

April 18, 1933.

J. HAHN

1,904,727

KITE

Filed Oct. 1, 1931

Fig. 1.

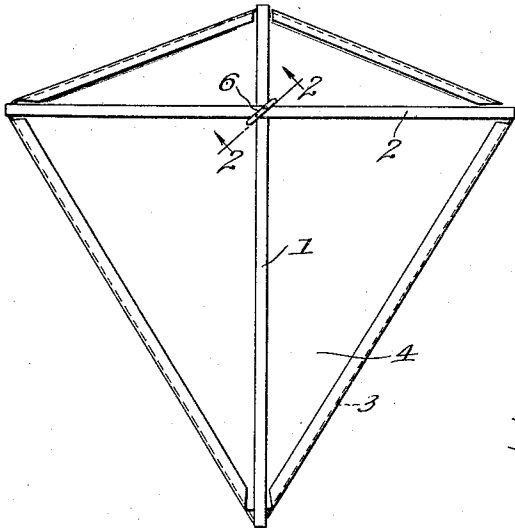


Fig. 2.

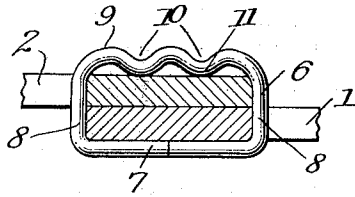


Fig. 3.

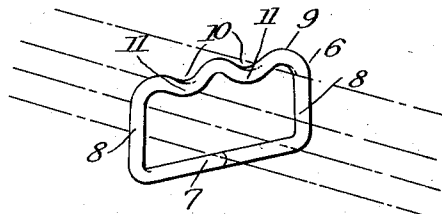


Fig. 4.



Fig. 5.

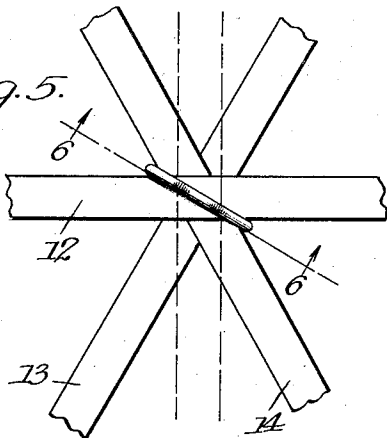
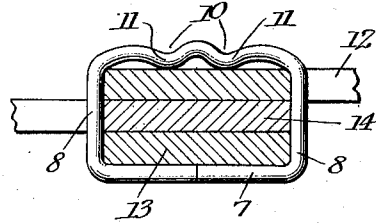


Fig. 6.



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KITE

Application filed October 1, 1931. Serial No. 566,361.

The invention relates to kites and more particularly to a clamp for properly positioning the frame members of the kite when assembled.

5 The kite which I shall use for illustrating the clamp is of collapsible nature, which, in unassembled condition, may be stored or transported in a relatively small space.

10 Kites of this type are well known, exceedingly popular, and require, when assembled, sufficient sturdiness in their structural features to withstand severe usage.

One of the serious objections to the type of kite in question has been the inability to 15 maintain the frame members correctly positioned relative to each other when ready for flight, and yet facilitate quick and easy dismantling. This is true both in the two frame member and three frame member variety.

20 If the frame members do not maintain the correct assembled positions, the kite will not act properly in flight with the attendant results of damage or destruction.

Heretofore, I am aware, clamping means 25 have been used, such as rubber bands and resilient wire loops, but such expedients allow slippage between the frame members and their effectiveness is soon lost due to the inherent quality of the material used. In the 30 case of rubber bands, they will deteriorate and lose their binding effectiveness, and in the case of resilient wire loops, they will easily become bent or distorted in such a way as to counteract their resiliency and become 35 inoperative.

Among the objects and advantages of my invention is to provide a clamp for kite frame members which will correctly maintain the kite frame members, when assembled, 40 in their respective positions without possibility of slippage and consequent distortion of the kite.

Another object of my invention is to provide a clamp for kite frame members which 45 frame members may be dismantled with ease so that they may be aligned and wrapped in the kite material for storage or transportation.

