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RAILWAY AND ROLLING STOCK THEREFOR

Filed April 12, 1948

3 Sheets-Sheet 1

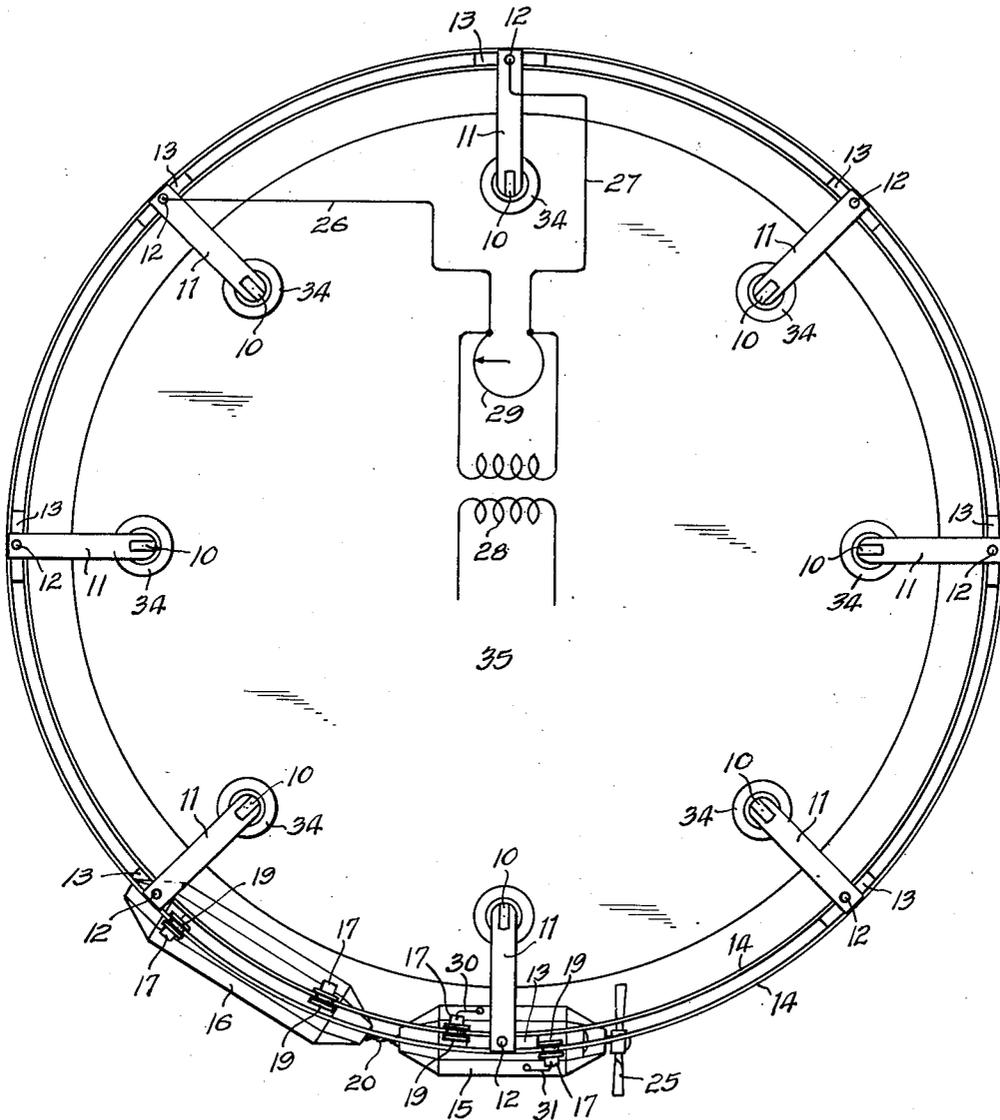


Fig. 1.

