

(No Model.)

3 Sheets—Sheet 1.

M. BACON.  
TOY ELECTRIC RAILWAY.

No. 295,473.

Patented Mar. 18, 1884.

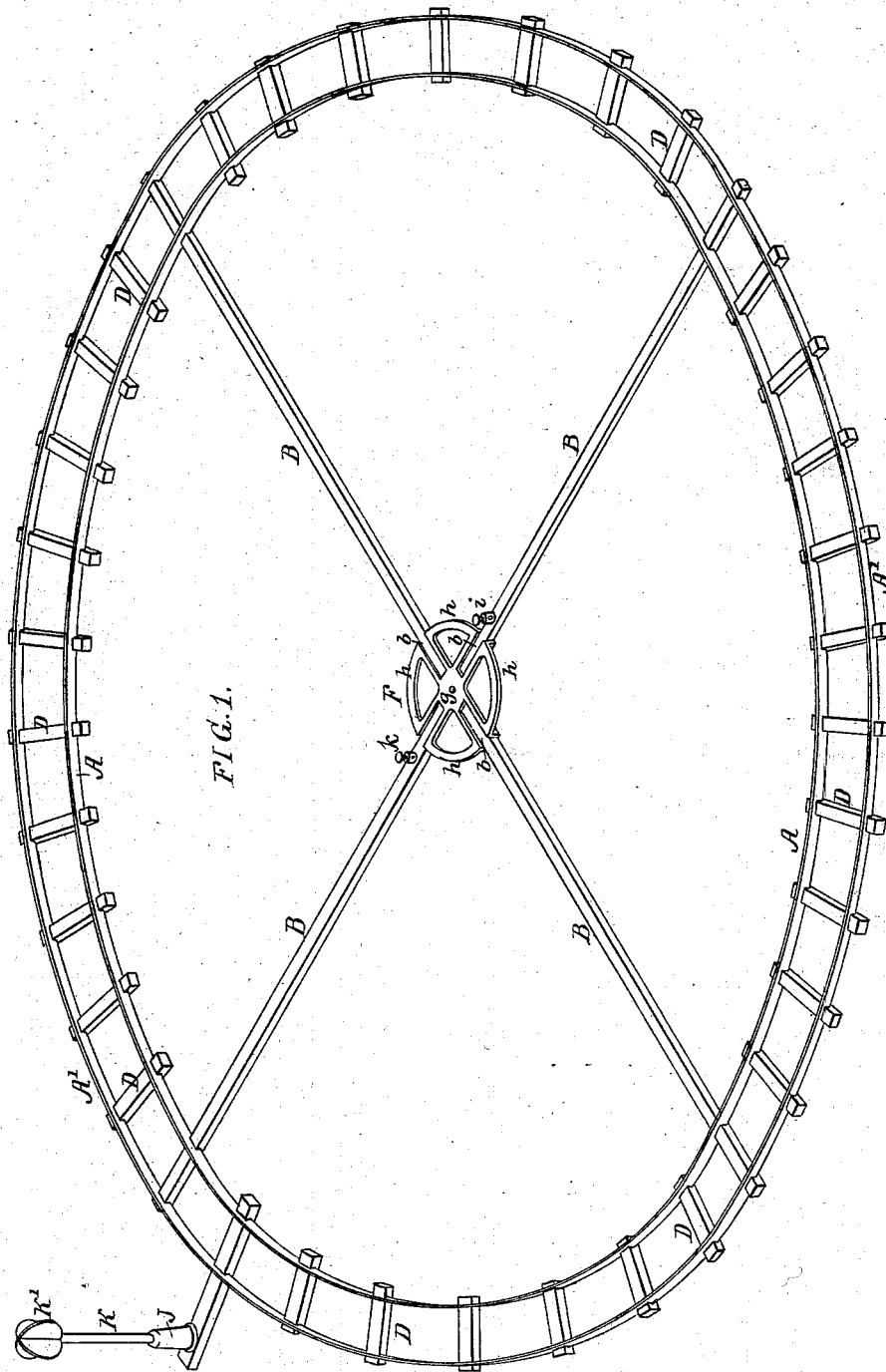


FIG. 1.

