United States Patent [19]

Kirk

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[54] **GLIDER TOY**

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[52] **U.S. Cl.** **46/79**

[51] **Int. Cl.²** **A63H 27/00**

[58] **Field of Search** 46/74, 79, 81

[56] **References Cited**

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[57] **ABSTRACT**

The present invention relates to glider toys and comprises an elongated, bifurcated integral body portion construed from a lightweight, flexible, resilient material and a weight member which is attached to the bottom side of the body portion at a location in which the center of gravity of the weight member is forward of the center of gravity of the glider toy. The body portion comprises a head section having in plan view an outwardly convex leading edge and two long, trailing leg sections, the outer perimeter of each leg section and the outer perimeter of the head section being coterminous whereby the outer perimeter of the body portion is curvilinear.

10 Claims, 6 Drawing Figures

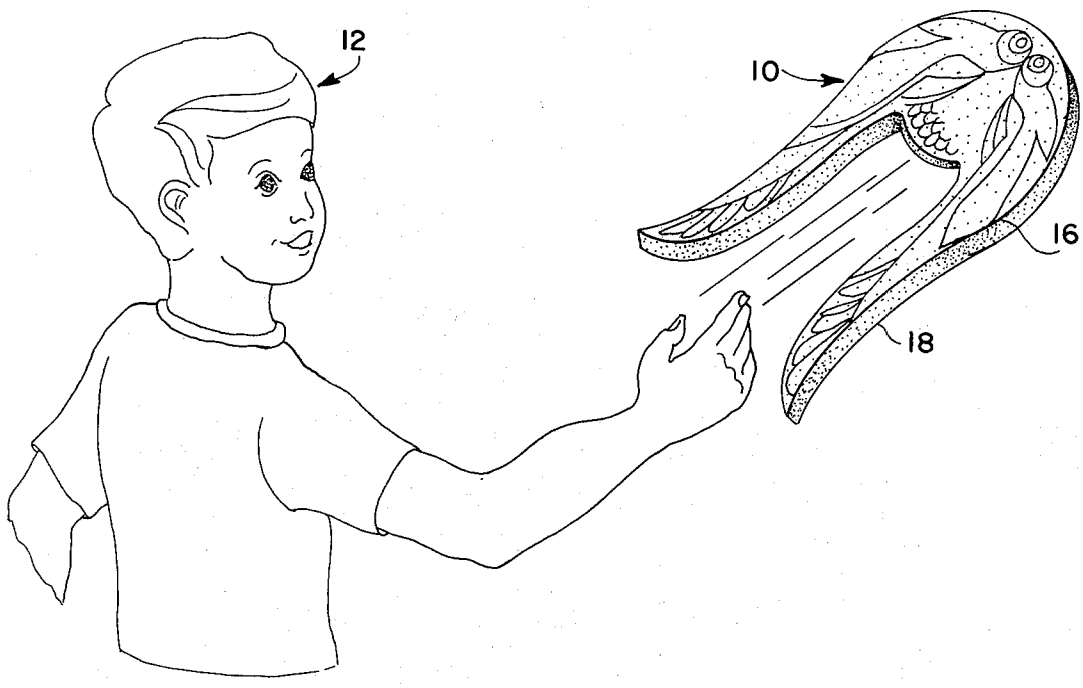


FIG. 1

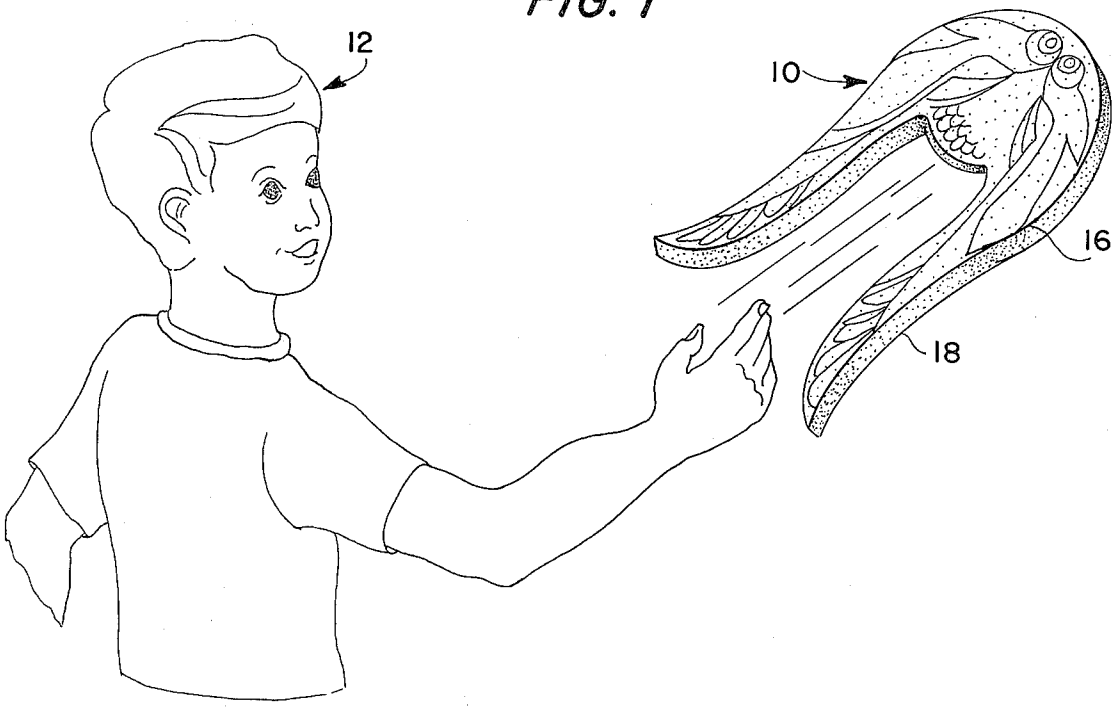
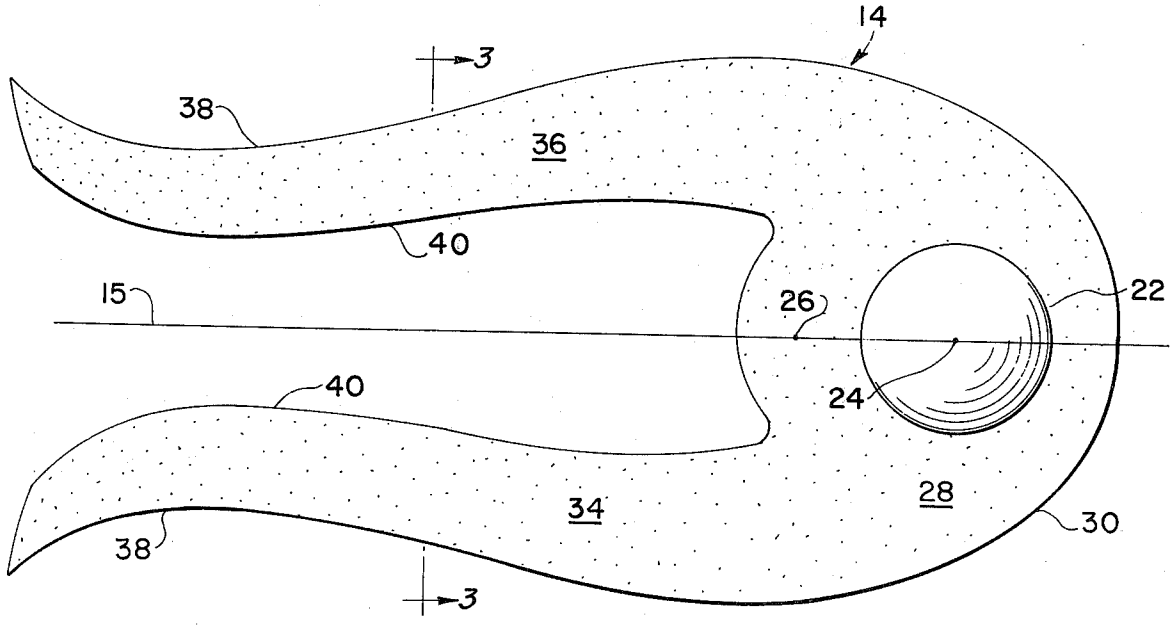


