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[54] **AERIAL SPINNING DISC**
4 Claims, 3 Drawing Figs.

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D34/15, 46/74, 273/100

[51] Int. Cl. **A63b 65/10,**
A63h 27/00

[50] Field of Search **273/106**
(B), 105.4, 96 (B), 177, 178, 99, 100, 34, 128;
46/74 (D), 114, 220; D34/15 (A); D44/1 (8.4)

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ABSTRACT: A spinning aerial device or "flying saucer". It is a disc with a centered circular opening and has a plurality of concentric sections including an annular body section with downwardly extending flanges formed along the inner and outer edges of said body section.

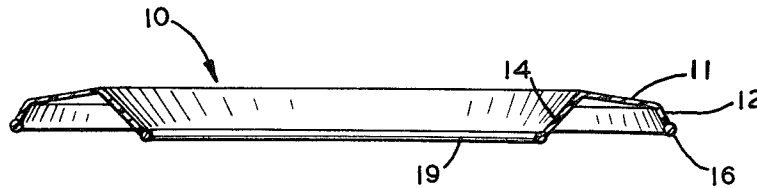


FIG. 1

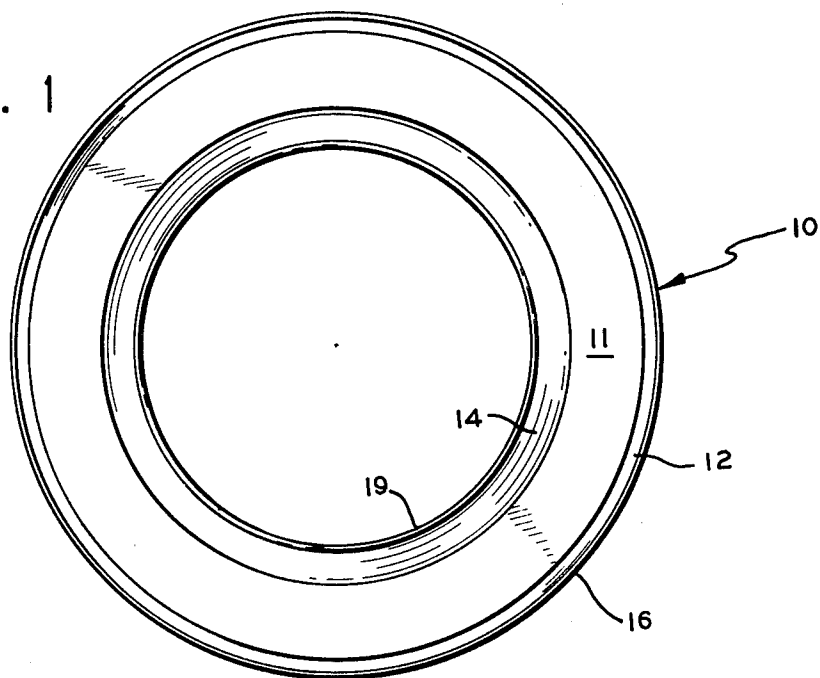


FIG. 2

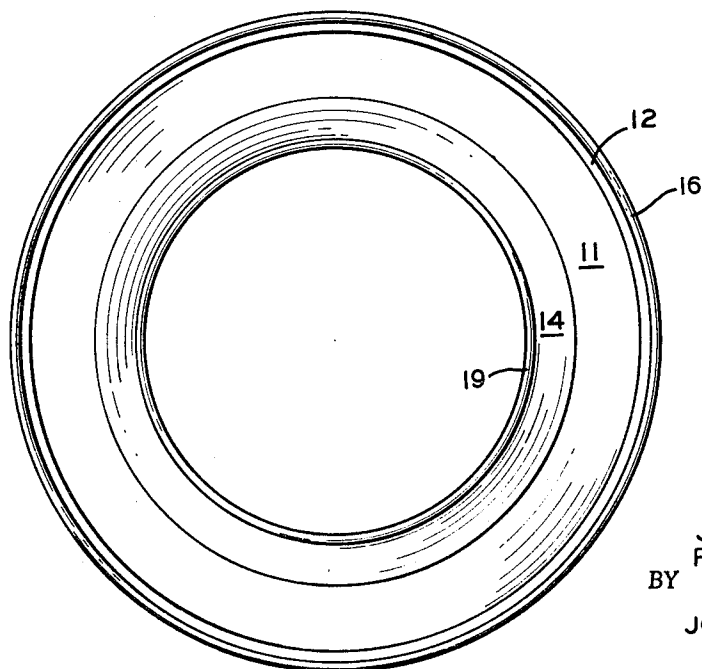
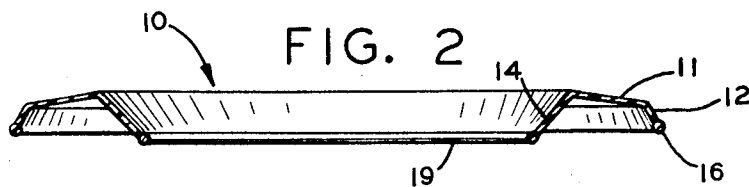


