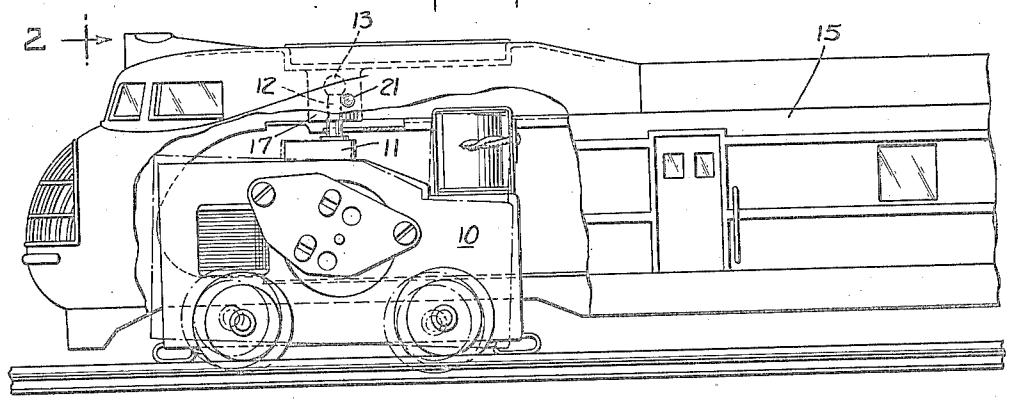
April 28, 1936. J. L. BONANNO 2,039,055

TOY VEHICLE

Filed June 13, 1935

Fig. 1.



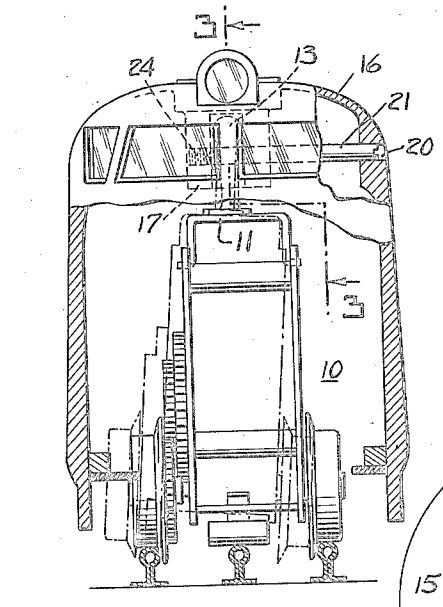
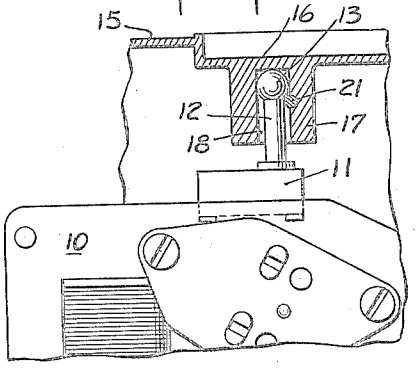


Fig. 2.

Fig. 3.



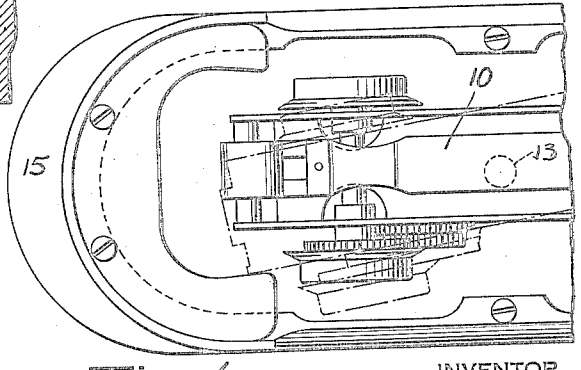


Fig. 4.

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TOY VEHICLE

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Application June 13, 1935, Serial No. 26,335

6 Claims. (Cl. 46—217)

The present invention relates to toy vehicles and is more particularly directed to a swivel mounting for the propulsion unit of a toy vehicle.

