

[72] Inventor **Ross W. LeBaron**  
 Salt Lake City, Utah  
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 [73] Assignee **Wham-O Mfg. Co.**  
 San Gabriel, Calif.

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*Primary Examiner*—A. F. Guida  
*Assistant Examiner*—A. J. Heinz  
*Attorney*—B. Deon Criddle

[54] **FLYING SAUCER CRAFT**  
 9 Claims, 10 Drawing Figs.

[52] U.S. Cl..... **46/81,**  
 124/17, 273/106

[51] Int. Cl..... **A63h 27/14**

[50] Field of Search..... 46/74, 79,  
 80, 81, 89; 124/20; 273/106

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**ABSTRACT:** A flying craft simulating a "flying saucer" and comprising an aerodynamically stable circular body made of lightweight flexible material, weighted to insure directional travel and provided with a hook to facilitate launching should this be desired.

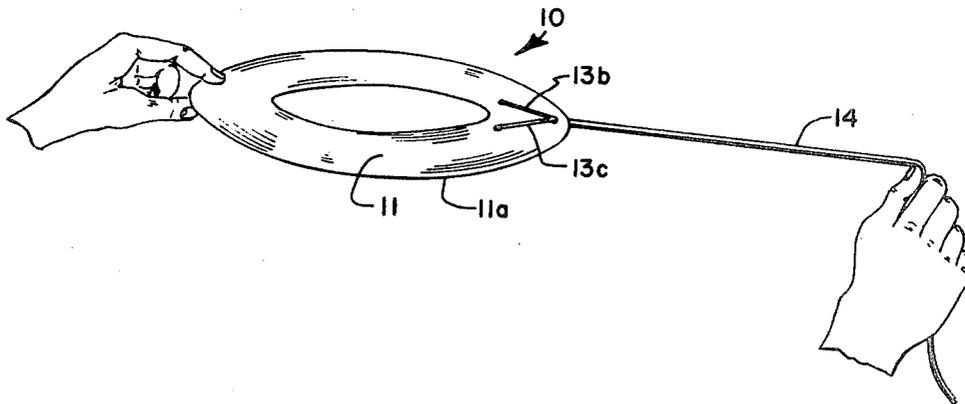


FIG. 1

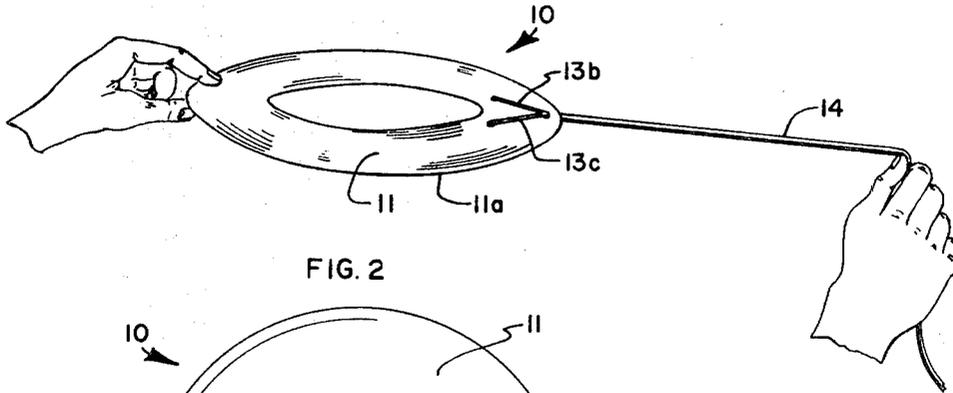


FIG. 2

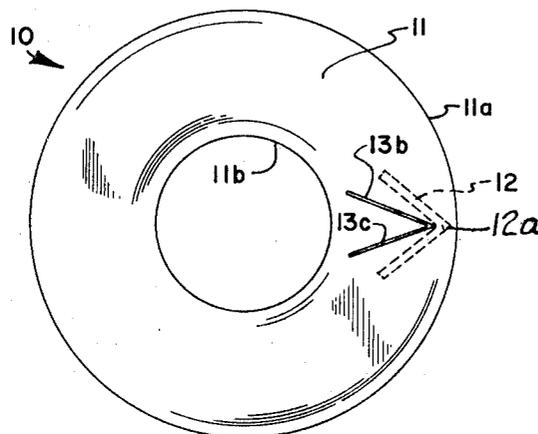