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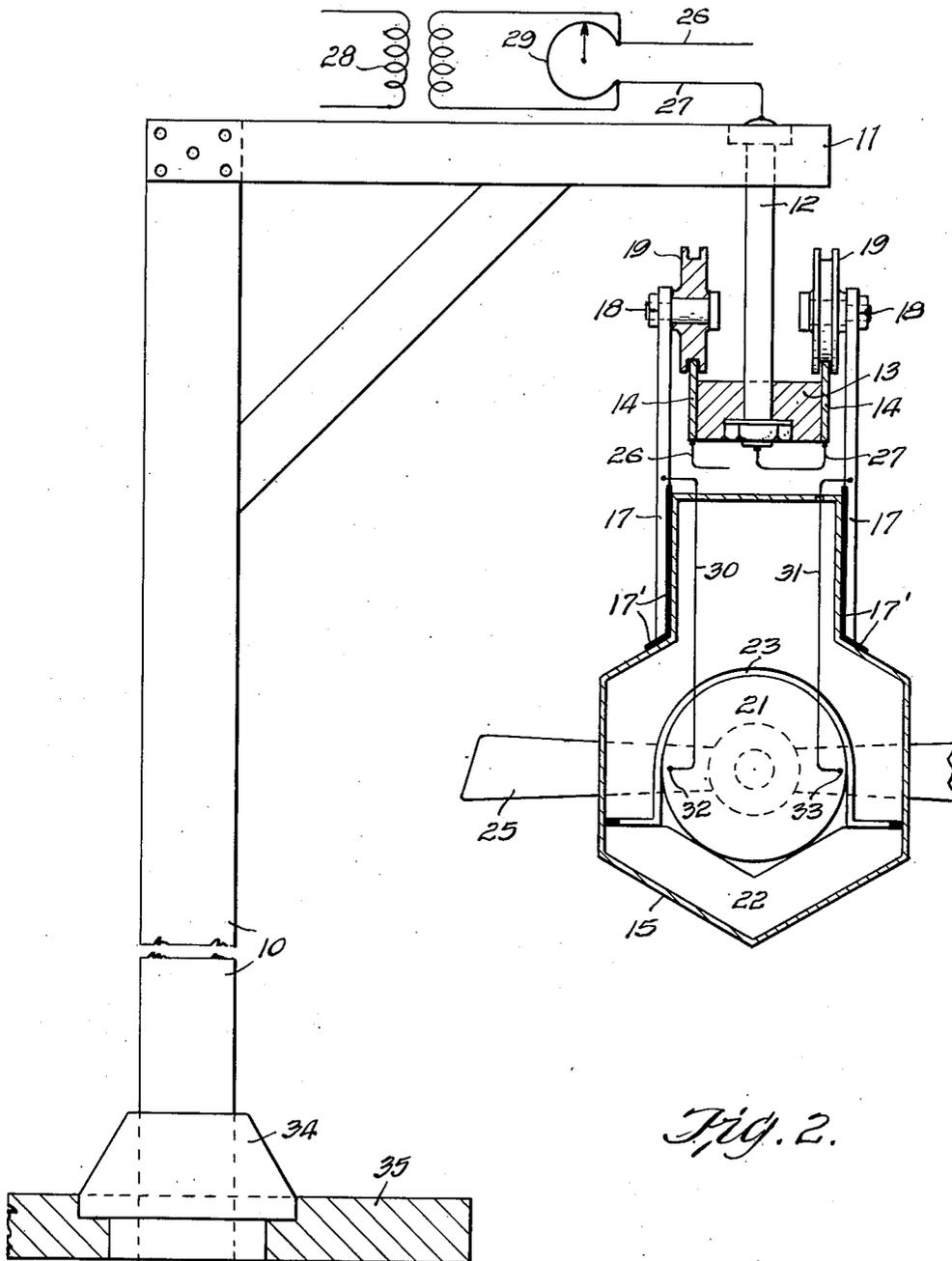


Fig. 2.

