

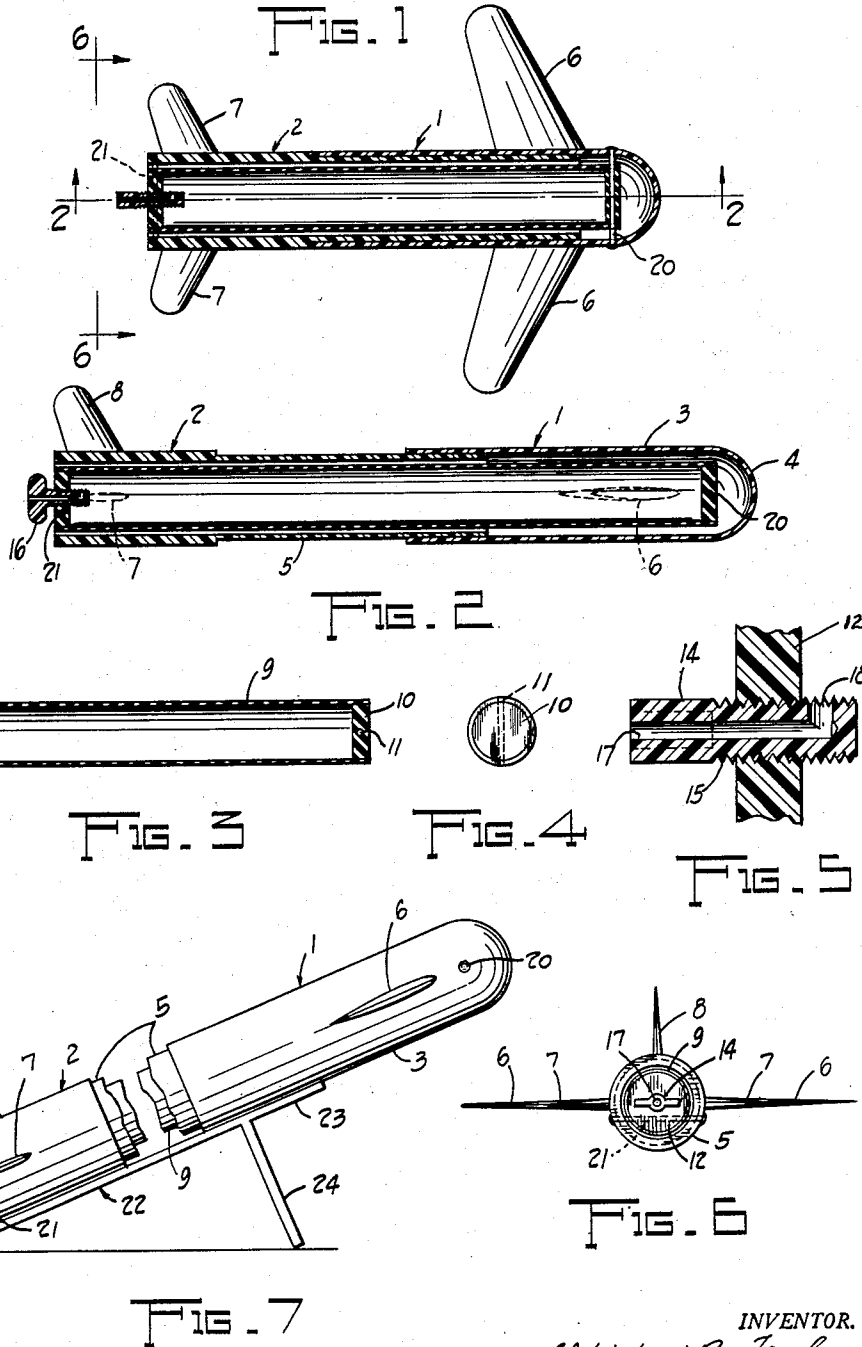
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TOY ROCKET AIRPLANE

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TOY ROCKET AIRPLANE

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This invention relates to toy airplanes and more particularly to a type of toy which will simulate a rocket airplane.

Heretofore toys of the nature of this invention have contemplated the use of propulsive means such as air which may be furnished in suitable manner, but generally speaking such toys have not been so arranged as to very closely simulate a toy rocket airplane, and as a result the value thereof has not been recognized or availed of in most cases.

Usually in toys of this type the means of propulsion may be as above indicated, air or the like, or under certain circumstances other types of propulsion may be availed of, in this particular instance the propulsive effect of air escaping from a confined space is used to accomplish the result and create an attractive device which will be readily salable and result in a large demand therefor.

It is therefore an object of this invention, to provide a toy rocket airplane which will simulate both in appearance and in actual operation the characteristics of a rocket airplane, including all of the usual adjuncts generally thought of as being included in such devices.

