

No. 671,865.

Patented Apr. 9, 1901.

W. E. MOWRER.  
KITE.

(Application filed Oct. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

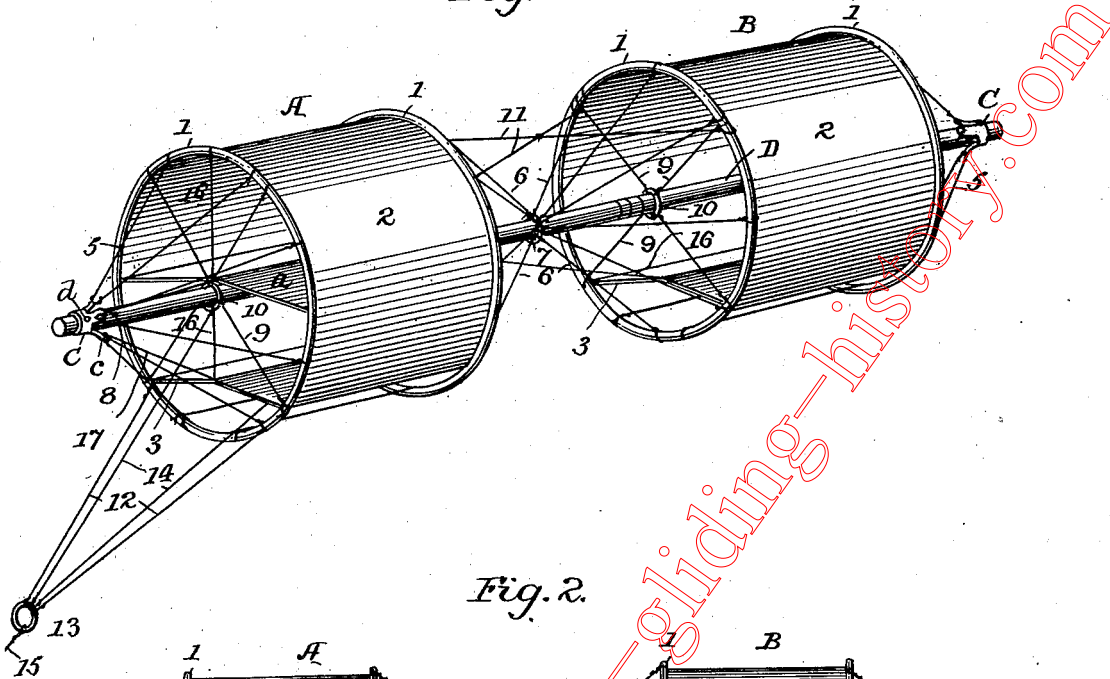


Fig. 2.

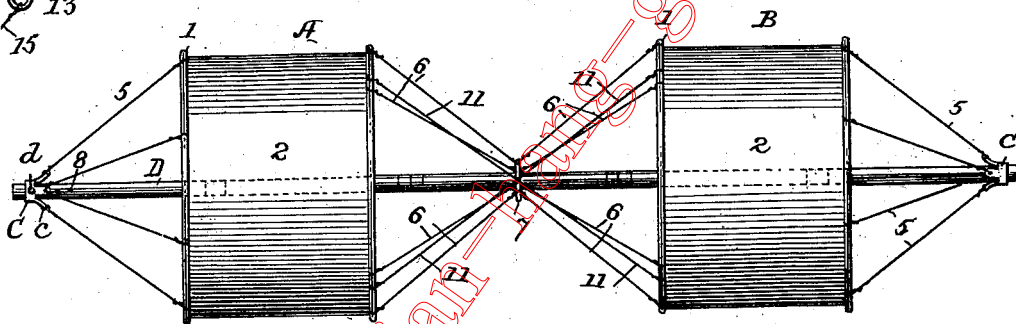
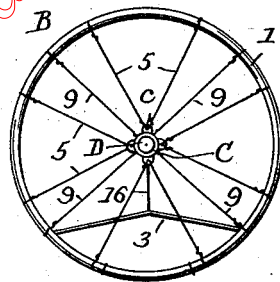


Fig. 3.



Witnesses  
*J. H. H. H.*  
*H. G. G. G.*

Inventor  
*William E. Mower*

By *John Freeman* Attorneys

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2 Sheets—Sheet 2.

Fig. 4.

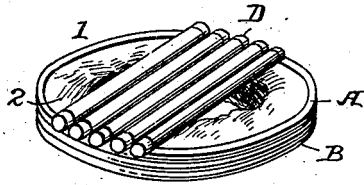


Fig. 5.

