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'SEASONS GREETINGS'
WISHING EVERYONE A 'SAFE' 2021


## 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 cards can obtain you discounts for purchases from most 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. 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.

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If you want me either email or phone ..... I'll always get back to you.

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## THE CROSS DECK by Carl Crowell



## THE CROSS DECK by Carl Crowell







# The Joy of Flying a Remote-Control Kite 

## No wind? No problem. Catch some air with a

 easy-to-fly RC kite

APRIL MAY BE prime time for kite-flying, but sometimes Mother Nature doesn't provide the just-gentleenough breezes necessary to get a kite aloft. Fortunately, there's a way to take matters into your own hands: a remote-control (RC) kite.

Outfitted with a lightweight, durable frame and vivid air-catching fabric, RC kites look a lot like their traditional counterparts. But rather than relying on wind to stay airborne, these kites use propellers powered by rechargeable battery packs. (Wind, in fact, is an RC kite's worst enemy. Most should not be flown when gusts are stronger than 8 or 10 mph .)
Compared with RC planes or quadcopter drones with multiple rotors and live-video feeds, RC kites are gloriously simple, easy-to-pilot machines. Even the slightest thrust from a propeller sends them skyward. There are no moving flaps or contraptions to manipulate; instead, the single propeller determines which direction and how fast the aircraft goes. Gone is the tangle-prone string. To control the kite, you use a standard RC-plane controller.
Thanks to these kites' light, flexible construction (most weigh around 6 ounces), crashing usually isn't catastrophic. Even so, struts can break, and getting one of these snagged in a tree branch is still a downer.
Aerial Aces


From left: Premier RC Canard, GoFlyKite Pro 3 and Hammacher Schlemmer Motorized Stunt Kite Would-be kite pilots looking for an easy-to-fly starter model should consider the Premier RC Canard RTF ( $\$ 429$, premierrc.com). Its gimbal-mounted propeller can be aimed directly downward, which allows the kite to make near-vertical takeoffs-it's less akin to a plane than a stately hot air balloon.
Once airborne, the Canard can motor along slowly or, if you're feeling adventurous, dip and make surprisingly tight turns. The kite has a range of 500 feet, but you'll want to keep it much closer to the ground, since the higher you go, the greater the risk of unexpected gusts.
Premier RC recommends that those flying the Canard for the first time practice in an outdoor area about the size of a football field, with at least 300 feet of clearance in all sides. We threw caution to the wind and tried it in our suburban backyard. There was practically no learning curve. Steering was intuitive, and landing was a breeze: Drop the kite's altitude, cut its power, then watch it glide gently back to earth.
If you're feeling more ambitious and want a model that can pull off airborne acrobatics, you'll need an open field and a more advanced model like the GoFlyKite Pro 3 (about \$515, including international shipping to the U.S., goflykite.com). Instead of a bottom-mounted propeller, like the Canard's, GoFlyKite's is mounted right up front at the nose of the kite. That position, along with this flier's shape, allows the kite to perform a variety of aerial stunts, including soaring upside-down. Plus, the Pro 3 comes tricked out with onboard lights for night flying. For a lower price, there's the Hammacher Schlemmer Motorized Stunt Kite (\$200, hammacher.com), which has the same 500 -foot range and eight-minute flight time per charge as the Canard-but costs less than half as much. It can even execute some tricks, such as loops, that the pricier one can't. Just know that its delta-wing shape isn't as forgiving of newbie piloting mistakes. Also, it can't pull off the more expensive model's coolest stunt: flying indoors. Although this requires high ceilings (finally, an opportunity to take advantage of that Great Room) and a bit of practice, it does allow you to fly during April showers


## HOW MANY TRIANGLES?



# We Spent All Day Arguing About This Triangle Brain Teaser. Can You Solve It? 

Andrew Daniels

I could've listened to my colleagues explain their questionable processes all day, but instead, I reached out to several geometry experts to see if we could arrive at a consensus answer. Turns out virtually all of the mathematicians I contacted found the same solution-but not all of them figured it out in the same way.

If you don't want to know the answer just yet, stop reading and try to solve the problem first. I'll meet you back here when you're done.

Hey, that was quick. Ready for the answer? Unlike some viral math problems that are purposely vague and open for interpretation, this one actually does have a slam-dunk, no-doubt-about-it solution, and it's 18. Let's hear from some of the geometry experts as to why.
"I would approach this just like one approaches any mathematical problem: reduce it and find structure," says Sylvester Eriksson-Bique, Ph.D., a
postdoctoral fellow with the University of California Los Angeles's math department.

The only way to form triangles in the figure I drew, Erikkson-Bisque says, is if the top vertex (corner) is part of the triangle. The base of the triangle will then have to be one of the three levels below. "There are three levels, and on each you can choose a base among six different ways. This gives 18, or 3 times 6 triangles."

Let's look at themaster triangle again.

## © Andrew Daniels Can You Solve This Viral Triangle Brain Teaser?

"It's convenient to generalize to the case where there are $n$ lines passing through the top vertex, and $p$ horizontal lines," says Francis Bonahon, Ph.D., a professor of mathematics at the University of Southern California.

In our case, $n=4$, and $p=3$. Any triangle we find in the drawing should have one top vertex and two others on the same horizontal line, so for each horizontal line, the number of triangles with two vertices on that line is equal to the number of ways we can choose these vertices, Bonahon says-namely the number of ways we can choose two distinct points out of $n$, or " $n$ choose 2."

