

[54] MULTIPLE USE TOY

2,354,392 7/1944 McCoy 46/17

[76] Inventor: Leon C. Wallace, 2483 S. Fourth
East, Salt Lake City, Utah 84115

Primary Examiner—Antonio F. Guida
Assistant Examiner—J. Q. Lever
Attorney—B. Deon Criddle

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[51] Int. Cl. A63h 33/06

[58] Field of Search 46/17, 76, 74 B,
46/74 C, 74 D

[57] ABSTRACT

A childrens toy consisting of a number of basic components that can be assembled together in various configurations thereby forming distinctly different toys, with at least ten separate and distinct toys being produced with the components of the present invention.

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10 Claims, 17 Drawing Figures

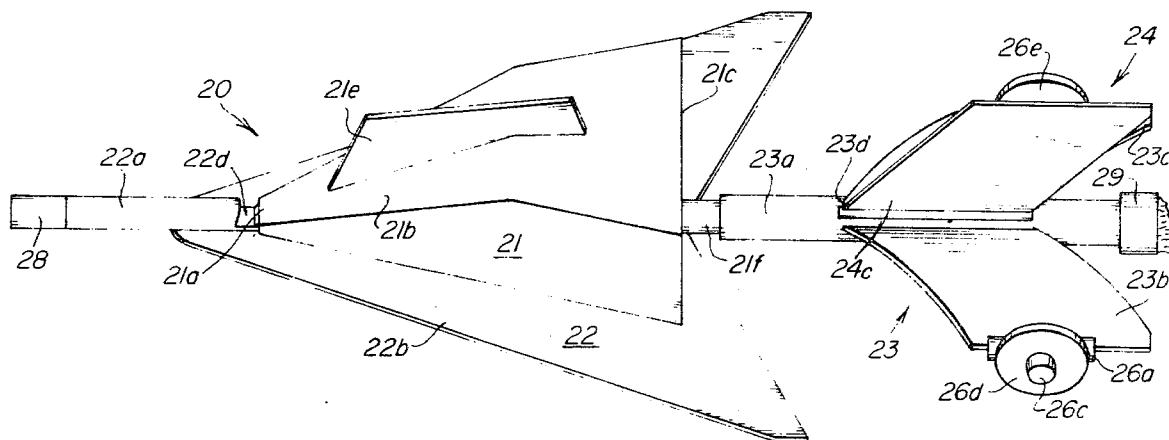


FIG. 1.

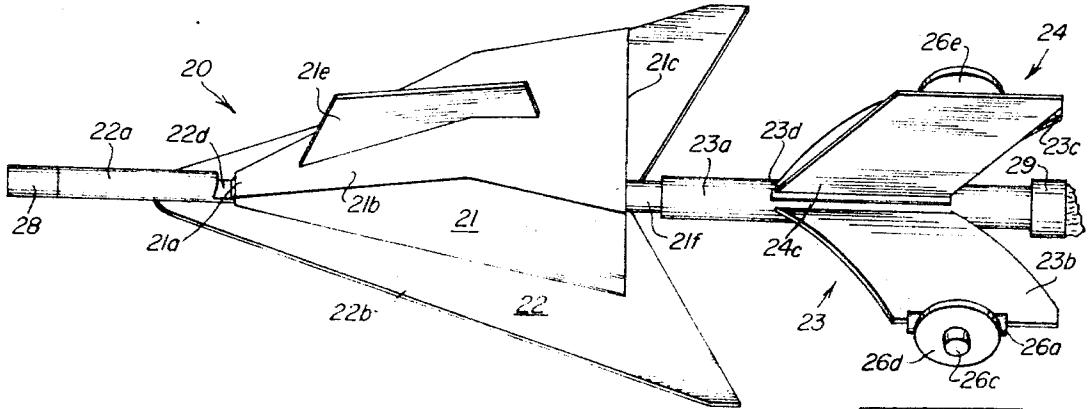


FIG. 2.

