

Knotting Matters

The Magazine of the International Guild of Knot Tyers



Issue 76
September 2002

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Knotting Matters

**Magazine of the
International Guild of
Knot Tyers**

Issue No. 76

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Secretary: Nigel Harding
Editor: Colin Grundy
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*Des Pawson, Brian Field and Geoffrey
Budworth cut the birthday cake, while
Ken Yalden toasts the Guild.*

*Back Cover - Councillor Mrs. P Bryant,
Mayor of Fareham unveils the 2K2
frontispiece*

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Notes from the Secretary's Blotter

With the 20th Birthday Celebrations, yet another holiday, demands made upon me by my employer, wife, family etc. - but I shan't mention any of that. I'll mention the wonderful time at Fareham meeting members from around the world, and making many new friends. The atmosphere, the camaraderie, knot to mention the incredible quality and quantity of knot tying was amazing. I must thank, first and foremost, Ken Yalden for turning this idea into reality; without his inspiration - and last strands of hair, none of this would have come to fruition. Neither would it have happened without the help and support of those around him including the team of stalwarts who 'did all the work'. On behalf of the membership I thank you all most sincerely.

The AGM that followed was attended by 10% of the membership. Tony Doran, Jeff Wyatt, and Ken Yalden all retired from the council, whilst Ken Nelson and Charlie Tyrrel were elected to it, leaving, for the first time, an empty seat in the Council Chamber. Again, on behalf of the membership, I would like to record our thanks to Jeff, Ken and Tony for the many years that they have worked diligently and constructively on your behalf

With all these changes, Lesley Wyatt has accepted the role of Web Site co-ordinator, and you'll be pleased to know that the site has been updated. I'm sure Lesley will be pleased to hear from you with your contributions.

CAF collecting your subscriptions on my behalf, has eased my workload, and

that of my postman. Thank you all for co-operating with the change. They are more businesslike than I am, yet just as friendly and approachable as I would like to think I've been - and are always there during normal business hours! Remember your cheque should still be made out to IGKT, and don't forget to include your name and address in your letter. If paying by credit card, they ask that you indicate which fee you want them to collect. At this stage, they don't know whether you are junior, adult, family or group member. Should you wish to contact them, Linda Easton is our contact, her phone number is 01732 520040 and email address is leaston@cafonline.org

For overseas members who have problems obtaining cheques or cash in UK pounds, I will try to be flexible. Let me know if you're having trouble, and I'll see what I can do to help - but please don't send non UK currencies to CAF as they are unable to deal with it.

The Celebration Tankards have proved popular, and sold well. Initially, they were in short supply but I have some in stock, and can post them anywhere in the world. Remember the motif is genuine 22-carat gold, and they should not be put in a dishwasher or microwave.

Two small queries for the membership, if your subscription is paid from an account in the name of G D Goodall, please contact me, likewise if you wrote to me with a request for a copy of KM72.

Nigel Harding

Letter from a President

This letter is by way of being a 'State of the nation' report on my Presidency so far.

I said in my inaugural speech that I would try and visit as many branches as possible. So far I have met the North American Branch, the Pacific Branch and the Texas Branch. On this side of the Atlantic I have visited the newly formed French group and groups in Essex, East Anglia, Kent and Bristol. If I haven't visited your area, bear with me. As my health improves, my visits will spread further afield.

All of us in the Guild endeavour to develop old talents and explore new ones. I am pleased to say that after years of badgering, Europa Chang-Dawson has agreed to put on paper her detailed knowledge of the lore of Chinese knotting. Anyone can become an expert on Chinese knotting - all that is needed is great skill, a highly developed artistic sense and years of practice. These qualities Europa has, but in addition she has something I believe to be very rare, if not unique.

Brought up in a traditional Chinese family, a rarity in her youth, she has learned from her aunt not only the mechanics of knotting and braiding, but also the stories, fables and legends associated with this work. Stories and meanings passed down over many hundreds of years. The world of knotting will be richer when her work is finished.

Another discovered talent is that of Skip Pennington. Contacting the writer of a letter with a curious letterhead, I found a man who had spent 20 years

developing flat knot designs and who had produced privately a five inch thick book containing over 500 designs. All to who I showed the book agreed that it should be published. With the consent of the Council and a lot of work by Des Pawson, a slimmed down version has now been published. I rate this flat knot work as bearing comparison with John Hensel and Kaj Lund.

Following a telephone call from the BBC asking about the knots and ropes available to Iron Age Celts, the producer was interested in the reconstruction of an Iron Age chariot. I pointed him in the direction of rawhide rather than rope and IGKT member Richard Hopkins. The resultant programme gave credit both to Richard and the Guild. Although the 10-second shot of Richard was all too short, the producers written account of the project is much more generous in its praise of his skills. The chariot now stands in the forecourt of the British Museum and once again the IGKT has increased its reputation as a reputable and authoritative body.

