April 5, 1960 R. B. RIKER 2,931,600

ACROBATIC KITE

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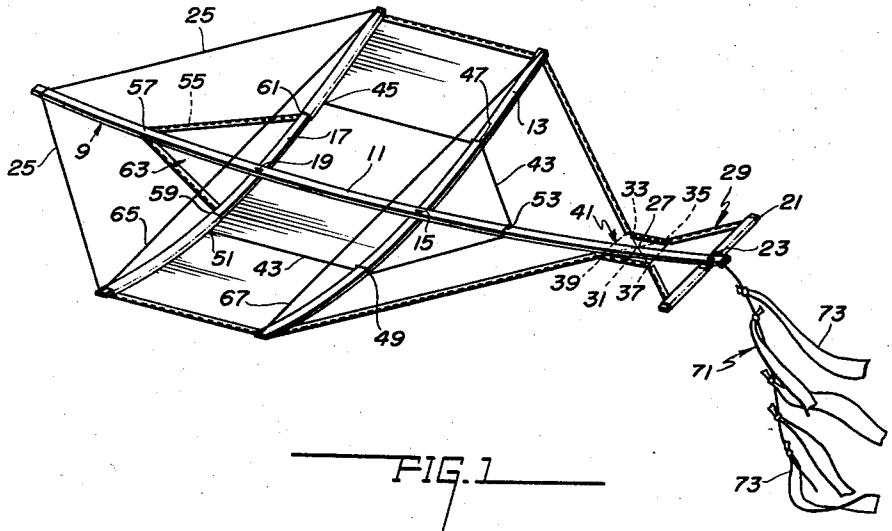


FIG. 1

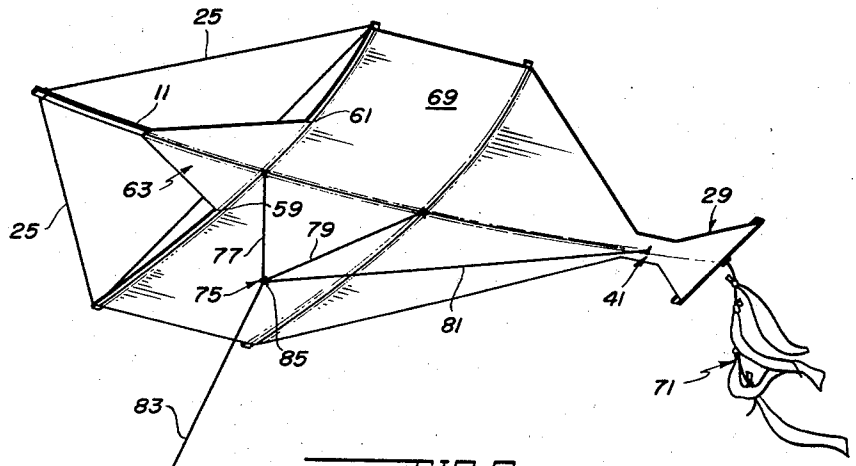


FIG. 2

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ACROBATIC KITE

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1 Claim. (Cl. 244—153)

This invention relates to improvements in an acrobatic kite and more particularly to a kite which is highly maneuverable by a simple manipulation of the kite string.

The primary object of this invention is to provide a kite which will climb, dive, or fly to one side or the other by the dexterous control of the operator.

Another object of this invention is to provide a kite with a nose projection and a fantail or stabilizer for improved airfoil efficiency.

A further object of this invention is the provision of a kite having a convex longitudinal frame member and two spaced convex transverse frame members for tightening the skin covering and for further strengthening the frame structure.

Other objects and features will in part be obvious and in part pointed out as the description of the invention proceeds, and shown in the accompanying drawing, wherein there is disclosed a preferred embodiment of my inventive concept.

In the drawings:

Figure 1 is a top perspective view of the acrobatic kite in flight;

Figure 2 is a front perspective view of the acrobatic kite in flight.

The principal structural features of a preferred form of the acrobatic kite are best illustrated in Figure 1 wherein the numeral 9 designates a frame having a longitudinal frame member or stay constructed of strong, lightweight, flexible wood or of plastic material which extends from the top to the bottom of the kite.

