

Oct. 29, 1940.

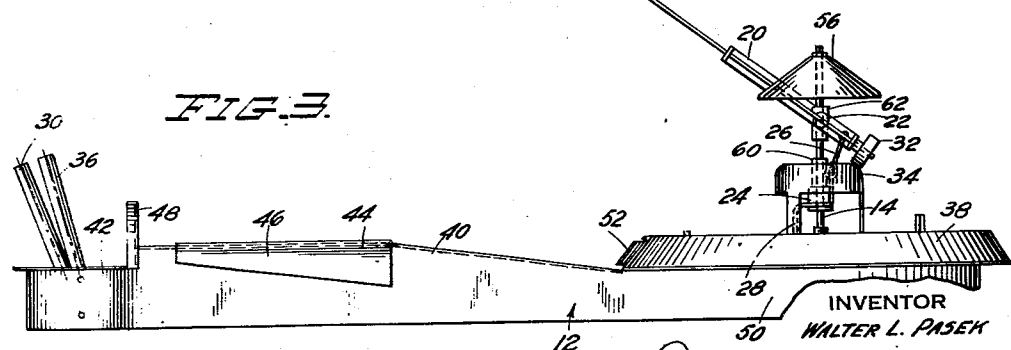
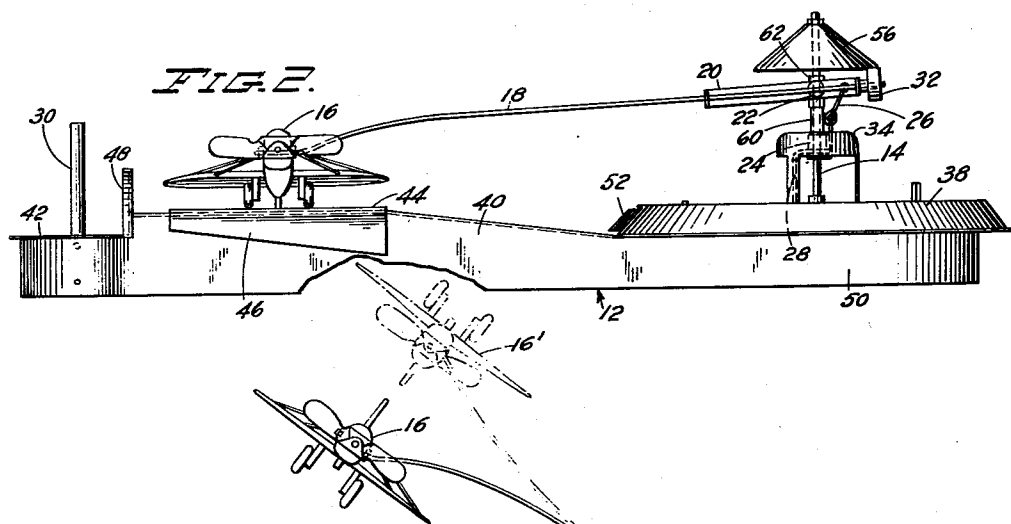
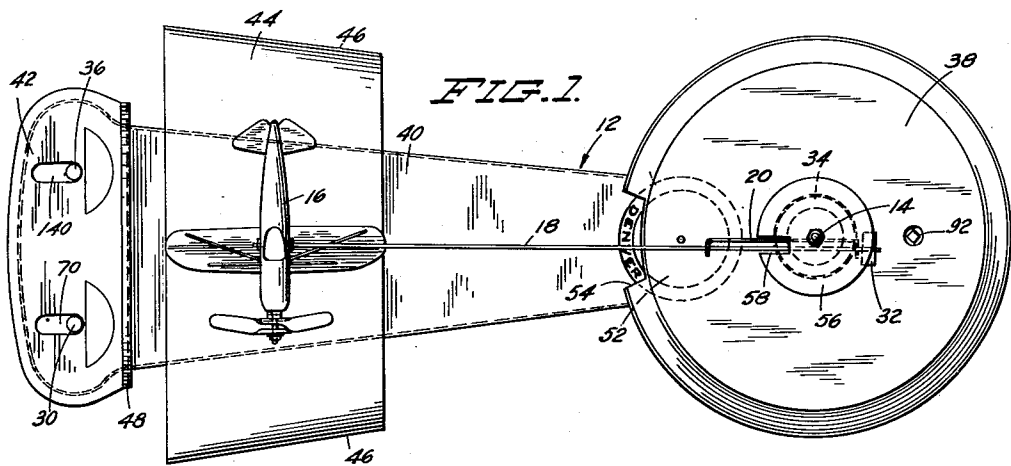
W. L. PASEK

