MKF NEWS

QUARTERLY NEWSLETTER OF THE
MIDLANDS KITE FLIERS
OF GREAT BRITAIN

OCTOBER 2020

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 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.

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
chairman@mkf.org.uk
editor@mkf.org.uk

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

SECRETARY

Dave Hardwick

Sunnyside, Cheadle Road,
Oakamoor,
Stoke on Trent
Staffordshire, ST10 3AF
☎ 07598 392613
secretary@mkf.org.uk

TREASURER

Julia Souten

52 Shepherds Court
Droitwich Spa,
Worcestershire, WR9 9DF.
☎ 07840800830
treasurer@mkf.org.uk

PHOTOGRAPH TO FOLLOW

MEMBERSHIP SECRETARY

Linda Richardson

19 Wigsley Close
Doddington Park
Lincoln
Lincolnshire, LN6 3LD
☎ 07925205616
membership@mkf.org.uk

PHOTOGRAPH TO FOLLOW

WEBSITE MANAGER

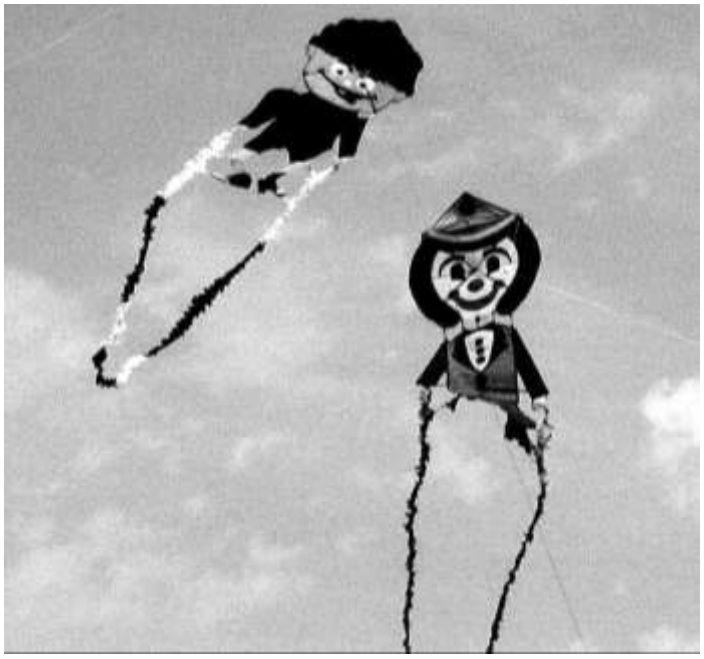
Sam Hale

12 Briery Street,
Lancaster,
Lancashire,
LA1 5RD.
☎ 07895 009128
websitemanager@mkf.org.uk

PHOTOGRAPH TO FOLLOW

'MKFNEWS' DEADLINES FOR 2020+

MKFNEWS B. SOUTEN - EDITOR	'COPY' DEADLINE	PUBLISHING DATE
34	25th December 2020	Mid January 2021
35	25th March 2021	Mid April 2021
36	25th June 2021	Mid July 2021
37	25th September 2021	Mid October 2021



JOHN SOUTHERTON'S

CLOWN KITE PAGE

These attractive "Clown Kites" are based on the original (above bottom right) made by John Southerton.
Sorry the group above isn't in colour but, at the JCB Open Day, Uttoxeter, another clown took the picture and set the camera to B&W. Click on a clown to see a coloured picture.

The intention is to use these pages to show the various "clown" kites made by fliers everywhere.

At present, we know of several variations:

- Clown Original - John Southerton
- Dennis the Menace - Dennis Roberts
- Ghost 1a - Ghost 1b - Dennis Roberts (Ghosts don't like being photographed!)
- Martian - Dilys Beeching (Picture 3 below)
- Rupert Bear - Jim Dodsworth
- **???** A Panda and a Scotsman are under construction. Please tell us if you have anything else and send pictures.

Essentially, the kite is a hexagon with a special sort of tail. But there's a little more to it than that. We hope to include a drawing of the original design so that kite makers can easily develop new versions. Sorry there's no drawing yet.

NOTE: These pages are still under construction. If you have any Clown Kite pictures please send them to us and, hopefully, we can include them here.

DRAWING
The drawing will be put on this page when it's finished. Don't know when that will be!
In fact, for experienced kite makers, there's hardly a need for a plan - especially if you have a good look at the pictures of the clowns already made. As previously mentioned, **the kite is basically a hexagon with a wide tail.** In some kites the vertical stick extends only from the top of the kite to the centre and not right across the hexagon.
A rod, which is easily seen in the pictures, is used to keep the hands apart.
Except for the Ghost, all the kites have a loop tail. This tail does more than just add drag. The "feet" of the clowns are attached to the tail. Then, when the tail moves, a sort of dancing effect is produced. (Dennis has his knees attached as well.)
The original clown, made by John Southerton, has the head attached to the body by five tapes to give a gap of about 50mm. In contrast, the other makers have sewn the head and body together. We don't know if this makes any difference.
The Ghost kite by Dennis Roberts is a little bit different. Not only does it not have a looped tail, but the rod (mentioned above) is fitted with a dihedral piece. This feature is clearly visible from the picture. However, this kite still qualifies!
Here are some measurements for the original clown.
Head: Height 807mm, Width 706mm
Body: Length 1180, Width (to outside of hands) 740mm
Bridle: Three leg as for normal hexagon. Top legs, 630mm. Lower leg, 700mm

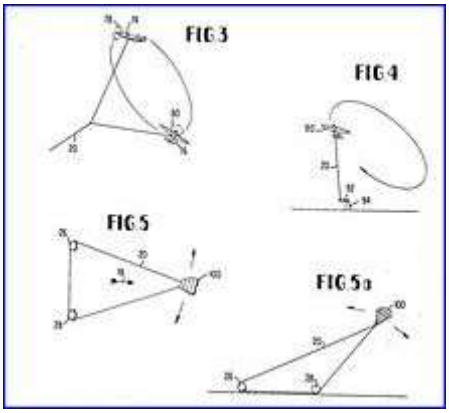
All new clown-type kites will be at least slightly different from each other, but the measurements above may be used as a rough guide for anyone making this sort of kite.
When shall we have the first Clown Kite Convention?
J Jordan

Courtesy of John Southerton c. 2000ish

Crosswind kite power

From Wikipedia, the free encyclopedia

Crosswind kite power is power derived from a class of airborne wind-energy conversion systems (AWECS, aka AWES) or crosswind kite power systems (CWKPS) characterized by a kite system that has energy-harvesting parts that fly transverse to the direction of the ambient wind, i.e., to crosswind mode; sometimes the entire wing set and tether set is flown in crosswind mode. These systems at many scales from toy to power-grid-feeding sizes may be used as high-altitude wind power (HAWP) devices or low-altitude wind power (LAWP) devices without having to use towers. Flexible wings or rigid wings may be used in the kite system. A tethered wing, flying in crosswind at many times wind speed, harvests wind power from an area that is many times exceeding the wing's own area. Crosswind kite power systems have some advantages over conventional wind turbines: access to more powerful and stable wind resource, high capacity factor, capability for deployment on and offshore at comparable costs, and no need for a tower. Additionally, the wings of the CWKPS may vary in aerodynamic efficiency; the movement of crosswinding tethered wings is sometimes compared with the outer parts of conventional wind turbine blades. However, a conventional traverse-to-wind rotating blade set carried aloft in a kite-power system has the blade set cutting to crosswind and is a form of crosswind kite power. Miles L. Loyd furthered studies on crosswind kite power systems in his work "Crosswind Kite Power"[1] in 1980. Some believe that crosswind kite power was introduced by P. Payne and C. McCutchen in their patent No. 3,987,987, filed in 1975,[2] however, crosswind kite power was used far before such patent, e.g., in target kites for war-target practice where the crosswinding power permitted high speeds to give practice to gunners.[3]



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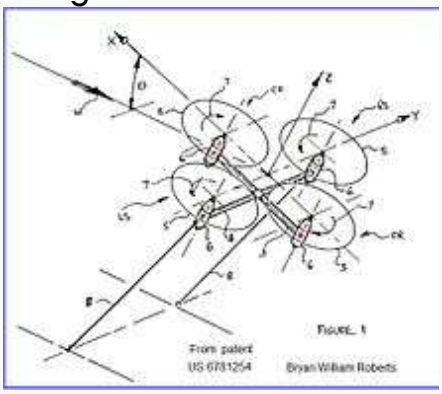
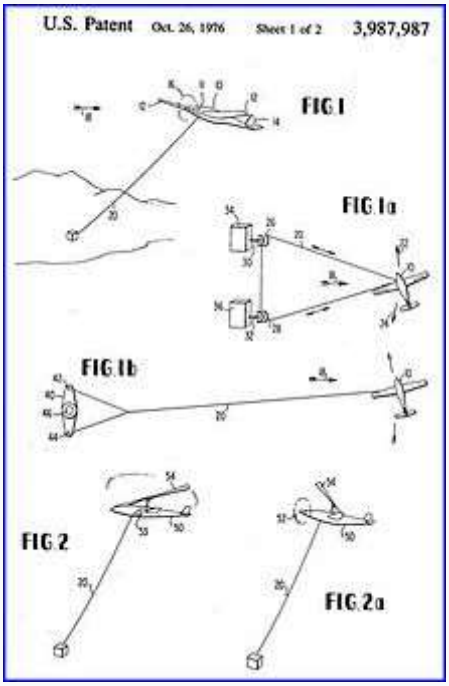
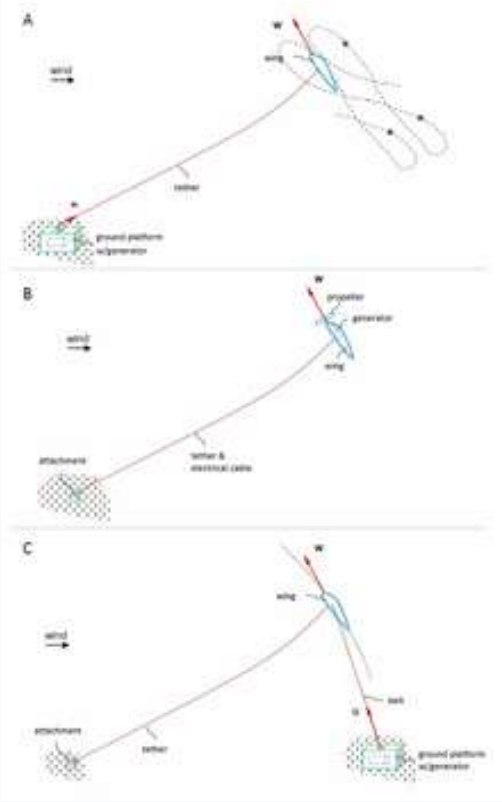


This illustrates where parts of the wing set of a crosswind kite power device is crosswinding during conversion of the wind's kinetic energy.

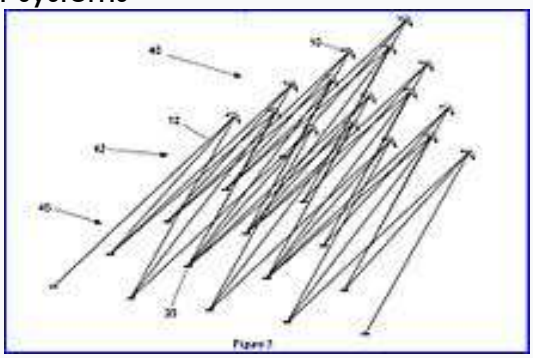
Crosswind kite power station with separate motion transfer with two wings offshore, artist's impression.



Drawing from patent US 3,987,987.

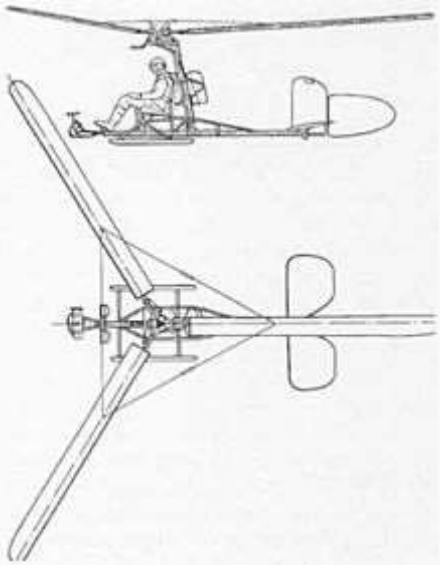


Scheme of some types of airborne crosswind power systems



BenjaminTignerFig5US8066225

Farming crosswind kite power devices is illustrated by Benjamin Tigner.



Lifter of human by use of fast-motion autorotating bladed crosswind kite power system, a gyrokite type.