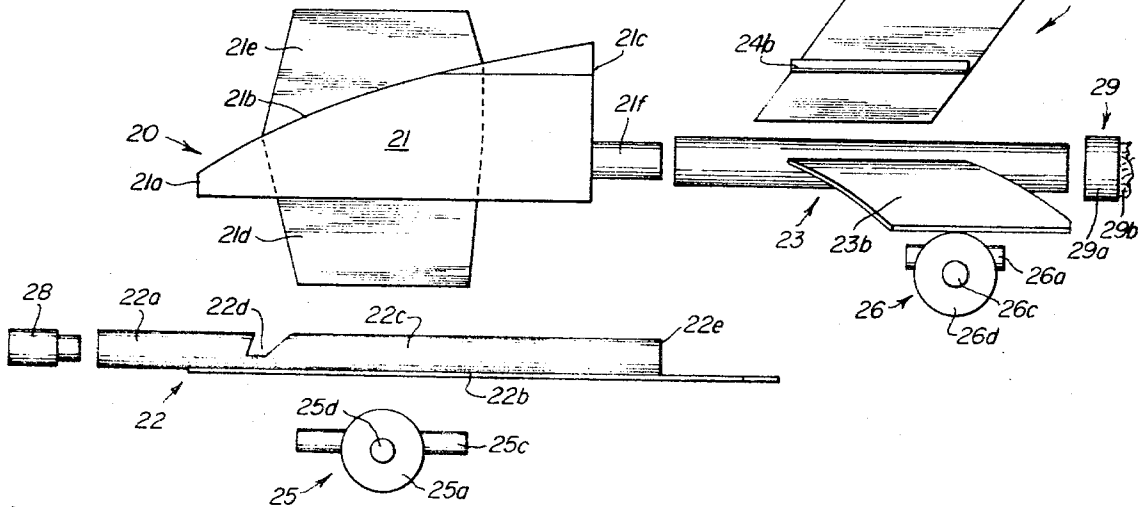


FIG. 3A

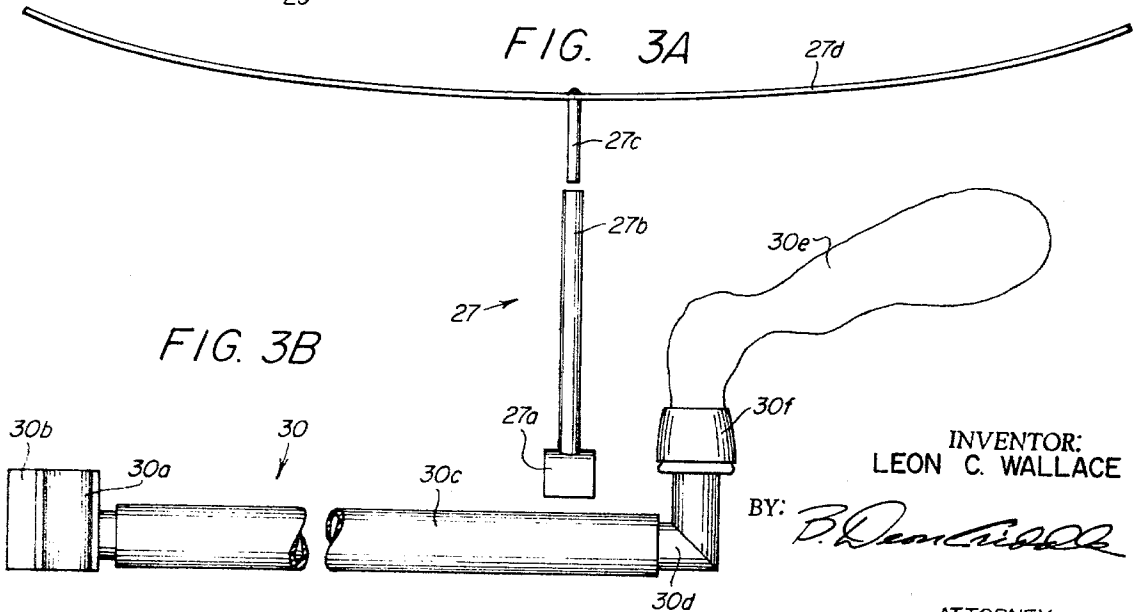
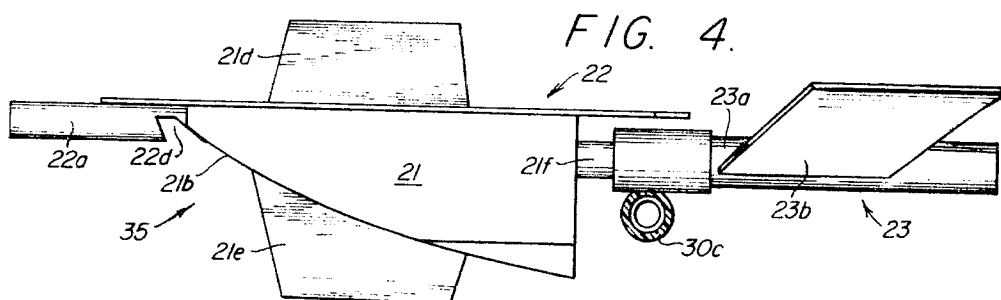
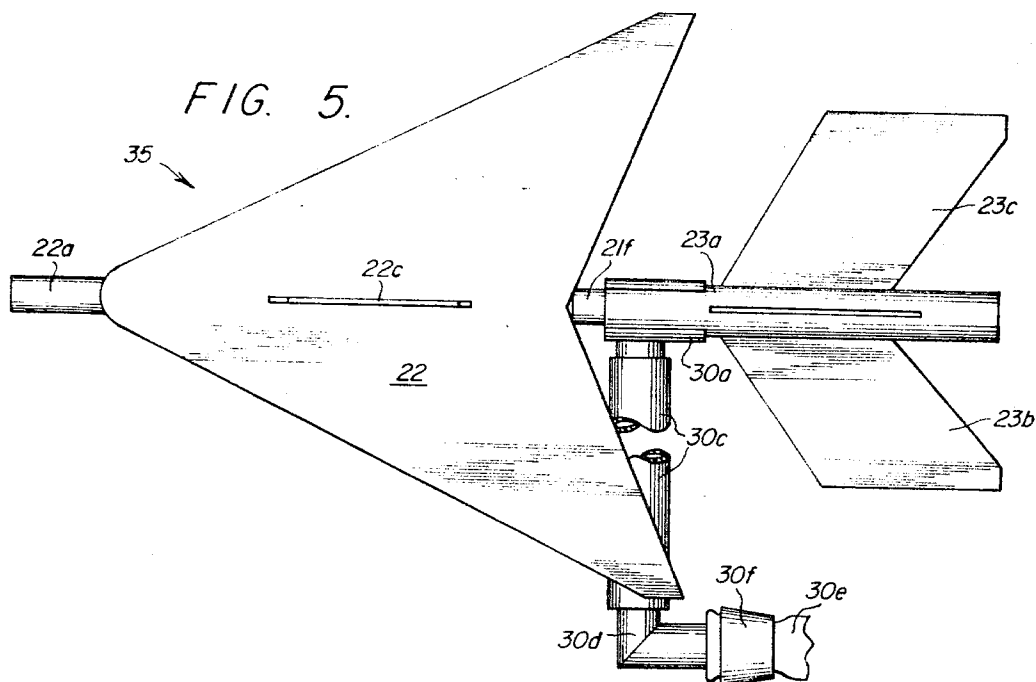
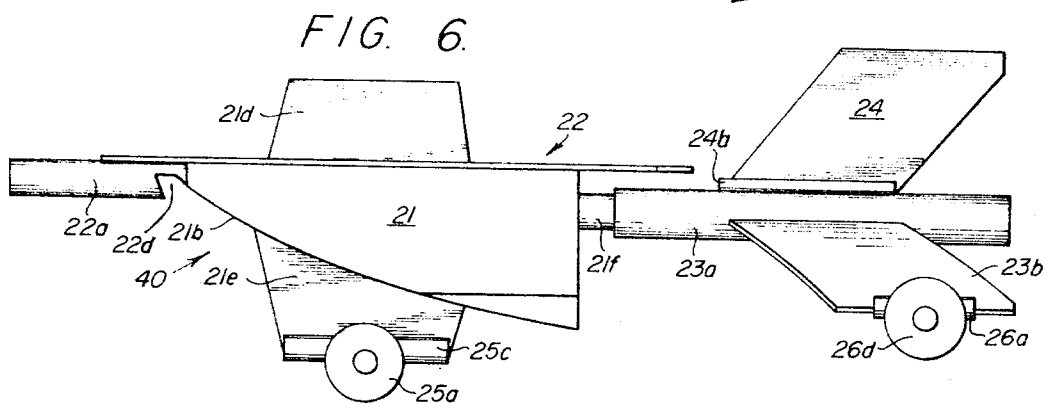


