

Oct. 21, 1930.

P. P. SAUNIER

1,779,148

TOY RAILWAY SYSTEM

Filed July 11, 1929

2 Sheets-Sheet 1

Fig. 1.

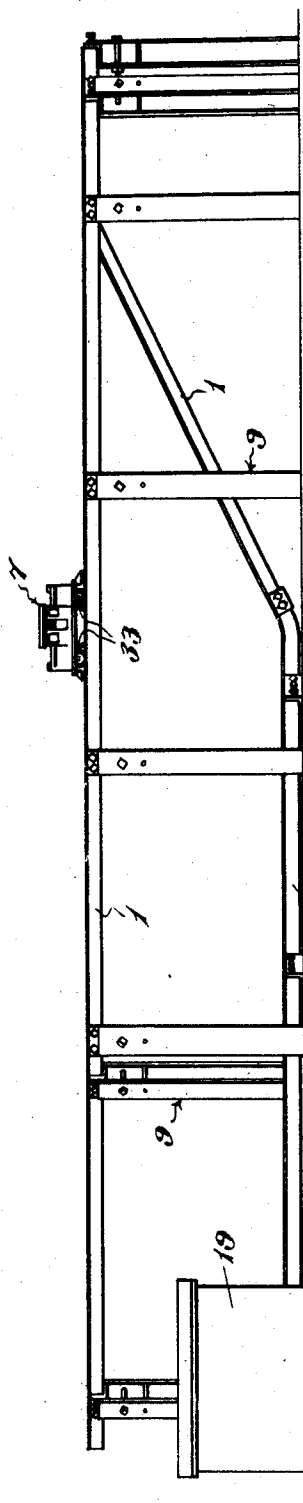


Fig. 3.

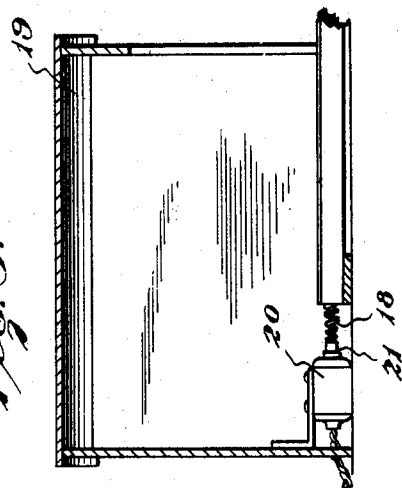
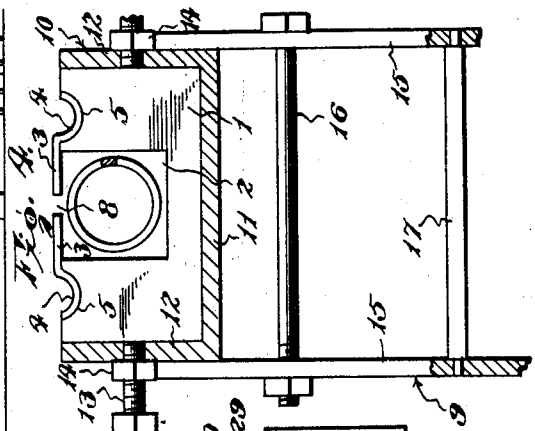
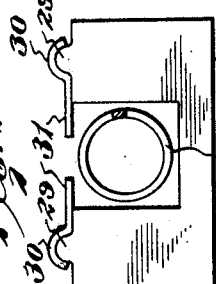


Fig. 7.



Inventor
P. P. Saunier

By
Lacey & Lacey

Attorneys

Oct. 21, 1930.