Remember high school math? That's $n(n-1) / 2$. And since there are $p$ horizontal lines, says Bonahan, this gives $p n(n-1) / 2$ possible triangles. In our case, that's $3 \times 4(4-1) / 2=18$.

Here's a handy breakdown of how to find each possible triangle:

© Kory Kennedy Can You Solve This Viral Triangle Brain Teaser?

## Double Ring Kite


20. Type of box kite:

Some of you kite enthusiasts have probably read Clive Hart's book 'Your Book of Kites' in there is a picture of the above kite. Earlier editions describe it as a type of box kite but later editions refer to it as a ${ }^{\text {a }}$ Double Ring Kite with a keel'. I have only seen this kite in Clive Hart's book and on a painting of 'Kite Flying in Hyde Park' in the Victorian era and I have never seen any plans. I think it is an old Victorian kite and I'm not sure but it may be a design by Alexander Graham Bell as I know he experimented with ring kites.

A simple design consisting of two flat kites (the square rings) joined along the vertical spine by a stabilising keel giving it a box kite like appearance a sort of non cellular box kite. From the above picture I have made one but although the picture above shows two small bands for the keel I have found that this was not sufficient to keep the kite stable. I therefore put an extra band at the top and found that this then improved its flight. I also found that it does prefer steady winds in which it flies really well.

I have made one out of polycotton and another from ripstop nylon but found that the polycotton one is slightly more stable.

To make this kite cut out two 24 inch squares the centre vent hole is a 9 inch square. As this is polycotton version I have used David Pelham's method of hemming using binding tape. On the leading face I have sewn small Dacron pieces, in line with the vertical spine to allow for eyelets. These are positioned 3 inches from the top and 8 inches from the bottom for the two leg bridle. The 3 keel bands are $191 / 2$ inches long, the top one is 9 inches wide, the top lower one is 5 inches wide and the bottom one is 6 inches wide. I have
allowed an extra $3 / 4$ inch on either end to allow for a pocket to be made this will hold a small spine (green cane from garden centre). Also I have used ripstop for hemming on the keels.

On the square 'rings' I have made pockets again from ripstop on all four sides to locate the vertical and horizontal spines. On all 4 spines I have used plastic tubing to locate the spacing braces to keep the keel taught. On the horizontal spine I have sewn tabs to the square 'ring' sail this is for the horizontal spar to pass through and also to take bracing lines to keep the kite in shape. I have used buttons to adjust the lines.

The 4 spines are approximately 33 inches long and the 4 spacing braces are about 20 inches cut these longer than the sizes mentioned and trim to fit. These are made from 6 mm pine dowel (can't seem to get Ramin these days).

Below are pictures of the whole kite showing the jointing and bracing system I have used together with David Pelham's hemming method. Also this shows the position of the 3 keel bands


## Double Ring Kite Revisited—Mark Harding

Since I published the plan for the double ring kite in July 2014 I have made some adjustments to the kite which have much improved its performance. Please see the diagram to the left setting out the revised measurements and picture below.

The construction method is as set out in the July 2014 edition of the Kite flyer magazine.

sos. Iype of $\operatorname{lon}$ hite


## Spines $\times 4$

Measure about $36.5^{\prime \prime}$ approx.

## Keel Braces X Spacing Struts $\times 5$ Measure about $21.75^{\prime \prime}$ approx.

Plastic Joints-10


## BARRILETE CELULAR para divertise



Alhora en werano es lindo rentontar un barrlete ya sea en la playa oomo en el campo, hay mathos chicos que porque ya tienen 15 o 16誼os temen salir a remontar ion barrilete porque creen que es una oosa parà chiquitos de 10 affos y ser victimas de las berfas de los. muchachos grandeg, pero no se dan caenta los que se rien que ellos van a jugar o ver futbol gue es tan infantil como remontar an barriete o van a ver carreras de autos que es un juego como los nuchos que practican fos bombres y no son naja mas que juegos infantales con juguetes mas grandes, il hombre, aunque lo disimule, juega como un nifio toda $3 u$ vida, ya sea pricticando deportes que solamente son juegos io coeriendo és lancha, autamonil o gvion y no hablamos de los que "juegan" a fos naipes u otros "juegaitos" de mesa, chicos, ef

fig. 1
 VIENTO

$f(g .2$

fig 5

pueden adornarlo con algunos tlecos que le dan tana música de viento. suando vaela con una brisa moderada.

Y hablando de viento aqui les mitiestro en la Fig. 5 como van los tiros para darle una inclinacion de vuejo segín ia fueras del viento, cuanto mas viento haya el barrilete volari casi horizontal y caando ls brisa sea nuave deberi presentar ian anguio de atague para poder subir pero numea esa íngulo debe. Iegar a los 450 y menos en este tipo celular,

Ahora en esta época de playas les aconsejo probarlo en esas costas lienas de viento, sol y espumas.
barribete es un juego como tantos y pueden disfrutarlo los "nifitos de setenta anos comp los de nueve, yo nutnca tengo venalenza de salir a remonuar uno de mis modelos y mas duando son tan diterentes como los que les he dado en estas mis páginas.