FIG. 3B

INVENTOR:
LEON C. WALLACE

BY: *B. Deane*

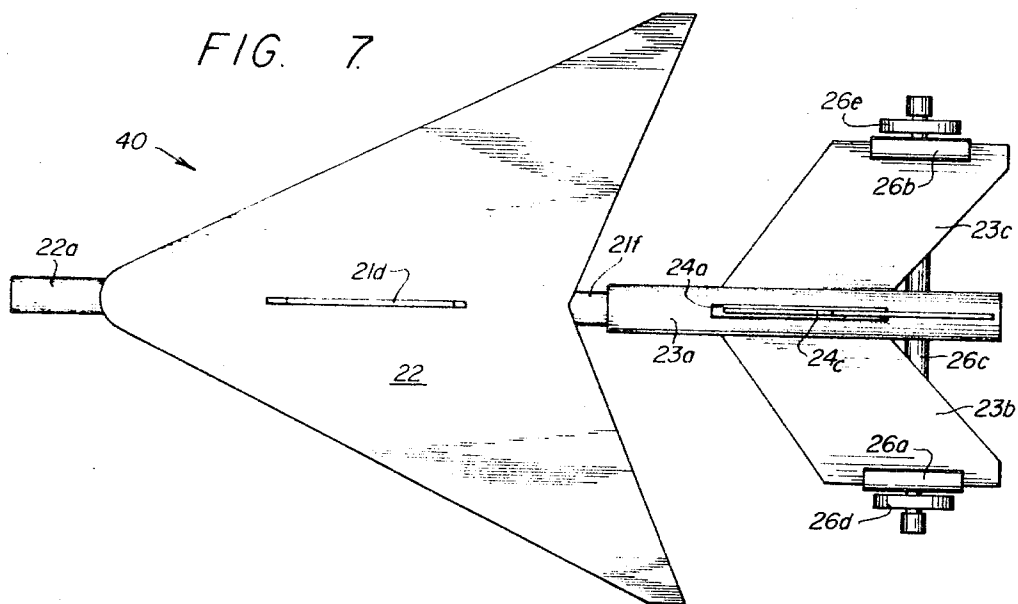
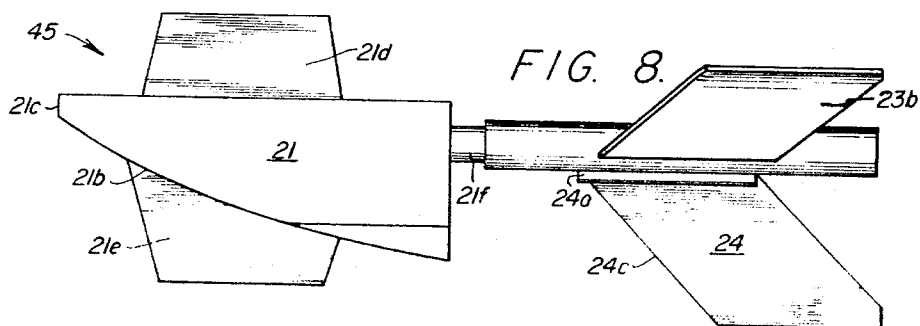
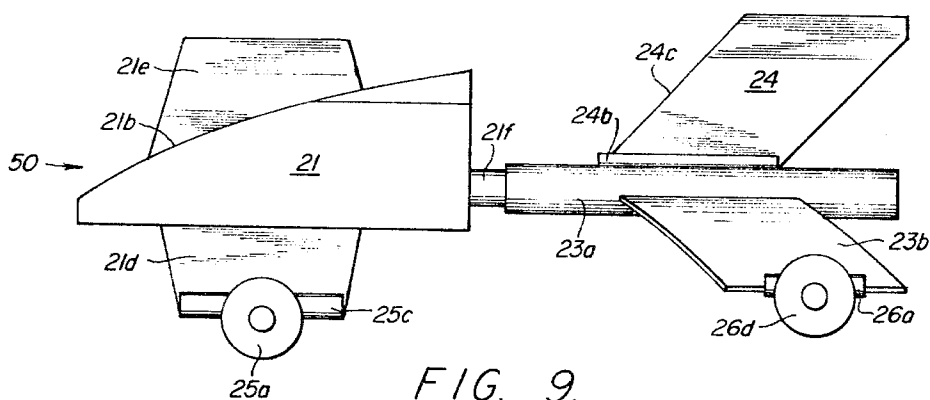
ATTORNEY.



