

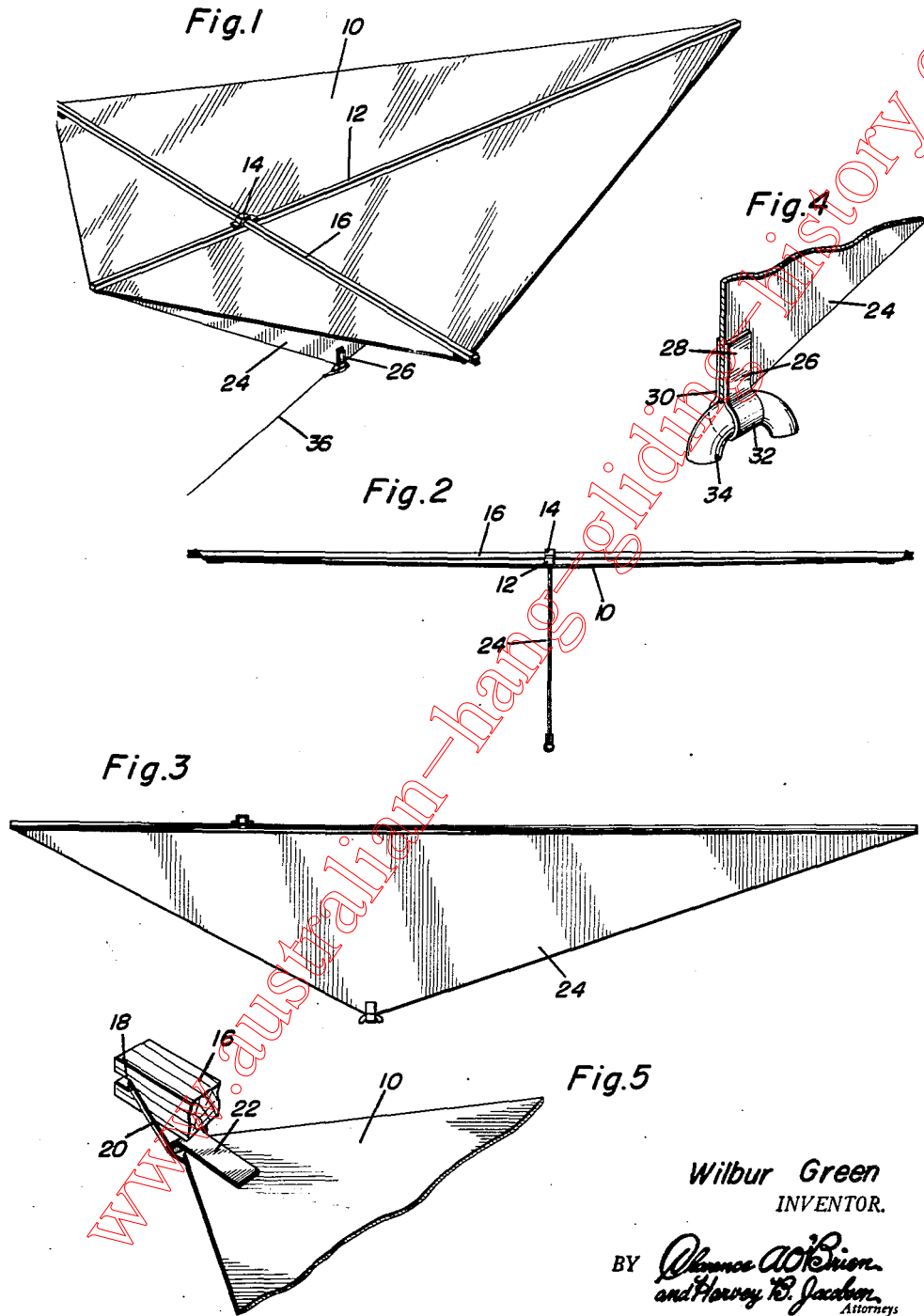
March 19, 1957

W. GREEN
KITE

2,785,870

Filed Oct. 27, 1953

3 Sheets-Sheet 1



