

W. VAN WIE.
REVOLVING KITE.
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966,143.

Patented Aug. 2, 1910.

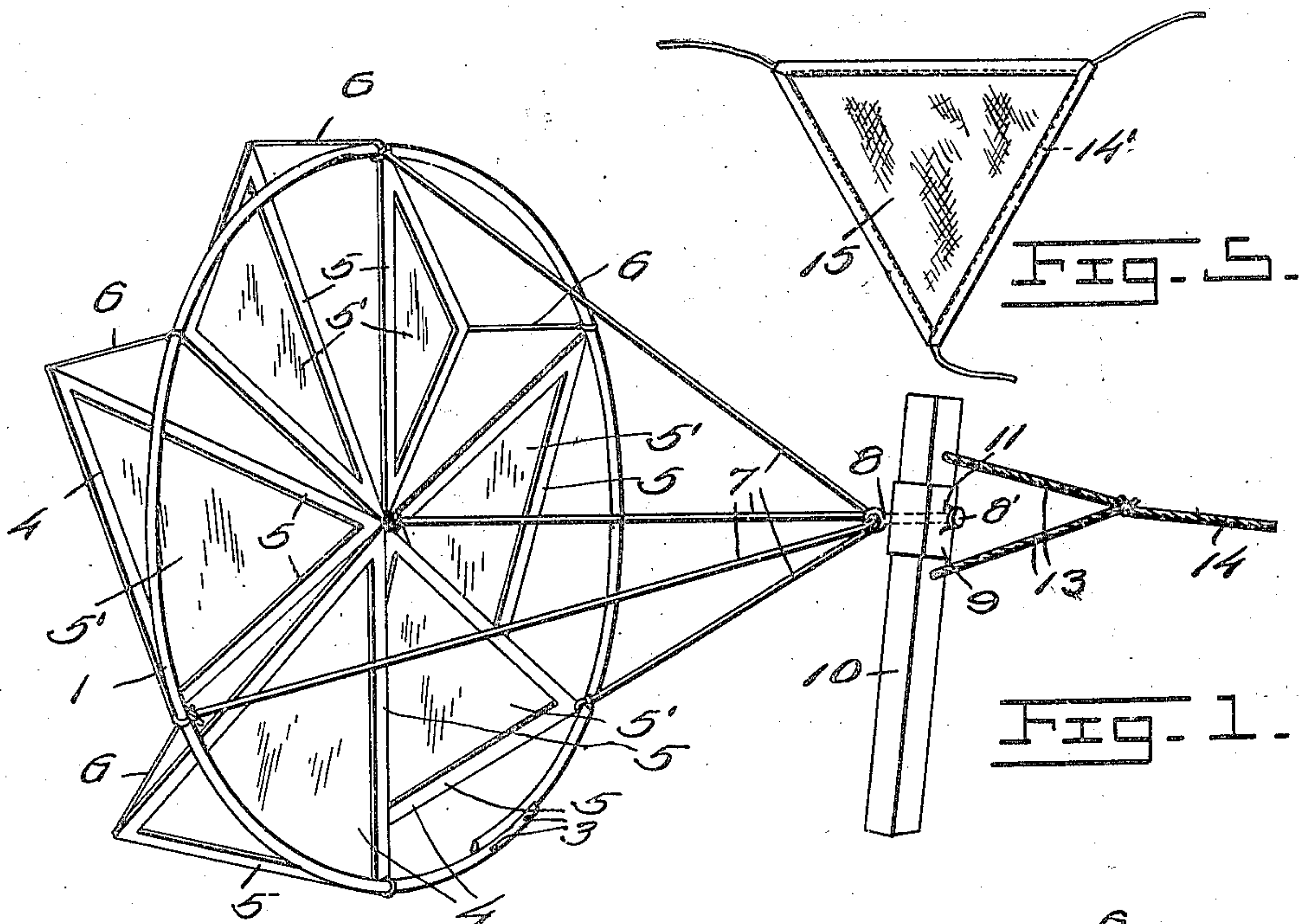


Fig. 5.

Fig. 1.

Fig. 2.

