

No. 892,665.

PATENTED JULY 7, 1908.

E. R. IVES.
TOY TROLLEY RAILWAY.
APPLICATION FILED JAN. 20, 1908.

Fig. 1.

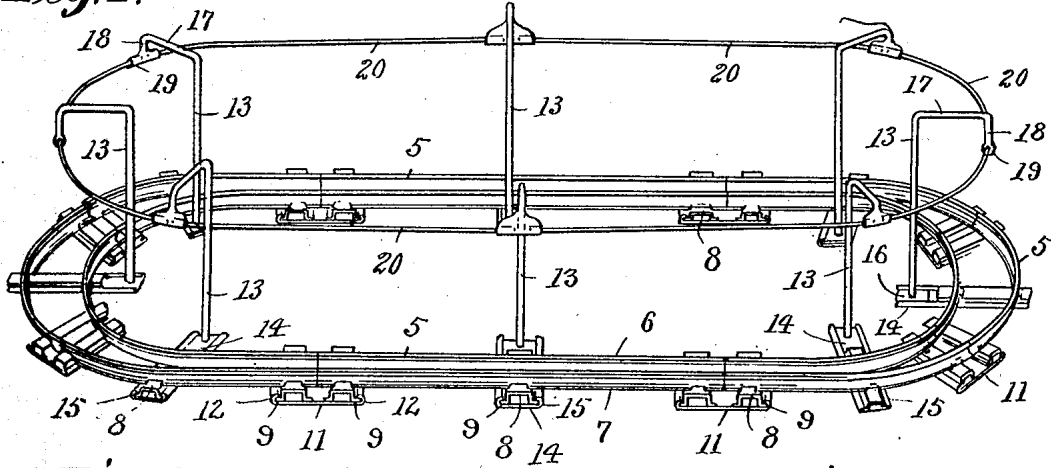


Fig. 4.

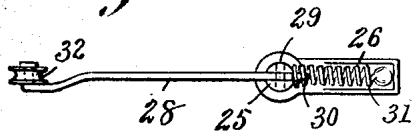


Fig. 3.

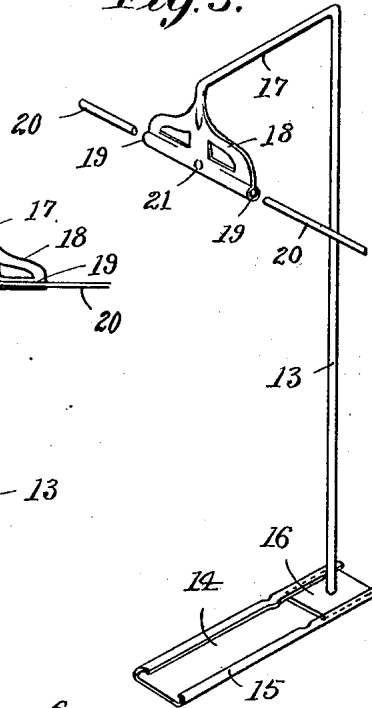
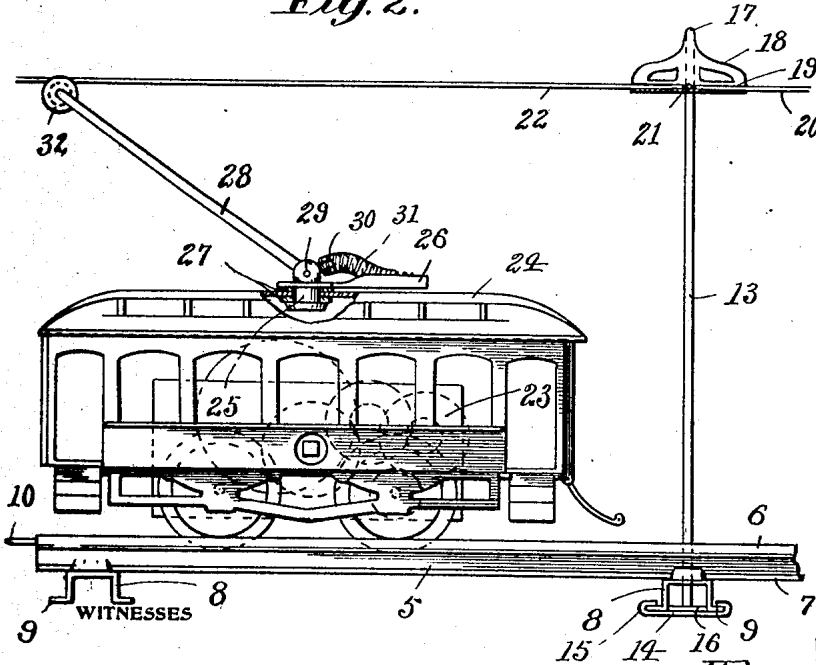


Fig. 2.



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TOY TROLLEY-RAILWAY.