FIG. 2



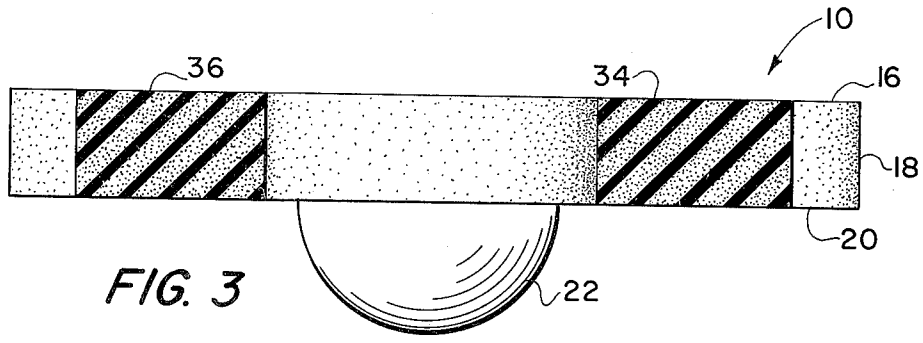


FIG. 3

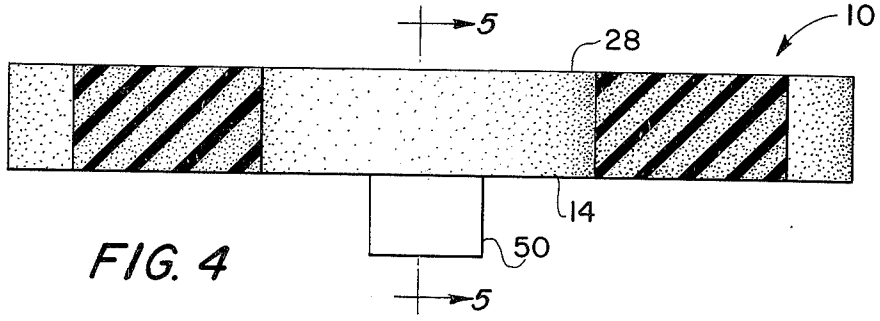


FIG. 4

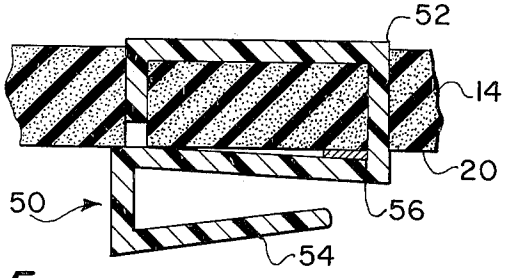


FIG. 5

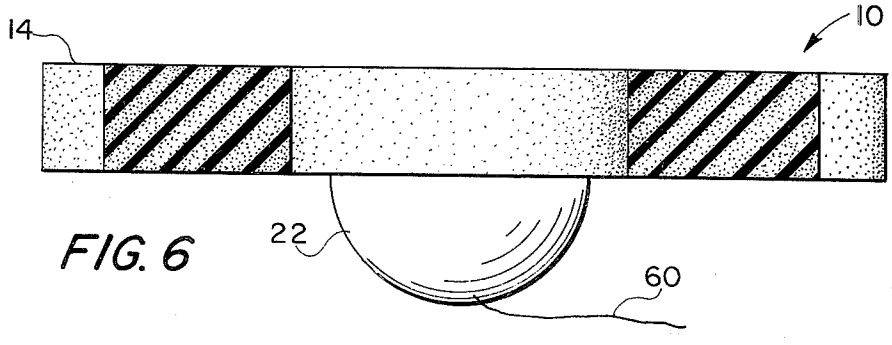


FIG. 6

GLIDER TOY

FIELD OF THE INVENTION

This invention relates generally to toy glider airplanes. More particularly, the invention relates to a glider which is extremely lightweight, which can be constructed from a thick sheet of low density resilient material and which can be safely flown indoors or outdoors.

