(No Model.)

C. J. GREINER.

KITE.

No. 598,777. Patented Feb. 8, 1898.

Fig. 1.

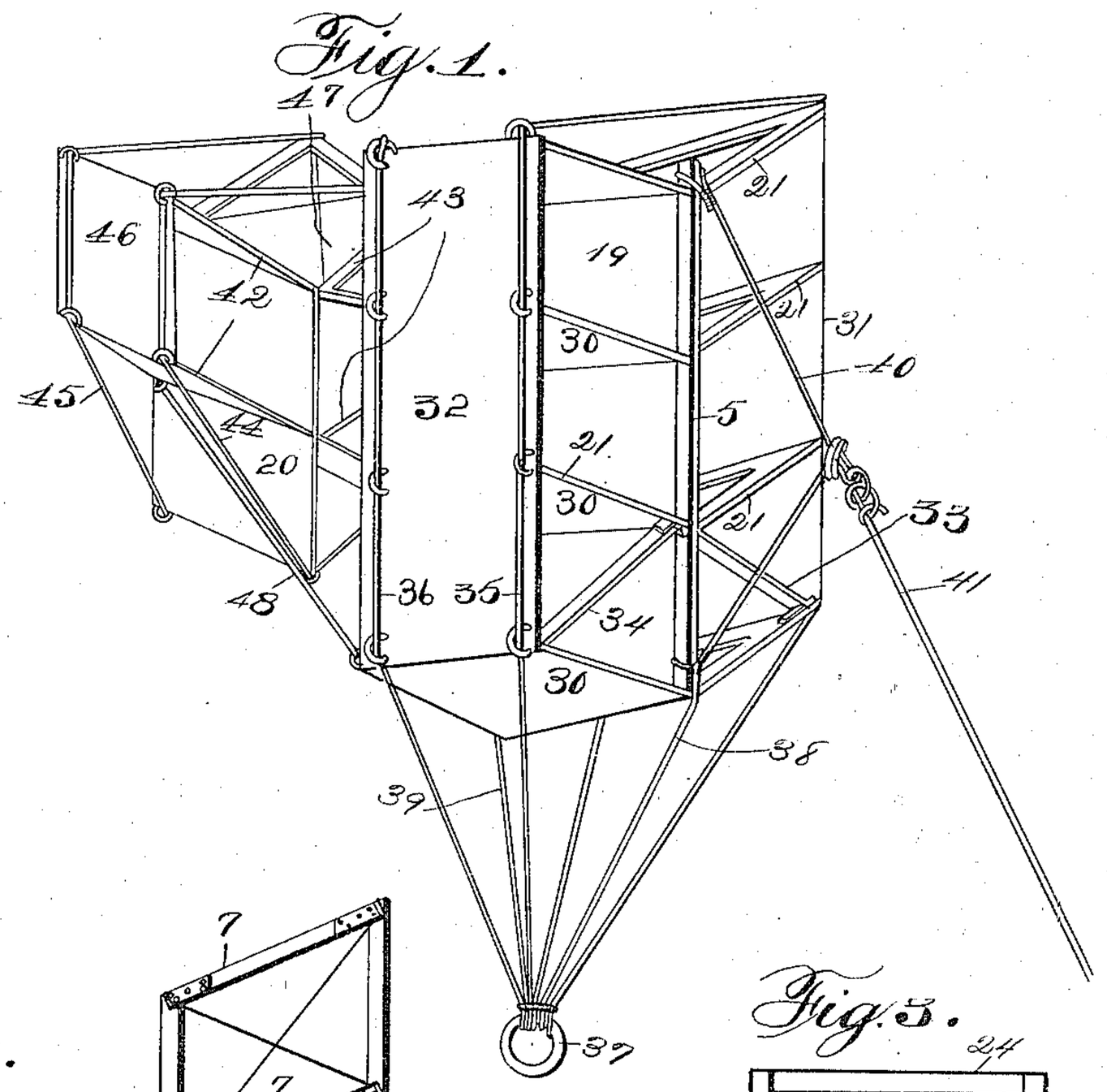


Fig. 2.

