MKF NEWS

QUARTERLY NEWSLETTER OF THE MIDLANDS KITE FLIERS OF GREAT BRITAIN

OCTOBER 2021

Bill Souten's new Edo Kite – a tribute to the late Hashimoto
Built by Paul Morgan of Sky Bums.

INFORMATION

CLUB FLY-INS

We hold club fly-ins each month (winter included) at various sites. These are informal events and are a great way of meeting other MKF members.

MEMBERSHIP CARDS

Your membership card may help you obtain discounts for purchases from kite retailers in the UK, and gain you entry to events and festivals free, or at a reduced cost.

Please keep them safe.

PUBLIC LIABILITY INSURANCE

All fully paid up members are covered by Public Liability Insurance to fly kites safely for '***pleasure***' anywhere in the world with the exception of the United States of America and Canada. If you injure anyone whilst flying your kite the injured party may be able to claim on the club insurance for up to **£5,000,000**. The club has 'Member-to-Member Liability Insurance'.

A claim may be refused if the flier was found to be flying a kite dangerously - e.g. using unsuitable line, in unsuitable weather; flying over people, animals, buildings or vehicles. This insurance does not cover you for damage to, or loss or theft of members' kite/s.

BUGGIES, BOARDS & KITESURFING

Unfortunately, we are not able to cover these activities within the clubs insurance policy.

The MKFNEWS is pleased to print articles and photographs submitted by any interested party. All submissions are reproduced at the Editors discretion, however the Club cannot be held responsible for any views or comments contained in any such articles.

YOUR CLUB OFFICERS

CHAIRMAN - NEWSLETTER EDITOR

Bill Souten

52 Shepherds Court
Droitwich Spa
Worcestershire, WR9 9DF
☎ 07840800830
billy.souten@btinternet.com

I am sorry but I don't do 'Facebook',
If you want me either email or phone ..... I'll always get back to you.

SECRETARY

Dave Hardwick

Sunnyside, Cheadle Road,
Oakamoor,
Stoke on Trent
Staffordshire, ST10 3AF
☎ 07598 392613

TREASURER

Julia Souten

52 Shepherds Court
Droitwich Spa,
Worcestershire, WR9 9DF.
☎ 07840800830

PHOTOGRAPH TO FOLLOW

MEMBERSHIP SECRETARY

Linda Richardson

19 Wigsley Close
Doddington Park
Lincoln
Lincolnshire, LN6 3LD
☎ 07925205616

PHOTOGRAPH TO FOLLOW

WEBSITE MANAGER

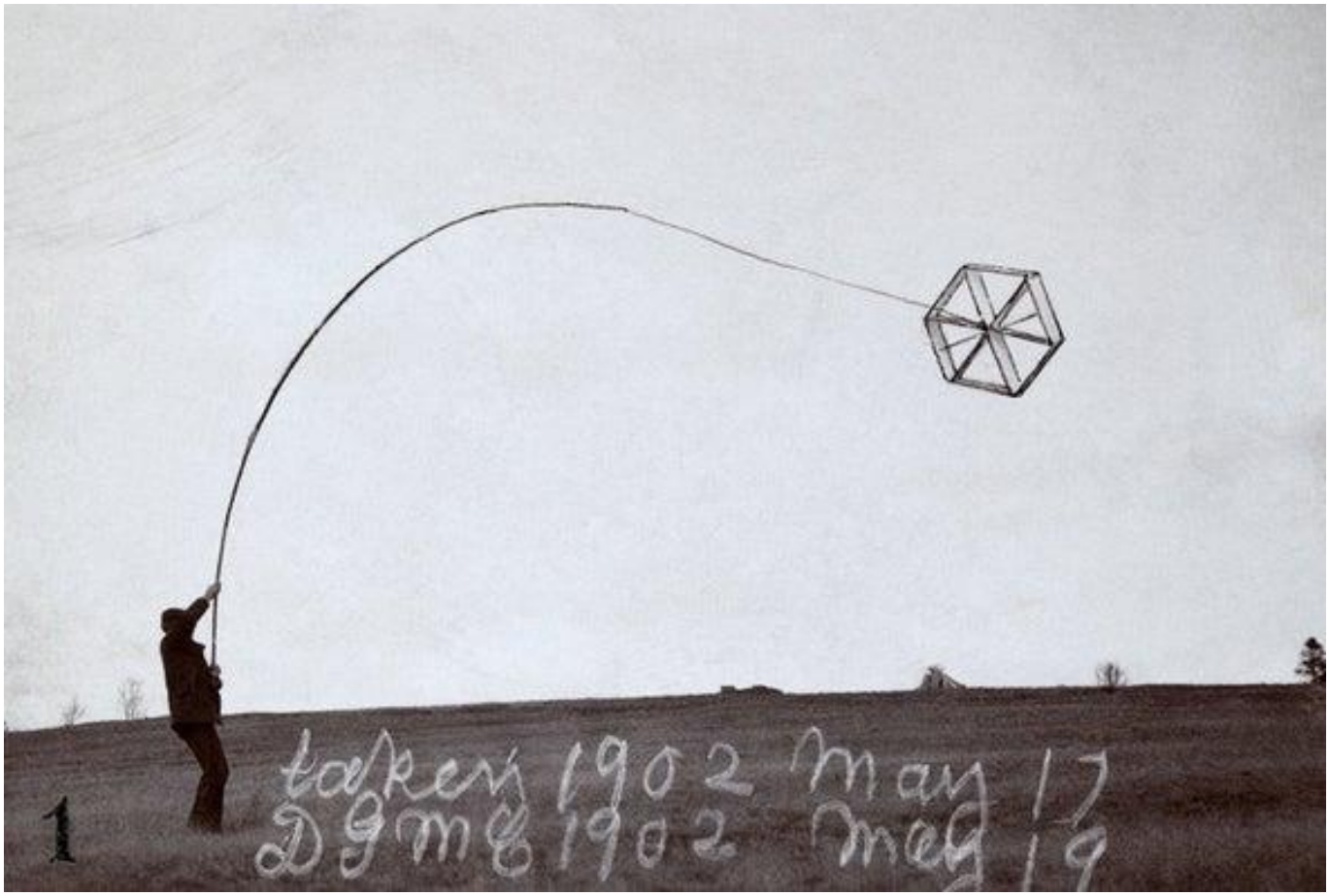
Sam Hale

12 Briery Street,
Lancaster,
Lancashire,
LA1 5RD.
☎ 07895 009128

PHOTOGRAPH TO FOLLOW

'MKFNEWS' DEADLINES FOR 2022+

MKFNEWS B. SOUTEN - EDITOR	'COPY' DEADLINE	PUBLISHING DATE
38	25th December 2021	Mid January 2022
39	25th March 2022	Mid April 2022
40	25th June 2022	Mid July 2022
41	25th September 2022	Mid October 2022



Credit: Bell Collection *National Geographic*

Hexagonal kite built by Alexander Graham Bell and his team. The design riffs on the "box kite," an 1890s innovation that connected two vertical wings to the standard parallel wing structure. By the end of that decade, the U.S. Weather Bureau sailed box kites carrying meteorological instruments.
Alexander Graham Bell Goes and Flies a Kite—for Science
After patenting the telephone, the famous inventor turned his attention to giant tetrahedral kites capable of lifting people into the air

AUTHOR
Leslie Nemo Leslie Nemo was formerly an editorial intern for *Scientific American*.

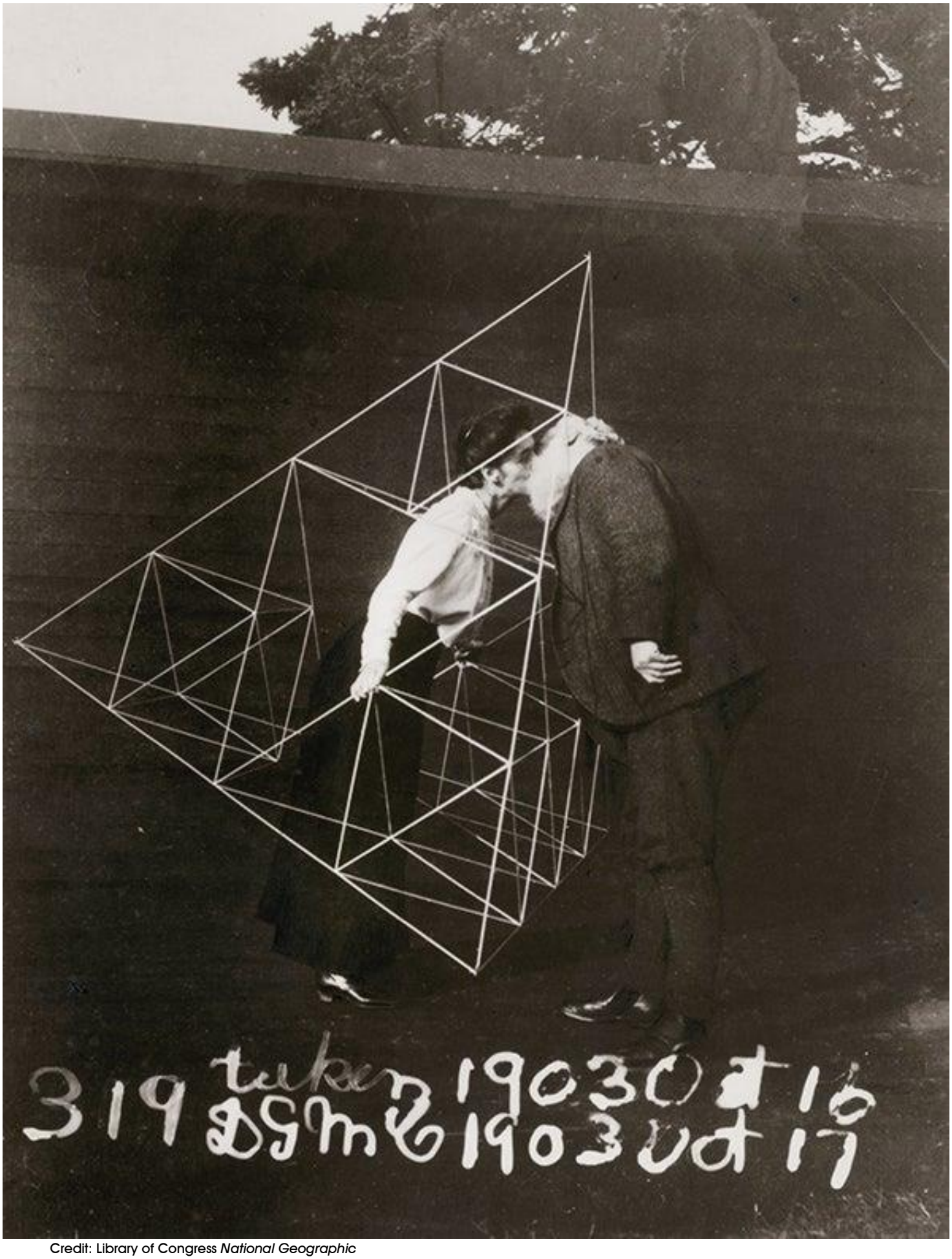
When he was 29 years old, Alexander Graham Bell patented the telephone—a claim that is reportedly one of the most lucrative ever filed in the U.S. Patent Office. Not long after, the young inventor lost interest in the device and put his growing wealth toward other pursuits—such as giant kites capable of lifting people off the ground.
"It is fortunate for those interested in aeronautics and the exploration of the air that Professor Alexander Graham Bell has joined the band of experimenters and is lending his inventive genius to the cause," wrote meteorologist Henry Helm Clayton, one of Bell's admirers, in 1903. The goal of flying people on kites was hundreds of years old. But the late 19th- and early 20th-century work evolved directly into the planes we have today. A crucial step in the Wright brothers' first successful powered flight in 1903 depended on their realization that a kite's wings could be warped as the craft flew.
Bell and his team, called the Aerial Experiment Association, ultimately focused their kite designs on tetrahedrons, or pyramids made of four triangles, and biplane structures, several of which used red silk. When he died, Bell's coffin was lined with the red silk.

Credit: Alamy

Circular kite composed of smaller tetrahedral shapes that was built by Bell and his team. The triangular design helped the researchers disprove skeptics who thought kites composed of many identical structures could ever lift someone off the ground.

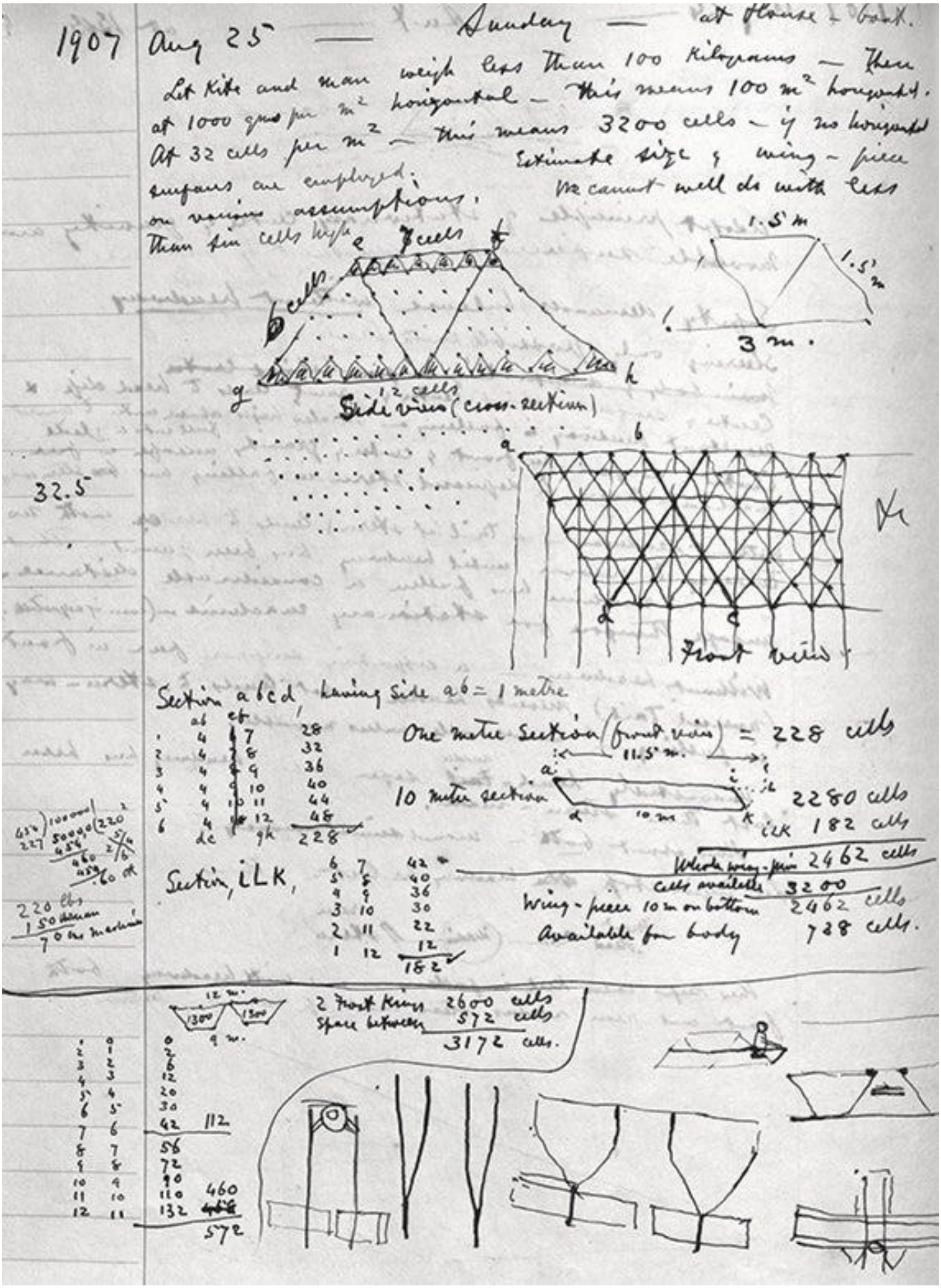
Credit: Bell Collection *National Geographic*

Bell kite composed of triangular sections. The original rectangular box kites needed internal bracing to keep their shape while flying, which added dead weight. Bell's idea to use the stronger, self-bracing triangle shape made for durable but light kites.



