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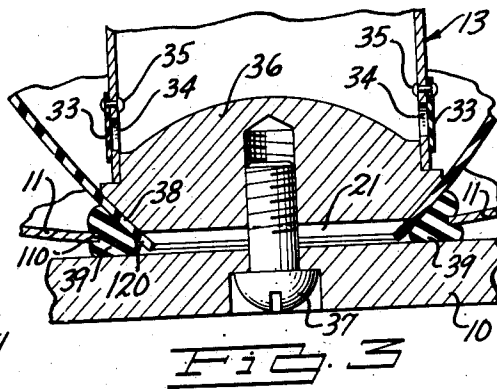
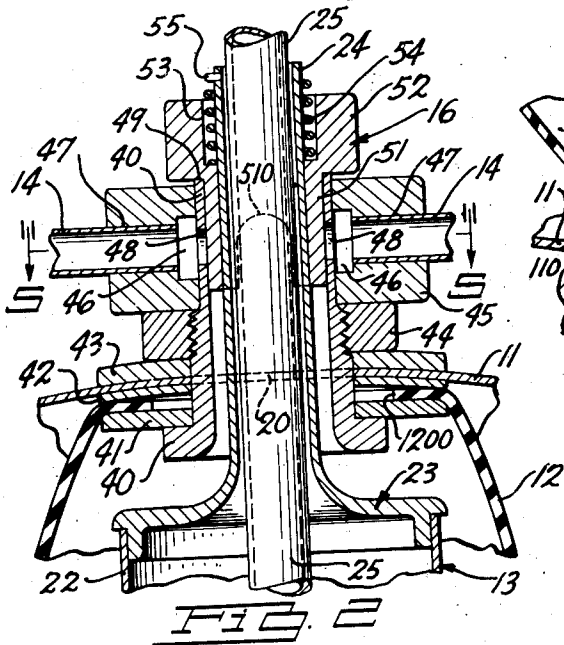
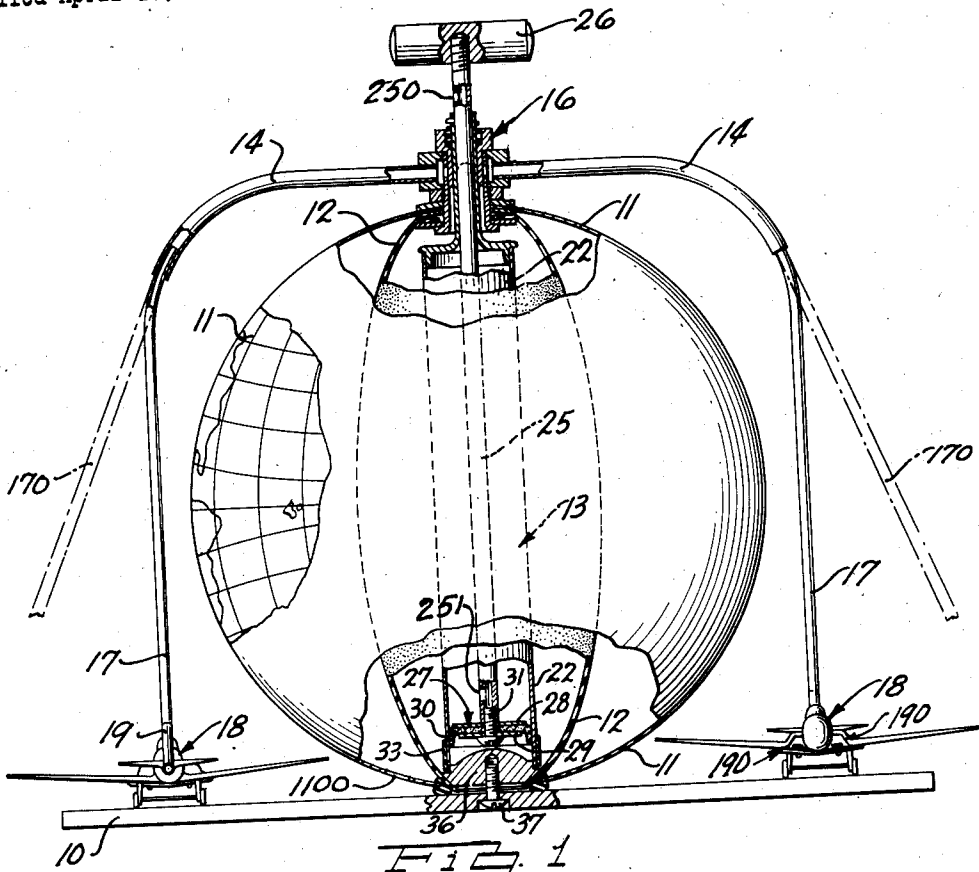
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2,484,468