WITNESSES.

James J. Johns  
John M. Clayton.

INVENTOR:

Murray Bacon  
by his Attys  
Houson & Sons



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FIG. 7.

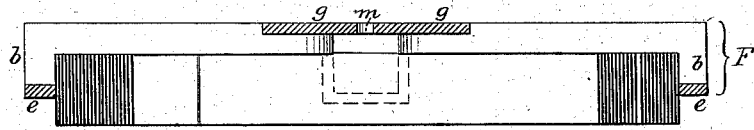


FIG. 8.

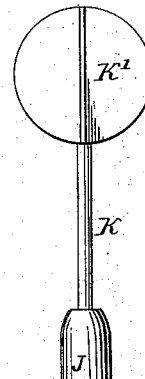
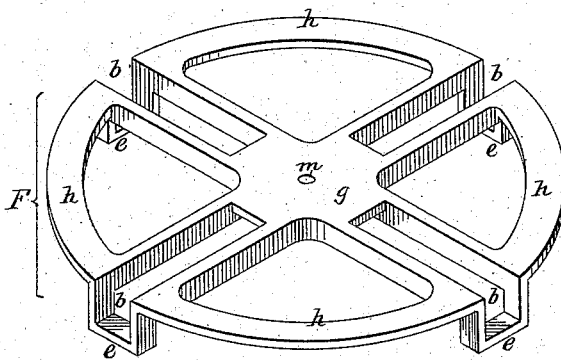


FIG. 9.

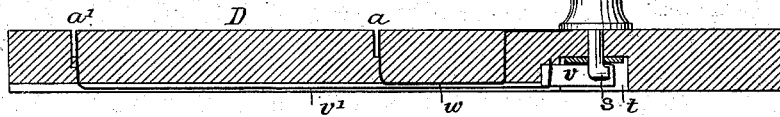
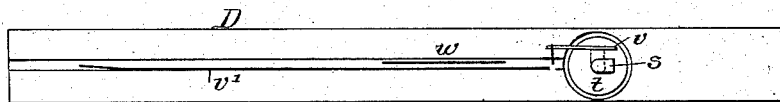


FIG. 10.



WITNESSES:

James F. Johns  
John M. Clayton.

INVENTOR:

Murray Bacon  
by his Attorneys  
Howard & Smith

# UNITED STATES PATENT OFFICE.

MURRAY BACON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE  
NOVELTY ELECTRIC COMPANY, OF SAME PLACE.

## TOY ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 295,473, dated March 18, 1884.

Application filed December 10, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, MURRAY BACON, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented an Improvement in Toy Electric Railways, of which the following is a specification.

The object of my invention is to make a toy in the form of an electric railway, the invention comprising a track, supporting structure, and electrical connections, too fully described hereinafter to need preliminary explanation.

In the accompanying drawings, Figure 1, Sheet 1, is a perspective view of a toy electric railway made in accordance with my invention; Fig. 2, Sheet 2, a sectional view of the same; Fig. 3, a plan view of a portion of the structure, showing the method of setting the rails; Figs. 4, 5, and 6, views on a larger scale, respectively, of one of the rail-supporting bars, the rail-gaging bar, and one of the cross-ties; Fig. 7, Sheet 3, a sectional view, on a still larger scale, of the central frame or spider; Fig. 8, a perspective view of the same; and Figs. 9 and 10, a sectional view and an inverted plan view, respectively, of a short-circuiting device in connection with a signal-post forming part of the toy.

It may be stated, in the outset, that the toy consists of a track, (preferably circular,) one rail of which is connected to one pole and the other rail to the other pole of a battery or other generator of electricity, the locomotive (which is not shown in the drawings) consisting, essentially, of a wheeled truck, which has an electromotor secured or geared to one of its axles, the circuit from one rail to the other being completed through the motor and through one of the axles and its wheels.