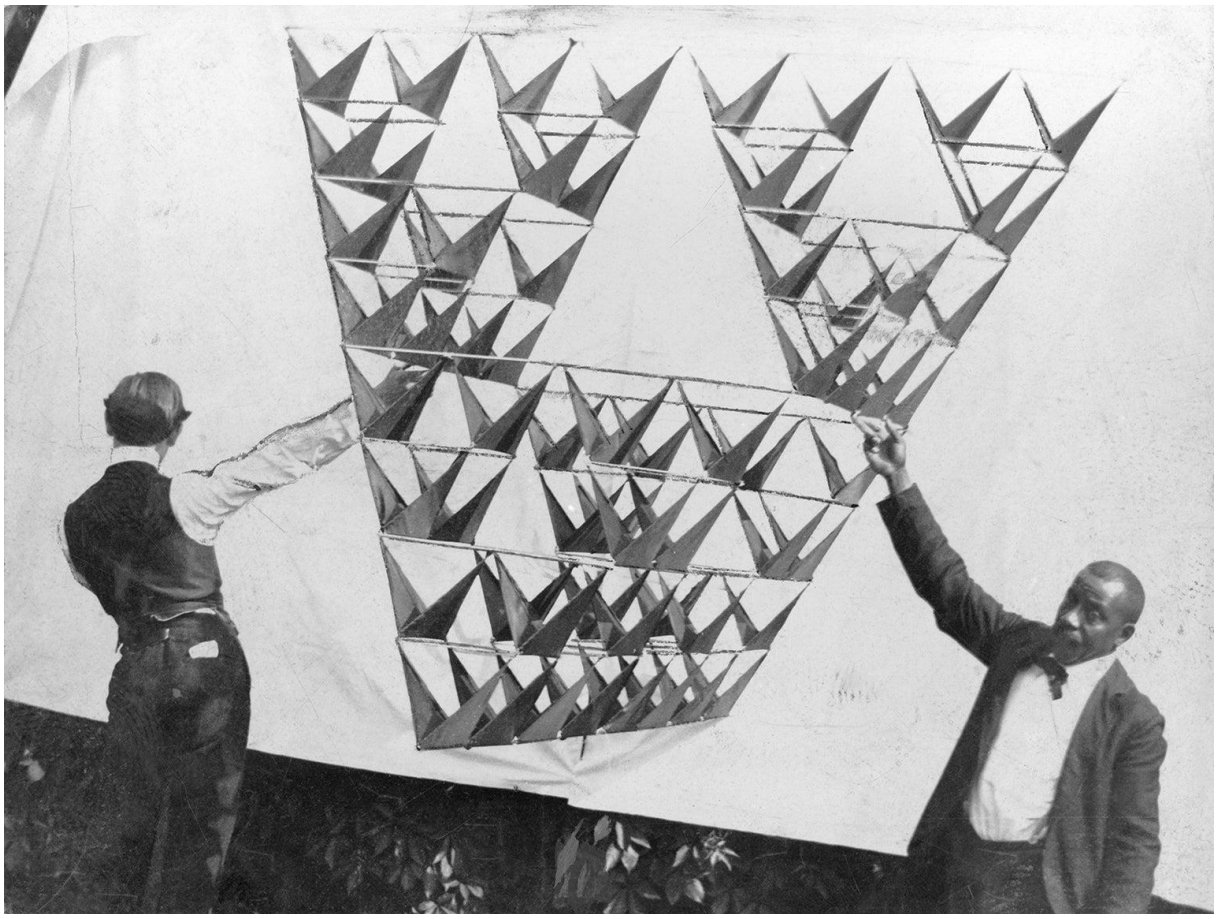
Credit: Library of Congress *National Geographic*

Alexander Graham Bell and his wife Mabel Bell kissing through a kite structure. Mabel Bell was integral to her husband's work. She advocated for him to assemble the Aerial Experiment Association. She even sold a home she owned to front the costs of putting the group together.



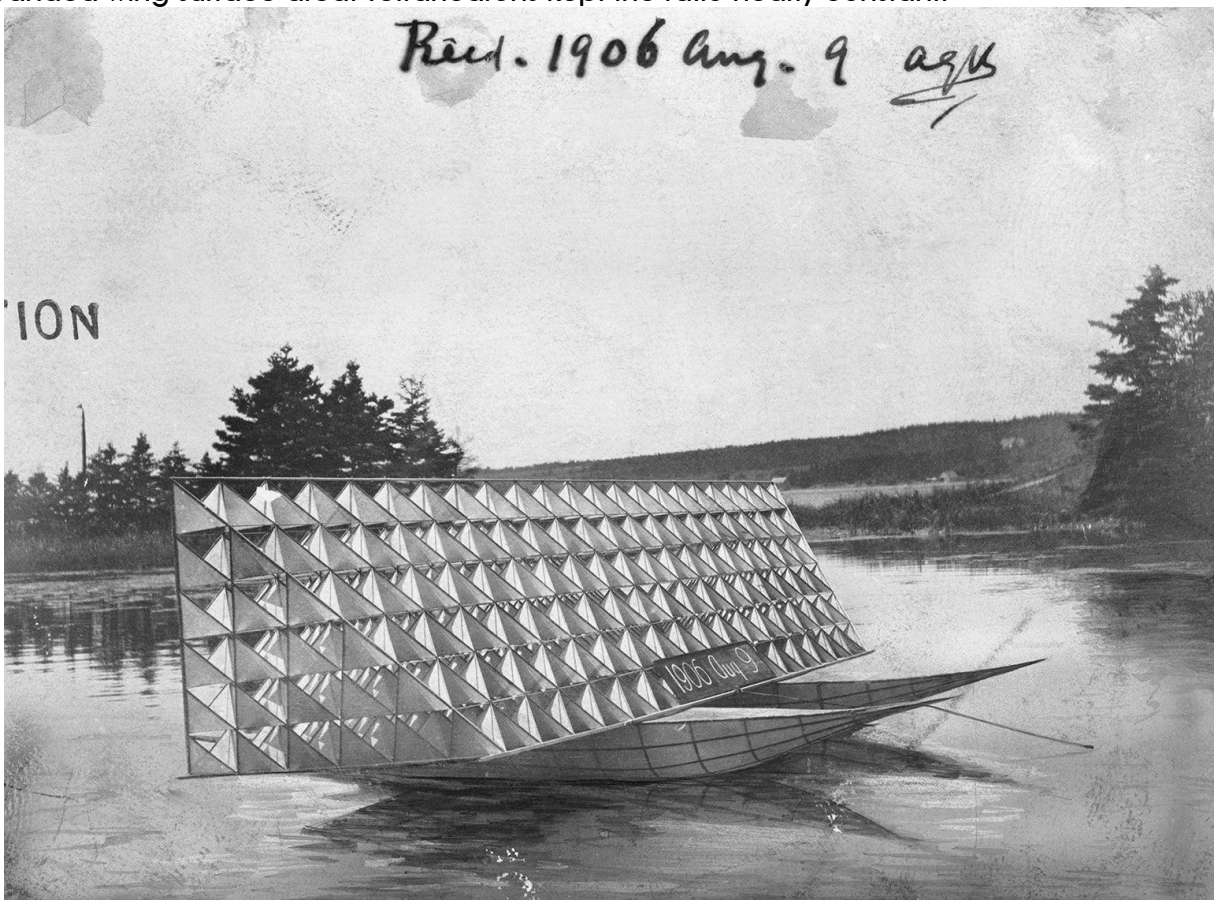
Credit: Library of Congress *National Geographic*

Alexander Graham Bell's designs for tetrahedral kites, which grew large enough to hold a human aloft. One of his first passengers, Lieutenant Thomas Selfridge, later became the first person to die in an airplane accident when working with the Wright brothers.



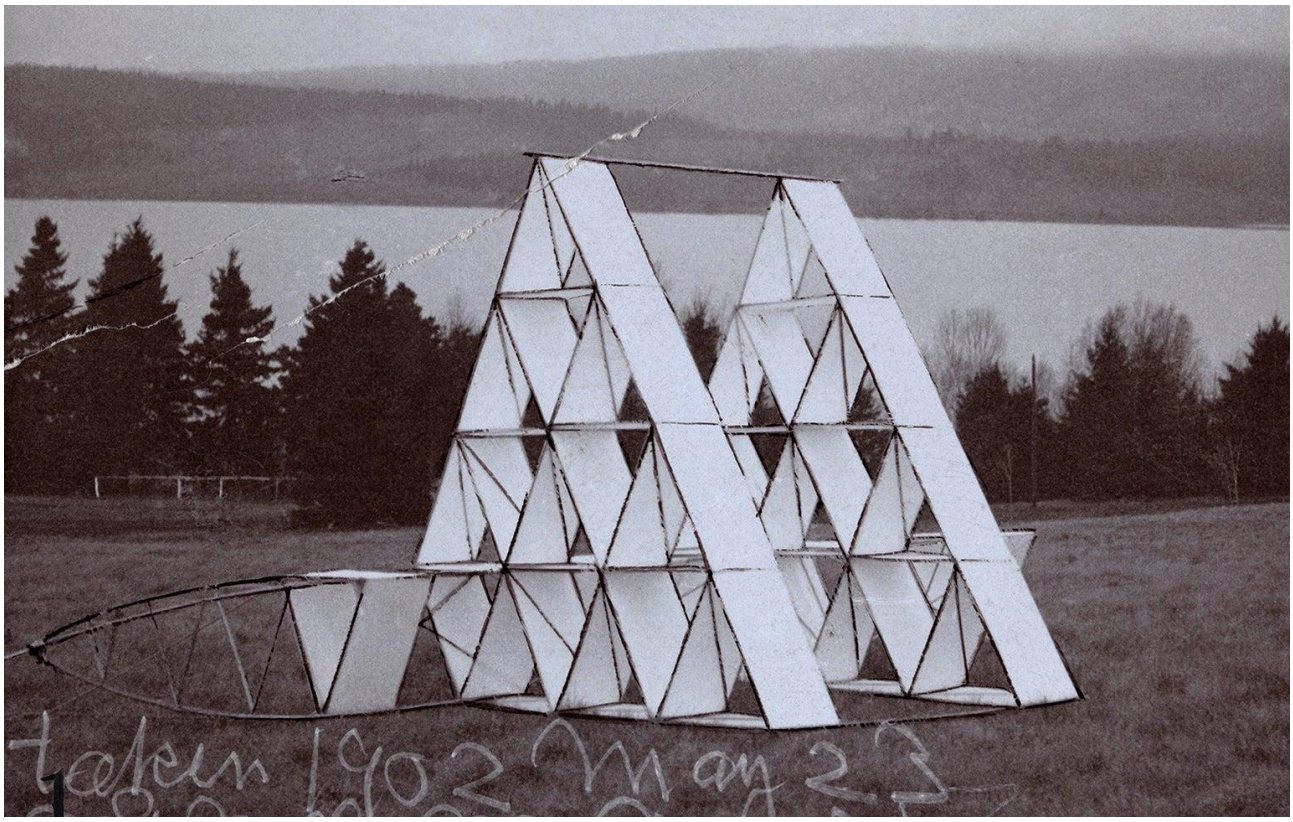
Credit: National Geographic

Tetrahedral kite. Unlike traditional rectangular box kites, Bell's tetrahedral shape could make increasingly larger structures, such as this 64-celled model. Aggregated rectangles increased kite weight faster than they expanded wing surface area. Tetrahedrons kept the ratio nearly constant.



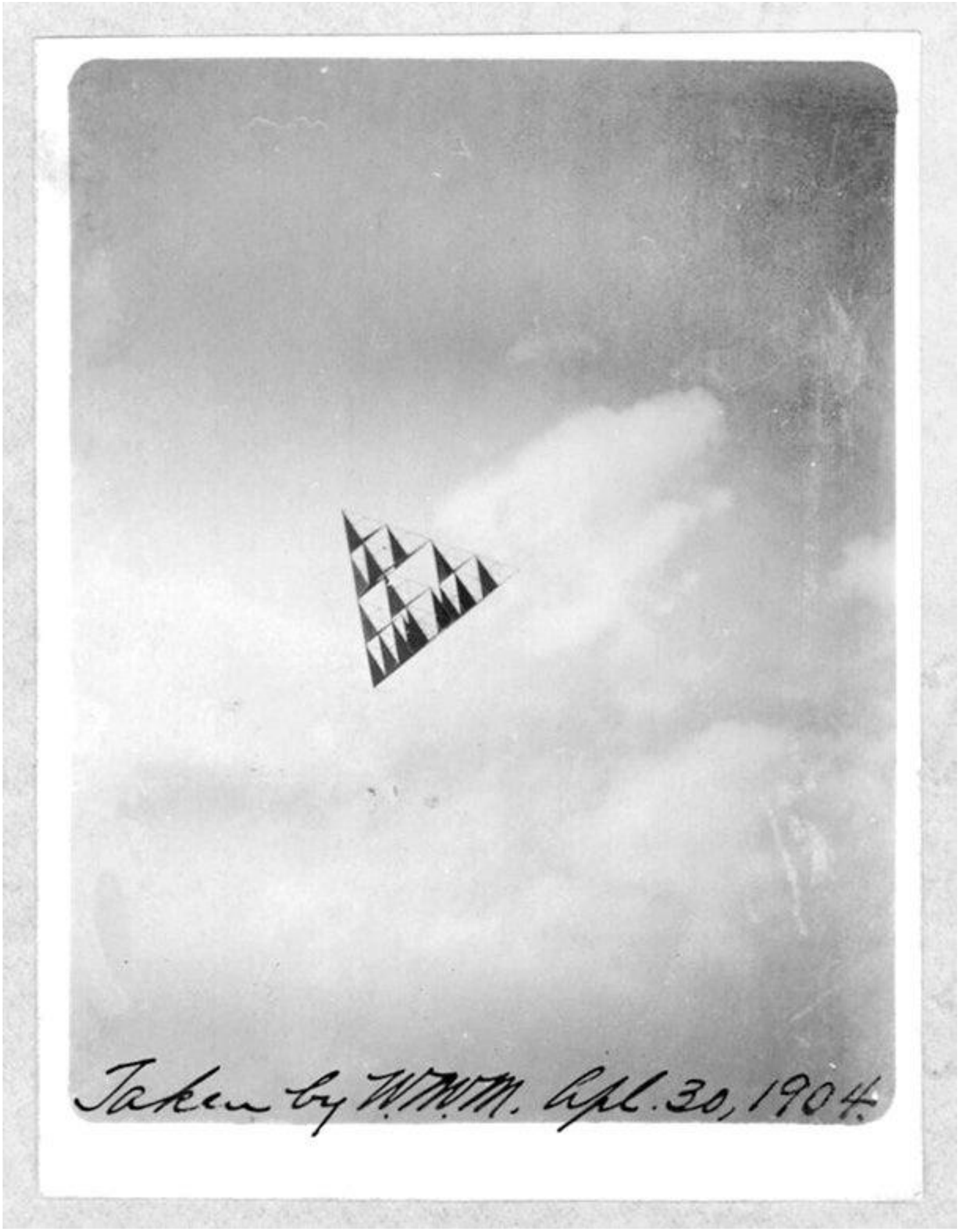
Credit: National Geographic

One of Bell's tetrahedral kites, towed on water. With kites, taking off and landing, particularly with people onboard, were difficult parts of the flying process. Bell's team thought that an aquatic runway would be less dangerous and launched a series of kites—Cygnet I, II and III—this way.



Credit: Bell Collection *National Geographic*

Bell team kite made of triangular cells. The researchers moved on from triangular to tetrahedral kites because of the design hurdle seen here. Triangle-based kites had to be arranged in two sections connected by wood—deadweight that tetrahedral designs avoided.



Credit: Public Domain Review

Relatively small tetrahedral kite in flight. The boom in kite innovation and subsequent engine-powered flight led to the founding of the National Advisory Committee for Aeronautics in 1915. The agency turned over its operations to NASA in 1958.

Credit: Public Domain Review

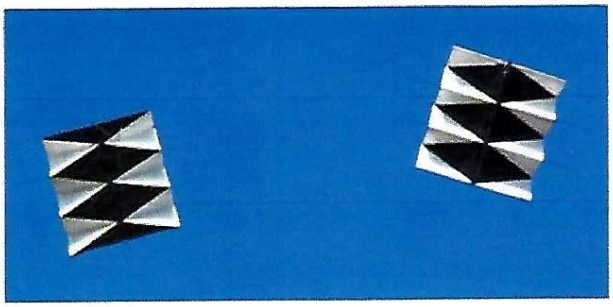
Onlookers watch a flight. Early flight researchers had rocky relationships with the public and press—a theme that extended to Robert H. Goddard, the inventor of the liquid-fueled rocket. Goddard first proposed launching such a rocket to the moon in 1920, which earned him heavy criticism from newspapers.

The Fold Black

By Andreas Ågren

Inspired by Chinese Rigid Wing kites such as the Swallow, the Fold Black is simply the wing part of the Rigid Wing, only tripled.

The Fold Black comes in two versions, A and B. B is more or less A turned over back to front. I have to admit that the B version is the result of an early mistake I made when I put the skeleton on the wrong side of the kite. As a matter of fact, because of the symmetrical design, either of the two edges will do as a leading edge. You decide which when you tie the bridle.



MEL GOVIG

Left, Andreas Ågren ties flying lines on his two Fold Blacks. Above, Model A and Model B Fold Blacks make a study in contrasting pairs as they fly together in the Norwegian sky.

The sail material is stiff Tyvek (Type 10, like Tyvek envelopes or housewrap air barrier), the spine is a triangular wooden stick (a "fillet" from a lumber yard) and the spars are thin bamboo sticks from a window blind (an import store is a good supplier for these).

I haven't yet managed to make the Fold Black dismountable, and since the foldings are rather sensitive, I have to use a transportation box to and from the field.

Materials

- Cardboard or poster board for templates
- Stiff (Type 10) Tyvek for sail
- Thin bamboo, approximately 330 and 600 mm (from matchstick screen) for spars
- White glue
- Triangular wooden stick (fillet), triangle base approximately 10 mm, stick length 380 mm, for spine
- Bridle line is less than 700 mm. (If the extending spars are shorter than suggested, make a shorter bridle line to avoid tangling the bridle in the extending sticks.) The towing point is about ⅔ of the length of the kite from the leading edge.
- Acrylic paint (black)

Directions

1. Make three copies of the template for Model A and cut them out, leaving an edge on both sides of each so you can glue them together. Also leave an edge of about 10 mm at the top. These edges are the shaded parts in Figure 1. The top edge is for connecting to the other half and the end parts are for hiding the leading and trailing edge sticks.