Esfe que adui les doy ex facil de hacer y vuela tan lindo oomo todos los celulares, en la Fiz. 1 vemos como haremos dos cuadros cruxando caṇas o varillas, la Fig. 2 nos mutstra uno de esos cuadros forrados (puede hacerlo con tela, polietileno, celofin o papel

batrilete) observen que en el centro no va forrado.
La Fig. 3 nos muestra que tanto en el centro como en las puntas van canas que unen eses dos cuadros y desde el centro hacia atraz se le forrari una aleta para que mantenga la dirección sin necesidad de cola, en esta figura tambièn les muestro como van tomados los tiros, la flechas indica la dirección en que vuela este bicho que como-se muestra en el dibujo lo hace con una punta hacia adelante.

La Fig. 4 muestra una variante ya que aqui posee dos aletas o timones feos pero esta vez a los dos lados y vuela presentando uno de sus lados al frente, esta forma hace recordar al cafon pero este es màs fícil de armar y más resistente, sn el mismo dibajo les muestro como

## Child lifted metres into the air by giant kite at Taiwan festival

Child, 3, catches in kite strings and is lifted high into air in Taiwan
Girl became entangled in tail of giant kite at festival and was rescued unharmed

Sun 30 Aug 2020 19.41 BST
A three-year-old girl in Taiwan has been caught up in the strings of a kite and lifted high into the air in front of horrified onlookers, before being rescued unharmed.
The unidentified girl was taking part in a kite festival on Sunday in the seaside town of Nanliao, near Hsinchu City, when she became entangled in a giant, long-tailed orange kite and was hoisted off the ground by several metres.
Video of the incident published in Taiwanese media showed several festival workers struggling to hold on to the lengthy tail in strong winds prior to the kite's launch.
Dozens of onlookers and families were gathered nearby, cheering as the kite took off. However the cheers quickly turned into screams as they realised the the girl has been caught by the tail, and she was launched high into the air and flung around for more than 30 seconds before operators managed to lower the kite and the child dropped relatively softly into the arms of a gathered crowd.
News reports said the girl was frightened but suffered no physical injuries.

Local government bureaucrat, Zhang Li Ke, said the strong winds caused the tail to wrap around the stomach of the child.
Chen Ko-fang, secretary-general of the Taiwanbased Asian Kite Forum, said the kite was supposed to scatter lollies from the sky for children to catch below, Iaiwan News reported. Chen said children were usually kept at a distance until the kite was in the air, but organisers weren't expecting the sudden gusts, reported to have been a level seven on the Beaufort scale - or around $50-60 \mathrm{~km}$ per hour. Following the incident the mayor of Hsinchu city, Lin Chih-chien, issued a statement and public apology.

Lin said authorities immediately suspended all on-site activities to ensure the safety of the public in the high winds, and that municipal authorities had accompanied the family to hospital, where the young girl was cleared of injuries except some scratches to her neck.
"The city government team offers its sincere apology to the victim and the public.m We will review the incident to avoid such an accident from happening again. We will also investigate responsibility and conduct an in-depth review."


## SCARY SOAR

A YOUTUBE video has gone viral of a little girl who goes flying 100ft in the air after getting entangled in a kite at a Taiwanese kite festival. Thankfully, the little girl remains unharmed, but that didn't stop festival goers from capturing the shocking incident from all angles.


The three-year-old, who has not been identified, remains unharmed
Here's more on what we know about the viral video.

## What is the viral video?

The video captures festival attendants at a Taiwan kite festival preparing to send a large, long orange kite into the air.
A strong gust of wind violently sends the kite soaring, with a toddler entangled in it's tail.
The toddler flew more than 100 feet high for several seconds while onlookers watched helplessly.


She twists and turns through the sky at speed as the kite lashes her through the air.
Festival workers battle to bring her back to earth as festival-goers stand below.
The incident happened at the fourth annual Hsinchu City International Kite Festival, at the Nanliao Fishing Port in northern Taiwan.
How did the child get tangled in the kite?

Chen Ko-fang, the secretary-general of the Taiwan-based Asian Kite Forum, told Taiwan News that the kite in question was meant to drop candy over the festival-goers, which may have attracted the child to the kite.
The child became wrapped in the kite when Level 7 Beaufort-scale winds kicked up.


Onlookers watched on in horror as the girl was tossed around by extreme winds
Festival staff failed to notice the little girl before releasing the kite, sending the child soaring.
Is the child injured?
The three-year-old landed a short while after she took off with several adults rushing to her rescue. They appeared to catch her in their arms before freeing her from the kite's fabric.


The moment the child came tumbling back to crowdsCredit: YouTube
According to local media, the girl was frightened but got away injury-free.
Focus Taiwan reported that, amazingly, the girl only suffered minor cuts with no broken bones.
What did officials say about the incident?
Mayor of Hsinchu City, Lin Chih-chien, apologised in a Facebook statement and promised an investigation into the incident.
Kiting professionals say the 20-acre Taiwanese fields on which the festival is hosted is one of the "best kite-flying competition venues in the world."


