Dec. 10, 1935. R. F. TALMADGE 2,023,939

AEROPLANE KITE

Filed May 8, 1934 2 Sheets-Sheet 1

Fig. 1.

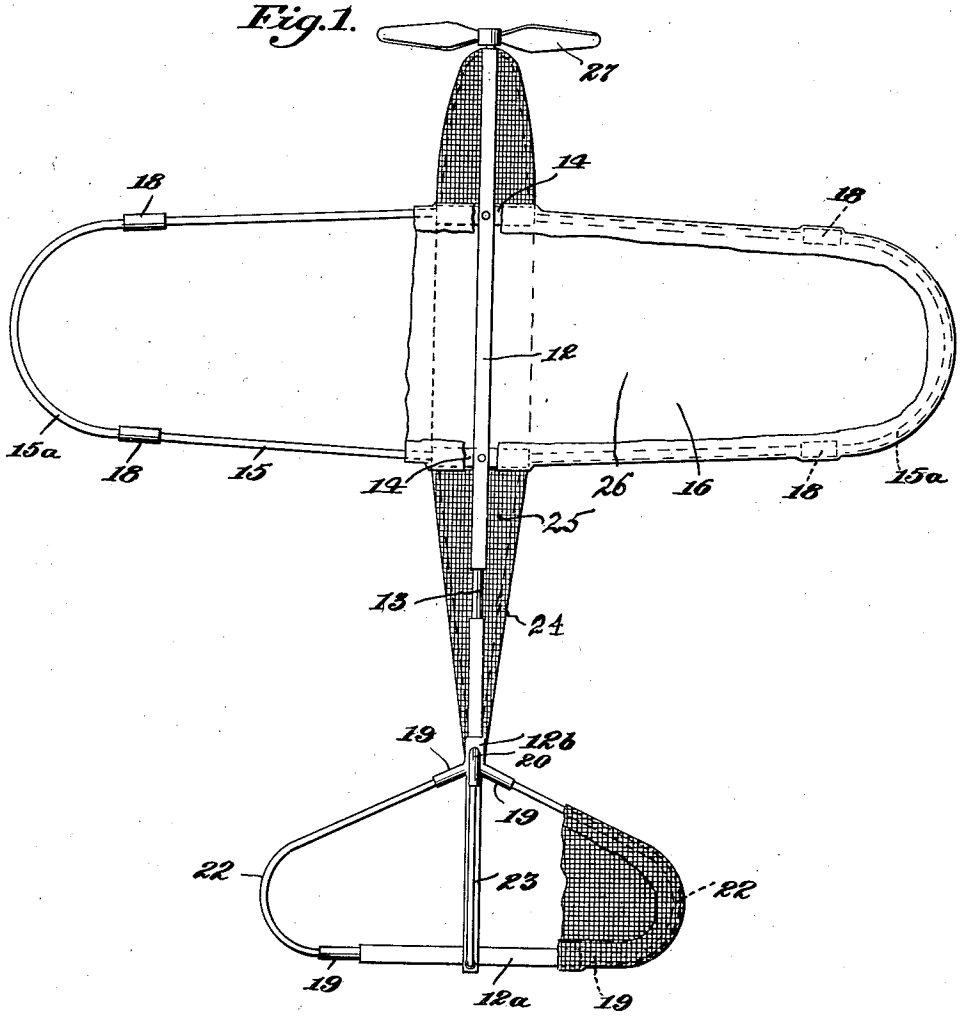


Fig. 2.

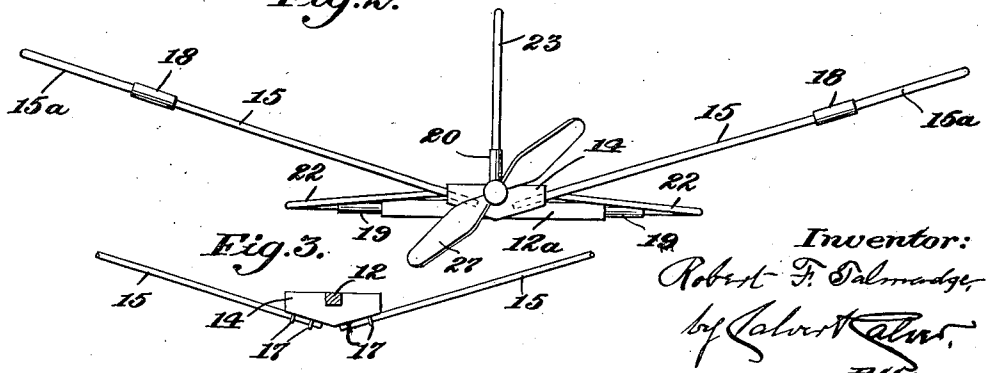


Fig. 3.