2. Glue the three parts together. You now have the template for one side of the kite.

3. Copy the template onto the Tyvek twice.

4. In order to locate the starting points on the Tyvek for the lines going from the center to the edge, push a needle through the three points indicated in Figure 1 to make a mark in the Tyvek.

5. Now prepare the folding lines in the Tyvek by drawing all lines with a dull point (like a pencil without the lead).

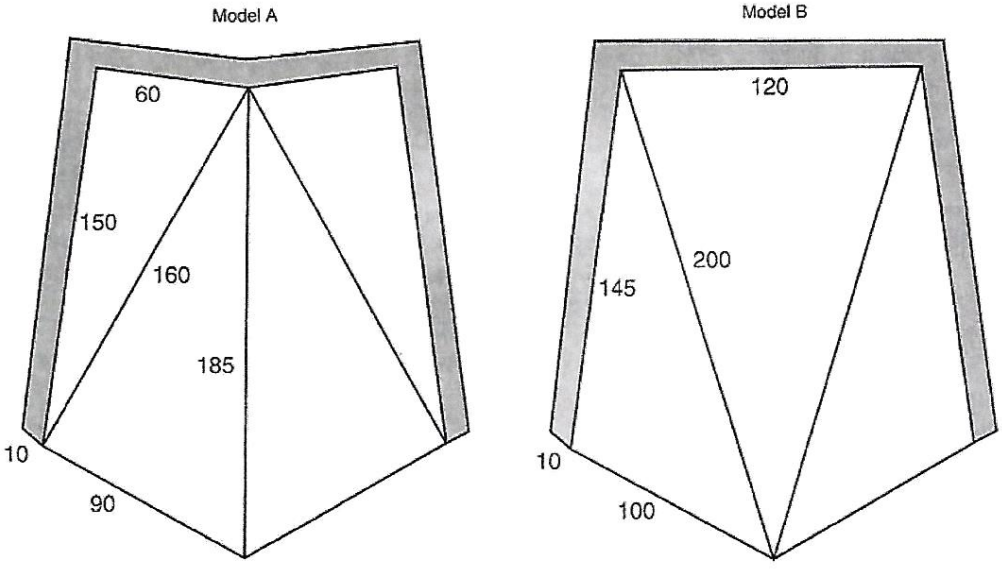
6. Paint the shaded triangles and paint the spar sticks. I use acrylic paint (black), which covers well.

7. Cut the three slots and fold along the lines, mountain folds and valley folds according to the lines in Figure 2.

8. Then glue both halves together, closely observing the alignment. To make the alignment easier you can draw small lines exactly on the middle of each triangle base on the unpainted side. These are also the positions of two of the spar sticks.

9. Measure the length of the kite; it should be 360 mm. Add 20 mm and cut the triangular fillet that long (380 mm).

TEMPLATE FOR PART OF ONE WING (in millimeters)



Extracted from KITE LINES – SUMMER 1996

FOLD BLACK

drawings not to scale
by Andreas Ågren

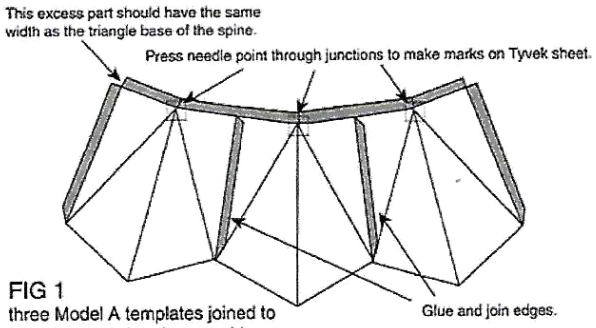


FIG 1
three Model A templates joined to complete template for one side

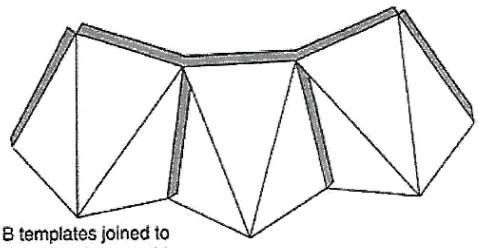


FIG 5
three Model B templates joined to complete the template for one side

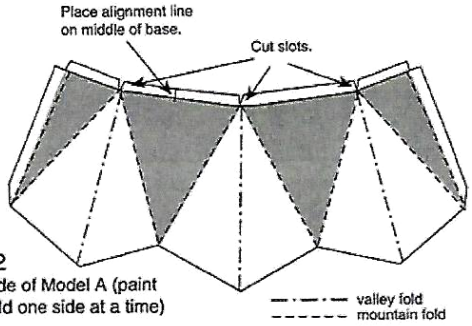


FIG 2
one side of Model A (paint and fold one side at a time)

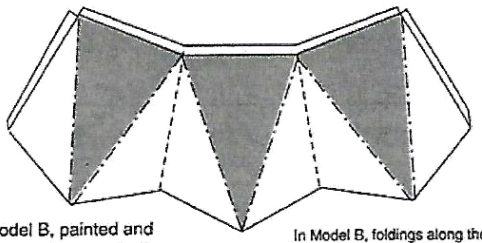


FIG 6
one side of Model B, painted and ready for joining to the other half

In Model B, foldings along the gray triangles are valley folds.

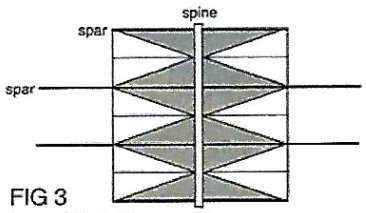
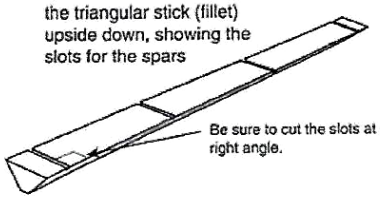


FIG 3
back of Model A view with the two halves joined

FIG 4
the triangular stick (fillet) upside down, showing the slots for the spars



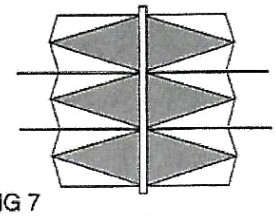


FIG 7
back view of Model B

10. Figure 3 shows the position of the spine and the spars on the back of the kite. The two halves will be joined by gluing the edges pointed out in Figure 1. Place the spine on this joining area. The gray areas in the drawings are flat and the white areas form the air stream channels. Put the spine on the back of the kite, leaving 10 mm extending on each end. On the spine, mark accurately the position of the four spars.

11. Cut four slots in the spine, just deep and wide enough for the spars to fit tightly, as in Figure 4. Glue the spine and spars onto each other and then onto the Tyvek in one move. Make adjustments so everything is aligned.

12. When this has dried, fold and glue the extra Tyvek over the leading and trailing spars.

13. Cut the leading and trailing spars to align with the Tyvek and the middle spars to equal length. Since the extended parts are only decoration, cut to suit your taste.

14. Tie a two-point bridle to the kite, on the spine ends sticking out. You should color them now if you haven't already. The kite's towing point position isn't very sensitive, but it should be about ⅔ the length of the kite from the leading edge, whichever edge you choose to be leading.

Figures 5, 6 and 7 show the similar process for building Model B.

Flying

The Fold Black flies without tails, and I like to fly A and B on a forked string, pretty close to each other. I enjoy hearing people discuss whether they are exactly alike or not, and what, if any, the difference might be...

Variations

So far I have made these kites only triple-winged, but I suppose you can make as many wings as you like. If you cut out each kite half in one piece, you would have a geometrical limitation on how many wings could be attached to each other before you would have a complete circle.

Your comments are welcome, especially if you come up with a Model C! ♢

Andreas Ågren, a software engineer by trade, lives in Sala, Sweden, six hours away from Fredrikstad, Norway. He had not even flown a kite until his 42nd year (four years ago) when he attended the Cervia Volante International Kite Festival in Italy as a member of the club called Sala Kite and Tango Party.

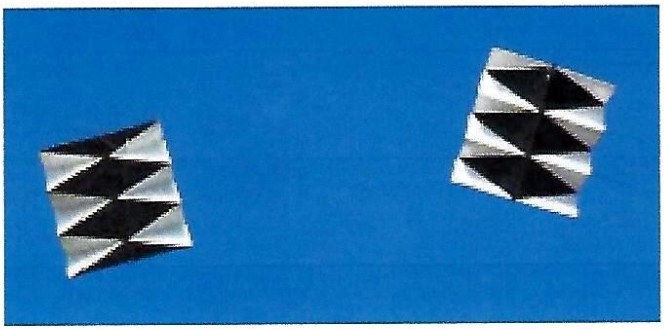
KITES FOR CONNOISSEURS

FOLD BLACK

ANDREAS ÅGREN
andreas@windman.se

WINDMAN BIEGOLMAI

Kites for Connoisseurs **is a collection of plans for kites designed by Andreas Ågren. These kites often have a unique technical twist. The plans can be found at *http://windman.se/kite-plans* and they may not be used for commercial purpose without written consent.**



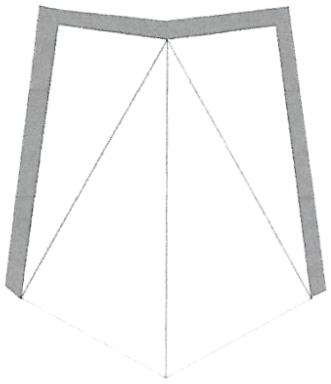
The **Fold Black** (1995) is inspired by Chinese Rigid Wing kites such as the Swallow, and the Fold Black is simply the wing part of the Rigid Wing, only tripled.

The Fold Black comes in two versions, A and B. B is more or less A turned over back to front. The sail material is stiff Tyvek (type 10, like Tyvek envelopes or housewrap air barrier), the spine is a triangular wooden stick (a "fillet" from a lumber yard) and the spars are thin bamboo sticks from a window blind. The Fold Black is not dismountable, and since the foldings are rather sensitive, a transportation box needs to be used to and from the field.

Material

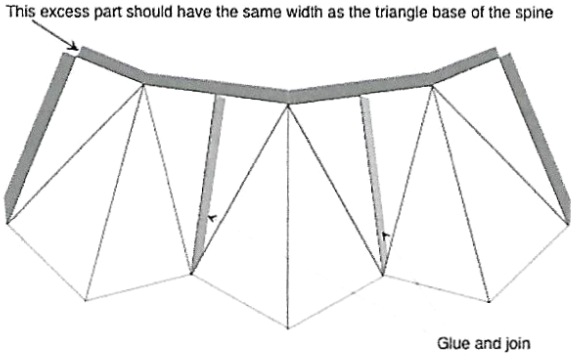
- Cardboard or poster board for templates
- Stiff (Type 10) Tyvek for sail
- Thin bamboo, approximately 330 and 600 mm (from matchstick screen) for spars
- White glue
- Triangular wooden stick (fillet), triangle base approximately 10mm, stick length 380 mm, for spine
- Bridle line is less than 700 mm.
- Acrylic paint (black)

This is a description on how to make Model B. The same goes for Model A

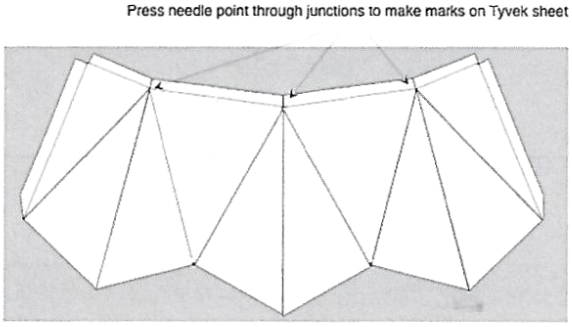


Directions for making Fold Black

1. Make three copies of the template for Model B and cut them out, leaving an edge on both sides of each so you can glue them together. Also leave an edge of about 10 mm at the top. These edges are the shaded parts in the figure. The top edge is for connecting to the other half and the end parts are for hiding the leading and trailing edge sticks.

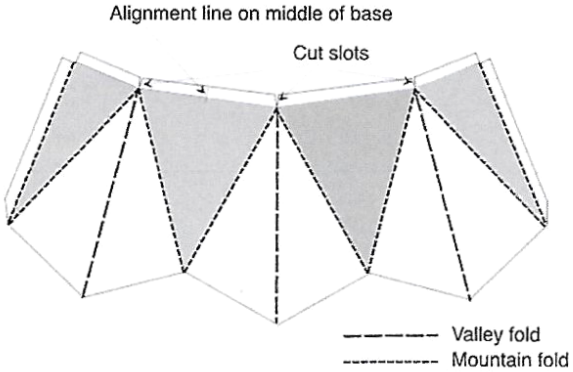


2. Glue the three parts together. (On two of the pieces you need to cut one side of the template before gluing.) You now have the template for one side of the kite.

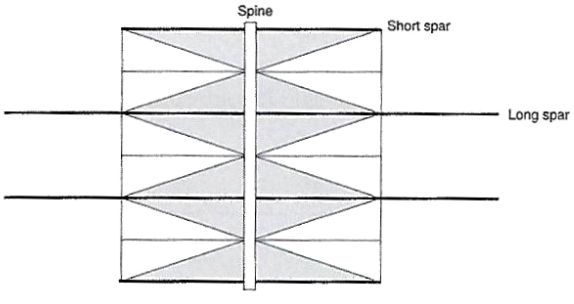


3. Copy the template onto the Tyvek twice for the both sides.
4. In order to locate the starting points on the Tyvek for the lines going from the center to the edge, push a needle through the three points indicated in Figure 1 to make a mark in the Tyvek.

Model B half viewn from front



5. Now prepare the folding lines in the Tyvek by drawing all lines with a dull point. This is to make a dent in the material.
6. Paint the shaded triangles and paint the spar sticks. Use acrylic paint (black), which covers well.
7. Cut the three slots and fold along the lines, mountain folds and valley folds according to the lines in the figure.

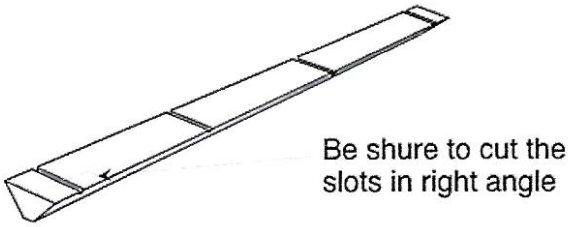


8. Put the halves together, joined at the overlapping part pointed out in the first figure, closely observing the alignment made on the middle of each triangle base on the unpainted side. These are also the positions of two of the spar sticks. Glue on the overlapping part.
9. Measure the length of the kite; it should be 360 mm. Add 20 mm and cut the triangular fillet that long (380 mm).

10. The figure above shows the position of the spine and the spars on the back of the kite. Place the spine on this joining area. The gray areas in the drawings are flat and the white areas form the air stream channels.

11. Put the spine on the back of the kite, leaving 10 mm extending on each end. On the spine, mark accurately the position of the four spars.

12. Cut four slots in the spine, just deep and wide enough for the spars to fit tightly, as in the figure. Glue the spine and spars onto each other and then onto the Tyvek in one move. Make adjustments so everything is aligned.



13. When this has dried, fold and glue the extra Tyvek over the leading and trailing spars.

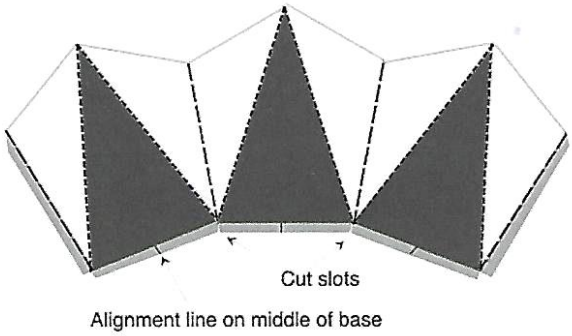
14. Cut the ends of the leading and trailing spars to align with the Tyvek.
15. Cut the middle spars to equal length, protruding approx. 15 cm on each side. Since the extended parts are only decoration, cut to suit your taste.

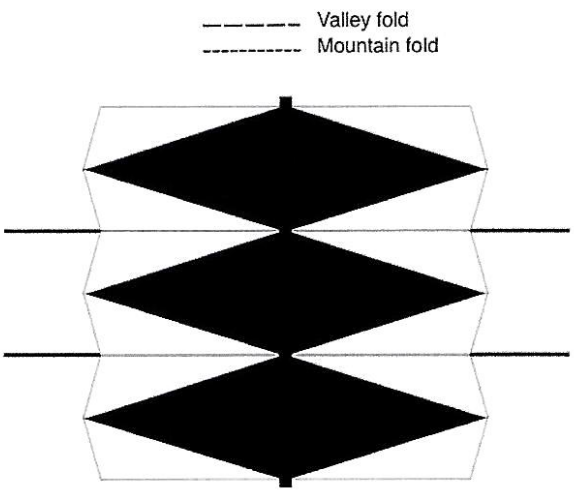
16. Colour the protruding edges of the spine

17. Tie a two-point bridle to the kite, on the spine ends sticking out. The kite's towing point position isn't very sensitive, but it should be about 2/7 the length of the kite from the leading edge, whichever edge you choose to be leading. If the extending spars are shorter than suggested, make a shorter bridle line to avoid tangling the bridle in the extending sticks.