Another object of my invention is to provide a clamp for kite frame members which

will withstand repeated assembling and dismantling of the kite without becoming inoperative.

55 Still another object of my invention is to provide a clamp for kite frame members which is sturdy yet simple in construction and inexpensive to manufacture.

With these and other objects and advantages in mind, attention is called to the drawing, in which

60 Figure 1 is a top plan view of the type of kite in question when assembled, showing my invention;

Figure 2 is a sectional view of my invention taken on the line 2—2 of Figure 1, looking 65 in direction of the arrows;

Figure 3 is a perspective view of my invention;

70 Figure 4 is a top view of the frame members of the kite when aligned;

Figure 5 is a partial top plan view of a modification of my invention as applied to a kite having more than two frame members; and

75 Figure 6 is a sectional view of my invention taken on the line 6—6 of Figure 5, looking in direction of the arrows.

Referring more particularly to the drawing, in which like numbers indicate like parts, the kite in Figure 1 comprises generally, 80 frame members 1 and 2, the former being vertical and the latter at substantially right angles thereto when in assembled position. The ends of the frame members are notched to receive the cord 3 which bounds the outer 85 edge of the face 4 of the kite, which is of any suitable material such as paper or fabric.

The clamp which forms my invention is designated as a whole by 6 and may be made of any suitable metallic material or its equivalent, and preferably but not essentially non-deformable. I have found wire to be quite 90 suitable.

The configuration of the clamp is of utmost importance and comprises a bottom portion 7, side portions 8 and a top portion 9 95 having indentations 10 which present an undulating contour. The indentations 10 form projections 11, the purpose of which will later be described. It is obvious that the inden- 100

tations 10 may be provided in the bottom portion rather than the top portion of the clamp.

The size of the clamp depends, of course, upon the type of kite in which it is to be applied, that is a kite utilizing two, three, or more frame members.

The frame members, while substantially of the same width and thickness, usually, if not always, vary so that allowance must be made in the clamp to accommodate the different sizes.

The clamp is, therefore, made somewhat wider than the specified width of the frame members and the depth of the clamp is somewhat greater than the specified thickness of the frame members, excepting the lowermost points of the indentations 10 or projections 11 which are made so that they will make engageable contact with one of the frame members when the kite has been assembled, as shown in Figures 2 and 6.

With such construction, the frame members are not tightly held by the clamp except when the kite is assembled, and said frame members in their unassembled positions may be slipped back and forth within, removed from, and inserted into the clamp, since in any position other than at substantially right angles to each other, but one of the projections need necessarily make contact with a frame member, as shown by the dotted lines in Figure 3, which is insufficient to engageably hold the frame members, since the depth of the clamp, excepting the lowermost points of the indentations or projections is greater than the thickness of the combined frame members, thereby allowing a slight rocking movement of the frame members on the lowermost points of either of the indentations or projections. As will be observed, the width of the clamp being greater than the specified width of the frame members, said frame members are not in contact with both indentations or projections except when centrally positioned and at right angles to the clamp, or except when the kite is assembled and the frame members are substantially at right angles to each other.

It is, therefore, obvious that assembling and dismantling the frame members is greatly facilitated.

In Figure 6 there is disclosed a clamp accommodating three frame members 12, 13 and 14, utilized in the three stick kite. In this instance the projections make contact with the upper frame member when said frame members are substantially at oblique angles to one another or in assembled positions.

The kite, when stored or transported, is of a length equaling the vertical frame member and of a thickness equaling the closely wrapped face therearound.

When the kite is unwrapped the frame members 1 and 2 are in aligned positions

within the clamp 6, as shown in Figure 4, and are easily slidable in any direction.

To assemble the kite for flight, frame or cross member 2 is slid through the clamp toward the top of the kite and when substantially bisected by the clamp, is turned at substantially right angles to the vertical frame member. The cord 3 is then affixed to the ends of the frame members.

The portion 7 of the clamp will be tightly against the vertical frame member 1, the sides 8 of the clamp will be within the apex of two of the angles, and the lowermost points of the indentations 10 or projections 11 in the top portion 9 will make engageable contact with the frame or cross member 2.