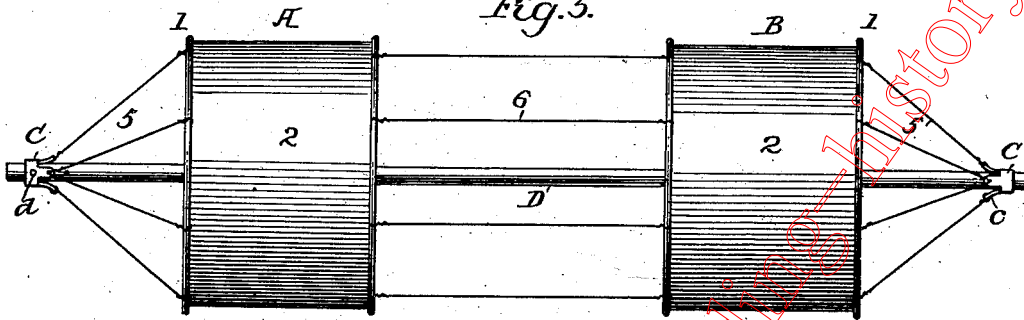


Fig. 6.

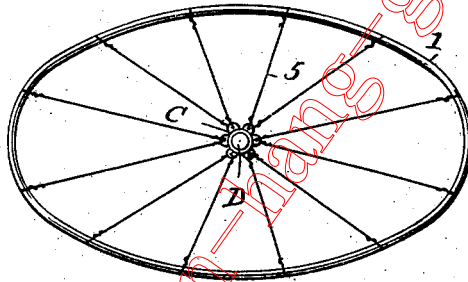
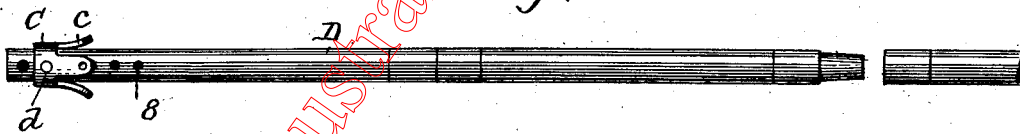


Fig. 7.



Witnesses

*J. H. ...*  
*H. L. ...*

Inventor

*William E. Mower*

By

*Foster Sherman* Attorneys

# UNITED STATES PATENT OFFICE.

WILLIAM E. MOWRER, OF CLARINDA, IOWA.

## KITE.

SPECIFICATION forming part of Letters Patent No. 671,865, dated April 9, 1901.

Application filed October 5, 1900. Serial No. 32,153. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. MOWRER, a citizen of the United States, residing at Clarinda, in the county of Page and State of Iowa, have invented certain new and useful Improvements in Kites, of which the following is a specification.

This invention relates to kites, its object being to provide a folding kite which may easily be put together or taken apart and which in its folded condition will occupy very little space and may be easily transported.

It is a further object of my invention to construct a kite which shall combine strength with lightness and which in every part of the structure will evenly share the resistance or strain to which the kite may be subjected.

The invention will be fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a kite embodying my invention in its preferred form. Fig. 2 is a plan view of the kite. Fig. 3 is an end view of the rear section of the kite. Fig. 4 is a view showing the kite in its folded or collapsed condition. Fig. 5 is a plan view showing a modified form of construction. Fig. 6 is an end view showing a still further modification, and Fig. 7 is a view showing details of the stretching-pole and collar.

Referring to Figs. 1, 2, and 3, it will be seen that the kite is composed of two sections, the forward one being indicated by A and the rear one by B. Each section consists of two rings or hoops 1, to which is attached a covering 2, of canvas or other suitable flexible material, to form two open-ended tubular bodies. The edges of the covering may be secured to the hoops by stitching or rings, as preferred. As shown, the two tubular bodies are not truly cylindrical, but have a flattened lower portion 3, or, in other words, the covering is secured to the hoops or rings somewhat more than three-fourths of their circumference.

In the forward section A there is also an interior diaphragm or partition *a*, of canvas or other suitable flexible material, extending across the interior substantially centrally of

the hoops. The object of this diaphragm is to afford an additional surface area upon which the currents of air will act and so increase the tendency of the kite to rise.

C indicates a collar which is provided with a series of radiating arms *c*, and from these arms *c* a series of cords or other flexible connections 5 extend to the outer hoop or ring of each section, there being one collar at each end of the kite. The opposing ends of the two sections are connected together by a series of cords or other flexible connections 6, which converge and are secured to a ring 7 in such manner that when the two sections are stretched apart said ring will be in the axial center of the two sections.

D indicates a pole or rod which will preferably be made in sections adapted to be fitted together to make a continuous rod. As shown in the drawings, the sections are provided with the ordinary fishing-rod joint; but any other means for detachably connecting the sections together may be adopted, if preferred. This rod is designed to fit in the collars C at each end and to extend through the ring 7.

Any suitable means for connecting the collars to the rod may be employed, and I have illustrated a pin *d*, adapted to extend through the collars and the rod and so secure them together. One end of the rod will preferably be provided with a series of holes 8 in order that the connection between the rod and collars may be adjustable, this being necessary to vary the tautness of the kite as conditions may require.

Preferably each ring or hoop 1 will be provided with a series of braces 9, extending to a central ring 10, and these braces may be wire, cord, or rigid rods, as preferred. The rings 10 will surround the rod when the kite is in condition for use. Preferably, also, there will be two diagonal braces (indicated by 11) connecting the opposing ends of the two sections.