## THINGS TO MAKE

 BY ARCHIBALD WILLIAMS AUTHOR OF "VICTORIES OF THE ENGINEER," HOW IT WORKS," "HOW IT IS MADE," ETC., ETC.THOMAS NELSON AND SONS, LTD. LONDON, EDINBURGH, AND NEW YORK

The making for oneself of toys and other objects of a more or less useful character has certain advantages over buying them. In the
case of the more elaborate and costly articles, it may enable one to possess things which otherwise would be unobtainable. Secondly, a home-made article may give a satisfaction more lasting than is conferred by a bought one, though it may be less beautiful to look upon. Thirdly, the mere making should be a pleasure, and must be an education in itself. To encourage readers to "use their hands" the following chapters have been written. The subjects chosen provide ample scope for the exercise of ingenuity and patience; but in making my selection I have kept before me the fact that a well-equipped workshop falls to the lot of but a few of the boys who are anxious to develop into amateur craftsmen. Therefore, while the easiest tasks set herein are very easy, the most difficult will not be found to demand a very high degree of skill, or more than a very moderate outlay on tools. I may say here that I have been over the ground myself to find out its difficulties for my readers, and that I made an engine similar to that described in Chapter XV (the most elaborate mechanism included in the book) with
very simple tools. Some of the items which I had on my original list were abandoned, because they presupposed the possession of comparatively expensive machines.
My selection has also been guided by the desire to cater for different tastes. In some cases the actual manufacture of the thing described may be regarded as the most instructive and valuable element, and may appeal most forcibly to the "handy" boy; in others--the Harmonograph provides a good instance - the interest centres round the experiments made possible by the construction of a simple piece of apparatus; in some the utility of the article manufactured is its chief recommendation.
I feel certain that anyone who follows out the pages of this volume with hand as well as with eye, will have little reason to regret the time so spent. The things made may in course of time be put aside and forgotten, but the manual skill acquired will remain. Nowadays one can buy almost anything ready-made, or get it made without difficulty; yet he who is able to make things for himself will always have an advantage over the person to whom the use of tools is an unprobed mystery.

## XXIII - KITES.

Plain Rectangular Box Kites. -- The plain box kite is easy to make and a good flier. Readers should try their hands on it before attempting more complicated models.
Lifting pressure is exerted only on the sides facing the wind, but the other sides have their use in steadying the kite laterally, and in holding in the wind, so that they justify their weight.
Proportions of Box. -- Each box has wind faces one and a third times as long as the sides, and the vertical depth of the box is about the same as its fore and aft dimensions. That is, the ends of the boxes are square, and the wind faces oblong, with one-third as much area again as the ends. Little advantage is to be gained from making the boxes proportionately deeper than this.
The distance between the boxes should be about equal to the depth of each box.

## CONSTRUCTION.

After these general remarks, we may proceed to a practical description of manufacture, which will apply to kites of all dimensions. It will be prudent to begin on small models, as requiring small outlay.
Having decided on the size of your kite, cut out two pieces of material as wide as a box is to be deep, and as long as the circumference of the box plus an inch and a half to spare. Machine stitch 5/8 inch tapes along each edge, using two rows of stitching about $1 / 8$ inch from the edges of the tape. Then double the piece over, tapes inside, and machine stitch the ends together, three quarters of an inch from the edge. Note. -- All thread ends should be tied together to prevent unravelling, and ends of stitching should be hand-sewn through the tape, as the greatest strain falls on these points.
The most convenient shape for the rods is square, as fitting the corners and taking tacks most easily. The sectional size of the rods is governed by the dimensions of the kite, and to a certain extent by the number of stretchers used. If four stretchers are
employed in each box, two near the top and two near the bottom, the rods need not be so
stout as in a case where only a single pair of central stretchers is preferred.
Lay the two boxes flat on the floor, in line with one another, and the joins at the same end. Pass two rods through, and arrange the boxes so that the outer edges are $1 / 2$ inch from the ends of the rods. (These projections protect the fabric when the kite strikes the ground). Lay the rods on one corner, so that the sides make an angle of 45 degrees with the floor, pull the boxes taut -- be careful that they are square to the rods -- and drive three or four tacks through each end of the box into the rods. Then turn them over and tack the other sides similarly. Repeat the process with the other rods after measuring to get the distances correct.
The length of the stretchers is found approximately by a simple arithmetical sum, being the square root of the sum of the squares of the lengths of two adjacent sides of the box. For example, if each box is 20 by 15 inches, the diagonal is the square root of ( 20 squared plus 15 squared) $=$ square root of $625=25$ inches. The space occupied by the vertical rods will about offset the stretch of the material, but to be on the safe side and to allow for the notches, add another half-inch for small kites and more proportionately for large ones. It is advisable to test one pair of stretchers before cutting another, to reduce the effect of miscalculations.
The stretcher notches should be deep enough to grip the rods well and prevent them twisting, and one must take care to have those on the same stretcher exactly in line, otherwise one or other cannot possibly "bed" properly. A square file is useful for shaping the notches.
Ordinarily stretchers do not tend to fall out, as the wind pressure puts extra strain on them and keeps them up tight. But to prevent definitely any movement one may insert screw eyes into the rods near the points at which the stretchers press on them, and other eyes near the ends of the stretchers to take string fastenings. These attachments will be found useful for getting the first pair of stretchers into position, and for preventing the stretchers getting lost when the kite is rolled up.
The bridle is attached to four eyes screwed into the rods near the tops of the boxes. (See Fig.
118.) The top and bottom elements of the
bridle must be paired off to the correct length; the top being
considerably shorter than the bottom. All four parts may be attached to a brass ring, and all should be taut when the ring is pulled on. The exact adjustment must be found by
experiment. In a very high wind it is advisable to shorten the top of the bridle if you have any doubt as to the strength of your string, to flatten the angle made by the kite with the wind.
Diamond Box Kites. -- In another type of box kite