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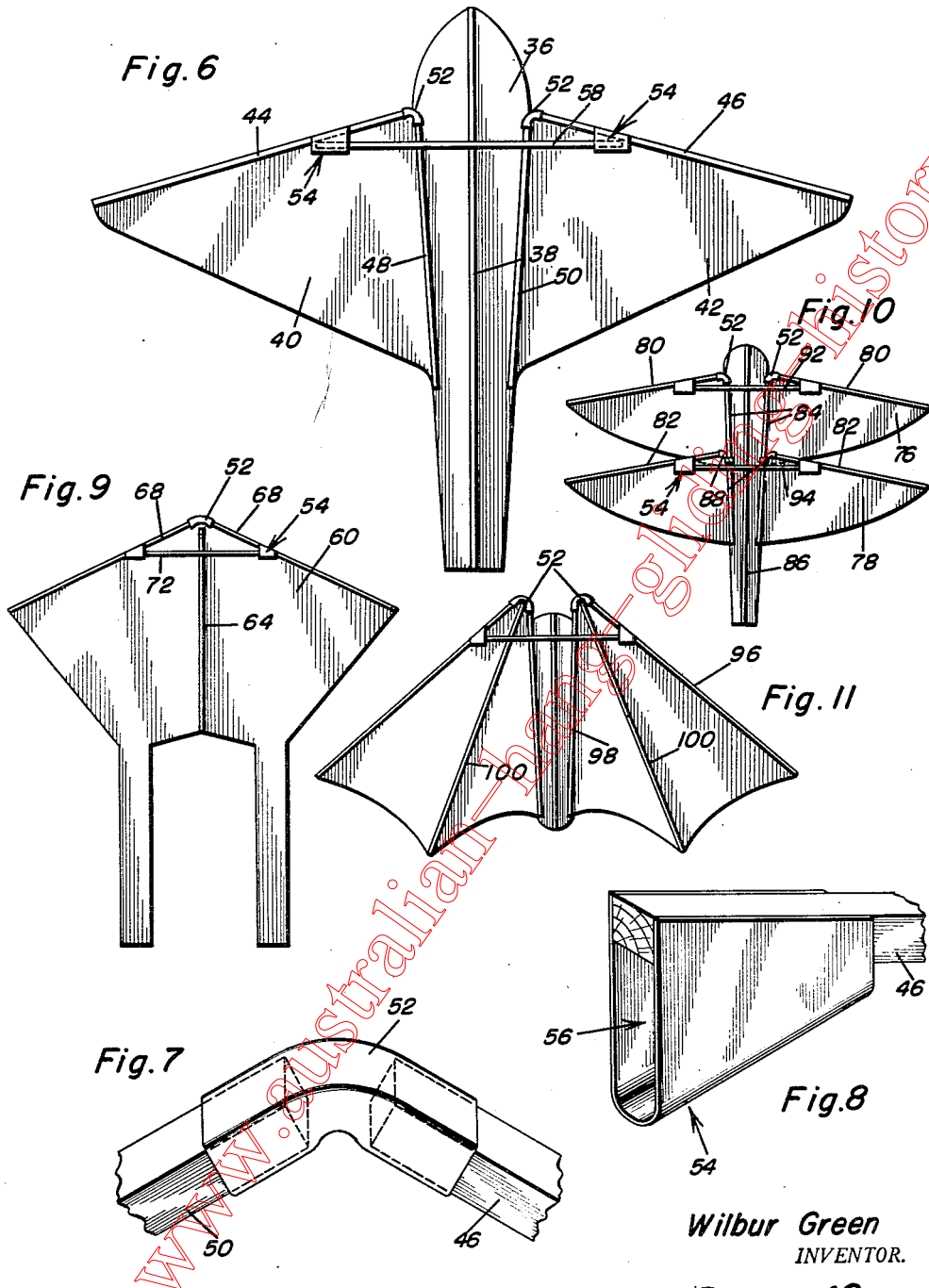
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3 Sheets-Sheet 2