FIG. 3

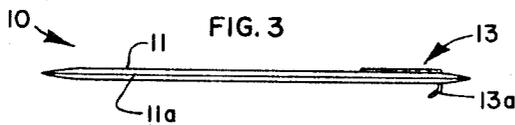


FIG. 4

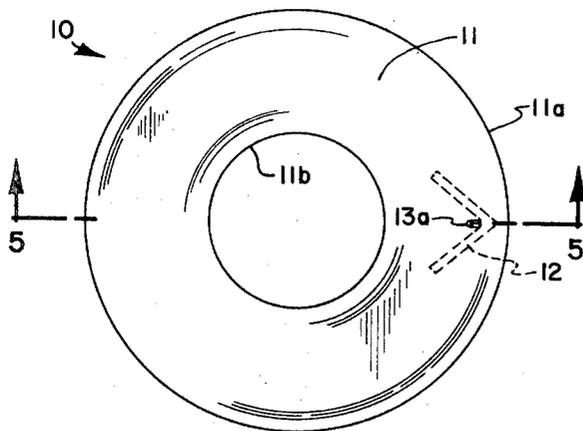
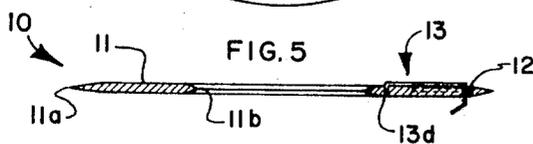
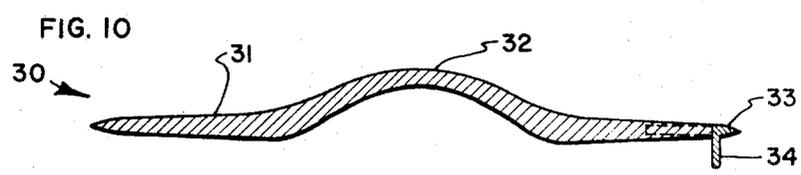
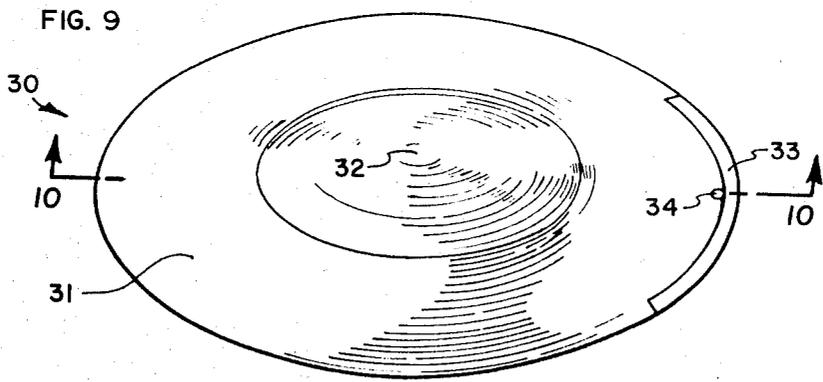
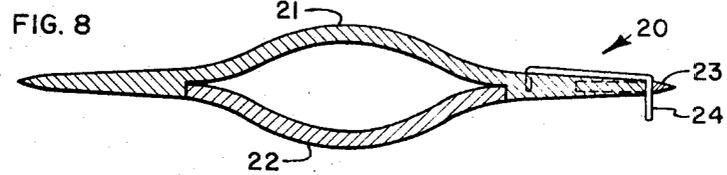
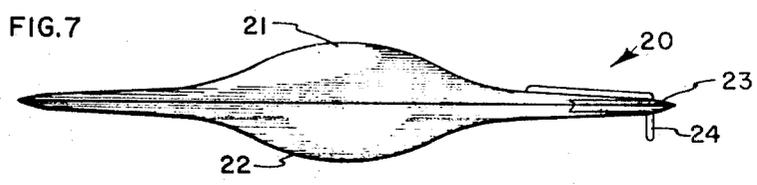
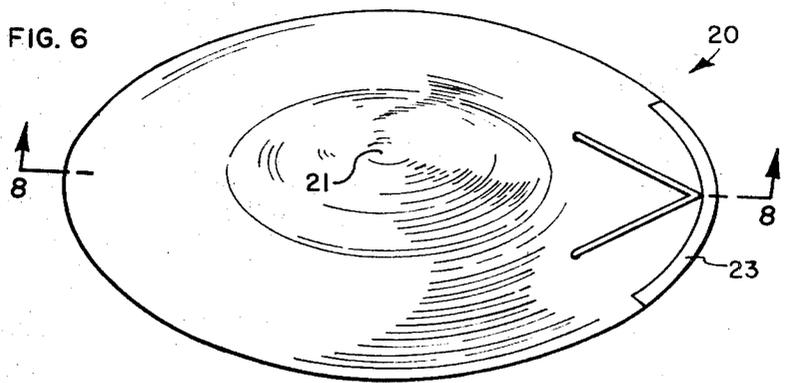


FIG. 5



INVENTOR:  
ROSS W. LE BARON  
BY: *B. Dean Giffels*  
ATTORNEY



INVENTOR:  
ROSS W. LE BARON  
BY: *B. Dembiddle*  
ATTORNEY

## FLYING SAUCER CRAFT

## BRIEF DESCRIPTION

There have long been reported sightings of saucer-shaped aircraft and it is well known that such craft have been developed for flight. The reported sightings, together with the worldwide emphasis currently being placed on interplanetary and other types of space travel have stimulated the desire on the part of children for toys that can be used to simulate such flights. It is for this reason that I have developed the present invention.