JET PROPELLED AIRPLANE TOY

3 Sheets-Sheet 1

Filed April 10, 1946



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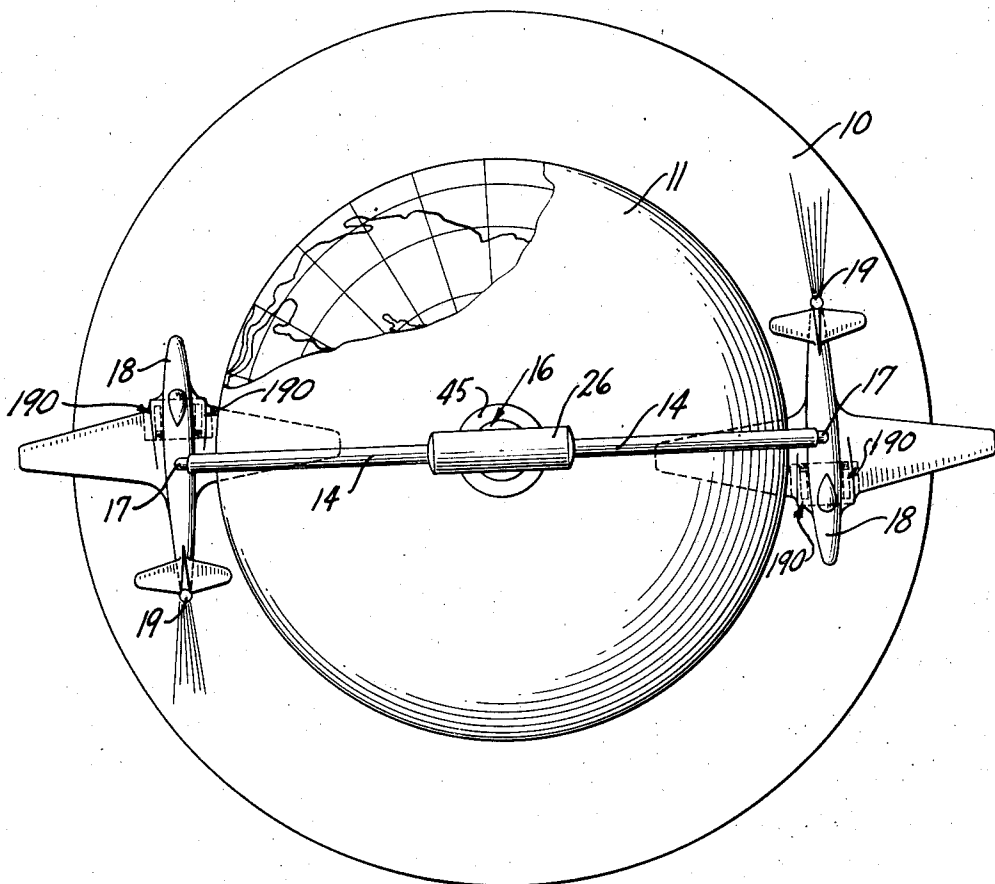