No. 892,665.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed January 20, 1908. Serial No. 411,598.

To all whom it may concern:

Be it known that I, EDWARD R. IVES, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Toy Trolley-Railways, of which the following is a specification.

My invention relates to new and useful improvements in toy railways and especially to miniature trolley railways, so called.

It is the purpose of my invention to produce a toy mechanically operated miniature trolley railway, in imitation of the electric trolley roads commonly installed for city and suburban passenger service, and which will include cars, sectional trackage, a trolley wire supporting poles and detachable wire, all of which permits the device to be assembled in sections to form circular, oblong and other designs of tracks of various lengths, and in a way which will allow it to be readily disconnected and packed in a comparatively small space; to provide a substantial connection for joining and supporting the trolley wires which will allow the trolley wheel to freely pass across and follow the wire; further to design a trolley arm and connection therefor with car that will insure the wheel properly and freely following the wire, and finally to design the device in a simple, practicable and workmanlike manner to insure its selling as a first class mechanical toy.

As constructed, my toy trolley car is designed to be operated mechanically, by means of a clock spring movement located within the car and connected to either the forward or rear axle, but the particular form of propelling medium is immaterial since the invention including the construction of trolley arm sectional wire and means for supporting the same, can readily be used in connection with a car operated by other mechanical or electrical means and would therefore come within the scope of my invention.

Similar characters of reference denote like or corresponding parts throughout the several figures of the drawings and of which,

Figure 1, shows a perspective view of an oblong form of trolley track, constructed in sections, in accord with my invention the car being removed. Fig. 2, is a side elevation on a slightly enlarged scale of a portion of the track, trolley wire, pole for supporting the same and car upon track bearing trolley

wheel in engagement with the wire. Fig. 3, is a perspective view of one of the trolley poles having overhang for supporting the sectional trolley wire and mounted upon a base which may be detachably connected to the track, and Fig. 4, is a detached plan view of the trolley, its supporting arm and base for attachment to the car.

Referring in detail to reference characters marked upon the drawings 5 indicates the several track sections, some of which are straight and others curved. These sections as herein designed are formed of sheet metal, the rails being bent up to form hollow tread portions 6 and extended flanges 7 to which sheet metal sleepers 8 are swaged, soldered or otherwise secured. Each of these sections comprise two such rails and usually three sleepers, one being located adjacent to the end of rails, while the third is situated midway. The sleepers 8 are alike in construction and are bent up to form a hollow body portion and laterally disposed flanges 9—9 on either side which form footings. The track sections are secured one to the other in any suitable manner, as for instance by having pins 10 secured in one end of the hollow treads to register with sockets in abutting ends of rails of the adjoining section, together with a plate 11 having over-turned side edges 12 forming ways along the two sides, to engage the inner flanges 9 of the end sleepers as shown in Fig. 1. These plates are attached by being slipped under the sleepers and over the edges as shown in Fig. 1, the plate obviously serves to snugly retain the abutting ends of the rails against each other and the before mentioned pins in engagement with the sockets in a way to prevent the sections from becoming disconnected.

In the formation of an overhead construction for tracks of this kind, I have found two features to be essential, which are, first to provide an overhead construction which may be secured to and supported by the track, which obviously insures a rigid and firm support for the wire along which the trolley wheel operates. Further to design said structure in a way which will permit of it being readily disconnected and taken down, and to form the wire along which the trolley operates also in sections which provides for the convenient construction of a wire of any desired length and formation

simply by the use of a greater or lesser number of sections of tracks, poles and sections of wire as the case may require.

13 represents a trolley pole which is supported in any suitable way from the track, as for instance by a supporting plate 14 having ways 15 to engage the flanges 9 of one of the sleepers of each section. The poles 13 may be secured to the supporting plates in any preferred way as for instance through a base plate 16 that is directly secured to the lower end of pole and attached to the supporting plate 14 before mentioned, but the said pole may obviously be riveted or otherwise attached to the supporting plate 14 direct if preferred. These poles are provided with an inwardly disposed arm 17 and a depending hanger 18 supporting a tubular socket 19 which is disposed at a right angle to arm 17 and supporting plate, and is substantially in line with the track section over which it is suspended. This hanger may be constructed of tin or other sheet metal and secured to the arm of pole in any preferred way. The socket is of a sufficient length to receive the adjoining ends of the trolley wire sections 20 which are inserted in the opposite ends of socket as shown in Figs. 2 and 3. The said sockets may further be provided with a central indentation 21 to form a stop against which the top end of the wires may abut. The wires 20 are obviously of a length substantially equal to that of the track sections, and each of a size and quality that will permit them to be sprung for insertion into the sockets, and to conform to the curved sections of the track, and in practice may be repeatedly used above either the straightened or curved sections as may happen to come most convenient.

