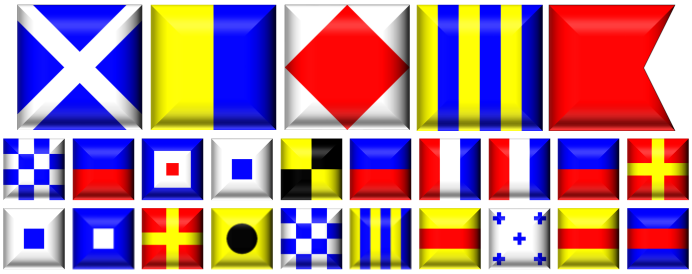
NEWSLETTER OF THE MIDLANDS KITE FLIERS OF GREAT BRITAIN

SUMMER 2023

MIDLANDS KITE FLIERS NEWSLETTER
EDITION BS 44
JULY 2023



NEWSLETTER OF THE MIDLANDS KITE FLIERS SUMMER 2023

GENERAL 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 – WEBSITE MANAGER

Dave Hardwick

Sunnyside, Cheadle Road,
Oakamoor,
Stoke on Trent
Staffordshire, ST10 3AF
☎ 07598 392613
Mkf.secretary@gmail.com

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

'MKFNEWS' DEADLINES FOR 2023+

MKFNEWS B. SOUTEN - EDITOR	'COPY' DEADLINE	PUBLISHING DATE
45	25th September 2023	Mid October 2023
46	25th December 2023	Mid January 2024
47	25th March 2024	Mid April 2024
44	25th June 2024	Mid July 2024

LEOMINSTER AND HEREFORD KITE FESTIVAL
Saturday 8th and Sunday 9th July 2023

BERRINGTON HALL

LEOMINSTER, HEREFORDSHIRE, HR6 ODH

Featuring Kite Fliers from all over Britain

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

In the event of poor weather conditions the fly-in will be cancelled.
It is always advisable to check that the event is happening before travelling any distance
All our 'fly-ins' are Civil Aviation Authority and Site Owner approved.

LEOMINSTER AND HEREFORD KITE FESTIVAL
Saturday 8th and Sunday 9th July 2023

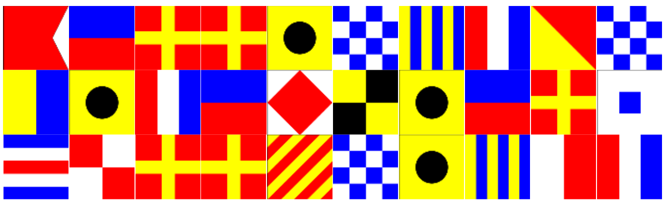
BERRINGTON HALL

LEOMINSTER, HEREFORDSHIRE, HR6 ODH

Featuring 'THE MKFGB KITE CHALLENGE'
With a very large

CASH PRIZE !!

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



BERRINGTON KITE FLIERS CURRY NIGHT

Shabagh
Indian Cuisine

Chicken Curry, Vegetable Curry, Rice and the trimmings
Bhaji, Samosa etc.... All being served at 7.00pmish
Bring along your own crockery and cutlery..

Just **£15.00 per person**

YOU MUST GET YOUR TICKET FROM BILL BEFORE 12.00 NOON
(This is so that we can place our order for delivery.)

MKFGB AUCTION

MIDLANDS KITE FLIERS OF GREAT BRITAIN

BERRINGTON HALL
SATURDAY EVENING
8th JULY 2023

DONATIONS ALWAYS RECEIVED
WITH GRATEFUL THANKS
AUCTION YOUR OWN KITES FOR
A SMALL PERCENTAGE - 20%

PAYMENT BY CASH, CHEQUE OR BANK TRANSFER.
Unfortunately we are unable to accept Debit or Credit Cards.

SEE BILL SOUTEN FOR DETAILS

	COMPETITION RULES AND REGULATIONS
1	The object of the competition is to design and make a kite that fulfils the brief of a 'BERMUDA KITE'
2	The judging criteria are;- Fulfils the design brief
3	Quality of Manufacture
4	Quality of Performance The final kite must fly to at least 200' when viewed by the judges.
5	Aesthetic Qualities
6	Excitement Factor
7	Originality - Innovation
8	Competitors must supply their own fabric, spars, tape etc.
9	Competitors will supply their own equipment, both for manufacture and flying.
10	The judge's decision(s) will be absolutely final in the event of any disagreement(s).
11	There may well be some more rules, but we are still making them up.......
12	HAVE FUN AND ENJOY THE CHALLENGE!
13	**Further information about this 'Challenge' can be obtained from Bill Souten The Midlands Kite Fliers of Great Britain c/o 52 Shepherd's Court, Droitwich Spa, Worcestershire, WR9 9DF. 07840800830**

A celebration for those ‘kite fliers’
born in 1953.

Complimentary Curry Night Meal
@ Berrington Hall
Courtesy of Bill Souten
Chairman of the Midlands Kite Fliers
(Yes Bill Souten is SEVENTY)

Saturday 26th & Sunday 27th August 2023

Telford Town Park, Telford, Shropshire, TF3 4BZ

EVENT CONFIRMED

TWO DAYS FLYING IN THE ARENA

11:00am till 17:00pm

VEHICLE PASS NEEDED FOR SITE ACCESS

PRE REGISTER FOR ON SITE CAMPING

Civil Aviation Authority

CAP 393
Air Navigation: The Order and the Regulations
-
TODAY'S HEIGHT LIMIT WILL BE
1,000 feet
MIDLANDS KITE FLIERS

PRE REGISTERED ON SITE CAMPING AVAILABLE

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

In the event of poor weather conditions the fly-in will be cancelled.
It is always advisable to check that the event is happening before travelling any distance
All our 'fly-ins' are Civil Aviation Authority and Site Owner approved.

KOREAN MANGA KITES

Bill Souten's version of Manga Kites

Bill Souten's 'Dan Dare' Manga Kite - 1953

5P Kite Making…..

No, not what you may be thinking kites for 5 pence. Like many things in life this is a story about being prepared; again you're probably off track and thinking maybe cubs or scouts. Most things in life ie, meals and kites festivals etc need some sort of plan if they are to be a half decent event.

Thinking back to the dark ages of Covid shut-in, I used to take part in Zoom sessions with kite fliers both from our own homeland and several from around the globe, the latter were either late to bed or up before Dawn; she always was a late riser ;-) During the many sessions we spoke drivel but occasionally the topic was kites, their design, printing/designing 3D connectors and plans etc. I flippantly mentioned drivel but thankfully Zoom for many during Covid, whatever the discussion, maintained one's sanity.

One of the plans discussed was the **Astralglide** designed by **Ron Gibian**, who was one of our Zoom contributors. Ron has kindly made the plans available for personal use and offers hints and tips like many kite makers. The Astralglide can be scaled up/down and is a good base for a wide range of patterns/designs, which sparked me into thinking of something to put on the shape. One of the other Zoom-ers was **Scott Hampton** who suggested to me, during one of our chats, that I may think about 'breaking out' of the Astralglide shape, similar to many of his unique kites.

So, after some brain storming and with a theme in mind I set about making several sketches, the final one being transferred to my Astralglide template and parked to one side awaiting the time/urge to start cutting ripstop and start the build.

With the theme of the kite being related to India, a place that has been a regular go-to festival venue for me in January, primarily to migrate to warmer climes and meet many friends that I have made over the years, I obtained the base material (white ripstop) from **Karl Longbottom** whilst I was at the St Annes festival in September 2022 with the thought being to complete the kite for the January 2023 Indian festivals.

Well October pasted by, November also slipped off the calendar and then Christmas was looming without a stitch being sewn; bugger me he said!

This, as highlighted at the start, is where my 5P training throughout life and project managing came home to roost or not as transpired….

The principles of the 5P's, as some may be aware, are 'prior preparation provides proper production' or to put it another way 'poor planning produces a poor product'.

The full-size Astralglide is 2.6m high and 1.35m at its widest point so it's a fairly sizeable kite. The theme and hence colours I wanted to use on the kite were based on those of the Indian flag; orange, white and green.

Two weeks before Christmas the design was transferred to the white ripstop; no problem.

Now for the orange, which was supposed to be the colour of the roses but having located it in my pile of ripstop I realised that there was insufficient for the job. Too late to get some delivered due to postal strikes and the proximity of Chrimbo I resorted to some gold ripstop, sort of orange-ish, but double bugger!

The other colour I required was green for the stems. Phew my stock of material, as I'd thought all along, at least contained something useable.

Finally, the barbed-wire where the plan was to use silver ripstop, which again I thought I had got plenty but sh…! Oh well, guess I could use the black, of which I have plenty. That said, I soon realise that it was a softer, inflatable type of ripstop, so as you cut the material after sewing there was a slight fraying that required a lighter to be cast over the kite to seal edges. Treble bugger!

Because of the 'break-out' areas from the kite edges I used some medium weight white Dacron as a stiffener at the head of the rose and the bottom stem to aid holding the shape in flight. In addition, I added a small 2mm glass fibre spar to the rear of the stem because this was longer.

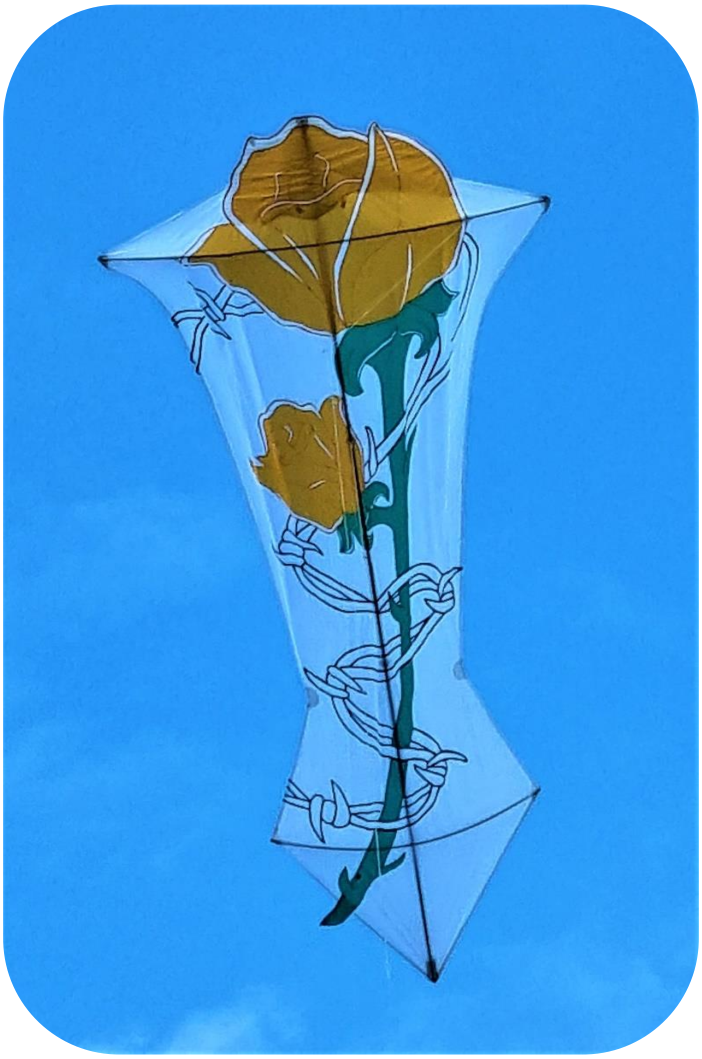
The plan called for 6mm carbon main spar and 4mm glass for the cross spars. Another lack of planning here; because I had opted to make the Astralglide full size there was an insufficient length of 6mm so 8mm was used. As it transpired I believe that this was actually ideal even though the Indian winds in January are generally light.