The last three years have seen introduced two innovations. One is the Presidents newsletter and the other is the Certificate of Honour system to reward members who work so hard in the service of the Guild. I hope these items will set precedents for future Presidents to follow.

The Council has offered me a second term of office and although my health is not good at the moment I feel I still have work to do and service to offer. I look forward to producing a similar report in three years time.

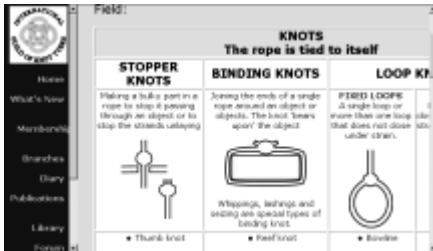
The Guild Website

by Lesley Wyatt

For some time now the Guild had a website set up by Tony Doran. Unfortunately, due to unforeseen circumstances, Tony has been unable to continue work on it. The committee asked if I would help. After consideration, and confirmation that I would not be responsible for the technical stuff, I agreed. Web Designer, Mel Pedley of Black Widow Web Design, was retained to set up and monitor the site, and we started working together in July.

Bearing in mind the possible size the site could grow to, we decided to move the site to a 'provider' who could offer more space at better rates. We needed to register a new 'domain' name and now have a new web address - www.igkt.net - simple, isn't it!

We've retained the basic style of the site, but are acutely aware a lot of the details are now out of date. I would be very grateful, when those of you who have Internet access look at it and see anything that requires updating, let me have the corrections.



Diary

As soon as knotting-related events are

known about, please send me details so this page can be kept as up-to-date as possible.

Galleries

The Gallery Section will be expanded into several galleries, for example: Bags, Bellropes, Chest Becketts, Decorative Knots, Functional Knots, Key Fobs, Mats, Pictures, Tools and Turk's Heads.

These names are based on the pictures that are already there. If anyone has ideas for additional galleries, please let me know.

Online Forum

There is an interactive Online Forum where members are able to 'chat' and have discussions on knots.

Links

I know that many of you have your own sites. If you would like a link on this page, please forward it to me.

Bearing in mind the site is in its infancy and is undergoing development, feel free to send me your ideas, pictures, links etc.

By the way, for those of you who don't know me, I am Mrs Jeff Wyatt. Jeff has been a Guild member for many years, a committee member from 1996 until 2002 and is President-elect. I am not a member of the Guild, but worked alongside Jeff when he was the Librarian.

Email: knots.igkt@ntlworld.com

Col's Comment

You will note some changes to this issue of *Knotting Matters*, the first being the cover. A colour cover has replaced Stuart Grainger's design. His superb artwork has served the Guild well since KM18, despite the so-called error. But now it is time to move forward.

You may also notice that KM has now become 'The Magazine of the International Guild of Knot Tyers'. The

content supplied by you, the members, makes KM more of a magazine than a newsletter. I hope it meets with your approval.

This year was our 20th anniversary - how could you miss it? It was a truly memorable week, read about it in "The Fareham Experience."

Past and present editors of Knotting Matters gather at Fareham, l - r Lonnie and Margaret Boggs, Gordon Perry, Geoffrey Budworth, (front) Robert Jackson, Colin Grundy



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Book Reviews

Great Knots and How to Tie Them, by
Derrick Lewis

Published in 1999 by Sterling
Publishing Co. Inc. (New York)

Distributed in Great Britain and
Europe by Cassell PLC (London)

ISBN: 0-8069-4889-2

The blurb that accompanies this book suggests that it contains (in just 128 pages) "Over 175 of the most useful, practical and decorative knots ever collected in one book" (Devotees of Ashley might possibly disagree). It seems more likely, however, that the publishers were not altogether clear about their intended readership, and have cast their net wide. The result is a light-hearted, superficial and somewhat uneven book, parts of which could be of use to people who are new to any one of a number of leisure activities. A basic glossary of forty-five terms is included at the start of the book.

The Table of Contents indicates four sections labelled Tie It Simple, Tie It Fancy, Tie It Sporty and Tie It Useful. Each section is of course sub-divided, so that Tie It Sporty, in the space of thirty-three pages, purports to cover knots for fishing, climbing, boating, horses and camping. One result of this somewhat arbitrary classification is that many knots are not where one would expect them to be; the bowline family, for

example, is not grouped with basic knots but with boating knots, while three other varieties of bowline are found among knots for climbing.

Where a sequence of instructions is to be followed, the text is clearly tied to the accompanying illustrations; the sequences are usually clear, although sometimes the starting point assumes a greater degree of competence than the average reader (including this reviewer) has in fact achieved. In addition to step-by-step diagrams (using blue, brown and tan in multi-strand knots) there are many photographs showing the completed knot in use. The pages are clear and uncluttered, making the book attractive to handle.

