitudinal frame, from which are supported the depending circuit-closing magnets 5. This frame may be of any suitable construction capable of sustaining the weight of the magnets and of the current-collecting shoe 6, which is also carried by this frame.

To carry the frame 4, I provide each of the trucks at a point between the bolster centers with a transverse supporting-bar 7. In the particular form of my invention illustrated the bar 7 is secured at its ends to side bars 8, which extend over the journal-boxes 9 of the axle 2 and are secured to the journal-box adjacent to the guides 10 and are thence carried downwardly and rearwardly underneath the journal-boxes 11 of the axles 3 and are secured to the journal-box adjacent to the guides 12 thereof. By this construction I provide a secure support for the overhanging bars 7; but it will be obvious that such bars or their equivalent may be supported from the truck-frames in various ways. The frame 4 is pivotally connected to the central portion of each of the bars 7 by a pin or stud 13, as best shown in Fig. 4, the frame 4 having oblong slots 14 to receive such pins or studs, suitable bearing-plates 15 being also interposed between said frame and bars.

The broken line *a a* in Fig. 1 indicates the longitudinal center of the car-body in passing around the track-curve shown, the center of such curve being indicated by the broken line *b b*. The broken line *c c* indicates the center of the magnet-supporting frame 4. By an examination of these center lines it will be noted that in passing around the track-curve shown the center line of the magnet-support has shifted with respect to the center line of the car-body an amount equal to the distance between the lines *a a* and *c c*, but that the center line of the magnet-frame maintains a substantial coincidence, with the center line of the track. This coincidence is not of course an exact one; but the variation is so slight at any point in

the length of the car-magnets as to be practically negligible. This position of the magnet-frame is assumed by reason of the pivot connections at 13, the elongated slots 14 taking care of the variation in the longitudinal distance between the centers of the bar 7 at different points of the curve and upon curves of different radii.

It will be noted that the magnet-support is effected entirely from the car-trucks and is entirely independent of the car-body. The exact distance between the centers 13 and the bolster centers will necessarily depend upon the size and construction of the cars and of the trucks; but the centers 13 must in all cases be sufficiently distant from the centers d so that the end projections of the frame 4 will not contact with the car-wheels in any position which the frame can assume. As above indicated, the support which carries the centers 13 may be constructed and arranged in various ways to correspond to differences in the construction of the various kinds of trucks which may be employed in any case.

What I claim is—

1. The combination with the trucks of a double-truck car, of a magnet-supporting frame extending between the trucks and pivotally connected thereto at points between the bolster centers; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots, substantially as described.

2. The combination with the trucks of a double-truck car, of a magnet-supporting frame extending between the trucks and pivoted thereto at points between the bolster centers, said supporting-frame being independent of the car-body; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots substantially as described.

3. The combination with the trucks of a double-truck car, said trucks having overhanging or projecting supports extending between the trucks, of a magnet-supporting frame pivotally connected to the support of

each truck; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots substantially as described. 55

4. The combination with the trucks of a double-truck car, said trucks having supporting members extending between the trucks, of a magnet-supporting frame pivotally connected to each of said supporting members at points between the truck-bolsters and on the center lines of the trucks; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots, substantially as described. 65

5. A car-truck having side frame, a supporting-bar carried by the said frames, and a magnet-supporting frame pivotally connected to the said bar, at a point on the center line of the truck and distant from the bolster center; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots, substantially as described. 75

6. The combination with the trucks of a double-truck car, of a magnet-supporting frame extending between the trucks and having a pivotal and slotted connection therewith at points between the bolster centers; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots substantially as described. 80

7. The combination with the trucks of a double-truck car, said trucks having overhanging or projecting supports extending between the trucks and carried by the car-axles independently of the truck-frame, of a magnet-supporting frame pivoted to the end bars of such supports at points between the bolster centers and having magnet-carrying extensions beyond its pivotal points; substantially as described. 90

In testimony whereof I have hereunto set my hand.

WILLIAM MILTON BROWN.

Witnesses:

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