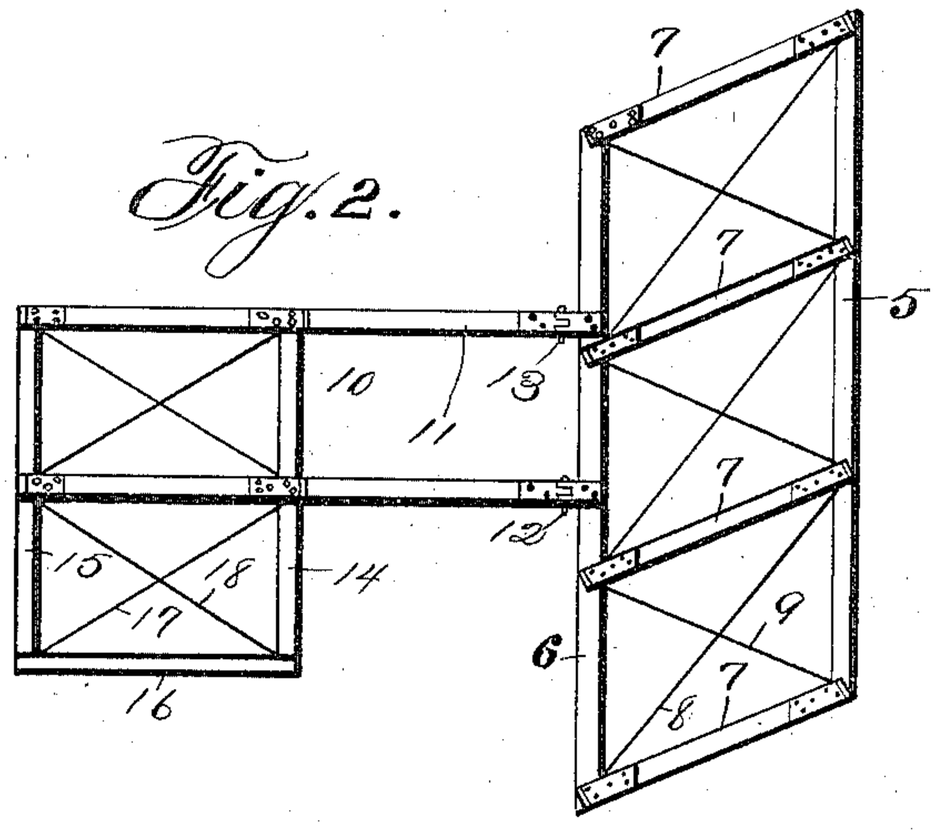


Fig. 3.

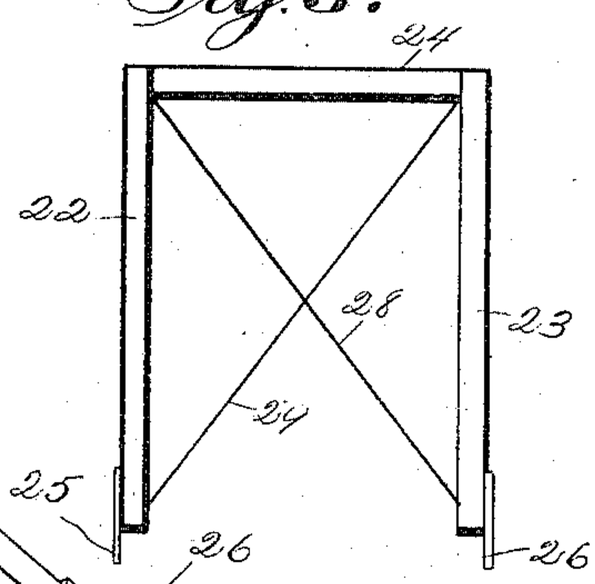
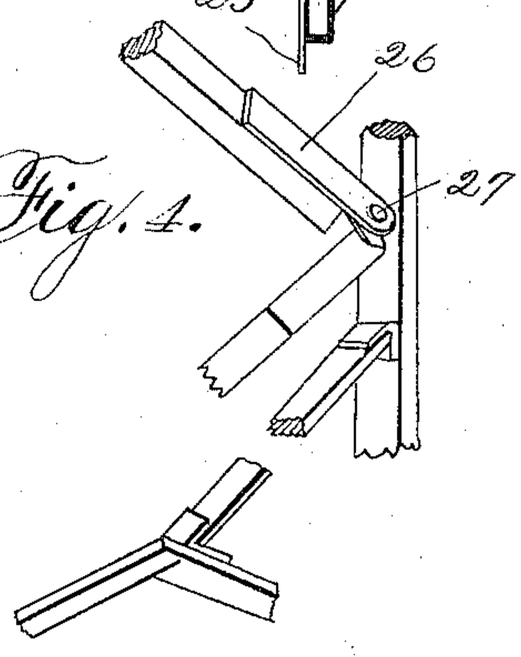