FIG. 4

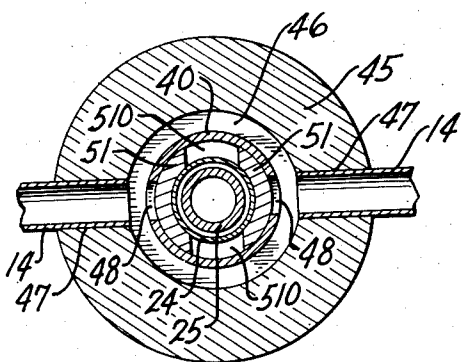


FIG. 5

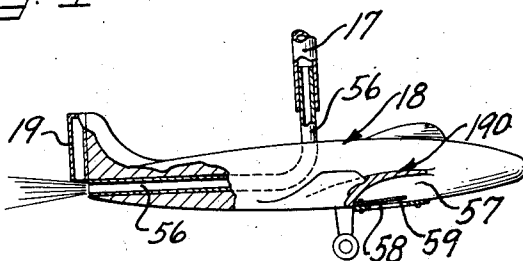


FIG. 6

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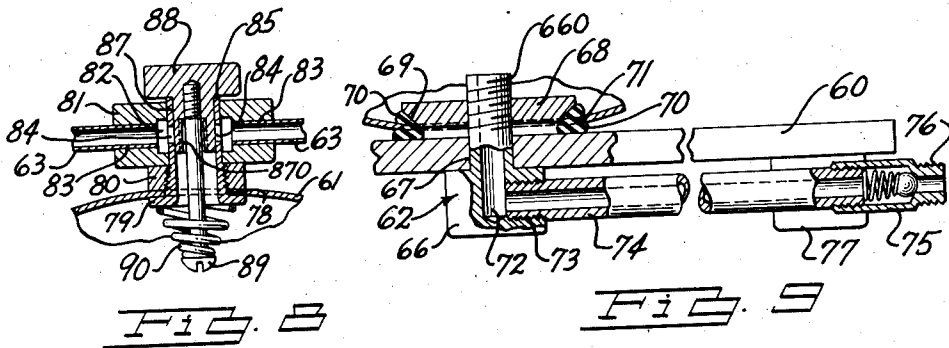
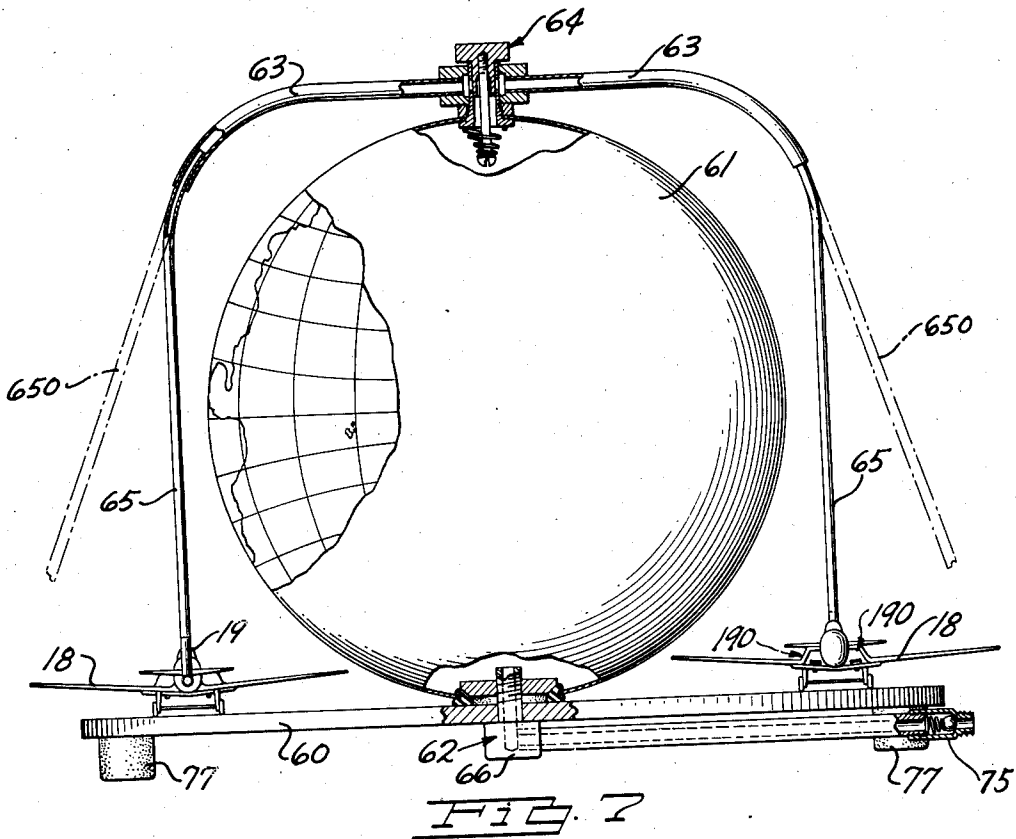
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UNITED STATES PATENT OFFICE

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JET-PROPELLED AIRPLANE TOY

Theodore A. Schaad, Detroit, Mich.

Application April 10, 1946, Serial No. 661,132

10 Claims. (Cl. 46—56)

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This invention relates to toys and in particular to jet propelled airplane toys.

The primary objects of the present invention are to provide a toy which employs miniature airplanes driven by the reaction of a jet of gas, preferably air, which simulates the sound of jet airplanes in flight, which demonstrates the propulsion of jet airplanes, in which the miniature jet propelled airplanes may take off and land, and which provides simultaneously combined educational and recreational features.

For the purpose of illustrating the invention, two of many possible embodiments thereof are disclosed herein. While these two embodiments employ many of the desirable features of a unitary toy such as including air compressing means and a reservoir for compressed air, it is recognized that many other convenient means for providing compressed air or a flow of air under pressure for operating toys embodying the invention may be employed.

