



Fig. 1



Fig. 2

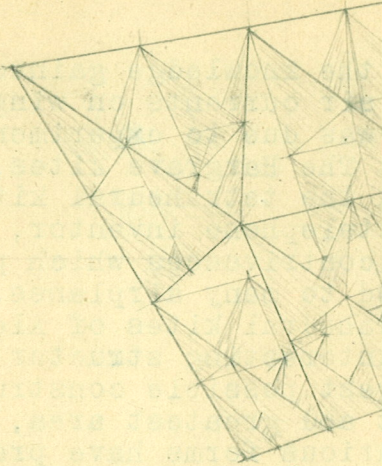


Fig. 3

In Fig. 1 is shown the frame work of one kite. This is made of six pieces of  $1/8$ -inch round dowel, sixteen inches long. Dowels come in many different sizes, ranging from  $1/8$  of an inch in diameter and are sold by most hardware stores. A sharp knife cut with a knife around the dowels about  $1/4$  in from each end. Using strong linen thread, bind three of these pieces together to form a triangle, by wrapping the thread into the notches, so that it will not slip off the ends. There will be  $1/4$  of an inch of the dowels projecting from each corner, so another cell can be readily fastened to each of the corners of the triangle, fasten the three remaining dowels and then finally fasten the ends of these last three together. The result is a triangular-shaped frame having four sides, a tetrahedron.

Paper can be used to cover the two slanted sides of the frame, but light-weight cloth or silk is better, as it will give without tearing. It is glued or stapled to the side of the frame, turning the edges around the corners.

For ordinary flying purposes a kite having the shape as shown in Fig. 2, is all that is necessary. If you desire to make a larger kite, twelve more cells should be added, which will give the kite the shape of Fig. 3.

The bridle is attached to the front and lower cells, as shown, and the kite string is attached to allow the kite to assume a slight backward

Much of the knowledge gained in regard to the action of air currents on wings and surfaces of airplanes was due to experiments with various kinds of kites. The Hargrave kites, better known as box kites, and the tetrahedral kites of Alexander Bell, the telephone inventor, were all efficient contrivances which possessed forms now adapted to many airplanes.

The tetrahedral kites of Alexander Bell are the most interesting structures, as they represent the strongest possible construction with the least weight and greatest area, and in their odd and curious forms have proven very successful kites. The United States Weather Bureau has used a great deal of very valuable information from these kites to carry their recording instruments. About 1908, Professor Bell built an airship consisting of several thousand of these cells which, as it may seem, flew very successfully.

I have made a number of these kites, and they have flown beautifully, and as they are very simple to make nowadays, I am going to tell you how to make them. The shape of the tetrahedron makes it possible to build a small kite without remodeling or altering the kite, and as many as you want--can be added for a

1/8 Doweling

12 Cells = 437 sq. in paper

288" of Frame = 648 gr.

16" Cells = 780 sq. in paper

384 in. of Frame (864 gr.)