ARCHERY BOW WITH ARROW GUIDE MEANS IN HAND GRIP

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ABSTRACT

An archery bow having an arrow which has one end fixedly connected to a bow-string and a portion of the body of the arrow resting in a handgrip mounted on the bow. The handgrip has a passage therethrough that receives the bow and a passage spaced from the lateral face of the bow for receiving the arrow. The end of the arrow has a missile mounted thereon so that when the forward movement of the arrow is stopped suddenly by the bowstring the forward momentum of the missile will cause the missile to leave the arrow and travel through the air.

1 Claim, 7 Drawing Figures
ARCHERY BOW WITH ARROW GUIDE MEANS IN HAND GRIP

A primary object of the invention is to provide a safe archery game which can be used either indoors or outdoors without fear of damage to property or injury to persons.

As features worthy of note, we employ a captured arrow and a missile in the form of a shuttlecock having a suction cup associated therewith so that the shuttlecock will releasably adhere to a target or other surface.

We employ a combination grip and arrow guide for sureness of performance, economy of manufacture, and ease of assembly.

In the drawing:

FIG. 1 is a side elevational view of apparatus embodying a preferred form of the invention, and showing the shuttlecock immediately after leaving the arrow;

FIG. 2 is an end elevational view thereof as seen from the left of FIG. 1, with the shuttlecock omitted for clarity;

FIG. 3 is an end elevational view thereof as seen from the right of FIG. 1;

FIG. 4 is an enlarged end elevational view of the shuttlecock, as seen from the right of FIG. 1;

FIG. 5 is an enlarged end elevational view of the arrow tip as seen from the left of FIG. 1;

FIG. 6 is an enlarged, broken cross-sectional view taken through the shuttlecock, and arrow guide of the apparatus of the invention and showing the shuttlecock in ready-to-be-fired position on the arrow; and

FIG. 7 is a top plan view of the FIG. 6 structure.

The apparatus hereof generally includes a bow 10, a bowstring 12, a captive arrow 14, a grip 16, and a missile in the form of a shuttlecock 18.

Bow 10 is preferably, but not necessarily, fabricated from fiberglass and is in the form of a rod having chambered through holes therein, not shown, adjacent its opposite ends for the passage of the bowstring therethrough. End caps 20 are fitted on the opposite ends of the bow.

Arrow 14 is provided with a nock 22 sleeved thereon at one end thereof and a tip 24 sleeved thereon at the opposite end thereof, the nock being fixed thereto as by crimping or the like and the tip being fixed thereto as by a screw 26.

Bowstring 12 passes freely through an opening 28 which extends vertically through the arrow and nock whereby the arrow is captured relative to the string.

The arrow is provided with the usual trio of sighting feathers 30 adjacent the nock.

Shuttlecock 18 is preferably molded from a light-weight thermoplastic material and is provided with a rubber suction cup 32 at its forward or base end.

Arrow tip 24 is snugly but releasably receivable in central annular recess 34 provided in the base end of the shuttlecock as best seen in FIG. 6.

Grip 16 is centered on the bow and comprises a hand grip portion 36 having a vertically-disposed passage 38 therein through which the bow passes and an arrow guide portion 40 having a horizontally-disposed passage 42 therein through which the arrow passes. The grip may be anchored to the bow as by pushnuts or the like, not shown, if desired.

The arrow passes freely through passage 42 which tapers outwardly from front to rear to permit a limited degree of movement of the arrow for sighting purposes.

The apparatus hereof is used in the same manner as the ordinary bow and arrow. However, herein, the arrow is captured relative to the bowstring, with the shuttlecock being impelled toward a suitable target.

In use, after the shuttlecock is loaded on the end of the arrow, the hand grip portion is grasped with one hand while the arrow is drawn back with the other hand. When the arrow is released, it travels rapidly forwardly, with the shuttlecock being separated from the arrow and impelled forwardly when the arrow reaches the home or rest position.

The arrow is drawn and fired in the same manner as a conventional bow and arrow. After the arrow is fired, it stops after its full stroke and remains with the bow.

The shuttlecock continues the flight and lands where the arrow would normally land.

Because of the aerodynamic nature of the shuttlecock, its velocity slows down rapidly and is therefore only effective for a very short range. A standard shuttlecock is used for indoor play and a more streamlined projectile with a greater range because of less air resistance is used outdoors.

The suction cup on the end of the shuttlecock provides a safe means by which the shuttlecock adheres to a target or wall, while not inflicting damage or injury if it should accidently strike an unwanted target.

We claim:

1. A missile projecting system in a bow and arrow comprising, a resilient bow, a bowstring, an arrow captured at one of its ends on the bowstring, an integral hand grip mounted on the bow and forming an arrow guide and a passage for the bow to pass therethrough, said grip having an arrow guide which is spaced laterally from one side of the bow when the grip is mounted on the bow, and a missile releasably fixed to the free end of the arrow, the missile being a shuttlecock having a suction cup thereon.

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