With the foregoing in view, other objects of the invention will become apparent by reference to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is an elevational view of a jet propelled airplane toy embodying the invention with portions thereof shown in section to illustrate the construction more clearly.

Fig. 2 is an enlarged fragmentary vertical sectional view at the top of the toy showing in considerable detail a preferred construction of the rotating hub and valving means employed through which air under pressure is supplied to miniature jet airplane.

Fig. 3 is an enlarged fragmentary vertical sectional view at the bottom of the toy showing the valve means employed between the air pumping means and the rubber bladder and the sealing means employed between the bladder, the spherical housing and the base.

Fig. 4 is a top plan view of the embodiment of the jet propelled airplane toy disclosed in Fig. 1.

Fig. 5 is a fragmentary horizontal sectional view taken on the line 5—5 of Fig. 2.

Fig. 6 is a side elevational view of a miniature airplane preferably employed with the invention, portions thereof being broken away to indicate how the jet tubes and jet airplane sound simulating means are incorporated thereinto.

Fig. 7 is an elevational view of another embodiment of the invention with portions thereof shown in section to illustrate the construction more clearly.

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Fig. 8 is an enlarged fragmentary vertical sectional view of the top of the embodiment of the invention disclosed in Fig. 7 showing in considerable detail the rotating hub and valve means preferably employed.

Fig. 9 is an enlarged fragmentary vertical sectional view of a portion of the bottom and base of the embodiment of the invention disclosed in Fig. 7.

Referring now to the drawings, wherein like numerals refer to like and corresponding parts throughout the several views, the illustrative embodiment of the invention disclosed in Figs. 1-6 inclusive comprises a circular base 10 upon which a spherical housing 11 is mounted as hereinafter described in detail, a bladder 12 within the said housing 11, a pump 13 within the said bladder 12 adapted to inflate the said bladder and create air pressure therewithin, a pair of outwardly disposed tubular arms 14 rotatably mounted on said housing 11, communicating passages between said bladder 12 and said tubular arms 14 through which air under pressure from said bladder 12 may pass, valve means 16 controlling the passage of air from said bladder 12 to said tubular arms 14, flexible tubing 17 connected to and depending from the outer ends of said tubular arms 14, jet propelled miniature airplanes 18 connected to and depending from the said flexible tubing 17 which rotate the said tubular arms 14 when air under pressure is permitted to pass from the bladder 12 through the said jet airplanes 18, and either or both of the jet airplane sound simulating means 19 and 190 carried by said miniature jet airplane 18. The said rotation of the tubular arms 14 causes the flexible tubing 17 to assume the position indicated by the dot and dash lines 170 in Fig. 1 whereby the miniature jet propelled airplanes 18 take off and fly around the said spherical housing 11 which is preferably provided with a map of the globe thereover.

The said spherical housing 11 preferably formed of metal and is provided with diametrically opposite circular apertures 20 and 21 in the top and bottom thereof respectively. The top of the cylinder 22 of the pump 13 is provided with a cap 23 formed to include a centrally disposed tubular guide 24 through which the pump rod 25 reciprocates. An operating handle 26 is threaded onto the top of the said pump rod 25 by means of which the pump piston 27 fixed onto the bottom of the pump rod 25 is manually reciprocated to fill the bladder 12. The centrally disposed tubular guide 25 24 of the pump cap 23 and the pump rod 25 ex-

tend upwardly through the aperture 20 in the top of the spherical housing 11 preferably in the manner hereinafter more fully described in detail.

The pump piston 27 comprises upper and lower discs 28 and 29 and an inverted resilient cup shaped packing member 30, all centrally apertured and secured to the bottom end of the pump rod 25 by a suitable screw 31. The lower disc 29 is slightly smaller in diameter than the upper disc 28 to permit the free cupped periphery of the said inverted cup shaped packing member 30 to flex downwardly during the "up" stroke of the pump rod 25 whereby to permit air to pass from above the piston 27 into the portion of the pump cylinder 22 therebelow during the said "up" stroke of the pump. The outer periphery of the said cup shaped packing member 30 is formed with a thin depending lip 32 which serves as a seal against the inner cylindrical surface of the pump cylinder 22 during the "down" or pumping stroke of the pump piston 27. A pair of thin rubber flapper valves 33 secured at one end to the outer surface of the pump cylinder 22 just above pump outlet ports 34 by means of rivets 35 permit air forced from the pump 13 to enter the bladder 12 and prevent compressed air within the bladder 12 to escape back into the said pump 13. When the bladder 12 is inflated it assumes a position against the inside surface of the spherical housing 11.