Charvolants2 As George Pocock control his kite system wings to left or right, he would gain power because of the crosswind kite power energy-gain effect. He has followers considering him the father of traction kiting using crosswind kite power in his transport operations.

Kite-Wahnsinn am Silvaplana See. The crosswind kite power systems shown has a purpose to move the athlete fast downwind, upwind, and sometimes into the air to significant altitudes and distances. The wind is slightly slowed by such activity, as the CWKPS harvests energy from the wind. Kiteboarding.

Contents

Types of crosswind kite power systems (CWKPS)

How a system extracts energy from the wind and transfers energy to useful purposes helps to define types of crosswind kite power systems. One typing parameter regards the position of the generator or pump or tasking line or device. Another typing parameter regards how the tethers of the tether set of the kite system are utilized; the tethers holding the kiting wing elements aloft may be used in various ways to form types; tethers may simply hold working wings aloft, or they may be pulling loads on the ground, or multitasking by sending aloft-gained electricity to ground receivers or by pulling loads or by being the tasking device itself as when used for pulling people or things or cutting or grinding things. Some types are distinguished by fast motion transfer or slow motion transfer. Typing of crosswind kite power system also occurs by the nature of the wing set where count of wings and types of wings matter to designers and users; a wing set might be in a train arrangement, stack configuration, arch complex, dome mesh, coordinating family of wings, or just be a simple single-wing with single tether. Types of crosswind kite power devices are also distinguished by scale, purpose, intended life, and cost level. Typing by economic success occurs; is the system effective in the energy or task market or not? Some CWKPS are a type called lifters; they are purposed just for lifting loads, perhaps humans; the type is frequented by the use of autorotating blades that appear then to look like helicopters. A single crosswind kite power system (CWKPS) may be a hybrid complex performing aloft energy generation while also performing ground-based work through tether pulling of loads. The crosswind kite power systems that involve fluttering elements are being explored in several research centers; flutter is mined for energy conversion in a few ways. Researchers are showing types of CWKPS that are difficult to classify or type.

Tether pulling of people or goods on boards, in hulls, with skis, etc.

In the systems of this type of CWKPS, the pulling tether set drives the resisting people and objects to various points on the surface of water bodies or land or points in the atmosphere. In this type of crosswind kite power operation, the design of the resistive objects (people, boards, hulls, boats, ships, water turbines, air turbines, other wings) makes for further types. Crosswinding of the upper flying wings provide power to achieve certain final objectives. The objectives are found in such as kiteboarding, kite windsurfing, snowkiting, yacht kiting, freighter-ship sailing, kite boating,and free-flight soaring and jumping. A collection of researchers have explored the historic free-flight parakite realm to where crosswind flying of the systems' wings would enable free-flight in the atmosphere; fundamentally this is a kite-string set with a wing above and a wing as the resistive anchor set; control of the separate wing set, especially in crosswinding efforts mine the power of winds in different layers of the atmosphere.[4][5][6]

Tether pulling to drive generator or pump shafts

In the systems of this type, an electrical generator, pump, or tasking line is installed on the ground. There are two subtypes, with or without a secondary vehicle. In the subtype without a secondary vehicle,"Yo-Yo" method, the tether slowly unwinds off a drum on the ground, due to the windward pull of the kite system's wing, while the wing travels crosswind, that is, left-right of the wind's ambient direction, along various paths, e.g., a figure-8 flight path, or optimized lemniscate paths, or circular paths (small or large radius). The turning drum rotates the rotor of the generator or pump through, perhaps, a high-ratio gearbox. Periodically, the wing is depowered, and the tether is reeled in, or, using the crosswind for a constant pull, the tether is re-connected to a different section of the drum while the wing is traveling in a "downwind" cycle. In some systems two tethers are used instead of one.[1]

In another subtype, a secondary vehicle is used. Such a vehicle can be a carousel, a car, railed cart, wheeled land vehicle, or even a ship on the water. The electrical generator is installed on

the vehicle. The rotor of the electrical generator is brought in motion by the carousel, the axle of the car, or the screw of the ship, correspondingly.[7]

Onboard generator

In the systems of this type, one or more flying blades and electrical generators are installed on the wing. The relative airflow rotates the blades by way of autorotation, an interaction with the wind, which transfer the power to the generators. Produced electrical energy is transmitted to the ground through an electrical cable laid along the tether[1] or integrated with the tether. The same blades are sometimes used for double purpose where they are propellers positively driven by costed electricity for launching or special landing or calm-air flight-maintaining purpose.

Fast motion transfer with downwind ground receivers

In this type, an electrical generator is installed on the ground and a separate cable or belt, trailing behind the wing, transfers the power to a sprocket on the ground, which rotates the rotor of the generator. The separate belt extends at approximately the speed of the wing. Because of the high speed of that belt, the gearbox is not required.[8]

Motion transfer with upwind ground receivers[

In this type an electrical generator, pump, tasking line set, or lever is installed on the ground upwind of the wing and driven by the operation of two or three or more tethers arranged from a fast-moving crosswinding flying wing set. Examples are found in the research centers of several universities and kite-energy research centers.[9][10][11]

Lighter-than-air (LTA) assisted twin-coordinating wing sets

Several research centers are exploring twin wing sets employing tether pulling of upwind ground-based loads where the crosswinding wing sets use lighter-than-air devices to assure flight in case of lulls in the ambient wind.[12]

LTA-kite-balloon-lofted fast-moving autorating bladed turbine with upwind receiver of electricity

Many in-public-domain patent disclosed teachings and some current research centers are with a focus on using LTA kites to hold bladed turbines using autorotation to drive flown generators.[13]

Flutter-based crosswind kite power systems, fast-motion method

When a wing element in a kite system is designed to have flutter occur, then that fluttering may be harvested for energy to power various loads. In flutter, the wing element travels to crosswind and then reverses to travel to crosswind in a generally opposite direction; the frequency of cycles of reversed direction is high. Flutter in traditional aviation is usually considered a bad and destructive dynamic to be designed out of an aircraft; but in CWKPS, flutter is sometimes designed into the kite system for the specific purpose of converting the wind's kinetic energy to useful purposes; the fast motion of flutter is prized by some kite-energy systems development centers. Harvesting the energy of flutter in kite systems has been done in several ways. One way is to convert the flutter energy into sound, even pleasant sound or music; purposes vary from entertaining one person or a crowd of persons; bird-scaring has been an application. Jerking tether lines by the kite-flown fluttering elements to drive loads to make electricity has been done and is being explored. Pumping fluids by use of flutter-derived energy has been proposed in the kite-energy community. And having the fluttering wing made with appropriate materials and arrangement to be a direct electric-generator part, then electricity can be generated immediately; part of the fluttering wing that is formed to be a magnet flutters by conductive coils forms the parts of the electric generator.[14][15][16][17][18][19]

Traction by use of CWKPS

CWKPS are used to move objects immediately over ice, snow, land, ponds, lakes, or oceans. The movement of objects may be done for various reasons: recreation, sport, commerce, industry, science, travel, mine-clearing, defense, offense, plowing, landscaping, etc. The multitude of kite systems flown to crosswind to move kite boarders, land sailors, kite surfers, kite boaters, yachts, ships, catamarans, kayaks, power kiters, kite buggies, kite skiers, kite water skiers, etc., is keeping kite-wing manufacturers busy. SkySails is a leader in saving fuel in the shipping industry by using CWKPS.

Lifters using CWKPS

In this type of CWKPS the fast-motion of the flying blades or wings harvest the wind's energy to power the lifting capacity of the system. Mass loads are sometimes close-coupled with the wing set; at other times the mass lifted is distributed along the tether set. A military use of

this type involved the rotary-wing kites that appear to be helicopters (but are not) tethered by the kite line; a human observer gets lifted to high points for observation purposes; some of these were used in conjunction with submarine operations with the submarine's towing motion providing the apparent wind for the CWKPS. One example is the Focke-Achgelis Fa 330 Lift-and-place or lift-and-drop uses occur in this type; mass loads are lifted and then placed or dropped; this is done sometimes to overcome barriers or to save ground-transportation fuel costs. When the mass that is lifted is a generator coupled with the crosswinding blades, then the AWES type is changed; this change is the foundation for the focus of some current wind power companies; David Lang is carefully modelling such AWES in coordination with Grant Calverley.[20]

Torque transfer over rotary tether CWKPS

In this type, rotary cross wind kites drive rings around a guiding tether line. Since the rings are tied together and in tension, torsion can be transferred from the rotating kites to a ground generator. Rotary kite motion around a main lifted tether can rotates either the tether itself, a rotary tether set, or lines fixed across the axis of the main lift tether.[21][22] On 15 December 2015 this method was the first to successfully complete the someawe.org 100*3 challenge [23] For a prototype demonstration see [24]

Theory

In all types of the crosswind kite power system, the useful power can be approximately described by the Loyd's formula:

where P is power; C_L and C_D are coefficients of lift and drag, respectively; ρ_a is the air density at the altitude of the wing; A is the wing area and V is the wind speed.[1] This formula disregards tether drag, wing and tether weights, change of the air density with altitude and angle of the wing motion vector to the plane, perpendicular to the wind. A more precise formula is:

where G is the effective gliding ratio, taking into account the tether drag.[25]

Example: a system with a rigid wing, having dimensions 50 m x 2 m and G=15 in the 12 m/s wind will provide 40 MW of electric power.

Where is a citation of the example? The Loyds papers formula does not show it in thowse simple terms. What is CL What is Pa Where does 2/27 come from? How can this be scaled to loyds c5-a example?

50Mx2M =100m^2 2/27=0.07407407 pa=1.225 kg/m^3 P=9.074074*CL*G^2*V^3 g^2=225 v^3= 1728 P=9.074074*CL*388800 P=3527999.97*CL CL=0.0882

The free and open source OpenVSP can be used to model designs of CWKP systems. http://hangar.openvsp.org/vspfiles/350

Control of crosswind-kite-power source

Depending on the final application of a crosswind-kite-power source, appropriate kite control methods are involved. Human control exercised during the full flight session is exampled in crosswind stunt kiting and kiteboarding; the same has been in place for some electricity-producing crosswind-kite-power source, e.g., by Pierre Benhaiem of France. When the crosswind-kite-power source becomes too large to handle, then companies are building both human-assisted devices and also fully autonomous robotic control systems. Also, there has been demonstrated fully passive crosswind-kite-power source where natural frequencies of a system do permit the absence of human or robot controls; actually, anyone seeing a kited wing toss left and then right in constant motion is seeing a primitive passively controlled crosswind-kite-power source. Advances in computers, sensors, kite steering units, and servo-mechanisms are being applied to attain full autonomy of the launching, flying, and landing of crosswind-kite-power source that are aiming for the utility-scale energy-production market.

Challenges

Some sectors of crosswind kite power are already commercially robust; the sport low altitude traction industry is one of those sectors; toy sport crosswind kite power systems kept at low altitude must remain safe. But the sectors of high altitude larger CWKPS aiming for utility-scale electrical production to compete against other forms of energy production must overcome various challenges to achieve mainstream acceptance. Some of the challenges are regulatory permissions, including use of airspace and land; safety considerations; reliable operation in varying conditions (day,

night, summer, winter, fog, high wind, low wind, etc.); third-party assessment and certification; lifecycle cost modeling.[26]

History

The early the 1800s witnessed George Pocock using control of kite system wings to crosswind to good effect. In early the 1900s Paul Garber would produce high speed wings by two-line controls to give targets for aircraft gunners. Crosswind kite power was brought again into focus when Miles L. Loyd carefully described the mathematics and potential of crosswind kite power in 1980. In 1980 it was not possible to create an economical automatic control system to control the wings of a kite system, though passive control of crosswinding kite systems had been ancient. With the advance of computational and sensory resources fine control of the wings of a kite system became not only affordable, but cheap. In the same time significant progress was made in the materials and wing construction techniques; new types of flexible kites with good L/D ratio have been invented. Synthetic materials suitable for the wing and tether became affordable; among those materials are UHMWPE, carbon fiber, PETE, and rip-stop nylon. A large number of people became engaged in the sports of kitesurfing, kiteboarding, kite buggying, snowkiting, and power kiting. Multiple companies and academic teams work on crosswind kite power. Most of the progress in the field has been achieved in the last 10 years.