This invention fully simulates the reported flights of saucer shaped aircraft and provides a toy that will amuse and delight children for extended periods of time. In addition, by observing the flight patterns of the invention children are, even unwittingly, exposed to laws of aerodynamics applicable to such bodies and the invention may therefore be considered as a valuable teaching aid.

Principal features of the invention include its circular wing configuration, tapering to a knife edge at its outer peripheral edge and, when the body is ring shaped, at its inner peripheral edge, as well. If the body is dome shaped to simulate a central cabin section, substantially smooth curves are used to insure aerodynamic stability of the unit. A weight is provided at or near the forward edge of the craft so that directional stability will be obtained during flight and if desired, means are provided to facilitate launching. In one embodiment, the launching means comprises a hook projecting from the lower surface of the circular body to be engaged by an elastic band which is stretched during launching.

The craft of the invention has many uses, even without the launching means. It will glide with unusual stability even when dropped from a height and it is envisioned that it can be advantageously used in advertising programs, for example, by dropping many of them, bearing appropriate advertising messages, from an aircraft.

Other objects and features of the invention will become apparent from the following detailed description and drawings, disclosing what is presently contemplated as being the best mode of the invention.

## THE DRAWINGS

FIG. 1, is a perspective view of one embodiment of the invention, in use;  
 FIG. 2 a top plan view;  
 FIG. 3, a side elevation view;  
 FIG. 4, a bottom plan view;  
 FIG. 5, a vertical section, taken on the line 5-5 of FIG. 4;  
 FIG. 6, a perspective view of another embodiment of the invention;  
 FIG. 7, a side elevation view of the embodiment of FIG. 6;  
 FIG. 8, a vertical section, taken on the line 8-8 of FIG. 6;  
 FIG. 9, a perspective view of yet another embodiment; and  
 FIG. 10, a vertical section, taken on the line 9-9 of FIG. 8.

## DETAILED DESCRIPTION

Referring now to the drawings:

In the illustrated embodiment of FIGS. 1-5, there is shown a craft 10 comprising a ring shaped wing 11 that has both its outer periphery 11a and its inner periphery 11b formed as knifelike edges.

It has been found that if the inner periphery of the ring-shaped wing is not made sharp the aerodynamic capabilities of the craft are significantly affected and it will not achieve the desired smooth glide.

A weight 12 is embedded within the material from which the craft is made. The weight is substantially V-shaped, with the base or junction 12a forming a central portion of the V-shaped weight positioned nearest to the front edge of the craft and with arms forming extending portions of equal length and weight and extending rearwardly there from.

A launching means in the form of hook 13 is provided. The hook includes a depending midportion or bight 13a, inserted downwardly through the wing 11 of craft 10 at a point immediately behind weight 12 and a pair of flared legs 13b and 13c that spread as they extend rearwardly from the midportion or bight 13a. At their ends, the legs 13b and 13c are each turned downwardly to form an anchor portion 13d that will project into the wing 11.

The pull on the bight 13a, when an elastic member is secured, thereto, the craft is held and the elastic member is stretched, tends to pull the hook forward and up. This twisting force is countered by the embedded weight 12, against which the weight acts, by the legs 13b and 13c acting against the wing 11 and by the anchor portions 13d, which hold the hook against forward movement. The legs can be positioned on the top face of the wing 11 or, preferably, to insure better aerodynamic response of the craft, they can also be embedded, along with the weight, in the material from which the craft is made.

In any event, to use the embodiment of the invention shown in FIG. 1, it is only necessary to grasp the rear of the craft, (i.e. that point diametrically opposed to the junction 12a of the V-shaped weight) with one hand and the ends of an elastic band 14, that has been passed around central bight portion 13a of hook 13 with the other hand. The hands can then be moved apart until the elastic member is sufficiently stretched, at which time the craft 10 can be released. The retracting elastic will then project the craft.