DESCRIPTION OF PRIOR ART

Toy glider airplanes have previously been constructed of rigid material such as expanded polystyrene and balsa wood. When launched indoors, these type glider airplanes are destructive to household furnishings and often injurious to personnel, particularly if the toys collide with the face of a child. In addition, many of the toy glider airplanes, being constructed of a rigid material, are difficult to store without breakage. Some of the toy glider airplanes are comprised of a plurality of interlocking, but removeable, members and frequently one or more of these members are lost thereby resulting in a toy which is useless. Another hazard of using wood toy glider airplanes indoors is that these toys are flammable and consequently create a fire hazard.

SUMMARY OF THE INVENTION

The present invention overcomes these and other disadvantages associated with the prior art. The present invention provides a unitary toy glider airplane which can be safely flown indoors or in other confined areas. The glider toy has a low gliding speed, a smooth glide path, and can be constructed from a lightweight, flexible and resilient material.

A glider toy in accordance with the present invention is comprised of an elongated, bifurcated, integral body portion and a weight member attached to the bottom side of the body portion at a location in which the center of gravity of the weight member is forward of the center of gravity of the glider toy as a whole. The body portion is comprised of a head section having in plan view an outwardly convex leading edge and two trailing leg sections. Each leg section has a length at least as long as the length of the head section. The outer perimeter of each leg section and the outer perimeter of the head section are coterminous such that the outer perimeter of the body portion is curvilinear in plan view.

Other features and advantages of the present invention will be discussed in or are apparent from the description of the preferred embodiment of the invention found hereinbelow.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of one embodiment of a glider toy in accordance with the invention, the glider toy being flown by a child.

FIG. 2 is a bottom plan view of the embodiment of the invention shown in FIG. 1.

FIG. 3 is a cross sectional view taken along line 4—4 in FIG. 2.

FIG. 4 is a cross section, similar to FIG. 3, of an embodiment of the invention having a different weight member.

FIG. 5 is a cross section view taken along line 5—5 of FIG. 4.

FIG. 6 is a cross section, similar to FIG. 3, disclosing an additional feature of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to FIG. 1, there is depicted a glider toy 10 being flown by a child 12. Glider toy 10 has imprinted thereon a design or decoration. Also referring to FIGS. 2 and 3, glider toy 10 is comprised of an elongated, bifurcated, integral body portion 14 which is substantially symmetrical about a longitudinal axis 15. Body portion 14 has a generally rectangular cross section with a planar top surface 16, sides 18 which are perpendicular to top surface 16, and a planar bottom surface 20. Body portion 14 can be constructed from any lightweight, flexible, resilient, and preferably nonflammable material such as, for example, polyester foam.

Glider toy 10 further comprises a hemispherical weight member 22 which is rigidly attached along the flat portion thereof to bottom surface 20 of body portion 14 at a location such that the center of gravity of weight member 22, indicated at 24, is located forward of the center of gravity of glider toy 10, indicated at 26. Weight member 22 can be constructed from, for example, a rigid material, rubber, or a synthetic resilient plastic material.

Body portion 14 is comprised of a head section 28 which has, in plan view, an outwardly convex leading edge 30 and an outwardly convex trailing edge 32. Head section 28 has a width dimension which is approximately equal to one half the overall length of glider toy 10 and a length dimension which is approximately equal to one-third of the overall length of glider toy 10. Body portion 14 further comprises two legs, a first leg 34 and a second leg 36. Each leg has an outer perimeter 38 which is outwardly convex-concave and a corresponding inner perimeter 40 which is outwardly concave-convex. Outer perimeter 38 is coterminous with leading edge 30, or the outer perimeter of head section 28 such that the outer perimeter of body portion 14 is curvilinear in plan view.