A first transverse stay or member 13 being approximately one-half the length of the longitudinal stay is secured to the intermediate section of the stay 11 by a staple or fastener 15. The second transverse stay or member 17 is substantially of the same construction and size as stay 13 and is secured to the longitudinal stay between the top portion of the kite and the stay 13 by a staple or fastener 19. The third transverse stay or member 21 having a length of approximately one-half of the members 13 and 17 is fastened to the bottom portion of the stay 11 by a staple 23.

A lightweight cord or wire 25 is connected to the outer or remote ends of the transverse stays and to the top portion of the longitudinal stay 11 in a conventional manner and functions to strengthen the frame structure of the kite. It should be observed that the ends of cord 25 cross at 27 and are secured to the opposite ends of transverse member 21 to form substantially a triangular tail border section 29.

A lightweight cord or wire 31 is secured to the cord 25 at 33, 35, 37 and 39, respectively, to form a rectangular section or portion 41.

An additional supporting cord or wire 43 is fastened to the transverse stays at 45, 47, 49 and 51 and to the longitudinal stay at 53.

The cord or wire 55 is secured to the longitudinal stay at 57 with each end fastened to the transverse stay 17 equally distant from the staple 19 at 59 and 61, respectively, to form a triangular nose portion 63.

The transverse cords 65 and 67 are connected to the outer ends of each transverse stay and are somewhat shorter than the respective transverse stays whereby the stays are bowed to give the front portion of the kite a convex shape.

Referring to Figure 2, the sail fabric or material 69 is preferably of strong paper or lightweight plastic material which covers approximately 60% of the frame and is secured to the transverse stay 17 by having the peripheral edge folded around the stay and glued or cemented thereto. The outer edges of the sail are folded inwardly around the cord 25 and cemented. I prefer to cement the sail to the transverse stay 13 to provide additional stability to the kite structure.

The nose or projection 63 is preferably covered with the same type of material which is secured to the cord 55 by folding the outer edges inwardly thereover and cementing.

The tail or stabilizer 29 is preferably covered with the same type of material which is secured to the cord 25 and transverse member 21 in the same manner previously described.

The connecting or rectangular section 41 is preferably covered with the same material and is secured to the cord 31 in the same manner as above described.

To provide a proper ballast, a suitable cord tail 71 approximately ten feet long having short strips 73 of cloth material tied at close intervals is preferably used.

A bridle cord 75 is attached to the face of the kite by securing a line 77 and 79 to the intersection of the transverse stays with the longitudinal stay and by securing line 81 to the intermediate portion of the connecting section 41. The kite control string 83 is, of course, tied to the bridle at 85.

In operation, the kite can be easily maneuvered in flight to create acrobatic stunts such as traveling to the right or left or can be made to dart from a high flying position toward the earth and then rise straight upward to substantially the former flying height by the simple manipulation of the kite string held by the operator.

It should be understood that various modifications and changes in the structural details of the kite may be made, within the scope of the appended claim, without departing from the spirit of the invention.

I claim:

An acrobatic kite comprising, in combination, a frame having a longitudinal stay, a first transverse stay disposed substantially intermediate the longitudinal stay, a second transverse stay disposed substantially intermediate the first transverse stay and the top of the longitudinal stay, said second transverse stay being substantially the same length as the first transverse stay, a third transverse stay disposed at the bottom of the longitudinal stay, said third transverse stay being substantially smaller in length than the first and second transverse stays, a first cord connected to and spaced inwardly with respect to the ends of the second transverse stay, said first cord connected to and spaced from the top of the longitudinal stay to form a triangular nose portion, a second cord connecting the ends of all transverse stays with the top end of the longitudinal stay, said second cord crossing between the first transverse stay and third transverse stay to form a stabilizer portion at the bottom end of the longitudinal stay, a sail attached to a portion of the frame and covering substantially the intermediate portion of said frame including the nose portion and the stabilizer portion, means including said cords bowing the first and second transverse stays and said longitudinal stay to form outwardly convex contours, a bridle connected to the frame, and a control string connected to the bridle.

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