The indexing is interesting. Where a knot is known by a number of names, these are listed in alphabetical order when the knot is described - and each one is included in the index. Some, but not all, of the alternative names can be confirmed by reference to Ashley; The Carrick bend, for example, appears eight times in the index - which therefore contains about three hundred entries for the indicated one hundred and seventy-five knots.

This, then, is a book for leisure reading and for those seeking or starting a new pastime; in particular the Tie It Fancy section contains ideas for simple decorative knotting which younger readers might well wish to attempt.

Tony Robinson

Deck of Knot Cards

At the international gathering of IGKT members held in May 2002 at Fareham, Hampshire, England, to celebrate the

Guild's 20th year of existence, I met the courteous and capable Gary Sessions representing the Texas branch. And he gave me a neat deck of playing cards.

Each card depicts how to tie a different knot. That's 52 knots, from the Alpine butterfly to the Water knot, with many tried and trusted old cordage contrivances in-between. There is even, for those intrigued by knots named after individuals, a Jesse Walker's hitch (the five of spades). The area around each card's coloured illustrations is printed with uses and tying instructions.

One joker features the hangman's knot, the other the Matthew Walker knot. For extra value, a 55th card has knot tying tips, terms and techniques on one side, and lists the cards, suit by suit, on the other. The hearts suit is devoted to camping knots; spades to horse riding; diamonds to climbing; and clubs to boating and fishing.

A 56th card contains suggested reading on one side, including books by Guild writers Blandford, Budworth, Pawson and Toss, the other side being devoted to safety first tips for using knots and rope.

While this deck is not, I suggest, for serious card players - too distracting - it is nevertheless a superb product with potential for teaching and testing knowledge of a broad range of knots. The committed collector of knotting memorabilia will, of course, desire one for its own sake.

Gary passed the cards to me in case the Guild might like to buy and market them in quantity, but I have been advised that is unlikely to happen. On the other hand Guild members can try to obtain decks for themselves. They were produced (© 2000) by a firm named Running W, at P0 Box 1307,

Wilsonville, OR 97070, USA. It is possible that decks may also be ordered from trail@webster.com or via the mail order catalogue of Major Surplus & Survival, 435 W. Alondra Bl., Gardena, CA 90248, USA.

Geoffrey Budworth

While reading the article 'A Suit of Ropes' on page 35 of issue 75 of the Knotting Matters, it reminded me of a deck of cards that I recently found. Knot Playing Cards that show knots on each of the cards in the deck. The playing cards are provided by Runnin'W. Their internet site is knotcards@web-ster.com. The cost here in the US is \$7.95 plus \$1.05 shipping & handling. Phone # (877)-411-5668. Other members might be interested.

Doyle Brazil

Decorative Woven Flat Knots by Skip Pennock

An IGKT publication, price £12.50 from the Supplies Secretary

ISBN 0 9515506-6-7

This A4 size book is spiral bound - which makes it very easy to use - is very attractive to look at which prepares you for the feast inside.

This long awaited book fulfils the promise with a wealth of varied designs. The colour photographs of completed work in the first part of the book show the beautiful, imaginative designs. The following black & white diagrams, almost 100 in number, are very clear and easy to follow.

To experienced and beginner flat knotters alike, it will be very easy to

create a beautiful flat knot, just by following the diagrams.

I have so far only created the Seahorse, and the Ying Yang design, and I'm impatient to do more!

I can truly recommend this book to IGKT members, for a new experience in flat knotting, at a very reasonable price. A book both lovely to look at, and to use.

Sheila Pearson

The Rope Menagerie - by Frank Brown, with Sam Lanham III © Frank Brown 2002

Obtainable from: Frank Brown, 23 Union Street, West Hobart Tasmania, Australia 7000.

e-mail: bowline@bigpond.com

Price: UK £9.00 (plus an extra £3.00 p. & p.) = £12.00

This is a how-to manual and the result of collaboration - via the ether and internet - between two IGKT members who live half the planet apart and are separated by the Pacific Ocean. Unlikely even a decade ago, their initiative is a further indicator of Guild evolution.

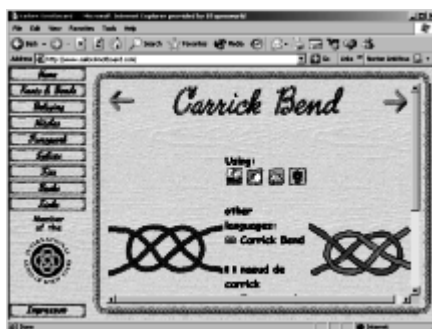
The booklet consists of 52 x A4 pages, between stiff card covers, containing over 60 black-&-white illustrations and a lucid text, with a spring binder so that it lies flat when open (freeing both hands for actual knotting). It is a home-made job - the author stresses - and so buyers must not expect a professional product, but those who have seen it agree that the contents are value for money.

