

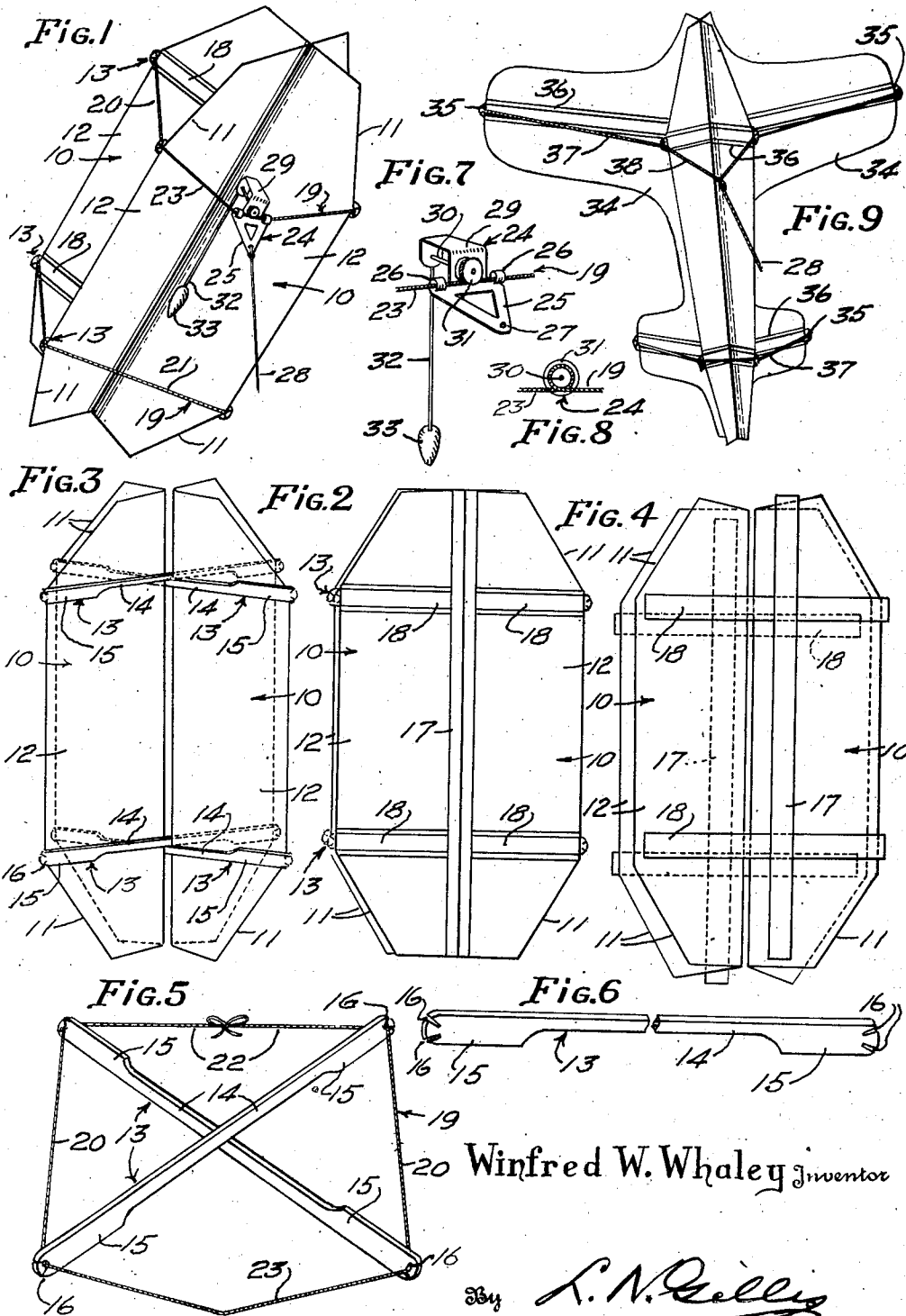
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TOY KITE

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TOY KITE

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5 Claims. (Cl. 244—153)

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This invention relates to toys and has special reference to toy kites.

One important object of the invention is to provide an improved general construction for toy kites.

A second important object of the invention is to provide a kite having four wings which are foldable to lie flat, one on another, the kite having improved means to hold the wings expanded in position for use.

A third important object of the invention is to provide a kite of this description with improved bracing means for the wings.

A fourth important object of the invention is to provide such a kite with novel means to automatically overcome lateral swinging and diving movements and to counteract such movements.