P. P. SAUNIER

1,779,148

TOY RAILWAY SYSTEM

Filed July 11, 1929

2 Sheets-Sheet 2

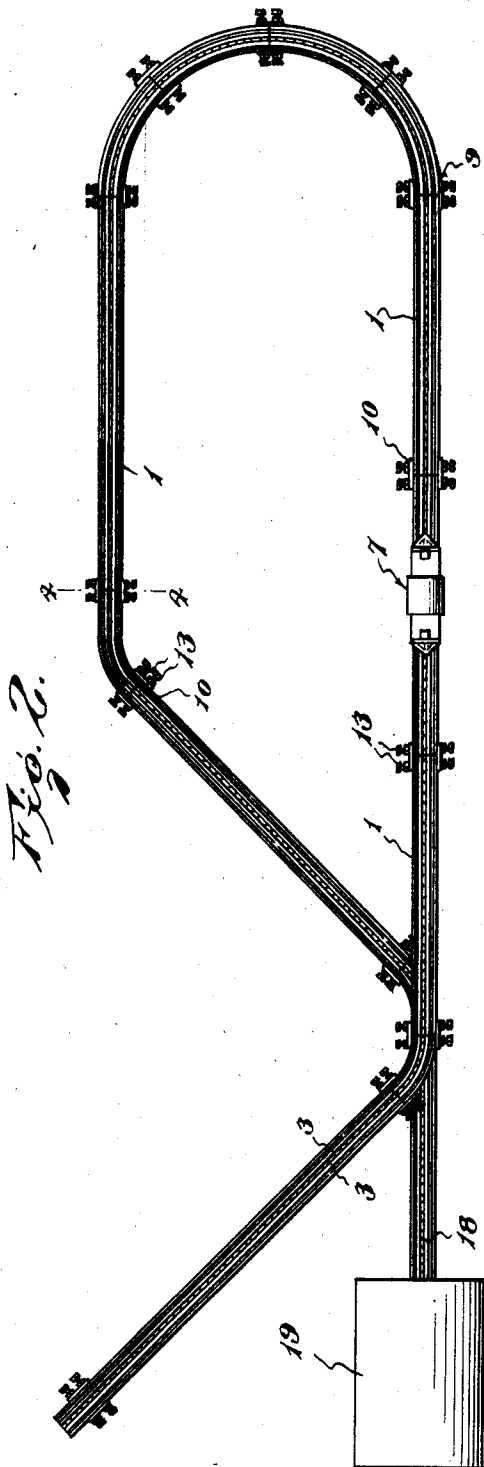


Fig. 2.

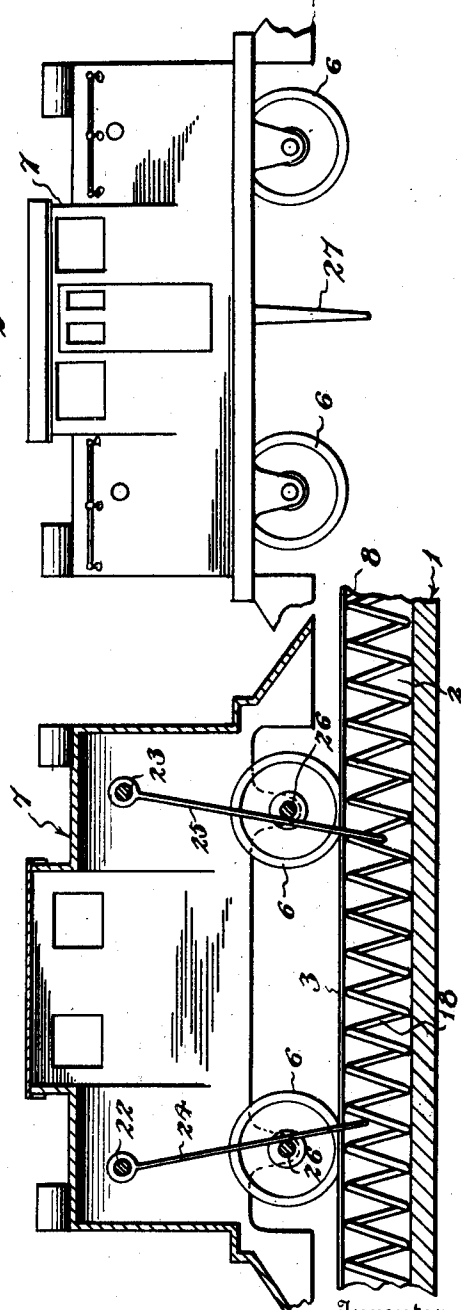


Fig. 5.