2,219,658

AIRPLANE TOY

Filed April 27, 1938

2 Sheets-Sheet 1



INVENTOR
WALTER L. PASEK
BY
James + Franklin
ATTORNEY

Oct. 29, 1940.

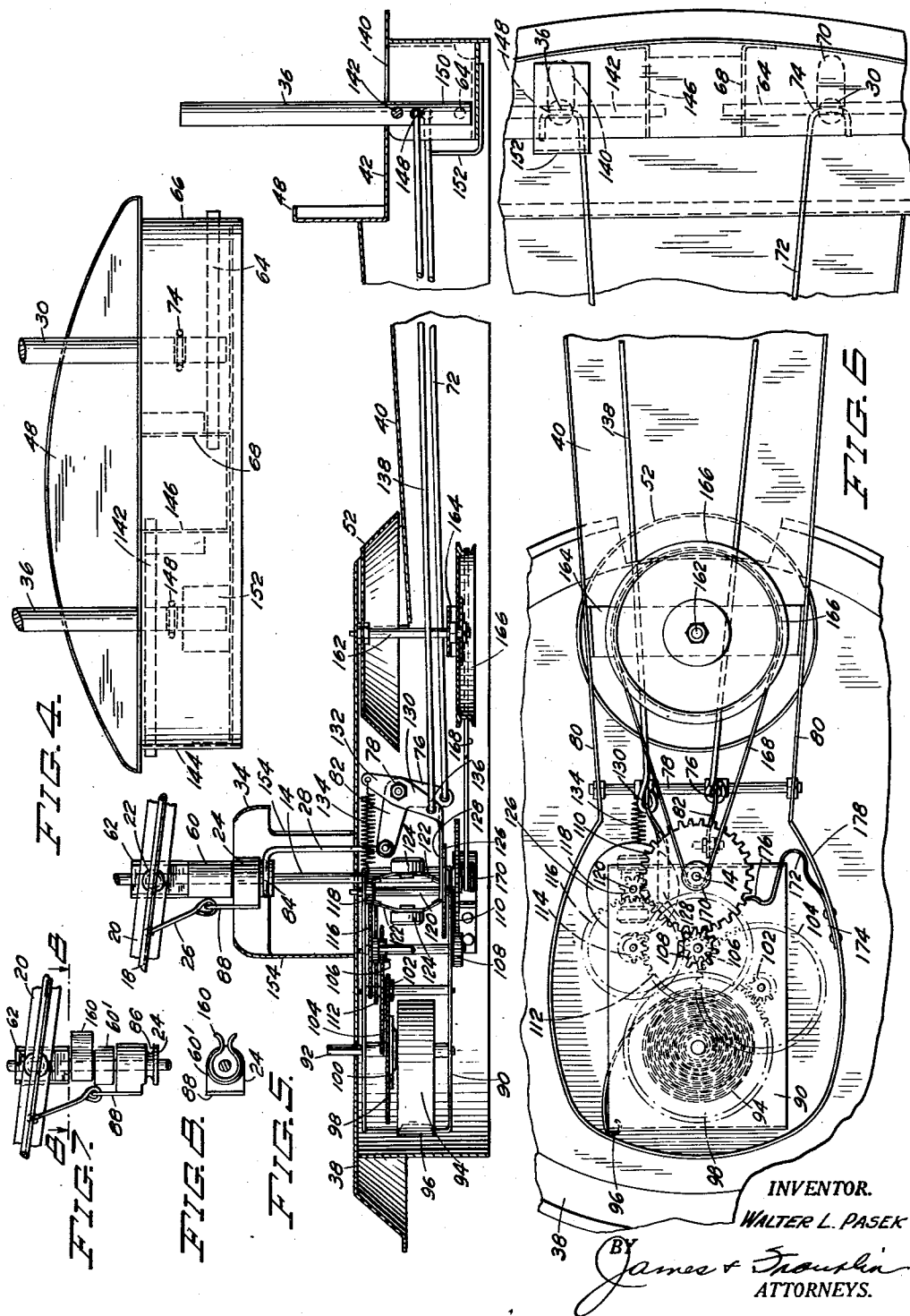
W. L. PASEK

2,219,658

AIRPLANE TOY

Filed April 27, 1938

2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,219,658

AIRPLANE TOY

Walter L. Pasek, St. Louis, Mo., assignor to Louis Marx & Company, Inc., New York, N. Y., a corporation of New York