A fifth important object of the invention is to provide a novel bridle arrangement for attaching the cord used in flying the kite to the kite body.

With the above and other objects in view the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawing and particularly claimed.

In the accompanying drawing like characters of reference indicate like parts in the several views, and:

Figure 1 is a perspective view of the complete kite showing one form as it appears when flying.

Figure 2 is a view of the kite as it appears when the wings are in folded position for transport or packing.

Figure 3 is a perspective view showing the wings and stiffening braces as they appear before assembly.

Figure 4 is a perspective view showing the wings and other papers as they appear before assembly.

Figure 5 is a perspective view showing two of the braces removed from the other parts of the kite and also showing the run of the brace cord.

Figure 6 is an enlarged broken perspective view of one of the braces.

Figure 7 is an enlarged perspective view of the novel bridle arrangement used herein.

Figure 8 is a sectional detail showing the manner in which a segment of the brace cord is wound on a drum which forms part of the bridle arrangement.

Figure 9 is a perspective view showing a second form of the invention.

In the embodiment of the invention as shown in Figures 1 to 8 there is provided two pairs of wings made of paper or other like material. Each pair of wings is made from an elongated rectan-

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gular sheet 10 having its corners bevelled as at 11. Each sheet is folded along its longitudinal median line to present a pair of wings 12. With these pairs of wings two pairs of braces or stiffeners 13 are employed. Each of these braces has an elongated central portion or shank 14 and a pair of end portions or heads 15. The heads are about twice as wide as the shanks and the heads are in alignment and offset with respect to the shanks so that the center lines of each pair of heads are in alignment with one side of the respective shank. The braces are assembled in pairs with the sides of the shanks aligned with the center lines of the heads in contact. One end of each brace lies on one side of one pair of the wings while the other end of such brace lies on the opposite side of the other pair of wings. Also the ends of the heads project beyond the side edges of the wings. This arrangement is clearly shown in Figure 3. Each head 15 is provided with a pair of inwardly extending and converging slots 16 spaced equally from the center line of the respective head. This is an important feature of the kite since, by this construction the center lines of the four heads in a pair of the braces lie in the same plane, such plane being perpendicular to the longitudinal axis of the kite.

The two pairs of wings 10 are held together with their fold lines in contact by means of strips of paper or the like 17. Also similar strips 18 hold the braces in place on the wings.

For each pair of braces there is provided a brace cord 19 which is wound at intervals around the portions of the heads 15 between the slots 16 so that the brace ends cannot slip along the cord. Each of these cords has its windings so spaced as to have two parts of such lengths as will hold two of the wings at right angles to each other when these parts are drawn taut as at 20. At the rear or tail end of the kite the spacing of the windings is such as to provide a cord portion 21 which will also be taut when the kite is set up ready to fly. To set up the kite the ends 22 of each cord are brought together and tied as shown best in Figure 5. The cord at the front of the kite has a part 23 which is slightly slack when the kite is set up and this part 23 forms a bridle cord for the attachment of a bridle and the cord used for flying the kite. This part corresponds to the part 21 at the tail of the kite. With this arrangement of the braces and cords each cord lies in the same plane as the respective pair of braces to which it is attached and consequently there is no angular stress exerted by the cords tending to bias one wing with respect to another

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as would be the case were braces of the same cross section throughout being used since the ends of one such brace would necessarily be offset with respect to the ends of the other brace of the pair and the cord portions would necessarily run diagonally from one wing to the next. It is also to be noted that the elongated shanks 14 used in this kite for the braces offer an improvement over the usual notching used in many kite sticks and braces in that the use of these elongated shanks permits the wings to be folded substantially flat on one another. To accomplish such folding it is only necessary to untie the brace cord ends whereupon the braces may be swung about the longitudinal axis of the kite and the wings brought together as in Figure 2.

The automatically operating bridle is indicated in general at 24 in Figures 1, 7 and 8, certain reference characters being omitted from Figure 1 because of the small scale of that figure and to avoid confusion. This bridle is provided with a triangular body 25 having at its basal angles a pair of eyes 26 whereby it is slidably mounted on the bridle cord portion 19. At its remaining angle the body 25 is provided with a hole 27 for attachment of the cord 28 by which the kite is flown. A bracket 29 extends from the basal edge of the body 25 and supports a shaft 30 one end of which extends over the body 25 and carries a drum 31. The cord 19 is wound one or more times about this drum. The other end of the shaft is bent to provide a pendulum arm 32 carrying at its extremity a weight or bob 33. The arm, drum and cord are so arranged that swinging of the arm in one direction effects movement of the bridle along the cord in the opposite direction. The purpose of this arrangement is to correct any deviation from lateral balance of the kite. Thus, if the right side of the kite tilts downwardly the bridle will be automatically moved toward the left side of the kite and the pull of the kite string will be brought closer to the left effecting greater pull downwardly on the left side than on the right so as to bring the left side down until the pendulum is in normal neutral position. Similarly, if the left side moves downwardly the bridle will move toward the right and correction will be made.