It is a further object of this invention to provide a toy structure which will be simple to manufacture, composed of a small number of parts the parts thereof being relatively indestructible, and at the same time further enhancing the resemblance of the toy to what is generally considered to be a rocket airplane.

It is a further object of this invention to provide a toy rocket airplane which will be made of tubular telescopic parts, and include within the same the necessary means to effect the propulsion of the device, suitable air supporting surfaces being provided in connection with the device, and a simple control being further furnished in order to regulate the speed of operation of the device.

It is a still further object of this invention to provide a toy rocket airplane of a nature generally referred to above, and in conjunction therewith to provide a take-off platform which will facilitate the use of the toy and increase its action operating characteristics for the obvious purposes of making the same more attractive and desirable to the person for whom the toy is designed.

Other and further objects of this invention will be set forth in the accompanying specification and illustrated in the drawings wherein:

Figure 1 is a top plan view partly in section, showing the general arrangement of the various parts which comprise the toy.

Figure 2 is a longitudinal sectional view taken about on the line 2—2 of Figure 1, looking in the direction of the arrows.

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Figure 3 is a sectional view of the air storage and expelling unit which is mounted within the toy airplane.

Figure 4 is an end view of Figure 3.

Figure 5 is an enlarged sectional view, somewhat fragmentary illustrating the form of the valve unit which is provided.

Figure 6 is a rear view of the toy.

Figure 7 is a side elevation of the toy when placed upon a take-off platform.

Referring now to Figures 1 and 2 particularly the toy airplane of this invention is shown as comprising a body or housing, including a forward section generally designated 1, and a rear section designated 2. The forward section 1 includes a tubular member 3 having a closed substantially hemispherical end 4 thereon, said tubular section 3 being adapted to receive therein for movement with respect thereto the tubular portion 5 of the rear section 2. The tubular member 3 includes wing-like members 6 of any suitable conformation and fixed thereto in any preferred manner, the same being obviously provided for the purposes of wings to support the device during flight.

The rear tubular member 5 is similarly provided with wing members 7 at opposite sides thereof, said members being fixed in any preferred manner to the tubular member 5, and lying substantially in the same planes as the wing members 6 previously referred to. A suitable stabilizing device as a rudder or the like, denoted 8, is provided in accordance with desirable practice, said stabilizer 8 extending upwardly from the top of the tubular member 5 and at substantially right angles to the wing members of the tail section previously mentioned.

Referring now to Figures 1, 3 and 5 particularly, a novel form of expandible air storage and expelling unit is provided, the same comprising a substantially tubular member 9 composed preferably of a flexible material such as rubber or the like, said member 9 being provided at its forward end with a disc 10 of similar material, but of substantially greater thickness so as to provide rigidity, said disc 10 acting as a closure for the forward end of the member 9 and being suitably sealed thereto so as to be air-tight with respect to the member 9. A transverse hole 11 is formed in the disc 10 for purposes which will be hereinafter explained.

At the rear of the member 9 there is provided a disc 12 of similar dimensions to the disc 10 previously mentioned, said disc 12 providing a rear closure for the member 9 and being likewise suitably fastened thereto so as to be air-tight with respect to the member 9. Substantially centrally of the disc 12, there is provided an opening 13 adapted to receive therein a valve unit generally designated 14 as shown in Figure 5.

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The valve 14 is made in the form of a rod-like section including threaded portion 15 on the outer surface thereof, and being of substantial length, the threaded portion being adapted to engage in the hole 13 and in view of the fact that the disc 12 in which the hole 13 is formed, is flexible, the threads 15 will form their own cooperating surfaces within the hole 13. The valve unit, including the rod-like portion 14, is formed at one end with a handle-like section 16 which may be in the form of outwardly extending flat portions as shown in Figure 2. It will therefore be apparent that the valve unit is substantially a thumb screw, the same being further provided with a centrally bored longitudinal passageway 17 therein, extending from the end at which the handle members 16 are provided, substantially to the other end of the said rod-like member 14. As shown in Figure 5, a connecting passage 18 is provided, drilled at an angle to the passage 17 for purposes which will be understood as the description of this invention progresses. It should be noted that the disc 12 is provided below the hole 13 therein, with a transverse opening 19.