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AEROPLANE KITE

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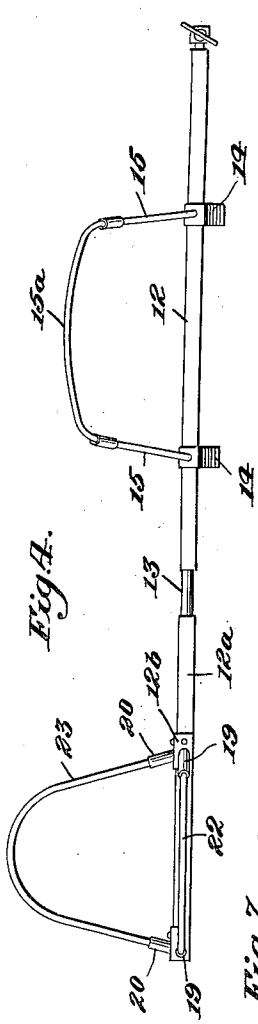


Fig. 4.

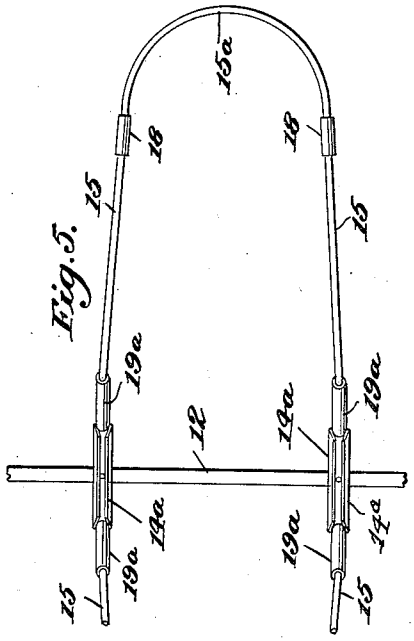


Fig. 5.

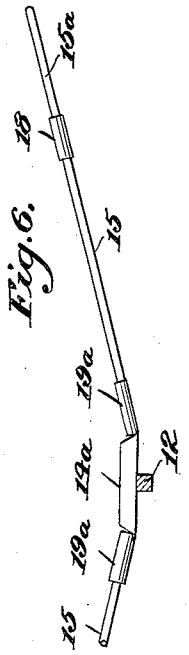


Fig. 6.

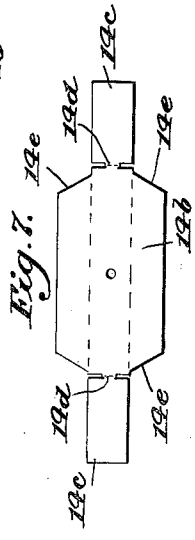


Fig. 7.

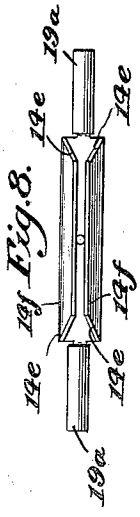


Fig. 8.

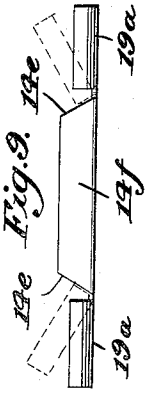


Fig. 9.

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UNITED STATES PATENT OFFICE

2,023,939

AEROPLANE KITE

Robert F. Talmadge, Springfield, N. J.

Application May 8, 1934, Serial No. 724,625

1 Claim. (Cl. 244—22)

This invention relates to toy aeroplane kites, or kites simulating aeroplanes, and has for its object to provide inexpensive toy kites, of the character just referred to, in knock-down form, so that the parts thereof may be sold in compact packages and so that some mechanical skill will be exercised by children or other persons in assembling the parts to build up the kites, thereby affording instructive amusement.

In the accompanying drawings Fig. 1 is a plan view of a partly assembled kite embodying the present invention. Fig. 2 is a fragmentary view of the same looking from the top of Fig. 1. Fig. 3 is a fragmentary view of a modified construction for detachably mounting the wings of the kite. Fig. 4 is a side view of the assembled frame work of the kite looking from the right of Fig. 1 with the wing and fin coverings omitted. Fig. 5 is a fragmentary view plan of a form of kite in which the wings may automatically adjust themselves according to varying wind forces. Fig. 6 is a side view of the same looking from the bottom of Fig. 5. Fig. 7 is a plan view of a metal blank from which the wing connections shown in Figs. 5 and 6 may be formed. Fig. 8 is a detail plan view and Fig. 9 a side view of one of the said wing connections after the blank has been bent into operative shape.

