L. R. PAUL.

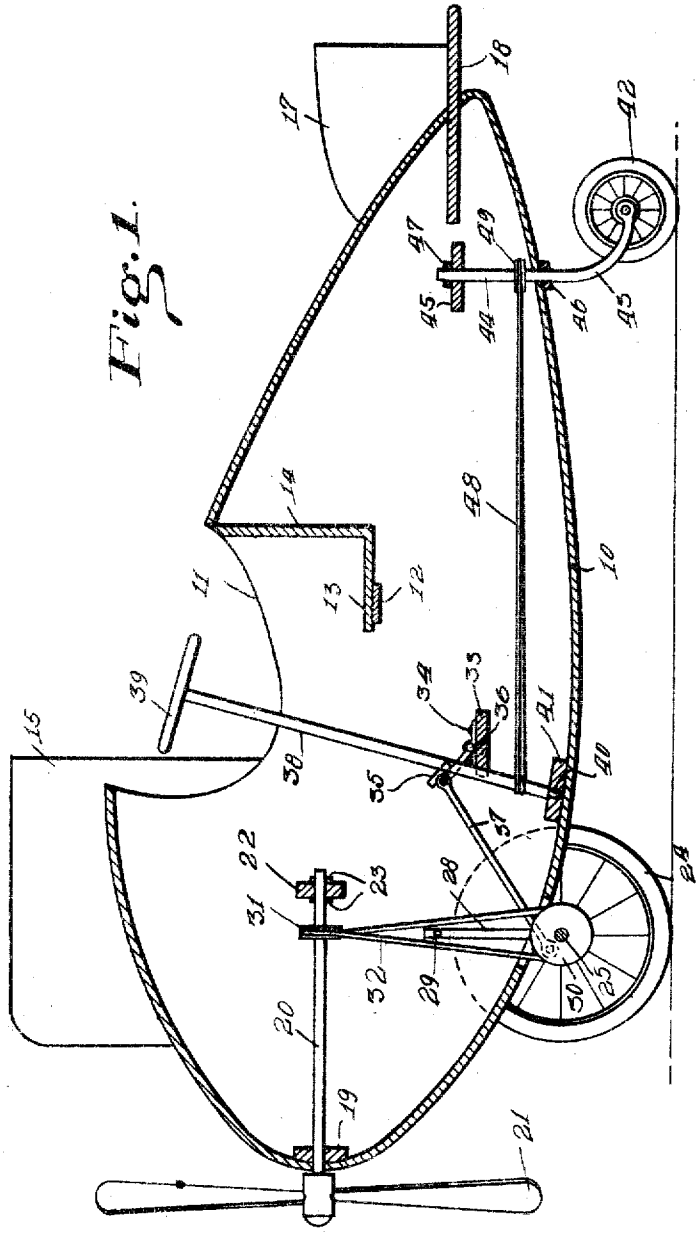
TOY AEROPLANE.

APPLICATION FILED MAR. 19, 1920.

1,371,433. **Patented Mar. 15, 1921.**

2 SHEETS—SHEET 1.

Fig. 1.



Witness

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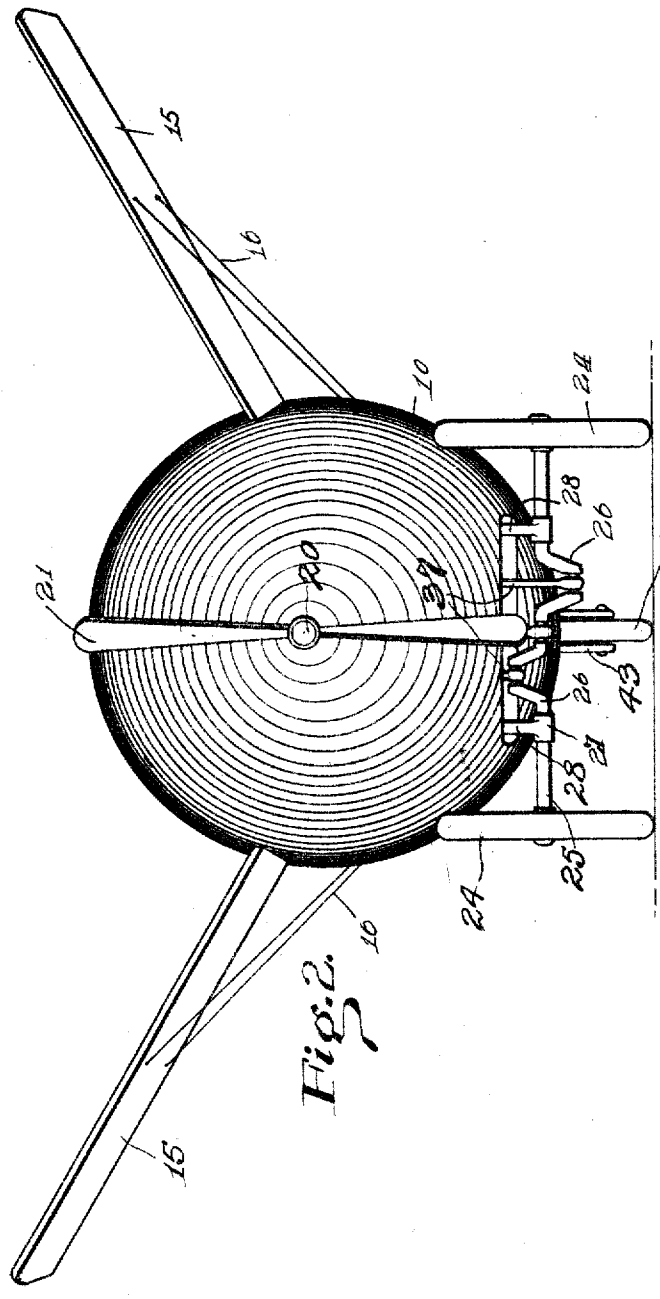