Sparred and bridled it was now ready for its first outing at the Gujarat IKF 2023 in Ahmedabad.

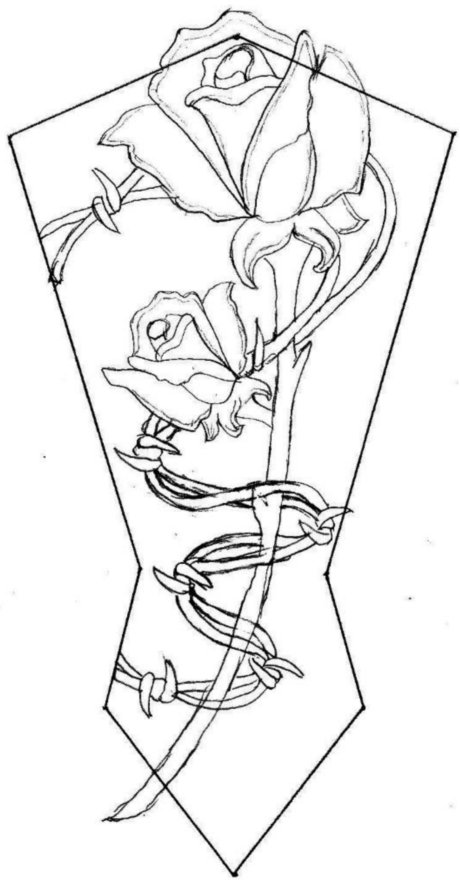
The kite shows a rose with barbed-wire around its stem. My idea, as previously mentioned, are based on the Indian flag, the colours of which make up the rose and the reason for choosing a rose are as follows.

There are several primary religions in India and it still has a culture of arranged marriage. For many young women, given careful selection by the parents, they can end up in a good relationship, which I have observed from my friendship with many friends/families. I also understand that it may be possible for a girl to marry someone of her choice but this may be the exception more than the norm. Ultimately love, particularly in Hinduism and almost 80% of the population, is sacrament. It preaches that one gives up selfishness in love, not expecting anything in return.

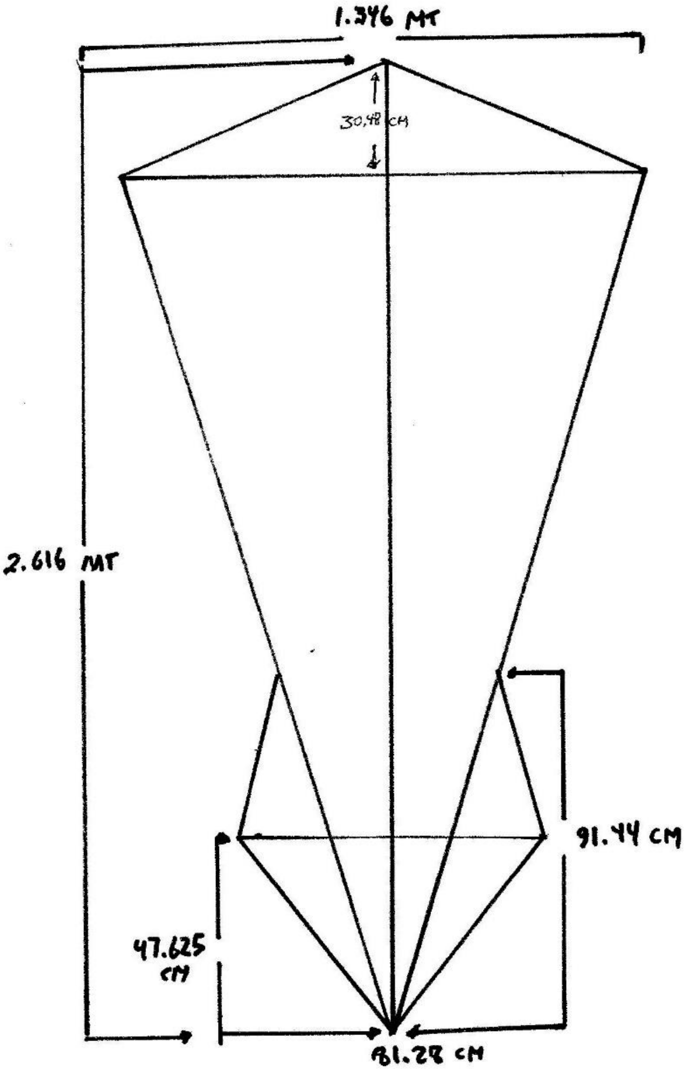
As I see it there are many beautiful ‘roses’ that may be ‘untouchable’; possibly being unloved by their husband and only there to maintain the family but wholly accepting it as is their upbringing and culture and their faith in Hinduism.

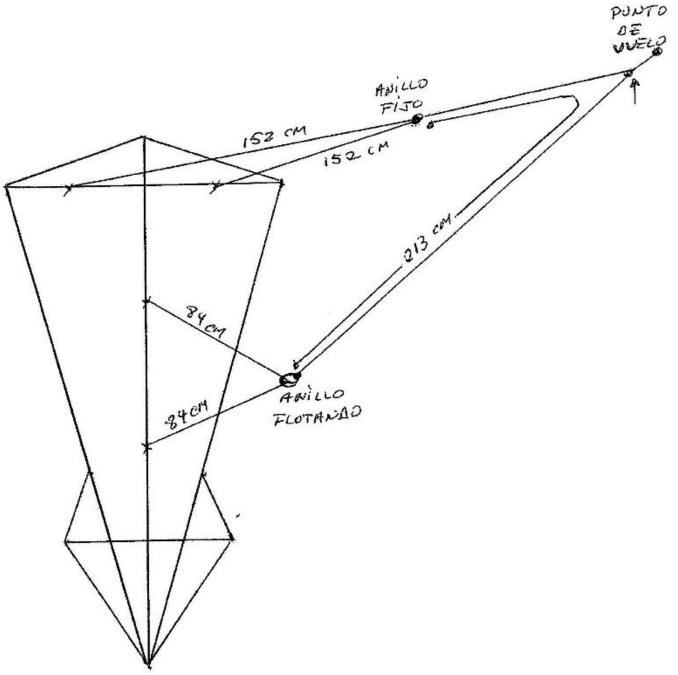


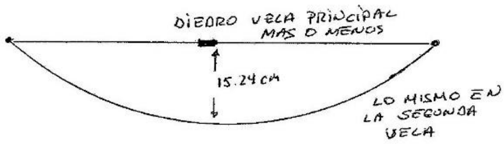
Following several flights in India and, luckily enough for me, in Thailand and Malaysia I could see that there were a few changes that needed to be made to the kite. The top of the kite although stiffened with Dacron tended to fold back in the wind so additional stand-offs were required. The 4mm glass cross-spars were a bit too flexible in anything but a light wind so making the kite unstable. A quick chat with **Karin Stevens,** who flew several Astralglides at Portsmouth last year, brought about a change to 4mm carbon spars, which proved a lot better and improved the wind window. With the addition of sleeves to retain the spars in place and the above changes I believe that it is done job.

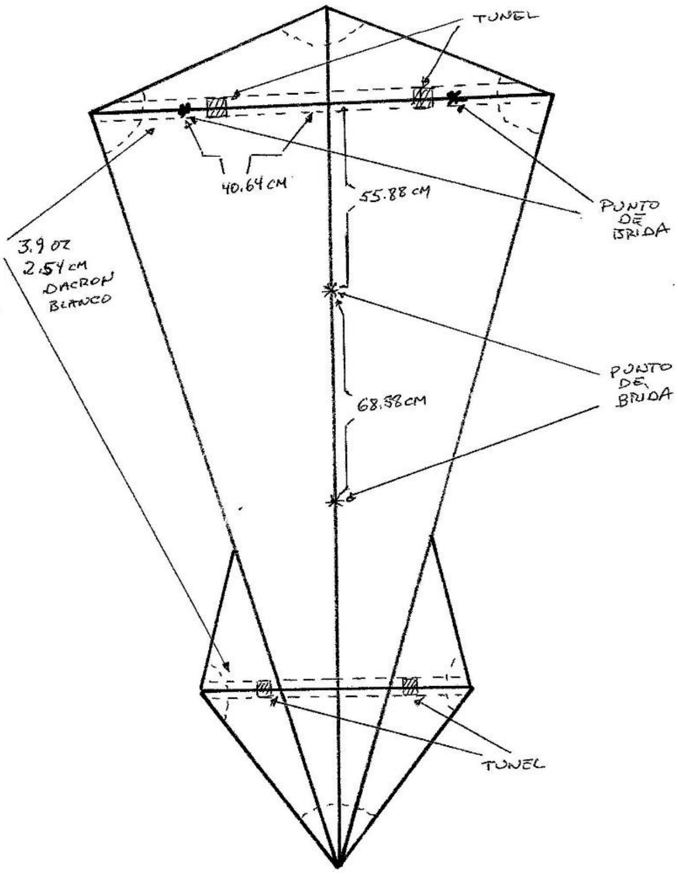


Bob Cruikshanks


1.346 MT
30.48 CM
2.616 MT
91.44 CM
47.625 CM
81.28 CM


PUNTO DE VUELO
ANILLO FIJO
152 CM
152 CM
213 CM
84 CM
84 CM
ANILLO FLOTANDO


DIEDRO VELA PRINCIPAL MAS O MENOS
15.24 CM
LO MISMO EN LA SEGUNDA VELA


TUNEL
40.64 CM
55.88 CM
PUNTO DE BRIDA
3.9 OZ
2.54 CM
DACRON BLANCO
PUNTO DE BRIDA
68.58 CM
TUNEL

Astralglide

If trouble-free and serious reliability is what you're looking for, this is the kite. We have flown the Astralglide in a huge variety of winds up to 38+ mph. These kites can be built with standard 3/4 oz. ripstop for higher winds or ultralight using Icarex fabrics, which are very light. All of them are built with carbon tubes, some with wrapped carbon. These are kites that once you set your bridles to wind conditions, you can stake them down and they'll stay up all day ... very forgiving kites!

Level: All levels

Dimensions: Available in three sizes

- Small 4' x 2'
- Medium 6' x 3'
- Large 9' x 4.5'

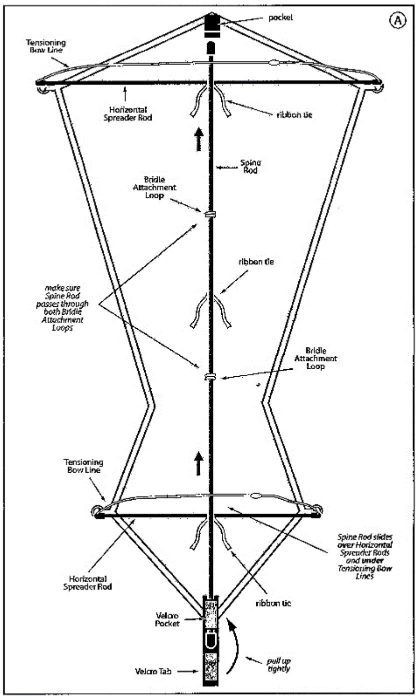
Colors: The designs pictured above are standard, but the color can be changed to suit your taste. Custom designs, as on the right, can also be done. Call for a quote.

