S. J. CONYNE.

KITE.

APPLICATION FILED AUG. 10, 1908.

1,005,810. **Patented Oct. 17, 1911.**

2 SHEETS—SHEET 1.

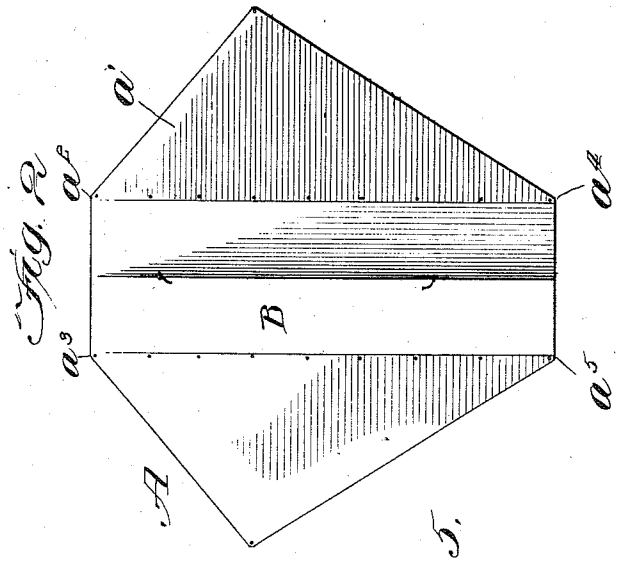

Fig. 2.

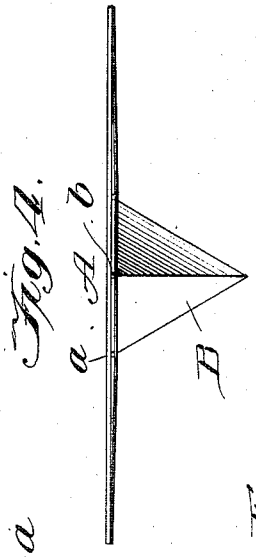

Fig. 4.

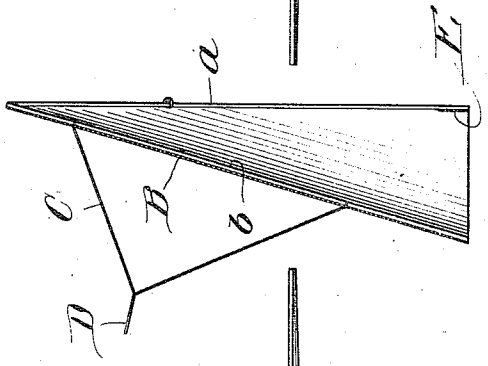

Fig. 5.

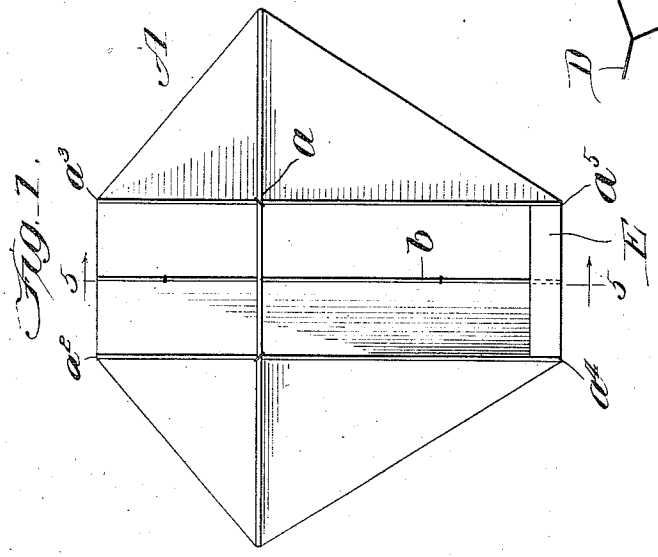

Fig. 1.