Fold Black Model A is made in the same way

Model A half viewn from front





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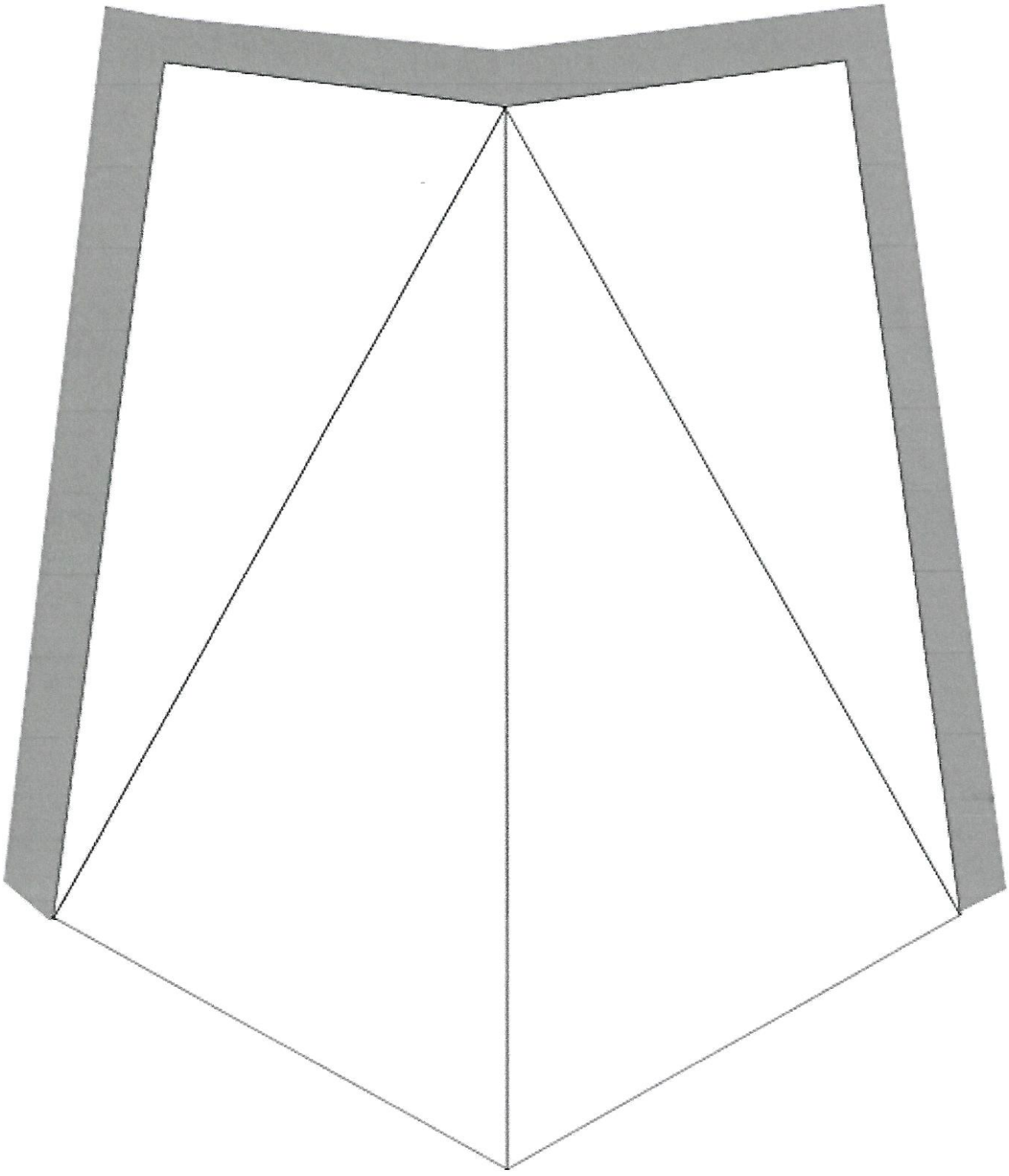
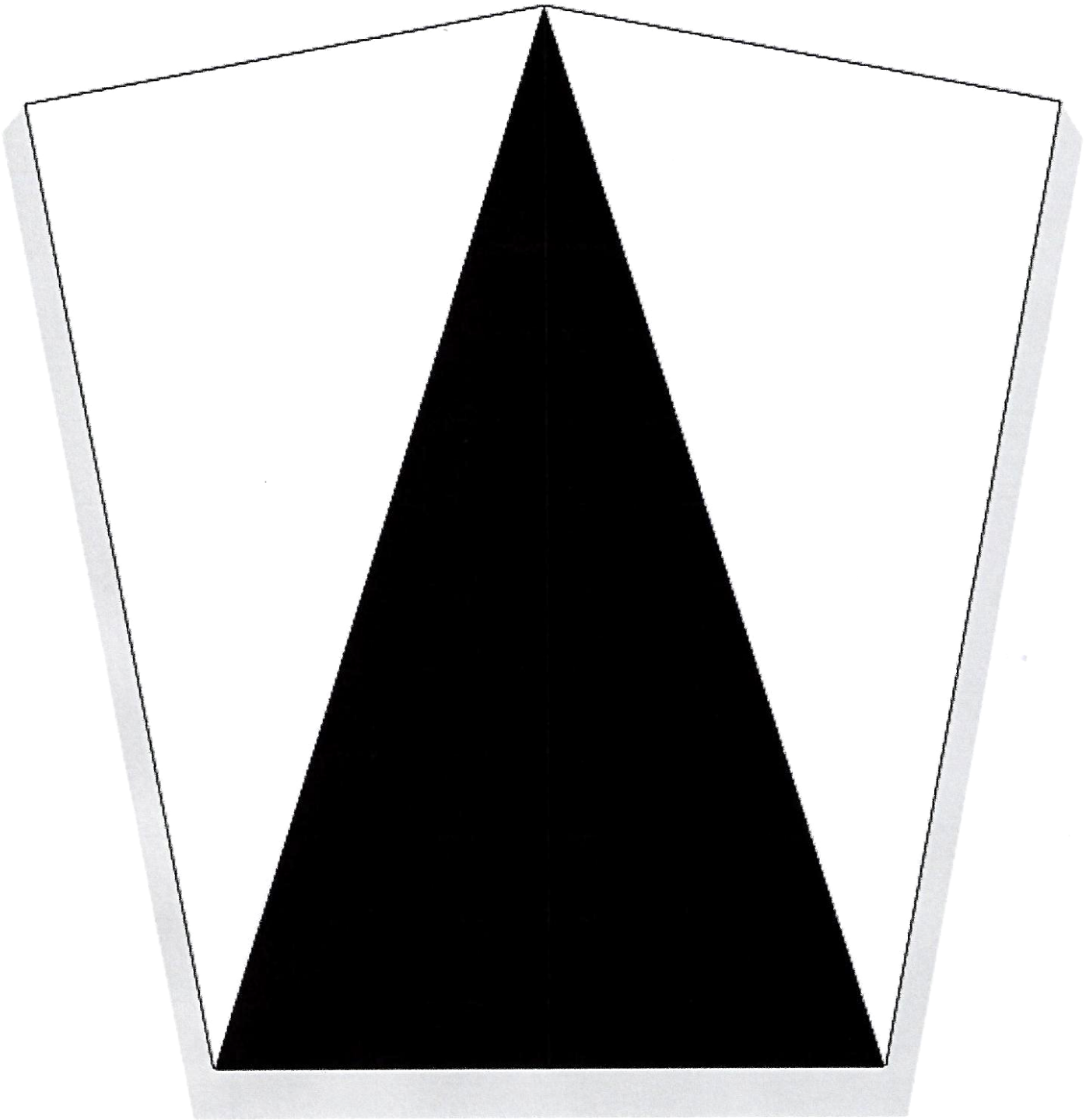
*This plan was first published in **KiteLines** in 1996, vol 12, no 1.*

Full scale template for Fold Black model B



Full scale template of Fold Black model A



Convention Challenge #3: Make a Patchwork Kite

By Bill Lockhart and Betty Street

DANIEL PRENTICE

This article first appeared in American Kite *magazine, Winter, 1989.*

Basic Building Blocks

Traditional patchwork is one of the few truly North American art forms and it has recently seen a revival in popularity for both traditional and contemporary patchwork quilts. During the 1980s, patchwork rose to new heights as kites made with quilt patterns decorated the sky.

The individual blocks of the patchwork quilt provide exciting design sources for many types of kite sails. Since 1982, both of us, individually, have experimented with numerous quilt blocks as a starting point for kite sail designs. Here we present our thoughts concerning the selection and modification of quilt blocks, color selection, pattern making, cutting, and sewing tips for patchwork kite construction.

The first step is to design and layout the blocks. Most patchwork quilt blocks are developed by joining a series of geometric shapes to form a square. However, you can alter blocks to form other shapes such as rectangles (see Blocks A & A-2), or diamonds of varying proportions; parts of the blocks can be simplified (Blocks B & B-1), enlarged, and/or exaggerated.

Blocks may be used individually or repeated, or used in combination with other blocks to create new patterns. We use graph paper for planning and altering blocks, and for trying repeated patterns.

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As you become acquainted with the various blocks, it's natural to begin designing your own. However, don't be surprised to discover that your "new" block was used back in the 1800s. Quilters long ago "invented" a virtually unlimited variety of patterns.

Libraries, bookstores, and quilt and fabric stores carry a wide variety of interesting quilt books, both new titles and old classics. They are excellent sources for research and study before beginning your first patchwork kite.

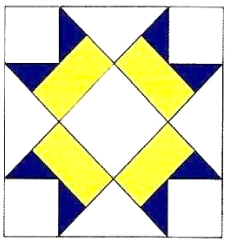
Traditionally, quilts are made from cotton or similar fabrics and sewn by hand (pieced). We use ripstop nylon for strength and double-stitched seams (i.e. straight-stitched seam which is folded over and top stitched with a zigzag or similar stitch). This sets certain limitations in selecting, developing, or altering blocks.

We recommend working with blocks made of straight-edged pieces that can be assembled with a series of straight seams (Blocks A & A-1). It's more difficult to curve and turn corners when you're sewing double-stitched seams. Applique techniques are better suited for most curved designs and you can applique on top of patchwork.

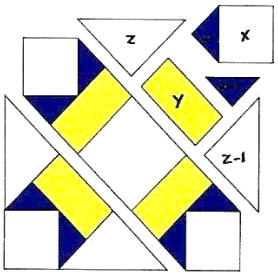
Some blocks require adaptations and additional cuts to eliminate turning corners during construction (Block C). The extra cuts will allow sections to be joined with straight seams. Pattern sections using the same fabric appear as one shape when seen in the sky.

We try to avoid blocks that include many seams meeting a one point (Block D). This can create a construction problem, since it is difficult to stitch smoothly over multiple, overlapping seams. Shortening the parts and applique-ing a related shape over the area eliminates the problem (Block D-1).

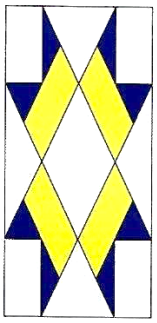
As you work with patchwork blocks, you will develop you own guidelines for what works best for you. Remember, the blocks are only the starting point for your designs. You have unlimited ways in which these can be varied and developed into your own exciting designs for kites.



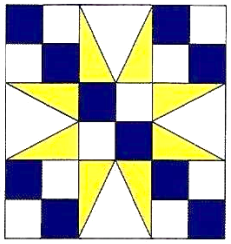
Block A: *This is a traditional quilt block pattern which may be assembled with a series of straight seams.*

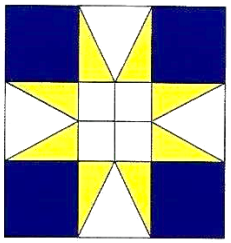


Block A-1: *This block is assembled into three straight sections. First, "W" and "W-1" are seamed to "X," followed by seaming "Y" to the three-piece section. Parts "Z" and "Z-1" are then joined on either side. When the three main sections are complete, they are joined with straight seams.*

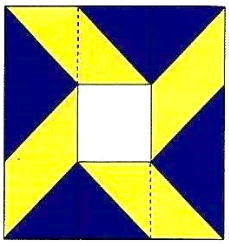


Block A-2: *Block A has been changed to a rectangle.*

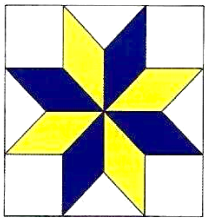




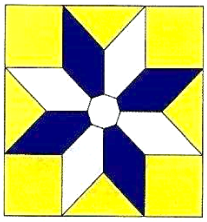
Blocks B & B-1: *Illustrating how to simplify a block by eliminating the squares on the corners.*



Block C: *This block will require additional cuts in order to assemble in straight sections. The dotted lines indicate the cutting lines.*



Block D: *The star block has eight seams meeting in the center which will become very bulky when stitched.*



Block D-1: *An octagon can be appliqued over shortened points to eliminate multiple seams meeting in the center.*

DANIEL PRENTICE

Betty Street and Bill Lockhart flying in Long Beach, Washington, 1988. Two of their signature patchwork kites (opposite).

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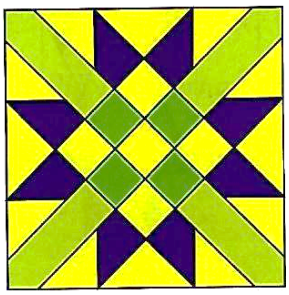
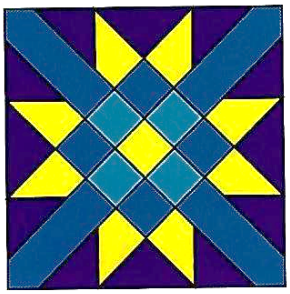
E-1

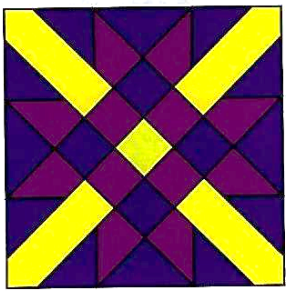


E-2

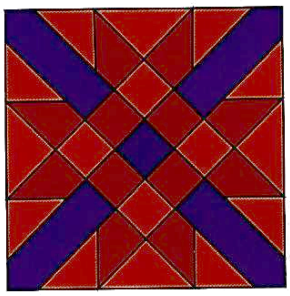


Blocks E-1 and E-2: *How value contrast can be used to emphasize the star in the pattern.*

E-3



E-4



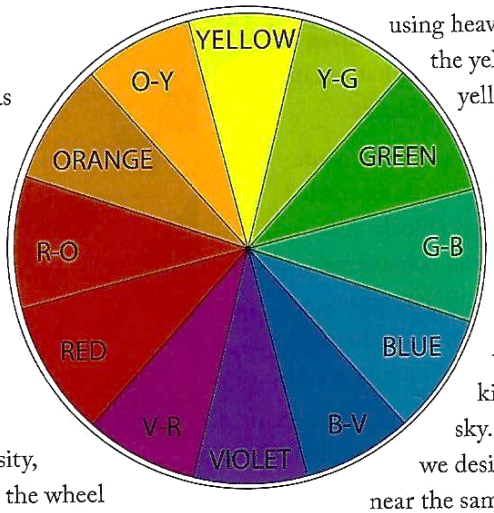
Blocks E-3 and E-4: *How value contrast can be used to emphasize the "X" in the pattern.*

Playing with Color

When we began designing kites, we had some problems with colors. Both of us had designed objects to be seen at fewer than 20 feet. We quickly learned that what might look great projected on the wall would look very different at 200 feet. Kite designs must effectively combine fabric colors when viewed both a close range and from a distance with light coming through the sail.

Contrast is a primary consideration in selecting color combinations of fabrics—color contrast, value contrast (dark/light), and to a lesser degree, intensity contrast (bright/dull). Some understanding of color theory is needed in order to choose the right combinations of colors.

The basic color wheel has 12 colors—black, white, and gray are neutrals. The normally light colors are located at the top of the wheel with yellow being the lightest. Violet is the darkest value and is at the bottom of the wheel. In normal value and intensity, colors at the same level on the wheel will have the same value (for example: red and blue, yellow-orange and yellow-green). At close range pure red and blue will show differences, but at a distance they will show much less contrast. Complementary colors (colors directly opposite each other on the wheel) show the greatest contrast; blue and orange, red and green, etc.



The entire configuration of the block can be changed through contrast placement. (See Blocks E-1 to E-4.) If you are repeating blocks, you must consider that a new pattern may be created where the blocks join.

Having selected a patchwork block or blocks for our kite, we draw a small sample on graph paper and use a photocopier to produce multiple copies. Use colored markers or pencils to experiment with different color combinations. Your own color preferences are a good place to start.

After making tentative color choices, select fabrics that match as closely as possible. We cannot mix fabric colors like paint, but we can sometimes layer fabrics for different effects. Tape swatches of ripstop to a window or light table to test the color with light coming through. Primarily, we use .75-ounce ripstop and sometime double-layer colors to produce darker and brighter shades.

