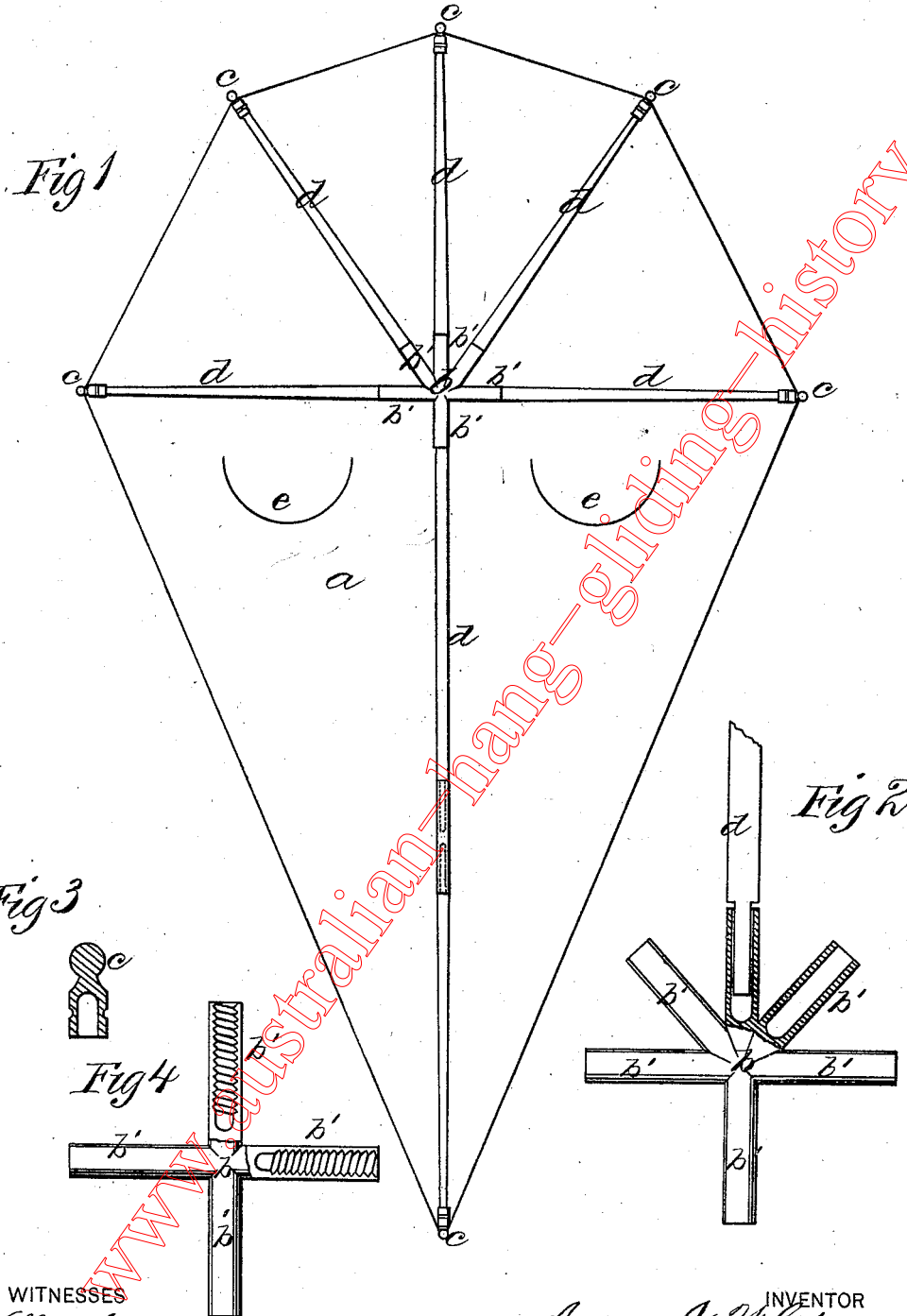


A. J. WHITCOMB.  
FOLDING-KITE.

No. 176,721.

Patented April 25, 1876.



WITNESSES  
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# UNITED STATES PATENT OFFICE

AARON J. WHITCOMB, OF UTICA, NEW YORK.

## IMPROVEMENT IN FOLDING KITES.

Specification forming part of Letters Patent No. 176,721, dated April 25, 1876; application filed March 18, 1876.

*To all whom it may concern:*

Be it known that I, AARON J. WHITCOMB, of Utica, in the county of Oneida and State of New York, have invented a new and valuable Improvement in Folding Kites; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a rear view of my improved kite, showing the spider and the sticks socketed therein; and Figs. 2, 3, and 4 are detail views of various parts of the same.

The object of this invention is to provide a folding kite which can be readily put together and taken apart, and which can be folded in small compass for convenience in transportation.

The invention consists in the construction and novel arrangement of the central spider-joint, having radial tubular arms, the splicing-sleeves when required, the end rings or thimbles to be attached to the edge of the cover or sail, and the arms of the frame, as hereinafter fully shown and described.

In the accompanying drawings, the letter *a* designates the cover or sail of the kite, which may have any shape desired. *b* designates the central spider-joint, having as many tubular arms *b'* as may be necessary to carry out the design of the kite.

In each of the tubular arms is seated the inner end of an arm or spoke of the frame. Sometimes the design of the kite may require two or more spider-joints arranged at different points of the frame.

*c* designates the edge thimbles, which are secured to the margin of the cover or sail, and receive the peripheral ends of the frame-spokes *d*. These spokes are designed to be adjustable outward in the tubes of the spider-joint, in order that the cover or sail may be properly strained after the kite is set up. For this purpose the inner ends of the frame-pieces may be made to fit the tubes so closely that the friction will be sufficient to secure the ad-

justment; or a screw form may be given to the interior of the tubes when the kite is of large size. Sometimes the tubes of the spider-joint may be pivoted together at their inner ends, so that they can fold toward each other like the sticks of a fan.

In order that the kite may adjust itself automatically to uneven gusts of wind, it is designed to make the frame-pieces of elastic material, and to attach the cover at different points by small eyelet-holes over the frame. A certain degree of flexibility will thus be obtained, and the kite will yield in the wind in such a manner as to keep its balance. Valves may also be cut in the material of the cover, as indicated at *e*, to relieve it of an excess of wind.

When the kites are of very large size the spokes may be made of metal, and hollow or tubular. The edges of the kite may be stiffened by the employment of strips of suitable material, fastened to the cover or stretched from the end of one spoke to that of another.

This kite is readily folded by sliding or screwing the spokes inward and detaching the edge fastenings of the cover from their outer ends. The parts can then be put in a small case or in the pocket—a matter of considerable convenience in transportation, if the kite is of any size and the wind strong.

I am aware that a kite having continuous sticks passing through a center plate or saddle, and provided with thimbles upon their ends, is not new; hence I do not claim such devices.

What I claim as my invention, and desire to secure by Letters Patent, is—

The folding kite herein described, consisting of the cover or sail and its marginal rings or thimbles, the spider-joint and its radial tubes, and the adjustable spokes or arms, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AARON J. WHITCOMB.

Witnesses:

JAMES F. HONE,  
DEXTER GILLMORE.