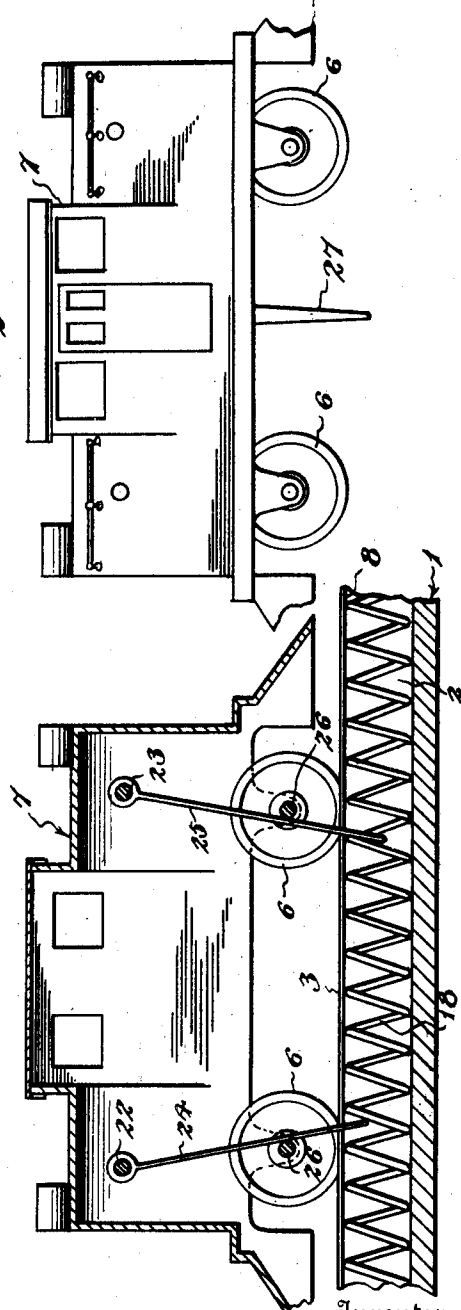


Fig. 6.

Inventor
P. P. Saunier

By *Lacey & Lacey,* Attorneys

UNITED STATES PATENT OFFICE

PIERRE P. SAUNIER, OF RICHMOND, VIRGINIA, ASSIGNOR TO VIRGINIA TOY AND NOVELTY MANUFACTURING COMPANY, INC., OF RICHMOND, VIRGINIA

TOY RAILWAY SYSTEM

Application filed July 11, 1929. Serial No. 377,548.

The present invention is directed to improvements in toy railway systems.

The primary object of the invention is to provide a device of this character so constructed that a toy locomotive or car can be propelled along the trackway through the medium of a coil.

Another object of the invention is to provide a novel form of track for receiving the coil, the construction being such that straight and curved sections may be used in connection with the propelling element or coil.

Another object of the invention is to provide a device of this kind so constructed that the rotation of the coil can be reversed in order that the locomotive or car may be caused to travel in reverse direction.

Another object of the invention is to provide a device of this type so constructed that the trackway may be placed directly upon the floor or a part thereof maintained in an elevated position.

Another object of the invention is to provide a device of this type wherein the track may be used in connection with cars or locomotives equipped with flangeless or flanged wheels.

With these and other objects in view, this invention resides in the novel features of construction, formation, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of the device.

Figure 2 is a top plan view.

Figure 3 is a sectional view through the housing containing the motor.

Figure 4 is a sectional view on the line 4-4 of Figure 2.

Figure 5 is a sectional view through a toy locomotive, showing the arms thereof engaged with the driving coil.

Figure 6 is a sectional view showing a modified form of arm.

Figure 7 is an end view of a modified form of track section.

The trackway consists of a plurality of sections 1 of determinate length, some of which are straight while others are curved in order

that the trackway may be constructed in various ways.

The sections 1 are preferably formed from light wood but it will, of course, be understood that other materials suitable for the purpose may be used. Each section is provided with a longitudinally extending groove 2 and has secured to its upper face in any approved manner, complementary plates 3, said plates being bent to provide channels 4 which fit in the grooves 5 formed in the sections, said channels being for the purpose of receiving and guiding the flangeless wheels 6 of the object to be propelled, in this instance representing a toy locomotive, designated by the numeral 7. It will, of course, be understood that the object may represent a freight or passenger car or a trolley car, as desired.

The opposed edges of the plates 3 overhang the groove 2 and are spaced to provide a slot 8, the purpose of which will be later explained.

The sections 1 forming the trackway may all rest upon the floor, if desired, or some of them may be elevated, and in order to maintain certain sections elevated, I provide supports 9 which are adapted to engage the joints 10 used for connecting the ends of the sections to provide a continuous trackway. The joints consist of bottoms 11 and sides 12, the sides having set screws 13 carried thereby for engagement with the adjacent ends of sections engaged therewith, said set screws having jam nuts 14 thereon.