Application April 27, 1938, Serial No. 204,492

17 Claims. (Cl. 272—31)

This invention relates to toys and more particularly to an airplane toy arranged so that a child playing with the toy has the airplane under his control at all times and can simulate take-off, ascension, stunting, and landing.

The primary object of my invention is to generally improve airplane toys of the character mentioned with a view to simplifying the toy, reducing its cost of manufacture, making it large enough for realism and enjoyment, yet so designed that it may be packaged in a compact box, and adapting the toy to be driven by a spring motor so that it may be safely used by small children.

Further objects are to arrange the toy for manual control of the speed of the airplane and the elevation of the airplane, and to make possible stunting, including a loop-the-loop action of the airplane.

In accordance with one feature and object of my invention, the airplane simulation is carried at the end of an arm which is pivotally mounted on a shaft projecting upwardly from a base in which the driving motor is concealed. A collar is slidably mounted on the shaft and connected by a link to the airplane support arm. The axial position of the collar relative to the shaft is controlled by means of a non-rotatable shifter rod in which the collar is freely rotatable. A control stick remote from the shaft is connected to the shifter rod by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor. The toy is preferably devoid of a high tower or pylon at the center, for this detracts from the realism of the toy and also its compactness. Instead, the support arm is pivoted on the shaft at a comparatively low point and upward tilting of the support arm is relied upon to elevate the airplane. Furthermore, the working parts at the shaft may be largely concealed by means of a cap or dome secured at the top end of the shaft, said cap being radially slotted to permit upward tilting of the support arm.

In accordance with a further feature and object of my invention, provision is made for causing a loop-the-loop of the airplane without necessitating a special additional control for that purpose. The airplane is mounted at one end of a support rod and is offset from the axis of the other end of the rod. The latter end is rotatably received in a bearing which is pivotally mounted on the shaft. A wheel is mounted at the end of the support rod beyond the bearing and a stationary rim is provided around the shaft below

the support rod for cooperation with the wheel when the airplane is elevated to maximum altitude. In this way, the airplane may be caused to loop-the-loop or stunt by raising it to its point of maximum elevation.

Further objects of my invention center about the base on which the working parts of the toy are mounted and within which the motor is concealed. In accordance with my invention, the base includes a circular portion at the shaft, this portion being very much smaller than the circle described by the airplane during flight. The base further includes a radial portion extending side-wardly from the circular portion with a control platform or station at the outer end of the radial portion. A sheet metal runway simulation extends transversely over the radial portion within said platform and has its ends sloping downwardly in order not to obstruct the airplane when the latter lands or takes off at minimum elevation. The airplane simulation is, of course, located at a radial distance from the vertical shaft approximately equal to the radial distance to the center of the runway simulation. The control sticks for regulating the speed and elevation of the airplane are mounted on the control platform outside the path of movement of the airplane.

Another object of my invention is to provide means moving in response to movement of the airplane, though at much slower speed, for successively indicating a series of names of cities or airports, thus indicating the progress of the flight of the airplane and providing a goal for a child playing with the toy in that he may attempt to successfully reduce the speed and elevation of the airplane and land the same safely in the middle of the runway when the desired airport is named on the indicator. Another object is to provide the toy with noise-making means simulating the noise of an airplane motor while the airplane is in flight.

To the accomplishment of the foregoing and such other objects as will hereinafter appear, my invention consists in the airplane toy elements and their relation one to the other as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawings, in which:

Fig. 1 is a plan view of the toy embodying features of my invention;

Fig. 2 is a side elevation of the same with the airplane resting on the runway;

Fig. 3 is a side elevation of the toy with the airplane simulating a loop-the-loop stunt;

Fig. 4 is an elevation of the control end of the toy;

Fig. 5 is a longitudinal section taken in elevation through the toy to explain the mechanism thereof;

Fig. 6 is a bottom view of the toy; and

Figs. 7 and 8 are explanatory of a modification detail.