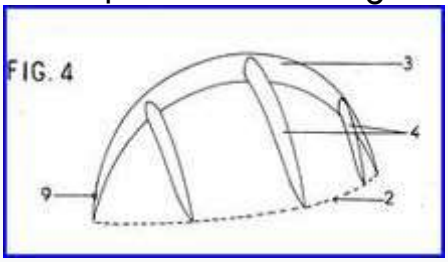
Prospects for crosswind kite power

Current trends in CWKPS sectors will have their follow-on stories. Enthusiasm seems to be at a high level among over a thousand workers in the crosswind kite power realm that includes scales from toy scale to utility-grid. Speculation for traveling and moving goods without fuel around the world by use of CWKPS is envisioned both by systems staying connected to the ground and some systems fully disconnected from the ground. Objectives for the future discussed in the literature regard CWKPS facing toy, sport, industry, science, commerce, energy for electrical grid, sailing, and a host of other tasking applications. For CWKPS to compete with solar energy, nuclear energy, fossil fuels, conventional wind power, DWKPS, or other renewable energy sources, the levelized cost of energy from CWKPS will need to become competitive, proven, made known, and adopted; during CWKPS march into the future, other competing sectors will be advancing also. The variety of configurations of kite systems that will fly wings to crosswind for the enhanced power is expected to grow; however, for specific purposes and applications, some winning formats are expected to eventually shine. Placing wing elements that fly to crosswind on huge lofted rope-based arches or even net domes is being researched.[27][28]

Patents that involve crosswind kite power

There are two sectors of crosswind kite power patents, those that have placed some technology into the public domain and those that are within protection periods and perhaps have valid claims. Crosswind kite power teachings in each patent are part of what is reviewed by the crosswind kite power research and development community and interested readers.

- US 3987987 *Self-erecting windmill* by Charles McCutchen and Peter R. Payne. They filed in January 28, 1975. Their work is now in the public domain.
- US8066225 *Multi-tether cross-wind kite power* by Benjamin Tigner filed in Jan 19, 2009, but has a priority date of Jan. 31, 2008. He teaches crosswind kite farming to make electricity.
- US6781254 *Windmill kite* by Bryan William Roberts with priority date of Nov 7, 2001. This examples crosswind kite power using flying generators driven by autorotating crosswinding turbine blades which play a second roll of being driven by costing power to fly the aircraft to altitude or bring the aircraft to safe harbor. The fast motion of the crosswinding blades is mined to drive the airborne wind generators at the hub of the rotating blades. This type of machine was featured in Popular Science magazine.[29]



Bruno T. Legaignoux, Dominique M. Legaignoux in their patent show LEI and

inflated struts. Wings taught have been being used for crosswind kite power purposes dominantly in kiteboarding and kite surfing.

- US4708078 *Propulsive wing with inflatable armature* by Bruno T. Legaignoux, Dominique M. Legaignoux, with priority date of Nov 16, 1984. This patent activity was part of the growing crosswind kite power surge that is still occurring. The inflated leading edge and inflated struts permitted aggressive mining of the wind with crosswind motions and water relauchability. Similar structure technology is being used in some AWES crosswind kite power research centers around the world.

Scale of crosswind kite power systems

Crosswind kite power systems are found in toy power kites, sport power kites, and experimental-handy sizes; proposed by research centers are huge utility-grid-power-feeding sizes. The power gained in toy sizes is used to excite product users; two-line and four-line crosswind toy kite-power systems fill kite festival skies. Serious sport crosswind kite power systems drive the movement of athletes around race courses in local and national competitions. Experimental-handy sizes of crosswind kite power systems are explored while furthering research toward utility-scale systems.

Timeline of uses and progress of crosswind kite power

Aviation in Britain Before the First World War RAE-O979. This illustrates a non-CWKPS with harvested energy used to lift a man while the wing set refrains from using crosswind dynamics.

Crosswind kite power has been put to various uses throughout history. And the variety of devices that produce crosswind kite power have a historical progression. A simple kite system sitting passively without crosswind kite power production is contrasted with kite systems that fly crosswind producing greater harvesting of energy from the wind's kinetic energy. For perspective, a timeline of crosswind kite power uses and device progress may aid in understanding crosswind kite power.

- 2013: In May 2013, Google acquired a California company developing systems with onboard generators flown to crosswind in circular paths using a hybrid aircraft that double-purposes flying blades as turbine blades as well as costed-energy propellers.[30] Their system is designed to operate as a powered aircraft when needed; the blades and generator are then converted to operate as propellers and motor.
- 2012 November: Progress is exhibited by NTS Gmbh on X-wind (crosswind) kite power system using railed cars that pull line that drives ground generator. NTS X-Wind at EcoSummit Duesseldorf. A closed loop rail with cable-connected cars work in concert to pull the loop cable. Each railed car is pulled by a four-tethered kited wing; each wing is controlled by an autopilot or kite-steering unit.[31]
- 2012 circa: Retail market sees an entry of a crosswind kite power system by Pacific Sky Power. The crosswind elements flown are turbine blades configured in HAWT format with generator aloft at the hub of the turning blades. Their system is not a powered aircraft during any phase of its operation. The scale is of handy one-person mobile size. A pilot lifter kite is used.
- 2010 circa: Making of electricity by using onboard crosswind kite power with the crosswinding elements being autorotating HAWT blades shows by FlygenKite under French patent FR 2955627.
- 2009: Airborne Wind Energy Industry Association (AWEIA) formed to serve kite power system industry of all methods including crosswind kite power.

- 1980s: Kiteboarders demonstrate effective upwind travel by use of crosswind kite power techniques.
- Crosswind kite power used in military target practice by Paul E. Garber.[32] The gained crosswind kite power was used to produce speed of the target wing to simulate enemy aircraft.
- 1980: May–June: Miles L. Loyd of Lawrence Livermore National Laboratory, Livermore, California, published in the Journal of Energy, Vol. 4, No. 3, Article: No. 80-4075, Crosswind Kite Power. He focused on flying the wings of kite systems "traverse" to the ambient wind; he noted that the crosswind airspeed of the wings would allow mining the involved kinectic energy for both keeping the wings flying as well as driving other loads for secondary purposes.
- 1820 circa: George Pocock (inventor) demonstrated control of kite-power system to crosswind to obtain energy to draw vehicle rapidly. Many will later consider him as a father of crosswind kite power that uses the harvested wind energy for traction purposes.

Distinguish CWKPS from non-CWKPS

Kite-power systems dedicated to operating without its energy-harvesting elements flying to crosswind are not CWKPS. Examples help to clarify the two branches of kite-power systems. A simple symmetrical two-stick diamond kite let out to downwind flight while the system's tether pulls to turn an at-ground generator shaft is producing energy for use by flying downwind without flying to crosswind; such is a non-CWKPS. Some hefty downwind kite-power systems (DWKPS) are proposed by serious researchers; some DWKPS instruction is found in the patent literature; one trend involves the opening and closing of pilot-kite-lifted opening-and-closing parachutes to drive generators.[33] Notice that some CWKPS, such as Jalbert parafoil working in figure-8 patterns to turn a ground-stationed generator, could be commissioned to operate fully without flying to crosswind, and the resultant kite-power system would then be a DWKPS. Differently, the CWKPS proposed by users of the autorotating blades stay necessarily as CWKPS. Magenn Power's flip-wing kite-balloon is a DWKPS.[34] Similar flip-wing rotating wings are DWKPS, e.g. that taught in Edwards and Evan patent. Benjamin Franklin's legendary pond-crossing by kite power was a simple DWKPS; he was merely dragged downwind by a downwind-flying kite. A non-CWPKS is historically illustrated by a kite-power harvesting system such as was used by Samuel Franklin Cody for man-lifting with the involved wings set in stable downwind flight without flying to crosswind.

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6. ^ System and Method for Wind-powered Flight by Dale C. Kramer; he was not the first to concept of this method of flight, as such was describe in 1967 by Richard Miller in book Without Visible Means of Support; yet [https://archive.org/details/cu31924024020707 Gilbert Totten Woglom] in 1890s described the method primitively in a treatise*Parakites : a treatise on the making and flying of tailless kites for scientific purposes and for recreation* (1896).
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30. ^ Inside Google's Secret Lab
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33. ^ ZHANG, Jianjun and his SYSTEM AND METHOD FOR UMBRELLA POWER GENERATION
34. ^ Magenn Air Rotor System Archived 2012-12-31 at the Wayback Machine

URGENT HELP REQUIRED

Message
A regular kite flyer who flys kites at Coleshill cricket club has mistakenly taken a set of keys that were left on his deck chair. These keys belong to Coleshill Cricket Club.
Can I respectfully request if you can put a message out on your forums for the keys to be returned to Coleshill C.C.

My contact 07506548898.
Asam Shazad

Thanks Asam - have passed the message on via our Facebook.
Hope the keys are returned soon.

11 Great Educational Benefits of Flying Kites

By Chris Drew, PhD (2020)

The Benefits of Flying Kites

1. Gross Motor Skills

Gross motor skills are the sorts of skills required to make big movements and generate a lot of power using our limbs. We need to be able to use those big explosive movements but also control them.

When you fly a kite, you run as fast as you can to try to generate enough updraft to get the kite into the sky. You have to run – fast – while still controlling your body and preventing yourself from tripping or running into something. Here, you're exercising your gross motor skills.

2. Hand-Eye Coordination

Hand-eye coordination is the ability to use your eyes to tell your hands what to do. It is necessary for all sorts of different tasks. Writing is a simple example, but others include sewing, using scissors and playing guitar. The better your hand-eye coordination, the better you will be at basic small tasks that require great dexterity.

When controlling a kite, you need to be able to slowly release (and at times bring back in) the thread that connects your hand to the kite. This ability to slowly release the thread requires hand-eye coordination.

When a child gets better at flying a kite, they can get one that has two strings. These sorts of kites are handled with two hands and can do tricks such as spins and loops in the sky. They require even better hand-eye coordination.

3. Learning to Share

Usually when you go out flying kites, you've got to share the kite! Unless you buy a multi-pack of kites for the whole family like this one from Amazon, your child will have to share with others.

It might be a challenge, but your children will have to learn to cooperate and collaborate to make sure everyone gets a fair go. Turn taking, negotiating and helping one another is required for this task to succeed!

4. Following Instructions

Children will also need to learn to follow your instructions so their kite flying is a success! This skills in following instructions can take children *a long time* to learn.

We teachers have to model following instructions extensively in the classroom. We follow an approach called 'guided practice' to get students following our instructions. It involves:

- Demonstrating something yourself, then
- Getting students to help you do the task, then
- You help the students do the task, then
- The students attempt the task on their own.

Have a go at modeled instruction yourself – and insist your children follow the instructions so they get more and more experience with it!

5. Making Friends

Another **huge** benefit of flying kites is that your child can make new friends! Have your child invite kids from their class around to fly kites together.

You could even throw a party and get a kite making kit so all the children can make their own kites at the start of the party before flying them yourselves!

When your child makes new friends, they will build confidence, social skills, and open up new doors to future experiences.

6. Physical Health

Of course, kite flying is not only good for cognitive health (learning). It's also good for physical health! Children over 6 need an hour a day of physical exercise.

Flying kites requires a lot of running. It also usually involves jumping around screaming, laughing and having a whole lot of fun!

Physical exercise doesn't have to be hard work. Playing provides children a great chance to let off steam and get that exercise necessary for their own wellbeing.

7. Creativity

You can use kite flying as a chance to encourage your child's creativity. You can get a paint-your-own kite kit and have your child esign their own kite. Or, you can get your child exploring different kite styles (diamond shaped kites, delta shaped kites, etc.) to experiment and explore which different designs seem to work best in different conditions.

8. Confidence

When you get your kite to finally get up into the air, your confidence is sky high. You've overcome a challenge and succeeded in your task!

Confidence is so important for a child's learning. When a child has high confidence,

they're more likely to take risks during play, take on bigger and bigger challenges, and tackle problems with self-belief.

When a child becomes better and better at kite flying, they may even start to teach other children their skills – which is an even better confidence builder!

9. Peripheral Awareness

When you fly a kite, you have to keep an eye on that kite trailing behind you as well as the land in front of you. Don't trip over anything, avoid holes, and make sure your dog doesn't trip you up! Meanwhile, you want to make sure the kite string isn't getting twisted up and that the kite is at the right angle to catch the wind.

10. Persistence

Learning isn't always easy. When a child is learning to fly a kite, there's a good chance they'll fail the first few attempts.

They may also completely fail one day because the wind is running in the wrong direction or there just isn't any wind at all.

But if your child persists, they'll be able to get their kite in the sky eventually. The reward at the end of that persistence is a huge lesson:

"If you keep at it, you'll achieve your goals."

11. Learn about Wind Pressure

Kite flying is a science lesson. Your child will only be able to get the kite in the air if they understand how to get the wind running over and across the kite in the right way. The goal of flying a kite is to develop wind pressure below the kite, causing it to be pushed up into the air (this is not like a plane, which is designed by creating low air pressure above the wings so the plane is 'pulled' up).