INVENTOR:
LEON C. WALLACE

BY: *B. Deane C. Wallace*

ATTORNEY.



INVENTOR:
LEON C. WALLACE

BY:

B. Dem... [Signature]

ATTORNEY.

FIG. 10.

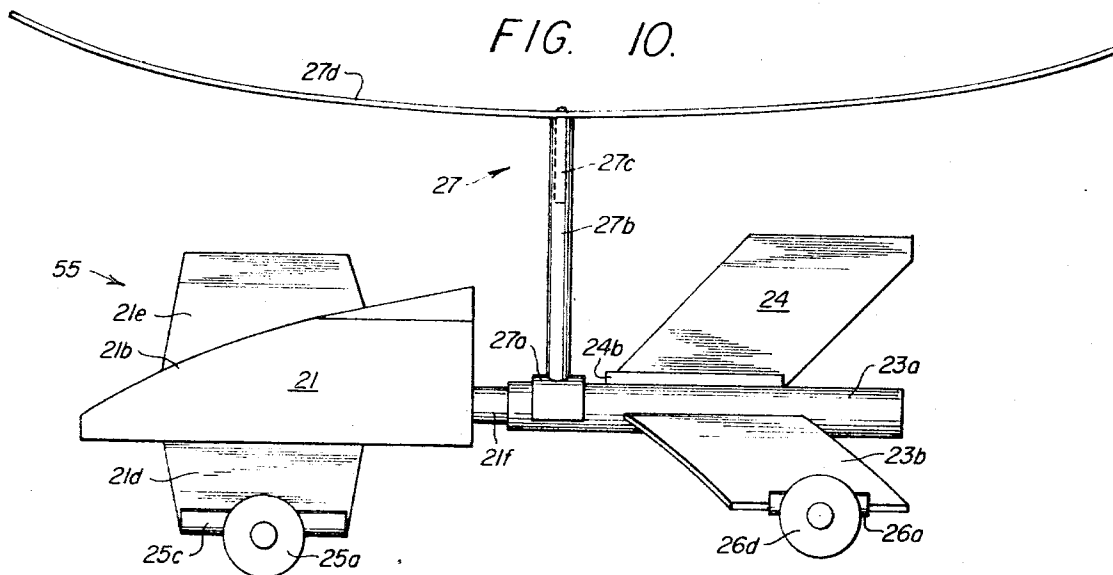


FIG. 11.

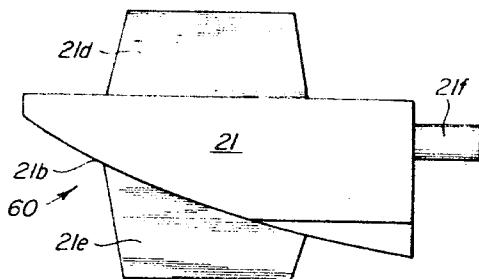


FIG. 12.

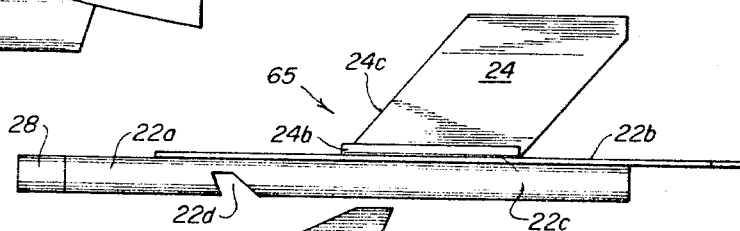
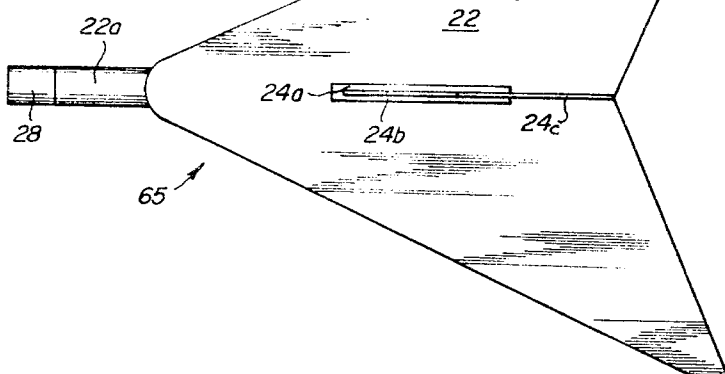


FIG. 13.