Referring to the drawings, and more particularly to Figs. 1, 2, and 3, the toy comprises a base generally designated 12, having an upwardly projecting shaft 14 driven by a motor concealed in the base. An airplane simulation 16 is fixedly secured to the outer end of a support arm 18, 20, pivotally mounted at 22 on shaft 14. In the specific case here illustrated, the support arm is made up of two parts, a rotatable support rod 18, and a support rod bearing 20. The airplane is offset from the axis of the body of the cross-rod and particularly the end thereof remote from the airplane. The latter end is rotatably mounted in the support rod bearing 20, and this is oscillatably pivoted on shaft 14 by means of the aforesaid pivot 22. In this way, the support rod is caused to turn with shaft 14 yet can rotate in bearing 20.

An axially slidable collar 24 is mounted on shaft 14 and is connected to bearing 20 by means of a link 26. I further provide a non-rotatable shifter rod 28 the upper end of which rotatably receives collar 24. It will be understood that by pulling the shifter rod downwardly, the collar 24 is moved downwardly, thus elevating the support rod 18, as is indicated by the change in position from the solid line position of Fig. 2 to the solid line position of Fig. 3. The movement of shifter rod 28 may be controlled by a suitable control stick 30 mounted at a point remote from shaft 14.

The end of support rod 18 beyond bearing 20 is provided with a wheel 32. A stationary ring or rim 34 is positioned concentrically about shaft 14. When the support rod 18 is raised to maximum elevation, the wheel 32 comes into rolling contact with stationary rim or ring 34, as is indicated in Fig. 3, and this causes rotation of rod 18. The airplane 16 thereupon performs loops, it changing from the solid line position 16 to the broken line position 16' in the course of each loop.

The toy is preferably provided with another control stick 36 mounted near control stick 30, and this is preferably used to start or stop the motor and also to control the speed of operation thereof and thereby control the speed of travel of the airplane.

The construction of base 12 is worth comment because it makes it possible for the present toy to be manufactured, shipped and handled as a fixed unit. The base includes a circular portion 38, but it will be noted that this is very much smaller in diameter than the path of movement of the airplane 16. The base further includes a radial portion 40 which extends sidewardly from the circular portion 38. At its outer end, the radial portion 40 is provided with a control platform 42, and the control levers 30 and 36 are preferably mounted on this control platform. A simulated runway 44 is formed of a piece of sheet metal extending transversely over the radial portion 40. The ends are curved downwardly, as is indicated at 46, in order to prevent obstruction of the airplane when landing or taking off at lowest altitude. The airplane support rod 18 is of such length as to bring the airplane 16 directly

over the middle of runway 44, and the runway may be additionally separated from the control platform 42 by means of a vertical partition or wall 48.

The side walls 50 of the base beneath circular portion 38 may consist of continuations of the side walls of radial portion 40, and need not cover an area as large as the circular portion. In fact, the latter preferably consists of a sheet metal member mounted on top of one end of the radial portion 40 (see Fig. 6).

City or airport designations may be printed on the periphery of a dished wheel 52. This wheel is located beneath and is substantially concealed by the circular base portion 38, but the periphery of the latter is cut away to form a sight window 54 through which the names on indicating wheel 52 may be successively read as the wheel rotates. This wheel is so connected to the motor works that it turns slowly as the airplane revolves about the base, and if the airplane is not landed, the names may be used as indications of cities being passed in flight, and if the airplane is landed, the child may play at attempting to set the airplane down right on the runway when the selected airport is indicated at the window.