A wedging action thus results and the possibility of slippage between the frame members under ordinary and usual pressure when the kite is in flight is eliminated.

The advantages of my clamp are manifold and it is far superior to any device now known or used for the purposes enumerated.

Its sturdy structure prevents distortion of the kite and consequent inoperativeness and the contact of the projections on the top frame member facilitates a tight connection when the kite is assembled.

It is distinctly understood that there are various changes in and modifications of my invention on which may be made and are contemplated within the spirit and scope of the appended claims.

I claim:

1. A clamp for use with the frame members of a kite of substantially closed configuration, a portion of which presents an undulating contour to prevent slippage of the frame members relative to each other when substantially in assembled positions and allow slippage of the frame members relative to each other when substantially in unassembled positions.

2. A clamp for use with the frame members of a kite of substantially closed configuration, a portion of which presents an undulating contour to prevent slippage of the frame members relative to each other when substantially in assembled positions and allow slippage of the frame members relative to each other when substantially in unassembled position, said clamp being circumferentially larger than said frame members.

3. A clamp for use with the frame members of a kite of substantially closed configuration, a portion of which presents an undulating contour to prevent slippage of the frame members relative to each other when substantially in assembled positions and allow slippage of the frame members relative to each other when substantially in unassembled positions, said clamp being greater in horizontal and vertical cross sections than said frame members.

4. In a kite having frame members, a clamp

of substantially rectangular form encompassing said frame members, and means on one side thereof to prevent slippage of the frame members when in assembled positions and allow slippage of the frame members when in unassembled positions.

5. In a kite having frame members, a non-deformable clamp of substantially rectangular form encompassing said frame members, and means on one side thereof to prevent slippage of the frame members when in assembled positions and allow slippage of the frame members when in unassembled positions.

6. In a kite having frame members, a non-deformable clamp of substantially rectangular form encompassing said frame members, and projections on one side thereof to engage one of the frame members, said clamp preventing slippage of said frame members when in assembled positions and allowing slippage of said frame members when in unassembled positions.

7. In a kite having frame members, a non-deformable clamp of substantially rectangular form encompassing said frame members, and projections on the top portion thereof to engage one of the frame members, said clamp preventing slippage of said frame members when in assembled positions and allowing slippage of said frame members when in unassembled positions.

8. In a kite having frame members, a non-deformable clamp of substantially rectangular form and of greater width than said frame members, and projections on the top portion thereof to engage one of the frame members, said clamp encompassing said frame members and preventing slippage thereof when in assembled positions and allowing slippage thereof when in unassembled positions.

9. In a kite having frame members, a non-deformable clamp of substantially rectangular form and being of greater width and depth than said frame members, and projections on the top portion thereof to engage one of the frame members, said clamp encompassing said frame members and preventing slippage thereof when in assembled positions and allowing slippage thereof when in unassembled positions.

10. In a kite having frame members, a non-deformable clamp of substantially rectangular form and being of greater width and depth than said frame members, the top portion of said clamp being provided with indentations forming projections to engage one of the frame members, said clamp encompassing said frame members and preventing slippage thereof when in assembled positions and allowing slippage thereof when in unassembled positions.

11. In a kite having frame members, a non-deformable clamp of substantially rec-

tangular form and being of greater width and depth than said frame members, the top portion of said clamp being provided with indentations forming downwardly extending projections to engage one of the frame members, said clamp encompassing said frame members and preventing slippage thereof when in assembled positions and allowing slippage thereof when in unassembled positions.

12. In a kite having frame members, a non-deformable clamp of substantially rectangular form and being of greater width and depth than said frame members, the top portion of said clamp being provided with indentations forming two downwardly extending projections to engage one of the frame members, said clamp encompassing said frame members and preventing slippage thereof when in assembled positions and allowing slippage thereof when in unassembled positions.

13. In a kite having frame members, a clamp of substantially closed configuration encompassing said frame members, and means on one side thereof to prevent slippage of the frame members when in assembled positions and allow slippage of the frame members when in unassembled positions.

In testimony whereof I affix my signature.
JOHN HAHN.

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