INVENTOR:
LEON C. WALLACE

BY: *B. Dean C. Wallace*

ATTORNEY.

FIG. 14.

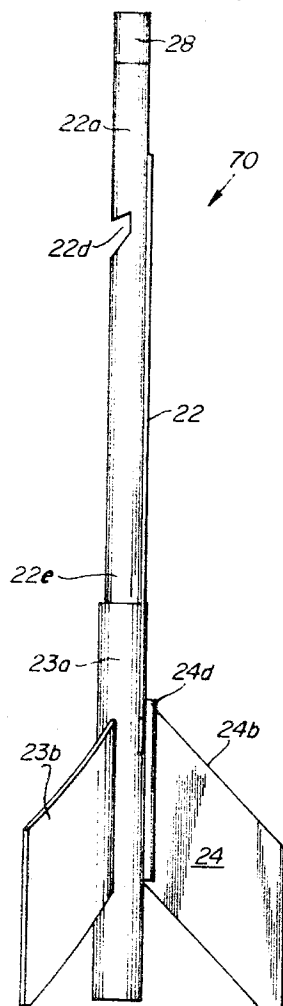


FIG. 15.

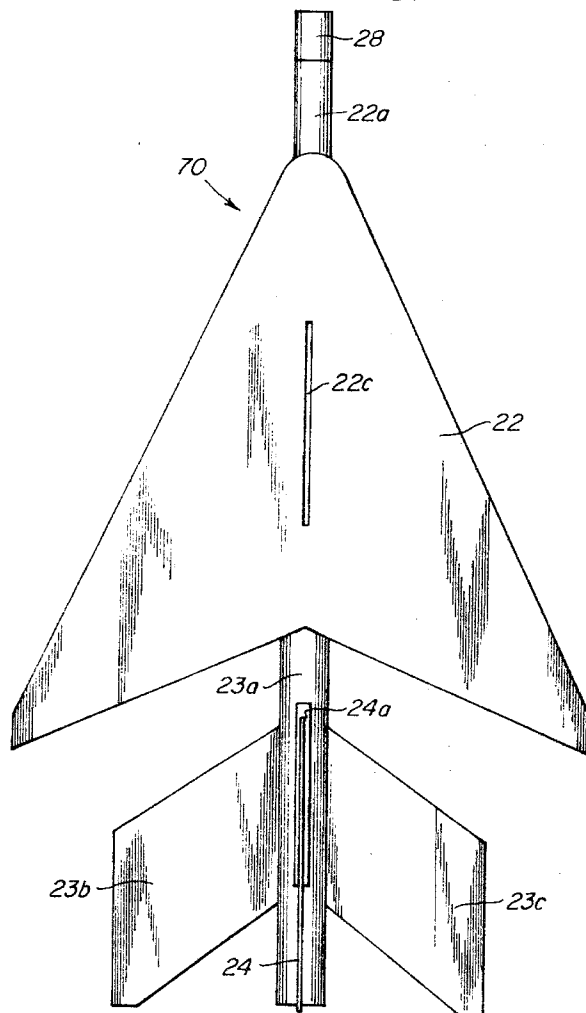
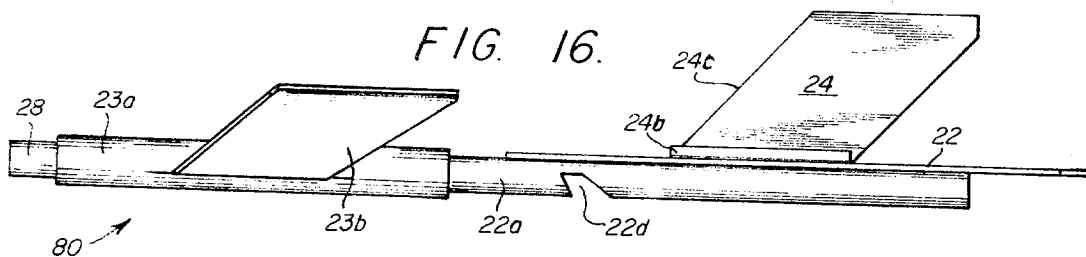


FIG. 16.



INVENTOR:
LEON C. WALLACE

BY:

B. Deane

ATTORNEY.

MULTIPLE USE TOY

BRIEF DESCRIPTION OF THE INVENTION

This invention relates to creative toys comprising components from which a child can develop a number of toys using simple skills and imagination.

PRIOR ART

There are many build-up toys on the market and toy seaplanes, landplanes, submarines, boats, race cars, fighter planes, guided missiles and rockets are commonly available either as pre-constructed crafts or in kit forms. However, to the best of my knowledge there has not heretofore been available a toy that can be used to construct all of these crafts even by a child having limited physical abilities and skills.

SUMMARY OF THE INVENTION

It is a principal object of the present invention to provide a small number of component parts, which can be combined together in various ways, to form a number of imaginative and functional toys.

Principal features of the present invention include four basic structural components; a wing, a stabilizer and rear body, a rudder assembly, and a main body assembly having protruding fins. Each of the basic components is connectable with one or more of the others by a common coupling means. The coupling means consists of telescoping tubes with longitudinal slots through side walls of the tubes and fins to be inserted into the slots.