We also combine 1.5-ounce ripstop with .75-ounce ripstop. The heavier fabric appears slightly brighter and darker in value than the lighter fabric. A single layer of .75-ounce yellow ripstop will appear slightly yellow-green in flight because of the blue sky. We correct that by using heavier ripstop or by doubling the yellow with another layer of yellow or white.

Placing a dark value next to a light value will make the dark appear darker and the light appear lighter. We prefer to use darker values on the outer edges of the kite to contrast with the sky. A seven-foot rokkaku we designed had a lime green near the same value as the sky as the background, and was almost lost in the distance. We corrected it by adding a border of a dark value around the entire kite.

Colors can be made to appear brighter or duller according to the placement with other colors. Complementary colors next to each other will, especially in bright intensities, make each appear brighter. The green of the parsley at the meat counter makes the meat appear a more intense red. Black makes most bright colors appear even brighter and dull colors appear duller. White tends to soften the effect and create a lighter appearance throughout.

Many colors or values in one design can be difficult to handle without a dominant constant and there are many ways to achieve this. You can have a dominance of warm colors in different values, with accents or contrast of cool colors, or you may elect to use several dark values in a

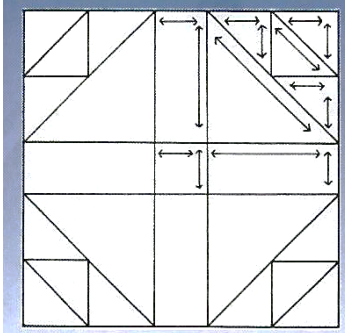


Figure F-1: *Arrows indicate straight grain of fabric on each pattern piece.*

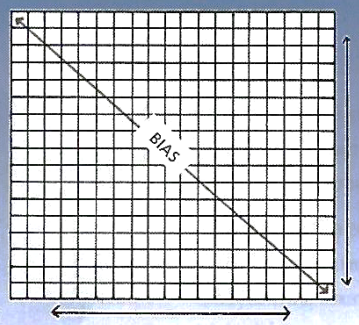


Figure F-2: *Ripstop nylon showing straight grain and bias.*

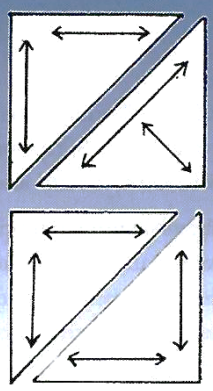


Figure F-3: *It is preferable to keep outer edges on straight grain and to join a bias edge to a straight grain edge. Arrows indicate straight grain.*

Figure F-4: *Avoid joining bias to bias. Arrows indicate straight grain.*

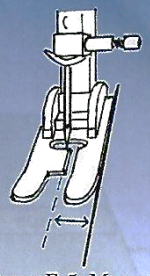


Figure F-5: *Measuring for seam allowance from the point of the needle to the edge of the presser foot.*

variety of colors, with the contrast being created through lesser amounts of light values.

Regardless of the type of patchwork kite, the key to color selection is experimentation and practice.

Cut Accurately

Once you've chosen a block or series of blocks for your patchwork kite and have settled on the colors, it's time to cut. Accuracy at this stage is our primary concern.

We begin by drawing a block, full size, onto butcher paper, being careful to use precise measurements and angles. Later we will use this paper pattern to cut templates from sturdier material.

Next, we mark the fabric grain line on each pattern piece before cutting the block into separate pieces (Figure F-1). The straight grain of the fabric follows either the horizontal or vertical threads of the ripstop. The diagonal angle across the threads is called the bias (Figure F-2). This is important because the fabric stretches more on the bias than on the straight grain.

We try to cut individual pieces so that all outer edges of the block are on the straight grain. We also try to place a bias edge next to a straight grain edge in order to control stretch (Figures F-3 and F-4). To ensure a straight grain on the outer edges of a block or sail, we often include a border which is cut on the straight grain.

After marking the grain, we cut the individual shapes apart using a metal straight edge and craft knife for precise cuts.

The method you choose to cut your fabric will influence the materials you choose for templates. Some kite builders "cold cut" the ripstop and depend on the double-stitched seams to reduce the chance of unraveled edges. We double stitch seams but prefer to "hot cut" our fabric to avoid unraveling all together.

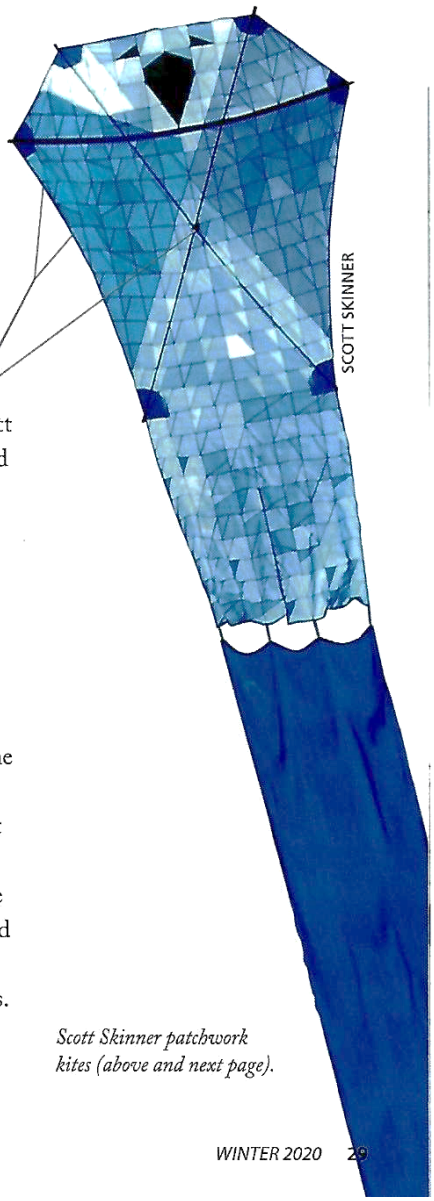
Cold cutting is done with any sharp blade using a Plexiglas or self-healing vinyl mat as a cutting surface. Heavy illustration board also works but must be replaced often. Templates cut from quilter's template plastic or illustration board work fine with cold cutting tools.

Hot cutting knives ($30 or more) are available at most supply houses selling ripstop. You can buy a soldering iron and heating unit for less at hardware and electronic supply stores, but you will need a cutting tip suitable for ripstop. We cut on glass purchased from local glass companies. You can use a hot cutter on Formica but if the cutter gets too hot it will mar the surface. For hot cutting, we use templates of matt or illustration board, knowing that with repeated use the template edges become burned.

[Please note that inhalation of plastic fumes from cutting ripstop or working on plastic surfaces such as Formica may be harmful to your health. It's important to work in a well-ventilated area and research health issues for your own safety.]

Tape your paper patterns to the template material and add seam allowances. We determine the seam allowance by measuring from the edge of the sewing machine's presser foot to the point of the needle (Figure F-5). Or you can sew a sample seam on ripstop, aligning the edge of the fabric with the outer edge of the presser foot, and measure. The pre-marked seam guides on the machine are set for seams too wide for our needs. We recheck the templates for accuracy in size and angle both before and after we cut.

Before cutting ripstop, we choose a front side



Scott Skinner patchwork kites (above and next page).

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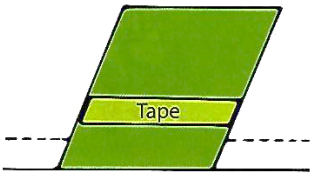


Figure G-1: The tape is affixed above the stitching line.

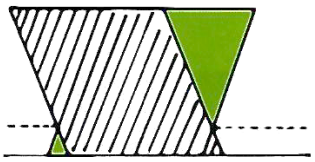


Figure G-2: The edges extend and should cross at the seam line.

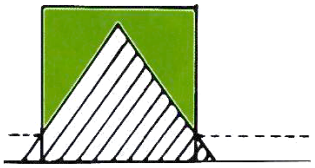


Figure G-3: The bottom points of the triangle will cross the edges of the rectangle at the seam line.

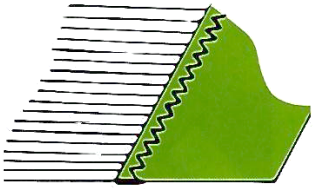


Figure G-4: Close-up of the right side of the fabric with zigzag top-stitching to hold seam flat.

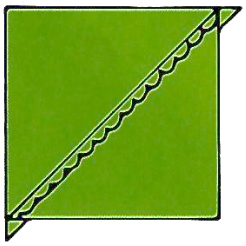


Figure G-5: Another example of top-stitching a segment to hold the seam flat.

for each fabric. Normally the rougher side is the back. A small piece of tape on the front of each piece will identify it until it is sewn.

Finally, when using multiples of the same block, we cut all the pieces for one block and assemble it before cutting the rest. This allows us to check the pattern for accuracy and appearance one last time.

So, it's time to Sew

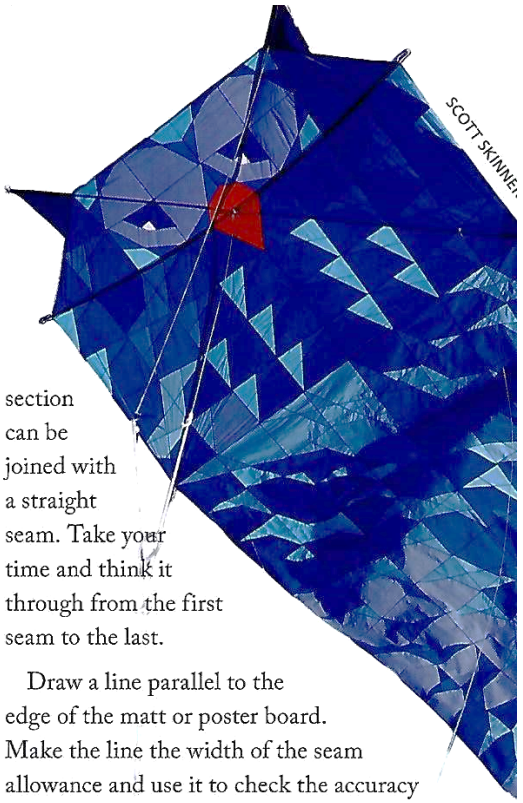
After all your careful preparation, it's time to sew. It is important that straight seams be reasonably straight and of consistent width. Practice on scraps of ripstop to become familiar with your machine and to develop a skill for stitching straight seams. If you're new to sewing, we suggest making a "Crazy Quilt" as your first project. (See sidebar, "Learning to Sew a Crazy Quilt" on page 31.)

It's important to check your machine and to see how it is stitching on ripstop. Use Mettler Metrosene thread and #70/10 (or #80/12) machine needles. Good quality needles suited to the size of your thread are important. The thread should fit the groove of the needle. Since ripstop dulls needles rapidly, it is important to change needles frequently in order to achieve consistent stitching.

If you are planning to purchase a machine, test various models and brands on ripstop. The slick surface and the thinness of the ripstop can cause difficulties in sewing. Find a machine that sews the best seam for you. A good quality machine is a good investment; the cheaper machines often do not handle ripstop without problems. It's also good to check the service and warranty agreements on the machine; you will want to have the machine cleaned and serviced frequently. This process can be quite expensive if no service is provided with the purchase of the machine.

We prefer to use a Teflon presser foot on our machines. Many people use a walking foot which is available for some machines.

In preparation for the actual sewing of the block, examine the sample block that you assembled. You must determine the order for joining pieces so that each additional piece or section can be joined with a straight seam. Take your time and think it through from the first seam to the last.



Draw a line parallel to the edge of the matt or poster board. Make the line the width of the seam allowance and use it to check the accuracy of seams. Use double-sided basting tape (1/4-inch) to hold pieces together while sewing (some people prefer to use hot tackers). The tape is affixed above the stitching line (Figure G-1) and the paper backing is removed to expose the other side of the tape. The second piece of fabric is then positioned face down on the first piece. The tape should be affixed just prior to stitching. Tape applied several hours before sewing is very difficult to remove. When using a hot tacker, the two pieces are joined in the seam allowance. The tacker creates small holes in the fabric, so all joining must be in the seam allowance area.

If you are sewing two pieces together with edges that extend past the other, then they should cross at the seam line (Figure G-2). When a triangle is sewn to a rectangle, the bottom points of the triangle will cross the edges of the rectangle at the seam line (Figure G-3).

Begin and end all seams with a short backstitch. After sewing the straight-stitched seam, the two pieces of fabric above the seam are pulled open and the tape is removed. The section is then placed face down on a smooth surface and both seams are finger pressed to one side. It is important that the crease be on the seam line. The section is then turned over (right side up) and top-stitched to hold the seam flat.

This second stitching can be a straight stitch, a zigzag, or another decorative stitch (Figures G-4 and G-5).

In joining two sections of the block, it is important that matching seams be aligned first. Slight discrepancies in distances between seams can be accommodated if small pieces of tape are used: the seams can be aligned, and the layer of ripstop to which tape is applied can be eased to fit the other layer.

It does take practice to align the seams in your block. While we have sewn many blocks, we still have blocks we do not use because the seams do not line up as well as we expect. It is important to think through your process and not rush the work.

Construction of patchwork sails requires some skill, but with patience, practice, and interest, everyone can succeed. We often disagree on what is the best way to construct a block. Many mistakes happen in our work, and hopefully they help us grow and develop our own ways of working.

Patchwork quilt blocks provide us with unlimited possibilities for combinations of patterns and colors. They are—quite simply—wonderful. ▼

Learning to Sew a Crazy Quilt

The "crazy quilt" is a good method for the beginner who is learning to sew on ripstop, and can be made entirely with scrap fabric. The traditional crazy quilt is a combination of irregular shapes and sizes of fabric that are joined, often with different decorative stitches.

To begin a kite sail, select two pieces of scrap ripstop; place these face-to-face and hot cut one side with a straight edge. This method not only provides a straight edge for seaming but seals the edges together so that the edges do not move during stitching. Sew a straight seam. If it is not straight, re-cut the fabric just inside the stitching line and re-sew. When the seam is reasonably straight, flatten the seam and top stitch to hold flat. A third piece of fabric is then selected; the edges are hot cut and sewn (Figures H-1to H-3).

The major problem in working on the patch is to keep the outside edges positioned so that straight seams can be made without removing too much of the previously joined parts. This is not a technique that allows for attaching pieces into a corner.

Continue adding pieces until the total piece is larger than the pattern (or block) for your kite sail (Figures H-4 to H-6). Trim to actual size. Repeat this process until you're satisfied with your straight stitching. You can then stitch together your practice blocks and make your first kite!

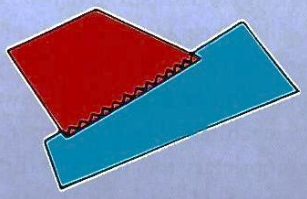


Figure H-1: *Two pieces of ripstop joined with straight stitch and zigzag top-stitch.*

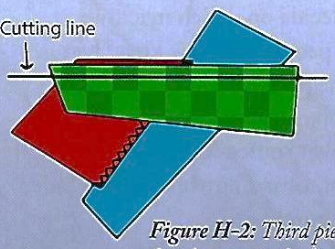


Figure H-2: *Third piece of fabric face down over the first two pieces.*

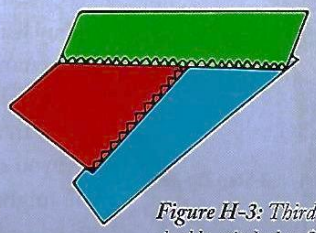


Figure H-3: *Third piece of double-stitched to first two pieces.*

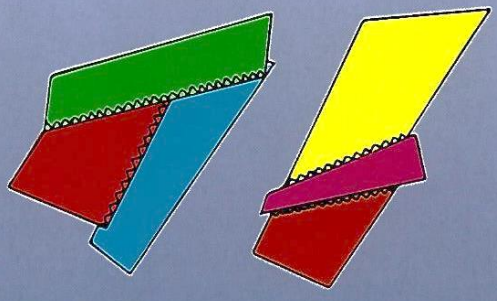


Figure H-4: *The original pieces and a new section.*

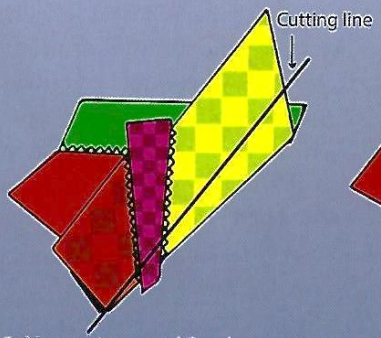


Figure H-5: *New section turned face down on the original section showing cutting line.*