Fig. 4.



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UNITED STATES PATENT OFFICE.

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KITE.

SPECIFICATION forming part of Letters Patent No. 598,777, dated February 8, 1898.

Application filed July 12, 1897. Serial No. 644,335. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. GREINER, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Kites, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to kites; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a view in perspective of my improved kite. Fig. 2 is a side elevation of the central upright frame. Fig. 3 is a plan view of one of the laterally-extending frames. Fig. 4 is a view in perspective showing the details of one of the joints between the laterally-extending frames and the central upright frame.

My object is to construct a kite which will not only elevate itself, but will elevate some weight, the kite being elevated by the force of the wind against the kite or by giving the kite a rapid forward motion against the wind.

Referring by numerals to the drawings, the central upright frame consists of the upright bars 5 and 6, secured together by the inclined longitudinally-extending bars 7, which are slightly higher at their forward ends than at their rear ends and are mounted in parallel positions one above the other. The frame thus constructed is stiffened by the diagonally-extending ties 8 and 9. The longitudinally-extending bars 10 and 11 are connected to the central portion of the upright bar 6 by means of the hinges 12 and 13, respectively. The upright bars 14 and 15 are attached at their upper ends to the horizontal bar 11 and extend downwardly and are attached to the bar 10 and extend as far below the bar 10 as the bar 10 is below the bar 11, the lower ends of said upright bars 14 and 15 being connected by the longitudinally-extending bar 16. The distance between the bar 6 and the bar 14 is equal to or slightly greater than the distance between the bars 14 and 15.

The frame formed by the bars 14 and 15 and the longitudinally-extending bars connected to said bars 14 and 15 is strengthened by means of the diagonally-extending ties 17 and 18. The portion of the frame bounded on the sides by the upright bars 5 and 6 is covered with a sheet of paper or canvas, and the portion of the frame bounded on the sides by the upright bars 14 and 15 is also covered with a sheet of canvas or paper, thus producing the front upright plane 19 and the rear upright plane 20, hinged together. The laterally-extending frames 21 are mounted upon opposite sides of the upright plane 19, there being as many of the laterally-extending frames 21 upon each side of the vertical frame as there are of the inclined horizontally-extending bars 7. The frames 21 each consist of the front bar 22, the rear bar 23, and the side bar 24, connecting the outer ends of the front and rear bars 22 and 23. Attached to the inner ends of the front and rear bars 22 and 23 are metallic ears 25 and 26, through which pins 27 are inserted to secure said ears to the ends of the inclined longitudinally-extending bars 7, as shown in Fig. 4, thus forming pivotal connections between the laterally-extending frames and the upright frame.

The frames 21 are stiffened by means of the diagonally-extending ties 28 and 29 and are covered with a sheet of canvas or paper, thus producing the laterally-extending planes 30. The planes 30 incline from front to rear to correspond to the inclinations of the bars, and they also incline upwardly as they extend outwardly from the upright plane 19. The inner ends of the sheets of canvas or paper forming the laterally-extending planes are attached to the upright plane 19. The outer sides of the laterally-extending planes are connected by the sheets 31 and 32 of the same size as the central upright plane 19, thus forming the outer upright planes parallel with the central upright plane.