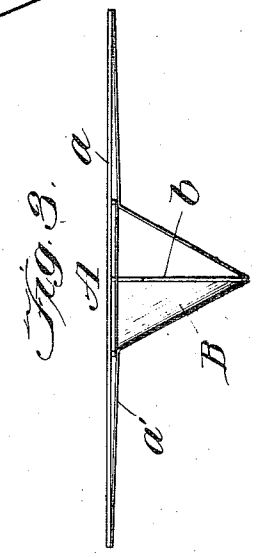

Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 8.

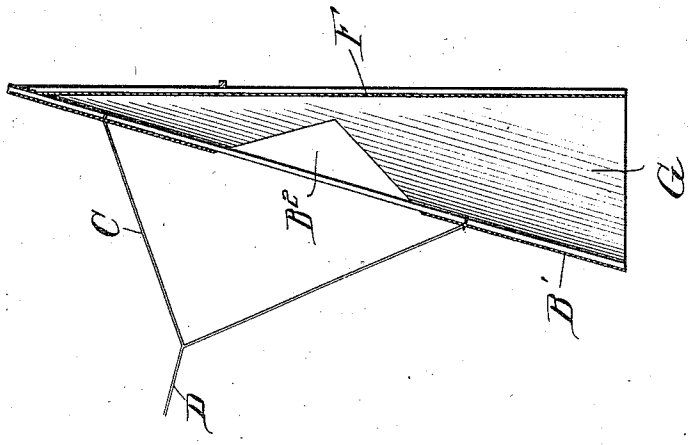


Fig. 6.

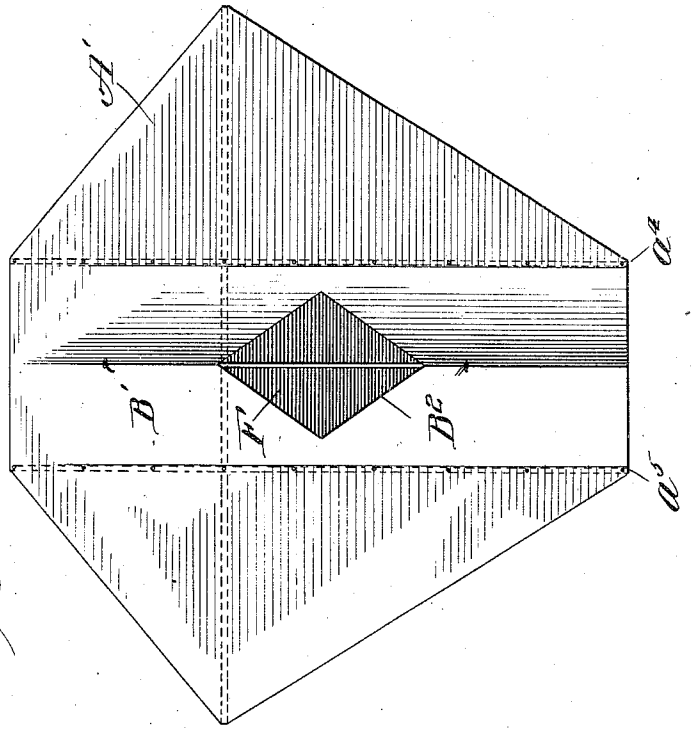
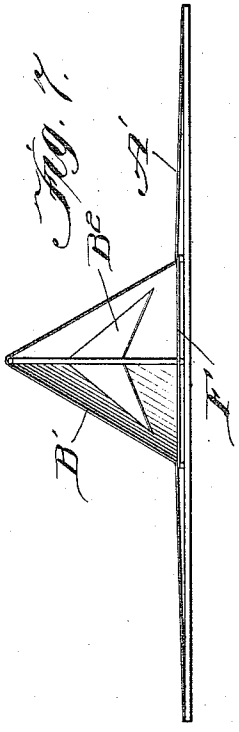


Fig. 7.



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UNITED STATES PATENT OFFICE.