Materials, tools, techniques and tips enable the most uncertain beginner to tie the dozen knotted animal projects, from camel and crocodile to sea horse or teddy bear. Indeed, many will then be equipped

to go on and create their own zoomorphic imaginings.

Highly recommended.

Geoffrey Budworth



Website Review

Sailor's Knotboard by Guild member Matthias Beoving features some 20 animated knots, bends, hitches and splices. Links from the home page will take the viewer directly to the knot concerned where they are presented with both a picture of the finished knot and a clever animation of the rope tying itself into the knot. Alongside is the name in five different languages and also symbols suggesting its usefulness for sailing, mountaineering, camping and around the home.

The Guild logo prominently displayed takes you to the IGKT website and a panel advert for Amazon.com features a range of knot related books.

This is an interesting use of animation and the web to bring knot tying to a wider audience. Although I found some of the animations too quick for my liking, I am sure it will appeal to younger Internet surfers.

www.sailor'sknotboard.com

Colin Grundy

A Crowning Achievement

by Frank Brown

It started when my wife challenged me to make a teddy bear from string.

She had been collecting small teddy bears made from a host of different materials for a number of years. There were metal, wood, glasses, china, cloth, leather, plaster and plastic bears in the collection; knitted, cast, carved and moulded, but none knotted. I had a little think for a few weeks and studied the general construction of the beasts. Arms and legs of similar size attached to a plump body, a roundish head with muzzle, rounded ears, front facing eyes and usually an appealing expression. How to build such a figure with string? What techniques are available? I had some familiarity with crowning and solid plaits but was no expert. However, crowning was the obvious way to make the legs and arms. Could the same technique be used for the body? Only one way to find out - try it!

The materials I had to hand were limited, but there were a few metres of nylon venetian blind cord. I cut a couple of lengths and started to experiment, having Ashley open at the appropriate chapter. Somehow I managed to make a four-line crown from two bits of cord and made my first leg. Repeat the process and by putting the two together I had eight lines ready to be made into a body. After a few mistakes and repeats, the method of crowning became clear and a body appeared. Now I divided the

lines and crowned the two sets of four to make the arms. The first result resembled an amputee starfish, but there was some familiarity with the required animal.



Now for the head. The obvious construction was one of the knob knots, so I swatted up on the doubled wall and crown method. Coupling this form of a knob knot with a couple of rows of crowning for the muzzle created an acceptable head. As a bonus, the four lines projecting out of the head at different points could be threaded down to the base of the head and used to attach it to the body.

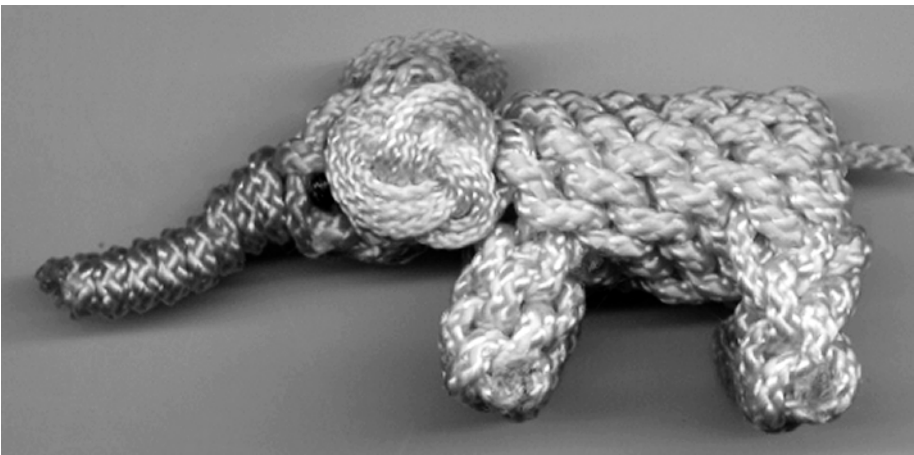
At this point I handed the lump of knotted cord to my wife, who promptly swiped a length of cord left over from the construction. This was unraveled and a yarn extracted. Using this and an embroidery needle she skillfully constructed a pair of ears. This was followed by more needlework with fine black thread to create eyes and a button nose on the end of the muzzle. A mouth followed and the beast was finished with a neat coloured bow around the neck. Our first bear was completed.

During the next few years, a number of bears were made as presents for friends, particularly when they produced children. The reaction was uniformly warm and complimentary. Then I retired from paid work and started to get serious with my rope work. I built some tools and got into correspondence with some capable gentlemen who gave unstinting help and advice. In return I sent them teddy bears to say thanks. Again the reactions were very positive and I wondered if I could build other animals.

