March 10, 1931. C. J. MOORE 1,796,157

TOY

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Fig. 1.

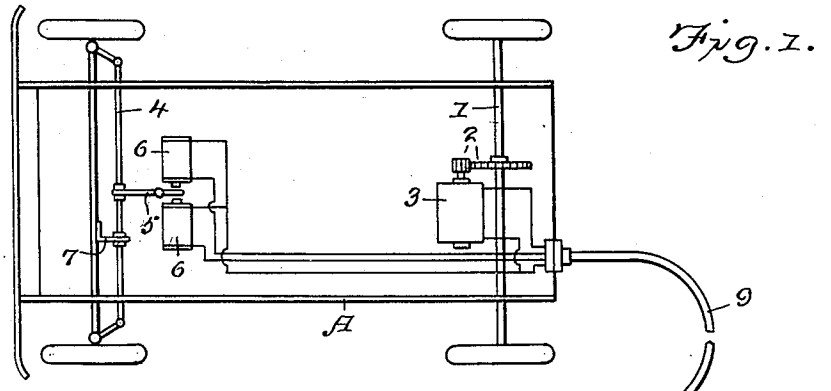


Fig. 2.

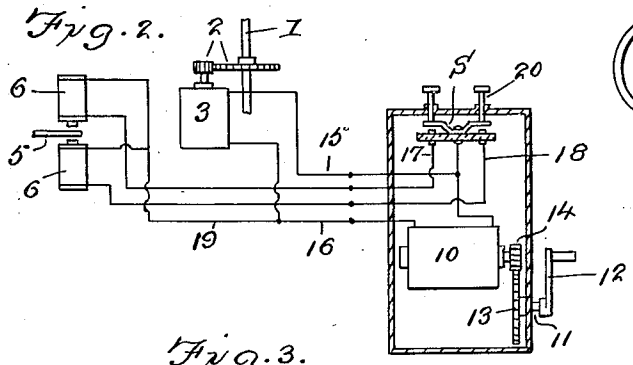


Fig. 3.

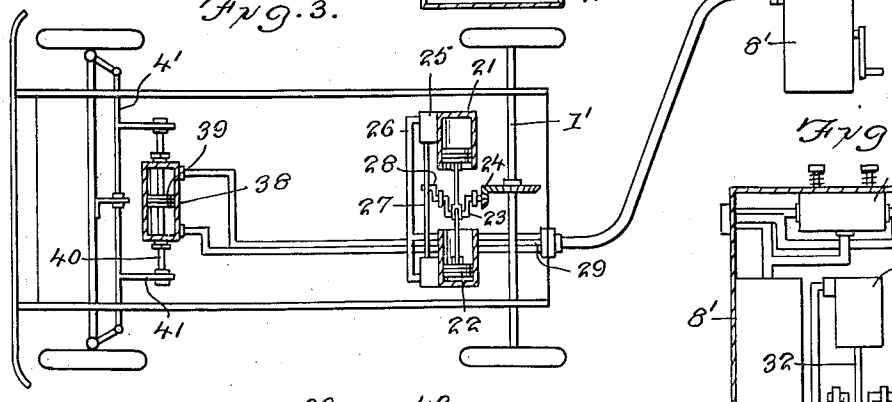


Fig. 4.

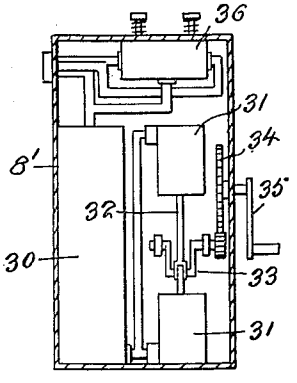
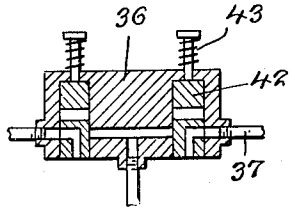


Fig. 5.



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Fig. 6.