Price:

- Small $175.^{00}
- Medium $200.^{00}
- Large $550.^{00}
- Call for price for custom graphics

PREMIER COLLECTIONS

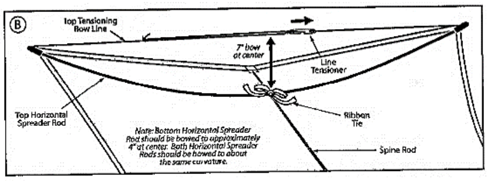
MOREA *assembly instructions*

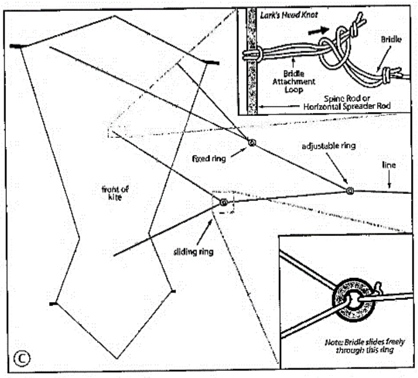


Step 1:
Unroll kite and lay out flat facedown.

Step 2:
Assemble black fiberglass Spine Rod and slide through Velcro Pocket at bottom of kite and up along vertical center of kite, over Horizontal Spreader Rods, under Tensioning Bow Lines, and through both Bridle Attachment Loops. Fit top end of Spine Rod into pocket at top of kite and secure bottom end by pulling Velcro Tab tightly over bottom of Spine Rod. Tie both Horizontal Spreader Rods to Spine Rod at tie-down points using attached Ribbon Ties. Tie Spine Rod to kite at center tie-down point. (diagram A)

Step 3:
Bow Top Horizontal Spreader Rod by sliding Line Tensioner on Top Tensioning Bow Line to create approximately a 7 inch bow at center. Repeat for smaller Bottom Horizontal Spreader Rod, creating approximately a 4" bow. (diagram B)





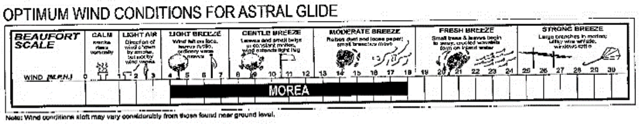
Step 4:
Untie "daisy-chain"-knotted Bridle at front of kite and extend as shown in diagram C. Be sure that Bridle is completely untangled before flight. For your convenience, Bridle Attachment Loops are pre-tied to Bridle. If Bridle Attachment Loops have become untied during shipping or need to be untied to untangle Bridle before flight, retie using Lark's Head knot shown in inset of diagram C. Attach line to bridle, and your Astral Glide is now ready to fly!

FLIGHT INSTRUCTIONS:

-Tie flying line to Tow Loop.
-Have a friend stand about 75 ft. downwind from you and hold the kite with its head pointed towards the sky.
-As the wind catches the kite, signal your friend to release it while you bring in the line with long steady pulls.
-Slowly let out more line as the kite flies upward.

RECOMMENDED LINE: 90 LB TEST LINE

OPTIMUM WIND CONDITIONS FOR ASTRAL GLIDE



NATURE - JUNE 18th 1903

SCIENTIFIC KITE FLYING.

SYSTEMATIC observations of the temperature and humidity of the upper air have been made for many years past, both in America and on the Continent, kites being the means employed mostly in America, and kites and balloons on the Continent.

The plan adopted is to send up a kite of some 60 to 80 square feet of lifting surface, the line used being steel music wire instead of string, additional kites being attached to the line as occasion requires. The end kite, or the line close to it, carries a self-recording instrument, and in this way observations at a height approximating to or even exceeding three miles are sometimes obtained, although it is not often that the air motion in the various strata is such as to render a height of more than 10,000 feet possible. The obstacle to be overcome is the pressure of the wind upon the line, which soon reduces the angular altitude of the kite, and it is on this account, rather than on the greater strength of steel for the same weight, that steel music wire is preferable to string, the resistance of the wire on account of its smaller section being so much less.

FIG. 1.—Rhombus kite, 7 ft. 6 in. by 6 ft. by 3 ft. 6 in.

There are few days on which a small elevation may not be reached by a kite, but days really suitable are not plentiful. It is self-evident that a suitable wind is the first requisite, and to obtain a great height a suitable wind must prevail from the lowest to the highest strata reached. We cannot, of course, alter the wind, but fortunately we are able to move the point to which the kite line is attached, and this practically comes to the same thing as altering the force of the wind. The most convenient means of doing this is to fly the kites from the deck of a steam vessel, and during last summer observations were thus obtained for seven weeks almost daily.

The work was inaugurated by a committee of the Royal Meteorological Society, cooperating with a committee appointed by the British Association.[1] They hired a small steam tug of 55 feet length and 14 feet 6 inches beam. The vessel was stationed at Crinan, which is at the north end of the Crinan Canal, on the west coast of Scotland, and, Sundays excepted, kite ascents were made from her deck every day, no matter what the weather, from July 8 to August 26. The vessel could not steam more than seven knots, and the wind velocity necessary to raise a kite is from nine to twelve knots, so that on occasions when it was a dead calm no kite could be started. It happened, however, that no day was calm throughout, so that some time during the hours of daylight the opportunity of reaching at least 1500 feet elevation was afforded. Had the tug been capable of ten instead of seven knots, I have little doubt but that a height of 5000 feet might have been attained every day.

Using one or two kites only, no difficulty was experienced. The most troublesome point was getting the kite together when the wind was strong. The tug was small, and had no bulwarks, so that there was no shelter of any kind on deck, but her smallness was certainly an advantage in another way. A larger vessel would have produced eddies in the wind, and probably have rendered it difficult to start the kite direct from the deck. As it was we had no trouble, and it was very seldom that a kite failed to rise steadily from the starting point. In calm weather the vessel was

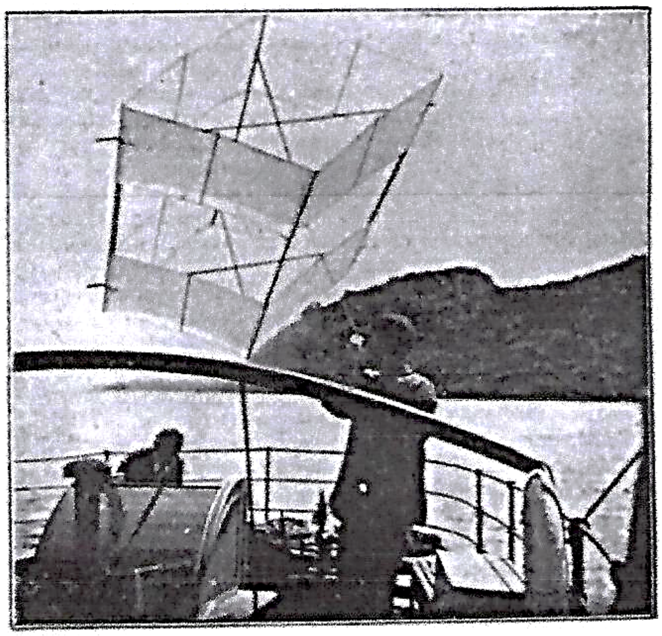


FIG. 2.—Starting a kite from the tug.

kept steaming against, or nearly against, the wind so as to produce sufficient relative motion to raise and maintain the kites. In rough weather she was taken out against the wind for some ten or twenty miles until a position was attained from which a clear run down the wind was possible, and the kite was then started. A wind of force 5 on the Beaufort scale is the most suitable wind for kite flying. This is known technically as a fresh breeze, and is sufficient to produce a moderate amount of white on the sea surface. One of the kites of the usual size for scientific kite flying will, in such a breeze, exert a pull of about 50 lbs. The wire used will bear a strain of some 300 lbs., and weighs about 16 lbs. to the mile, so that one kite in such circumstances will take nearly two miles of wire, and, if it be a good one, will raise the instruments to about 5000 or 6000 feet. The pull of 50 lbs. is well within the limits of stability of the kites, and is on the whole about the most convenient to work with, if one can be certain of the goodness of the kite. At Crinan the tug was so manœuvred that a tension of 40 lbs. for each kite on the line might be main-

[1] See paper on "The Method of Kite-flying from a Steam Vessel, and Meteorological Observations obtained thereby off the West Coast of Scotland" (*Quarterly Journal of the Royal Meteorological Society*, April).

tained, but kite flying is an art of which we were then without previous experience, and so it was well to err on the safe side. A steam vessel is extremely convenient for kite flying, as by altering either her speed or direction the strain upon the wire, provided the vessel is not already going full speed against or with the wind, can be varied with the utmost nicety.

With more than two kites difficulties often occur, owing to the fact that very different wind velocities may prevail at different heights. If the wind is greatest at the surface, adding more kites does not add appreciably to the height of the end one, since no kite can rise into a stratum in which it does not find sufficient wind. This sometimes occurred, but the more usual case was that the wind force increased too rapidly with elevation, so that if the tug were used to increase the relative surface wind to suit the lower kites, it added too much to the strength of the upper wind, and by unduly increasing the force upon the upper kites, put a dangerously high tension upon the wire. If, on the other hand, the tug were moved to suit the upper kites, the lower ones might be becalmed, and useless for lifting purposes, or perhaps even fall into the sea.

Very interesting results have been obtained from these experiments, both in America and on the Continent, but it has been felt that the conditions prevailing over the large oceans are very likely different from those over the continents. The cyclonic disturbances, on the motion of which our weather very largely depends, certainly show a preference for the sea, and it was in the hope that some light might be thrown on their mechanism, and the causes which produce them, that a locality on the west coast of Scotland was chosen for the observations. The evidence obtained from last summer's work is not sufficient to be conclusive, but so far as it goes it tends to show that as a depression approaches, the decrease of temperature with elevation becomes less than it was before. This was the case with every depression that passed while the experiments were in progress, and it leads to the conclusion that the upper air in the neighbourhood of a cyclone is relatively warm, and that the cyclones are convectional effects.

A further result of the observations shows that the temperature of Ben Nevis was in every instance below that of the free air at the same level some sixty miles to the south-west, often from 5° to 8° F. below. That the two air temperatures should have agreed was hardly expected, but the difference was very marked, and it is desirable that the experiments should be repeated in the same locality to confirm the result. The fact, however, that the summit of the mountain is so often wrapped in clouds, when the sky is clear elsewhere, tends to show that the summit must be unduly cold, and it seems likely that the effect is produced by the adiabatic cooling of the air as it is forced up the mountain slope. In fact, the cloud level on all the mountains and hills in the neighbourhood was always much below the point at which the kites entered the clouds. It is also known from the differences in the barometer on the Ben and the values computed from the Fort William readings that the temperature of the intermediate layers of air is not truly represented by the mean derived from the summit and sea-level temperatures.