As with the bear, I started thinking how animals appeared and what knotting

techniques were available to make reasonable facsimiles. After the acquisition of some very useful tools and a few experiments, the first dog appeared. Then came a horse, a lion, an elephant and monkey. A camel, llama, bull, seahorse and crocodile joined the menagerie together with a few less inspiring beasts such as a rhino, and wombat. A request for a unicorn was easily answered, as was one for a pair of dachshund pups. My daughter-in law is one of those people with a liking for cats, so a reasonable facsimile was produced for her Christmas present. The present animal undergoing trials is the platypus.

While all this creativity was going on, I had entered into correspondence with Sam Lanham in Texas, USA. He gently suggested that I should get my methods down on paper, and I complied on condition he checked out my writing. So the work began and the pages whipped back and forth through the ether. Months and months later there is a product that may be of interest to some of the knotting fraternity.



The Rope Menagerie

**by Frank Brown
with Sam Lanham III**

How would you like to make a dozen different animals from string. More if you are clever! This comprehensive book details methods of constructing Teddy Bears and Crocodiles, Camels and Horses, Giraffes and Lions, Dogs and Elephants, Seahorses and Llamas, Apes and Bulls. Step by step instructions and plenty of illustrations.

This is something a bit different in the field of fancy ropework.

Available from Frank Brown, 23 Union Street, West Hobart, Tasmania, Australia, 7000.

e-mail bowline@bigpond.com.

Price \$Aus 25 plus postage——approximately \$Aus 7. (£12 sterling inc p+p.)
(Willing to trade for goods of similar value.)

Knotting Matters on CD

A project is underway to put all the back issues of Knotting Matters onto compact disc.

The end result will be a digital archive of our Guild magazine that members will be able to read using the Adobe Acrobat Reader programme. The contents will be fully searchable using the programme's search system or readers will be able to browse through each edition. When complete, these will be available through the Guild Supplies Secretary.

I'm sure members will appreciate that this is a time consuming project. We are getting to the stage where the first 20 editions will soon become available, but with another 45 to go, there is a lot of work to do.

Members can assist in this project if they wish, by creating files of text and images ready for making up into the finished format.

You will of course need access to past issues of Knotting Matters and a PC with a scanner. For those who would like to help in this project, please get in touch with the editor of Knotting Matters and you will be sent a specification sheet before you commit yourself to helping.

The more members that can help, the quicker it will be to bring the project to completion.

How to... Find Cordage

By Willeke van der Ham

I have often found that many knot tyers have the same problem: where do I buy good quality knotting material? Not all of us suffer in the same degree, I ask the people who use post order suppliers to send a letter with the address to be included in KM.

For the rest I will tell how I find my cordage.

At home I think I know all the shops which sell rope and cord, but then I meet people who have been to another shop and found something I would have bought had I found it, so listen to those people and take notes. When travelling during my holidays I look at all shops and am pleased with whatever I find. Because I do not know where to start looking, I go into any likely shop. On nearly all holidays I find that I need something to tie with, even when taking something from home, and being desperate helps me a lot in finding shops.

I will give you the places to look, starting with the ones most likely to be cheap and ending in the upmarket section, they certainly have cord for sale.

The first place to look, I am told, are car boot sales, garage clearances and the like, and markets where things are sold second hand. The con is that they do not often happen and you will buy a lot but not what you are looking for. The pro is that you may find a lot of cheap, good and beautiful material, tools and books.

The next place to look are the very cheap stores where they sell leftover stock

from other companies. They often have something but you can never be sure what and how much. If you like what they have, buy the lot, it may be gone when you come back.

If it is an independent shop, tell the owner what you are looking for, he might be able to get it but wonder if he would ever sell it. If it is one shop out of a chain, it may be worth talking with the people who see everything that comes in. They can inform you when something good has arrived. (Giving keyfobs as bribes works well too.)

Then there are the hardware and garden shops; the more old fashioned the better. I have found some nice cotton there. They almost certainly have thin string in several materials, a source for when you start making your own cordage. Often they have rope in several sizes as well.

Needlework shops, and craft shops, do not often stock for people using rope but have a lot in smaller thin stuff as well as some tools for fine work. Do not forget the needlework department in the department stores.

Near the top end of the market are ship's chandlers. They often have a wide range of good quality rope and string. But they know their prices. You find them in most harbour towns; any place where there is yachting going on and in odd places where you would not expect them.

The best you can find is a shop

devoted to rope. They are rare, and getting more so. So share their addresses with us. The more they sell, the more likely they will stay in business.

I have had some lucky finds, so let me give you those as an indication where to look too.

Some of the best string I have worked with was sold as packaging material in a shop with fancy gifts. There are shoelaces, sold in different shops, coming in many sizes, colours and prices. I have bought cotton twine in cook shops, packaging string in a post office and skipping ropes in a toyshop.

Of course there are the knot tyers who have their connections into the world of professional ropemakers, and are willing to help the rest of us.