Yo. 115,-Detalls of atroteher attachment for diamond-ahaped box kjtes.
FIG. 115. -- Details of stretcher attachment for diamond-shaped box kites.
the boxes have four equal sides, but the boxes are rhombus-shaped, as in Fig. 116, the long diagonal being square to the wind, and the bridle attached at the front corner.
For particulars of design and construction I am much indebted to Mr. W. H. Dines, F.R.S., who has used the diamond box kite for his meteorological experiments to carry registering meteorographs several thousands of feet into the air.
The longitudinal sticks used at the corners have the section shown in Fig. 115. They are about four times as wide at the front edge, which presses against the fabric, as at the back, and their depth is about twice the greater width. This shape makes it easy to attach the shorter stretchers, which have their ends notched and bound to prevent splitting.


Fra. ILQ-Plan of dlamond box kite, abowing arrangernent of atrotchers.

FIG. 116. -- Plan of diamond box kite, showing arrangement of stretchers.

Fig. 117 is a perspective diagram of a kite. The sail of each box measures from top to bottom one-sixth the total circumference of the box, or, to express the matter differently, each face of the box is half as long again as its depth. The distance separating the boxes is equal to the depth of a box.
The sides of a box make angles of 60 degrees and 120 degrees with one another, the depth of the space enclosed from front to back being the same as the length of a side. With these angles the effective area of the sails is about six-sevenths of the total area. Therefore a kite of the dimensions given in Fig. 117 will have an effective area of some thirty square


Fra. 117.-Diamond box kite in perspective. Tles
feet.
FIG. 117. -- Diamond box kite in perspective. Ties are indicated by fine dotted lines.

The long stretchers pass through holes in the fabric close to the sticks, and are connected with the sticks by stout twine. Between stretcher and stick is interposed a wedge-shaped piece of wood (A in Fig. 115), which prevents the stick being drawn out of line. This method of attachment enables the boxes to be kept tight should the fabric stretch at all--as generally happens after some use; also it does away with the necessity for calculating the length of the stretchers exactly.
The stretchers are tied together at the crossing points to give support to the longer of the pair.

The dotted lines AB, AC, AD, EM, and EN in Fig. 117 indicate ties made with wire or doubled and hemmed strips of the fabric used for the wings. $A B$, running from the top of the front stick to the bottom of the back stick, should be of such a length that, when the kite is stood on a level surface, the front and back sticks make right angles with that surface, being two sides of a rectangle whereof the other two sides are imaginary lines joining the tops and bottoms of the sticks. This tie prevents the back of the kite drooping under pressure of the wind, and increases the angle of flight. The other four ties prevent the back sails turning over at the edges and spilling the wind, and also keep them flatter. This method of support should be applied to the type of kite described in the first section of this chapter.
String Attachment. -- A box kite will fly very well if the string is attached to the top box only. The tail box is then free to tilt up and trim the kite to varying pressures independently of the ascent of the kite as a whole. When the bottom box also is
connected to the string it is a somewhat risky business sending a kite up in a high wind, as in the earlier part of the ascent the kite is held by the double


FIG. 118. -- Box kite with rear wings.
bridle fairly square to the wind. If any doubt is entertained as to the ability of the string to stand the pressure, the one-box attachment is preferable, though possibly it does not send the kite to as great a height
s might be attained under similar conditions by the two-box bridle.
When one has to attach a string or wire to a large kite at a single point, the ordinary method of using an eye screwed into the front stick is attended by obvious risks. Mr. Dines employs for his kites (which measure up to nine feet in height) an attachment which is independent of the front stick. Two sticks, equal in length to the width of the sail, are tacked on to the inner side of the sail close to the front stick. Rings are secured to the middle of the sticks and connected by a loop of cord, to which the wire (in this case) used for flying the kite is made fast.
A Box Kite with Wings. -- The type of kite shown in Fig. 118 is an excellent flyer, very easy, to make and very portable. The two boxes give good longitudinal stability, the sides of the boxes prevent quick lateral movements, and the two wings projecting backwards from the rear corners afford the "dihedral angle" effect which tends to keep the kite steadily facing the wind. The "lift," or vertical upward pull, obtained with the type is high, and this, combined with its steadiness, makes the kite useful for aerial photography, and, on a much larger scale, for man-lifting.
The materials required for the comparatively small example with which the reader may content himself in the first instance are:-
8 wooden rods or bamboos, 4 feet long and $1 / 2$ inch in diameter.
4 yards of lawn or other light, strong material, 30 inches wide.
12 yards of unbleached tape, $5 / 8$ inch wide. 8 brass rings, 1 inch diameter.