Additional features include a notch provided in a tubular wing mounting such that a rubber band may be fitted therein to provide a forward thrust. Still other features include such accessory items as wheels, an exhaust simulator, a helicopter blade and stanchion mounting, an impact absorbing nosepiece, and a pipe and balloon motor attachment. Each accessory is designed to couple with each of the four basic component pieces.

THE DRAWINGS

FIG. 1 is a top perspective view of the basic components assembled as a landplane and also showing the optional wheels, nose and exhaust simulator installed thereon;

FIG. 2, an exploded view with the components of the combination shown in FIG. 1 in side elevation;

FIG. 3A, an exploded view of the helicopter blade and stanchion;

FIG. 3B, an exploded view of the pipe and balloon motor;

FIG. 4, a side elevation view of an assembled seaplane with the motor assembly installed;

FIG. 5, a top plan view of the seaplane;

FIG. 6, a side elevation view of an assembled amphibian vehicle;

FIG. 7, a top plan view of the amphibian vehicle;

FIG. 8, a side elevation view of an assembled jet boat;

FIG. 9, a side elevation view of an assembled race car;

FIG. 10, a side elevation view of the helicopter;

FIG. 11, a side elevation view of an assembled boat;

FIG. 12, a side elevation view of an assembled fighter plane;

FIG. 13, a top plan view of an assembled fighter plane;

FIG. 14, a side elevation view of an assembled rocket in a vertical position;

FIG. 15, another side elevation view of the rocket; and

FIG. 16, a side elevation view of an assembled guided missile.

DETAILED DESCRIPTION

Referring now to the drawings:

In the illustrated preferred embodiment, the invention consists primarily of four basic components. As viewed best in FIGS. 1-3 a component of the invention is a box-like body assembly 21 consisting of spaced apart projecting sides, connected to a relatively large flat rear end surface 21c on one end and tapering to a relatively small connecting front end surface 21a. A bottom surface 21b interconnects and bridges over the edges of the projecting sides and end surfaces 21a and 21c, sloping inwardly from the larger flat rear end surface 21c to the front end surface 21a. As shown, (FIG. 2) a first fin 21d projects perpendicularly from the surface 21b interiorly of the body assembly, and a second fin 21e projects perpendicularly from the other side of surface 21b, opposite to the first fin 21d. A mounting tube 21f is secured to and projects perpendicularly from the flat rear end surface 21c of the body assembly 21. Another component of the invention is a wing assembly 22 including a tubular wing mounting section 22a, bisecting a generally delta shaped wing 22b. Oppositely positioned slots 22c are formed through the wing 22b and through the tubular wing mounting section 22a and a notch 22d is formed thereon. A stabilizer and rear body assembly 23 including a stabilizer body tube 23a having outwardly and downwardly extending rectangular stabilizer fins with surfaces 23b and 23c, respectively. Slots 23d are formed in the stabilizer body tube 23a intermediate and parallel to the junction of the edges of the stabilizer surfaces 23b and 23c with the stabilizer body tube to receive thereon a portion of a rudder 24c of a rudder assembly 24. A rudder assembly 24 has stops 24a and 24b, arranged intermediate the vertical length of a rudder 24c to limit the extent of penetration of the rudder 24c into a slot 22c. Accessory components of the present invention also shown in FIGS. 1-3, are a front wheel assembly 25, a rear wheel assembly 26, a helicopter blade and stanchion assembly 27, a shock absorbent nosepiece 28, an exhaust simulator assembly 29, and a motor assembly, shown generally at 30. The various accessory components can be readily combined with arrangements of the basic body pieces to form toy seaplanes, landplanes, amphibians, submarines, boats, race cars, fighter planes, rockets and missiles.

To construct a landplane as shown generally at 20, FIG. 1, a box like body assembly 21 is turned so that a small end 21a thereof is facing in a forward direction and such that a sloping surface 21b is turned upward. A fin 21d, which extends perpendicularly from a the surface 21b, is fitted through a slot 22c (FIG. 5) in the wing assembly 22. The slot 22c extends through the wing and through a tubular wing mounting section 22a. The front wheel assembly 25 is installed on the fin 21d by sliding the fin into a slotted, tubular wheel mounting support 25c. A pair of wheels 25a, only one of which is shown, are mounted on opposite ends of an axle 25d that is journaled through support 25c. Body assembly 21 is thus designed so that the mounting section 22a

will fit thereon with the fin 21d projecting there-through. A shock absorbent nosepiece 28 is installed in the front end of the mounting section 22a. The rear portion of the landplane 20 is formed by sliding a stabilizer body tube 23a of body assembly 23 over a mounting tube 21f which projects perpendicularly from the flat rear surface 21c of the body assembly 21. The assembled landplane 20 has rectangular stabilizer surfaces 23b and 23c pointed downward with a rudder assembly 24 fitting into a slot 23d in the stabilizer body tube 23a.

Rudder assembly 24 has stops 24a and 24b, intermediate the vertical length of a rudder 24c. The stops rest on the stabilizer body tube 23a when rudder 24c is fitted into groove 23d, thereby limiting the extent of penetration of the rudder 24c into the groove. Slotted tubular rear wheel mounting supports 26a and 26b of a wheel assembly 26 have an axle 26c journaled through them to maintain them in spaced, parallel alignment. Wheels 26d and 26e are rotatably journaled on the opposite ends of axle 26c. The supports 26a and 26b are somewhat resilient and have slots extending the full length of their top surfaces.