Then there are the people who make their own string. Those who take up braiding almost never use their own braided cord in tying knots, it takes too long and the materials tend to be dear.

The people who make a small scale ropewalk are more likely to make what they tie.

The next possibility is to buy white string and dye it yourself. You will get the best results with the dye you need to boil. But check whether your string can take the temperature. Cottons and many man-made fibres do, but wool, silk and other man-made fibres do not. If you want to work with those, you need to get dye, which does not need high temperatures. This is often not as good in keeping colour.

So, if you cannot find the string you would like to work with, see what you can do with the string you are able to find. Or tie with whatever you have at hand.

I wish you the best of luck in finding string and lots of fun in using it.

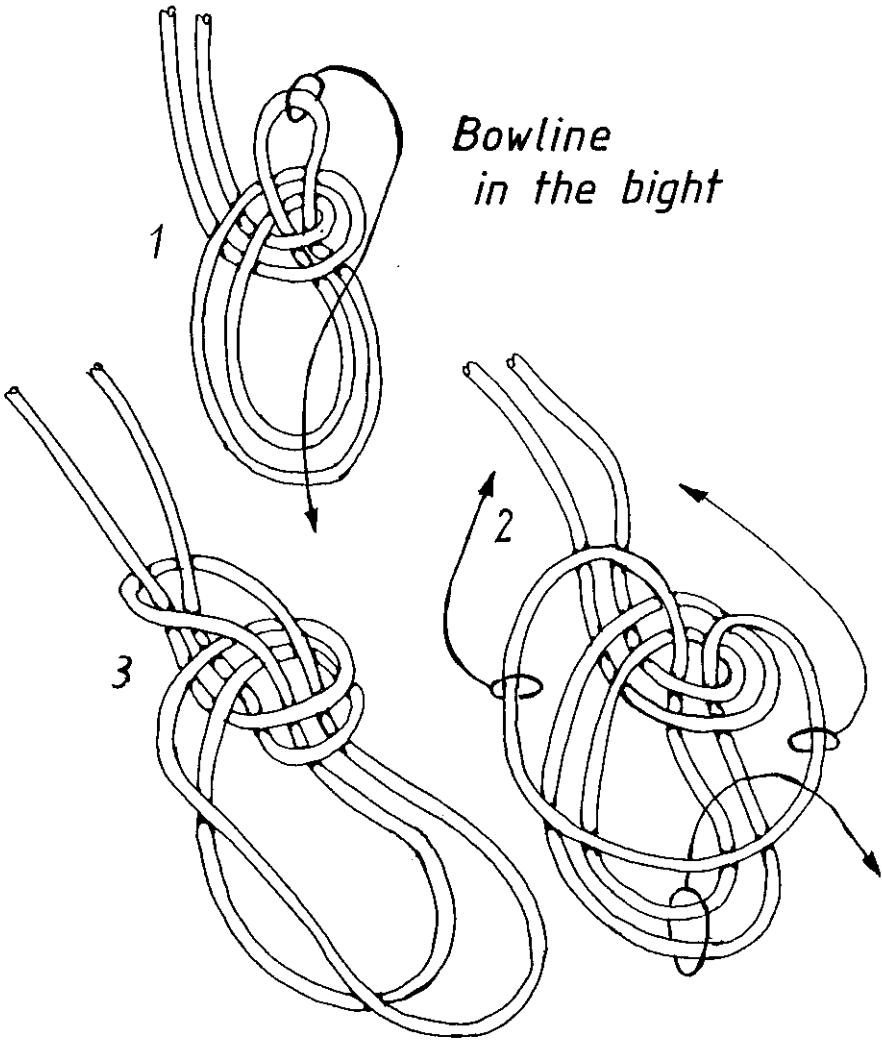
Knotmaster Series No. 14

*"Knotting ventured -
knotting gained"*

Bowline in the bight

Of the several twin fixed loop knots, this classic remains as efficient and effective as most, and it is tied without access to an end. Form a long bight and begin as for a common bowline with the doubled line (fig. 1); but pull the single upper bight forward and down, then lift the two lower bights up and through it (fig. 2). Finally return the initial bight to behind the top of the knot (fig. 3). The result is an orthodox bowline layout, doubled throughout (except where the single bight encloses standing part and shorter end).

*Bowline
in the bight*



The Gourock Logo

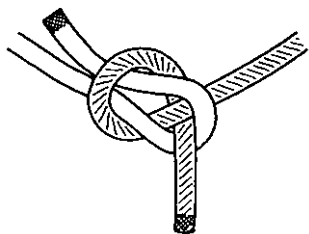
from Heinz Prohaska

Page 38 of KM 74 showed the logo of the Gourock Ropework Co. Ltd., Glasgow in connection with the question what knot on this logo would be portrayed.