England being so near the usual cyclonic tracks, observations on the upper air are of especial interest, and it is very desirable that a permanent station for the purpose should be established. It may perhaps be found that unmanned balloons too often fall into the sea to be usefully employed, but the attempt is well worth a trial, and so far as kite observations are concerned, the only difficulty is the financial one.

W. H. Dines.

EVEN MACHINES KNOW WHY

The Villages, Florida, from Greg Lamoureux: At one of the local kite events, I was asked "Why are kites fun to fly?". Another person suggested I give an unbiased opinion by using artificial intelligence at a website www.Chat.openai.com. This site gave an interesting response:

"Why are kites fun to fly? There are many reasons why people find kite flying to be fun. One reason is that it allows people to be outside and enjoy the fresh air and the feeling of the wind. Kite flying also requires concentration and coordination, which can be enjoyable for some people. In addition, kite flying allows people to be creative and try out different tricks and techniques to make their kite do different things in the air. Some people also enjoy the beauty and aesthetics of kites, as they come in a wide range of colours and designs. Finally, kite flying can be a social activity, as people often fly kites together and share the experience."

Deep Green: using underwater kites to generate clean electricity

28 Nov 2018 (Last Updated February 6th, 2020 13:31)

Marine energy developer Minesto has reached a new milestone in the development of its Deep Green technology, using the device to generate clean electricity at a commercial scale. The technology, which functions like an underwater kite, could more than double the number of regions suited to tidal energy projects.

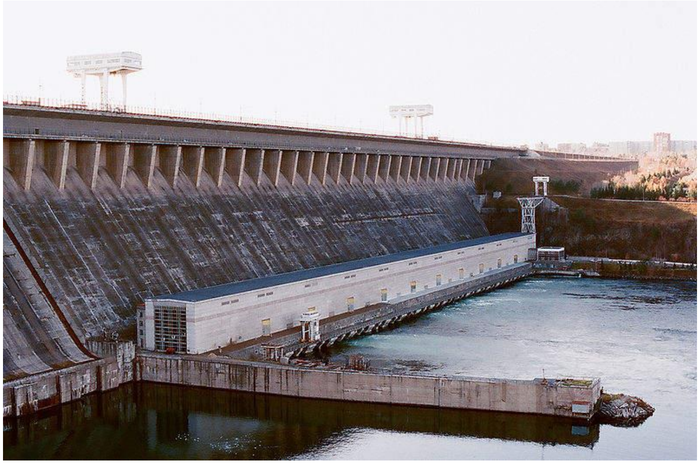
Minesto's Deep Green technology, currently under development, is able to cost-effectively generate electricity at sites with velocities between 1.2m/s and 2.4m/s, and depths between 60m and 120m.

Tidal power has long been touted as a major source of renewable energy. By and large, however, it remains an untapped resource. While there are various technologies on the market, promising to harness the power of the waves, most of these are suitable only for use with fast-moving tidal streams, and have no application within slower ocean currents.
To take the most common tidal device as an example, horizontal axis turbines extract energy from moving water, much as wind turbines extract energy from air. Sitting stationary on the seabed, they typically require currents of 2.5m/s or faster to produce electricity cost-effectively.
This is useful in areas with high marine current flows. However, for tidal power to reach its full potential, it will be necessary to expand its geographic scope.

Minesto, a marine energy developer based in Sweden, is hoping to do just that. The company's Deep Green technology, currently under development, is able to cost-effectively generate electricity at sites with velocities between 1.2m/s and 2.4m/s, and depths between 60m and 120m. This could more than double the size of the exploitable tidal resource.
"Compared to other marine energy technologies, Minesto's product enhances the energy conversion, making it a commercial proposition applicable to vast areas around the globe where no other known or verified technology can operate cost effectively," says CEO Dr Martin Edlund. "Most concepts target areas with very high stream flows, 2.5m/s and above. We target areas that are 2.5m/s and below."

A milestone for Minesto

In August, Minesto announced that it had broken new ground by verifying its technology at utility scale. By October, it had gone one step further, using this commercial-scale unit to generate electricity for the first time.
The system, based at the Holyhead Deep site 8km off the coast of North Wales, is now in its second commissioning phase. Essentially, the company wants to demonstrate that the technology is performing as expected, and that there are safe and efficient handling procedures in place.
"We are engaged with demonstration of our first utility-scale device, which currently means a 500kW unit off the coast of Wales," says Edlund. "The next step of the development for that product range is to optimise it in regards to power production performance, which could mean increasing the rated power to, for example, 750kW for the next utility-scale system."
If these efforts are successful, the company will scale up the technology still further. According to plans announced last year, the Holyhead Deep site will be developed in three phases as part of a deploy-and-monitor approach. Eventually, the installed capacity will be boosted to 80MW.
It's just the latest step in what has already been a lengthy journey. In fact, the concept first arose as early as 2004, when inventor Magnus Landerg presented an early version of the technology (then called the Enerkite).



Hydropower: why should we use it?

"The technology was originally invented by an engineer with the aerospace company Saab within the scope of a wind turbine study where vertical-axis turbine concepts were explored," explains Edlund. "The idea was then taken to Chalmers University of Technology in Gothenburg to evaluate the technical and commercial viability."

In 2007, Minesto was founded as a spin-off from Saab, and the technology continued to evolve. Since then, five prototypes have been built and tested, first in basins and since 2011 in the ocean. It first generated electricity in 2009.

An underwater kite

As Edlund explains, Deep Green follows the same guiding principle as a kite, gliding smoothly through the water as a kite does through the air.

"Minesto's Deep Green technology is a unique marine energy converter, a subsea kite that targets the global low-flow tidal stream and ocean current resource," he says. "It consists of a wing that is tethered to the seabed and that carries a turbine underneath. Our subsea kite technology converts kinetic energy to electricity by way of a unique principle similar to flying a stunt kite in the wind."

When the kite 'flies' through the underwater current, it pushes the turbine through the water at a speed several times the actual stream flow. Electricity is produced in the on-board generator, and transmitted through the tether to cables on the seabed.

Because the speed has a cubic relationship to the power production, any surge in speed means a dramatically higher increase in electricity generation. This gives the Minesto kite an automatic advantage over stationary turbines, which lack the added step of energy conversion.

On top of that, the device weighs up to 15 times less than competing technologies, and follows a detachable design concept, which means it can be serviced on shore. Since it operates at least 20m beneath the surface of the water, there is no visual impact and the environmental footprint is kept to a minimum.

The route to market

As well as expanding the Holyhead Deep site, Minesto is also developing a smaller-scale system (around 100kW) known as the Island Mode model. This will form a commercial product targeting off-grid applications such as island economies and aquaculture.

Moving forward, its commercialisation strategy is based on site development activities in three main areas: the European Atlantic coast, the US and South East Asia. The company sees the greatest potential in South East Asia.

"As we see it, the quickest route to market for our product in this emerging industry is for us to drive initial small-scale installations together with customers and partners, and then develop these sites into commercial electricity generating arrays," says Edlund.

Ultimately, though, the addressable market is global, with significant exploitable areas across all continents. As Edlund puts it, since Minesto addresses a problem that no other developer is focusing on, the company is singlehandedly expanding the potential of ocean power.

"When you add to that the cost structure that is related to the unique competitive advantages of our technology, and the fact that we can exploit continuous ocean currents, we are talking about low-cost baseload renewable power," he says. "This means that we make ocean energy a highly relevant and urgently needed complement to the energy mix in the ongoing energy transition."

The underwater 'kites' generating electricity as they move

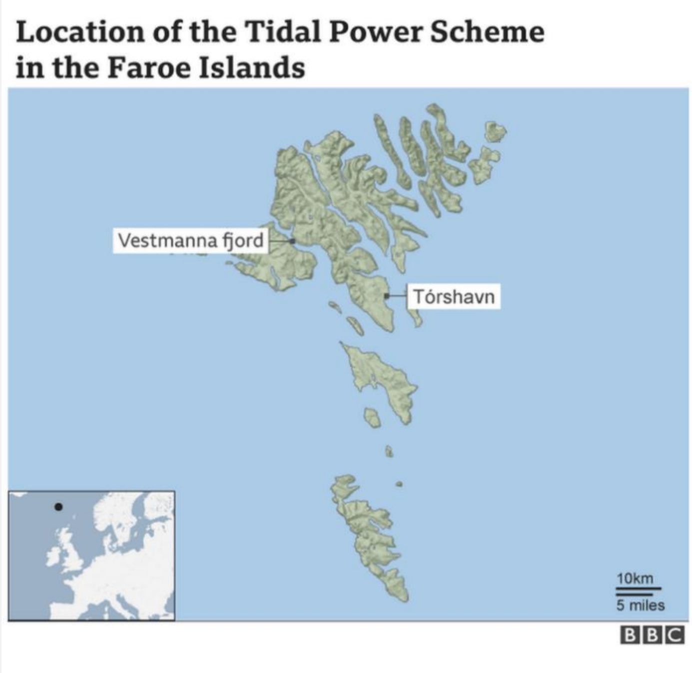
By Tim Ecott. Business reporter, Tórshav 29 November 2021

IMAGE SOURCE,MINESTO
The energy-generating kites "fly" under the water, tethered to the seabed

A pair of sleek, winged machines are "flying" - or at least swimming - beneath the dark waters of the Faroe Islands in the North Atlantic.
Known as "sea dragons" or "tidal kites", they look like aircraft, but these are in fact high-tech tidal turbines, generating electricity from the power of the ocean.
The two kites - with a five-metre (16ft) wingspan - move underwater in a figure-of-eight pattern, absorbing energy from the running tide. They are tethered to the fjord seabed by 40-metre metal cables.
Their movement is generated by the lift exerted by the water flow - just as a plane flies by the force of air flowing over its wings.
Other forms of tidal power use technology similar to terrestrial wind turbines but the kites are something different.
The moving "flight path" allows the kite to sweep a larger area at a speed several times greater than that of the underwater current. This, in turn, enables the machines to amplify the amount of energy generated by the water alone.
An on-board computer steers the kite into the prevailing current, then idles it at slack tide, maintaining a constant depth in the water column. If there were several kites working at once, the machines would be spaced far enough apart to avoid collisions.
The electricity is sent via the tethering cables to others on the seabed, and then to an onshore control station near the coastal town of Vestmanna.

IMAGE SOURCE,MINESTO

The underwater kites - one is pictured bottom right - are dragged into position by ships
The technology has been developed by Swedish engineering firm Minesto, founded back in 2007 as a spin-off from the country's plane manufacturer, Saab.
The two kites in the Faroe Islands have been contributing energy to Faroe's electricity company SEV, and the islands' national grid, on an experimental basis over the past year.



The Faroe Islands are located in the North Atlantic

Each kite can produce enough electricity to power approximately 50 to 70 homes.
But according to Minesto chief executive, Martin Edlund, larger-scale beasts will enter the fjord in 2022.
"The new kites will have a 12-metre wingspan, and can each generate 1.2 megawatts of power [a megawatt is 1,000 kilowatts]," he says.
"We believe an array of these Dragon-class kites will produce enough electricity to power half of the households in the Faroes."