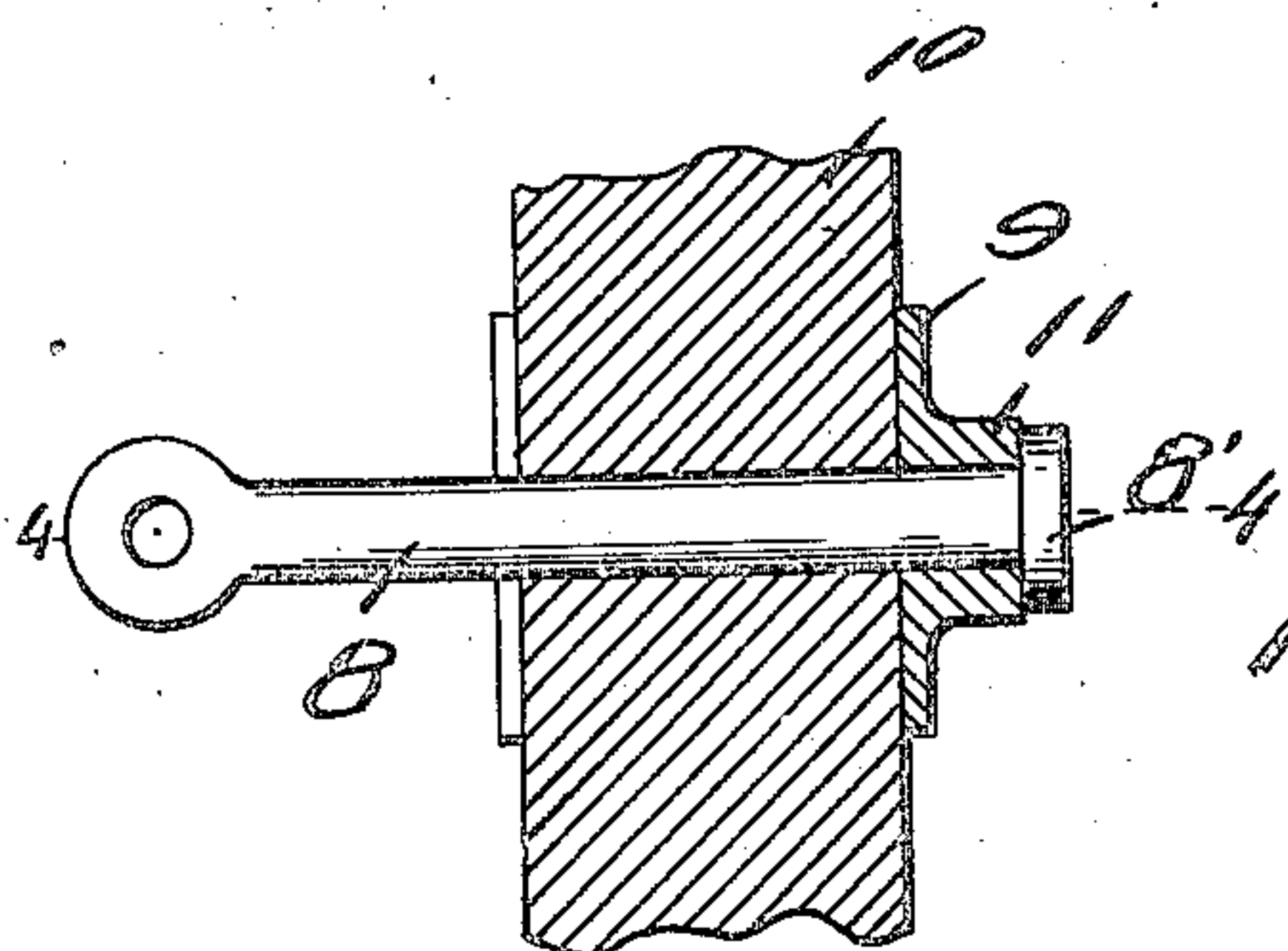


Fig. 3.