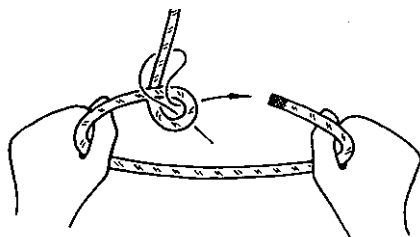


ESTD. 1736

It's a 'ring-loaded' bowline, as German mountaineers say, with one rope end lying outside of the rope ring instead of inside, and the other end lying beside the rope ring instead of being in some distance to it.



Made with a rope of hemp of 1736, this joining knot was perhaps safe. That's a question for the sailors in the guild. Tied in a modern smooth and stiff climbing rope of polyamide, it can easily be untied between the hands as soon as it is even a little loose. This was my first knot test and the reason to eliminate the bowline in mountaineering as knot for tying on in the German area about 25 years ago. Accidents in the following years proved that this elimination had been necessary.



Back to the logo of Gourock. A similar case was the old badge of the UIAA *Union Internationale des Associations d'Alpinisme* which was used to mark ropes complying with their standards (fig.4). The artist drew a rope ring closed with a thief knot - also shown in an unusual and unstable appearance. A comparison of both versions is shown in fig. 5.

Both knots, the 'ring-loaded' bowline and the thief knot, have really been used in mountaineering in the German area.



The 'ring-loaded' bowline for a simple chest harness, and the thief knot for joining ropes for abseiling.

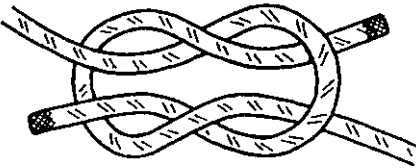
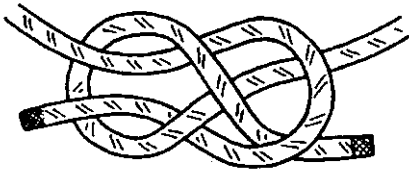


Fig 5

from Chris Castillo

In issue 74, the question was posed as to what knot was portrayed on the logo of the Gourock Ropework Co. Ltd.

At first I tried to trace the knot from one end around the loop and through to the other end. I too realised that it was impossible. It soon became apparent to me that the loop and the knot should be considered separately.

The impossible knot is really just a figure-of-eight knot superimposed upon a loop of rope. However, the figure-of-eight knot is slightly distorted. The end on the right appears to pass behind the rope loop just before it passes through the bight on the right.

The picture has had the loop coloured black to help the figure-of-eight knot stand out, and the distortions are indicated by arrows.



A. The knot loses its smoothness as it turns sharply down.

B. Figure-of-eight passes behind the loop slightly

Well there we have it. Three explanations (including Tony Doran's in KM 75) for the Gourock Ropework logo. All are reasonable and may be copied in rope, or was it just an artist's impression? - Ed.



During May, the Guild marked its 20th anniversary with a weeklong event of knotting displays, demonstrations, the AGM and a Knot Tyer's Supper. This ambitious event was the brainchild of retiring chairman, Ken Yalden. Yet the week was only the culmination of an idea that started much earlier.

At the AGM at Gilwell Park in 1999, the idea was floated to commemorate the Millennium with a knot-tying event. It was also suggested that the Guild should mark its 20th birthday with something special, and Knot Year 2K2 was born. The details were introduced to members at the half-yearly meeting at Guildford, and 2K2 was up and running.

Knot Year 2K2 started at sunrise of the Millennium. The idea, first proposed by Tony Fisher (New Zealand Chapter) was each member should tie a Turk's Head as the first knot of the new Millennium. While the idea changed slightly, members were encouraged to tie a knot and send details of place and time

in on a postcard.

A 2K2 survival kit was issued, so that when any public display or demonstration was undertaken, people would know it was part of a worldwide display.

We were encouraged too make and send in a knotted birthday piece, either a bellrope or a piece of macramé. Each piece would have a small flag denoting the country of origin. These were displayed at the birthday in Fareham and



be displayed at knotting events around the world.

The culmination of Knot Year 2K2 was the event at Fareham. Fareham Borough Council supported the activity as their part of the Queen's Golden Jubilee celebrations, providing much of the logistical support, thus saving the Guild a lot of expense. For their assistance we are extremely grateful.

To say that this has been the Guild's most successful event would be an understatement. This is due in no small part to the efforts of Ken, assisted by his partner Lesley and the members of the Solent branch.

The Friendly Guild

The 20th Annual meeting of the IGKT is not yet over, but nearly so. I am not looking forward to its conclusion, I would like it to go on longer but the end is fast approaching. What is it that has made this meeting more special than any other I have attended?

It isn't just the displays of intricate and finely crafted ropework. I can marvel and be inspired by that through the pages of Knotting Matters. It is the people, the members of the Guild, their partners and the visitors.