The form of the invention shown in Figure 9 is substantially that previously described but this form has pairs of wings 34 shaped to simulate an air craft. These wings are provided with braces 35 held to the wings by the strips 36. Cords, as before, shown at 37 are used to hold the wings expanded and the forward cord has a bridle portion 38 to which the flying cord may be directly attached. Obviously, however, the cord 28 may be connected to the kite through the type of bridle shown in Figure 7.

What is claimed as new, is:

1. In a toy kite, a plurality of pairs of wings, each pair consisting of a sheet of suitable material folded on a longitudinal line, said pairs abutting along said fold lines, spaced sets of braces extending transversely of said wings and having ends projecting beyond the lateral edges thereof, each set of said braces consisting of a plurality of said braces each having its ends forming aligned heads and having an elongated and reduced shank of substantially one-half the width of the heads and offset to lie at one side of the center lines of said heads, each set of braces having the center lines of its heads in a common plane, and brace cords secured to the ends of each set of braces and

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extending around the kite from end to end of said set.

2. In a toy kite, a plurality of pairs of wings, each pair consisting of a sheet of suitable material folded on a longitudinal line, said pairs abutting along said fold lines, spaced sets of braces extending transversely of said wings and having ends projecting beyond the lateral edges thereof, each set of braces consisting of a plurality of said braces each having its ends forming aligned heads and having an elongated and reduced shank of substantially one half the width of the heads and offset to lie at one side of the center lines of said heads, each set of braces having the center lines of its heads in a common plane perpendicular to the longitudinal axis of the kite, and brace cords secured to the ends of each set of braces and extending around the kite from end to end of said set, the portions of the cords between the ends lying in the same plane as the center lines of said heads.

3. In a toy kite, a plurality of pairs of wings, each pair consisting of a sheet of suitable material folded on a longitudinal line, said pairs abutting along said fold lines, spaced sets of braces extending transversely of said wings and having ends projecting beyond the lateral edges thereof, each set of said braces consisting of a pair of said braces each having its ends forming aligned heads and having an elongated and reduced shank of substantially one-half the width of the heads and offset to lie at one side of the center lines of said heads, each set of braces having the center lines of its heads in a common plane perpendicular to the longitudinal axis of the kite, and brace cords secured to the ends of each pair of braces and extending around the kite from end to end of said pair, the portions of the cords between the ends lying in the same plane as the center lines of said heads, said heads each having a pair of converging slots extending inwardly from its end and the brace cords being held in said slots and wrapped around the portion of the brace between the slots.

4. In a toy kite, a plurality of pairs of wings, each pair consisting of a sheet of suitable material folded on a longitudinal line, said pairs abutting along said fold lines, spaced sets of braces extending transversely of said wings and having ends projecting beyond the lateral edges thereof, brace cords secured to the ends of each set of braces and extending around the kite from end to end of said set, one of said brace cords having a bridle portion extending transversely of the kite, and a bridle for attachment of a flying cord slidably mounted on said bridle portion and including means moving the bridle along the cord toward a respective side of the kite upon downward tilting of the opposite side of the kite.

5. In a toy kite, a plurality of pairs of wings, each pair consisting of a sheet of suitable material folded on a longitudinal line, said pairs abutting along said fold lines, spaced sets of braces extending transversely of said wings and having ends projecting beyond the lateral edges thereof, brace cords secured to the ends of each set of braces and extending around the kite from end to end of said set, one of said brace cords having a bridle portion extending transversely of the kite, and a bridle for attachment of a flying cord slidably mounted on said bridle portion and including means moving the bridle along the cord toward a respective side of the kite upon downward tilting movement of the opposite side of the kite, said means including a drum around which said bridle portion of the cord is wound with at least one

turn, a shaft on which said drum is fixed, and a pendulum fixed to said shaft and normally holding the drum central of said bridle portion.

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