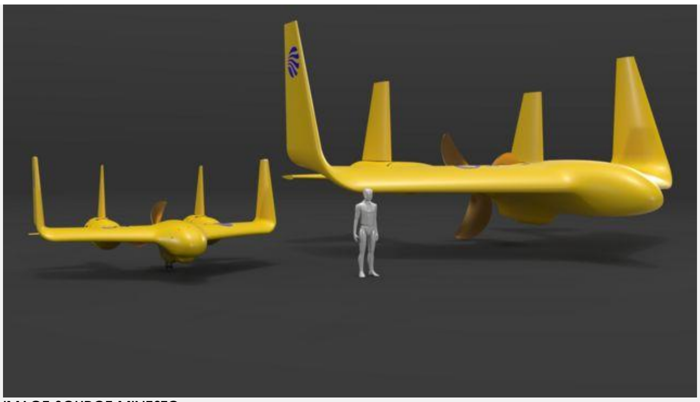


IMAGE SOURCE,MINESTO

Minesto is currently using the small version - left - but aims to move to a larger one

The 17 inhabited Faroe islands are an autonomous territory of Denmark. Located halfway between Shetland and Iceland, they are home to just over 50,000 people.

Known for their high winds, persistent rainfall and rough seas, the islands have never been an easy place to live. Fishing is the primary industry, accounting for more than 90% of all exports.

The hope for the underwater kites is that they will help the Faroe Islands achieve its target of net-zero emission energy generation by 2030.

While hydro-electric power currently contributes around 40% of the islands' energy needs, wind power contributes around 12% and fossil fuels - in the form of diesel imported by sea - still account for almost half.

Mr Edlund says that the kites will be a particularly useful back-up when the weather is calm. "We had an unusual summer in 2021 in Faroes, with about two months with virtually no wind," he says.

"In an island location there is no possibility of bringing in power connections from another country when supplies run low. The tidal motion is almost perpetual, and we see it as a crucial addition to the net zero goals of the next decade."

Minesto has also been testing its kites in Northern Ireland and Wales, where it plans to install a farm off the coast of Anglesey, plus projects in Taiwan and Florida.

NEW TECH ECONOMY

New Tech Economy is a series exploring how technological innovation is set to shape the new emerging economic landscape.

The Faroe Islands' drive towards more environmental sustainability extends to its wider business community. The locals have formed a new umbrella organisation - Burðardygt Vinnulív (Faroese Business Sustainability Initiative).

It currently has 12 high-profile members - key players in local business sectors such as hotels, energy, salmon farming, banking and shipping.

The initiative's chief executive - Ana Holden-Peters - believes the strong tradition of working collaboratively in the islands has spurred on the process. "These businesses have committed to sustainability goals which will be independently assessed," she says.

"Our members are asking how they can make a positive contribution to the national effort. When people here take on a new idea, the small scale of our society means it can progress very rapidly."

One of the islands' main salmon exporters - Hiddenfjord - is also doing its bit, by ceasing the air freighting of its fresh fish. Thought to be a global first for the Atlantic salmon industry, it is now exporting solely via sea cargo instead.

According to the firm's managing director Atli Gregersen this will reduce its transportation CO_2 emissions by more than 90%. However it is a bold move commercially as it means that its salmon now takes much longer to get to key markets.

For example, using air freight, it could get its salmon to New York City within two days, but it now takes more than a week by sea.

IMAGE SOURCE,HIDDENFJORD

Faroe Islands salmon firm Hiddenfjord has stopped exporting its fresh fish by air freight

What has made this possible is better chilling technology that keeps the fresh fish constantly very cold, but without the damaging impact of deep freezing it. So the fish is kept at -3C,

rather than the -18C or below of typical commercial frozen food transportation.
"It's taken years to perfect a system that maintains premium quality salmon transported for sea freight rather than plane," says Mr Gregersen. "And that includes stress-free harvesting, as well as an unbroken cold-chain that is closely monitored for longer shelf life.
"We hope, having shown it can be done, that other producers will follow our lead - and accept the idea that salmon were never meant to fly."
Back in the Faroe Island's fjords, a firm called Ocean Rainforest is farming seaweed.
The crop is already used for human food, added to cosmetics, and vitamin supplements, but the firm's managing director Olavur Gregersen is especially keen on the potential of fermented seaweed being used as an additive to cattle feed.
He points to research which appears to show that if cows are given seaweed to eat it reduces the amount of methane gas that they exhale.
"A single cow will burp between 200 and 500 litres of methane every day, as it digests," says Mr Gregersen. "For a dairy cow that's three tonnes per animal per year.
"But we have scientific evidence to show that the antioxidants and tannins in seaweed can significantly reduce the development of methane in the animal's stomach. A seaweed farm covering just 10% of the largest planned North Sea wind farm could reduce the methane emissions from Danish dairy cattle by 50%."

IMAGE SOURCE,ADRIENNE MURRAY

Ocean Rainforest farms four different types of seaweed
The technology that Ocean Rainforest uses to farm its four different species of seaweed is relatively simple. Tiny algal seedlings are affixed to a rope which dangles in the water, and they grow rapidly. The line is lifted using a winch and the seaweed strands simply cut off with a knife. The line goes back into the water, and the seaweed starts growing again.
Currently, Ocean Rainforest is harvesting around 200 tonnes of seaweed per annum in the Faroe Islands, but plans to scale this up to 8,000 tonnes by 2025. Production may also be expanded to other areas in Europe and North America.

RÉPUBLIQUE FRANÇAISE.

OFFICE NATIONAL DE LA PROPRIÉTÉ INDUSTRIELLE.

BREVET D'INVENTION.

VI. — Marine et navigation.

4. — Aérostation, aviation.

N° 504.211

Appareil planeur pour observations aériennes.

M. Lucien-Pierre FRANTZEN résidant en France (Seine).

Demandé le 22 février 1918, à 13h 48m, à Paris.
Délivré le 8 avril 1920. — Publié le 28 juin 1920.

L'appareil qui fait l'objet de la présente invention est du genre des observatoires aériens captifs dont on se sert pour faire des observations météorologiques, par exemple, ou bien pour surveiller en mer des zones infestées de sous-marins. Mais il n'est pas limité à ces applications spéciales, car il peut, tout en conservant les caractéristiques qui le différencient des appareils imaginés jusqu'à ce jour, être établi sous forme de jouet scientifique, en en réduisant simplement les dimensions à volonté.

Caractéristique principale. — La caractéristique principale du présent appareil réside plus particulièrement dans la disposition de son ossature.

Caractéristiques secondaires. — Elles consistent :

1° Dans la voilure, laquelle comporte plus particulièrement une disposition assurant, d'une part, la stabilité latérale de l'ensemble, ainsi que la descente lente à la rentrée du système et, d'autre part, la canalisation des remous et des filets d'air.

2° Dans un dispositif servant à assurer le réglage de la voilure.

3° Dans une disposition permettant des variations au centre de poussée de l'appareil.

4° Dans un dispositif d'attelage et de dételage rapides de la corde de retenue du planeur sur le câble.

5° Dans un système particulier de suspension de la nacelle.

Grâce à la forme sensiblement plate de l'appareil, on peut en grouper ou plutôt en empiler un certain nombre sous un faible encombrement à bord d'un navire, ce qui est plus spécialement avantageux lorsque les observations doivent être faites à l'aide d'un «train» d'appareils attelés sur un même cable. De plus, l'appareil se monte et se démonte rapidement et il est facile à transporter.

Les dessins ci-joints représentent, mais à titre d'exemple purement indicatif et non limitatif, un appareil du genre indiqué, comportant les caractéristiques de l'invention.

Fig. 1, en vue de face, représente le planeur établi conformément à l'invention.

Fig. 2 et 3 en sont un plan et une vue de côté.

Fig. 4 représente le planeur en plein vol, attelé.

Fig. 5, à plus grande échelle, représente en détail une partie de la fig. 1.

Fig. 6, 7 et 8 sont des coupes de la fig. 5.

Fig. 7a, à plus grande échelle, est un détail.

Fig. 9, à plus grande échelle, est une élévation du trolley à frein ainsi que du dispositif de suspension de la nacelle.

Fig. 10 est une coupe suivant 10, 10, fig. 9.

Fig. 11 est une coupe suivant 11, 11, fig. 10.

Fig. 11^a et 11^b sont des détails.

Fig. 12, 13 et 14 représentent le dispositif d'attelage de la corde de retenue du planeur sur le câble.

Fig. 15, 16 et 17 représentent le dispositif permettant de régler la tension des ralingues (cordes bordures) de la voilure.

Fig. 18 et 19 représentent le dispositif permettant des variations au centre de poussée de l'appareil.

Le planeur est constitué, à la manière usuelle, par une épine dorsale A et par quatre vergues a, a^1, a^2, a^3. A son extrémité supérieure, l'épine dorsale comporte une fourche a^4, dans chaque branche de laquelle on place un bois pour servir de guidage au câble b, les deux bouts de ces bois étant munis d'une porte b^1 pour l'introduction de ce câble dans la fourche. c, c^1, fig. 3 et 6, sont les cellules souples et d, d^1, les «bonnettes» usuelles. e est un renfort monté à l'arrière de l'ossature et servant à assurer l'indéformabilité du planeur par vents violents.

La disposition particulière de cette ossature réside d'une part, dans le dièdre constitué par la rencontre des vergues a, a^1, fig. 2, 7 et 8 sur l'épine dorsale A et, d'autre part, dans les dièdres formés en haut et en bas de cette épine, comme l'indiquent les fig. 3 et 6.

Le planeur est muni de sa voilure ordinaire, dont la tension est réalisée par un dispositif spécial indiqué aux fig. 15, 16 et 17. Ce dispositif se compose d'un axe f jouant le rôle de treuil, axe qui est muni d'un ergot f^1 et d'un levier de manœuvre f^2. Sur cet axe est montée une roue à rochet f^3 dans laquelle prend un cliquet à ressort f^4. La ralingue f^5 (indiquée en pointillé à la fig. 1) de la voilure passe autour de l'ergot f^1 et est soumise à une tension variable à volonté. On peut appliquer plusieurs de ces dispositifs de tension aux différents angles de la voilure.

Dans les poches g, g^1 de la voilure sont pratiqués les trous de parachute ordinaires g^2, g^3 et, à la partie inférieure de chaque poche, sont pratiqués des trous g^4, g^5, g^6, g^7 de forme semi-circulaire servant à canaliser les remous et les filets d'air et ainsi réduire le tangage du planeur. Ces trous stabilisateurs g^6, g^7 constituent une des particularités de l'invention.

Dans les planeurs groupés en «tandem» sur câble unique, ainsi que cela se pratique déjà, le câble jouit d'une certaine liberté de mouvement dans chacun d'eux, placé qu'il est dans une fourche à l'intérieur de laquelle il peut se déplacer librement. Si le vent exerce sa pression uniformément sur tous les planeurs du groupe, chacun d'eux contribue pour sa part, à donner de la tension au câble. Si, au contraire, certains planeurs, surtout les planeurs inférieurs, ne sont pas actionnés autant que les autres, il s'ensuit que leur force ascensionnelle se trouve réduite à tel point que ces planeurs finissent par constituer pour le câble un poids mort, d'où infléchissement de ce câble pouvant amener un abaissement général de l'ensemble.