Fig. 2.

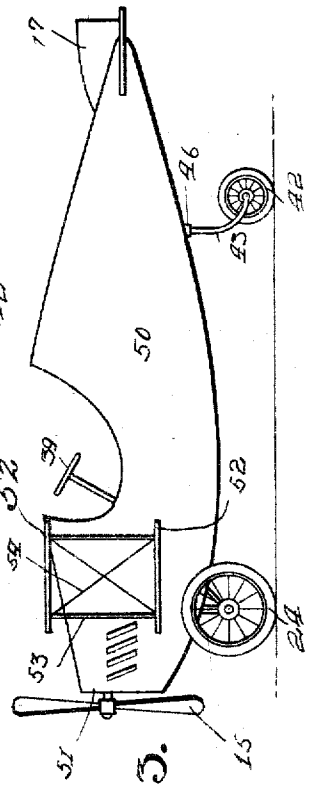


Fig. 3.

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UNITED STATES PATENT OFFICE.

LEON R. PAUL, OF WICHITA FALLS, TEXAS.

TOY AEROPLANE.

1,371,433. Specification of Letters Patent. Patented Mar. 15, 1921.

Application filed March 19, 1920. Serial No. 367,090.

To all whom it may concern:

Be it known that I, LEON R. PAUL, a citizen of the United States, residing at Wichita Falls, in the county of Wichita and State of Texas, have invented a new and useful Toy Aeroplane, of which the following is a specification.

This invention relates to child's vehicles adapted for exercise and amusement, and more particularly to an improved toy aeroplane simulating an aeroplane having a stream line fuselage or body, wings, propeller, rudder and steering aileron, and which is set on wheels, so as to be propelled with the feet and conveniently steered by the child seated therein.

A further object of the invention is to provide a toy aeroplane having a propeller operated simultaneously with the propelling mechanism to assist in the propulsion of the vehicle, and which is constructed in a novel manner, so as to be propelled through the medium of the front wheels thereof and to be steered through the medium of a rear wheel, as well as to provide a device which is relatively simple and inexpensive to produce, while also being able to withstand considerable rough handling.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:

Figure 1 is a longitudinal sectional view of a toy aeroplane constructed in accordance with the invention;

Fig. 2 is a front elevation thereof; and

Fig. 3 is a side elevation of a modified form of the device.

Referring to the drawings in detail, in which like reference characters designate corresponding parts throughout the several views, my improved toy aeroplane is shown as comprising a stream-line body or fuselage 10 having a cock pit 11 beneath which is arranged a cross strip 12 designed to support the seat 13 which is provided with the back portion 14 to accommodate the operator. The body is provided with an inclined plane 15 at each side, simulating a monoplane, said planes being reinforced in the sides of the body by braces 16. At the rear or tail end of the body, there is provided a vertical rudder plate 17 and an elevating plane or aileron 18 which intersects the rudder at right angles and extends into the body for rigidly connecting the same at the sides thereof, as it is thought will be understood.

Arranged at the forward end or apex of the body is a bearing 19 which is positioned at the inside and designed to rotatably receive a horizontal shaft 20 extending longitudinally of the body and carrying on its forward end a propeller 21 which is fixed thereto, said shaft operating freely through an aperture in the bearing 19 and the front end of the body and having its rear end rotatably mounted in a cross brace 22 connecting the sides of the body near the forward end thereof, at the point where the planes are positioned. Suitable keys or stop members 23 are positioned on the propeller shaft 20 forwardly and rearwardly of the cross brace 22 in order to prevent end thrust of the shaft, it being understood that said cross brace is apertured to form a bearing for the rear end of the shaft and is disposed vertically on edge so as to strengthen the body in addition.