22 represents a car which is constructed in imitation of a trolley car and includes suitable wheels whereby it is supported and operated upon the track. As before stated this particular style of car is designed to be propelled by a spring movement 33 mounted within the car and geared to connect with and drive one of the axles. The car is preferably formed of sheet metal, the cover 24 being slidably attached to the body of car in any preferred manner to permit of the attachment of trolley arm etc., as well as the placement within the car of the spring movement. A stud 25 is pivotally secured in the cover 24 of car and has a connected spring support 26 to turn therewith. The lower part of the stud passes through a round hole in the cover and is provided with washers 27 above and below the cover to insure the free turning of the stud, and the lower end of the stud is turned over or riveted to rotatably secure it in place. A trolley arm 38 is hinged in a slot in top end of this stud, to a pin 29 and bears a short arm 30 to receive the end of a spring 31 the opposite end of which is

soldered or otherwise secured to the outer end portion of the support 26. The purpose of the spring obviously being to draw down on the short end 30 of the arm and yieldably retain the wheel 32 in engagement with the trolley wire 20 before mentioned.

I do not wish to limit myself herein to a trolley wire formed of sections or in fact, a wire of any sort, since a continuous wire or an overhead rail can be used with success and would properly come within the scope of my invention. The same in fact is true of the details of construction of my invention in general and with special regard to the form of hanger and socket for supporting the wire.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A toy trolley railway, comprising a track, poles supported thereby and having depending hangers, and a trolley wire detachably connected to said hangers.
2. A toy trolley railway, comprising a track, poles supported thereby and having depending hangers, sockets in the hangers, and a trolley wire mounted in said sockets.
3. A toy trolley railway, comprising a track formed of sections, a pole on each section and having inwardly disposed arms, and a wire supported over the said track by said arms.
4. A toy trolley railway, comprising a track formed of sections, poles supported by said sections having inwardly disposed arms, and a wire formed in sections carried by the said arms.
5. A toy trolley railway, comprising a track formed of sections, a pole supported on each section and having an inwardly disposed arm, a depending hanger secured to each arm, and a wire formed in sections supported in the said hangers.
6. A toy trolley railway, comprising a sectional track, poles arranged adjacent thereto, a wire supported by said poles, a spring operated car and an arm attached to car and bearing a trolley wheel to engage the wire.
7. A toy trolley railway, comprising a portable sectional track including rails and sleepers, poles detachably supported thereby having inwardly and downwardly disposed arms, a wire supported over said track by said arms, a car, and an arm attached to car bearing a trolley wheel to engage said wire.
8. A toy trolley railway, comprising a sectional track, poles arranged adjacent thereto having inwardly disposed arms, a wire supported over the said track by said arms, a spring operated car, and an arm attached to car bearing a wheel to engage said wire.
9. A toy trolley railway, comprising a track formed in sections, a pole detachably connected to each section and bearing an inwardly extended arm, and a sectional trolley wire detachably supported by said arms.

10. The combination with a toy railway track, of a wire supporting pole, a base plate secured to and disposed at a right angle from the lower end of said pole, and a supporting
5 plate to which the base plate is attached.
11. The combination with a toy railway track, of a wire supporting pole, a base plate secured to and disposed at a right angle from the said pole, a supporting plate to which the
10 base plate is attached, and having means to detachably engage a sleeper of the track.
12. The combination with a toy railway, of a pole bearing an inwardly disposed arm having a depending hanger, a wire supported
15 over the track by the hanger, a supporting plate to which the pole is attached, and means for securing the plate to the track.
13. The combination with a toy railway, of a pole bearing an arm and having a de-
20 pending hanger, means for supporting the pole, and an elongated socket secured to the said hanger.
14. In a toy trolley railway, the combina-
25 tion of a portable track, a trolley wire supported above the same, a spring operated car, a trolley arm pivoted to the top of car and bearing a wheel to engage the wire.
15. In a toy trolley railway, the combina-
tion of a car, a stud pivoted to the cover
thereof, an arm hinged to the stud and bear- 30
ing a trolley wheel, and means for normally retaining the arm in an extended position.
16. In a toy trolley railway, the combina-
tion of a sectional track, and a trolley wire
formed in sections. 35
17. In a toy trolley railway, the combina-
tion of a sectional track, a sectional trolley
wire, and an elongated supporting sleeve for
detachably connecting the adjoining ends of
the wires. 40
18. In a toy trolley railway, the combina-
tion of a sectional track, poles detachably
connected to the track, and a sectional trol-
ley wire detachably supported above the
track by the said poles. 45
19. In a toy trolley railway, the combina-
tion of a portable track, poles attached there-
to, a spring actuated car, an arm attached to
the car and bearing a trolley wheel, and
means suspended from the poles for the en- 50
gagement of the trolley wheel.

Signed at Bridgeport, in the county of Fair-
field, and State of Connecticut, this 18th day
of January, A. D., 1908.

EDWARD R. IVES.

Witnesses:

JAMES M. SAXTON,
M. W. STANTON.