A circular pump bottom member 36 is preferably brazed into the bottom of the pump cylinder 22 and is secured to the base 10 by a suitable screw 37 countersunk in the base 10 and threaded centrally into the said pump bottom member 36. The lower outer periphery of the said pump bottom member 36 is formed to provide an annular beveled bearing area 38 which clamps down on lower annular periphery 120 of the bladder 12 and an annular gasket 39 located in the lower aperture 21 through the spherical housing 11 which engages the lower annular periphery 110 of the spherical housing 11; all in such a manner as to secure the pump 13, the bladder 12 and the spherical housing 11 to the said base 10 by means of the said screw 37 and simultaneously hermetically seal the bottom portion of the bladder 12 adjacent the annular periphery 120 thereof between the said annular gasket 39 and the bearing area 38 of the said pump bottom member 36.

It will be noted that the pump rod 25 is hollow and is provided with upper and lower apertures 250 and 251 through which air is supplied into the pump cylinder 22 above the piston 27 from whence it passes below the said piston 27 during the "up" stroke of the said piston as hereinbefore described in detail.

Also, an aperture 1100 is provided in the housing 11 to relieve pressure and vacuum between the housing 11 and the bladder 12 during the inflation and deflation respectively of the said bladder 12.

An inverted annularly headed shouldered sleeve 40 with annular washers 41 and 42 therearound is inserted through the upper aperture 20 through the spherical housing. The upper portion of the bladder 12 adjacent the upper annular periphery 1200 thereof is disposed between the said washers 41 and 42. A washer 43 is telescoped over the top of the said sleeve 40 and an anchorage nut 44 is threaded thereon just below the shoulder thereof as best shown in Fig. 2. The tightening of the said anchorage nut 44 simultaneously secures the upper portion of the bladder 12 adjacent the upper annular periphery 1200 thereof between the said washers 41 and 42 and the upper annular periphery of the spherical housing 11 between the

said washers 42 and 43. An annular hub 45 is telescoped in rotatable relationship over the thin upper end of the said inverted shouldered sleeve 40 and is supported on the top of the said anchorage nut 44. The said annular hub 45 is provided with a chase 46 around the inner periphery thereof and has the outwardly disposed tubular arms 14 telescopically supported in radially opposite apertures 47 therethrough in such a manner as to permit air to pass from the said annular chase 46 into and through the said oppositely disposed radially extending tubular arms 14. A pair of oppositely disposed apertures or ports 48 are provided through the thin upper end of the said inverted shouldered sleeve 40 which provide air passages from the inner periphery of the annular sleeve 40 and the said annular chase 45 within the said annular hub 45. The said sleeve 40 has its upper annular end 49 extending slightly above the top of the annular hub 45 to prevent the valve member 16 from bearing onto the top of the said annular hub 45 whereby to assure free rotation thereof around the said sleeve 40.

The valve member 16 comprises a headed valve sleeve 51 telescoped over the tubular guide 24 of the pump cap 23 and into the top of the sleeve 40 with the bottom of the head 52 thereof disposed against the upper annular end 49 of the said sleeve 40. The top of the said head 52 of the valve member 16 is counterbored at 53 to accommodate a compression spring 54 which is disposed around the tubular pump rod guide 24 and anchored at its upper end 55 to the said tubular guide 24 near the top thereof as best shown in Fig. 2. The valve sleeve 51 of the valve member 16 extends downwardly in the said annular sleeve 40 a distance slightly below the ports 48 therethrough and normally closes the same. As viewed in Fig. 2, opposite sides of the said valve sleeve 51 are cut away at 510 in such a manner that, when the valve member 16 is turned 90 degrees in either direction from its closed position indicated in Fig. 2, the ports 48 are uncovered and air under pressure from within the bladder 12 may pass up the inside of the sleeve 40, through the ports 48, into the chase 46 of the hub 45, through the tubular arms 14, through the flexible tubing 17 connected to and depending from the outer ends of the said tubular arms 14, and through the jet propelled miniature airplanes 18. If too great a pressure is created in the bladder 12, air under pressure in the sleeve 40 lifts the valve member 16 upward against the compression of the spring 54 until the bottom end of the valve sleeve 51 passes the bottom of the ports 48 in the sleeve member 40 whereupon air pressure in the bladder 12 above that permitted by the said compression spring 54 is prevented. Thus, the valve member 16 serves both as an "on" and "off" valve and a safety valve.