The supports consist of side bars 15 which are adapted to have their upper ends engaged with the sides of the joints, said bars being connected by clamping bolts 16 which serve to hold the upper ends thereof clamped upon the sides 12, there being removable brace bars 17 between the bars 15 to maintain the same in parallel relation when clamped upon the joints 10.

The driving coil 18 of spring wire is engaged in the groove 2 of the sections when a number of sections are connected, it being obvious that the coil which is flexible will adjust itself to the curved sections. The overhanging portions of the plates 3 will

prevent accidental disengagement of the coil 18 from the grooves of the respective sections.

When the sections are connected by the joints a continuous groove is provided for receiving the coil 18, the length of which will, of course, be governed by the number of sections used. At one end of the coil is mounted a housing 19 which may represent a depot or power house and in which is mounted an electric motor 20, the shaft 21 thereof being connected to the coil 18 in any approved manner. Current may be furnished for operating the motor from any suitable source. Obviously, the motor when operating will rotate the coil 18, and since the motor is of a conventional reversible type, the rotation of the coil 18 can be reversed.

The locomotive 7 is provided with a pair of cross pins 22 and 23, to which are pivotally connected the upper ends of arms 24 and 25, respectively, said arms being of such length as to permit their lower ends to pass through the slots 8 of the respective sections for engagement with the turns of the coil 18. It will be observed upon reference to Figure 5, that the arms 24 and 25 are adapted to engage the axles 26 of the locomotive upon the confronting sides thereof.

As shown in Figure 5, the arm 25 is the one which is propelling the locomotive 7, when the coil 18 is rotating clockwise and since this arm rests against the adjacent axle 26 the locomotive will be compelled to travel over the trackway during rotation of the coil. When it is desired to reverse the travel of the locomotive, the motor 20 is reversed so that the coil will rotate anti-clockwise and at this time the arm 24 will provide the driving connection with the coil. Obviously, when the arm 25 is acted upon by the coil 18, the arm 24 will remain idle and will have no effect.

In Figure 6 of the drawings, the locomotive 7 is provided with a single arm 27 which is rigidly connected with the locomotive in any approved manner, said arm being adapted to engage with the turns of the coil 18 and propel the locomotive when the coil is rotated in either direction. While this modified form of arm is practical, it is more desirable to use the pivotally mounted arms, as shown in Figure 5, since the active arm will exert force upon the end of the locomotive whether going forwardly or rearwardly.

In the modified form disclosed in Figure 7, the section 28 is provided with ribs 29 for receiving the inverted channel portions 30 of the plates 31, said channel portions constituting rails for use in connection with cars having flanged wheels. The plates 31 are otherwise constructed and arranged the same as the plates 3.

What is claimed is:

1. A device of the class described comprising a trackway having a continuous groove throughout its length, an open flexible coil rotatable in the groove, a wheeled member engageable with the trackway, means carried by said member for engaging the coil to move the member along the trackway during rotation of the coil, and means for rotating the coil.

2. A device of the class described comprising a trackway consisting of a plurality of sections having grooves formed therein, means for connecting the ends of the sections to provide a continuous groove, an open flexible coil rotatable in the groove, a member on the trackway, means carried by the member engageable with the coil to move the member along the trackway during rotation of the coil, and means for rotating the coil.

3. A device of the class described comprising a trackway consisting of a plurality of sections having grooves therein, plates overhanging the grooves and spaced to provide a slot opening into the grooves, means for connecting the ends of the sections to form a continuous groove throughout the length of the connected sections, a flexible coil rotatable in the groove, a member having wheels carried thereby and engageable with the plates, means carried by the member passable through said slot for engagement with the coil to impart movement to the member during rotation of the coil, and means for rotating the coil.

4. A toy railway comprising a track including straight, inclined and curved portions in different planes, and having a continuous groove and slot, a flexible coil in the groove, means for rotating the coil, a car on the track, and a member carried by the car and projecting through the said slot into the groove and engaging the flexible coil to be actuated thereby to propel the car along the track.

In testimony whereof I affix my signature.
PIERRE P. SAUNIER. [L. s.]