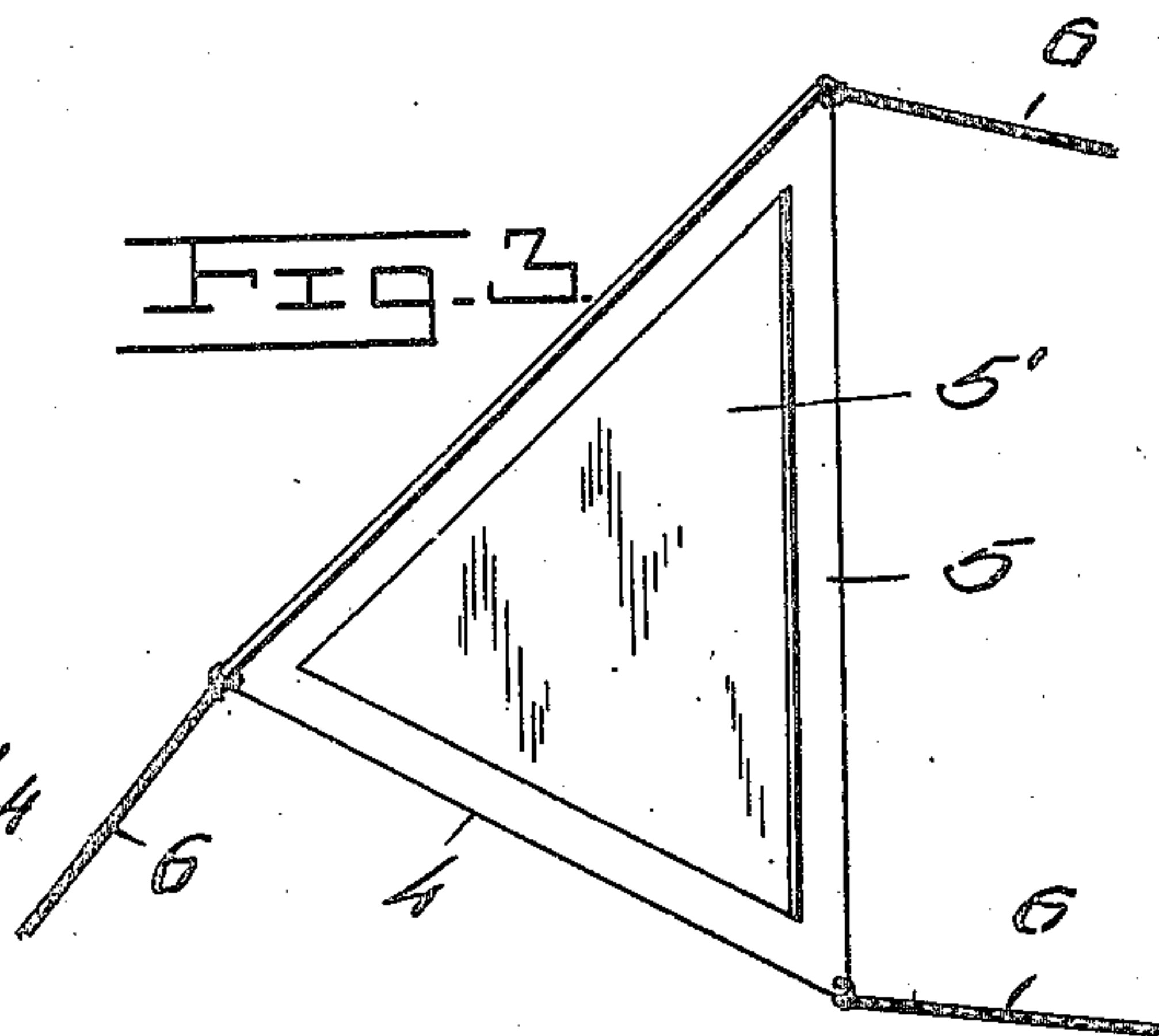
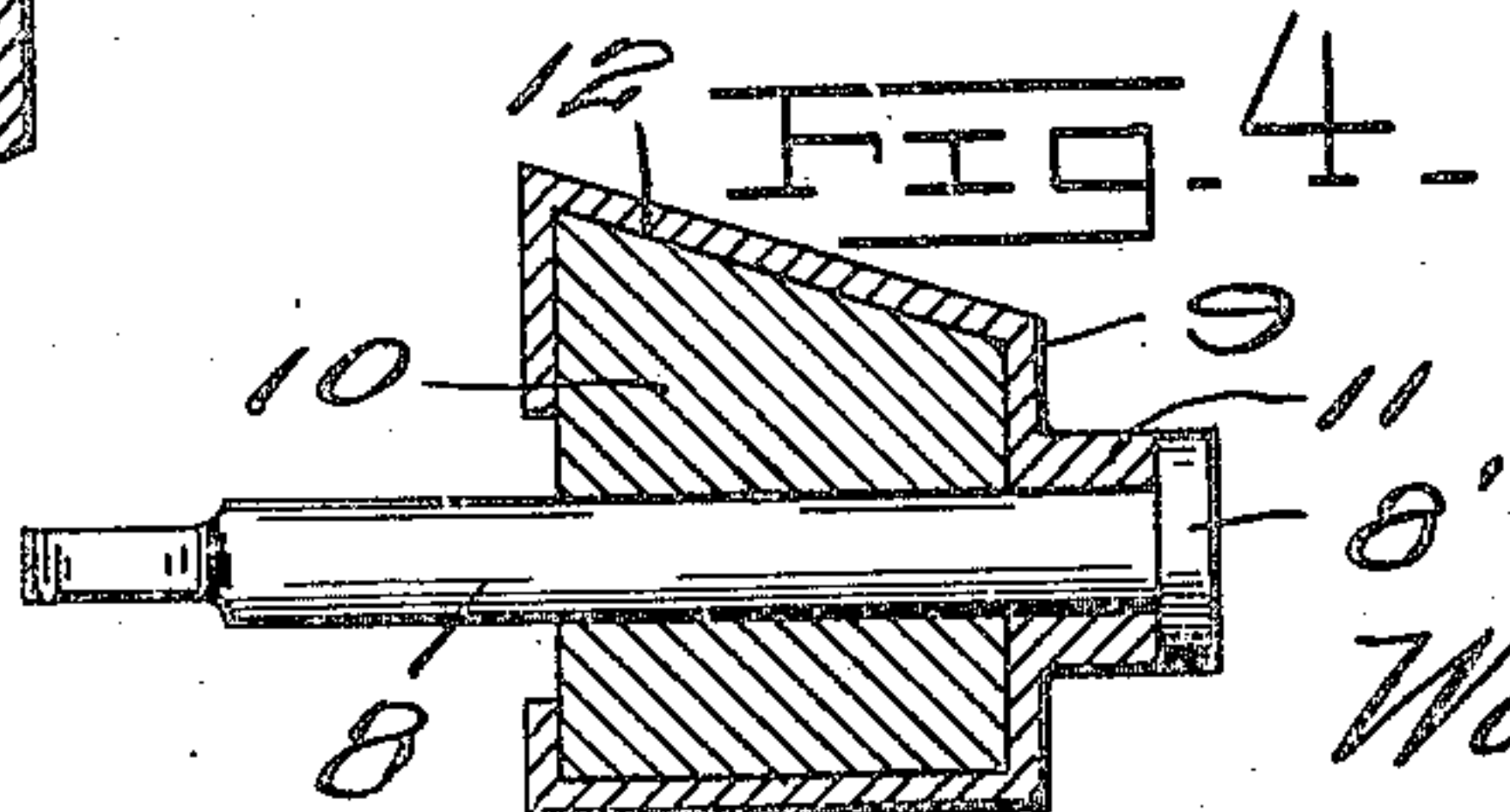