Talk to your child about the science behind a kite, and why the science says they have to run into the wind! With wind, there's a better 'push' into the kite to get it up in the air.

Where to Fly a Kite

1. At the Beach

The beach is a great place to fly a kite, so long as bylaws allow it.

The beach is a space where you have a lot of wind, because it's a spot where air from the sea meets air from the land. Their different levels of air pressure will often cause a breeze.

It's also a space where you have a lot of area to run. And when you fall – it's not so painful, because you're falling onto sand! Just be careful you don't run into other people and objects in the sand.

2. At the Park

The park is another wide open space for flying kites. You can run across wide open grassy spaces to see if you can get the kite into the sky. Make sure it's clear space, there are no hazards around, and that bylaws allow it.

3. In a Breezy Area

Running into the wind can really help a kite get up in the air. It can be very hard to get a kite into the sky on a still day.

But beware that heavy wind or winds that swirl might cause a lot of trouble for the kite, too. So the best time to fly a kite is in a light steady breeze on a nice sunny day.

Final Thoughts

There are tons of benefits of flying kites. Flying a kite can be a great educational experience. While it may not look like it, a kite flying adventure over the summer can keep your child's brain active and their body healthy. It can also be an awesome bonding experience for you and your child.

About The Author: Hi, I'm Chris Drew (Ph.D). I'm an Education expert and university professor.

FLUTTERING IN THE BREEZE

Billy makes tiny colourful kites in the shape of sea creatures which he has fun flying in the garden on a spring afternoon

Now you know what I get up to on those long winter nights! Or Covid-19 lockdown.

BILLY TURNS REMNANTS of recycled wrapping paper and coloured tissue paper into characterful fish kites to fly outdoors in the spring sunshine. Quick and simple to make, they comprise a few basic materials, which can be easily found around the home.

Billy enjoys flying the kites in the wind; diving and swooping against the currents. Once the game has finished, the kites can be used as pretty decorations in the garden.

HOW TO MAKE THE FISH KITE

Step 1: Recycled wrapping paper and tissue paper in varying shades are selected. Using the bottom of a drinking glass as a template, circles are drawn onto the paper and cut out. Each circle is then cut in half. Working from one end of the tube, the semicircles are glued in rows, overlapping the sides to create a scaly effect. The round edges should be at the bottom. This is repeated until the roll is covered.

Step 2: Two small circles are drawn by hand onto white paper and cut out. A black dot is made in the centre of each. From the top end of the tube where the scale edges are flat, the circles are glued on either side to form the eyes. The fins can be made using leftover circle halves glued to the body of the fish.

Step 3: Strips of tissue paper are cut, approximately 1in (2.5cm) wide and 12in (30cm) long. At the bottom of the fish, the strips are glued around the inside of the tube edge. At the head, two lengths of string, of a desired size, are stuck to the inside of the tube using tape, on opposite sides. The string ends are then tied to the stick to complete the kite.

MATERIALS

- Scraps of tissue paper and used wrapping paper
- Drinking glass
- Pencil
- Scissors
- Kitchen roll tube
- Glue
- White paper
- Black pen
- String
- Tape
- Small stick

Dave
On Sat, Jun 27, 2020 at 4:45 PM kenny potter <potter.251@hotmail.co.uk> wrote:

Hi All,
Stunt Kite made due to Lockdown, to keep me busy! Used Open Source Kite Plans for the Return STD, Followed Toms kite builds for advice on method. It was really great project build but trying to get parts together was almost impossible (UK suppliers) and took over the project.
Used PC20 Ripstop (Chinese Icarex) eBay and Skyshark tubes (P200 + PT5) France.
If going to do new build in future will make sure all parts available before start build and cost of completion?
(spent £35 in P+P alone)
O.K. I am a tight wad but what a beautiful Kite!
Kenny.

IN WINE THERE IS WISDOM
IN BEER THERE IS FREEDOM
IN WATER THERE IS BACTERIA

BENJAMIN FRANKLIN - KITE FLIER

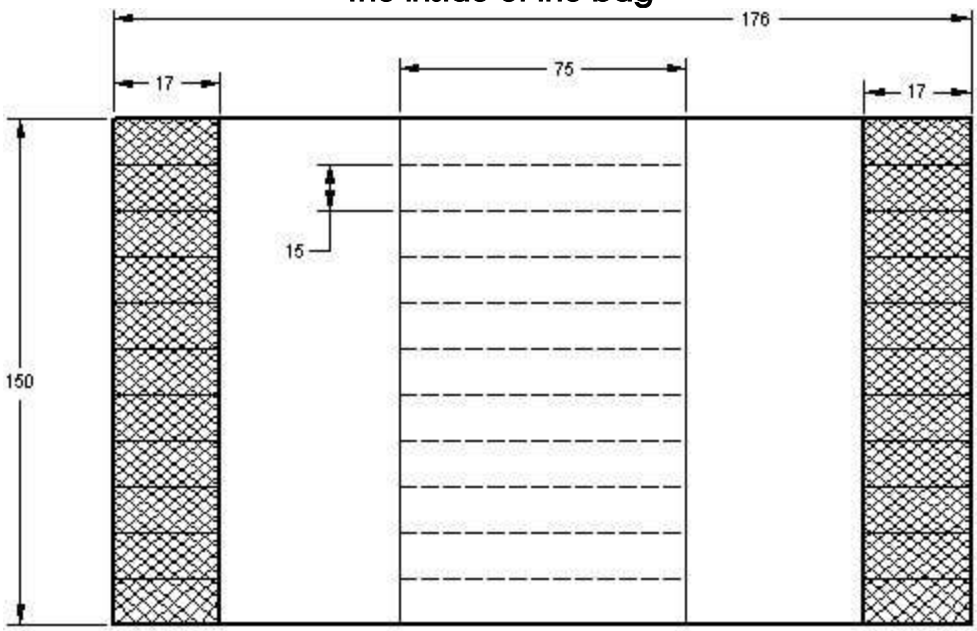
Roll-up kite bag

Kyle Skopelitis, a very enthusiastic Doldrummer, designed and created the roll-up kite bag and kindly provided the plans for the bag for use by other Doldrummers and visitors to our website. The bag involves a LOT more work than a "normal" kite bag, but is well worth the effort.

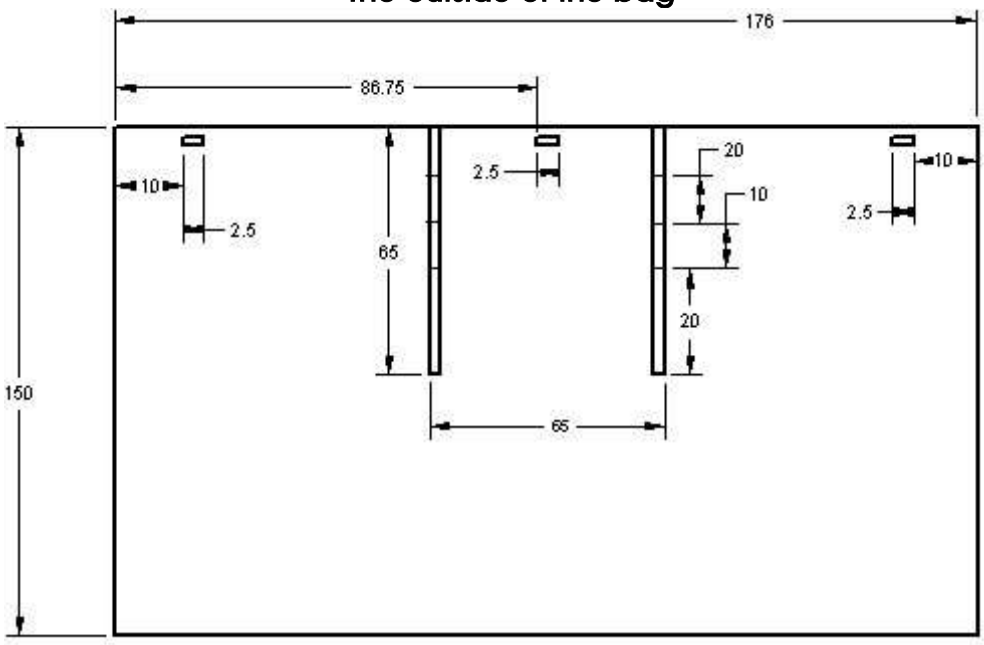
Description - A practical storage unit for kites which is easily transportable and is easily adjusted/modified to accommodate up to 25 kites and other paraphernalia including lines, spares, feathers, spars, insulation tape etc.

The advantage of this design over a normal bag is that everything has its place and there's no "hunting" around for stuff at the bottom of a bag. The following plans are only indicative and can easily be adjusted to suit individual needs.

The inside of the bag



The outside of the bag



Notes

a) The drawings are not to scale.

b) All measurements in cm.

Materials needed:

- 180cm x 150cm strong nylon (the type sports bags are made of). The length should be slightly longer than your longest kite.
- 2 x 17cm x 150cmstrong mesh (use a mesh with wide openings, the idea is to let sand through, but not your lines, etc)
- 150cm x 180cm ripstop or similar
- 2 x 2.5cm x 150cm webbing (to be used as seam for mesh)
- 3 x 2.5cm x 45cm webbing (for securing straps)
- 2 x 5cm x 65cm webbing (sewn onto bag to hold handles)
- 3 x 3cm x 2.5cm webbing(to hold securing straps)
- 2 x 5cm x 100cm webbing (for handles)
- leather - optional (to cover handles)
- 6 x 5cm D-rings (metal or plastic)
- 3 x 2.5cm male/female plastic clasps
- 4 spring-loaded clasps to attach handles to kite bag

Construction

Main body

 Hot cut the sport bag nylon square (we will return to the main body later!) Sew the 3 pieces of webbing that will hold the securing straps in place onto the main body on the long ends of each piece of webbing, leaving at least 2.5cm for the securing straps.

Mesh for winders, line, spares and accessories

 Cut the mesh in 2 lengths of approximately 150cm and about 17cm wide. Kyle used shade netting, but felt it was a bit too coarse and difficult to work with. Any relatively strong nylon mesh with wide (say 2mm+) openings should work.

 Seam one side of each strip with the 25mm webbing by folding the webbing double over the mesh and stitching (zigzag or straight) onto the mesh. Ideally the mesh needs to be sized according to the width of the kites so that the bag rolls evenly.

 Cut out the main body.

 Stitch the mesh to the nylon body (to the ends of the long sides as shown in the drawing). First stitch the sides and then stitch pockets (sew straight lines across the width of the mesh as indicated in the drawing) of approximately 15cm (slightly less if you calculate it correctly). Do NOT seam the sides before doing the spar pocket (see the last "Main body" section). The bottom of the pockets will be formed by the nylon as discussed in the "Main body" section.

 Don't stitch right to the side of the bag so that when the bag is rolled up, you'd get a smoother finish.

Main body (again)

 Make a hole ± 4cm from the edge (top) of the bag, 1cm from the side (on either side) to allow for insertion of the spars. This should preferably done with a soldering iron.

 Fold the ends over (2cm) onto which the mesh is stitched and create a seam for the mesh and the top/bottom of the bag. Remember to use a rolled seam so that the nylon will not start to unravel later.

Handle attachment webbing

 Mark the position for the D-rings on the main body (refer to the drawing of the outside of the bag), i.e. 15cm, 35cm and 45cm from the side of the main body.

 Stitch the webbing to the main body as shown in the drawing. Stitch the D-rings at the 15cm mark to the closest side of the bag and the other D-rings to the other side. This will make it easier to attach the clasps of the handles.

Kites holder

1. Fold the ripstop double, so that you have 2 x 75cm wide and 180cm long. Seam the length and turn the stitched "tube" inside out, with the seam now inside.
2. Stitch the sides to the nylon body with a straight stitch (see drawing to determine placing of "Kites holder").
3. Kyle suggested: "The width of each of the compartments is determined by the width of each kite in its bag. The measurements indicated are those that were suitable for my requirements. Each compartment is measured as follows:

- Lay the "Main body" flat
- Position the kite lengthways
- Position the "Kites holder" fabric over the kite so that the arch/loop is on the top
- Pin/hot weld and mark line of stitch with tailors chalk or equivalent
- Stitch with straight stitch
- I measured and stitched each one individually.
- I also made one of these to accommodate spars in a nylon bag. Also, the feather I made fits into this bag and provides additional support in the body of the bag.
- For soft foils and any other kite variations, I'd make kite bags to replace those supplied so that they'd fit into this configuration."

Main body (again)

 A spar pocket is stitched along the entire length of the bag (fibreglass spar or a spare carbon graphite spar) to give some rigidity and also provide a point from which to start the roll. This pocket should be sewn on AFTER the mesh has been sewn onto the body. The pocket should be approximately 1cm wide (i.e. 2cm folded over).

