F. E. JACKSON.

KITE.

APPLICATION FILED AUG. 23, 1907.

919,436. Patented Apr. 27, 1909.

Fig. 1.

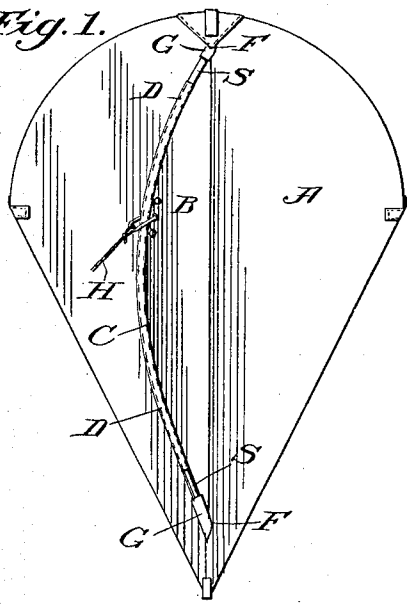


Fig. 2.

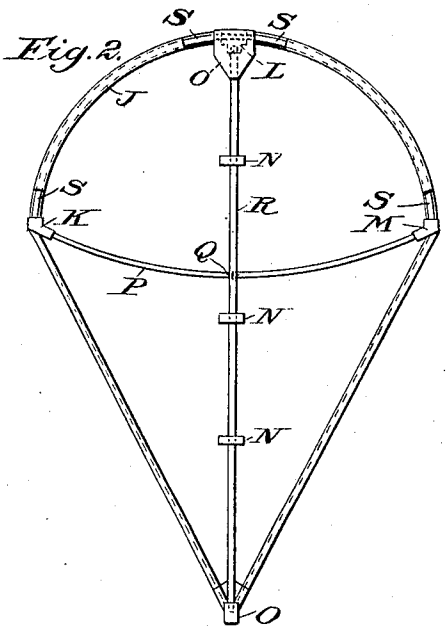


Fig. 3.

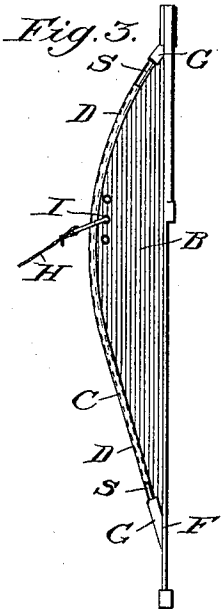


Fig. 4.

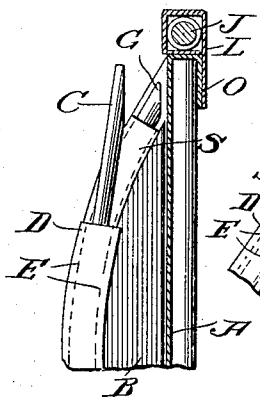
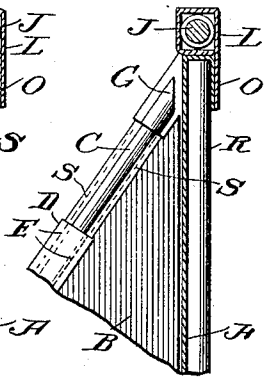


Fig. 5.



Witnesses:

Henry Cockburn.

Harold Vardy.

Inventor:

Frank Ernest Jackson.

NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK ERNEST JACKSON, OF MINAS DE RIO TINTO, SPAIN.

KITE.

No. 919,436. Specification of Letters Patent. Patented April 27, 1909.

Application filed August 23, 1907. Serial No. 389,906.

To all whom it may concern:

Be it known that I, FRANK ERNEST JACKSON, a subject of the King of Great Britain and Ireland, and a resident of 4 San Dionisio, Minas de Rio Tinto, Provincia de Huelva, Spain, formerly of 9 South Terrace, Redcar, in the county of York, England, have invented certain new and useful Improvements in Kites, of which the following is a specification.

The invention has for its object improvements on the ordinary and tail-less kites and with the aid of the improvements producing a reliable steady flying kite which requires no tail when in flight.

The annexed sheet of drawings illustrate my invention and show the means by which it is carried into effect.

Figure 1, front elevation of a kite showing the improved forepart or rudder, attached to the face of the kite. Fig. 2, back elevation of a kite showing the upright or standard, the cross stay bent downward, and curved upper cane fixed in loops and pockets. Fig. 3, side view of the kite showing the forepart projecting from the face of the kite and fixed ready for flying. Fig. 4, side sectional elevation, enlarged, showing top or bottom portion of the forepart of the kite loosened ready for folding. Fig. 5, showing same portion of the forepart fixed in loop and pockets and tightened ready for flying.