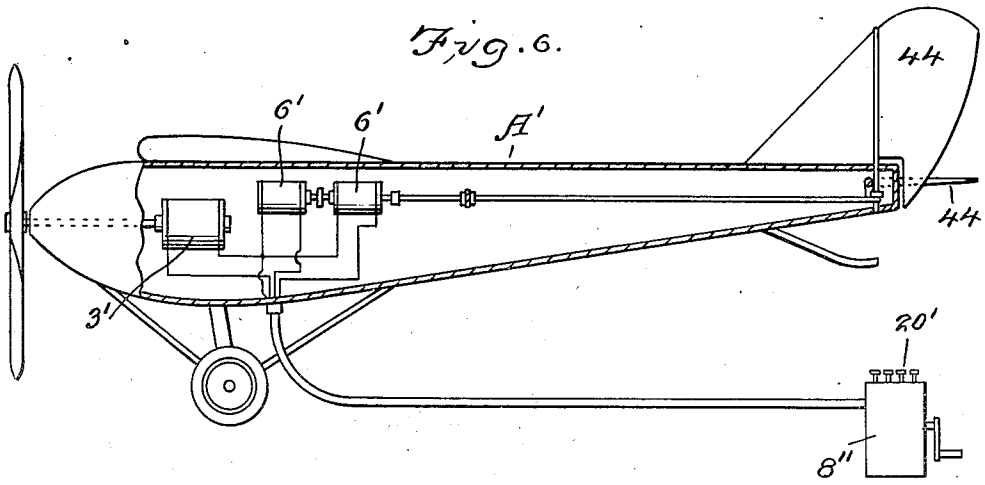
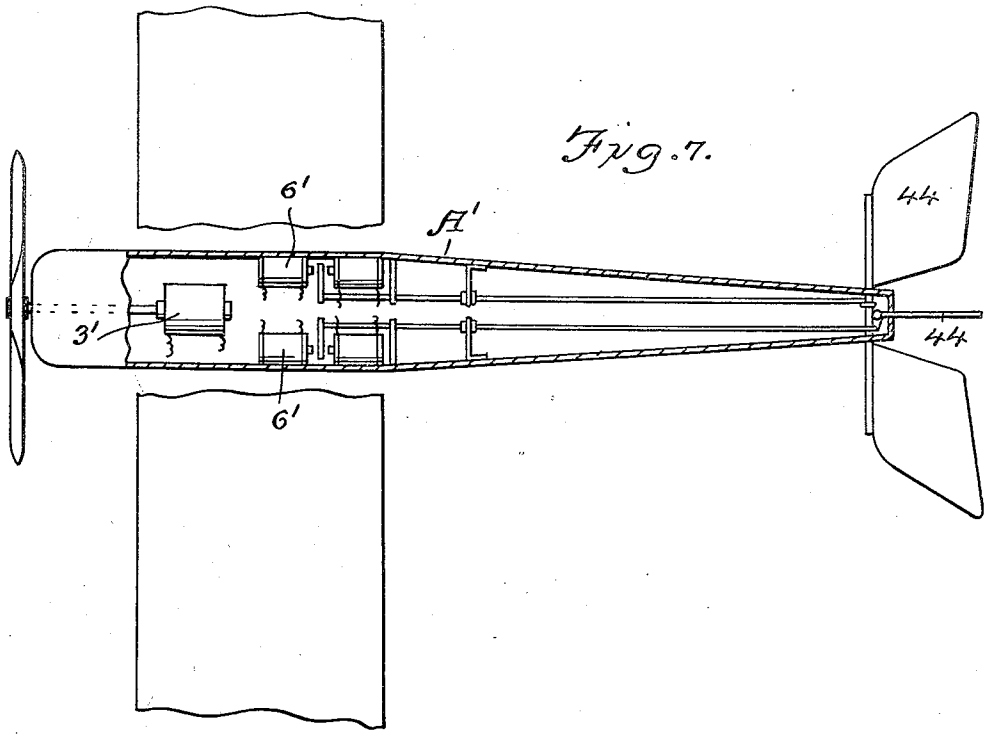


Fig. 7.



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Patented Mar. 10, 1931 1,796,157

UNITED STATES PATENT OFFICE

CHESTER J. MOORE, OF BALTIMORE, MARYLAND

TOY

Application filed April 21, 1930. Serial No. 446,106.

This invention relates to a toy, the general object of the invention being to provide a toy, with means whereby one can operate the motor of the toy and guide the same as he walks along, through means of a manually operated device which furnishes power to the propelling means of the toy and to the guiding means thereof.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a diagrammatic plan view of one form of the invention.

Figure 2 is a diagrammatic view of the circuits thereof.

Figure 3 is a view similar to Figure 1, but showing a modification.

Figure 4 is a vertical sectional view through the manually operated means of Figure 3.

Figure 5 is a view of the valve means of the device shown in Figures 3 and 4.

Figure 6 is a view showing the invention applied to a toy aeroplane.

Figure 7 is a horizontal sectional view through the plane, showing the electrically operated means for controlling the rudders of the plane.

Referring to Figures 1 and 2, the letter A indicates a toy which may be made in the form of an automobile and the rear shaft 1 of which is connected by the gears 2 to the shaft of an electric motor 3. The connecting rod 4 for turning the front wheels of the vehicle has an armature 5 connected therewith which is adapted to be moved from a central position to either the left or right, so as to cause the vehicle to make a turn to the right or left, by the magnets 6. A spring member 7 holds the bar 4 in neutral position.