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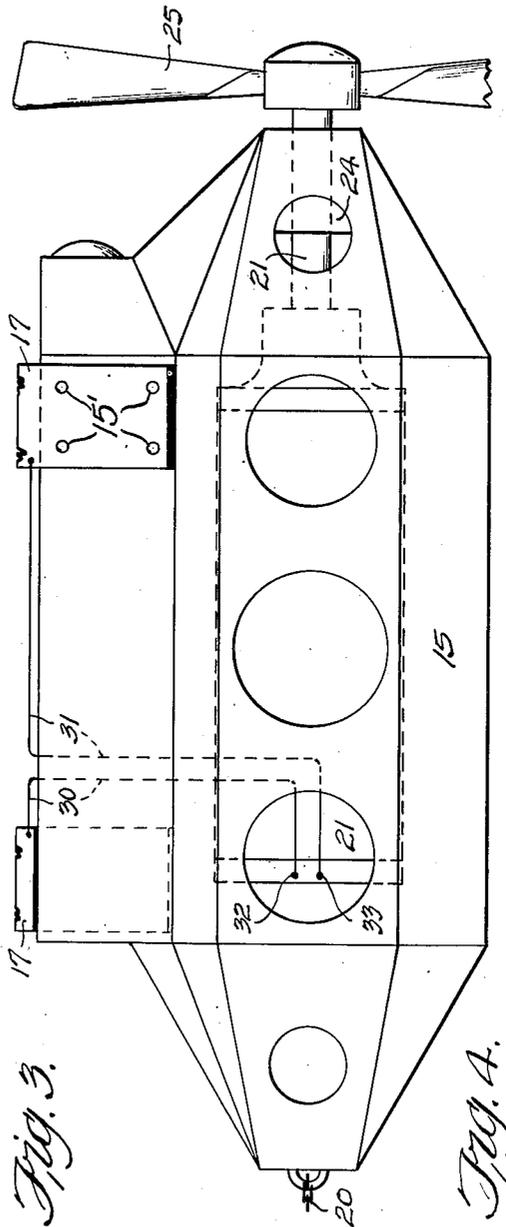
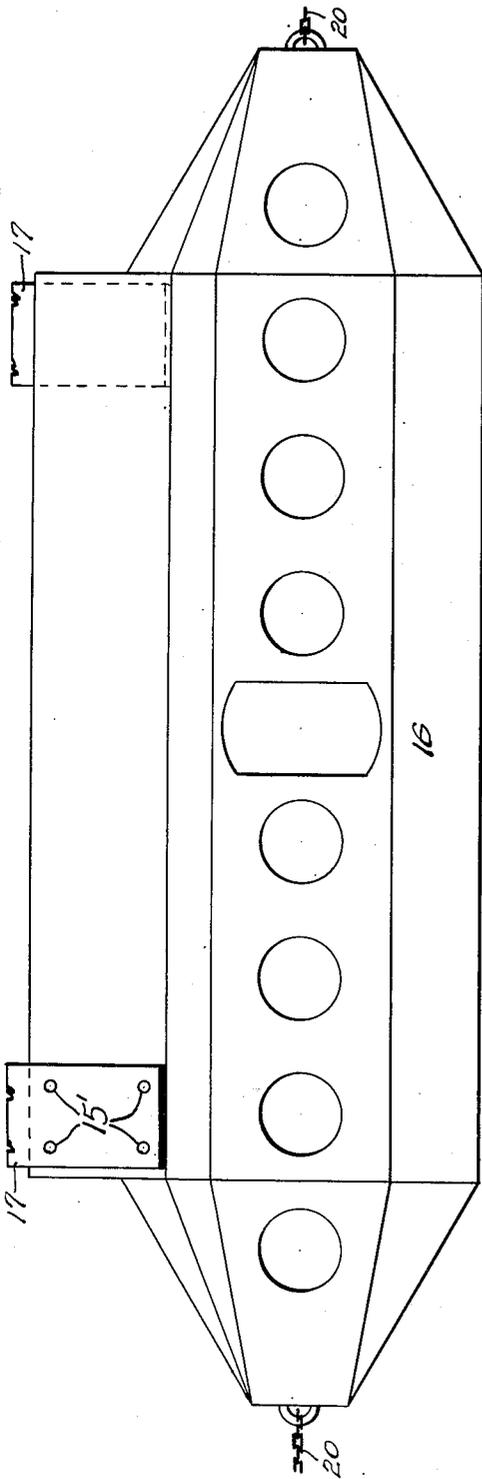