Cords or other flexible connections 12 will lead from the lower portion of the front hoop of the section A and be connected to a ring 13, and other cords or flexible connections 14

will also preferably be connected to the ring 13 and to the forward portion of the rod D at different points, as indicated in Fig. 1. The usual controlling-cord 15 will be connected to the ring 13.

In order to maintain the flattened portion of the cover in position, the edges of said cover will be connected by a suitable flexible connection 16 to each of the rings 10, and other connections (indicated by 17) may extend from the outer edges of said flattened portion to the collars C and from the inner edges to the ring 7.

From the foregoing description it will be evident that when the rod D is passed through the rings 10 and 7 and secured at one end in one of the collars C the other collar may be adjusted in position to stretch the kite to any desired degree of tautness, and that when so stretched the longitudinally-extending flexible connections will also be stretched taut, and all the parts of the kite will be thoroughly braced, and that every part of the structure will share evenly any strain or resistance to which the kite may be subjected.

Referring to Fig. 5, it will be observed that the flexible connections 6 extend in a direct straight line between the opposing ends of the two sections, instead of being diverted diagonally and connected to the ring 7.

In Fig. 6 instead of having the hoops 1 cylindrical I have shown them elliptical in form, and the canvas cover is secured to the hoops entirely around their periphery, so that the flattened portion 3, which is shown in Figs. 1 and 3, is omitted.

In order to fold the kite, it is only necessary to withdraw the pins *d* from the collars C and the rod D, when the latter may be withdrawn from the kite, and the two sections A and B can then be folded in a flat position, the flexible covering permitting this, and the flexible connections will fold down and lie within the hoops. The sections of the rod can also be taken apart and secured on top of the folded sections A and B. The sections of the rod will preferably be of substantially the same length as the diameter of the hoops or rings 1, and it is evident that when in this condition the kite will occupy a comparatively small space.

While I have thus specifically described the preferred form or embodiment of my invention, it is evident that I am not limited to the precise details shown nor to the exact arrangement of the tubular bodies, and while I have shown a kite embodying two such tubular bodies it is evident that I may use any desired number and that they may be arranged end to end, or otherwise, as well as varied in size and shape, so long as they embody the general principles of my invention.

Without limiting myself to the precise details of construction illustrated and described, I claim—

1. In a collapsible kite, a tubular body formed of two end rings or hoops and a flexible covering secured to said hoops, combined with a central rod projecting beyond the ends of the body, and connections between the ends of the body and projecting portions of the rod, substantially as set forth. 70

2. In a collapsible kite, a tubular body formed of two rings or hoops, a flexible covering secured to the said hoops, and a flexible diaphragm or partition in the interior of the tubular body, substantially as set forth. 75

3. In a collapsible kite, a tubular body formed of end rings or hoops and a flexible covering secured to said hoops, combined with a central rod projecting beyond the ends of the body, connections between the ends of the body and projecting portions of the rod, rings fitted on the rod and radial braces extending from said rings to the ends of the body, substantially as set forth. 80 85

4. In a kite, the combination of two open-ended independently-collapsible tubular bodies arranged one in advance of the other with a space between them, a rod extending centrally through the said bodies, means for connecting the opposing ends of the tubular bodies, and means for detachably connecting the outer ends of the tubular bodies to the rod to hold the bodies in stretched condition, substantially as set forth. 90 95

5. In a kite, the combination of two open-ended tubular bodies arranged one in advance of the other with a space between them, a rod extending centrally through the said bodies, flexible connections between the opposing ends of the tubular bodies, collars on the ends of the rod, flexible connections between the respective collars and the outer ends of said tubular bodies, and means to secure the collars to the rod, one of said securing means being adjustable, substantially as set forth. 100 105

6. In a kite, the combination of two independently-collapsible tubular bodies arranged one in advance of the other with a space between them, flexible connections between the opposing ends of said bodies, a central rod, and means to detachably and adjustably connect the outer ends of the tubular bodies to said rod and hold the two bodies in a taut extended condition, substantially as set forth. 110 115

7. In a collapsible kite, the combination of two flexible independently-collapsible tubular bodies arranged one in advance of the other with a space between them, a central rod formed of separable sections, flexible connections between the opposing ends of the tubular bodies, and flexible connections between the outer ends of the tubular bodies and the rod, said latter connections being detachably secured to the rod and one of them being adjustable, substantially as set forth. 120 125

8. In a collapsible kite, the combination of 130

two flexible tubular bodies arranged one in  
advance of the other with a space between  
them, an interior flexible partition in the for-  
ward section, a central rod formed of separa-  
5 ble sections, flexible connections between the  
opposing ends of the tubular bodies, flexible  
connections between the outer ends of the  
tubular bodies and the rod, said latter con-  
nections being detachably connected to the  
10 rod, and flexible connections between the

edges of the partition and the rod, substan-  
tially as set forth.

In testimony whereof I have signed my  
name to this specification in the presence of  
two subscribing witnesses.

WILLIAM E. MOWRER.

Witnesses:

JACOB BUTLER,  
D. C. KIBBLE.

[www.australian-hang-gliding-history.com](http://www.australian-hang-gliding-history.com)