This invention relates to a flying target and more particularly to a flying target for archers which can be used a multiplicity of times without being destroyed. The use of "clay pigeons" or flying targets is very old in trap shooting. The "clay pigeons" used in the past and up to the present time, however, have suffered from a plurality of disadvantages. Such "clay pigeons" have been designed exclusively for use in trap shooting with firearms and have not been adaptable for use in archery. Furthermore "clay pigeons" being formed of a brittle material, are used only once since a bullet striking the target causes it to shatter.

It is therefore an object of this invention to provide a flying target which can be used by archers as well as firearm trap shooters.

It is another object to provide a flying target which simulates a pheasant in flight.

It is another object to provide a target which can be launched by hand or mechanically to follow a predictable course and angle.

It is another object to provide a flying target which is inexpensive and which can be used a plurality of times.

It is yet another object to provide a flying target which immediately slows and stops its flight when struck with an arrow.

Other objects and the nature and advantages of the instant invention will be apparent from the following description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is an isometric drawing of the assembled target.

FIG. 2 is an exploded isometric view showing the separate parts.

FIG. 3 is a section taken along line 3--3 of FIG. 1.

FIG. 4 is an isometric drawing of a second embodiment.

FIG. 5 is an enlarged section taken along line 5--5 of FIG. 4.

FIG. 6 is a top view of the flattened pyramidal section.

FIG. 7 is a section taken along line 7--7 of FIG. 6.

The preferred form of the target of this invention is represented generally at 10 and comprises three separate elements. The body portion of the flying target comprises a flat planar base, here shown in the form of a circular disk 12. Projecting in one direction from the plane of disk 12 is the outer peripheral flange or ring 14. Projecting in the other direction from the central portion of the plane of disk 12 is the target element, here shown as pyramid 16.

Ring or flange 14 preferably forms the outer periphery of the flying target and is of such thickness as to impart both rigidity and weight to the device. Ring 14 may be formed of any suitable material such as thick cardboard or plastic. It must be sufficiently rigid to provide the device with an aerodynamic shape and to withstand the shock applied to the target during use. Insufficient thickness of the ring may also result in a lack of the proper amount of turbulence beneath the target necessary to effect proper lift and flight.

In the preferred embodiment shown in FIGS. 1--3 the flat planar base or disk 12 has a circular area having a diameter equal to the outer diameter of ring 14, i.e., the greatest distance across the ring. Disk 12 is connected in some suitable manner, such as by the use of adhesive or staples, to surface 18 of ring 14 so that the ring projects as a flange from the plane of disk 12. Ring 14 may be formed of corrugated paperboard as shown at 20 and may have a width equal to its height, i.e., it forms a one inch square cross-section.

In the embodiment of FIGS. 4 and 5, ring 14 in cross-section takes the shape of a T in general and comprises an upwardly extending flange 44, an inwardly extending flange 46 and a downwardly extending flange 48. Projecting upwardly from the upper surface of inwardly extending flange 46 are a plurality of pegs 50. In this embodiment disk 12 is provided around its periphery with a plurality of holes 52 which extend through the paperboard disk. Pegs 50 extend into and through holes 52 of disk 12 upon assembly. The frictional co-operation between pegs 50 and holes 52 retains the assembly of disk 12 and ring 14. This embodiment is particularly useful where it is desired to replace disk 12 after it has been damaged through numerous blows from the points of arrows. Pegs 50 may extend partly or entirely around the periphery of the ring. Here too ring 14 is formed of plastic either by extrusion or injection molding.

The disk 12 is provided at its center with a central mounting portion, here shown as a cruciform slot 20, i.e., two linear slots intersecting at right angles. The cruciform slot 20 crosses at the center of the disk 12 and functions as a central mounting portion by receiving the target element 16. Adjacent slot 20, the disk 12 may be scored as indicated at 22 if greater retention is desired. The score lines 22 would thus enable sections 24 of the disk (i.e., the sections between the slot 20 and the score lines 22) to bend thereby forming slot 20 with sections 24 functioning as frictional engaging lips. Such slots 20 may be formed in any suitable manner such as by molding plastic or die-cutting from flat sheets of cardboard or plastic.

Projecting upwardly through slot 20 is pyramidal shaped target element 16. The target element extends to a minor extent in the same direction as ring 14 as shown at 26 and projects in a major direction away from the plane of disk 12 in the opposite direction as shown at 28. The target element 16 is adapted to be attached to the remainder of the structure at its sites of use and may be removed from the disk when not in use for storage.