Fig. 3.

Fig. 4.

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# UNITED STATES PATENT OFFICE

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## RAILWAY AND ROLLING STOCK THEREFOR

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Application April 12, 1948, Serial No. 20,387

2 Claims. (Cl. 105-148)

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This invention relates to elevated railways and rolling stock therefor.

An object of the invention is to provide an elevated railway and rolling stock therefor that is simple on construction, lower in maintenance cost, and safe in operation.

Another object of the invention is the provision of railway structure and its rolling stock in which the cars are well balanced for rapid transit, smooth running and safe in passage from one station to another.

A further object of the invention resides in the provision of a railway structure and rolling stock, in miniature form, for indoor, or outdoor amusement and entertainment.

A still further object of the invention is to provide an elevated railway and rolling stock therefor which will be comparatively quiet in operation, fast in speed, highly efficient in operation, comparable to other classes of railway equipment in comfort and more reliable from a safety standpoint.

An important object of the invention is to provide a car which is elevated track supported and propeller driven.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, like reference characters are employed to designate like parts throughout the same.

Referring to the drawings:

Fig. 1 is a top plan view of an elevated railway structure and rolling stock therefor embodying the invention.

Fig. 2 is a transverse sectional elevation of the railway, or elevated track structure and of a power car suspended from the track.

Fig. 3 is a side elevation of one of the non-power cars with the upper ends of the hanger arms broken away.

Fig. 4 is a side elevation of the power car, or engine with the upper ends of the hanger arms broken away, and showing portions of one of the side walls of the car as broken away.

In the drawings, wherein for the purpose of illustration, is shown an embodiment of the invention, which consists of suitably spaced uprights 10, which support elevated horizontal head members 11. Suspended from each head member 11 by means of a hanger 12, is a tie member 13 to which are secured suitable rails 14. The rails 14 are arranged in suitable spaced relation and together with the tie members 13, the head

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members 11, the hangers 12 and the uprights 10 constitute an elevated structure from which rolling stock consisting of a power car, or engine 15 and one, or more non-power cars 16 are suspended and disposed directly below the track.

The power car, or engine 15, as well as each car 16 to be pulled, or pushed by the power car, or engine 15, are each supported in suspension from the rails by means of a pair of hanger arms 17, the upper ends of which support fixed axles 18 upon which suitable traction wheels 19 are journaled to ride upon the rails 14. Each car is secured to and suspended from two pairs of hanger arms 17 arranged one in advance of the other and insulated therefrom. The insulation may be of any suitable type, as clearly shown in Fig. 2, and designated 17'. The hanger arms are each suitably secured by suitable fastening means 15' insulated from the hangers 17 and body 15, as indicated in Figs. 2 and 3 of the drawings, at their lower ends to opposite side walls of a car, so that each car will be disposed directly below the track.

Each car may be of suitable construction and is connected with each other by coupler connections 20.

The power car may be provided with any desired motive power, such for instance as an electric motor, "diesel" engine and generator, internal combustion motor, or its equivalent.