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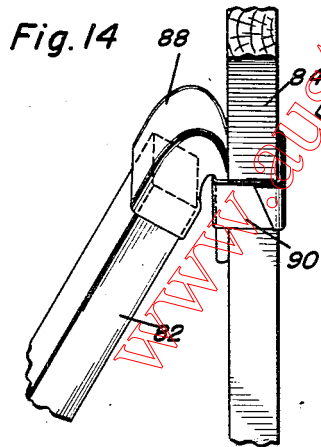
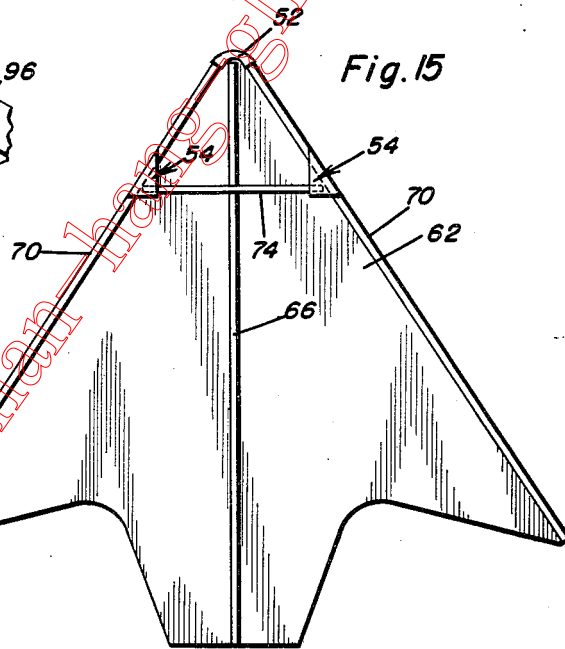
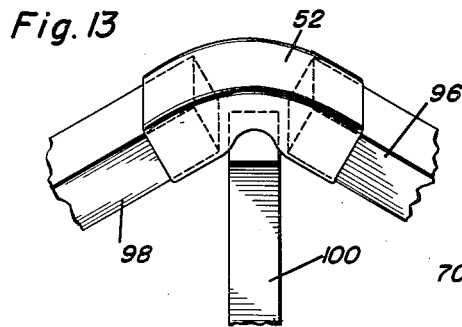
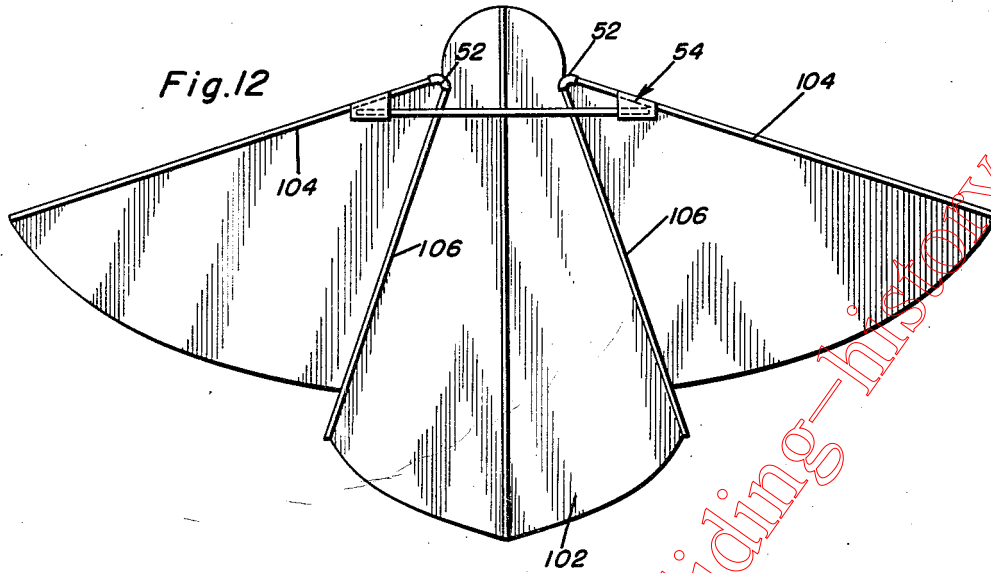
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2,785,870

KITE

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3 Sheets-Sheet 3



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2,785,870

KITE

Wilbur Green, Houston, Tex.

Application October 27, 1953, Serial No. 388,643

7 Claims. (Cl. 244-153)

This invention relates generally to kites and pertains more particularly to an improved, tail-less form thereof.

A primary object of this invention is to provide an improved form of kite which embodies a main body portion and a steadying and guiding keel, obviating the necessity of providing a tail.