In connecting the rear wheel assembly 26 to the stabilizer assembly 23, the stabilizers 23b and 23c are inserted into the slots in supports 26a and 26b. An exhaust simulator assembly 29 is fitted to the landplane 20 by sliding a ring 29a over the rear of the stabilizer body tube 23a. The exhaust simulator 29b includes a piece of loose nylon mesh which trails behind the assembled landplane 20 to simulate a jet exhaust.

Alternatively, a motor assembly 30, shown best in FIG. 3, may be attached to the front of the stabilizer body tube 23a. This assembly includes an elbow 30a and friction clamp 30b which attaches to the stabilizer body tube 23a. To charge the motor assembly 30, air is blown into elbow 30a through a resilient tube 30c and through an elbow 30d into a balloon 30e. The balloon 30e is held on elbow 30d by friction ring 30f, which ring is fitted over the outer neck of the balloon, thereby forcing the circumference of the neck of the balloon against the outer circular wall of elbow 30d. A friction clamp 30b of the motor is used to attach the motor to the front of the stabilizer body tube 23a. The motor assembly 30 is preferably attached near the front of the stabilizer body tube and when the neck of the balloon is released the compressed air housed therein is released traveling finally through 30a providing a jet thrust to the vehicle. The resilient tube 30c can be pinched together to keep air from escaping while the motor is being attached and as a throttle control during air discharge. The motor assembly is also applicable to the toy assemblies designed for operation in the water as the motor exhaust causes turbulence in simulation of an actual jet exhaust as the craft moves. For best performance, operator holds on to the tail of the balloon while it is deflating. A shock absorbing nosepiece comprising a rubber plug 28 is partially inserted into the leading edge of the tubular wing mounting section 22a to cushion impact with furniture or the like during play. Except for the helicopter blade and stanchion assembly 27, FIG. 3, all of the basic and optional components and one craft assembled from such components have been heretofore described with reference to landplane 20. Other toy craft can also be assembled using the same components.

FIG. 4 and FIG. 5 show an assembled toy seaplane 35. The seaplane is formed by joining the body assembly 21 and the wing assembly 22 such that fin 21d projects upwardly through the wing assembly, and the box like assembly 21 is beneath the wing, with end 21a facing the leading edge of the wing. Tube 23a of the rear body assembly 23 is telescoped onto section 21f and is turned such that fins 23b extend out and slightly upward. The fin 21e then extends downwardly from the box like assembly 21 to serve as a rudder. If desired the motor assembly 30 can be installed as shown in FIG. 5. Clamp 30b is clamped around the front end of the stabilizer body tube 23a such that the elbow 30a extends beneath it. The shock absorbent nosepiece 28 can again be inserted in the end of the tubular mounting section 22a.

FIGS. 6 and 7 show an assembled amphibious craft 40. The manner of construction of this toy, from the basic components, is additionally the same as for the seaplane shown in FIG. 4 and FIG. 5. In addition, the wheel assembly 25 is mounted on the downward pointing body fin 21e by sliding fin 21e into the slot in the wheel mounting support 25c and the wheel assembly 26 is mounted on the tail stabilizers 23b and 23c by sliding the ends of the stabilizers into the slots provided in the rear wheel mounting supports 26a and 26b. The rudder assembly 24 is installed by inserting it into the slot 23d of stabilizer body tube 23a, until the stops 24a and 24b prevent further insertion. The motor assembly 30 and/or shock absorbent nose 28 may be installed, if desired, in the manner heretofore disclosed.

FIG. 8 shows an assembled jet boat craft 45. This craft is initially assembled in the same manner as is the seaplane embodiment 35 of FIG. 4 and FIG. 5, except that the wing assembly 22 is not used, and rudder assembly 24 is installed within the slit 23d of the stabilizer body tube 23a so as to extend downward below the jet boat. As with the other disclosed craft, the motor assembly 30 can be used if desired. If the body assembly 21 of the assembled jet boat 45 is rotated 180 a one-man submarine 45a is created having the body assembly 21 and the body fin 21e and the rudder 24 pointing upward with the tail stabilizers 23b and 23c remaining as they were in the assembled jet boat craft 45.

FIG. 9 shows an assembled toy race car 50. This toy is assembled in the same manner as is the assembled jet boat craft 45 of FIG. 8 except that the entire assembled toy is rotated 180 and wheels are installed on fins 21d and the outer edges of the downward slanted stabilizers 23b and 23c. The front wheel assembly 25 is installed on fin 21d by sliding it into the slotted tubular mounting support 25c, and rear wheel assembly 26 is installed on the stabilizer and rear body assembly 23 by sliding the tail stabilizers 23b and 23c into the slotted tubular rear wheel mounting supports 26a and 26b. In the manner previously described the motor assembly 30 and/or the exhaust simulator 29 may be used with the race car craft.

FIG. 10 shows a toy helicopter craft 55. This craft is assembled in the same manner as is race car 50, shown in FIG. 9, except that the helicopter blade and stanchion assembly 27 have been attached thereto. The blade and stanchion assembly 27 is frictionally connected by the clamp 27a to the stabilizer body tube 23a such that the stanchion is erect. The stanchion assembly consists of a stanchion 27b having a centrally

mounted shaft 27c which is free to rotate therein and upon which a helicopter blade 27d is fixed.

FIG. 11 shows a simple toy boat craft 60. This craft consists solely of the body assembly 21, without other attachments.