Toy electric locomotives as heretofore constructed, have generally had a propulsion unit, of the spring or electric motor type, rigidly secured to a shell supporting frame or to the shell forming the body of the locomotive. According to the present invention, however, the propulsion unit is connected to the shell or body of the locomotive in such a way that the propulsion unit can pivot about a vertical axis and the shell or body of the locomotive can tilt laterally and longitudinally relative to the power plant. By providing such a universal mounting between the propulsion unit and locomotive body, it is possible for the propulsion unit to ride along the track with less tendency for derailment, and all the traction wheels may be held on the track at all times, thereby preventing slippage and assuring more uniform and reliable operation.

The accompanying drawing shows for the purpose of illustrating the present invention, one of the many embodiments in which the invention may take form, it being understood that the drawing is illustrative of the invention rather than limiting the same.

In the drawing—

Fig. 1 is a side elevational view of the toy locomotive with parts broken away to show interior construction;

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1 with parts broken away to show interior construction;

Fig. 3 is a longitudinal section view on the line 3—3 of Fig. 2; and

Fig. 4 is an inverted plan view.

In the construction illustrated, the propulsion unit is in the form of an electric motor 10 adapted to propel a toy electric train. The unit is preferably completely wired and provided with automatic reverse controls and the like. A strap 11 extends across the upper part of the unit and this strap carries an upwardly extending pin 12 having a ball-like upper end 13 of larger diameter than the shank of the pin.

The locomotive body is indicated generally at 15. It may be made of any desired design. As here shown, it has a die-cast roof portion 16 having a downwardly extending lug 17 provided with a downwardly opening socket 18. This socket is adapted to receive the pin 12 carried by the propulsion unit. The side of the locomotive body is apertured as indicated at 20 to receive a pin 21. This pin extends through the lug 17, as indicated in Fig. 3 and is threaded into a tapped hole therein, as indicated at 24. This pin is preferably located close to the undersurface of the ball 13 and intersects the socket so that when the pin is in place the pin 12 cannot be withdrawn.

When the parts are assembled as indicated in the drawing, it is apparent that the power plant can swing about the vertical axis as indicated by the dotted lines in Fig. 4, and that the power plant and locomotive body can swing relative to one another in both longitudinal and lateral planes, as indicated by the dot and dash line positions of Figs. 1 and 2.

It is obvious that the invention may be embodied in many forms and constructions within the scope of the claims, and I wish it to be understood that the particular form shown is but one of the many forms. Various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A toy vehicle having a downwardly opening housing, and a propulsion unit housed therein, the propulsion unit having an upwardly extending pin which enters a downwardly opening socket in the upper part of the housing to support the housing, the socket opening being larger than the pin so that the housing and propulsion unit may swing relative to one another.

2. A toy vehicle such as claimed in claim 1, having means to secure the pin in the socket so that the propulsion unit does not fall out of the housing when the housing is lifted.

3. In a toy vehicle, a propulsion unit having an upwardly extending pin having a rounded upper end and a shank of reduced diameter, a body having a downwardly opening socket of larger diameter than the shank and into which the shank extends, and a removable member disposed adjacent the shank to prevent the withdrawal of the shank from the socket.

4. In a toy vehicle, a propulsion unit and a body housing, one of said parts having a vertically extending pin, the other having a socket to receive the pin, the end of the pin being enlarged, and a removable obstruction in the socket for preventing withdrawal of the pin.

5. In a toy vehicle, a propulsion unit and a body housing, one of said parts having a vertically extending pin, the other having a socket to receive the pin, the end of the pin being enlarged, and a removable transversely extending rod intersecting the socket to prevent withdrawal of the pin.

6. In a toy vehicle, a body having a downwardly opening socket, a lateral drilling intersecting the socket, a propulsion unit having a pivot pin entering the socket, and a transverse rod in the lateral drilling, the pivot pin being cut away adjacent the rod so that the propulsion unit can swivel relative to the housing.

JOSEPH L. BONANNO.