In the embodiments shown, pyramid 16 is formed in the shape of a square flat card, as shown in FIGS. 6 and 7, having score lines 30 extending its diagonal length and score lines 32 extending the length of the sides and crossing in the middle 34 of the square. This permits folding of the card along the score lines resulting in an eight sided pyramid containing four pockets. Notches 36 are provided along lines 30 and upon insertion of the folded pyramid into the cruciform slot 20, the notches interlock with the extreme portions 38 of the slot 20 to form the primary engaging means. The target element is formed from any suitable bendable material such as cardboard.

The target is sold and shipped in two pieces, (1) the ring and disk and (2) the flat scored card. The purchaser, when ready to use the target, folds the card into the pyramidal shape and inserts it into the cruciform slot. The target may then be thrown into the air where it simulates the flight of a pheasant providing a good hunting practice or merely with a new sport similar to trap shooting. The target can be used numerous times and if the target element (pyramid section) is finally torn to a great extent, it may be replaced with a similar element. Due to its construction, the target retains stability in flight and always presents the desired silhouette, approximately 40% of the disk area, to the archer.

Portion 26 of the pyramid extending below the disk and inside the ring helps create turbulence by moving air in a fan-like motion when the target is spin launched.
pyramid 16 presents a larger target to the archer than would be available with the disk alone. The eight sides of the pyramid tend to trap arrows into one of the four pockets of the pyramid. If the pyramid with its pockets were not present, arrows would tend to glance off the spinning disk without penetrating. When an arrow strikes the pyramid, it immediately slows or stops the target from spinning thereby causing the target to immediately drop to the ground since it is the rotary or spinning motion which maintains its flight.

It will be obvious to those skilled in the art that various changes may be made without departing from the scope of the invention and therefore the invention is not limited to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. A flying target comprising a planar base element, a circular flange extending perpendicularly from the peripheral edge of said planar base, a mounting portion in the center of said base element defining diametrically extending crossed slots having a center hole diameter of approximately the same dimension as the width of each of said crossed slots, and a multi-planar surface target element projecting from said base in a direction opposite said peripheral flange and through said crossed slots.

2. The target of claim 1 wherein said target element comprises a single card which has been folded to produce said multi-planar surface target element which extends through said diametrically extending slots.

3. The target of claim 2 wherein said single card is in the form of a square, said card provided with two score lines extending its diagonal length and crossing in the center of the square and two score lines extending the length of the sides of the square also crossing in the center of the square, the square being folded along its score lines to provide an eight sided pyramidal type structure.

4. The target of claim 3 wherein the pyramidal structure contains position retaining notches which interlock with the extreme portions of the crossed slots.

5. The structure of claim 1 wherein said planar base is scored adjacent said slots to provide frictional engaging lips adjacent said slots for frictionally engaging said planar surface target element.

6. A target comprising a ring, a separate flat disk attached to said ring, said disk containing diametrically extending intersecting slots across its center, the size of the center hole at the intersection of said slots being the same magnitude as the width of the slots and a one-piece pyramidal shaped target section projecting through said slots and engaging said disk along surfaces forming said slots.

7. A target as defined in claim 6 wherein the disk has a circular periphery and is equal in diameter to the distance across the ring and the ring projects perpendicularly from the disk in one direction.

8. A target as defined in claim 7 wherein said disk contains two intersecting slots and said pyramidal target section projecting through said slots has eight sides.

9. A flying target in accordance with claim 7 wherein said ring is formed of cardboard and has a rectangular cross-section.

10. A flying target in accordance with claim 9 wherein said cardboard is corrugated and said cross-section is a square of approximately one inch.

11. A flying target in accordance with claim 6 wherein said ring is formed of plastic and has a cross-section generally in the shape of a T and has projecting from an inwardly extending flange, a plurality of disk retaining pegs.

12. In a single package, a device adapted to be constructed into a flying target comprising a ring, a flat disk attached to said ring, said disk containing intersecting slots across its center, the center hole of the intersection of said slots being of the same magnitude as the width of each of the slots, and a flat card adapted to be folded into a pyramidal shape and inserted into the flat disk through the intersecting slots.

13. A single, flat card in the form of a square, said card being provided with two score lines extending its diagonal length and crossing in the center of the square and two score lines extending the length of the sides of the square also crossing in the center of the square, the card being adapted to be folded along the score lines to provide an eight sided pyramid and being adapted to be inserted into a flying target to provide a target element, said card being further provided with four L-shaped notches which extend through said card and lie adjacent each corner of said card along said diagonal score lines.

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