With the foregoing in mind and referring again at this point to Figure 1, it will be apparent that the flexible and expandible air storage and expelling unit, shown in Figure 3, is adapted to be received within and supported by the front and rear sections 1 and 2 previously described. Thus, the unit of Figure 3 may be emplaced in the tubular sections of the housing, and is adapted to be fastened thereto at one end by a suitable cross pin 20 entered in oppositely aligned holes in the forward end of the front section 1, and adapted to pass through the opening 11 in the disc 10. Similarly, a pin 21, is adapted to be entered in aligned holes at the rear of the rear tubular housing section 2, and in turn engage the opening 19 in the disc 12. It will thus be clear that the tubular air storage unit is adapted to be maintained within the fuselage of the unit, and will in turn prevent relative rotation of the respective parts thereof so as to maintain the wing sections 6 and 7 in properly aligned relationship. Thus, when the two sections are separated by separation of the respective members thereof as by grasping the front section with one hand and the rear section with the other hand, the air storage unit will be relatively elongated. In view of the fact that the valve member thereof will of course of necessity be in open condition as by the positioning of the valve unit so the passage 18 is connected with the outer air by the passage 17, subsequent rotation of the valve unit by the handle 16 in an outward or leftward direction as viewed in Figure 2, will bring the passage into position so as to be completely shut off by reason of the fact that the same is within the confines of the disc as respects its opposite surfaces. Therefore the two units will remain in the condition shown in Figure 2, separated, with the air storage unit in its expanded condition and containing air for propulsive purposes as to be now set forth.

If desired, the valve unit may be manipulated by the handle 16 so as to permit air to flow from the storage unit by means of the passages 18 and 17, and move outwardly toward the rear of the toy, whereby propulsive motion is effected by reason of the escape of air from the air storage unit. It will be apparent that suitable adjustment of the valve unit, so as to permit more or less air to escape through the passage 18, by reason of longitudinal movement of the rod-like

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member 14, will change the speed at which the unit of the toy moves through the air.

While the toy may very well be launched from a position as held by the person operating the same, under the control of the valve unit as has been heretofore explained, a further desirable manner in which take-off of the unit may be effected is by the provision of a take-off platform designated generally 22. This take-off platform includes a base section 23, and a leg member 24, suitably fastened thereto and at substantially right angles near one end of the base member 23. Thus, the platform will be permitted to assume a tilted position as shown in Figure 7, said flat base member 23 being further provided at its rear portion with an upright flap member 25, suitably fastened to the base member 23. With the toy in position as shown in Figure 7 on the platform 22, it will be apparent that suitable manipulation of the valve unit thereof will permit air to escape from within the air storage and expelling unit, and impinge against the upright member 25 and cause the toy to be propelled from its position on the platform. During the expulsion of the air from within the air storage unit the same will of course contract longitudinally, and thus when the toy has reached the end of its flight movement, by reason of the exhaustion of the air within the air storage unit, said respective members and elements will have assumed the position as shown in Figure 1.

There is thus provided by my invention, a novel form of toy rocket airplane which will simulate a rocket airplane of known type or sufficiently so as to attract and hold the interest of youngsters who will use the device, all of the same being simply arranged and including simple parts which may be readily disassembled and assembled or controlled to effect the best possible use of the device. It should be mentioned that the escape of air through the passage 17 will of course be accompanied by whistling sounds which will further enhance the realism of the unit and its simulation to a life size unit.

I claim:

1. In a toy aircraft, in combination, a body comprising relatively movable sections connected at adjacent inner ends, an expandible and contractible air storage and expelling unit comprising a tubular air containing member of elastic material, a connection between one end of said unit and the outer end of one of said sections, a connection between the other end of said unit and the outer end of the other of said sections, the said unit having an air intake opening, the said body sections being movable in opposite outward directions to expand the elastic unit for drawing air therinto through said opening to maintain the elastic unit expanded, and control means to release the air confined in the storage unit at a predetermined time to act with propulsive effect on said body.

2. A toy aircraft as claimed in claim 1, combined with wing members projecting from opposite sides of each of the body sections.

3. A toy aircraft as claimed in claim 1, in which the body sections comprise telescoping tubular members receiving and housing the air containing unit.

4. A toy aircraft as claimed in claim 1, in which the body sections are slidable one against the other, and in which the storage unit pulls the sections toward each other on release of the air by the control means.

5. A toy aircraft as claimed in claim 1, in which

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the air intake and release control means are located at the outer end of one of the body sections.

6. In a toy aircraft, in combination, a body composed of tubular front and rear sections telescoping together at their inner ends, an elastic storage unit of tubular form received in the body and connected at its opposite ends with the outer ends of said sections so it may be expanded by manual movement of the body sections in opposite directions, an air intake and release opening in said unit at the rear end of the rear body section, a valve to close and open said opening, and means to open said valve after air intake expansion of the storage unit for controlled propulsive exit of the air therein through said opening.

7. A toy aircraft as claimed in claim 6, in which each body section is formed with a pair of oppositely extending wing members.

8. A toy aircraft comprising a main body including connected relatively movable sections expandible longitudinally of one another, an air

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storage unit comprising a longitudinally expandible elastic hollow body the ends of which are attached to the remote ends of the main body sections and normally tending to pull the sections together, having inlet and exhaust means at the rear end of the main body, and control means on the rear end of the storage unit operable to release through said exhaust means air trapped in the unit by expansion thereof incident to expanding the main body sections, for effecting propulsion of the toy through air space.

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