Handles

 Slide a spring-loaded clasp over a 100cm piece of webbing, fold the end of the webbing over and stitch with a straight stitch. Repeat on the other side and for the other 100cm webbing.

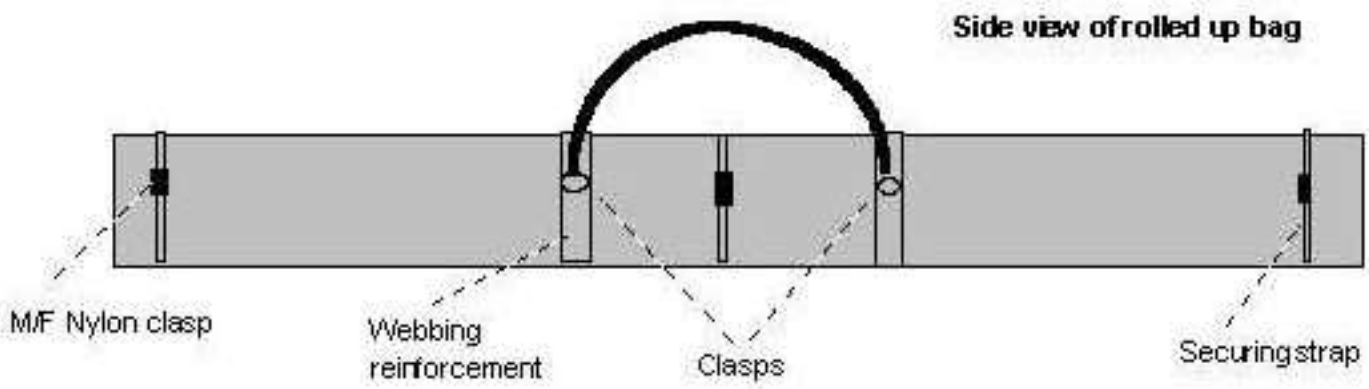
 The handles are hooked onto the D-rings ("Handle attachment webbing").

 If you want to, cut a 7.5cm x 50cm strip of leather. Insert some snap rivets at the ends and fold over the handles to make carrying more comfortable.

Securing straps

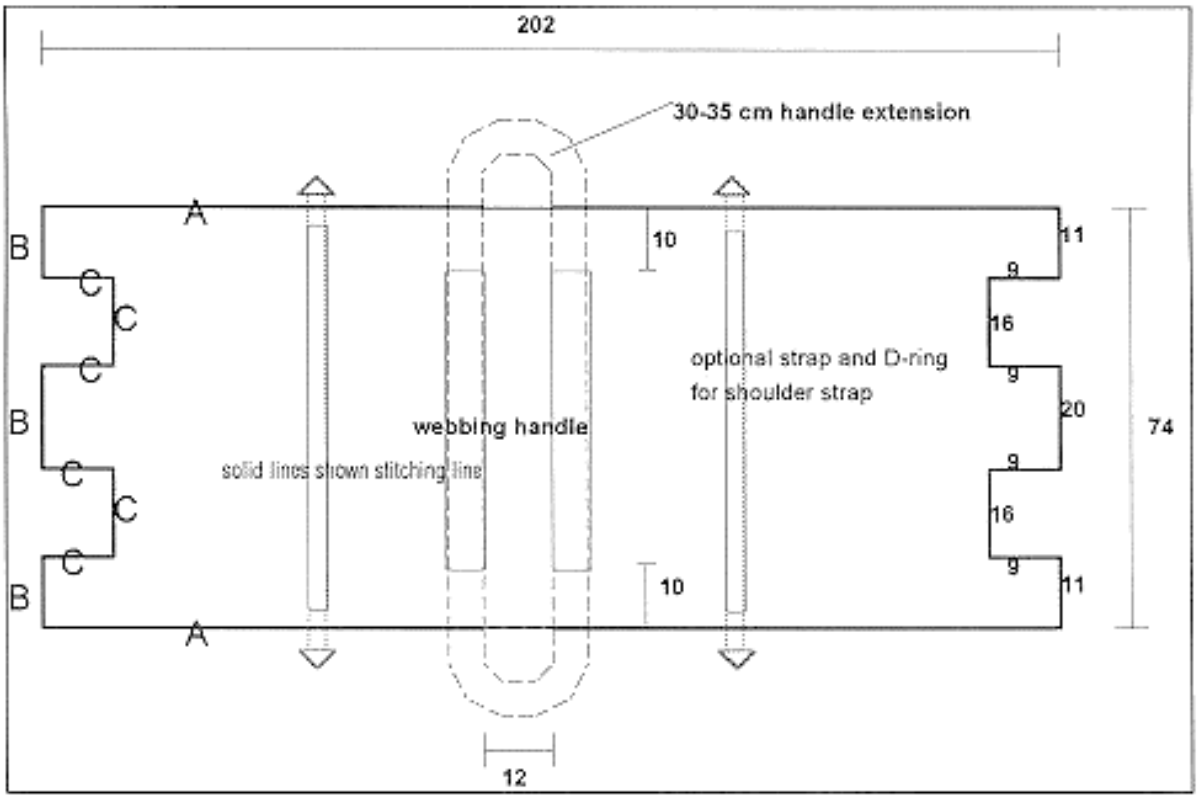
 Slide the securing straps through the 3 holes as indicated.

 Slide a male clasp over one side of each securing strap, fold the end of the webbing over and stitch with a straight stitch. Repeat on the other side with the female parts of the clasps.



AFTER ALL OF THAT THE KITE BAG SHOULD BE READY!

KITE BAG : by Graeme & Tania Poole
June 1997



NOT TO SCALE. All measurements in centimetres. 1 cm seam allowance is provided for all seams.

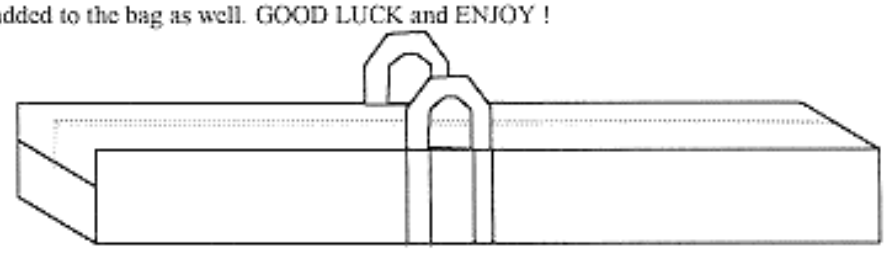
DESCRIPTION:

We used a heavy duty denim for the bag, but any durable fabric is suitable. A continuous length No. 10 size nylon zip was used with two sliders, opening from the middle out. They could be padlocked if required. The main handle is seat belt webbing either 1.5" or 2" wide. If you use the 2", it may be better to sew approx. 18 cms of the mid-section of the handle extension folded in half. Just over 2.2 metres of webbing is required. I have also shown some optional straps (1" webbing) with D-rings at each end where a shoulder strap could be clipped on to the bag if desired. Finished size of this bag is 182 x 18 x 18 approximately, but the design is such that you can adjust the dimensions to come up with any size bag you want.

CONSTRUCTION:

1. Sew webbing handle to bag, finishing 10 cm before edge 'A' and reinforce stitching at that point. Also sew optional straps with D-rings already attached, at this stage if required, finish stitching these straps approx. 5cms short of Edge 'A', but with D-ring extending 3 cm past edge 'A'.
2. Sew in zip along both edges 'A' finishing with zipper teeth exposed. Do not open zip. You will wind up with the bag tube inside out after sewing in both zip edges. Make sure the sliders are in before proceeding to next stage.
3. Sew edges 'B' together.
4. Sew remaining edges 'C' together to close each end of the bag.

You will notice the zip extends half way down each end of the bag. If you are keen, optional pockets, inside or outside, can be added to the bag as well. GOOD LUCK and ENJOY !



The Kite Society

P.O. Box 2274
Gt Horkesley,
Colchester
CO6 4AY

NEWSLETTER LIBRARY

Now available on line for those interested in the
History of Modern British Kite Flying
ALL back issues of 'The Kiteflier'
Newsletter of The Kite Society of Great Britain.

KITE PLANS ++

Since 1979 The Kite Society has published many kite plans in the pages of the magazine. The source of these plans has varied – submission made by members, reproduced from original source (with permission), embedded in the pages of the Brighton Kite Fliers or the Midland Kite Fliers pages.
The type of kite is shown in the table
Sometimes this is an approximate categorisation as the kite spans multiple types. Obviously, the skill level required will vary, so have a look, and see if you fancy a go!

Over 175 plans – Enjoy Ed.

KITE CAPITAL DIEPPE

International Dieppe Kite Festival

Next Festival - Postponed to

September 2021

The Earth in the spotlight

Association law 1901
www.dieppe-cerf-volant.org - infos@dieppe-cerf-volant.org
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Dieppe Capital of Kites
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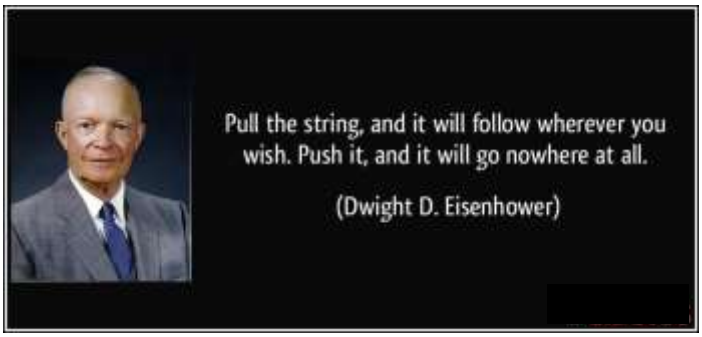


SKY BUMS – MKF COMPETITION A FEW YEARS AGO

A few years ago we and Midlands Kite Fliers ran a competition to decorate a 3do kite of ours. The winner would win their design appliqued onto a 3do. Contestants handed in their designs on or before the Shropshire Kite Festival.
The winner was Anthea Gage who travelled all the way from Scotland to join us. Anthea told us to bring the kite the next time we were passing. So the beginning of last year we presented her with the winning kite. Meant to put these piccies up last year.

You never know we may hold another competition for the 2021 festival 🙂:) 🙂

Helene Morgan

WINDSPIRATION
USE YOUR IMAGINATION

MAYBE OF INTEREST!?

I hope that at least some of the people in this group will find my first post entertaining but if they don't then I can only apologise. Back in the 50's and 60's my family owned their own caravan and kept it at a caravan site just outside Barmouth, North West Wales. The caravan site was known as White Gates but is now known as Sunny Sands. I have no idea if there was a height restriction on kites in those days but if there was, my Dad either didn't know about it or chose to ignore it because whenever he bought a kite for me he also bought four or five tubes of string, I say tubes because the string was wrapped around a thick blue cardboard tube in a spiral fashion. We used to go to the beach and search for a round piece of driftwood about 14 or 15 inches long and around 3/4 of an inch thick. Dad would tie one end of a tube of string to the driftwood and then transfer the first tube of string by wrapping it around the driftwood. He would tie the end of the next tube of string to the end the first and continue doing this until all 4 or 5 tubes of string were wrapped around the driftwood. He would then set up the kite (a diamond shape and if I remember right it was known as a "Windjammer") and then attach the kite to the string on the driftwood. The wind invariably came off the sea and blew straight across the caravan site so we (Dad and myself) flew the kite from just outside our caravan across the width of the site. Running parallel to the far side of the site was the railway line and running parallel to that was the road from Barmouth towards Harlech. After that were the Welsh mountains. On the day in question the kite was in full flight and well into the mountains when all of a sudden the kite began to zig-zag downwards. One of the knots had come undone and the string was racing across the grass of the caravan site. I stood there holding the driftwood as Dad ran after the trailing string. I was watching both Dad and the kite when the kite once again began to climb back into the sky. Dad hadn't caught the kite string a caravan had. It was one of the caravans next to the railway line. Along the length of the roof of the caravan ran a narrow gutter that ended slightly angled away from the caravan. This formed a V shape for an inch or two behind the gutter. The string of the kite ran into this V and became jammed where the gutter was attached to the caravan. Dad reached up, pulled on the string and wrapped it around his hand 3 or 4 times and then pulled the string out from the V. He re-tied the string to that on the driftwood and I continued to fly the kite as if nothing had happened. We were lucky because if the string had been a 1/4 of an inch either side of the V I doubt very much that we would have seen the kite again.

Roy Spudden
30 July at 15:30

That's exactly the beach that I remember flying cheap diamond stunt kites on when I was a small boy! I can totally imagine the wind taking that kite right up the mountain, or it snagging on a passing train and ending up at Harlech!