A A' are the two rails of the track, which consist of sheet-metal strips adapted to notches *a a'* in radial arms B, four in the present instance, and in short cross-ties D, arranged at suitable distances apart around the track, the inner notches, *a*, being preferably deeper than the outer notches, *a'*, as shown in Figs. 4 and 6, so that the outer rail, A', will be somewhat higher than the inner rail, as is usual in curved tracks. The inner ends of the arms B are fitted to sockets *b* in a central frame, F, the under sides of the arms having notches *d* for the reception of the bottom bar,

*e*, of the socket, and the inner ends of the arms bearing upon the central plate, *g*, of the frame, as shown in Fig. 2, so that the arms are confined laterally, longitudinally, and vertically. The frame F is completed by a rim, *h*, which connects the outer ends of the sockets, as shown in Fig. 8. One of the arms B has a binding-post, *i*, connected by an insulated wire, *i'*, with the inner rail, A, and another of the arms has a similar binding-post, *k*, connected by a wire, *k'*, with the outer rail, A', so that when said posts are connected, respectively, to the positive and negative wires of a battery or other generator of electricity a motor placed upon the track will be caused to traverse the same.

It should be understood that the arms B and cross-ties D rest upon the floor or upon a table or other level surface, and in order that the proper running of the locomotive will be insured, it is necessary that the rails of the track shall be perfectly concentric and at a uniform distance apart at all points; hence in preparing the track I first fit the rails A A' to the notches of the arms B, and then fit to a central opening, *m*, in the plate F, a pin, *n*, on the inner end of a gage-bar, G, Fig. 5, the outer end of which has in the under side notches *p p*, which receive the upper edges of the rails. This bar is then turned upon its pivot, so as to properly space and curve the rails, the notched ties D being inserted in succession at the proper distances apart as the bar is moved, so as to cause the rails to retain their proper relation to each other and to the center of the supporting structure.

One of the cross-ties D is extended, as shown in Figs. 1, 9, and 10, and carries a standard, J, in which is a bearing for a shaft, K, the upper end of which carries signal-disks K', the lower end of the shaft having an arm, *s*, contained within a recess, *t*, in the under side of the tie. Projecting into this recess is a spring-plate, *v*, with which connects a wire, *v'*, terminating in the outer groove, *a'*, of the tie, so as to form a connection with the outer rail, A'. The inner rail, A, has a connection through a wire, *w*, with the standard J and shaft K, so that while the said shaft is in the position shown by full lines in Figs. 9 and 10 (the signal then indicating "safety") there is no inter-

ruption of the circuit between the rails A and A' through the motor; but when the shaft is turned to the position shown by dotted lines in Fig. 10 (the signal then indicating "danger") the current is short-circuited through the wire v', spring-plate v, shaft K, standard J, and wire w, and the motor ceases to run. A semaphore-arm signal may, however, be used instead of a rotating disk signal.

It will be observed on reference to Figs. 7 and 8 that the sockets b are cut away or recessed on the under side, so that when the bars B are removed the frame F forms a cage, in which can be snugly coiled the strips which form the rails A A', thus providing for the packing of the parts of the toy in small compass for transportation or storage.

I claim as my invention—

1. A toy electric railway in which are combined the following elements, namely: a suitable generator of electricity, a central frame, a series of radial arms, B, a series of cross-ties, D, two sheet-metal strips adapted to notches in the said arms B and ties D, and two wires, v' and k', as set forth.

2. The combination of the rails A A' with the supporting-arms B, notched at the outer end for the reception of the rails, and having

secured to them wires communicating with said notches, as set forth.

3. The gage-bar G, having a pivot-pin, n, and notches p p in its under side for adaptation to the rails A A', as set forth.

4. The combination of the frame F, having sockets b, with the bars B, having in their under sides notches d, in which the bottom bars of the sockets fit, whereby radial withdrawal or displacement of the bars is prevented, as set forth.

5. The center frame, F, having sockets b and recessed on the under side to form a cage for containing, when coiled, the strips composing the rails, as set forth.

6. The combination of the rails and their supporting structure with a short-circuiting connection between the rails and a signal device constructed to make and break said connection, as set forth.

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

MURRAY BACON.

Witnesses:

JOHN E. PARKER,  
HUBERT HOWSON.