Another embodiment of the invention is depicted in FIGS. 4 and 5. The body portion in this embodiment is similar to body portion 14 in FIGS. 1–3. However, the weight member of glider toy 10 in this embodiment is comprised of a generally "S" shape clip 50. Clip 50 has an upper loop 52 which extends through slits in body portion 14 and a lower loop 54 which depends from bottom surface 20 of body portion 14. A removeable weight 56 can be located as shown in FIG. 5 to provide a variable ballast for glider toy 10. Clip 50 provides a vertical surface depending from bottom surface 20 of body portion 14 which can be conveniently used to throw glider toy 10. In addition, clip 50 provides a place to which a string (not shown) can be tied, thereby permitting glider toy 10 to be flown in a controllable circular flight path.

A third embodiment of the invention is depicted in FIG. 6 in which glider toy 10 further comprises a string 60 fixedly attached thereto. String 60 can be attached either to body portion 14 or, as shown in FIG. 6, to weight member 22.

Glider toy 10 can be simply flown by holding the weight member with the tip of the index finger of the user at the rearward portion thereof and with the thumb and second finger of the user on each lateral

side thereof and throwing glider toy **10** as a dart would be thrown. Because body portion **14** is comprised of a very lightweight material and has relatively large lateral or width dimensions, glider toy **10** can be thrown relatively long distances. Different flight patterns can be obtained by bending legs **34** and **36** or by attaching additional ballast to body portion **14.** Furthermore, glider toy **10** can be thrown with a twisting motion to either the right or the left of the user and it will flip from side to side in flight. Because body portion **14** is comprised of a resilient material, glider toy **10** can be thrown with great speed and it will not damage any article that it strikes or injure any person whom it hits.

Although the invention has been described in detail with respect to examplary embodiments thereof, it will be understood by those of ordinary skill in the art that variations and modifications may be effected within the scope and spirit of the invention.

What is claimed is:

1. A glider toy comprising an elongated, substantially planar, integral body portion comprised of a head section having in plan view a convex leading edge and two trailing elongated leg sections integrally connected to one end thereof to said head section, each leg section having a length at least as long as the length of said head section, the outer perimeter of each said leg section and the outer perimeter of said head section being coterminous such that the outer perimeter of said body portion is curvilinear in plan view, and a weight member attached to the bottom side of said head section at a location in which the center of gravity of said weight member is forward of the center of gravity of said glider toy.

2. A glider toy as claimed in claim **1** wherein said body portion has a planar upper and lower surface and a generally rectangular cross-section.

3. A glider toy as claimed in claim **1** wherein said body portion is comprised of a lightweight, flexible, resilient polyester foam material.

4. A glider toy as claimed in claim **1** wherein the width of said head section is substantially equal to one half the overall length of said glider toy.

5. A glider toy as claimed in claim **4** wherein the length of said head section is substantially equal to one third the overall length of said glider toy.

6. A glider toy as claimed in claim **1** wherein said weight member is comprised of a solid, resilient hemispheric member which is attached along the flat portion thereof to the bottom side of said head section.

7. A glider toy as claimed in claim **1** wherein said weight member is comprised of a generally "S" shaped clip, the upper loop of which extends through said head section and the lower loop of which depends from the bottom side of said head section having a rearward, substantially vertical surface for providing a surface for guiding the glider toy as it is being thrown.

8. A glider toy as claimed in claim **1** wherein said body portion is symmetrical about the longitudinal axis and has a convex-concave outer perimeter.

9. A glider toy as claimed in claim **8** wherein said body portion has planar upper and lower surfaces and a generally rectangular cross-section wherein the width and length of said head section are respectively substantially equal to one half, and one third of the overall length of said glider toy, and wherein said body portion is comprised of a lightweight, flexible and resilient material.

10. A glider toy as claimed in claim **1** and further including string means attached to said head section.

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