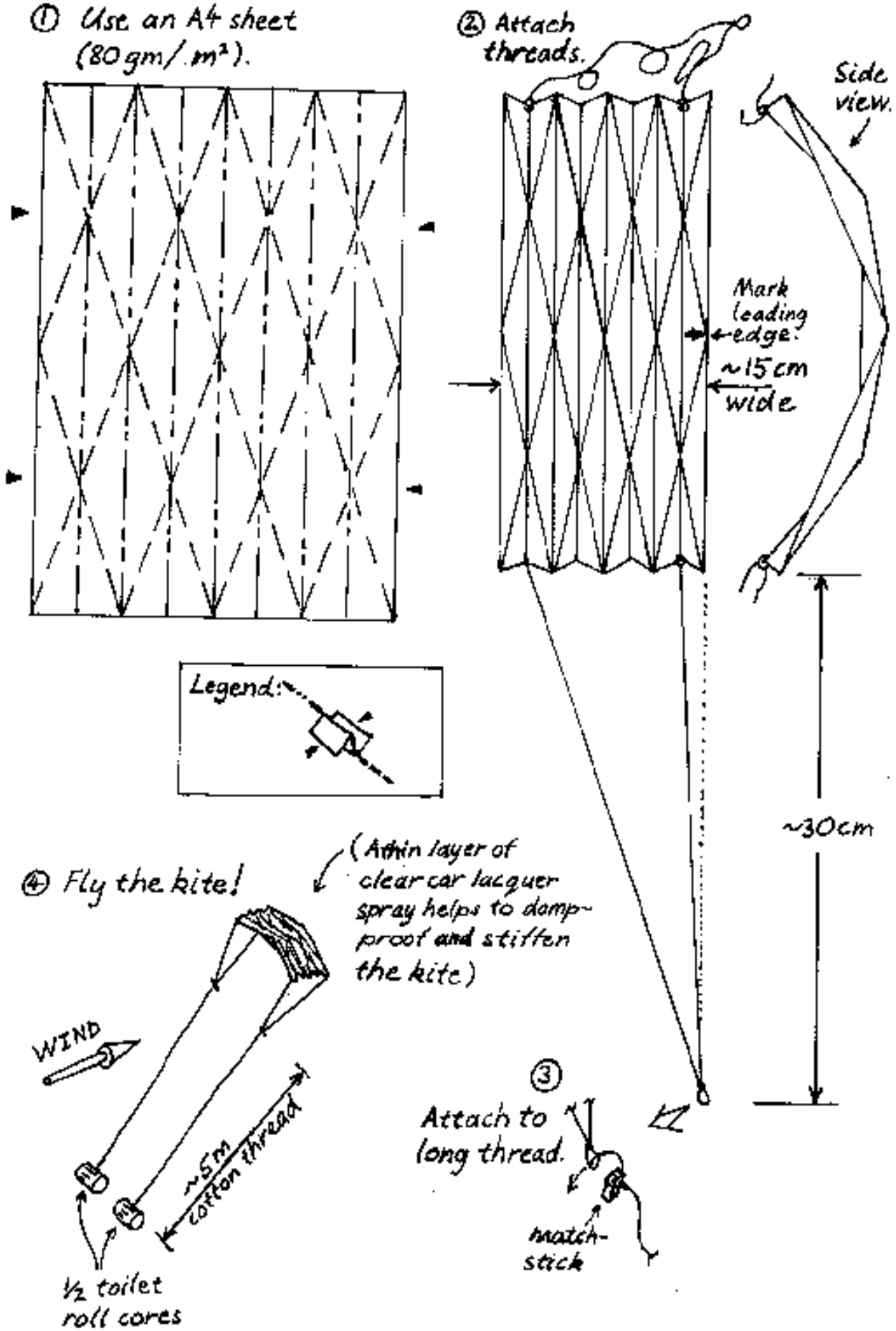
Wayne Walker-Allen

I had a brand new genki with a hundred mtrs of line on a new reel get away from me in a park outside London. The wind went round in a complete 180d and pulled out the peg I had hammered into the floor at an angle of course as soon as wind change there was no angle on the peg and out it came. One of my buddies said to me as I was on my way back to my car to get some thing said have you fixed down your kite because it's seems to be getting higher. The kite the line the reel plus the peg just cleared some trees and went straight up and up and up and up. My buddy watched it through binoculars go through the clouds until it was to high to see.

John White

The Paper Parachute Kite

designed by K G Staller

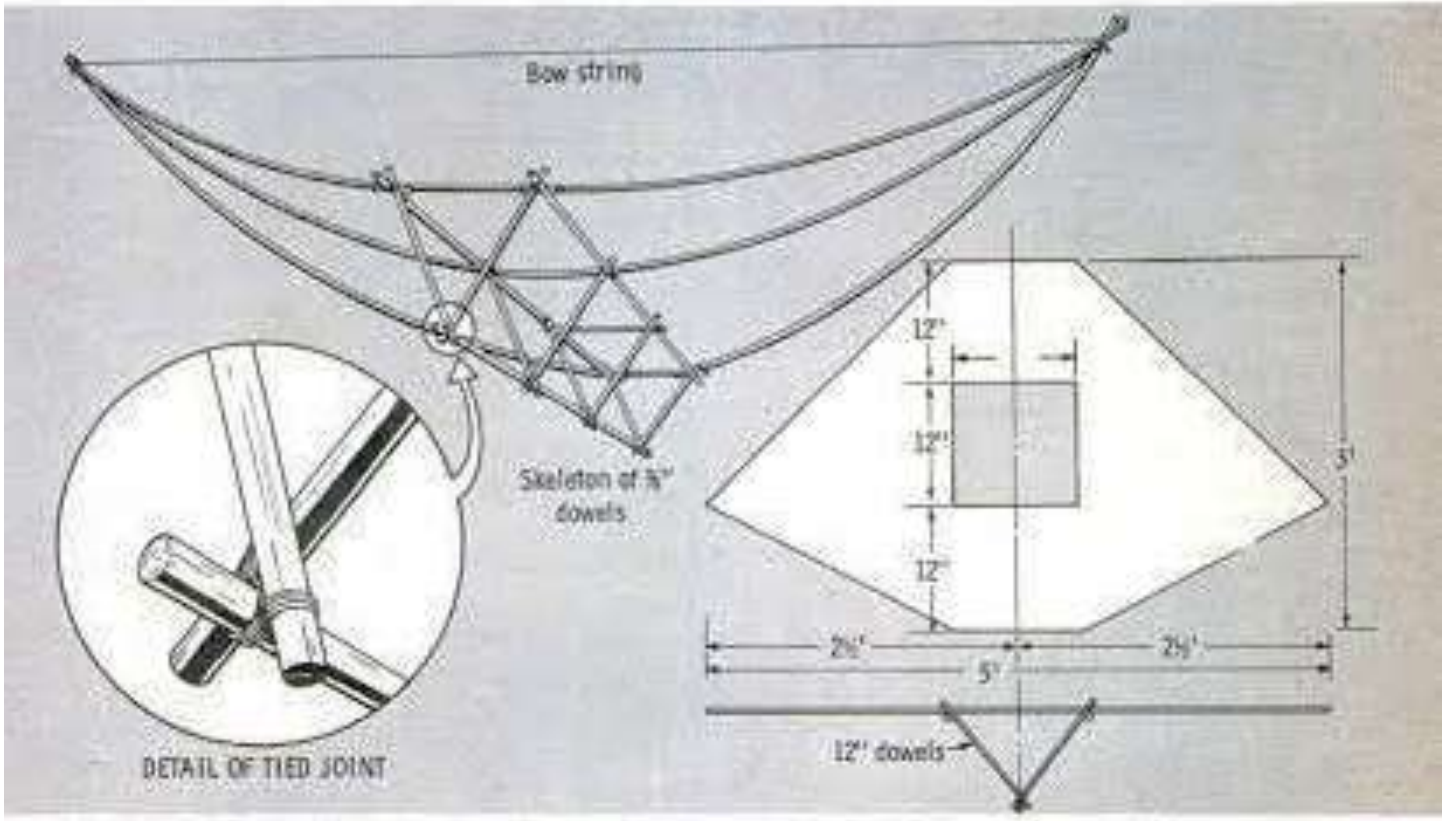


Prize-winning kites

The annual kite carnival at Brooklyn's Pratt Institute boasts a skyful of way-out designs. We got you plans for three flight-tested winners

By AL LEES

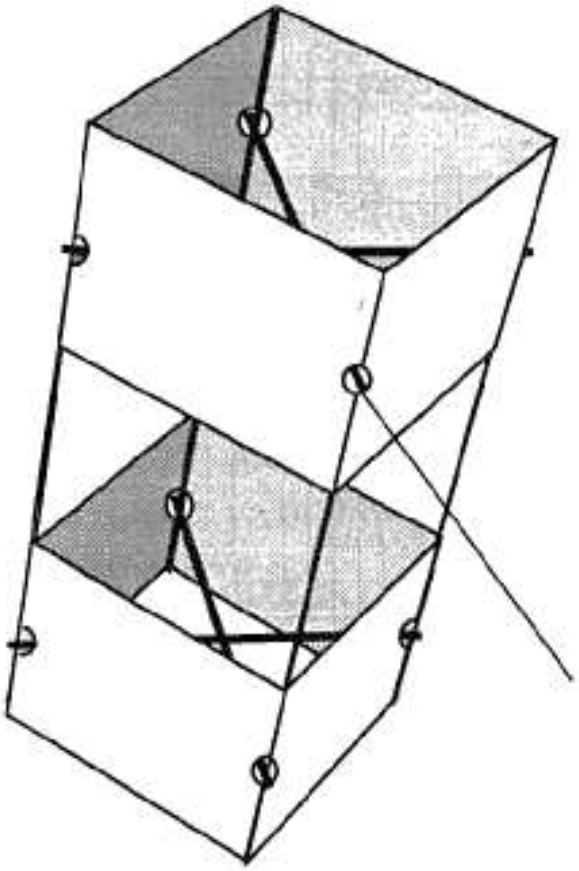
IT'S MORE THAN A COLLEGE ROMP, each spring, when the architecture school of Brooklyn's Pratt Institute sponsors a campus kite-flying contest. Though some students embellish the affair with kooky costumes, and trot out "constructions" that are downright frivolous, the purpose behind this annual competition is a serious one. Students are instructed to "design, build and fly a kite which is



DOWEL CONSTRUCTION of kite shown in top color photo, and in sketch above, is relatively simple: joints are wrapped and wing is bowed with a stout cord. Skeleton is covered with organdy cut to pattern above

NEW FROM SKY BUMS

It's good to see that Helene has been busy.....



brooxes basic box kite

by Brooks Leffler

ages 10 - adult
wind range light to moderate (5 - 12 mph)
use 20 - 30 lb flying line

MATERIALS & TOOLS

1 large plastic kitchen garbage bag
(13 gal size, 2 ft by 2 ft 5⅜ in)
4 - 3/16" x 36" hardwood dowels
4 - 3/16" x 20½" hardwood dowels
8 pieces clear vinyl tubing, ¼" ID x 1½" long
2 garbage bag ties or wire twist-ties
8" strong string
Heavy plastic packing tape 2" wide
3 ft metal straightedge or yardstick
Sharp knife
3/16" punch or drill
Felt-tip permanent markers

CONSTRUCTION

1. Lay the plastic bag out flat and smooth on a table you can cut on. Without folding the plastic, fold a 24" piece of tape over the open end of the bag to seal it from edge to edge.
2. Find the center of the bag each direction by folding it carefully in half each way and creasing it along the fold.
3. Using the straightedge and knife, cut the bag lengthwise along the center crease so you have two double-thickness pieces 12" high by 29⅜" wide.
4. Cutting through both layers, trim ¼" off the closed long edge of each piece.
5. Smooth out one of the pieces and find the center again by folding it in half top to bottom, creasing the fold as before. Repeat for the other piece.
6. Place a 25¢ piece over the center of the plastic (where the creases cross). Cut carefully around the coin through both thicknesses of plastic. Center the coin over the middle of each side edge of the piece and cut half-circles there too. Now the flattened piece should look like Figure 1. Repeat with the other piece. These are the *sails* of your kite.
7. Punch or drill a 3/16" hole ⅜" from one end of each piece of vinyl tubing, as in Figure 2.