Fig. 4.



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REVOLVING KITE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER VAN WIE, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Revolving Kites, of which the following is a specification.

This invention relates to kites, and more particularly to a kite comprising a plurality of vanes or wings suitably connected and secured to maintain the kite in the air.

The primary object of my invention is to provide a kite of this class which is so constructed that it will rotate at an elevated position by the force of the wind.

A further object is to provide means for securing the vanes in such a manner that the full force of the air current will be utilized.

A further object of my invention is to provide a new and novel mounting for the kite frame by means of which the friction due to the rotation of the same will be reduced to a minimum.

A further object is to provide means by which the post or standard to which the kite frame is connected is maintained at an inclination and prevented from rotating.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described, and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view of my improved rotatory kite, Fig. 2 is an enlarged vertical section of the upper end of standard illustrating the mounting of the rotatable shaft, Fig. 3 is a detail perspective view of one of the vanes detached, Fig. 4 is a transverse section on the line 4-4 of Fig. 2, Fig. 5 is a detail view of one of the vanes illustrating a slightly modified construction.

In the drawings, 1 indicates a circular frame the ends of which overlap and are secured together by the screws 3. Equally spaced from each other and secured to the frame are the wings or vanes 4. These vanes are triangular in shape and comprise a wooden frame 5 covered by stout paper 5'

preferably oiled. At each of the vertices of the vanes a string 6 is attached, one of which is slightly greater in length than the remaining two. One of the shorter strings is for the purpose of securing the vanes at their inner vertices, the other being tied to the frame 1. The longer strings are also secured to the frame but so as to allow the vanes considerable play and as shown in Fig. 1 they project outwardly at an acute angle to the frame. Secured to the frame at three equidistant points and to the vertices of the vanes in the center thereof are the cords 7. These cords have their outer ends secured to the end of a short shaft 8, which is rotatably secured in the upper end of a member 10, the center of gravity of which is located below the shaft 8, and which member will be termed a pendule. To provide a bearing surface for the head 8' of said shaft, I secure thereto the wear plate 9, provided with a central boss 11. The ends of the plate 9 are bent and firmly clamped to the post 10. The shaft 8 extends entirely through the pendule and the head 8' thereof bears against the boss formed on the plate 9 which is greatly restricted in diameter thereby reducing the friction to a minimum. The pendule 10 has one of its vertical surfaces 12 beveled. It is principally by means of this beveled surface that the pendule is maintained in an approximately constant position with respect to the vertical when the air currents impinge against the same. Were the surfaces of the pendule 10 cut at right angles to each other, the pendule itself would be liable to rotate in a wind of any very great velocity. The beveled side of the pendule is so disposed as to oppose its rotary tendency to the friction of the shaft on the wear plate. Upon either side of the shaft is secured a short cord 13 which is connected to the operating cord 14. This arrangement of the cords is also an aid in maintaining the pendule in a substantially vertical position and overcoming any tendency of the same to rotate with the frame.