FIG. 3

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AERIAL SPINNING DISC

This invention relates to an aerial device in the nature of a ring to be scaled with a spinning action through the air from one player to another and it can also be thrown towards a fixed peg or post with the object of so guiding the ring as to have it descend over the peg, making a game.

The aerial device of the present invention requires considerable skill on the part of the player to cause it to follow a predetermined course although it affords a considerable amount of pleasure for one having only the skill of a beginner. As a spinning ring with flat and angular surfaces of forming special rotational aerodynamics design, the ring can be thrown towards another play so that it follows a relatively straight course, and maintains its elevation until its spinning action is nearly spent. At this time, if there is no one to catch the top, it descends rather abruptly and lands on the ground without undue skidding or bouncing.

The skilled thrower, however, can impart special movement to the ring causing it to develop an erratic course, thus confusing the receiver. The aerial device of the present invention is preferably formed from lightweight molded plastic material and has an annular body section lying in a single plane and a downwardly inclined flange along both the inner and outer periphery which contribute to the lift qualities of the ring. Each flange may also have along its outer periphery an annular bead which imparts rigidity to the ring, adds a desired weight to the otherwise thin structure and tends to stabilize the aerial device in flight. The beading along the outer and inner margins of the spinning ring causes it to respond to variation in handling as it is delivered to the air by uncoiling of the arm and releasing it with a snapping motion of the wrist. Variations in the presentation of the surface to the air at the moment of delivery can produce a straight or curved trajectory, a rising path or one with a relatively constant elevation, or a series of compound motions which are difficult to analyze and are baffling to the intended catcher.

In the drawings:

FIG. 1 is a plan view of the disc of the present invention;

FIG. 2 is a central vertical section;

FIG. 3 is a bottom plan view.

The ring 10 of the present invention is shown in preparation in FIG. 1 wherein this is an intermediate annular ringlike section 11, an outer flange 12 and an inner flange 14, both of

which contribute to the lift.

The spinning aerial disc 10 of the present invention is shown in plan view in FIG. 1 wherein there is an intermediate annular ringlike section 11, an outer flange 12 and an inner flange 14, both of which contribute to the lift of the aerial disc as well as to its stability in flight. The intermediate ringlike section 11 is shown in FIG. 2 as being disposed at an angle of between 5° and 20° and preferably about 10° to the plane of its rotation although this angle may vary. It is also generally flat in radial section. The outer flange 12 is inclined downwardly at an angle of more than 90° to the plane of section 11 and it may have a strengthening rib or bead 16 on its lower face. The inner flange 14 is also inclined downwardly at an angle of more than 90° to the plane of the central section 11 and this flange also may be strengthened by a rib 19 along its lower edge.

If the aerial disc is made from plastic material which is sufficiently rigid, these annular ribs may be omitted. These ribs or beads, however, do have a stabilizing effect during flight and the outer rib, particularly, does have the ability to hold the rear section at its chosen flight angle of attack. That is to say, when the spinning motion is imparted to the disc, it is preferred to retain the front edge somewhat higher than the rear edge and it has been found that if the outer annular rib omitted the rear edge of the spinning device tends to rise.

We claim:

1. A spinning aerial device comprising a disc with a centered circular opening and comprising a plurality of concentric sections including an annular ringlike central body section whose upper face is generally flat in radial section and inclined downwardly towards its outer edge at an angle of between 5° and 20° from a plane of its rotation, a downwardly extending flange formed along the inner and outer edge of said body section, each lying at an angle of more than 90° to the general plane of said body section.

2. The device as claimed in claim 1 wherein the inner peripheral edge of the inner flange has a strengthening bead thereon.

3. The device as claimed in claim 1 wherein the outer peripheral edge of the outer flange has a strengthening bead thereon.

4. The device as claimed in claim 1 wherein the disc is formed from lightweight molded plastic material.

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