Another object of this invention is to provide an improved kite construction which includes the provision of stick members so secured to the kite body and interconnected to one another as to render the kite collapsible.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a kite constructed in accordance with this invention;

Figure 2 is an end elevational view of the assembly shown in Figure 1;

Figure 3 is a side elevational view of the assembly shown in Figure 1;

Figure 4 is a partial perspective view showing the attaching bracket or strap for securing the kite string to the kite;

Figure 5 is a partial perspective view showing the manner of connecting the cross-stick to the kite;

Figure 6 is a plan view of a modified form of kite construction;

Figure 7 is an enlarged perspective view showing the manner of flexibly interconnecting certain of the stick members;

Figure 8 is an enlarged perspective view showing one of the cross-stick attaching brackets;

Figure 9 is a plan view of a still further modified form of the invention;

Figure 10 is a plan view of a further modification;

Figure 11 is a plan view of another modification;

Figure 12 is still another plan view of a further modification;

Figure 13 is an enlarged perspective view showing the disposition and manner of interconnection between various of the stick members in the forms of the invention shown in Figures 9 and 11;

Figure 14 is an enlarged perspective view of a portion of the kite shown in Figure 10; and

Figure 15 is a plan view of a further modification of this invention.

Referring now more particularly to Figure 1, reference numeral 10 indicates a polygonal sheet of thin material which constitutes the main body portion of the kite and to which a center stick 12 is rigidly affixed, as by gluing or the like, the center stick extending between the top and bottom apices of the sheet 10 in the manner shown such as to subdivide the same into two mirror image sections. The main stick is provided with a generally U-shaped strap member 14 through which a cross-stick 16 passes to be affixed longitudinally of the main stem

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12, the opposite ends of this cross-stick being slotted as at 18 to detachably receive a band of resilient material 20 which is looped through a generally U-shaped strap member 22 provided at the opposite side apices of the sheet 10. This construction is seen most clearly in Figure 5.

Affixed to the side of the sheet 10 opposite the main stick 12 is a keel member 24 which may preferably take the form of a triangle with its long side secured to the sheet 10 as by gluing or the like coextensive with the securement between the sheet 10 and the main stick 12. The free apex of this keel member is provided with a strap member 26 having leg portions 28 and 30, respectively, secured at opposite sides of the keel and with the tubular intermediate portion 32 of this strap provided with an elongated flexible collar or bushing 34 through which the lead of guide string 36 is attached, as will be manifest.

In this form of the kite, it will be seen that when the cross-stick 16 is removed by detaching its opposite ends and removing the stick from the strap 14, the cross-stick may be placed next to the main stick 12 and the whole assembly rolled up in collapsed form to provide a neat and convenient package for shipment prior to use.

Referring now more particularly to the form of the invention shown in Figure 6, it will be seen that here the main body portion 36 is formed with a flexible sheet of material and it is to be noted that this form of the invention is also provided with a keel member similar to the form of the invention shown in Figure 1, and that the form of the invention shown in Figure 6 also embodies a main stick member 38 extending longitudinally of and providing rigidity in that direction of the sheet 36. The sheet may be so configured as to provide wing sections 40 and 42, the opposite side edges of which are provided with wing stick members 44 and 46 which are disposed in generally convergent relationship at opposite sides of the center stick 38. Also provided in convergent relation to each one of the wing sticks 44 and 46 are the intermediate stick members 48 and 50, all of the sticks thus far mentioned being secured to the sheet 36 as by gluing or the like. Each wing stick and its corresponding intermediate stick is flexibly interconnected by a flexible tube member 52 formed of plastic or the like into which the adjacent free ends of the stick members under consideration are received.

In this connection, reference is had most particularly to Figure 7 of the drawing wherein this flexible interconnection is shown.

As shown most clearly in Figure 8, each of the wing sticks is provided with a securing bracket indicated generally by the reference character 54 which takes the form of a strip of material of U-shaped cross-section and rigidly affixed at opposite sides to the wing sticks in straddling relation thereto such as to provide a pocket 56 within which the opposite ends of the cross-stick member 58 are removably received. Thus, it will be seen that removal of the cross-stick 58 will permit the intermediate and wing sticks to be folded upon each other, and the entire assembly rolled up to provide a neat and convenient package.

Referring now more particularly to the form of the invention shown in Figures 9 and 15, respectively, it will be seen that these forms embody a sheet of material 60 and 62, respectively, configured in a desired manner and provided with a longitudinal main stick member 64 and 66, respectively, and with wing stick members 68 and 70 secured at opposite side edges of the sheet. The wing sticks are flexibly interconnected by the tube members 52 previously described, and each wing stick is provided with one of the brackets 54 for removably receiving the opposite ends of the cross-stick members 72 and 74.