The vanes 4 are securely held against any movement due to centrifugal force, when the frame is rotated, by means of the center cord 7, which is of such a length that it will maintain the vanes 4 in a proper position with relation to the frame at all times irrespective of the velocity of the wind. By using a longer cord at one of the points of the triangular vanes than at the other, a

sufficient outward play of the vanes is secured to allow for the free passage of the air currents between the same thus preventing the damaging of the vanes. As the
 5 wind impinges against the vanes, the frame and the shaft mounted in the upper end of the pendule will be rotated. On account of the disposition of the vanes in the frame 1,
 10 it will take but a very light current of air to produce the desired rotation of the same. It may be found desirable to supplant the long string by an elastic connection adapted to yield to pressure on the vane so that as
 15 the wind becomes greater, the angles at which the vanes lie with respect to the direction of the wind, will become less acute and relieve strain on the kite.

An object of the frame 1 is to provide a gyroscopic element tending to overcome irregular and unsteady movement in the kite.

From the foregoing it will be seen that I have devised a kite which is extremely simple and inexpensive in construction, and in which the various parts can readily be replaced when they become worn or broken at
 25 but a trifling cost.

In Fig. 5, I have shown a slightly modified form of the vanes which would preferably be employed when only an extremely light
 30 wind is available. In this form I provide a triangle of stout cord or twine 14' and secure thereto a piece of cloth 15 of similar shape. The cloth is made a trifle large so that it will catch and hold the wind, bellying outward and revolving the kite frame.
 35 By this means the rotation of the kite is assured, however light the wind may be.

What is claimed is:—

1. In a device of the class described, the
 40 combination with a rotatable frame, of vanes secured to said frame and to each other, a pendule having one of its sides laterally beveled, connections between said frame and pendule, and a cord secured to said pendule
 45 for the purpose set forth.

2. In a device of the class described, the combination with a circular rotatable frame, of vanes secured to the frame and to each other, a pendule, a shaft rotatably mounted
 50 in said pendule, a plurality of cords connecting the frame to the shaft, and another cord secured to said pendule for the purpose set forth.

3. In a device of the class described, the
 55 combination with a rotatable circular frame, of triangular vanes each having one of its vertices secured at the center of said frame, means for securing said vanes to said frame, a pendule, a shaft rotatably mounted in said
 60 pendule, cords connecting the frame and the

said vertices of said vanes to said shaft, and a cord secured to said pendule for the purpose set forth.

4. In a device of the class described, the combination with a rotatable circular frame, 65 of triangular vanes provided at each of their vertices with a cord, one of said cords of each vane being longer than the others, one of the shorter cords of each of said vanes being secured together at the center of said 70 frame, the remaining cords being secured to the periphery of said frame, a pendule, a shaft rotatably mounted in said pendule, cords connecting the frame and the vertices of said vanes at their points of connection to said shaft; and a cord secured to said 75 pendule for the purpose set forth.

5. In a device of the class described, the combination with a circular frame, of triangular vanes provided at each of their vertices with a cord, the cords connected to the inner vertices being secured together at the center of the frame, the remaining cords being secured to the periphery of the frame, one of said last mentioned cords being of 85 greater length than the other, a pendule having one of its sides beveled, a shaft rotatably mounted in one end of said pendule, a wearing plate provided with a central boss secured to said pendule, cords connecting 90 said frame and the centrally positioned connected vertices of said vanes to said shaft, cords connected to said pendule upon either side of said shaft and to another cord, substantially as and for the purpose set forth. 95

6. In a device of the class described, the combination with a rotatable member, of a pendule revolubly connected therewith having one of its sides beveled for engagement by wind pressure to hold the pendule against 100 rotation with said rotatable member.

7. In a kite, supporting plane surfaces concentrically arranged and inclined to produce rotation thereof, and an annular member carried thereby for gyroscopic action, 105 and controlling means engaged with the device.

8. In a device of the class described, a plurality of concentrically arranged lifting vanes inclined to produce rotation thereof 110 in a common direction for gyroscopic governing of the device, a revoluble member connected to the vanes and a controlling member carried thereby.

In testimony whereof I affix my signature, 115 in presence of two witnesses.

WALTER VAN WIE.

Witnesses:

BESSIE HENNING,
 MAY ATKINS.