Pour remédier, dans une grande mesure, à l'inconvénient précité, l'inventeur a conçu l'idée d'intercaler, entre chaque planeur et le câble, un organe élastique ayant pour fonction de créer une liaison souple entre ces deux éléments. En d'autres termes, le planeur se trouve suspendu non pas à un point fixe, mais élastiquement à l'organe intermédiaire.

Cet organe élastique, représenté aux fig. 18, 19 et 6, est constitué par une chape h dans laquelle est montée une poulie h^1 roulant sur le câble b. A la chape est relié un anneau de caoutchouc h^2 qui peut être pris dans une partie quelconque de l'ossature, soit par exemple sur l'épine dorsale A.

On comprendra facilement que, selon la pression du vent, une tension plus ou moins forte sera exercée sur l'anneau h^2 et que si cette pression vient à disparaître complètement, le planeur se trouvera suspendu élastiquement au câble, au lieu de constituer un poids mort. En d'autres termes, le poids du planeur se trouve délesté.

Cet appareil est, en outre, établi de façon à pouvoir faire face aux inconvénients qui peuvent se présenter dans le cas d'un vent excédant une pression normale. On sait, en effet, que lorsqu'un planeur est exposé à un vent excédant certaines limites, il est apte soit à se rompre, soit à capoter. Pour parer à cette possibilité, le planeur établi conformément à l'invention comporte l'application, à l'arrière de l'ossature, d'un organe élastique qui permet un certain fléchissement et qui entre en jeu dans le cas d'une pression excessive, soit par exemple un vent supérieur à 20 mètres à la seconde.

Cet organe élastique, représenté à la fig. 7 et, à plus grande échelle, à la fig. 7ᵃ, consiste dans un ressort *i* logé dans deux tubes concentriques i^1, i^2, dont celui i^1 dépend de la vergue *a* et l'autre i^2 du renfort *e*.

Le dispositif d'attelage de la corde de retenue du planeur sur le câble est représenté aux fig. 12, 13 et 14, dans lesquelles fig. 12 est une élévation, fig. 13 une coupe et fig. 14 un plan.

Sur le câble *b* est glissée une olive *j*, qui est libre de tourner, mais est maintenue en place par un moyen quelconque approprié, tel qu'un transfil j^1, j^2, pris dans les torons du câble. Sur cette olive vient prendre une chape à anneau j^3 à laquelle est attachée la corde de retenue j^4 du planeur. La chape est maintenue en place par un axe j^5 ou une clavette. Pour dételer la corde j^4, on retire l'axe j^5 et on fait glisser la chape j^3 vers la gauche. Il y a avantage à ce que l'olive *j* soit montée librement sur le câble. Le peu de volume des olives permet l'entrée de ces pièces dans les organes intérieurs des treuils automobiles militaires de ballon captif et cerf-volant.

Le dispositif de suspension de la nacelle est représenté aux fig. 9, 10 et 11. Le but visé ici est d'établir une disposition grâce à laquelle on est à même d'éloigner ou désaxer, dans une certaine mesure, la nacelle du câble, de manière à ce qu'elle ne soit pas gênée, dans ses mouvements par la présence du dit câble. De plus, cette disposition offre l'avantage de pouvoir installer le parachute d'une manière plus favorable à un déploiement instantané (fig. 11ᵃ). Un autre but est d'agencer la suspension de la nacelle dans des conditions telles que la pesanteur même de la nacelle est utilisée pour exercer une action de freinage énergique sur le câble, indépendamment de l'action de freinage produite à la volonté de l'observateur.

Le câble *b*, passant sur des galets de guidage b^2, b^3, est pincé entre deux mâchoires b^4, b^5, celle inférieure étant reliée à une tige filetée b^6 travaillant dans un écrou b^7 et surmontée d'une manivelle b^8. La charpente de l'appareil est constituée par deux flasques extérieurs b^9, b^{10} affectant tous deux la forme d'un V, et par deux flasques intérieurs b^{11}, b^{12}, dont celui b^{11} se raccorde au flasque extérieur b^9, tandis que celui b^{12} est indépendant du flasque extérieur b^{10}. Les deux flasques b^{11}, b^{12} font corps avec une barre de suspension b^{13}, sur les extrémitées de laquelle sont montée les flasques b^9, b^{10}, le flasque b^{10} étant libre de pivoter autour de cette barre. Aux abouts de cette dernière se place la suspension usuelle de la nacelle, non représentée ici.

On comprend dès lors que le plan de suspension de cette nacelle se trouve déporté par rapport au plan du câble et que, par suite, la nacelle ne se trouve gênée en aucune façon dans ses mouvements. On comprend également que, par sa pesanteur, la nacelle ajoutée au poids de l'observateur réagissent sur la charpente de la suspension, ce qui tend à exercer une action de coincement et, par suite, de serrage sur le câble et ce indépendamment du freinage dont dispose l'observateur au moyen de la manivelle b^8 commandant la mâchoire de la pince.

Enfin, la disposition est telle qu'on peut assurer un montage et un démontage faciles et rapides de l'appareil sur le câble. A cet effet : 1° les parties en contact de la pince avec le câble sont seules démontables; 2° le flasque b^{12} est établi non pas d'une seule pièce, comme l'est le flasque b^{11} mais en deux moitiés dont celle inférieure fait corps avec la barre de suspension b^{13} ainsi que, d'une part, avec le flasque b^{11} par l'intermédiaire de l'écrou b^7, et d'autre part, avec un coussinet b^{14} fig. 10 traversé par la tige filetée b^6. La moitié de b^{12} qui est voisine du câble *b* est articulée sur une charnière b^{15} fig. 9 et est reliée à l'autre moitié par deux axes b^{16}, b^{17}. On relève le flasque b^{10}, on retire les écrous à oreilles de ces axes et on peut alors relever la dite moitié sur sa charnière, puis, ayant desserré tant soit peu la pince, au moyen de la manivelle b^8, on peut dégager l'ensemble de l'appareil.

RÉSUMÉ.

L'invention comprend :

Un appareil planeur pour observations aériennes, caractérisé par les points suivants:

a) L'ossature du planeur;

b) L'application de trous de canalisation des remous et filets d'air;

c) Le réglage de la voilure;

d) La disposition permettant des variations au centre de poussée de l'appareil;

e) Le moyen assurant un attelage et un dételage rapides et faciles de la corde de retenue du planeur sur le câble;

f) La suspension de la nacelle.

L.-P. FRANTZEN.

Par procuration :

Brandon frères.