The lower pair of longitudinally-extending planes are braced against the central upright plane by means of the struts 33 and 34, inserted between the outer ends of the front and rear pieces 22 and 23 and the inner ends of the laterally-extending planes next above the lower planes. The cords 35 and 36 are attached to the ring 37 and extend upwardly upon one side of the front part of the kite through the canvas or paper and around the lower one of the side bars 24, thence upwardly to the next one of the side bars 24, thence through the paper or canvas and around said side bar, and so on until the top of the kite

is reached. Then said cords extend laterally across the top of the kite and down the opposite side in the same manner and back to the ring 37.

The cord 38 is attached to the lower end of the upright bar 5 and extends downwardly and is attached to the ring 37, and a similar cord 39 is attached to the lower end of the upright bar and extends downwardly and is attached to the ring 37. The cord 40 is attached to the upper end and to the lower end of the upright bar 5 and extends forwardly, and the kite-string 41 is attached to the central part of said cord 40. The object to be elevated may be attached to the ring 37.

The rear laterally-extending planes 42 and 43 are mounted upon opposite sides of the upright plane 20, one pair on a level with the longitudinally-extending bar 11 and another pair on a level with the longitudinally-extending bar 10. The planes 42 and 43 are constructed in identically the same manner as the planes 30. The cords 44 and 45 are attached to the lower ends of the upright bars 14 and 15 and extend upwardly and around the rear part of the kite in the same manner that the cords 35 and 36 extend around the forward part of the kite. The outer sides of the laterally-extending planes 42 and 43 are connected by sheets of canvas or paper, thus forming the outer upright planes 46 and 47, parallel with the central upright plane 20. The rear part of the kite is held in position relative to the forward part by means of the guy-ropes 48, attached to the rear outer corners of the lower laterally-extending planes 30 and extending backwardly to the rear inner corners of the lower laterally-extending planes 42 and 43. The laterally-extending planes of the rear part of the kite are not inclined from front to rear, but are substantially level. The vertical planes of the rear part of the kite serve as a rudder or tail for the kite.

By taking out the struts 33 and 34 from the front part of the kite and releasing the cords 44 and 45 from the rear part of the kite the kite may be folded up for transportation.

I claim—

1. In a kite, a central upright frame constructed in two pieces and hinged together, sheets of suitable material upon the front part of said frame and forming a front central upright plane, sheets of suitable material upon the rear part of said frame and forming a rear central upright plane, laterally-extending planes attached in position upon opposite sides of said central upright planes and outer upright planes connecting the outer sides of said laterally-extending planes, the laterally-extending planes attached to the front upright planes being inclined longitudinally relative to the laterally-extending planes attached to the rear upright planes, substantially as specified.

2. In a kite, a central upright frame constructed in two pieces and hinged together, sheets of suitable material upon the front part of said frame and forming a front central upright plane, sheets of suitable material upon the rear part of said frame and forming a rear central upright plane, laterally-extending planes attached in position upon opposite sides of said central upright planes and upright planes connecting the outer sides of said laterally-extending planes, and guy-ropes connecting the front part of the kite with the rear part and controlling the hinged connection, substantially as specified.

3. In a kite, a central upright frame constructed in two pieces and hinged together, sheets of suitable material upon the front part of said frame and forming a front central upright plane, sheets of suitable material upon the rear part of said frame and forming a rear central upright plane, a series of laterally-extending planes hinged in position upon opposite sides of said front central upright plane, outer upright planes connecting the outer sides of said series of laterally-extending planes, inclined struts removably inserted against the sides of said front central upright plane and engaging said laterally-extending planes as required to hold the kite from folding up, laterally-extending planes hinged in position upon opposite sides of said rear central upright plane with said rear central upright plane extending some distance below the lower ones of said laterally-extending planes, and guy-ropes connecting the front part of the kite with the rear part of the kite and controlling the hinge connection between the front and rear upright planes, substantially as specified.

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

CHARLES J. GREINER.

Witnesses:

A. J. McCAULEY,

EDWARD E. LONGAN.