The toy is preferably devoid of a high tower or pylon. The projection of shaft 14 above the base is kept comparatively small. Moreover, to render the working parts of the toy less conspicuous, they may be disposed beneath a cap or dome 56 mounted at the upper end of shaft 14. This cap is secured to the shaft and turns with it. It may be kept low by providing it with a radial slot 58 through which the airplane support arm may pass when the airplane is raised to maximum altitude. The lowest position of the airplane may be controlled by suitable motion limiting stops, and in the present case, the collar 24 has an upwardly projecting sleeve 60 which bears against the collar 62 on which the bearing 20 is mounted. Furthermore, the cap 56 may be positioned at such elevation that the wheel 32 bears against the rim of the cap when the airplane is in lowest position, as is shown in Fig. 2. This lowest position is selected to be equal or slightly lower than the level of simulated runway 46, thus preventing the airplane from colliding with the end of the runway when landing. However, the motion limiting means may be omitted or disposed for a lower level, particularly for use by older children, in order that they may have to exercise skill and control over the landing of the airplane when bringing the same down on the runway, and in such case, if the landing is unskillfully executed the airplane will strike the end of the runway and nose over onto its back, thus realistically simulating the crack-up of an airplane which has been dropped too quickly or unskillfully when landing.

The mechanism of the toy may be explained in greater detail with reference to Figs. 4, 5, and 6 of the drawings, and referring to those figures, it will be seen that the control stick 30 is pivoted at its lower end on a pin 64 passing through outer wall 66 and a special inner bearing wall 68. The stick 30 passes upwardly through a slot 70. It is normally in forward position due to the weight of the airplane, but may be pulled rearwardly. A relatively long wire link 72 has one end turned through stick 30, as is indicated at 74. The link 72 passes through the radial portion 40 of the base and its other end passes through the depending arm 76 of an angle lever pivoted on a

bearing rod 78 secured at its ends in the side walls 80 of the base. The other arm 82 of the angle lever is connected to the lower end of the shifter rod 28, the upper end of said rod being bent sidewardly and curled around an annular groove formed at the lower end of collar 24, as shown at 84. The nature of this groove will be seen at 86 in Fig. 7. Collar 24 is provided with a perforated ear 88 which may be secured to the collar as by welding. The lower end of link 26 is connected to ear 88 and its upper end is connected to the bearing 20 for the airplane support rod 18, all as was previously described.

Shaft 14 is here shown driven by a spring motor the speed of which is regulated by a governor, but it will be understood that it is also possible to use an electric motor, the speed being regulated by appropriate means such as a resistor. In the present case, the motor parts are carried in a frame 90 secured within the base, as by means of the usual tongue and slot connections. The motor is provided with a winding stem 92 projecting upwardly through circular base portion 38. A spiral ribbon spring 94 is wound about the shaft, the inner end being connected to the shaft, and the outer end being connected to frame 90 at 96. When the spring unwinds, it turns a main gear 98 through any conventional ratchet mechanism indicated at 100. Main gear 98 meshes with a pinion 102 which turns a gear 104 meshing with a pinion 106, the shaft of which carries at its lower end a pinion 108 which meshes with a gear 110 secured at the lower end of shaft 14. The speed of unwinding of the motor is controlled by governor mechanism, and additional step-up gears are used to drive the governor. Specifically, pinion 106 turns gear 112 which meshes with pinion 114 which turns gear 116 which meshes with pinion 118 mounted at the upper end of the governor shaft 120. The governor shaft turns thin leaf springs 122 which carry weights 124. The lower ends of springs 122 are connected to a brake disk 126. This cooperates with a brake arm 128 formed at the lower end of a lever 130 pivoted on rod 78 previously referred to. The upper end 132 of lever 130 is pulled to motor stopping position by a tension spring 134. Lever 130 is connected at 136 to a long link or rod 138 which extends through radial base portion 40 to speed control lever 36. This passes through a slot 140 in the platform 42. It is pivoted on a rod 142 carried between side wall 144 of the base and an inner bearing wall 146. The end of rod 138 is connected to control stick 36 at 148. The control stick is projected downwardly, as is indicated at 150, thereby forming a stop member which bears against a stop 152 when the control stick is pulled to high speed position. It is desirable to prevent excessive upward movement of the brake arm 128 in order to prevent it from striking the governor weights, and this is done by motion limiting stop 152. It will be understood that with control stick 36 in its normal forward position, the airplane is stationary. As the control stick is drawn rearwardly, the airplane begins to revolve and its speed may be accurately and gradually regulated by movement of the control stick.