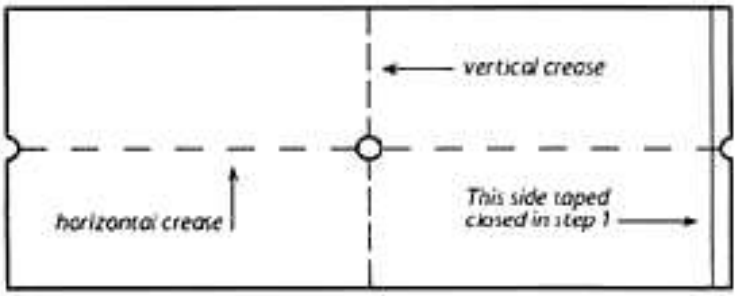


Figure 1

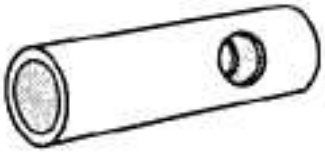


Figure 2

Jacob Christian Hansen Ellehammer

(1871-1946)

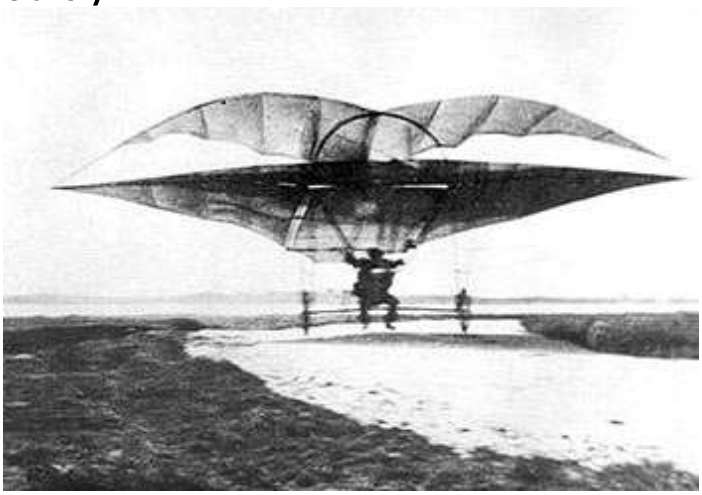
Jacob Christian Hansen Ellehammer

Born at Bakkebolle, Denmark, June 14, 1871, Jacob Christian Ellehammer was apprenticed as a youth to a watchmaker. He developed his skills in miniature devices and later taught himself the principles of electricity and the internal combustion engine.
His early commercial success with a motorcycle design permitted him to indulge his pursuit of powered flight.

His studies of birds enabled him to calculate the horsepower required to fly and to translate these calculations into his own design of a radial engine.
Incredibly, Ellehammer continued to experiment unaware of the Wright's first flight in December of 1903, and, on September 12, 1906 became the first European to fly an airplane.
His feat was accomplished on the tiny island of Lindholm and consisted of a flight of 421 meters at an altitude of 50 centimeters. The rapid aviation success of other Europeans led Ellehammer to shift his focus to vertical flight craft and in 1912 he succeeded in making a helicopter rise from the ground.
An unfortunate accident to one of his aircraft in 1916 caused him to halt his aviation experiments until 1930 when his earlier interest was reawakened. He thereafter continued to aid in the development of Danish aviation until his death in 1946.
Jacob Christian Ellehammer's life exemplified the inquisitiveness of the inventor and the daring and courage of the pioneer. His practical contributions opened the way for European aviation development.

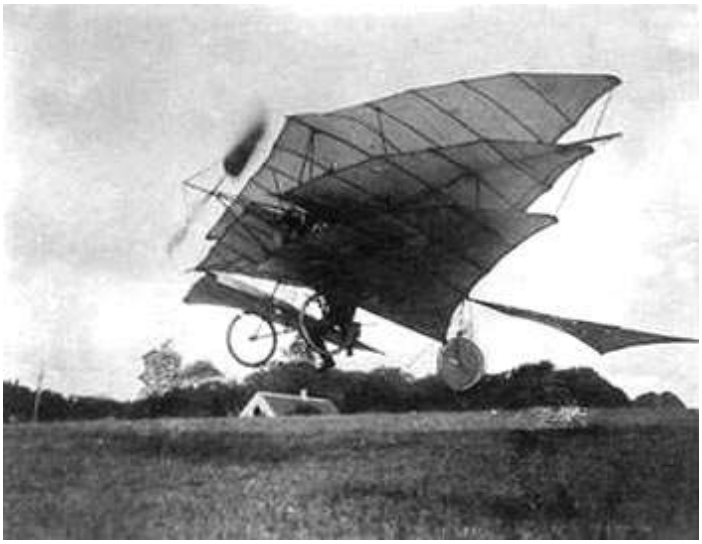
J. C. H. Ellehammer, Denmark
September 12, 1906 : Ellehammer, who had begun full-sized experiments in 1905 at Lindholm, Denmark, made his first flight of 42m. in his monoplane.
Between that date and 1908 he made some 200 flights, of which the longest was 175m.
on **January 14, 1908**, in a tractor triplane powered by his own engine of some 36 h.p. His 1906 machine had but nine h.p. His second machine was a baby tractor of 18 h.p., with the rear elevator automatically connected to the engine and wings with variable angle of incidence. This got off temporarily on various occasions.
On **February 13, 1908**, he covered 300m., and began curves. In June 1908, he made short hops, up to 100m., in Kiel where he won 5,000 marks in the presence of Prince Henry of Prussia for a flight lasting 11 secs. He was not prominent after this date.

Gallery



Jakob Ellehammer's flight, September 12, 1906

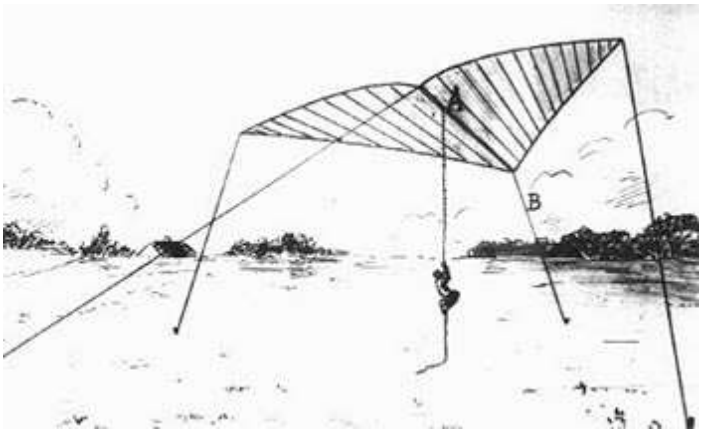
Jakob Ellehammer, aeroplane and crew, 1906



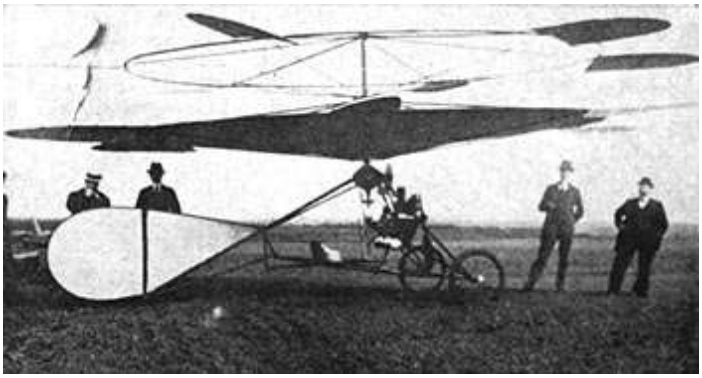
Jakob Ellehammer, triplane, 1907

Stamp issue celebrating the flight of September 12, 1906

Jakob Ellehammer's aeroplane, today
photo: Soren Madsen



Kite experiments to define the 'upper sail'



Jakob Ellehammer, Helicopter, 1908
photo: Copternews

Further reading

AerObscure : J.C.H. Ellehammer
http://aerobscure.free.fr/const/ellehammer/ellehammer.htm

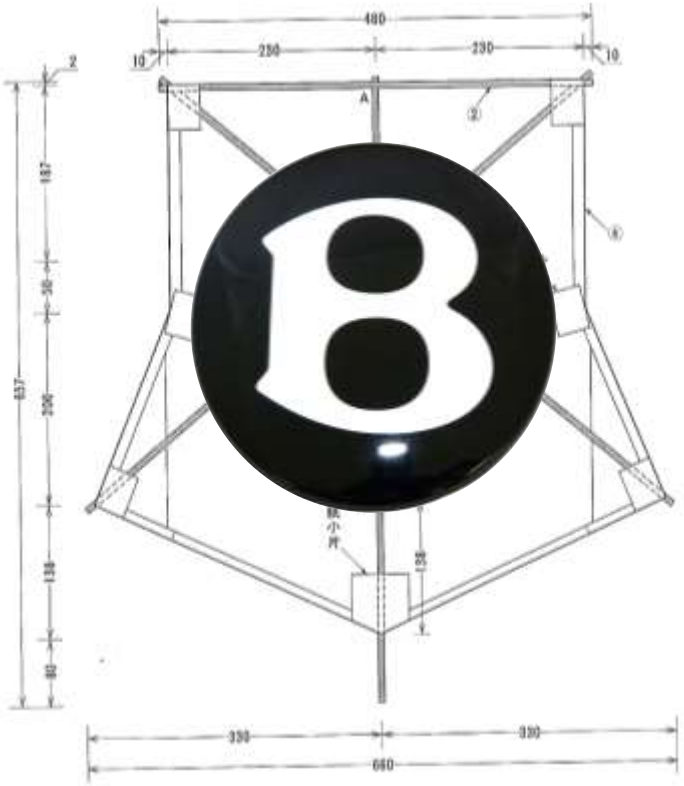
Ellehammer's Drachen Tests
http://www.drachenarchiv.de/mobilium.htm

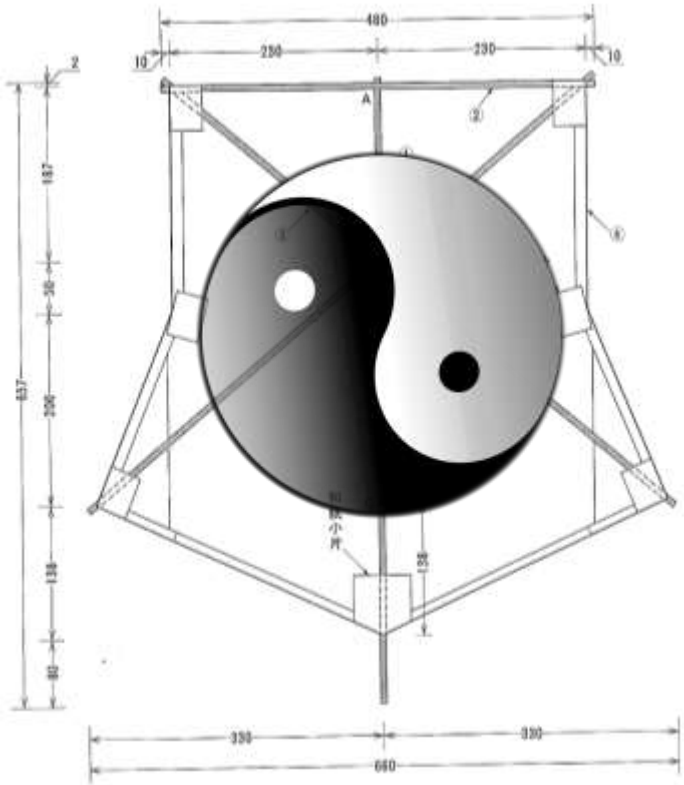
Ellehammer's Laboratorium
http://www.ellehammer.dk/engelsk/history.htm