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Referring now more particularly to Figure 10 wherein a still further modification is shown, it will be seen that the main body portion or sheet of the kite is so configured as to provide upper and lower wing sections 76 and 78 each provided with wing stick members 80 and 82, respectively, the upper of which are flexibly connected by the tubes 52 to the upper ends of the intermediate stick members 84 which are disposed on opposite sides of the main stick member 86 in the manner shown. The lower wing sticks 82 are flexibly secured to intermediate portions of the intermediate sticks 84 through the tube members 88, these tube members being rigidly affixed to the intermediate sticks 84 through the intermediary of strap elements 90 wrapped about the latter. This construction is shown most clearly in Figure 14.

This form of the invention also embodies upper and lower cross-stick members 92 and 94 associated with the previously described bracket 54 on the wing stick.

In the form of the invention shown in Figure 11, the wing sticks 96 are flexibly interconnected with the intermediate sticks 98 in the manner shown and due to the large extent of wing area in this form, an additional rigidifying stick 100 is secured to each wing section and is disposed on the sheet generally to bisect the angle presented between the wing and intermediate stick members with the upper end of the additional rigidifying stick being provided closely adjacent the flexible interconnecting tube 52 between the wing and intermediate sticks 96 and 98, as shown most clearly in Figure 13.

In Figure 12, the kite is constructed generally along the lines of the form shown in Figure 6, but with the sheet member 102 of slightly different configuration, the wing sticks 104 and intermediate sticks 106 being similar to corresponding elements in the form shown in Figure 6.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A collapsible, tailless kite comprising a generally polygonal sheet of material, a center stick secured to said sheet and rigidifying the same in a longitudinal direction, wing sticks secured to forwardly converging edges of said sheet, U-shaped brackets secured to and extending rearwardly of intermediate portions of said wing sticks in outwardly converging relationship thereto to define inwardly directed tapered pockets, a cross-stick having its ends detachably received in said pockets to rigidify the sheet in a transverse direction.

2. A collapsible, tailless kite comprising a generally polygonal sheet of material, a center stick secured to said sheet and rigidifying the same in a longitudinal direction, wing sticks secured to forwardly converging edges of said sheet, U-shaped brackets secured to and extend-

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ing rearwardly of intermediate portions of said wing sticks in outwardly converging relationship thereto to define inwardly directed tapered pockets, a cross-stick having its ends detachably received in said pockets to rigidify the sheet in a transverse direction, and a keel sheet secured to the first named sheet oppositely of said center stick and coextensive therewith.

3. The combination of claim 1, wherein the said wing sticks are interconnected by a flexible tube member in which the inner adjacent ends of said wing sticks are received.

4. The combination of claim 2, wherein the said wing sticks are interconnected by a flexible tube member in which the inner adjacent ends of said wing sticks are received.

5. The combination of claim 1, wherein intermediate sticks are secured to said sheet, said intermediate sticks extending in a generally longitudinal direction at both sides of said center stick, the forward ends of said intermediate sticks being connected to the respective inner ends of said wing sticks by flexible tube members receiving the ends of said sticks.

6. The combination of claim 1, wherein intermediate sticks are secured to said sheet, said intermediate sticks extending in a generally longitudinal direction in converging relation at both sides of said center stick, the forward ends of said intermediate sticks being connected to the respective inner ends of said wing sticks by flexible tube members receiving the ends of said sticks.

7. A collapsible, tailless kite comprising a sheet of material formed to define a longitudinal body portion and laterally extending tapered wing portions, a center stick extending along the longitudinal center line of said body portion and secured thereto, intermediate sticks secured to said sheet along the juncture between said body portion and said tapered wing portion, wing stick secured to the forward edges of said tapered wing portions, flexible U-shaped brackets secured to and extending rearwardly of said wing sticks intermediate the ends thereof, said brackets being angled with respect to said wing sticks to define tapered pockets opening inwardly toward said body portion, a cross-stick extending transversely across said body portion and said center and intermediate sticks and having its ends received in said tapered pockets defined by said brackets, flexible tube members receiving the forward ends of said intermediate sticks and the inner ends of said wing sticks, and a keel sheet secured to the underside of said body portion along the center line thereof.

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