In the embodiment shown, we have provided the power car 15 with a suitable electric motor 21 having an armature shaft 21'. The motor is shown as supported by a suitable cradle 22 and held against displacement by means of a hold-down strap 23. The armature shaft 21 is journaled in a suitable bearing 24 in one of the end walls of the car 15 and projects outwardly therefrom a suitable distance and is provided with a suitable airplane type propeller 25. The propeller 25 may be a variable blade propeller, although not necessarily so. With a variable blade propeller, the pitch of the propeller blades may be changed to increase, or decrease the speed of a car or train traveling on the track and therefore the car can be made to travel rearwardly instead of forward.

In order to supply the necessary electrical energy to the electric motor illustrated in the embodiment of the invention shown, there is provided an electric circuit of the conductors such for instance as wires 26 and 27 leading from a suitable source of electrical supply. Connecting the wires may be a transformer 28 and a suitable current control device 29. One of the

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conductors 26 is connected, in one embodiment of the invention, as shown, to one of the hangers 12 which is of material to serve as a conductor of electricity and from there the conductor leads to one of the rails 14. The other conductor 27 is connected, in the embodiment of the invention shown, to another of the hangers 12 which also is of material to serve as a conductor of electricity, and from there the conductor connects with the other rail 14.

The rails 14, the traction wheels 19, the axles 18, the hanger arms 17, and the wires 30 and 31 serve as conductors, with the wires 30 and 31 connected to the terminals 32 and 33 on the electric motor. When the current control device 29 is closed, the armature shaft will be driven to drive the propeller which is external of the car 15 to either pull, or push the car 15 dependent upon the adjusted positions of the propeller blades.

In one embodiment of the invention, the uprights 10 may be supported by suitable members 34, which members may be detachably supported by a suitable base plate 35, or fixed to the base plate 35, if so desired.

While I have illustrated in Fig. 1, an elevated railway and rolling stock therefor which is constructed with a circular, or endless track, it is obvious that the track and its supporting structure may be constructed in a straight line, or constructed with any number of curves and with switches to move the car 15 or a train of cars from one track to another track running parallel therewith, or at any angle to the first mentioned track, which construction of tracks is not believed necessary to illustrate.

The elevated track structure for the rolling stock shown in Fig. 1 is very suitable for a miniature railway for indoor, or even outdoor amusement and entertainment.

From the foregoing description, it is clearly apparent that a car, or train is propeller driven, that the car or cars of a train are suspended from an elevated track structure, that the track may be a two rail construction, or even a monorail structure, that the elevated structure may be designed as a standard, or conventional railway, or a miniature railway, and that the rolling stock is well balanced for rapid transit.

It is to be understood that the invention herewith shown and described, is to be taken as an example of the same, and that various changes in shape, size and arrangement of parts of the elevated track structure and of the rolling stock and the means for propelling the power car, or engine by means of a propeller external of the car, may be resorted to without departing from

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the spirit of the invention, or the scope of the appended claims.

What we claim is:

1. In an overhead transportation system, spaced energized members depending from overhead supports, insulating ties carried by the lower ends of said members, rails carried by the outer faces of the ties, electrical conductors connecting said members with the rails, energized wheels riding on the rails, energized axles for supporting the wheels, a car body below the ties, energized hangers depending from the outer ends of the axles, means for securing the lower ends of the hangers to opposite sides of the car body adjacent the front and rear ends thereof, and insulating means disposed between the lower ends of the hangers and the body.

2. For use with an overhead transportation system including a plurality of spaced elevated horizontal head members, of hangers depending from said members, tie members carried by the lower ends of the hangers, spaced rails secured to the ties, one wheel mounted to ride on each rail, an axle for each wheel, a hanger arm secured to and depending from each axle, and a vehicle body to the sides of which the lower ends of the hanger arms are secured for supporting the vehicle body under the rails, insulating members between the lower end portions of the hanger arms and the sides of the vehicle body, an electric propelling motor in the vehicle to turn a propeller outside one end of the vehicle body, and a source of energy for electrically energizing the hangers, rails, axles and hanger arms forming part of an electric circuit which when open causes the motor to rotate the propeller to move the vehicle body in a selected direction under the rails.

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