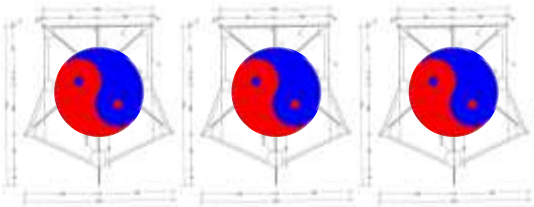

First Flying in Europe
12 Sept 1906

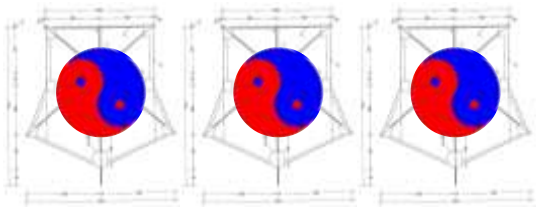
BILL'S NEW PRINTED SURUGA KITES

COURTESY OF SKYBUMS – Thanks Helene & Paul…



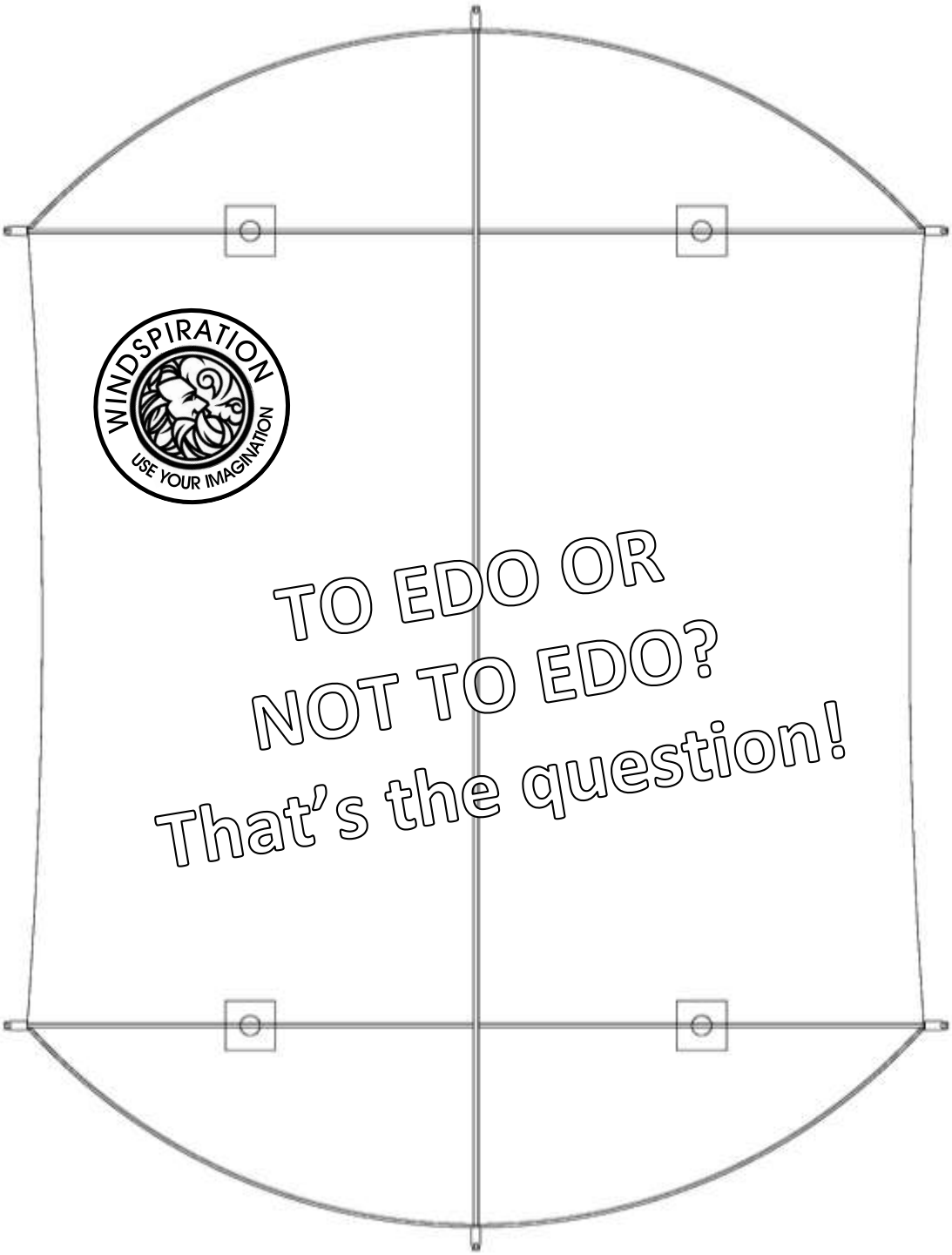






Check out the additional file that accompanies this newsletter….BS

Courtesy of Raindrop Kites….



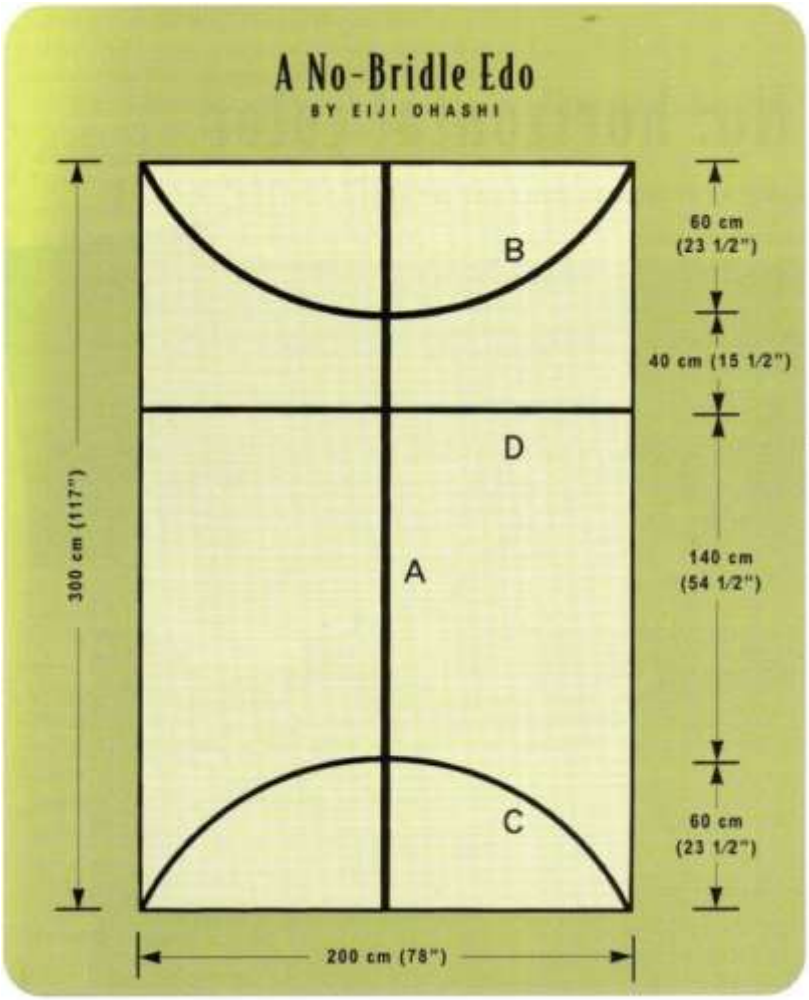
'codyfan'

Re: Ohashi Edo-style blueprint

14. February 2016

Thank you for all the suggestions and tips, the Dellaporta was already quite close to me, unfortunately, the crossed bars disturb my application too much. Since my Rokks all fly great, and are easy to assemble and fly even for beginners, I decided on a Rokkaku hybrid (that's what I want to call the construction). The shape should also be reminiscent of a wakeboard!
Keel rod 5mm CFRP ,
spreading 4mm CFRP
bow and stern battens 3mm GFK
the whole thing looks like this:


Lovelove's Kite


A No-Bridle Edo
BY EIJI OHASHI
B
D
A
C
60 cm
(23 1/2")
40 cm (15 1/2")
140 cm
(54 1/2")
60 cm
(23 1/2")
300 cm (117")
200 cm (78")

Celebrating thirty five years of One Sky One World

1985 - 2020

SUNDAY 11th OCTOBER 2020

Midlands Kite Fliers

Cofton Park, Longbridge, Birmingham, B31 2BQ.

White Horse Kite Fliers

Barbury Castle Country Park, near Swindon, Wiltshire, SN4 0QH.

Kent Kite Flyers

Radnor Park, Folkestone, Kent, CT19 5HY

Northern Kite Group

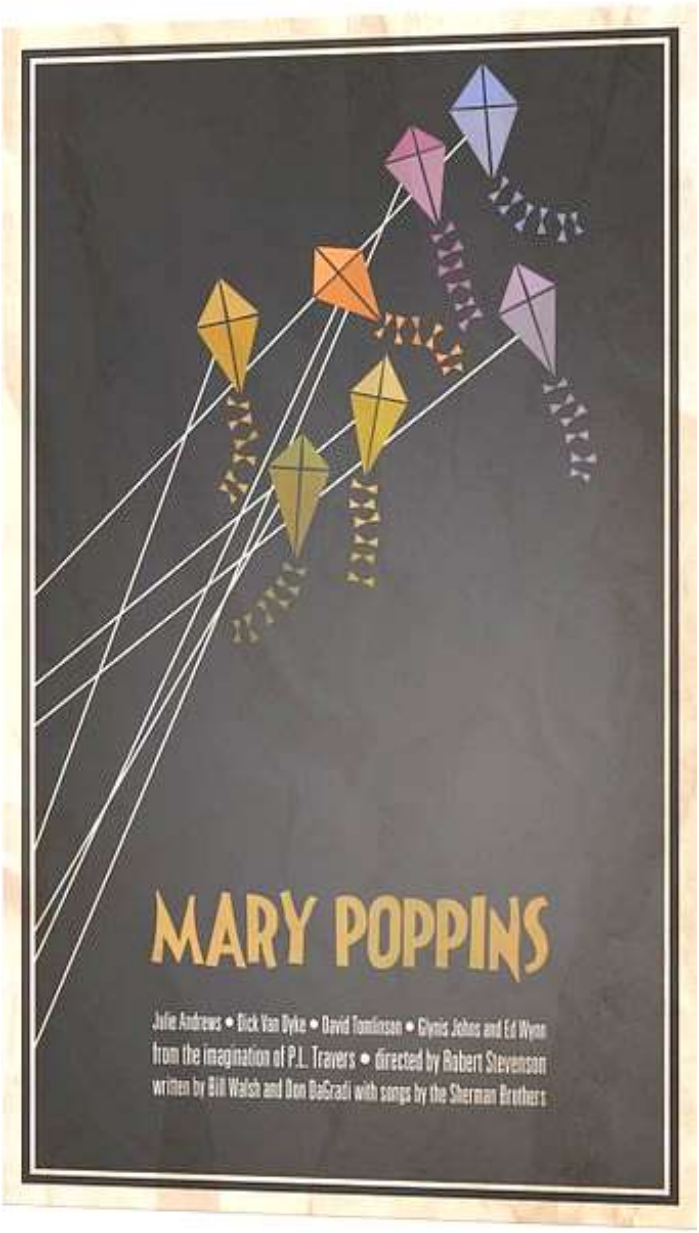
Pontefract Racecourse, Pontefract, Yorkshire, WF8 4QD.

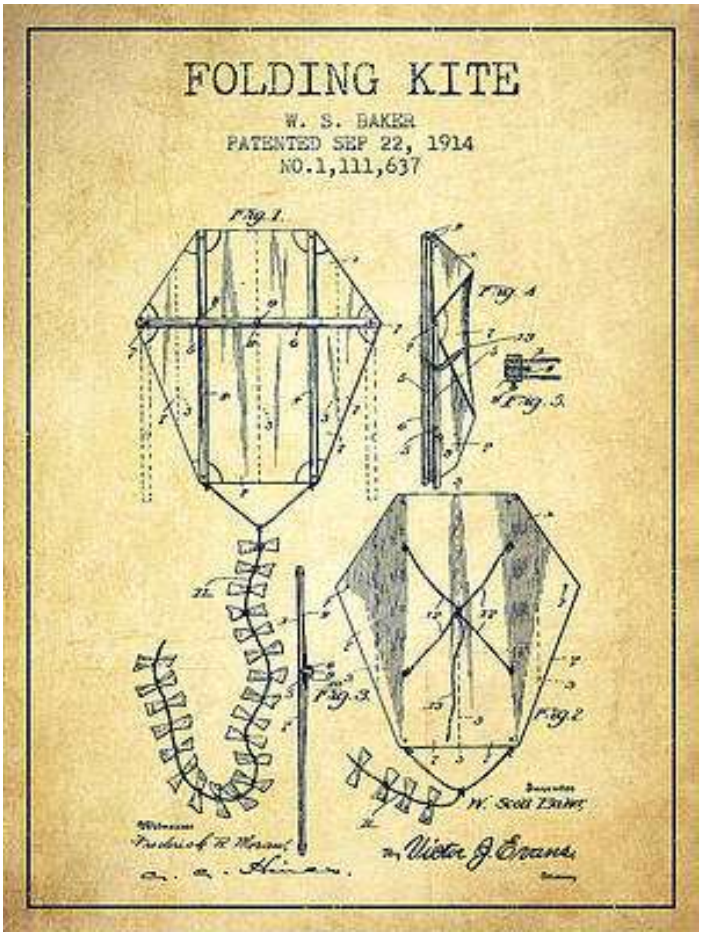
Northern Kite Group

On the beach, near the Leisure Centre, Fleetwood FY7 6QE.

Plus many other events around the Globe


WE ALL
FLY
UNDER THE
SAME
SKY





KEEP CALM AND GO FLY A KITE

ENJOY *Kite Flying* SAFELY

PLEASE REMEMBER SOCIAL DISTANCING

PLEASE WEAR YOUR
FACE MASK
AT THIS EVENT