The stationary ring or rim 34 is mounted in position by means of supports 154 which extend downwardly to the circular base 38. It will be understood that instead of spaced legs 154, a solid cylindrical wall of metal may be used if it is desired to further conceal the collar and shifter rod of the mechanism.

It will be understood that while collar 24 is loose on shaft 14, the collar 62 is fixed to shaft 14 so that collar 62 turns with shaft 14 and thereby turns the bearing 20 and support rod 18. The only reason collar 62 is used is to form an enlargement to receive the bearing pin 22 on which the bearing 20 pivots. Collar 62 is preferably provided with a flat face against which bearing 20 rests and oscillates. Although collar 24 is loose on shaft 14, it turns with shaft 14, it being drawn around by link 26. It is for this reason that the collar 24 is made freely rotatable in the upper end 84 of the shifter rod 28. It will be understood that a more elaborate construction may be used in which collar 24 is splined to shaft 14 so that it will rotate with the shaft while being axially movable relatively thereto, but in the present case, a simple round shaft 14 is used to minimize the expense of construction.

It has already been mentioned that the motion limiting collar 60 may be disposed between axially movable collar 24 and fixedly mounted collar 62, thus determining the lowest point to which the airplane can descend. In Figs. 7 and 8, I show a modification of the invention in which the motion limiting collar 60 is replaced by a shorter collar 60' and a removable spring key 160. When spring key 160 is removed, the airplane can descend to a level lower than the simulated runway 44 (Figs. 1-3). This complicates the operation of the toy, as was previously pointed out, in that the child operating the same must skillfully manipulate the control stick 30 with a view to bringing the airplane down gently on the runway without striking the edge of the runway with consequent collision and nosing over of the airplane. It will be understood that in this form of the invention, the cap 56 is disposed slightly higher than is indicated in Fig. 2 so that there is a slight amount of clearance between the wheel 32 and cap 56 when the airplane rests on the runway.

Reverting now to Figs. 5 and 6, the airport indicating wheel 52 is mounted at the upper end of a spindle 162 journaled at its upper end in circular base 38 and at its lower end in a strip 164 the ends of which are secured to the side walls of the base. The lower end of spindle 162 carries a preferably large diameter pulley 166. This is belted, as by means of a rubber band 168, to a very small diameter pulley 170 secured at the lower end of shaft 14. It will thus be seen that the indicator wheel turns during the flight of the airplane, but very much more slowly so that the airplane will make a substantial number of revolutions about shaft 14 before the next airport designation comes into view.

The toy may be additionally provided with means to make a noise generally simulating the sound of the airplane engine. In the present case, this is produced in simple fashion by means of a noise-making clapper 172 preferably made of bent spring metal and having one end secured to the wall of the base, as at 174, and the other end 176 in engagement with the teeth of an appropriate one of the gear wheels, in this case the gear 110. It will be understood that as the gear rotates, a noise is produced by bending of the spring by each tooth with consequent release to abruptly strike the next succeeding tooth and also by vibration of the intermediate part 172 of the spring against the side wall of the base at 178.

It is believed that the construction and operation, as well as the many advantages of my im-

proved airplane toy will be apparent from the foregoing detailed description thereof. It will also be apparent that while I have shown and described the invention in a preferred form, many changes and modifications may be made in the structure disclosed without departing from the spirit of the invention defined in the following claims.

I claim:

10 1. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for rotating said shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation by means of a pivot pin extending transversely of both said shaft and said arm, an airplane simulation at the end of said arm, a collar slidable on said shaft, a support link pivotally connected to and extending between said collar and said support arm to hold said arm at any desired angle, a non-rotatable shifter rod in which said collar is freely rotatable, and a control stick remote from said shaft connected to said shifter rod by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor.

2. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for rotating said shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm, a collar slidable on said shaft, a link extending from said collar to said support arm, a non-rotatable shifter rod in which said collar is freely rotatable, a control stick remote from said shaft connected to said shifter rod by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor, and a cap secured to the top of said shaft, said cap being radially slotted to accommodate upward movement of the support arm.

3. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for revolving said shaft, an airplane simulation, a support rod connected thereto at one end, a support rod bearing rotatably receiving the other end of said support rod, means pivotally mounting the support rod bearing on the shaft, a wheel fixed to said support rod, a ring concentric with said shaft for cooperation with said wheel when said ring and wheel are brought into contact, and a control stick remote from said shaft for bringing the ring and wheel into contact.

4. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for revolving said shaft, an airplane simulation, a support rod connected thereto at one end, a support rod bearing rotatably receiving the other end of said rod, a wheel at the end of said rod beyond said bearing, means pivotally mounting the support rod bearing on the shaft, a stationary rim surrounding said shaft below said support rod for cooperation with said wheel when said airplane is elevated to maximum altitude, and a control stick remote from said shaft connected to said support rod bearing by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor.

5. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for revolving said shaft, an airplane simulation, a support rod connected thereto at one end with the airplane offset from the axis of the other end of the rod, a support rod bearing ro-

tatably receiving the latter end of said rod, a wheel at the end of said rod beyond said bearing, means pivotally mounting the support rod bearing on the shaft, a ring mounted on said base and surrounding said shaft below said support rod for cooperation with said wheel when said airplane is elevated to maximum altitude, a collar slidable on said shaft, a link extending from said collar to said support rod bearing, a shifter rod in which said collar is freely rotatable, and a control stick remote from said shaft connected to said shifter rod by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor.

6. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for rotating said shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation by means of a pivot pin extending transversely of both said shaft and said arm, an airplane simulation at the end of said arm, a collar slidable on said shaft, a support link extending from said collar to said support arm to hold said arm at any desired angle, a shifter rod in which said collar is freely rotatable, a control stick remote from said shaft connected to said shifter rod by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor, speed regulating means for gradually varying and determining the speed of said motor, and a second control stick adjacent the first and connected to said speed regulating means in order to control the speed of revolution of the airplane with the shaft.

7. An airplane toy comprising a base, a shaft projecting upwardly therefrom, a motor in said base for revolving said shaft, an airplane simulation, a support rod connected thereto at one end, a support rod bearing rotatably receiving the other end of said support rod, means pivotally mounting the support rod bearing on the shaft, a wheel fixed to said support rod, a ring concentric with said shaft for cooperation with said wheel, a control stick remote from said shaft connected to appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor and for bringing the ring and wheel into engagement, speed regulating means for determining the speed of said motor, and a second control stick adjacent the first and connected to said speed regulating means in order to control the speed of revolution of the airplane with the shaft.

8. An airplane toy comprising a base including a center portion, a sidewardly extending portion having a runway simulation, and a control portion outside the runway, a vertical shaft projecting upwardly from the center portion, a motor for rotating such shaft, an airplane support rod, an airplane simulation at one end of said rod, a support rod bearing rotatably receiving the other end of said rod, means pivotally mounting said bearing on the shaft for vertical oscillation of the rod, a wheel fixed to said support rod, a ring concentric with said shaft for cooperation with said wheel when said ring and wheel are brought into contact, and appropriate control mechanism mounted on the control portion of the base for controlling the elevation of the airplane and the engagement of the ring and wheel for causing stunting of the airplane.

9. An airplane toy comprising a base including a center portion, a sidewardly extending portion having a runway simulation, and a control portion outside the runway, a vertical shaft pro-

jecting upwardly from the center portion, a motor for rotating such shaft, an airplane support arm, an airplane simulation at one end of said arm, means pivotally mounting said arm on the shaft for vertical oscillation of the arm, appropriate control mechanism mounted on the control portion of the base for controlling the elevation of the airplane, and motion limiting means for limiting the lowest position of the airplane to a level substantially equal to that of the runway simulation.

10. An airplane toy comprising a base including a center portion, a sidewardly extending portion having a runway simulation, and a control portion outside the runway, a vertical shaft projecting upwardly from the center portion, a motor for rotating such shaft, an airplane support arm, an airplane simulation at one end of said arm, means pivotally mounting said arm on the shaft for vertical oscillation of the arm, and appropriate control mechanism mounted on the control portion of the base for controlling the elevation of the airplane, motion limiting means for limiting the lowest position of the airplane to a level substantially equal to that of the runway simulation, and means whereby said motion limiting means may be made inoperative so that the airplane can descend to a level lower than that of the runway unless properly controlled by the aforesaid control mechanism.