Referring to the drawings, 12 denotes a longitudinal bar preferably formed in two detachable parts joined together by a ferrule or tube 13. Attached to the bar 12 are two holders or blocks 14 to which frame parts 15 of the wings 16 are removably attached. In the construction shown more clearly in Fig. 2 this connection is effected by providing the blocks 14 with slanting holes or sockets in which the inner ends of the inner frame parts 15 are removably inserted. In the construction shown in Fig. 3 this removable attachment is effected by providing the slanting faces of the blocks 14 with staples 17 into the loops of which the ends of the frame parts 15 may be removably inserted. In either case it will be clear that the sockets, as indicated in Fig. 2, or the staple loops, as indicated in Fig. 3, provide holding socket means for the wing frame parts, and that the ferrules 19 constitute fin socket members; these two sets of socket members being fixed relative to the central longitudinal bar 12, 12a. In either form of the wing frame attachment to the longitudinal bar shown a fixed slanting or dihedral position of the wings is effected (see Figs. 2 and 3). This dihedral position of the wings is desirable as it tends to keep the wings steady when the kite is flying in a strong breeze. This is due to the fact that a tipping of the outer ends of the wings downward is counteracted by an increased air pressure on the lower surfaces of the downward wings, and this increased pressure serves to straighten the wings up.

The wings 16 preferably have rounded outer ends, as shown in Fig. 1. This rounded outer end construction may be effected by joining the outer ends of the inner frame parts 15 to curved outer or extension frame parts 15a by connecting ferrules or tubes 18 in which the ends of both inner frame parts are inserted.

The tail of the kite is constructed with horizontal fins and a vertical fin. This construction, in the form of the invention shown, is effected by attaching a cross-bar 12a to the rear end of the longitudinal bar 12, and also attaching a block 12b to the said bar 12, said cross bar 12a and block 12b having small metal horizontal socket tubes 19 and vertical socket tubes 20. The horizontal tubes 19 receive the ends of the fin frame parts 22, and the tubes 20 receive the ends of a fin frame part 23. These fin frames parts 22 and 23, particularly the latter, are preferably removably inserted in their respective tubes.

The fuselage of the kite comprises a framework 24 connected with the bar 12, and this frame work will preferably have a covering 25 of cheesecloth or other similar open-work fabric. This fuselage part, however, is for the purpose of simulating an aeroplane and is not essential for the successful flying of the kite. The wings 16 will preferably have coverings 26 of paper, as will also the vertical fin comprising the frame 23, while the horizontal fins, comprising the frame parts 22, will preferably have coverings of cheese cloth or similar fabric.

The frame parts 15a, 22 and 23 consist of flexible reeds which are normally straight but which can be easily bent to the shapes shown, and the frame parts 15 and 24 may also consist of these flexible reeds.

From the foregoing it will be understood that the frame of the aeroplane kite comprises certain detachable parts which can be readily assembled or taken apart, so as to be packed into a small space. The paper and cheese cloth coverings to be applied to the frame parts may be furnished with gummed edges which, when moistened, can be readily applied to the frame parts.

It has been found in practice that by using cheese cloth, or other similar loosely woven fabric, as coverings for the fuselage and the horizontal

tail fins, the kites will be much steadier when flying, with much less tendency to "nose dives" than when these parts have coverings of paper or other close material through which air cannot easily pass.

Instead of having the wings 16 in fixed dihedral position, as shown in Figs. 2 and 3, said wings may be mounted in such a manner as to be adjustable so that they may assume different positions relative to a horizontal plane, and such adjustment will preferably be automatic by having the wings flexibly connected with transverse holders 14a attached to the central bar 12. These holders may be formed from a blank piece of flexible spring sheet metal 14b shown in Fig. 7. This blank comprises end parts 14c having narrow connections 14d with the main central part 14b. The main part 14b of this blank has inclined end surfaces 14e. To make the complete holder the sides of the blank are bent upward to form flanges 14f and the end parts 14c are bent to form small tubes 19a into which reeds 15 may be removably inserted.

It has been found in practice that with a light wind the kite will rise best with the wings horizontal, but with a strong wind the kite will fly better, with less danger of nose diving, when the wings are in dihedral position. Thus when the kite is started to fly in a light wind with the wings horizontal, with the parts 19a of the holders 14a in the natural positions shown in full lines in Fig. 9, these parts 19a may, in a strong wind, assume the dihedral positions shown in Fig. 6 and in dotted lines in Fig. 9. In this operation the inclined ends 14e of the flanges 14f will serve as stops to limit the upward bending of the tubes 19a permitted by the flexible connections 14d of the said tubes 19a with the body of the holder 14a. These stops 14e will thus prevent the wings 16 from lifting beyond certain desired positions.

The aeroplane kite will preferably be provided with a propeller 27, to make it appear more realistic, and as this propeller will be driven by the wind when the kite is held stationary in the air by the flying cord it may, if desired, be utilized to operate a syren or other sound-producing device simulating the sound of a real aeroplane in flight.

Having thus described my invention, I claim and desire to secure by Letters Patent:

A knockdown aeroplane kite frame comprising a main longitudinal bar provided with fixed wing and tail fin socket means, inner wing frame parts having inner ends shaped to fit said wing socket means, tail fin parts fitting said tail fin socket means, said inner wing frame parts having socket means at their outer ends, and flexible outer or extension wing frame parts fitting said last-named socket means and connecting said inner wing frame parts.

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