SILAS J. CONYNE, OF CHICAGO, ILLINOIS.

KITE.

1,005,810. Specification of Letters Patent. Patented Oct. 17, 1911.

Application filed August 10, 1908. Serial No. 447,813.

To all whom it may concern:

Be it known that I, SILAS J. CONYNE, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Kites, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object to produce a kite which combines lightness with great lifting power.

A further object of my invention is to provide means for effectively balancing a kite without materially increasing the weight of the kite above the weight of the parts which exert the lifting power.

A further object of my invention is to produce a kite which shall be simple in construction, cheap, durable, and efficient in operation.

The various features of novelty whereby my invention is characterized will be hereinafter pointed out with particularity in the claims; but for a full understanding of my invention and of its various objects and advantages, reference is to be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a rear elevation of a kite arranged in accordance with one form of my invention; Fig. 2 is a front elevation of the same; Fig. 3 is a bottom plan view; Fig. 4 is a top plan view; Fig. 5 is a section taken on line 5—5 of Fig. 1; Fig. 6 is a front elevation of a second form of my invention; Fig. 7 is a bottom plan view of the device shown in Fig. 6; and Fig. 8 is a section taken on a plane passing through the longitudinal center of Fig. 6.

Referring to the drawings, and especially to Figs. 1 to 5, A is a kite, B is a keel extending along the longitudinal center of the member A, and C is a bridle connected at its ends to the keel and at an intermediate point to a captive line D. The keel is preferably of a peculiar construction, decreasing gradually from the lower end where it takes the form of a V-shaped projection to a vanishing point at the top of the kite. In other words, at the top of the kite there is little or nothing of the nature of a keel while, as the lower end is approached, a keel of gradually increasing proportions rises from the front of the kite. By this arrangement the kite is guided in its travel and a powerful influence is exerted to maintain its longitudinal axis in a vertical plane. The keel need not, of course, extend throughout the entire length or height of the kite, nor need it be triangular in cross-section. Such an arrangement is, however, a convenient and natural one where the simple and inexpensive mode of construction of the apparatus which I have illustrated is adopted.

In the apparatus as illustrated there is a suitable frame a of the requisite strength and lightness, a keel backbone b, and a cover a'. The cover is stretched across the frame so as to be moderately taut except throughout a longitudinal central panel, the portion forming this panel being preferably moderately taut at the top and becoming looser and looser toward the bottom until, at the bottom, a degree of looseness is attained which permits the cover to be bellied out to a considerable extent. The corners of the panel are indicated by a^2, a^3, a^4, and a^5, respectively. The keel backbone lies upon the longitudinal center of the central panel and is preferably secured thereto. By taking hold of the backbone it may be moved in a plane passing through the center of the kite and at right angles thereto until the central portion of the cover is drawn into a tautridge which decreases gradually from the lower end toward the upper end. This ridge forms the keel. It will be seen that the ridge-like keel may be produced and maintained automatically in the act of flying the kite by simply fastening the bridle to the backbone of the keel. When the kite is not being flown the keel collapses and leaves the device flat and capable of being entirely collapsed in any suitable manner.

It will then be seen that a prominent and highly effective keel is provided without adding more weight to the kite than is due to the slightly increased amount of covering material necessitated by the fullness of the central panel. Moreover the entire cover may be applied as a single piece, if desired, making production of the apparatus simple and inexpensive. I prefer to cut the cover in a single piece so shaped that when it is

secured at the corners of the frame, the two side portions will be stretched tightly while the central panel is left loose as previously described. If desired the cover may be fastened to the two frame members extending from a^2 to a^4 and from a^3 to a^5, respectively, since the keel will thereby be more sharply defined.

The frame is preferably so formed that it affords anchoring points at a^4 and a^5 respectively, and also so as to permit the cover to be secured in place along lines connecting the corner a^2 with the corner a^4 and the corner a^3 with the corner a^5. The keel may thereby be sharply defined. A tie member E is preferably arranged between the corners a^4 and a^5 so as to prevent them from spreading and permitting the keel to flatten out under the strain to which it is subjected during the flying of the kite.