The jet propelled airplanes 18 may be of any desired shape or design and are each provided with a suitable jet tube 56 horizontally therethrough which extends out the rear of the fuselage and is bent to extend vertically out of the top of the airplane. The upper end of the said jet tube 56 is telescopically connected into the lower end of a depending flexible tube 17, see Fig. 6. A suitable whistle tube 19 located in the vertical stabilizer of the empennage of the airplane 18 adjacent the free end of the jet tube 56 is preferably employed to simulate the sound of actual jet propelled airplanes in flight. As an alternate or auxiliary to the whistle tube 19 used for simulating the sound of a jet propelled airplane in flight, the sound simulating means 190 may be employed. This sound,

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simulating means 190 comprises an air scoop 57 formed into the jet airplanes 18 into which is mounted in cantilever relationship across the scoop discharge opening 58 a suitable reed 59 which vibrates and causes an extremely high pitch as the said jet airplanes 18 rotate around the housing 11.

Referring now to Figs. 7, 8 and 9, the embodiment of the invention disclosed therein comprises a circular base 60 upon which a spherical housing 61 which serves as a compressed air chamber is mounted, an air supply connection 62 to said housing 61, a pair of outwardly disposed tubular arms 63 rotatably mounted on said housing 61, communicating passages between said housing 61 and said tubular arms 63 through which air under pressure from said housing 61 may pass, valve means 64 controlling the passages of air from said housing 61 to said tubular arms 63, flexible tubing 65 connected to and depending from the outer ends of said tubular arms 63, jet propelled miniature airplanes 18 connected to and depending from the said flexible tubing 65 which rotate the said tubular arms 63 when air under pressure is permitted to pass therethrough from said housing. Either or both of the jet airplane sound simulating means 19 and 190 is preferably employed as hereinafter described in detail in connection with the said miniature jet airplanes 18 to provide realistic sound to the toy during flights of the said miniature airplanes 18. The rotation of the tubular arms 63 causes the flexible tubing 65 to assume the position indicated by the dot and dash lines 650 in Fig. 7 whereby the miniature jet airplanes 18 take off and fly around the said spherical housing 61 which is preferably provided with a map of the globe thereover.

The said housing 61 is preferably secured to the circular base 60 by means of a stud 66 disposed through an aperture 67 in the center of the said base 60 and threaded into and through an anchorage disc 68 having its lower outer periphery beveled at 69 as best shown in Fig. 9 whereby to engage an annular washer 70 disposed in the aperture 71 formed in the bottom of the said housing 61. The tightening of the stud 66 simultaneously secures the housing 61 to the base 60 and hermetically seals the joint between the housing 61 and the anchorage disc 68. The stud 66 is provided with an axial bore 72 from its threaded end 660 disposed within the said housing 61 into its head communicating with a threaded radial bore 73 therein which receives the inner threaded end of tubing 74 having a suitable air valve 75 threaded on the outer end thereof. The said air valve 75 is suitably threaded at 76 to permit connection to air supply means such as a pump, compressed air bottle or a flexible hose having a mouthpiece thereon. The base 60 is preferably provided with a plurality of feet 77 which support the same above the floor or a table at a sufficient height thereabove to accommodate the said stud 66, tubing 74 and air valve 75.

The top of the said spherical housing 61 is provided with an aperture 78 through which an inverted shouldered annularly headed sleeve 79 is telescoped. An anchorage nut 80 threaded on the said sleeve 79 engages the spherical housing 61 adjacent the aperture 78 therethrough, secures the said sleeve 79 to the said spherical housing 61 and hermetically seals the joint between the said sleeve 79 and the said housing 61. An annular hub 81 is telescoped in rotatable relationship over the thin upper end of the said inverted shouldered sleeve 79 and is supported on the top

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of the said anchorage nut 80. The said annular hub 81 is provided with an annular chase 82 around the inner periphery thereof and has outwardly disposed tubular arms 63 telescopically supported in radially opposite apertures 83 therethrough in such a manner as to permit air to pass from the said annular chase 82 into and through the said oppositely disposed radially extending tubular arms 63. A pair of oppositely disposed ports 84 are provided through the thin upper end of the said annular sleeve 79 which provide air passages from the inner periphery of the annular sleeve 79 and the said annular chase 82 within the said hub 81. The said sleeve 79 has its upper annular end 85 extending slightly above the top of the annular hub 81 to prevent the valve member 64 from bearing onto the top of the said annular hub 81 whereby to assure free rotation thereof around the said sleeve 79.