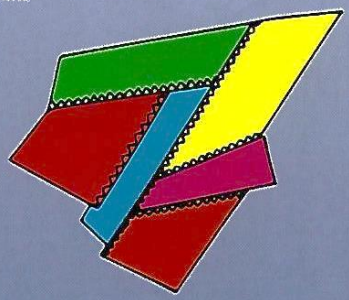


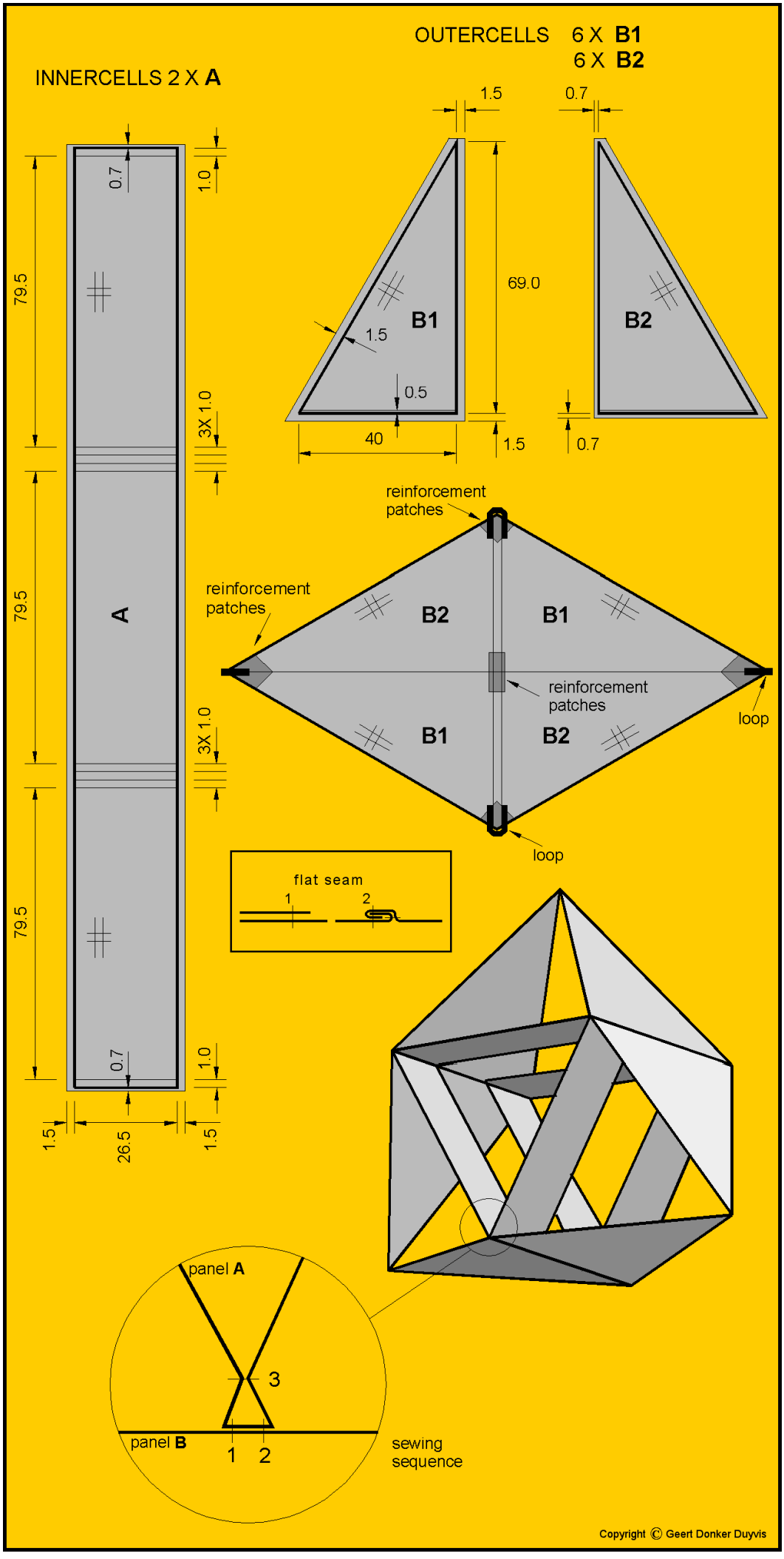
Figure H-6: *Two sections joined and double-stitched.*

Courtesy of 'Kiting' – The Journal of the American Kitefliers Association
Winter 2020 Volume 42, Issue 4

THE TETRACAIDECA

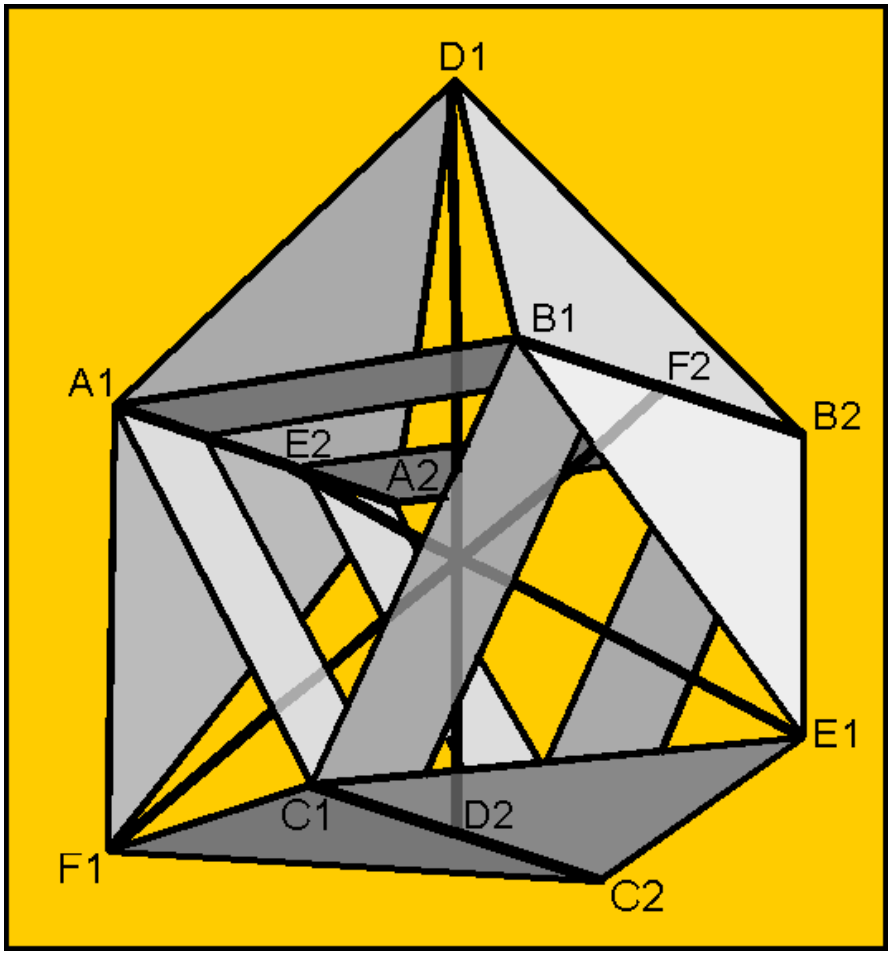
This kite started life as a sketch by John Spendlove in European Kiteflier, a short-lived magazine in the early 80's. He invited people to come up with a kite that had the outlines of a regular 14-sided geometric body, more scientifically known as a tetracaidecadeltahedral. But let's just call it tetracaideca, that is already a mouthfull. One of the few kitefliers that responded to his question was my brother Frits. The kites that Frits and John built where mediocre fliers, mainly because the weight of the construction was to high. The construction of the kite depends on the stiffness of the longerons. Twenty years ago the kite was framed with wooden spars, and the kite was either too heavy or too fragile. A winged version was developed by my brother to distribute the forces better over the longerons. Nowadays stiffness is not a problem, I redesigned the original kite with a carbon frame, and now it is an excellent flyer in light and moderate winds, but as many compact box kites it can tumble out of the sky if the wind suddenly drops.

This plan describes the original shape of the box kite. The sketches at the end show some varieties made in the past years. For the winged versions simply sew an extra triangle to the longerons and extend the cross spars.


INNERCELLS 2 X A
OUTERCELLS 6 X B1
6 X B2
1.5
0.7
69.0
B1
B2
1.5
0.5
40
1.5
0.7
0.7
1.0
79.5
3X 1.0
A
79.5
3X 1.0
79.5
0.7
1.0
1.5
26.5
1.5
reinforcement patches
reinforcement patches
B2
B1
reinforcement patches
B1
B2
loop
loop
flat seam
1
2
panel A
3
panel B
1
2
sewing sequence
Copyright © Geert Donker Duyvis

Sail construction:

Use a low-strech ripstop fabric. Draw the panels A, B1 and B2 on the fabric in the quantities as shown in the plan, and cut them out along the outer lines. Sew panel B1 to panel B2 (6x) with a flat seam. Now you should have six equilateral triangles of fabric. Sew two of them together (3x) to form a diamond as shown in the plan. Sew reinforcement patches and loops of edge binding tape on the indicated spots. Sew the short edges of panel A together (2x). Hem the diamonds and panels A. Sew panels A onto the diamonds and sew tunnels as shown in the stitching scheme detail.



Frame:

Longerons 8 mm carbon tube between points:

A1-A2

B1-B2

C1-C2

Place a T-joint, or vinyl tube with a hole, in the middle of each longeron, at points D2, E2, and F2

Cross spars 8 mm carbon tube between points:

D1-D2

E1-E2

F1-F2

Edge support spars 5 mm carbon tube between points:

A1-B1 A2-B2

B1-C1 B2-C2

C1-A1 C2-A2

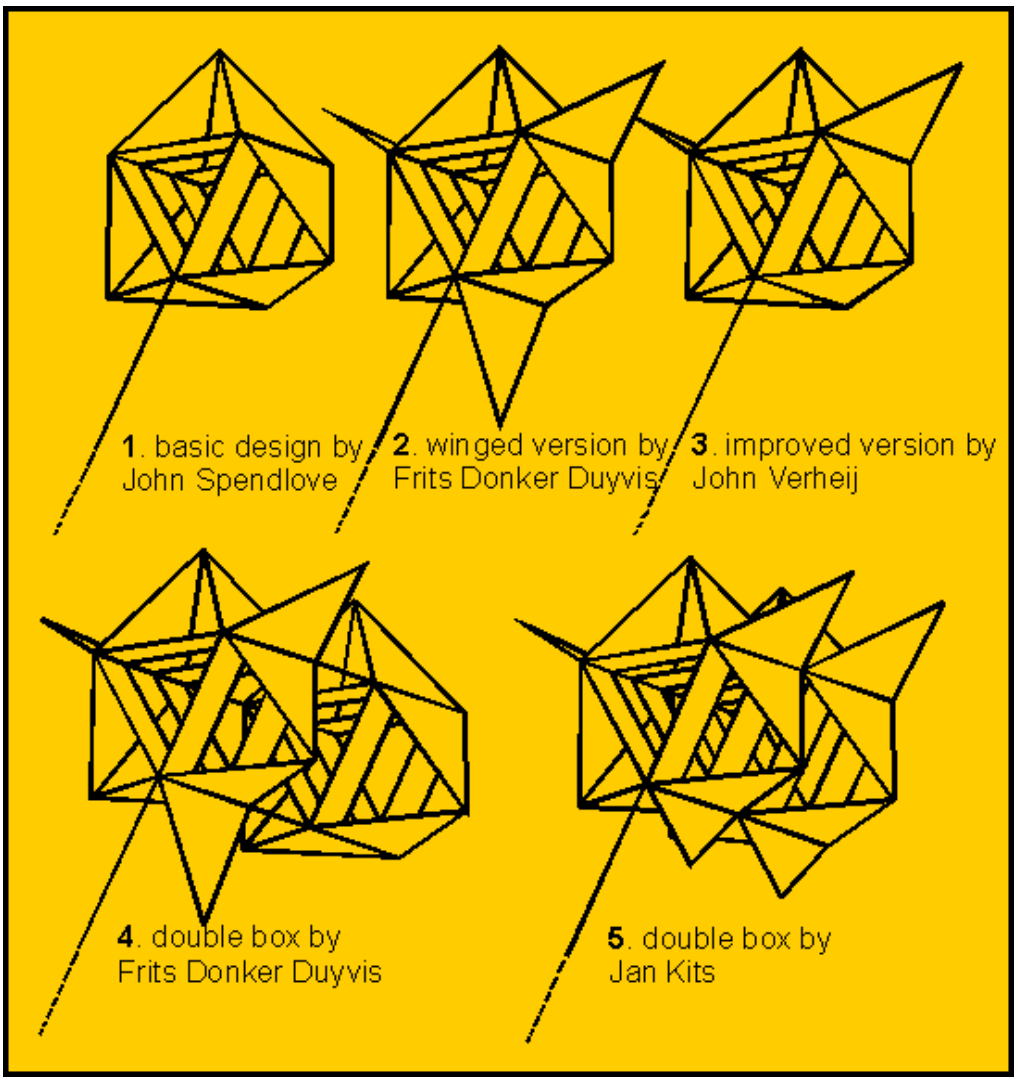
Some varieties made by several dutch kite flyers:

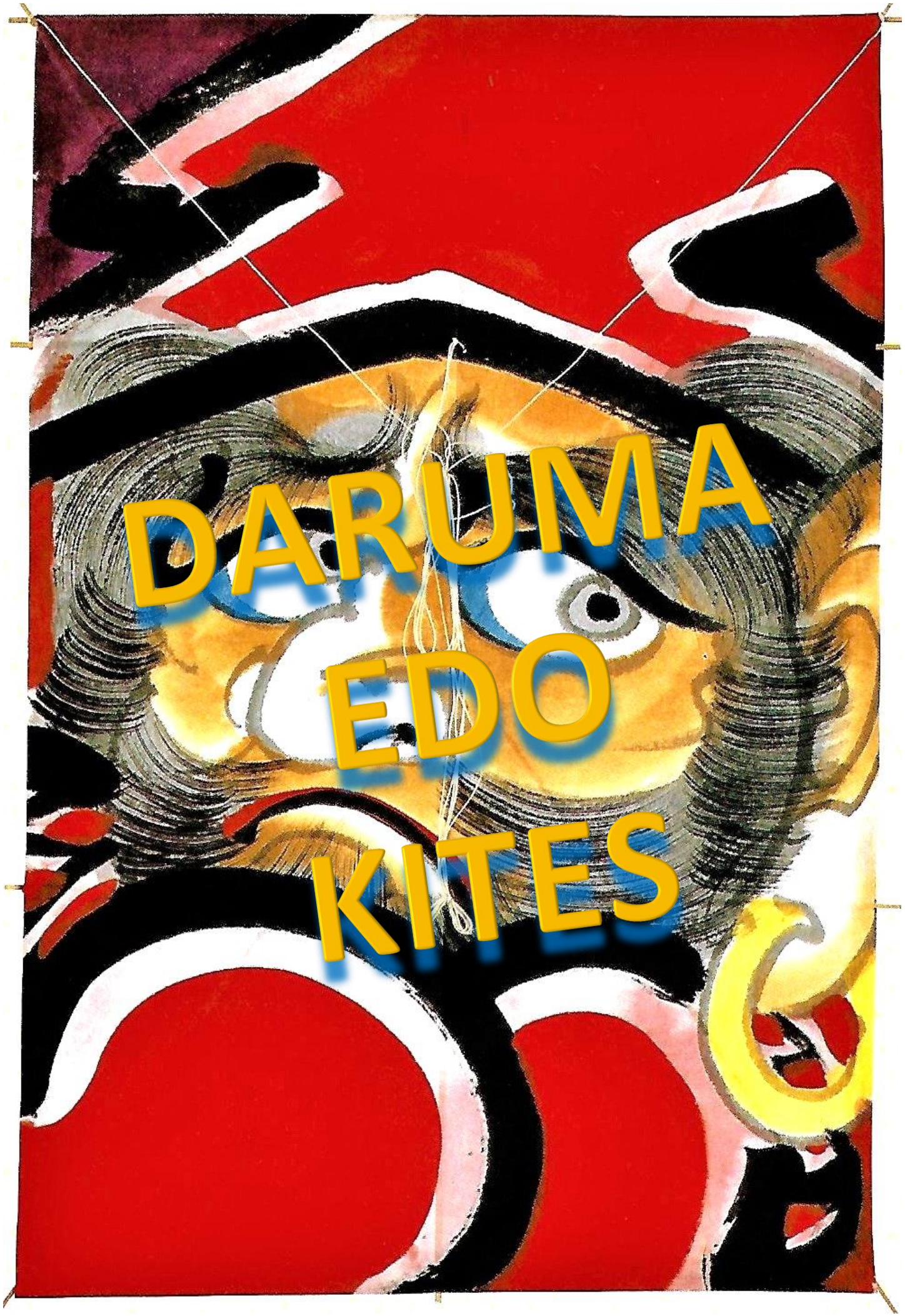
Framing:

Pass the longerons (85 cm, 8 mm carbon tube) through the tunnels, placing a T-joint at the middle of each longeron. Cut a hole in the middle of a 7 cm long piece of vinyl tube with a 5 mm inside diameter (6x). Pass the end of the longerons through the holes. Fix the ends to the fabric with arrownocks and loops of braided line. Join the free corners of the diamonds in pairs with a 20 mm loop of braided line. Insert one end of the cross spars (8 mm carbon tube) into the T-joint and hook the other end with an arrownock into a loop. Insert the 5 mm carbon spars into the vinyl tubes to tension the edges of the panels A.

Tie a 20 cm long piece of flying line (appr. 50 Kgf) to one end of a longeron. Tie a loop or a ring at the other end of the line. Tie the cross spars to each other at the cross point before flight.

Enjoy your new kite!