The Boxes. -- Cut off 2 yards 8 inches of material quite squarely, fold down the middle, crease, and cut along the crease. This gives two pieces 80 by 15 inches.
Double-stitch tape along the edges of each piece.
Lay the ends of a piece together, tapes inside, and stitch them together half an inch from the edge. Bring a rod up against the stitching on the inside, and calculate where to run a second row of stitching parallel to the first, to form a pocket into which the rod will slip easily but not loosely. (See Fig. 119, a.)
Remove the rod and stitch the row.
Now repeat the process at the other end of the folded piece. The positions of the other two rod
pockets must be found by measuring off 15 inches from the inner stitching of those already made. (Be careful to measure in the right direction in each case, so that the short and long sides of the box shall be opposite.) Fold the material beyond the 15 -inch

(a)

Fia. 119.-Plan of box kite with rear wings,
FIG. 119. -- Plan of box kite with rear wings.
lines to allow for the pockets and the $1 / 2$-inch "spare," and make the two rows of stitching. Repeat these operations with the second strip of material, and you will have prepared your two boxes, each measuring, inside the pockets, 15 by about 20 inches. (See Fig. 119.) Now cut out the wings in accordance with the dimensions given in Fig. 120. Each is 47-1/2 inches long and 15 inches across at the broadest point. It is advisable to cut a pattern out of brown paper, and to mark off the material from this, so arranging the pattern that the long 47-1/2-inch side lies on a selvedge. [The edge of a fabric that is woven so that it will not fray or ravel.]


FIG. 120. -- Wing for box kite.

Double stitch tapes along the three shorter sides of each wing, finishing off the threads carefully. Then sew the wings to what will be the back corners of the boxes when the kite is in the air--to the "spares" outside the rod pockets of a long side.
Take your needle and some strong thread, and make all corners at the ends of pockets quite secure. This will prevent troublesome splitting when the kite is pulling hard.
Sew a brass ring to each of the four wing angles, $\mathrm{AA}, \mathrm{BB}$, at the back, and as many on the front of the spares of the rod pockets diagonally opposite to those to which the wings are attached, halfway up the boxes. These rings are to take the two stretchers in each box. Slip four rods, after rounding off their ends slightly,
through the pockets of both boxes, and secure them by sewing the ends of the pockets and by the insertion of a few small tacks. These rods will not need to be removed.
The cutting and arrangement of the stretchers and the holes for the same require some thought. Each stretcher lies behind its wing, passes in front of the rod nearest to it, and behind that at the corner diagonally opposite. (See Fig. 119.) The slits through which it is thrust should be strengthened with patches to prevent ripping of the material.
Two persons should hold a box out as squarely as possible while a stretcher is measured. Cut a nick $3 / 8$ inch deep in one end of the stretcher, and pass the end through the fabric slits to the ring not on the wing. Pull the wing out, holding it by its ring, and cut the stretcher off 1 inch from the nearest point of the ring. The extra length will allow for the second nick and the tensioning of the material. Now measure off the second stretcher by the first, nick it, and place it in position. If the tension seems excessive, shorten the rods slightly, but do not forget that the fabric will stretch somewhat in use.
Make the stretchers for the second box, and place them in position. The wings ought to be pretty taut
if the adjustments are correct, but should they show a tendency to looseness, a third pair of stretchers of light bamboo may be inserted between the other two,


Fig. 12L-Bax kite with front and back wliges.
FIG. 121. -- Box kite with front and back wings.
being held up to the rods by loops of tape. In order to be able to take up any slackness, the wing end of each stretcher may be allowed to project a couple of
inches, and be attached by string to the near ring, as described on p. 271. The bridle to which the flying string is attached is made up of four parts, two long, two short, paired exactly as regards length. These are attached to eyes screwed into the front rods three inches below the tops of the boxes. Adjustment is made very easy if a small slider is used at the kite end of each part. These sliders should be of bone or some tough wood, and measure 1 inch by $3 / 8$ inch. The forward ends of the bridle are attached to a brass ring from which runs the flying string.
It is advisable to bind the stretchers with strong thread just behind the notches to prevent splitting, and to loosen the stretchers when the kite is not in use, to allow the fabric to retain as much as possible of its elasticity.
The area of the kite affected by wind is about 14 square feet; the total weight, 1-1/2 lb. The cost of material is about 2 s .
The experience gained from making the kite described may be used in the construction of a larger kite, six or more feet high, with boxes 30 by 22 by 22 inches, and wings 24 inches wide at the broadest point. If a big lift is required, or it is desired to have a kite usable in very light breezes, a econd pair of wings
slightly narrower than those at the back may be attached permanently to the front of the boxes, or be fitted with hooks and eyes for use on occasion only. (Fig. 121.) In the second case two sets of stretchers will be needed.


FIG. 122. -- Simple string winder for kite.
Note. -- If all free edges of boxes and wings are cut on the curve, they will be less likely to turn over and flap in the wind; but as the curvature gives extra trouble in cutting out and stitching, the illustrations have been drawn to represent a straight-edged kite.
ite Winders. -- The plain stick which small children flying small kites on short strings find sufficient for winding their twine on is far too primitive a contrivance for dealing with some hundreds of yards, may be, of string. In such circumstances one needs a quick-winding apparatus. A very fairly effective form of winder, suitable for small pulls, is illustrated in Fig. 122.
Select a sound piece of wood, $3 / 8$-inch thick, 5 inches wide, and about 1 foot long. In each end cut a deep $V$, the sides of which must be carefully smoothed and rounded with chisel and sandpaper. Nail a wooden rod, 15 inches long and slightly flattened where it makes contact, across the centre of the board, taking care not to split the rod, and clinch the ends of the nails securely. The projecting ends of the rods are held in the hands while the string runs out. The projecting piece, A, which must also be well secured, is for winding in. The winding hand must be held somewhat obliquely to the board to clear the spindle. Winding is much less irksome if a piece of tubing is interposed between the spindle and the other hand,
which can then maintain a firm grip without exercising a braking effect.
This kind of winder is unsuited for reeling in a string on which there is a heavy pull, as the hands are working at a great disadvantage at certain points of a revolution.
A far better type is shown in Figs. 123 and 124.