In flight, the craft will glide such that the weighted end is at all times forward and a smooth glide will be obtained. The glide can be straight over a long flight path, or, by slightly bending the wing 11 the operator can select other varying flight patterns. For example, if the rearmost portion of the wing is bent slightly upwardly, such that it forms a baffle transverse to the direction of travel of the craft, the craft will perform loops. If one or the other of the sides of the craft is bent slightly upward the craft will perform turns, the direction of turn being determined by the upwardly bent sides.

As shown in FIGS. 1-5, the weight 12 and hook 13 are positioned slightly rearwardly of the leading edge of the craft. This has proven highly advantageous where the craft is to be used indoors or where windows or the like could be damaged if struck with a hard object. The leading edge of the craft is thus formed of the said lightweight and somewhat flexible material as is from which the craft body and this edge will contact any obstacle in the flight path. The leading edge will yield on impact thereby absorbing the shock and preventing damage to the object that is struck.

Although other suitable, lightweight materials could be used, it is presently preferred that the body of the craft, including the leading edge thereof, be made of steam-pressed styrofoam. It has been found that if styrofoam is pressed in a steam atmosphere, its surface will take on a smooth appearance of the die and the strength of the styrofoam will be increased without loss of flexibility.

If the leading edge of the body is bent or compressed on impact, a user can repeatedly restore it to suitable shape for flight, merely by manipulating the edge into shape with his fingers.

In FIGS. 6-7 there is shown another embodiment of the invention. In this embodiment, the craft 20 is circular and has an upper dome 21 formed integral with an annular wing 21. A lower dome 22 is then adhesively secured to a flat, annular seat formed at the junction of the upper dome and the wing such that both domes form smooth continuous curves with the wing.

As in the previous embodiment, a weight 23 is provided at the leading edge of the craft and a hook 24, similar to the hook of the previous embodiment, is provided to facilitate launching. Unlike the previous embodiment, the weight 23 is of arcuate configuration and forms a part of the leading edge. This configuration has proven especially desirable where the craft is to be flown in open areas where it is not likely to

damage other objects, since it protects the leading edge of the craft against damage, thereby extending the useful life of the craft.

In FIGS. 9 and 10 a craft 30 is shown, comprising an annular wing 31 and a smoothly interconnected integral dome 32. The lower surface of the craft is concave into the dome and the curve thereof is smooth so as not to adversely affect the aerodynamic capabilities of the craft. In flight, the concave surface appears to a distant observer to be a dome. This embodiment therefor results in a unit that can be constructed for less cost than that of FIGS. 6--8, but that will have essentially the same appearance when it is in flight.

The embodiment of FIGS. 9 and 10 also differs from those previously disclosed in that a weight 33, which is made of a single piece of curved bar material, has a stub-piece 34 welded thereon and projecting downwardly therefrom through the lower surface of the craft. The stub-piece 34 then serves as a hook to facilitate launching, as previously described.

The material forming the wing, beneath the weight and forwardly of the stub-piece 34, prevents rotation of the weight and stub-piece during launching and holds them in place. While not as satisfactory as the hook previously disclosed, from the standpoint of durability, the weight and stub-piece combination provides an economical assembly that is preferred in some instances.

Although preferred forms 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 craft simulating a flying saucer and comprising a circular wing having a knife-edge outer periphery and made of a somewhat flexible and permanently deformable material light enough to glide in air; a weight positioned adjacent to a front leading edge of the wing and having portions extending equidistantly outward and terminating at equal distances from a central weight

portion; and means for launching the craft such that the leading edge of the wing directs the flight thereof.

2. A flying craft as in claim 1, wherein the wing is annular and has a knife edge inner periphery formed thereon.

3. A flying craft as in claim 1, wherein the wing is annular and surrounds a dome made of the same material as the wing.

4. A flying craft as in claim 1, wherein the means for launching the craft comprises a hook extending through a lower surface of the craft.

5. A flying craft as in claim 4, wherein the hook is positioned and arranged to act against the weight during launching of the craft.

6. A flying craft as in claim 5, wherein the weight is set back from the leading edge of the wing, whereby a portion of the lightweight, somewhat flexible material serves as a contact member when the craft engages other objects.

7. A flying craft as in claim 1, wherein the material from which the wing is made is styrofoam, pressed into shape in a steam atmosphere.

8. A flying craft as in claim 6 wherein the material from which the wing is made is styrofoam pressed into shape in a steam atmosphere.

9. A flying toy aircraft comprising a wing, symmetrical about a center axis thereof and made from pressed and cut styrofoam and having a front leading edge arcuately formed in the plane of the wing; a weight positioned at the front-leading edge of the wing and having portions extending equidistantly outward and terminating at equal distances from a central weight portion;

hook means secured in place by said weight and projecting from a face of the wing; and elastic band means for cooperating with said hook means to propel the aircraft.

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