FIG. 12 and FIG. 13 show a toy fighter plane craft 65. This assembled craft is constructed by sliding the rudder assembly 24 into slot 22c of the wing assembly 22, until the stops 24a and 24b contact the sides of slot 22c. So aligned, a notch 22d and the tube 22a at the under- side of the wing assembly 22 provides means whereby a rubber band type launcher, not shown, can be hooked to place the fighter plane craft 65 in flight. The shock absorbent nosepiece 28 is installed in the end of the mounting section 22a as a weight, to dampen impact shocks and to prevent damage when the toy contacts a rigid surface.

FIGS. 14 and 15 show a toy rocket craft 70. This craft is constructed by sliding the stabilizer body tube 23a of the stabilizer and rear body assembly 23 over the rear end 22e of tube 22a of the wing assembly 22. The rudder assembly 24 is attached to the stabilizing and rear body assembly 23 by sliding it into slot 23d in the stabilizing assembly until the stops 24a and 24b prevent further insertion. The exhaust simulator 29 may be added to simulate flight.

FIG. 16 shows a toy guided missile craft 80. This toy craft is assembled by inserting the rudder assembly 24 through the slot 22c which extends through the wing assembly 22. The rear body assembly 23 is connected to the front of the wing assembly 22 by telescoping the mounting section 22a into the rear of the stabilizer body tube 23a. The stabilizer and rear body assembly 23 is rotated about mounting section 22a until the stabilizers 23b and 23c and in alignment with the wings of the wing assembly 22 and are slanted upwards. Notch 22d provides means whereby a rubber band type launcher, not shown, can be used to impart a momentum for flight to the guided missile toy. As with the fighter plane arrangement, the shock absorbent nosepiece 28 should be used to cushion shocks and for weight distribution.

The various components herein described may be constructed of plastic or suitable low cost durable and somewhat resilient material, and the individual components may be of different colors to facilitate construction and to present a pleasing appearance to the user.

Although preferred forms of apparatus of my invention have been herein disclosed, it is to be understood that the present disclosure is by way of example, and that variations are possible without departing from the subject matter coming within the scope of the following claims, which subject matter I regard as my invention.

I claim:

1. A multiple use toy comprising

a body assembly having projecting sides, a relatively large rear end surface and a relatively small front end surface, all interconnected by a bottom and defining an open interior, with the sides and bottom tapering from said rear end surface to said front end surface, a mounting tube fixed to the rear end surface of said assembly, a first fin projecting perpendicularly from said bottom interiorly of said body assembly and beyond the extension of the sides thereof, and a second fin projecting perpendicularly from said body assembly bottom from the side opposite to said first fin.

2. A multiple use toy as in claim 1, further including a stabilizer and rear body assembly having a tubular body with two fins projecting outwardly and downwardly from a rear portion thereof as stabilizers, said tubular body being adapted to be telescopically connected to the mounting tube of the body assembly and said tubular body having oppositely positioned slots through the wall thereof intermediate and parallel to the junction of the fins with the body.

3. A multiple use toy as in claim 2, wherein the body assembly and the stabilizer and rear body assembly are arranged such that the bottom of the body assembly and the second fin projecting therefrom are pointed upward;

a front wheel assembly is removably joined to the first fin; and

a rear wheel assembly removably connected beneath the stabilizer and rear body assembly to the outermost edges of the fins.

4. A multiple use toy as in claim 3, further including a helicopter stanchion and blade assembly having an upright stanchion removably fixed to the tubular coupling member and journaling a freely rotating shaft therein, and a helicopter blade fixed to the upper end of the shaft.

5. A multiple use toy as in claim 1, further including a wing assembly having a wing of generally delta shape, with one face fixed to a tubular body bisecting said delta wing, said tubular body having opposed slots formed therethrough, a slot through the wing in alignment with the slots in the tubular body, and a notch formed in the tubular body at the side thereof opposite said attached wing surface, said opposed slots being adapted to have the first fin of the body assembly inserted therethrough.

6. A multiple use toy as in claim 2, further including a wing assembly having a wing of generally delta shape, with one face thereof fixed to a tubular body bisecting one face of said wing, said tubular body having opposed slots formed therethrough, a slot through the wing in alignment with the slots in the tubular body, and a notch formed in said tubular body at the side thereof opposite said attached wing surface, said opposed slots being adapted to have the first fin of the body assembly inserted therethrough.

7. A multiple use toy as in claim 6, further including a rudder fin secured in the slots of the stabilizer and rear body assembly and projecting therefrom.

8. A multiple use toy as in claim 7, further including a front wheel assembly removably fixed to the first fin at its edge at the side of the wing opposite the body assembly; and

a rear wheel assembly removably connected to the ends of the outwardly and downwardly projecting fins of the stabilizer and rear body assembly.

9. A multiple use toy as in claim 8, further including an exhaust simulator adapted to be removably connected to the rear end of the stabilizer and rear body assembly, said simulator comprising a ring adapted to telescope over the tubular body of the rear body assembly and a loose fabric simulating an exhaust blast, extending from the ring.

10. A multiple use toy as in claim 8, further including a motor assembly consisting of a propulsion tube closed at one end, means for removably connecting

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said propulsion tube to the tubular body of the rear body assembly, a long flexible tube which can be pinched for throttle control arranged such that the bore of said flexible tube intercepts the bore of the

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propulsion tube at one end of the flexible tube, and a balloon having its neck tight around the other end of the flexible tube.

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