Fra. 128,-Plan of atring-windiog drum, frames, and brake.
FIG. 123. -- Plan of string-winding drum, frame, and brake.

Select a canister at least 6 inches in diameter, and not more than 6 inches long, with an overlapping lid. Get a furner to make for you a couple of wooden discs, $3 / 8$ inch thick, and having a diameter 2 inches
greater than that of the tin. Holes at least $3 / 8$ inch across should be bored in the centre of each. Cut holes 1 inch across in the centre of the lid and the bottom of the canister, and nail the lid concentrically to one disc, the canister itself to the other. Then push the lid on the tin and solder them together. This gives you a large reel. For the spindle you will require a piece of brass tubing or steel bar 1 foot long and large enough to make a hard driving fit with the holes in the wood. Before driving it in, make a framework of $3 / 4$-inch strip iron (Fig. 123), $3 / 32$ or $1 / 8$ inch thick, for the reel to turn in. The width of this framework is 1 inch greater than the length of the reel; its length is twice the diameter of the canister. Rivet or solder the ends together. Halfway along the sides bore holes to fit the spindle.
Make a mark 1 inch from one end of the spindle, a second $\mathrm{I} / 8$ inch farther away from
the first than the length of the reel. Drill 3/16inch holes at the marks. Select two wire nails which fit the holes, and remove their heads. Next cut two 1/4-inch pieces off a tube which fits the spindle. The reel, spindle, and framework are now assembled as follows: Push the end of the spindle which has a hole nearest
to it through one of the framework holes, slip on one of the pieces of tubing, drive the spindle through the reel until half an inch projects; put on the second piece of tubing, and continue driving the spindle till the hole bored in it shows. Then push the nails half-


FIG. 124. -- End view of string winder, showing brake and lever.
way through the holes in the spindle, and fix them to the ends of the reel by small staples. A crank is made out of $1 / 2$-inch wood (oak by preference) bored to fit the spindle, to which it must be pinned. A small wooden handle is attached at a suitable distance away. If there is any fear of the wood splitting near the spindle, it should be bound with fine wire. An alternative method is to file the end of the spindle square, and to solder to it a piece of iron strip in which a square hole has been made to fit the spindle. The crank should be as light as is consistent with sufficient strength, and be balanced so that there shall not be unpleasant vibration when the string runs out fast, and of course it must be attached very securely to the spindle.
What will be the front of the framework must be rounded off on the top edge, which has a wire guide running parallel to it (Fig. 123) to direct the string on to the reel; and into the back are riveted a couple of eyes, to which are
attached the ends of a cord passing round the body, or some stationary object.


Fia, 125.-string winder in operation.
FIG. 125. -- String winder in operation.
A pin should be provided to push into a hole at one end of the reel and lock the reel by striking the framework, and it will be found a great convenience to have a brake for controlling the reel when the kite
is rising. Such a brake is easily fitted to the side of the frame, to act on the left end of the reel when a lever is depressed by the fingers. There should be a spring to keep it off the reel when it is not required. The diagrams show where the brake and brake lever are situated.
Note. -- To obtain great elevations a fine wire (piano wire $1 / 32$ inch in diameter) is generally used, but to protect the user against electric shocks the wire must be connected with an "earthed" terminal, on the principle of the lightning conductor.


# The Midlands Kite Fliers of Great Britain 2021 CHALLENGE A.G. BELL'S HEXAGONAL BOX KITE <br> Are you up for it ???? Read on! 

## Kopparberg Cider Advert - Outside Is Ours TV Advert Music

https://www.sounds-familiar.info/kopparberg-cider-outside-is-ours
15th May 2020 This Kopparberg advert from the Cider brand is set in the desert with kites in the shape of humans. The ad featuring music by Abacus shows the kites flying against the backdrop of a sun-drenched clear blue sky. The trance music ads to the ethereal mood of the campaign.


## In Memoriam by Luke Jerram

Sandbanks Beach | 27th September - 2nd October \| 7am - 11pm



Flag day A piece of artwork by Luke Jerram called in Memoriam is installed on a beach as part of the Bournemouth Arts by the Sea Festival. With 100 bedsheets arranged in a medical red cross, the sea of flags offers a place for people to remember virus victims, NHS staff and volunteer heroes.


## In Memoriam by Luke Jerram

Sandbanks Beach | 27th September-2nd October | 7am-11pm



## Description

Arts by the Sea 2020 will be a festival of reflection. As a society, we have faced one of the most challenging and difficult years living through the COVID-19 pandemic. It has changed the way we live, and many loved ones have been lost.
'In Memoriam' is an artwork by Luke Jerram being presented on Sandbanks beach, his beautiful, memorial installation offers a place for the public to visit to remember those we have lost in this crisis. Created from over 100 bedsheets a giant sea of flags will be installed across the sand, symbolically reflecting the people who have passed. Arranged in the form of a medical logo, the installation also pays tribute to the brave NHS staff members and volunteers who continue to risk their lives to care for the thousands affected by the coronavirus. You can physically enter the structure to contemplate and explore the artwork, whilst adhering to the rules of social distancing.

From 7.30pm each evening The Colour Project return to Arts by the Sea to transform words from CoCreate's Process participants into a visual artwork projected across the flags of In Memoriam.