11. An airplane toy comprising a base, a shaft projecting upwardly from the base, a motor for rotating such shaft, an airplane support arm mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm, control means for controlling the operation of the airplane, an airport indicator wheel mounted within said base and having the periphery thereof exposed in a window cut through said base, and means so gearing said wheel to said driving motor that the wheel turns slowly as the airplane revolves, the periphery of said wheel being marked with appropriate designations of cities or airports.

12. An airplane toy comprising a base including a center portion, a sidewardly extending portion having a runway simulation, and a control portion outside the runway, a shaft projecting upwardly from the center portion, a motor for rotating said shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm, a control stick at said control portion connected to appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor, speed regulating means for gradually varying and determining the speed of said motor, and a second control stick at said control portion connected to said speed regulating means in order to control the speed of revolution of the airplane about the shaft.

13. An airplane toy comprising a base including a center portion, a sidewardly extending portion having a runway simulation, and a control portion outside the runway, a shaft projecting upwardly from the center portion, a motor for rotating such shaft, an airplane support rod, an airplane simulation at one end of said rod, a support rod bearing rotatably receiving the other end of said rod, means pivotally mounting said bearing on the shaft for vertical oscillation of the rod, a wheel fixed to said support rod, a ring concentric with said shaft for cooperation with said wheel when said ring and

wheel are brought into contact, speed regulating means for determining the speed of the airplane, and appropriate control mechanism mounted on the control portion of the base for controlling the speed and elevation of the airplane and the engagement of the ring and wheel.

14. An airplane toy comprising a hollow base including a circular portion, a radial portion extending sidewardly from said circular portion, a control platform at the opposite end of said radial portion, and a sheet metal runway simulation extending transversely over said radial portion inside said platform and having its ends sloping downwardly, a shaft projecting upwardly from the center of said circular portion, a spring motor in said base for rotating said shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm at a radial distance equal to that of the runway, a collar slidable on said shaft, a link extending from said collar to said support arm, a shifter rod in which said collar is freely rotatable, a control stick at said platform connected to said shifter rod by appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor, a governor and governor brake for determining the speed of unwinding of said spring motor, and a second control stick at said platform and connected to said governor brake in order to control the starting and the speed of revolution of the airplane about the shaft.

15. An airplane toy comprising a hollow base including a circular portion, a radial portion extending sidewardly from said circular portion, a control platform at the opposite end of said radial portion, a runway simulation extending transversely over said radial portion inside said control platform and having its ends sloping downwardly, a shaft projecting upwardly from the circular portion, a motor for rotating such shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm, a control stick at said platform, said stick being connected to appropriate linkage for raising or lowering the airplane as it revolves with the shaft under drive of the motor, means to limit the lowest position of the airplane to a level substantially equal to that of the runway, and means whereby said motion limiting means may be made inoperative so that the airplane can descend to a lower level unless restrained by proper operation of the control stick.

16. An airplane toy comprising a hollow base including a circular portion, a radial portion extending sidewardly from said circular portion, a control portion at the opposite end of said radial portion, a shaft projecting upwardly from the circular portion, a motor for rotating such shaft, an airplane support arm mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm, control means at said control portion for controlling the simulated flight of the airplane, an airport indicator wheel mounted within said circular portion of the base and having the periphery thereof exposed in a window cut through said circular portion and facing the control portion, and means so gearing said wheel to said driving motor that the wheel turns slowly as the airplane revolves, the periphery of said wheel being marked with appropriate designations of cities or airports.

17. An airplane toy comprising a rigid hollow one-piece base including an inner end portion,

an outer end portion including a control platform, an intermediate portion extending therebetween, and a sheet metal runway simulation extending transversely of said intermediate portion inside said platform and having its ends bent downwardly, a shaft projecting upwardly from the inner end portion of the base, a motor in said base for rotating said shaft, an airplane support arm pivotally mounted on said shaft for vertical oscillation, an airplane simulation at the end of said arm, a collar slidable on said shaft,

a support link pivotally connected to and extending between said collar and said support arm to hold said arm at any desired angle, a non-rotatable shifter rod in which said collar is freely rotatable, and a control stick at said platform 5 connected to said shifter rod through appropriate linkage extending through the base for raising or lowering the arm and with it the airplane as it revolves with the shaft under drive of the motor. 10

WALTER L. PASEK.