The valve member 64 comprises a headed valve sleeve 87 telescoped into the top of the sleeve 79 with the bottom of the head 88 thereof disposed against the upper annular end 85 of the said sleeve 79. The valve sleeve 87 of the said valve member 86 extends downwardly in the said annular sleeve 79 a distance slightly below the ports 84 therethrough and normally closes the same. The valve sleeve 87 is preferably bored and counterbored, and the bore thereof is threaded to accommodate a stud 89 around which the conical compression spring 90 is positioned with the base of the said spring 90 disposed against the annular head of the said inverted annularly headed sleeve 79. As viewed in Fig. 8, opposite sides of the counterbored portion of the said valve sleeve 87 are cut away at 870 in such a manner that, when the valve member 64 is turned 90 degrees in either direction, the ports 84 are uncovered and air under pressure from within the housing 61 may pass up the inside of the sleeve 79, through the ports 84 into the chase 82 of the hub 81, through the tubular arms 63, through the flexible tubing 65 connected to and depending from the outer ends of the said tubular arms 63, and through the jet propelled miniature airplanes 18. If too great a pressure is created in the housing 61, air under pressure in the sleeve 79 lifts the valve member 64 upward against the compression spring 90 until the bottom end of the valve sleeve 87 passes the bottom of the ports 84 in the sleeve member 79 whereupon air pressure in the housing 61 above that permitted by the said compression spring 90 is prevented. Thus, the valve member 86 serves both as an "on" and "off" valve and a safety valve.

Although but two embodiments of the invention have been disclosed and described in detail it is obvious that many changes may be made in the size, shape, arrangement and details of the various elements of the invention without departing from the spirit and scope of the appended claims.

I claim:

1. A jet propelled airplane toy comprising a support, a hub having an air chamber therein rotatably mounted on said support, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from said outwardly extending tubular arms, an airplane mounted on the outer end of each of said flexible tubes, a jet tube disposed within each of the said airplanes and connected to one of said flexible tubes adapted to discharge air rearwardly from said

airplanes whereby to cause said airplanes to simulate flight around said support, and means for supplying air under pressure to said airplanes through said hub, outwardly extending arms and flexible tubes.

2. A jet propelled airplane toy comprising a support, a hub having an air chamber therein rotatably mounted on said support, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from each of the said outwardly extending tubular arms, an airplane mounted on the outer end of each of said flexible tubes, a jet tube disposed within each of the said airplanes and connected to one of said flexible tubes adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to simulate flight around said support, and means carried by said airplanes for simulating the noise of jet airplanes in flight, and means for supplying air under pressure to said airplanes through said hub, outwardly extending arms and flexible tubes.

3. A jet propelled airplane toy comprising a housing serving as a compressed air chamber, a sleeve extending upwardly from said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve and a manually operable valve means for capping the same, the said hub having an air chamber therein disposed around said sleeve, said valve means being adapted to regulate the flow of air from said sleeve to the said air chamber in said hub, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, an airplane mounted on the outer end of each of said tubular arms, a jet tube disposed within each of the said airplanes and connected to one of said tubular arms adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to rotate with said hub with respect to said housing, and means for supplying air under pressure to said airplanes through said hub and outwardly extending arms.

4. A jet propelled airplane toy comprising a housing serving as a compressed air chamber, a sleeve extending upwardly from said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve and a manually operated valve means for capping the same, the said hub having an air chamber therein disposed around said sleeve, said valve means being adapted to regulate the flow of air from said sleeve to the air chamber in said hub, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, an airplane mounted on the outer end of each of said tubular arms, a jet tube disposed within each of the said airplanes and connected to one of said tubular arms adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to rotate with said hub with respect to said housing, means carried by said airplanes for simulating the noise of a jet airplane in flight, and means for supplying air under pressure to said airplanes through said hub and outwardly extending arms.

5. A jet propelled airplane toy comprising a housing serving as a compressed air chamber, a sleeve extending upwardly from said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve and a manually operated valve means for capping the same, the said hub having an air chamber therein disposed

around said sleeve, said valve means being adapted to regulate the flow of air from said sleeve to the air chamber in said hub, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from each of the said outwardly extending tubular arms, an airplane mounted on the outer end of each of said flexible tubes, a jet tube disposed within each of the said airplanes and connected to one of said flexible tubes adapted to discharge air rearwardly from said airplane whereby to cause said airplanes to simulate flight around said housing, and means for supplying air under pressure to said airplanes through said hub, outwardly extending arms and flexible tubes.