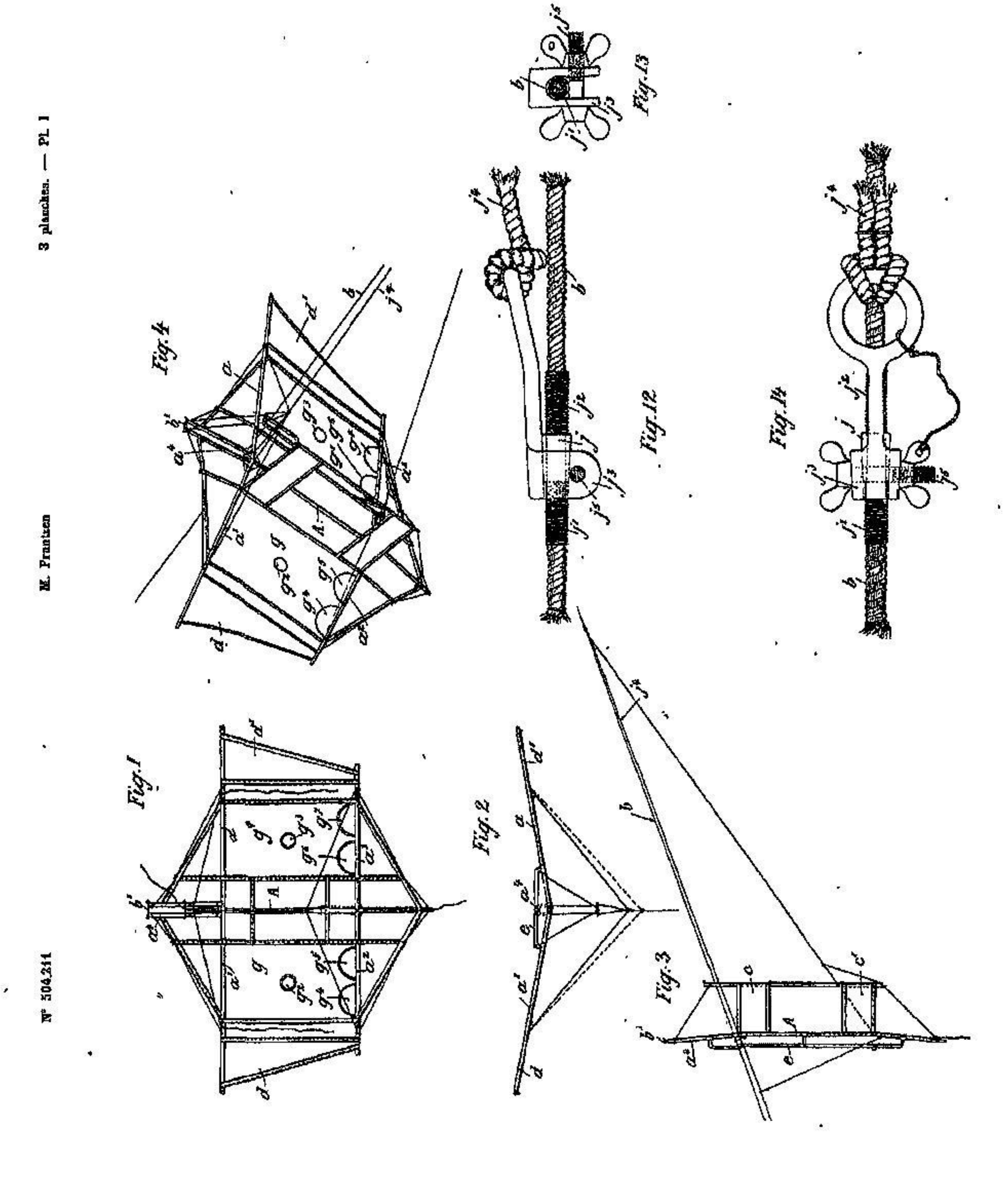


Fig. 5

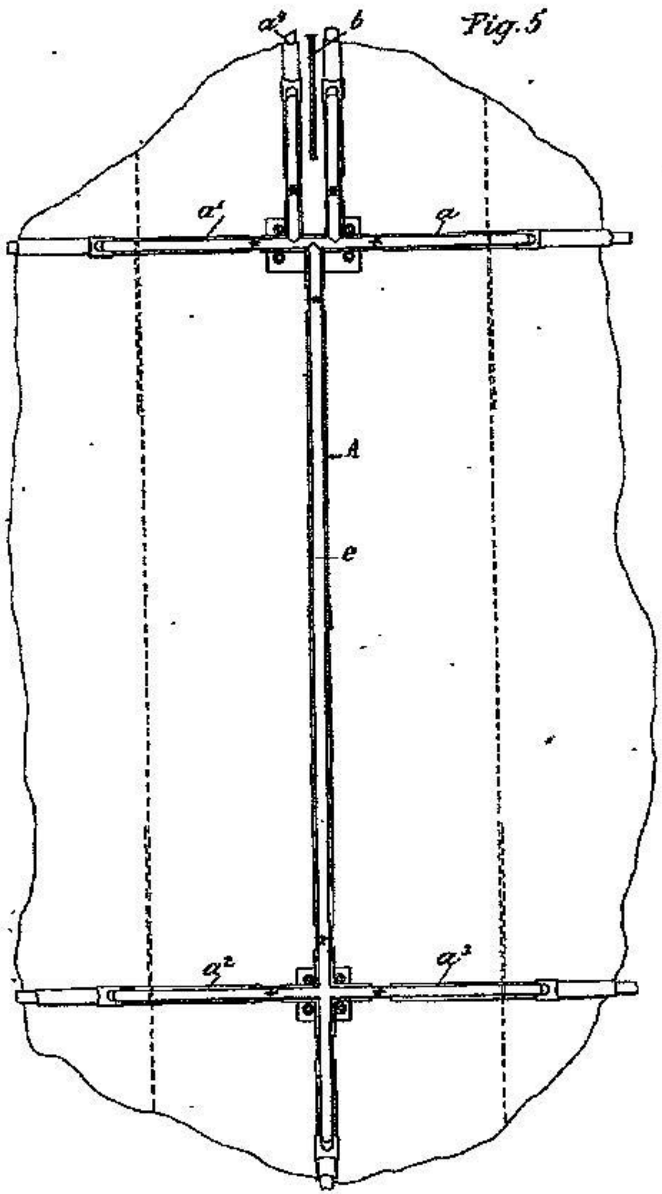


Fig. 6

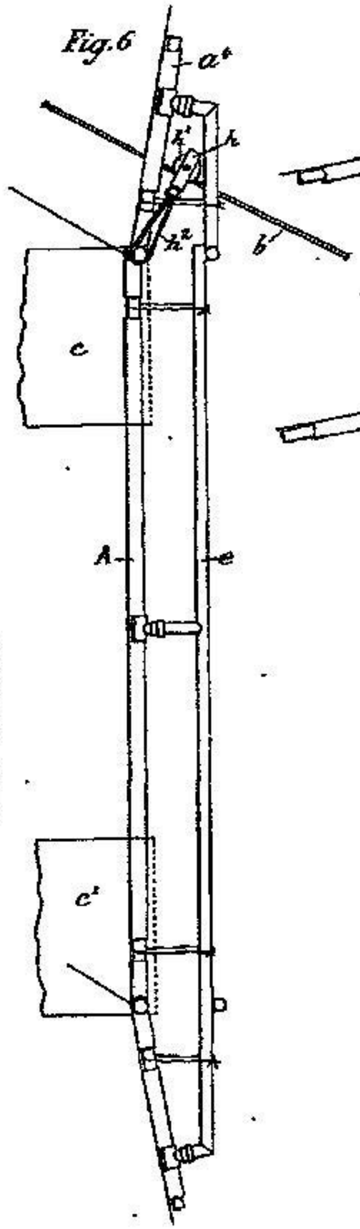


Fig 7

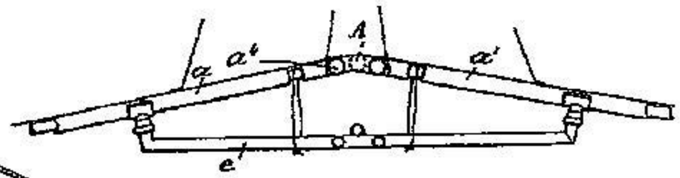


Fig. 8

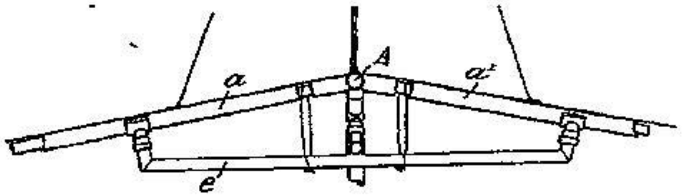
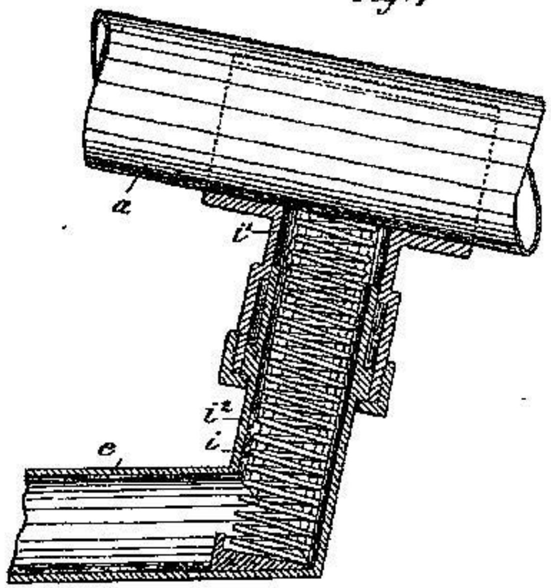


Fig. 7a



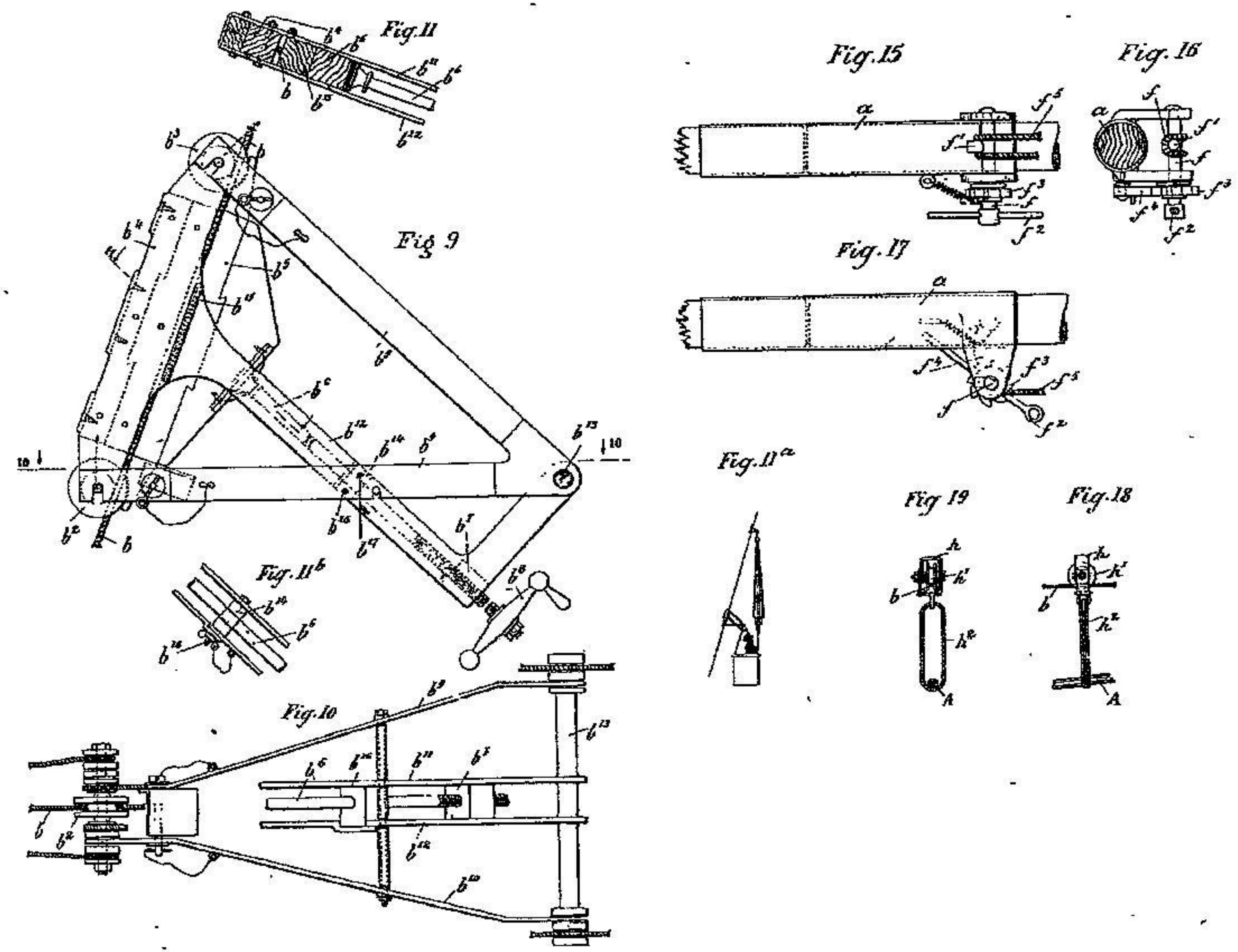


Fig. 9
Fig. 10
Fig. 11
Fig. 11a
Fig. 11b
Fig. 15
Fig. 16
Fig. 17
Fig. 18
Fig. 19

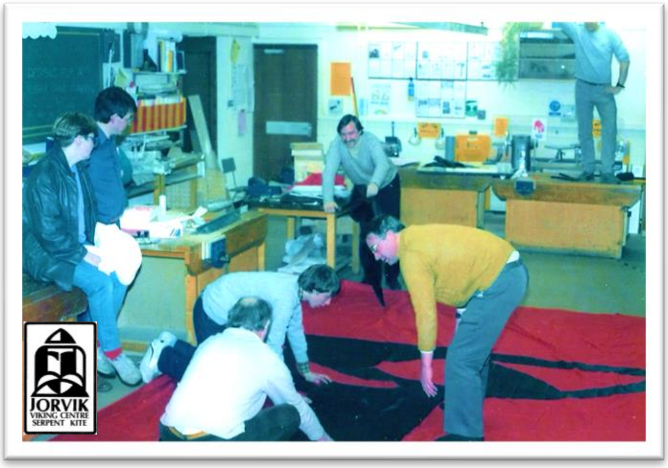
JORVIK
VIKING CENTRE
SERPENT KITE

BRITAIN'S LONGEST KITE

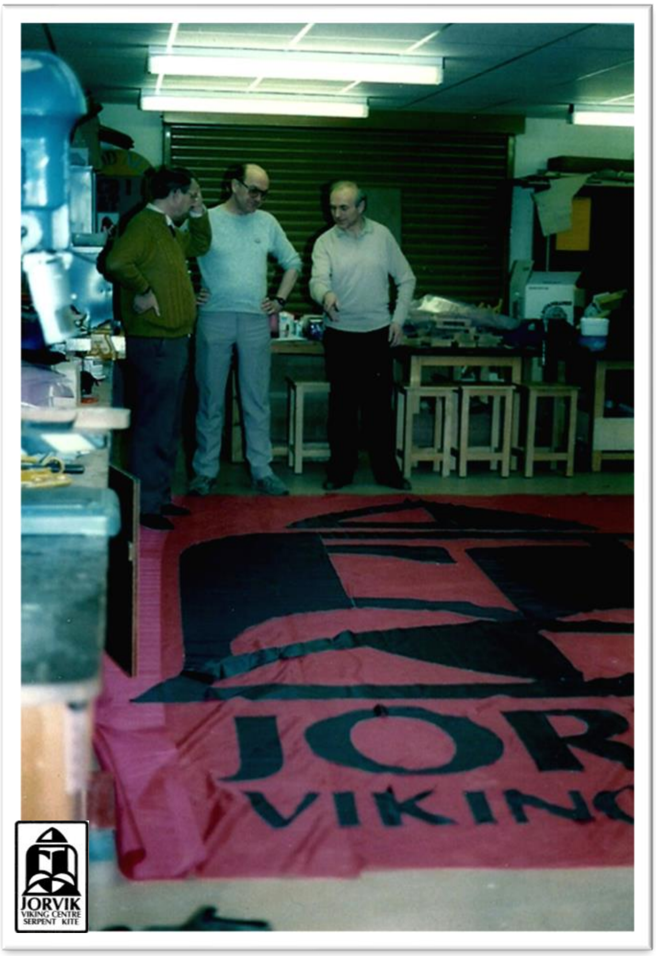

JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
IKING CENTRE
JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