DARUMA
EDO
KITES

DARUMA - Father of Zen Buddhism
From Buddhahood to Brothel, From Saint to Sinner
The Evolution of Daruma Artwork in Japan

Bodhidharma (Daruma) 達磨図
By Hakuin Ekaku 白隠慧鶴 (1685-1768).
Tokeii Temple 東慶寺, Kamakura

The historical Bodhidharma (known as Daruma in Japan) was an Indian sage who lived sometime in the fifth or sixth century AD. He is commonly considered the founder of Chan (Zen) Buddhism 禅, and credited with Chan's introduction to China. (Important Note: Zen is the term used in Japan, but Daruma's philosophy arrived first in China, where it flowered and was called Chan Buddhism. Only centuries later does it bloom in Japan, where it is called Zen).

Practically nothing is known about Bodhidharma or his teachings. Early Chinese texts provide scant information, except to say he was a pious monk from Indian who came to China and introduced a form of meditation that involved "gazing at cave walls." Only one of the ten texts attributed to Bodhidharma is presently considered authentic. <Broughton, p. 4> The lack of robust historical evidence concerning Bodhidharma, paradoxically, is offset by countless legends about this sage. Legends come in two varieties -- the orthodox Chinese version, and the far more fanciful Japanese version. Both versions are considered largely apocryphal, containing layer upon layer of embellishments and legendary accretions spanning many centuries. Modern scholars and art historians are trying to discern the underlying historical figure by stripping away

the ideological, idealizing, & idolizing accretions. <Sources>

CHINESE LEGENDS. The best-known Chinese legends say he was the third son of a Brahman king from southern India [possibly from Tamil Nadu) and studied under the tutelage of Prajñātāra 般若多羅 (Jp.. = Hannyatara), the 27th Indian Patriarch in a direct mind-to-mind line of transmission from the Historical Buddha. Bodhidharma achieved enlightenment (Japanese = satori さとり), becoming the 28th Indian Patriarch in that lineage (Nijūhasso 二十八祖), and then, in accordance with instructions from Prajñātāra, he traveled to China to transmit the Mahayana teachings. After a perilous three-year sea voyage, he finally reaches Canton (China), whereupon he makes his way to the court of the Liang Dynasty in Nanking (Nanjing) and speaks with Emperor Wu (Liáng Wǔdì 梁武帝; Jp. = Ryō Butei). The pious monarch, one of China's most fervent patrons of Buddhism, is told that his building of temples, ordaining of monks, carving of Buddha statues, and copying of sutras has no karmic merit (see story here). The emperor is puzzled and perhaps annoyed, so Bodhidharma makes a quick getaway, heading northward to Shaolin Temple (Jp. = Shōrinji 少林寺) on Mt Song (Jp. = Sūzan 嵩山) in the state of Wei. To reach his destination, he must cross the mighty Yangtze River (artwork of this scene shows him crossing the river while balanced atop a tiny reed). At Shaolin Temple, he meditates for nine years in a cave, gaining the name Wall-Gazing Brahman 壁觀婆羅門 (Chn. = Bìguān Póluómén; Jp. = Hekikan Baramon or Menpeki Daruma 面壁達磨; literally the "wall-facing" or "wall-gazing" Bodhidharma.)

Bodhidharma's new meditation technique attracts few students, but one of them, Huìkě 慧可 (Jp. = Eka), is so eager to become Bodhidharma's student that he stands outside the cave in the snow and waits one whole week for the master's attention and then Huìkě cuts off his own left arm and presents it to the master to demonstrate his determination to attain enlightenment (this scene is also represented in artwork). Huìkě eventually becomes Bodhidharma's successor. Despite two unsuccessful attempts by rivals to poison Bodhidharma, the sage knowingly takes poison on their third attempt, and dies at the age of 150. Three years later, in the Pamir mountains, a Chinese diplomat named Sòng Yún 宋雲 is returning to China from a trip to the West when he meets Bodhidharma, who is on his way back to India, walking barefoot and carrying one shoe in his hand. When the diplomat finally gets home, and tells this story, the master's grave is opened and all that is found is one shoe. Bodhidharma is thereafter considered a type of Taoist Immortal, one who feigned his own death. <Faure>. Bodhidharma is also, according to some, the founder of Shaolin martial arts and Kung Fu, although such views are now largely discredited. This, in a nutshell, is the Chinese version of the Bodhidharma story. <See Broughton for more details>

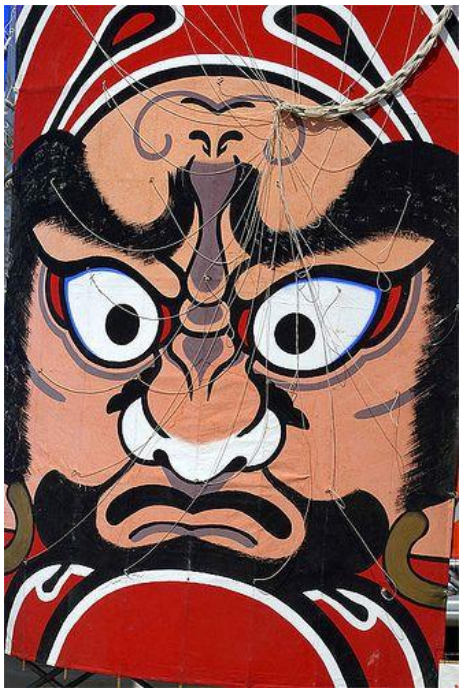
JAPANESE LEGENDS. Japanese stories about Daruma (Bodhidharma's name in Japan) go far beyond Chinese legends -- they are overlaid with a wealth of new mythology and superstition involving popular culture and local Japanese folkloric motifs related to astral deities, gods of the crossroads, epidemic spirits, fertility, and more. According to the Japanese, Daruma's arms and legs supposedly atrophied, shriveled up, and fell off during his nine-year meditation marathon facing a cave wall in China. During that time, Japanese legend also credits Bodhidharma with plucking out (or cutting off) his eyelids. Apparently he once fell asleep during meditation, and in anger, he cast them off. The eyelids fell to the ground and sprouted into China's first green tea plants. As we know, Zen's assimilation into Japanese culture was accompanied by the introduction of green tea, which was used to ward off drowsiness during lengthy zazen sessions. Additionally, Japan's medieval Tendai sect claims that Bodhidharma did not return to India but journeyed onward to Japan, where he met Prince Shōtoku Taishi (574 - 622 AD), the first great patron of Buddhism in Japan, and from this association, Daruma is also linked (in Japanese myth) to horses and monkeys.

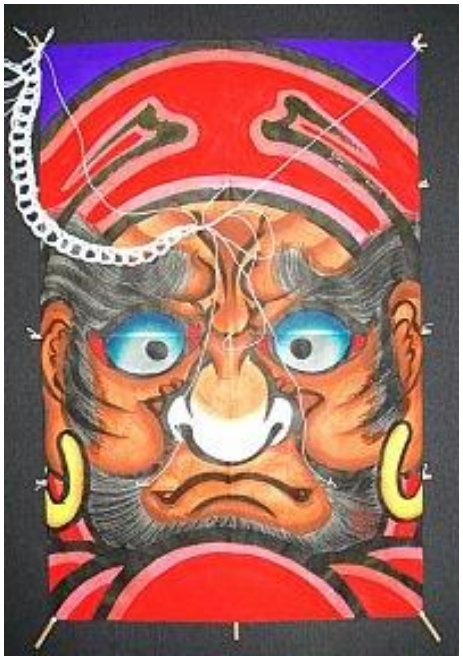
The origin of these Japanese legends is hard to pinpoint. Zen came to prominence in Japan during the Kamakura period (1185-1333), although Zen teachings had entered Japan centuries earlier via China. In traditional Japanese Zen artwork (from the medieval period), Daruma is typically portrayed as a pious, stern-faced, red-robed monk pointing the way to enlightenment. But in later centuries, Daruma came to serve a wide variety of different roles.

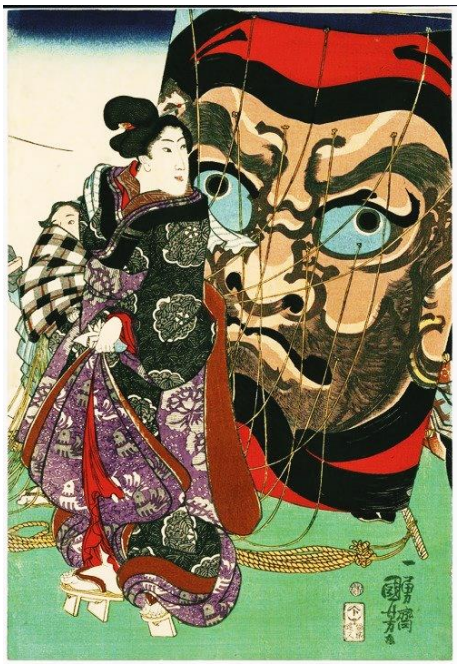
Beginning sometime in the 16th century, red-colored Daruma images became popular talismans to protect children against smallpox (the smallpox god was said to like the color red, and could therefore be pacified by red offerings). By the 18th century, red-colored Daruma dolls (with no arms or legs) were also sold to ward off smallpox. Smallpox disappeared after vaccination was introduced to Japan in the Meiji period (1868-1912), but the bright red Daruma dolls remained extremely popular as good-luck charms -- today they are one of Japan's most ubiquitous icons of good fortune. Painting in the eyes of Daruma dolls is a widespread modern practice to ensure success in business, marriage, politics, and other endeavors.

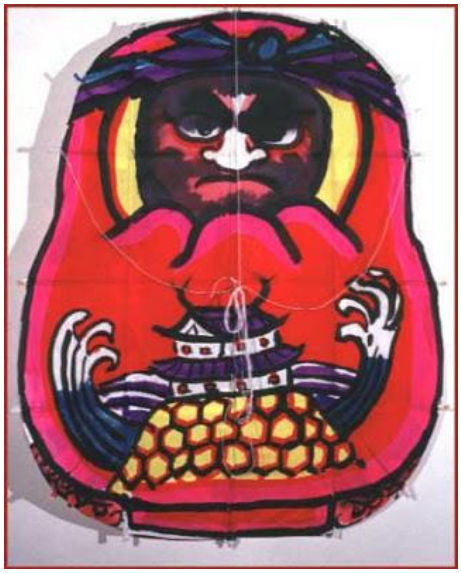
Daruma dolls are also called "tumbler dolls" (okiagari koboshi 起き上がり小法師), for when knocked on their side, they pop back to the upright position and therefore symbolize (1) a speedy recovery from illness, akin to "getting back on one's feet" and (2) resilience, undaunted spirit, and determination. Since Daruma dolls appeared without any bodily appendages, they lent themselves easily to phallic symbolism (that which falls and soon rises again is the penis), and Daruma therefore became a subject of parody by Edo-era artists who often portrayed him alongside courtesans. Says scholar Bernard Faure: "Until the Meiji period, phallic representations of Daruma in stone or papier mache were sold. The name 'Daruma' was also a nickname given in the Edo period to prostitutes, perhaps because, like the doll, these specialists of tumble could 'raise' the energy of their customers. Daruma is indeed often represented [in artwork] in comical fashion in the company of a prostitute....or as part of a legitimate couple called 'Mr. and Mrs. Daruma' .....these Daruma dolls protected children against illnesses and were supposed to facilitate childbirth, bring good harvest, and more generally bring prosperity to their owners." <end quote B. Faure> The list of Daruma's roles is seemingly endless. He also serves, for example, as a talisman for sericulture and is thus connected with silkworms.

One final point. In Japanese woodblock prints (Ukiyo-e 浮世絵) and paintings from the 17th century onward, Daruma is depicted more and more as weak, vain, and desirous, unable to escape the same foibles and illusions faced daily by the common folk. This latter "down-to-earth" Daruma is the deity who is today beloved by the Japanese -- not the scruffy old man in portrait paintings who stares at a wall !! Since the Edo period, Daruma has served as a source of parody, laughter, and ribaldry, more willing to dress in the clothes of a woman or manifest himself as a female than to remain forever chained inside his cave as a lofty symbol of immovable equanimity divorced from ordinary life. **Poor Daruma.** Japan's own scholars don't know how to categorize him in their deity dictionaries. In both old and new lexiconic works, Daruma fails to appear as a Buddha or a Bodhisattva. Rather, he appears in the closing chapters as one of Japan's so-called "Eminent Monks" -- or he doesn't appear at all. Despite this quibble, **Daruma in modern Japan is a living icon, not a dead one.** Daruma has forgone the rarified and perfumed abode of the gods and instead gotten "down and dirty." He lives among sinners, prostitutes, the uneducated, gamblers, farmers, the poor, the salaryman, and all who suffer daily. Daruma's aim is not to retire from the world into solitary meditation, but to stay in close touch with the ordinary labors of the people, to live not away from the community but within the community, forever carrying out the Bodhisattva's task of bringing compassion and wisdom to all. This seems (to me) to be in the true spirit of Zen, for in the end, the great truth of Zen is possessed by everyone, and the only way to gain salvation, as D.T. Suzuki once said, is to "throw oneself down into a bottomless abyss, and this, indeed, is no easy task."









The spine-tingling face depicted on this hand-painted kite is that of Bodhidharma, founder of Zen Buddhism. In Japan, "daruma" dolls in his image are purchased by people who aspire to have a major wish come true. When they make their wish, they paint in one eye; when the wish is achieved, they paint the other. Daruma symbolizes strong effort and patience of the kind necessary to bring wishes to fruition. Hand-painted using dyes, this Japanese "Daruma" Edo kite will look fabulous flying in the sky or as an interior decoration.

The veteran kitemaker who crafts this work of art is Tetsuya Kishida.

We are deeply saddened to announce that Tetsuya Kishida passed away on August 20, 2019.

His love and passion for creating and flying the Edo kites were unmeasurable. We were inspired by his artwork and our gratitude for the opportunity to work with him.

Japanese craft kites are **the most spectacular in the world**, appreciated both for their aesthetic value, and for their value as traditional toys. They have many different styles and types of kites, and each region of Japan has its own distinctive shape.

In Aichi, and more specifically in Nagoya, there is a variety of kites called **Nagoya Koryu (名古屋 古流凧)**. There are three types of Nagoya Koryu: the moth (虻 Abu), the cicada (蝉 Semi) and the bee (蜂 Hachi). The length of these types of kite usually does not exceed 60 cm, and their stability in strong winds is excellent (wind speeds between 8-15 m/s). The techniques used for the construction of these type of kites are quite difficult since they require excellent technique and experience.

A brief history about the japanese kite

It is believed that kites were first introduced to Japan by **Buddhist monks who came from China** during the Nara period (710-794 AD). The Japanese absorbed the knowledge about China's kites, and developed their own distinctive designs and traditions. Originally the Japanese kites **were used** for practical purposes, such as **in the construction of temples to raise tiles and other materials** for the workers who were on the rooftops. It is also said that a Japanese thief used a giant kite to reach the top of Nagoya Castle. There, under the cover of darkness he stole the scales of a pair of golden dolphins (金鯱 Kinshachi).

Yoshitora – Kite Flying – Ukiyoe

During the **Edo period** (1603-1867), when Japan closed to the outside world, **the kite reached its greatest splendor**. New styles and designs were created, which generally represent characters from Japanese folk tradition, mythology or had religious or symbolic significance. In Nagoya, the art of kites was introduced in the second half of the Edo period (1750-1850). The great abundance of bamboo and the good quality of the paper made **Nagoya the largest kite producing area in the whole country**.

Today, more than a toy, the kite is a **decorative item**, or a **collector's item** for kite fans.

Visit the Japanese kite craft shop: Takomo Honten

Right – Takomo Honten Building

Inside Takomo Honten

Inside Takomo Honten

Very few people know, including the local people, about the existence of the traditional Takomo Honten kite shop.

Mr. Yamada (山田 直樹) and his son Tamio (山田 民雄) are the fifth and sixth generation of artisans and kindly opened their doors to tell us about their trade and about Takomo Honten.

Mr. Yamada (山田 直樹) and his son Tamio (山田 民雄) are the fifth and sixth generation of Watako artisans

Located in the Nishi district of Nagoya (Japan), Takomo Honten started his business at the end of the Edo Period, more than 170 years ago. And it has managed to protect and preserve the traditional elaboration of kites for 5 generations (the sixth generation is currently in the process of learning).

Takomo Honten has an extensive catalog of kites with **more than 150 types**, with original illustrations, **characterized by the vividness of its colors** thanks to the use of natural pigments. The basic materials for the manufacture of the kite that they originally used used to come from the Aichi region. The bamboo of the city of Komaki and the good quality of the papel of the city of Mino. But the producers have decreased in number and currently these materials come from other regions outside the Aichi region.

The most elaborated kites are of the "**Kakudako**" type or 4 corners. These kites are characterized by having a rectangular design and being decorated with paintings of famous warriors, Kabuki actors, priests and geisha (Edo Kaku). They also make six-corner kites, or hexagonal kite (**Rokkaku dako** in Japanese 六角凧), which are the most popular and well-known kites.

Kakudako (角凧)

Rokkaku dako (六角凧)

NEXT

Another type of comets that they also make for the new year are the so-called **Eto (干支)**, which represent the twelve signs of the Japanese zodiac. Each year has its own zodiac symbol: the mouse (Nezumi), the cow (Ushi), the tiger (Tora), the rabbit (Usagi), the dragon (Tatsu), the snake (Hebi), the horse (Uma) , the goat (Hitsuji), the monkey (Saru), the bird (Tori), the dog (Inu) and the wild boar (Inoshishi).