6. A jet propelled airplane toy comprising a housing serving as a compressed air chamber, a sleeve extending upwardly from said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve, valve means for capping the said sleeve, the said hub having an air chamber therein disposed around said sleeve, the said valve means carried by said sleeve being manually rotatable with respect to said sleeve for regulating the flow of air from said sleeve to the air chamber in said hub and movable axially with respect to said sleeve responsive to air pressure within said housing for relieving air pressure within said housing, spring means regulating the pressure at which the said valve means moves axially to relieve air pressure within said housing, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, an airplane mounted on the outer end of each of said tubular arms, a jet tube disposed within each of the said airplanes and connected to one of the said tubular arms adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to rotate with said hub with respect to said housing, and means for supplying air under pressure to said airplanes through said hub and outwardly extending arms.

7. A jet propelled airplane toy comprising a housing serving as a compressed air chamber, a sleeve extending upwardly from said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve, valve means for capping the said sleeve, the said hub having an air chamber therein disposed around said sleeve, the said valve means carried by said sleeve being manually rotatable with respect to said sleeve for regulating the flow of air from said sleeve to the air chamber in said hub and movable axially with respect to said sleeve responsive to air pressure within said housing for relieving air pressure within said housing, spring means regulating the pressure at which the said valve means moves axially to relieve air pressure within said housing, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from each of the said outwardly extending tubular arms, an airplane mounted on the outer end of each of the said flexible tubes, a jet tube connected to one of said flexible tubes adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to simulate flight around said housing, and means for supplying air under pressure to said airplanes through said hub, outwardly extending arms and flexible tubes.

8. A jet propelled airplane toy comprising a housing serving as a compressed air chamber, a sleeve extending upwardly from said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve, valve means for capping the said sleeve, a pump disposed within said housing including a hollow pump rod and a guide therefor extending through said valve means, the said hollow pump rod having communicating apertures therethrough through which air is permitted to pass from without said housing to within the chamber of said pump, pump valve means admitting air under pressure from said pump to within said housing during the pressure stroke of said pump and preventing the escape of air from said housing through said pump, the said hub having an air chamber therein disposed around said sleeve, the said valve means carried by said sleeve being manually rotatable with respect to said sleeve for regulating the flow of air from said sleeve to the air chamber in said hub and movable axially with respect to said sleeve responsive to air pressure within said housing for relieving air pressure within said housing, spring means regulating the pressure at which the said valve means moves axially to relieve air pressure within said housing, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from each of the said outwardly extending tubular arms, an airplane mounted on the outer end of each of the said flexible tubes, a jet tube disposed within each of the said airplanes and connected to one of said flexible tubes adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to simulate flight around said housing.

9. A jet propelled airplane toy comprising a housing, a bladder liner within said housing serving as a compressed air chamber limited in expansion by the walls of said housing, a sleeve extending upwardly from said bladder through said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve, valve means for capping the said sleeve, the said hub having an air chamber therein disposed around said sleeve, the said valve means carried by said sleeve being manually rotatable with respect to said sleeve for regulating the flow of air from said sleeve to the air chamber in said hub and movable axially with respect to said sleeve responsive to air pressure within said bladder for relieving air pressure within said bladder, spring means regulating the pressure at which the said valve means moves axially to relieve air pressure within said bladder, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from each of the

said outwardly extending tubular arms, an airplane mounted on the outer end of each of the said flexible tubes, a jet tube disposed within each of the said airplanes and connected to one of said flexible tubes adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to simulate flight around said housing.

10. A jet propelled airplane toy comprising a housing, a bladder liner within said housing serving as a compressed air chamber limited in expansion by the walls of said housing, a sleeve extending upwardly from said bladder through said housing through which air may pass therefrom, a hub rotatably mounted on said sleeve, valve means for capping the said sleeve, a pump disposed within said bladder including a hollow pump rod and a guide therefor extending through said valve means, the said hollow pump rod having communicating apertures therethrough through which air is permitted to pass from without said bladder to within the chamber of said pump, pump valve means admitting air under pressure from said pump to within said bladder during the pressure stroke of said pump and preventing the escape of air from said bladder through said pump, the said hub having an air chamber therein disposed around said sleeve, the said valve means carried by said sleeve being manually rotatable with respect to said sleeve for regulating the flow of air from said sleeve to the air chamber in said hub and movable axially with respect to said sleeve responsive to air pressure within said bladder for relieving air pressure within said bladder, spring means regulating the pressure at which the said valve means moves axially to relieve air pressure within said bladder, a pair of diametrically opposed outwardly extending tubular arms carried by said hub and connected to said air chamber therewithin, a flexible tube connected to and depending from each of the said outwardly extending tubular arms, an airplane mounted on the outer end of each of the said flexible tubes, a jet tube disposed within each of the said airplanes and connected to one of said flexible tubes adapted to discharge air rearwardly from said airplanes whereby to cause said airplanes to simulate flight around said housing.

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