A box or casing 8 is adapted to be carried by the user and said box is connected with the vehicle by a flexible conduit 9 so that the person carrying the box can walk beside the vehicle as the same travels along. A generator 10 is located in the casing 8 and is driven by means of the shaft 11 journaled in the casing and having a handle 12 at its outer end and a gear 13 on its inner end which meshes with a pinion 14 on the generator shaft. The generator is connected to the motor 3 by the conductors 15 and 16, portions of which pass through the conduit 9 so that when the generator is in operation, current will be supplied to the motor 3 to operate the vehicle. A double switch S is located in the casing and the central contact thereof is electrically connected with the conductor 15. One of the end contacts is connected by a conductor 17 with one of the magnets 6 and the other end contact is connected by a conductor 18 with the second magnet 6, these magnets being connected with the return line 16 by the conductors 19. A pair of pushbuttons 20 pass through the top of the casing and engage the ends of the movable part of the switch so that by depressing one button, current will flow to one of the magnets 6 and by depressing the other button, curent will flow to the other magnet 6.

Thus it will be seen that as one walks along and turns the crank 12, current will be supplied to the motor 3 so that the motor will drive the vehicle and when it is desired to cause the vehicle to turn, one of the buttons 20 is depressed to supply current to a magnet 6 so that the armature 5 will be attracted and thus the front wheels turned to cause the vehicle to make a turn.

In the modification shown in Figures 3, 4 and 5, the rear axle of the vehicle is driven from a compressed air pump consisting of two cylinders 21, the pistons 22 of which are connected to the crank shaft 23 which is connected by the gears 24 with the rear axle 1′ of the vehicle. Each cylinder is provided with a valve chest 25 which are connected together by the pipe 26 and the valves in the chest are connected together by the rod 27 which is moved from the crank shaft, as shown at 28, so that the air is first admitted to one cylinder and then the other to reciprocate the pis-

tons in the well known manner. A pipe 29 is connected with the pipe 26 and this pipe 29 is also connected to a tank 30 in the casing 8'. This tank is supplied with air through the pump cylinders 31 placed in the casing and having their piston rods 32 connected with the crank shaft 33 which is driven through the gears 34 from the crank handle 35. Some of the air from the tank 30 is led to a valve chest 36 and pipes 37 lead from the chest to the ends of a cylinder 38 having a single piston 39 therein, the rods 40 of which are connected with the projections 41 on the connecting rod 4' of the front wheels of the vehicle. The valves 42 in the chest 36 have their stems 43 extending through the top of the casing so that by depressing either one of these valves, air will flow from the tank 30 into either one end or the other of the cylinder 38, according to which valve is depressed, so that the front wheels of the vehicle can be turned as desired. Thus this form of the invention is similar to that before described, except that compressed air is used to propel and steer the vehicle.

In the modification shown in Figures 6 and 7, the invention is applied to a toy aeroplane A' and the motor 3' which drives the propeller of the plane is supplied with current from a generator in the casing 8'' in the same manner as in the first form of the invention. The magnets 6' for controlling the horizontal and vertical rudders 44 of the plane are also supplied with current from the generator, but in this case, four of these magnets are used, two to control the horizontal rudder and two to control the vertical rudder so that there are four switch buttons 20' on the casing 8'' to control the flow of current to such magnets. As will be seen from Figure 7, one magnet lowers the horizontal rudder and its companion magnet raises the same and another pair of magnets controls the movement of the vertical rudder.

As will be seen in all the forms, the person carrying the box containing the generator walks along and turns the crank so as to supply the propelling power for the motor of the vehicle and at the same time, he can control the direction of movement of the vehicle or plane by the switch buttons on the top of the casing.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device of the class described comprising a movable toy, a motor for propelling the same, manually operated power producing means, flexible means for conducting the power to the motor, means for steering the toy and manually controlled means for operating the steering means from the power produced in the manually operated means.

2. A device of the class described comprising a toy, a motor for propelling the same, magnets for operating the steering mechanism of the toy, a casing, a manually operated generator therein, conductors connecting the generator with the motor and the magnets and switches carried by the casing for controlling the flow of current to the magnets.

3. A device of the class described comprising a toy, a motor for propelling the same, a casing, a fluid pump in the casing, manual means for operating the pump, a tank into which the fluid is introduced from the pump, pipes connecting the tank with the motor, a valve chest in the casing, a pipe connecting the same with the tank, a cylinder on the toy, means operated by the piston thereof for actuating the steering mechanism of the toy, pipes connecting the cylinder with the valve chest and manually operated valve means for controlling the flow of fluid to the cylinder.

In testimony whereof I affix my signature.

CHESTER J. MOORE.