In Figs. 6 to 8 I have shown a slight modification. The aeroplane A′ and the keel B′ are the same as in the other form except that a strip F is placed upon the member A′ in rear of the keel so that the kite viewed from the rear presents a continuous plane surface. This forms a pocket G within the keel and, as this pocket might catch the wind and cause the kite to get beyond the control of the operator, I form an outlet B^2 in the keel at a point between the ends thereof.

While I have described in detail only those forms of my invention which I now deem to be the most practical, I do not desire to be limited to these specific forms since, in its broader aspects, my invention may take various other forms as will be evident from the terms employed in the definitions of my invention constituting the appended claims.

Having now fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A kite comprising an aeroplane and a keel extending longitudinally thereof, the keel increasing gradually in height and in width from the upper end of the aeroplane to the lower end thereof, and a bridle connected to the keel along the center line thereof.

2. A kite comprising an aeroplane and a keel extending longitudinally thereof, said keel having a triangular cross section at the lower end of the aeroplane and decreasing gradually in width and in height until it vanishes adjacent to the upper end of the aeroplane, and a bridle connected to the keel along the center line thereof.

3. A kite comprising a frame, a cover secured to said frame so as to leave a central portion increasing gradually in looseness from the top toward the bottom, and a bridle arranged upon said central portion at the longitudinal center line thereof.

4. A kite comprising a frame, a cover secured to said frame so as to leave a central portion increasing gradually in looseness from the top toward the bottom, a stiffening rib extending down the center of said central portion, and a bridle secured to said rib.

5. A kite comprising a frame, a cover secured to said frame so as to leave a central portion which at the top lies substantially taut in the plane of the main portion and increases gradually in looseness toward the bottom, and a bridle secured to said central portion at the longitudinal center line thereof.

6. A kite comprising a frame, a cover secured to said frame so as to leave a central portion which at the top lies substantially taut in the plane of the main portion and increases gradually in looseness toward the bottom, a stiffening rib extending along the longitudinal center of said central portion, and a bridle secured to said rib.

7. A kite comprising a frame, a cover secured to said frame so as to leave a central portion which at the top lies substantially taut in the plane of the main portion and increases gradually in looseness toward the bottom, a bridle secured to said central portion at the longitudinal center line thereof, and a tie member extending across the lower end of said central portion, said tie member being shorter than the width of said central portion at that point.

8. A kite comprising a flat body member and a hollow keel extending longitudinally thereof, said keel increasing gradually in size from a vanishing point at the top of the body toward the bottom, and being open at the bottom, and having an opening through the front face between the ends thereof.

9. In a kite, a frame comprising two parallel members and a cross member, a sheet secured to the ends of said members so as to form taut portions outside of said two parallel members and a portion extending between said parallel members and increasing gradually in looseness from the top toward the bottom, and a fourth frame member lying between and parallel with said two parallel members and secured to the loose portion of said sheet.

10. In a kite, a frame having at least six corners four of which form the corners of a rectangle and the other two corners lying on opposite sides of the rectangle, a cover secured to said corners so as to leave the portion overlying said rectangle of gradually increasing looseness from one end toward the other and the portions outside of the rectangle taut, a stiffening member extending lengthwise of and secured to said loose portion at the center thereof, and a bridle connected to said stiffening member.

11. In a kite, a frame having at least six corners, a cover secured to the frame at said

corners so as to leave a central portion which extends over the area bounded by four of the corners of gradually increasing looseness from one end toward the other, and the portions outside of said area taut, and a bridle connected to said loose portion along the longitudinal center thereof.

In testimony whereof, I sign this specification in the presence of two witnesses.

SILAS J. CONYNE.

Witnesses:
WM. F. FREUDENREICH,
HARRY S. GAITHER.