PROTECT
YOUR EYES
UNION
Graduate
SAFETY
FIRST!
JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE
JORVIK
VIKING CENTRE


JORVIK
VIKING CENTRE
JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK
VIKING CENTRE
SERPENT KITE


JORVIK

THE JORVIK SERPENT KITE
Britain's Longest Kite

flown by the
MIDLANDS KITE FLIERS

29 Bradbury Road, Solihull,
West Midlands, B92 8AE.

JORVIK
VIKING CENTRE
KITE TEAM

HEAD	5 metres x 3 metres
TAIL	500 metres long 3 metres wide at head 10 cm wide at tip
FLYING WEIGHT	44.2 kg
FLYING LINE	1,200 lb braided polyester
WIND STRENGTH	11-14 mph (force 4)

The Jorvik Serpent Kite was sponsored by the Jorvik Viking Centre in York, and built by the Midlands Kite Fliers. Twelve members of the MKF laboured for seven weeks between April and June 1987 at Holyhead School, Handsworth, Birmingham, to construct Britain's longest kite.

The head consists of a fibreglass framework with tubular steel joints supporting a red and black Ripstop nylon cover displaying the Jorvik logo. The 500 metre long tail is made from Tyvek - a kind of plastic paper - and tapers over its entire length from 3 metres wide at the head to 10 cm wide at the tip.

The Jorvik Serpent Kite is available for display at a nominal charge.

Jorvik kite aims to snatch record at Knavesmire festival

Sky serpent prepares to strike

People queueing for the Yorvik Centre help to hold the 500-metre tail of the kite. Pictures by Garry Atkinson.

The Jorvik Serpent Kite on show in York's St Mary's Square ready for the record-breaking bid.

by Fergus Kelly

AT 500 metres long and needing 25 people to launch it, the Jorvik Serpent Kite is an impressive beast.

Tomorrow it will fly for the first time, and by doing so will become Britain's longest kite.

Its record-breaking attempt will be one of the main attractions at this weekend's Kite Festival to be held on Knavesmire.

Confident

The kite is owned by the Midland Kite Flyers of Birmingham, who are in York specially for the festival.

It is based on a traditional design from Thailand which used to be made up in silk.

But the Jorvik Serpent which cost £8,000 is made from rip-stop nylon with a tail of red tyvek – a man made fibre which is used for astronauts' underwear.

The frame is fibre-glass with steel joints.

When the kite is launched it will be tethered to the ground with skewers, on a rope with a breaking strain of 1,200lbs.

Mr Bill Souten who adapted the kite design, is confident of success.

"As long as we get a certain type of wind – about four to ten miles per hour – I don't see any problems," he said.

Mr Souten added that they had already received invitations to display the kite – sponsored by the Jorvik Viking Centre and York Archaeological Trust – from as far away as Berlin and Dieppe.

Apart from the Jorvik Serpent, the festival will feature a competition of fighting Rokkaku kites, kites with bags which open up in the air to release a shower of teddy bears for the children, and a consolation prize for the child who tries to get a kite into the air most times without success.

A York computer firm will entertain its Japanese guests by entering the Rokkaku contest at the festival.

Yorkshire Microcomputers of James Street, York, have built a 10ft by 12ft kite which they plan to fly for their 30 guests from the new Nissan plant at Washington in Tyne and Wear.

The fighting kites are flown in competitions every year in the town of Shirone.

They need teams of six to control them and the object is to knock all the other kites out of the sky.

The Japanese frequently tie knives and glass to the kit lines to cut down their opponents.

The Yorkshire Microcomputers kite, which cost over £100 has a lifting power of three-quarters of a ton, and a rope rather than a line, with a breaking strain of a ton.

"We worked flat out over a weekend to build it and the first time we put it up, there was a gale and it was all we could do to hold it," said the company's sales director David Drury, whose brainchild it was.

The firm will fly the kite in a Rokkaku challenge on Sunday in front of their Japanese guests.

The kite, which is powerful enough to lift a man off the ground, is made from rip-stop nylon on a bamboo frame, and is red, orange and yellow.

Biggest

The Knavesmire Kite Festival is one of the biggest ever held and will feature participants from many nations.

Teams from Japan, Holland, France and Belgium will compete with a British team, and the organisers are also hoping for teams from Germany and America.

"I want to get 10,000 people up on Knavesmire, and I shall be very disappointed if we do not get more than 300 or 400 kites in the sky, said organiser, Jim Rowlands.

The festival is sponsored by York City Council, Yorkshire Arts and the Yorkshire Tourist Board.

"ERIK THE ENDLESS"

Notes
of the
Meeting Held at
Cannock Group Training
Sunday, 20th October, 1991

OBJECTIVES

The objectives of the meeting were to -

1> to decide the "fate" of Britains longest kite

2> if appropriate - revive/reconstitute the "Erik" team

3> to identify the purpose of keeping it if it was decided not to END it.

CONSIDERATIONS

```
                              ERIK
                                |
          ______________________|______________
          |                                    |
       DISPOSE                              KEEP IT
          |                                    |
   _______|______                  ____________|____________
   |      |      |                 |           |            |
VIKING    |   BREAK UP        RENOVATE   MODIFY TO    COMPLETELY
FUNERAL   |   & SELL          AS IS      FLY SAFELY   REDESIGN HEAD
(Burn it) |   (Funds  )        |___________|____________|
          |   (to Club)                    |
          |                           HOW WILL IT
       SELL IT                        BE FUNDED
       AS IS!
       (Funds  )
       (to Club)
```

DECISIONS

Decisions were as follows -

1> There was enough enthusiasm to justify not disposing of the"BEAST"!

2> The purpose of not disposing of it was two-fold :-

a) to learn from the exercise

b) to have a "Show-piece" to take to festivals.

3> To modify the existing head, but in such a way as to maintain the integrity of the original design.

4> Initially the modifications would be carried out using existing materials from the group members, i.e. no immediate outlay. This will need to be reconsidered if the initial modifications do not succeed!

5> The modified head must be capable of being assembled, flown, and dis-assembled within a 1 to 2 hour period to allow the group to take part in other activities at the festivals, and to avoid "ERIK" taking over the festivals for too long, to the detriment of everyone.

6> Ken Wakefield suggested he make a scaled down version of ERIK and report back to the next meeting of the group. (It would be a good idea if other members of the group could have a go so we could compare results!).

7> All the original team members had been contacted and invited to the meeting, plus the people who had expressed an interest in joining the group. The new group decided to limit its membership (see list below) in order to avoid the problems of "Too many Cooks...")

The new group consists of -

Derek Catley	John Eaton
Don Eccleston	Alan Gillbert
Lesly Gillbert	Eric Goodyear
Andy Hall	Derek Kuhn
Bill Souten	Ken Wakefield

8> Group members will be notified of the date and venue for the next meeting which will be shortly after the M.K.F. A.G.M.

All the very best to you.


SERPENT KITE
JORVIK


SERPENT
JORVIK
JORVIK


VIKING


JORVIK

THE JORVIK SERPENT

Derek Kuhn <derek.kuhn@gmail.com>

For the Jorvik Serpent, that issue has been rumbling along for years!
Overall, it has done its job, and I believe it is now no longer needed. That said, I seem to remember that there was an initiative to fly it one last time in its entirety. Whether that actually happened, I do not know - I was not part of it.
Given what we know now about big and unmanageable kites, the Jorvik Serpent seems a little over-engineered, and rather tame. However, in its day, it was the leading edge of what we thought possible. For sure, there was nothing in the world at the time with a "true" tail of that size. (video tape doesn't count!) And even now, I wonder if one exists. Hmmm.

Anyway, what to do?
The carriage and ancillary equipment is probably redundant, even the ground anchor system. The flying line, even if it exists, is probably a bit too old to be reliable.
Can the tyvek be used for anything? A previous idea was floated that it could be used to make workshop sleds. A lot of work, but not impossible. And, of course, somebody has to volunteer to do it! Maybe it could be offered to members, f.o.c. to use in some form of kite making. In restricted lengths, maybe.
For the head, I consider the structure to be more-or-less impossible to resurrect. However, the sail itself could lend itself to an inflatable kite with the addition of a pale or white back skin to let the light shine through to the red. It would need many internal bracing lines, and some creative bridling, but it could be done. Our knowledge moves forward . . . Do we have that kind of expertise in the club? Probably. Do they want to do it? Unlikely. Should there be money involved? No.

When the decision has been made, I think it would be an outstanding gesture to give the surviving members a memento of, say, an A4 sheet taken from the tail. It would be a one-off memory, probably not one to frame and hang on the wall. Nevertheless, a reminder of an outstanding team effort, and an acknowledgement that it is now finished.
I hope that helps.

For me, I'm off to Thailand, Malaysia and Borneo to fly kites for a month. Somebody has to do it. . . I will probably be able to get to my eMails from time to time if it's needed.

Best wishes,

Derek

MIDLANDS KITE FLIERS PROJECTS FUND

Both Derek Kuhn and I were involved in building the 'Jorvik Serpent Kite' – it came about after we were asked to organise a Kite Festival on the Knavesmire in York. The Jorvik Museum sponsored the materials for the Serpent and it was built in the workshops of the school that I was working in. The experience of several kite fliers getting together to build such a kite, over several weekends was eye opening. We all learnt so much, about the kite and each other…..
The late Graham Wyle learnt how to use his wife's sewing machine, he later put those skills to creating many superb kites. (He is greatly missed by us all.)

Perhaps now is the time for some of us to get together for another project……

The club has funds that could be used, if agreed at the AGM. Come on someone, get your ideas together and lets create something spectacular.

Bill Souten
Chairman of The Midlands Kite Fliers

PORTSMOUTH INTERNATIONAL KITE FESTIVAL
30th & 31st JULY 2022

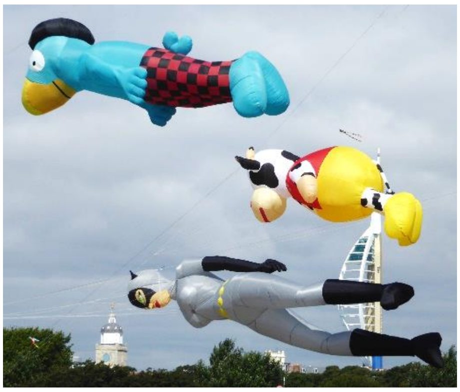









Get ready for 2023
Saturday 29th & Sunday 30th JULY




brighton
Kite
flyers