The body is preferably formed of sheet metal, such as tin, or compressed paper or fiber, and the bearings and cross braces are preferably of wood, though they may be of metal if desired. The body is mounted on front propelling wheels 24 fixed on the ends of an axle 25 in the form of a crank shaft having a pair of cranks 26. The shaft is rotatably supported in bearings 27 formed at the lower ends of a frame including a pair of vertically disposed spaced parallel brackets 28, which extend through the body and are anchored against the inner faces thereof at their upper ends, by connecting means 29 passed through the sides of the body. Mounted intermediately on the shaft 25 is a pulley 30 around which and a pulley 31 fixed to the propeller shaft 20 at right angles to the pulley 30, an endless drive member of wire or cable as indicated at 32, is engaged or trained so that as the shaft 25 is driven, the propeller shaft will also be rotated to operate the propeller and assist in the propulsion of the vehicle.

Arranged transversely of the body near

the bottom portion thereof forwardly of the seat 13, is a foot board 33 in the form of a connecting brace disposed between the sides of the body and carrying bearings 34 in which foot pedals 35 of the oscillatory type, are pivoted as shown at 36. These pedals are pivotally connected at their free ends with the cranks 26 through the medium of connecting rods 37, so that when the pedals are operated, rotation will be imparted to the crank shaft for propelling the vehicle in either direction desired. As shown, the pedals are mounted upon rods pivoted in the bearings and the feet are retained on the pedals except when coasting, when they may be mounted on the foot board rearwardly of the pedals without interfering with the operation or inconveniencing the rider.

A steering standard or post 38 is mounted in the body and is provided with a steering wheel 39 in condition for convenient manipulation by the driver on the seat 13. This steering post or standard has a reduced lower end 40 rotatably mounted in a base member 41 forming a bearing therefor, and at the rear portion of the body, there is arranged a steering wheel 42 rotatably journaled in the fork 43 provided with a vertical shank portion 44 mounted to turn in the bottom portion of the body and a cross member 45 positioned horizontally between the sides of the body at the rear portion thereof. The shank or spindle 44 is limited in its upward movement by a shoulder or collar 46 formed thereon to engage the bottom portion of the body and a collar 47 on its upper end engaging the top face of the cross member 45, thus preventing vertical movement of the shank but permitting the same to turn in order to steer the vehicle in the desired direction. For this purpose, an endless steering cable 48 is connected to the steering post or standard 38 and trained around a drum or pulley 49 on the shank of the steering fork, so that by operating the steering wheel 39 the steering wheel 42 may be turned to the left or right to effect a movement of the vehicle in an oppoiste direction. It should be noted that the device is propelled by means of the front wheel and steered by means of the rear wheel, thus permitting one to make short turns. It will also be apparent that besides furnishing an exercising device, the effect will be both pleasing and amusing to the child.

In Fig. 3 of the drawings, a modified form of the invention is shown in which the body or fuselage 50 is made smaller in diameter and truncated at the forward end thereof as shown at 51. The other parts are the same, except that the device simulates a biplane, in that it is provided with a pair of wings 52 at either side connected by struts 53 running vertically and guy wires or braces 54 running diagonally.

Having thus described the invention what I claim is:

1. A toy aeroplane comprising an aeroplane body in the form of a shell, a seat arranged therein, a frame at the forward portion of the body, a crank shaft journaled in said frame and having a pair of propelling wheels fixed thereto, a foot board supported transversely of the body, pedals pivoted on said footboard and having connection with said crank shaft for rotating the latter, a steering wheel at the rear of the body, a steering post having operative connection with said steering wheel for turning the latter, a propeller at the forward end of the body and having a shaft horizontally journaled to extend longitudinally therethrough and into the body, a cross member in which said shaft is journaled at its rear end against end thrust, and an endless drive member operatively connecting the propeller shaft and the crank shaft whereby upon the crank shaft being driven, rotation will be imparted to the propeller shaft and its propeller.

2. A toy vehicle comprising a shell-like body, cross braces arranged between the sides of the body and within the same, a crank shaft journaled beneath the forward portion of the body, said body having a cock pit and a seat arranged therebeneath, one of said cross members forming a foot board, pedals pivoted for oscillatory movement on said foot board, rods pivotally connecting said pedals with said cranks of the crank shaft, wheels fixed to said crank shaft at either side of the body, a steering wheel at the rear portion of the body and beneath the same, a fork in which said wheel is journaled and having the shank portion pivoted vertically through the bottom of the body and one of said cross members aforesaid, means to prevent vertical movement of the shank, a steering post vertically positioned for rotation within said body and forwardly of the seat, a drum on said shank, a cable engaged around said drum and around the steering post whereby the steering wheel may be turned laterally from the steering post, a shaft journaled horizontally at the forward portion of the body to extend longitudinally thereof, said shaft projecting forwardly, a propeller fixed thereto, and a drive connection between the propeller shaft and the crank shaft whereby the same will be simultaneously driven upon operation of the pedals.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LEON R. PAUL.

Witnesses:
BEN KASMAN,
J. B. STOKES, JR.