Right – Eto (干支 凧)

One of the most important requirements in Takomo Honten is that **all kites**, whether as

decoration or not, **have to be made so that they can fly**.
Takomo Honten sells mainly wholesale. Its main wholesalers are toy stores and gift and decoration shops in different cities such as Tokyo, Osaka and Kyoto. If you travel through any of these cities you may find the kites of Takomo Honten. **The most surprising is the price**. Despite being an artisanal article, **kites have a very affordable price**. They are around 1,000 yen for the smallest kites and 3,000, 4,000 and 5,000 yen the largest.
During the interview with Tamio, his father, Mr. Yamada, told us a few secrets about the process of making the kite.
The development of kites is divided into several processes:

1.Illustration and coloring 絵付け

The illustration and coloring is done in a separate workshop. First, the outline of the illustration is painted with black ink. Then one by one, the colors are included in the drawing. This is a manual process, which closely resembles the technique of textile screen printing.

2.Paper cutting 紙裁ち

Once the coloring is finished, it is needed to dry for several days and is sent to the Takomo Honten for the paper cutting process. In this process the role of kites is cut to the established extent. At once about 25 leaves are cut. When cutting the paper, the measurements have to be precise, otherwise when the stick assembly process is reached they will not add up well.

3.Assemblying 張り

The bamboo sticks (called also bones) assembly process is done in Takomo Honten. The glue used for assembly is made in the traditional way with natural products. This is a special rain resistant glue.
This process is also done manually with extreme care, since if the orientation of the assembly is not correct, this will have an impact on the kite's flight form.
Once the assembly is finished, it's left to dry. The time it takes for the glue to drie depends on the season of the year. Drying time is faster in summer, but in winter or in the rainy season (Tsuyu 梅雨) it takes longer.

4.Bending and fixing the thread 曲げ・糸付け

Once the glue is dried, the process continues with the insertion of the thread, bending the bones to get a good fixation of the thread. The process depends on the type of kite.
However, it is not easy to preserve traditional techniques. In the past, Nagoya had more than 20 kite shops, but currently there are only 2 left, commented Mr. Yamada.


Assemblying process


Assemblying process

NEXT

The reason is that the handmade elaboration of the kite is a process that requires a lot of time: a week to paint Japanese paper, 3 days for the subsequent fixation of the bones, flexion of the edge and fixation of the thread. Without a doubt, this is not a simple job and you need to have a good experience to be precise.
Workshops to build your own kite in Aichi
The Japanese Kite Association of the Tokai region (日本凧の会東海支部) organizes workshops at **Morikoro Park (Nagakute)** every month to learn how to build a kite. Both adults and children can experience and enjoy how the kite is making.

Design for a Windmill

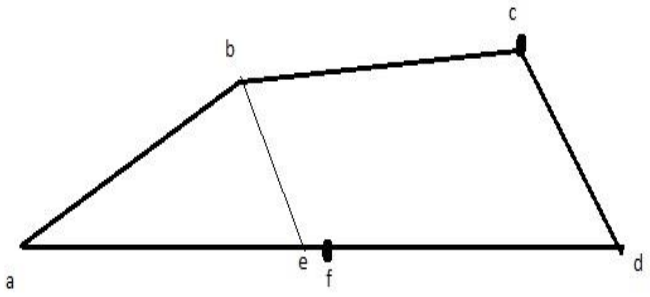
by Dorothy and Mike Rourke

Initial idea

We had seen a windmill at a kite festival, but it seemed quite large, and the sails did not start to rotate until the breeze got to about 8mph. We wanted something smaller and suitable for lighter winds, when we were not so busy flying kites.

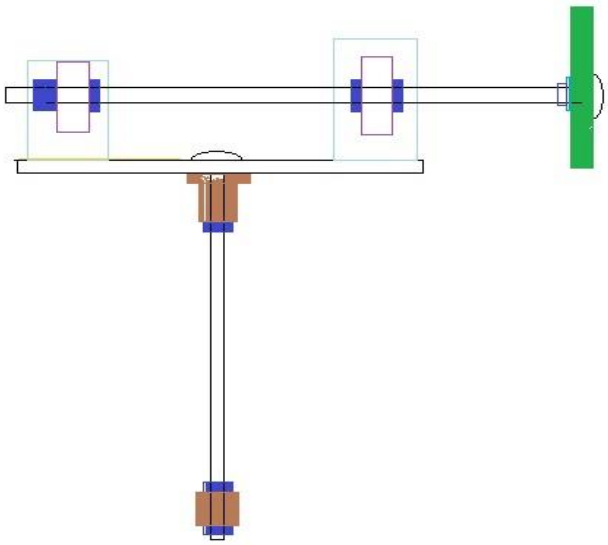
Dorothy set about desiging the sails, whilst I was tasked with coming up with a suitable mechanism. The brief was that it had to spin freely, not too expensive, easy to assemble and easy to pack away on site.

Sails



The sails are fabricated from medium-weight ripstop (about 56gsm). We made 3 different designs, all using the same template. Two sleeves have been incorporated to hold 2mm fibreglass spars, one along the bottom edge (c – d) and one about half way along the spar edge (b – e), to hold the sail taut. It is important to make the spars parallel to allow the sail to be rolled up for storage. Once the spars are in place, a strip of black ripstop is folded around the long edge (a – d) as a pole sleeve. Tabs are added half-way along the pole sleeve (e) and at the bottom corner (c) to attach the bridle line.
The bridle line is permanently attached to the tab on the long edge, with a plastic clip on the other end which attaches to the corner tab.

Rotor



Most off-the-shelf kite connectors are designed to connect 2 or 4 spars. Some have 6 or 8 branches, but I could not find any with 3 branches. After much searching of kite suppliers, I decided to look further afield and eventually found a Hozelock Y-connector. This has 3 branches at exactly 120 degree angles.

The connector is first filled with epoxy resin then the centre drilled to 6mm ID. The 3 branches are drilled out to a depth of 20mm, with a 9mm ID.

The saddle assembly is made from a strip of 20mm x 3mm aluminium, 75mm long. To this are fixed 2 Talon pipe clips, using short screws. Note that the clips have been filed down. The clip furthest from the rotor is shorter by 4mm, and both clips have angled bases. This means that the windmill is offset by about 10 degrees from vertical at the lowest point, so has more clearance from the support tube. The hole for the vertical axis is offset at 27mm along the strip, so that the sails turn into the wind easier.

The vertical axis is made from a 110mm roofing bolt. The bolt passes through the aluminium strip then has a nylon washer and spacer, held by an M6 nut. At the end of the bolt, another spacer is held between 2 M6 nuts. This forms the vertical axis, the nylon washer and spacers providing a low friction surface within the support tube.

The horizontal axis is also a 110mm roofing bolt. After passing through the Y-connector, this is held firm by a washer and M6 nut. 2 bearings are then spaced to match the pipe clips, with a nut on either side and an extra nut at the end to lock in place. After checking the correct spacing for the bearings, Loctite is applied to the nuts, which are then tightened to finger tight to grip the bearings. The horizontal axis is then inserted into the pipe clips, with a strip of adhesive tape around each bearing to stop the axis assembly moving out of the clips.

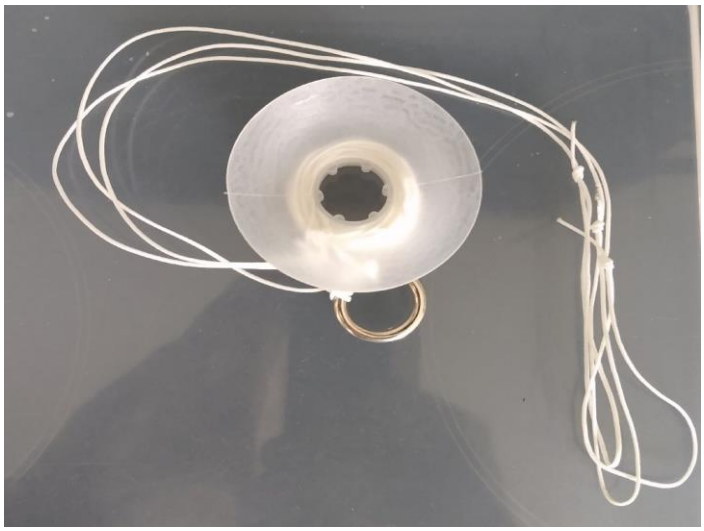
The rotor spars are made from 900mm x 9mm dowel. The ends are rounded, and the exposed section painted black.

Support Pole

The support pole is made from a washing line prop. This is in 2 sections, with a twist grip in the middle. The top

plastic part, which normally clips to the washing line, is removed to leave just the metal pole at the end. At the other end, the plastic bung is removed to allow the pole to be fitted onto a ground stake.

A metal ring with an inner diameter about 3mm larger than the top section of the support pole is fitted with 3 guy lines, each about 120cm long. The guy lines on the metal ring are kept tidy for storage on a Kumihimo bobbin (also useful for long kite bridles).



Assembly

A 1m x 10mm fibreglass stake is hammered into the ground by about 25cm. A large washer over the stake stops the support pole from getting dirty. The metal ring is then slipped over the top of the support pole and the 3 guy lines pegged down. I marked the upper section of the support pole with a file to indicate the maximum extension.
The spars are then inserted into the sails, which are then fitted to the hub. The bridle lines are attached to the tabs then the vertical axis is inserted into the top of the support pole.
NOTE – When fitting the rotor to the pole, make sure that the sails are at right-angles to the wind. Once the rotor starts to spin, it can pack quite a punch!

Operation

The original version used 50kg kite line for the bridles. This worked fine, but the rotor can spin very fast above about 12mph. I have now replaced the bridle lines with 3mm elastic cord, and this performs better in higher winds, as it allows the sails to deflect and so present less of the sail area to the wind.

Parts list for 1 windmill -

Sails
Ripstop 56gsm (approx) about 0.5 m total, colours as required
Fibreglass spars 2mm x 200mm
50kg line or 3mm elastic 150cm
9mm dowel 900mm length x3

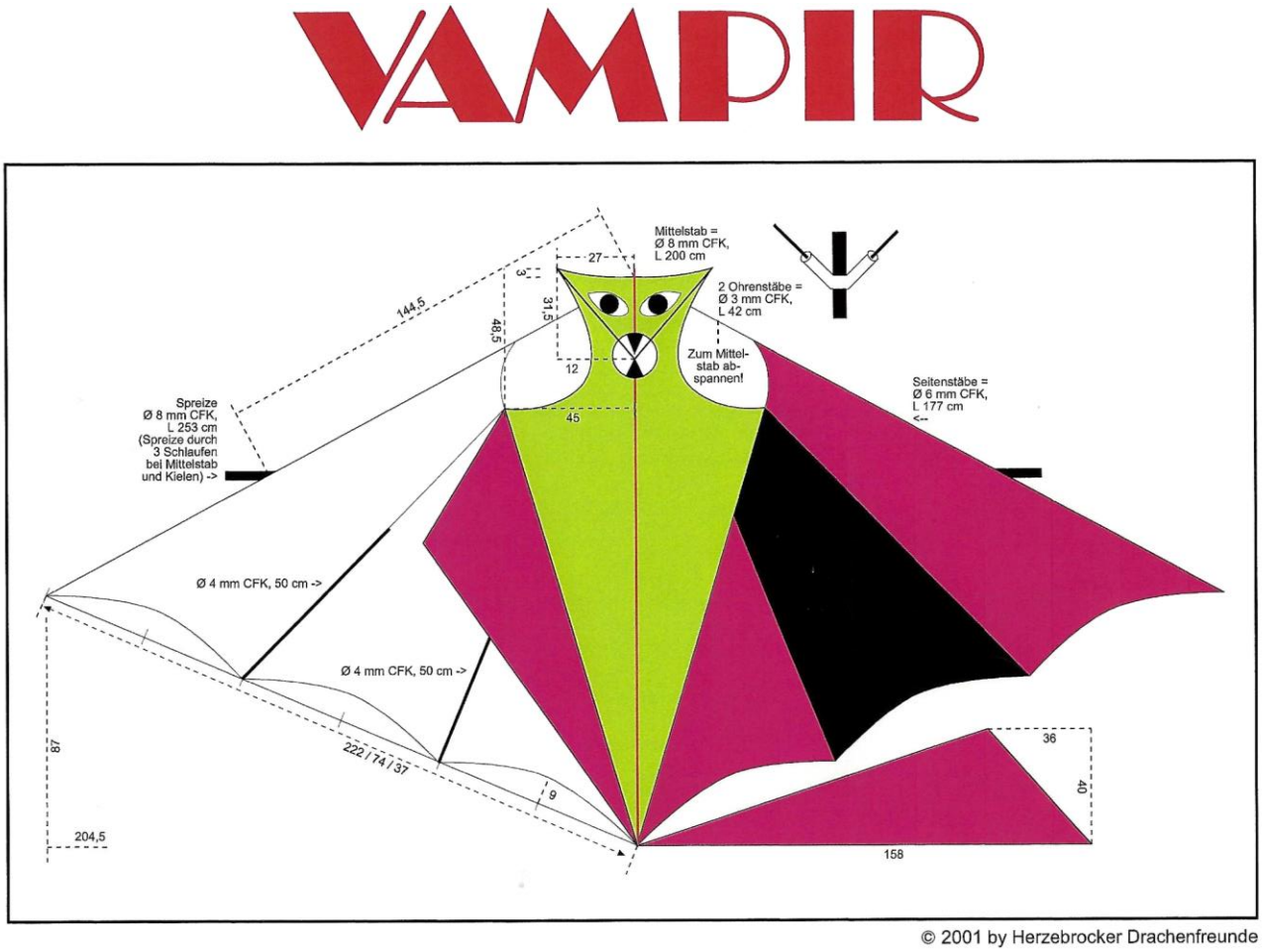
Rotor
Hozelock Y-connector
Aluminium strip 20mmx3mm 75mm long
Bearings 696ZZ x2 (15mm OD, 6mm ID, 5mm thickness, sealed)
Talon 15mm pipe clips x2
110mm M6 roofing bolts x2
Washer M6 18mm OD
M6 nuts x9
Nylon washer M6 x 18mm OD, 2mm thick
Nylon spacers 14mm OD, 6.2mm ID 10mm thick x2
Epoxy resin
Loctite

Support Pole
Washing line prop
Support stake (e.g. Fibreglass 1m x 10mm)
20mm steel ring
Kite line for guys – approx 4 metres
Large flat M12 washer for base of support stake

VAMPIRE

The kite maker Till Krapp is known for his fondness for flying animals. Among other things, he turns dragonflies, flies, storks, fish and bats into kites. His black shark with the wide open mouth with flashing white teeth is probably his most famous dragon. Probably less prominent is his bat, of which I could neither find a blueprint in my dragon books nor on the Internet.
In Fantastic Dragon World "by W. Schimmelpfennig a picture of the bat inspired me to build this vampire". The design of the head makes it look a little bloodthirsty.

How steep should the kite stand. Was it possible to implement delta experience on these dimensions. If the scales were placed too far forward, he would stand too flat in the wind and tip over; too far back would cause it to get too much wind.
The drawing on the PC was still very successful. So everything was implemented on a template, cut to size and sewn together. It wasn't that fast, but I was in a hurry. It all culminated in the exciting question: Are the dimensions of the keel correct.
So, to take the tension off again. The first flight went very well. The keel dimensions were no longer changed. There are three holes in the keel tip to make the bat a bit steeper or flatter, but the middle is ideal for a nice light wind. When the wind gets stronger, the vampire begins to flutter and rock. That's when it's back in the bag at the latest. To set up this: the rods for the ears are in flight in front of the bands of the wing edge to the centre rod.
I reinforced the bow on the neck with hem tape. He's been flying this way for 8 years. Have fun building and on the meadow.



MIDLANDS KITE FLIERS

ANNUAL GENERAL MEETING

If the Covid 19 Pandemic continues to worsen this Annual General Meeting will be cancelled. Members will then be invited to attend a 'Virtual' AGM at which we will sort all items raised.

SUNDAY 28th NOVEMBER 2021. From 10.30am

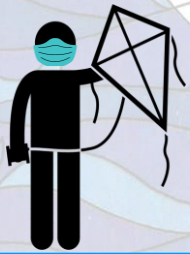
APEDALE COUNTRY PARK CENTRE

Blackbank Road, Knutton, Newcastle Under Lyme, Staffordshire, ST5 6AX

REFRESHMENTS

at the

Chairman's pleasure.



PLEASE WEAR YOUR FACE MASK AT THIS EVENT

SOCIAL DISTANCING IN OPERATION

Please try to maintain a distance of 2 metres from ALL others

Civil Aviation Authority

CAP 393
Air Navigation: The Order and the Regulations
-
TODAY'S HEIGHT LIMIT WILL BE
500 feet
MIDLANDS KITE FLIERS

MIDLANDS KITE FLIERS OF GREAT BRITAIN
c/o 52 Shepherd's Court, Droitwich Spa, Worcestershire, WR9 9DF.
Email: billy.souten@btinternet.com - 07840800830