The improvement in the flight of the kite is effected by the before mentioned combination of parts as shown in the drawings and hereafter described.

The rudder, B, is made of the same material as the body portion of the kite A, either fabric or paper or the like, and the said material forming the rudder is stretched tight, or nearly so, before the kite is flown, and is held in such tight manner by the insertion of cane, C, wire, or other bendable wood or metal or other like flexible material; the said cane or the like being secured to the outer edge D, D, of the material of which the rudder is formed by a continuous loop E or a number of smaller loops attached to the hem around the outer edge of the rudder. The said loop E, can be made by turning the raw and outer edge of the fabric or paper inward and sewing, or pasting, the outer hem, or the like, of sufficient width to act as a loop to receive the cane C; or for greater strength the loop can be formed by sewing or pasting another strip of the fabric or paper (cut to the required shape) around the outer edge of the rudder B.

The cane C, or the like, is placed through the loop E around the outer edge D, D, of the rudder B, and the ends of the cane are sprung into the pockets G, G, near the top and bottom of the front of the kite, and fit against or nearly against, the standard, or center stick, of the kite, at points F, F; the pockets G, G, and the position of the ends of the cane placed therein, are arranged to be sufficiently free to allow the rudder to move to and fro laterally in the air when the kite is flying. The cane C, or other bendable material, around the outer edge of the rudder is made preferably in one piece, but can be made up with several pieces secured at the joints with ferrules, or the like, but made collapsible to enable the rudder to be folded into a small compass.

The shape of the rudder B, is formed by two straight lines, or tangents, connected by a curve near the center of the body of the kite, but same can be varied in shape in the form of a bow, or elliptic curve, and one or more holes may be cut in the fabric or paper forming the rudder B if desired, but such is not preferable. The space S, S, between the end of the loop E and the pocket G at the top and bottom of the rudder enables the cane to be handled, and easily fixed in position for flying, or loosened for folding as shown in Figs. 4 and 5.

The string, or kite line *h*, is fastened to the rudder near its outer edge by means of an eyelet, or eyelets and ring as shown at I; the position of the string may be varied slightly to give the desired inclination of angle to the kite when flying under different conditions and strength of the wind.

The rudder B as described can be made in different sizes and sewed, or pasted, or otherwise attached, to the center of the face or front of kites of different shapes and sizes, and the said rudder is particularly applicable to the triangular shaped kite as well as the curved balloon shaped kite.

In the body of the balloon or pear shaped kite as shown in Fig. 2, I insert cane, or the like in one or more pieces on the outer edge of the material of which the body of the kite

is made around the upper semi-circular or segmental portion of the kite, as shown at J, Fig. 2, the cane being held in position by loops as hereinbefore described and shown at E, Fig. 4, and the said cane is sprung into linen pockets, or light metal shoes, at points K, L, M, Fig. 2 of the upper curved portion of the kite, or pockets at K and M and reinforced loop at L if cane J is made in one piece, and if more than two pieces of cane are used to form the said curve the ends of the cane can be connected at the joints with tin or other metal ferrules, or the like.

The standard of the kite R, which is made of light wood or cane with the central portion cut out for lightness if desired, is passed through loops N, N, N, and is sprung into pockets O, O, at the top and bottom of the kite. The cross stay of the kite P, is made of the same material as the standard and is sprung into two slanting side pockets K, M, and then bent downward in the form of a bow and secured at its center to the standard by means of a thumb screw, staple or other attachment as shown at *q*, Fig. 2, and this position of the cross standard causes the kite to be free from top heaviness when in flight.

These kites if made large in size are useful for scientific and commercial purposes.

Having now particularly described and designated the nature of my said invention, and in what manner the same is to be carried out I declare that what I claim is—

1. The combination with a kite body of a collapsible rudder attached to the center of the front of the kite and having a bent cane or the like secured in, or to, its outer edge so as to stretch the material of the rudder, the edge of the rudder being curved inward to the face of the kite and the ends of the cane removably secured to the kite standard, substantially as hereinbefore described and shown.

2. The combination with a kite body of a collapsible bent cane secured in its upper curved outer edge to stretch the material of the kite, the ends of the cane being removably secured to the outer ends of the horizontal cross stay, substantially as hereinbefore described and shown.

3. In a kite, the combination with the vertical standard and fabric thereof, of a removable horizontal cross stay bent downward in the form of a bow and secured at its center to the standard and below the widest part of the kite vertically, substantially as hereinbefore described and shown.

Signed by me at West Hartlepool this date 13th August 1907.

FRANK ERNEST JACKSON.

Witnesses:

JOHN W. WALTON,

GEO. SMITH.