Commissioned by Culture Weston and University Hospitals Bristol \& Weston NHS Foundation Trust. Supported by Without Walls and FESTIVAL.ORG. Informed by the Welcome Trust-funded 'Weather Lives' project, led by Dr Cassie Phoenix at Durham University.

Luke Jerram is known worldwide for his large-scale public engagement artworks. His multidisciplinary practice involves the creation of sculptures, installations and live arts projects. Living in Bristol, UK but working internationally, Jerram's extraordinary art projects have inspired millions of people around the globe.

No ticket required, the installation is open access for you to visit at any time. Please maintain social distancing around the installation.
Japarlese Owl kite




QETABL HOCK TEK SPREADER



## Japanese Ow Kite

by Stephen John Bernstein

The basic owl kite described herein appeared in a 1969 Japanese booklet, published by Bitjusu Shuppan-sha, Tokyo, titled "Pleasure Creating". The author is Tsutomu Hiroi. My apologies to the author if the title and the spelling are not precise, since the interpretations from the Japanese were made by a friend. The entire booklet is in Japanese, with the exception of the publisher's name. Consequently, all dimensions shown in my sketches are approximately gleaned from the pictures in the booklet.

1 have made changes and added innovations as follows:
(1) I use a 5 line bridle with the top bridle point above the top of the kite--spine extended as shown. I find this provides for a more stable flight by extending the bridle point farther from the center of rotation.
(2) The removable spreader stick allows for folding the wings for easier transportation. Archery arrow nocks are used as pockets for the stick ends. They also provide good fastening points for the bow string. (Bow about $3^{\text {H1 }}$ ).
(3) The 4 -hole buttons on the bridle lines make for good and rapid adjustments. (Thanks, Paul Garber!)
(4) I now use 2 tails of light cloth material. Each tail is approximately 15 feet in length, attached to the bottom wing tips. A single, longer tail would do, but the twin tail is more interesting and stabilizing.
(5) The twirling eyes are most easily made by cutting $1 / 2^{\text {H }}$ rings from lightweight cardboard tubing, $2^{H}$ to 2 $1 / 2^{\text {" }}$ in diameter. The eye covering is made from stiff writing paper, cut to shape shown and glued to the ring. A wire shaft is inserted through the rings that have small holes made for this purpose. When ready to install the eyes in the cover of the kite, string a bead on each end of the wire as shown, and fasten the wire shaft to the back of the cover with tape.

Make the frame first. I use bamboo sticks, approximately $1 / 8^{\prime \prime} \times 3 / 8^{\prime \prime}$. Tie and glue all terminal and crossing points except the top ends of the diagonal wing sticks. These should be adequately tied but not glued, to permit wing folding. I use Tyvek for the cover. This should be cut to shape as shown, eye holes cut, eye rims attached, and decorated. Glue to frame, using good old Elmer's. Then you are ready to make the bridle points. These consist of loops made from lightweight wire and fastened to the sticks where shown. Fasten the tails to the bottom tips of the wings.

By proper adjustment of the bridle strings, this kite has performed well in 5 to 15 knot winds. The dimensions on the bridle strings shown will provide a good starting point. If you need additional info, my number is 703-521-3875. Happy "OWLING!"




# The Midlands Kite Fliers of Greał Britain 2021 CHALLENGE A.G. BELL'S HEXAGONAL BOX KITE 



I bought the kite at the end-of-festival auction. As members of the Great Ouse Kite Flyers, my wife and I had come from the UK to attend the festival as part of a holiday trip to New Zealand. We took the kite back home (thanks to festival sponsors Air NZ providing unlimited baggage allowance to participants), but only assembled it a few times and never flew it with much success. We never seemed able to get a suitable anchor, strong enough line and strong steady wind all at the same time. My kite flying stopped after a few years, and I found our club (GOKF) had eventually disbanded. After years in the loft, the kite was passed on to Midland Kite Flyers in August 2020.

Tony Lewis, Hitchin, Hertfordshire, August 2020
Interested in getting this exceptional kite flying again- then contact Bill Souten, asap....


Finally, I'd like to share these 'Sardinian Lessons for Life' with you. These are taught to children as rules to live by and although most are familiar to me, as mainland Italy has a similar ethos, I think they're well worth setting down here as a reminder of the important things in life:

1. Put family first - If you have strong family values and each person feels cared for, things aren't so hard during the bad times.
2. Celebrate your elders - Grandparents not only provide love, childcare and financial help, but carry a wealth of wisdom.
3. Laugh with friends - Visit any village in Sardinia and I guarantee you will see people sitting in their doorways chatting and enjoying life.
4. Take a walk - You will keep fit without putting stress on your joints.
5. Drink a glass of red wine daily - Red wine is considered good for the heart and Cannonau contains more antioxidants than any other wine in the world.
6. Drink goat's milk - One glass a day is thought to protect against inflammatory diseases associated with ageing, such as heart disease or Alzheimer's.
7. Always use fresh ingredients wherever possible - No GM food or preservatives for the locals!
8. Whatever the weather, go out and enjoy It whenever you can - Fresh air is vital for health and well being.

These rules may seem simple, but given the remarkably long lifespan of the Sardinians they seem to work!
Images from an old Sardinian Kite Festival Poster - thoughts from Gino D'Acampo....Chef