There is a buzz about the place. People are talking, laughing and joking as though they are old friends who have not met for a long time. Many have never met before except through the pages of KM or corresponded by letter or email. And yet they chat and joke like long lost cousins. And it doesn't matter whether you're a long time member or a new one - the result is the same.



John Burke watches Ken Nelson decorate a walking stick.

We're not just the knot-tying Guild; we're the friendly Guild.

Yes, I will be disappointed when this week ends. I have learned a lot, but more importantly my life has been enriched by the friendship I have found over this week. I will go away a happier person.

(Written on the Thursday evening of the 20th Annual Conference and Exhibition of the IGKT)

Colin Grundy

A New Family of Freinds

“When your husband belongs to some organizations, there is no way a wife can be involved, but not so with the IGKT.



The Millenium Knot display

Not only have we travelled to different places in the U.S.A. but now I have travelled to the UK because of the IGKT.

We have belonged to the “Boy Scouts of America” family for about 20 years. I have always said, ‘ You never meet a stranger in the BSA, no matter where you go’. Now after attending the “20th” in Fareham, I feel we have a new family of friends. Everyone was so nice, friendly and helpful. I now have made my very own “Light Pull”, thanks to Jumper Collins

I can also put faces with names, that I have heard over the eight years John has belonged to the IGKT

Thanks to everyone that helped make our visit to the UK so enjoyable.

Kay Burke

Knottting Academy Day

When one visits the web page of The International Guild of Knot Tyers this message appears as a mission statement:

“We are an educational non-profit making organisation dedicated to furthering interest in practical, recreational and theoretical aspects of knotting. Our aim is to preserve traditional knotting techniques and promote the development of new techniques for new material and applications. We attend public events to advertise the Guild and its work, and conduct talks and demonstrations by arrangement with interested groups. We keep in touch with each other by correspondence, by holding regular meetings and exhibitions at both international and regional levels.”

This mission statement became a fact on Wednesday, May 22, 2002, during the

week long 2K2, 20th Birthday Celebration of the Guild. This was Knotting Academy Day. This was the day that 2K2 attendees could take instruction in various knotting skills in small classes conducted by some acknowledged experts. The topics presented were a mixture of traditional work, like canvas sewing by Louie Bartos, to some innovative tying techniques, such as Frank Brown's little knotted bears and Ed Morai's unique flat star knots.

The day was scheduled with four classes in the morning and four in the afternoon. The morning sessions included Jeff Wyatt demonstrating the method of tying solid sinnets on a table, Jan Hoefnagel presenting braid in braid Turks Heads, Dan Callahan teaching his method of tying the star knot, and Gordon Perry demonstrating various techniques for tying bell ropes. In the afternoon Frank Brown instructed a group on tying his knotted bears, Ed Moria led his group in tying his flat star

knot, Louie Bartos instructed the fine art of sewing canvas, and Harold Scott presented cruciform Turks Heads. These sessions were conducted at tables for groups ranging from one to six or eight and the instruction at each table was uniformly well done and the learners enthusiastic. Gordon Perry, when he was not teaching or attending a session, vigorously guarded the doors to the room in order to preserve the learning atmosphere.

These sessions were not merely lectures but were hands-on teach and learn periods where individual attention was available for each learner as required. Where it was possible, the presenters supplied materials for his class to use during the session. Most of the presenters had packets of information that could be used during the instruction periods and for reference later.

Frank Brown conducts a masterclass in making animals from crown sennits



These sessions all demonstrated the sharing of knowledge that makes knot tying unique. Ashley mentions this several times in his “The Ashley Book of Knots” and, indeed, names several individuals who helped him as he “learned the ropes”. It was apparent that many of the learners acquired new skills that they could carry back and share with their local groups.

This is the way the Guild will succeed in making its mission statement become fact.

Gary Sessions

Presentations

I was asked to attend some of the presentations. I saw as many as I could but could not attend every one.

Knot table - Bernard Collins

Bernard required a lot of persuasion, by those who have seen his table in action. His talk was well received.

The Knot table is a teaching aid for Scouts or other groups so four pupils can tie the same knot at the same time. This stops one Scout looking at what another is tying and thus forgetting what he should be doing. It serves to maintain a bit of order as each pupil knows what is happening and if needs be can help anyone struggling.

Because the acoustics in the Meon suite were not perfect the audience had to listen carefully as Bernard does not talk loudly but given the visual nature of the table this was not a problem. A successful start to the week.



Louis Bartos talks about his research on the sail of HMS Victory.

Ashley Turk's Heads and TH variations - Patrick Lefour

Patrick came from Paris to explain the results of his research into Turk's Head knots. He has studied the families of these knots in Ashley and realised that they follow a mathematical pattern which means that any size can be made provided certain “simple” steps are followed.

Patrick has found a periodicity among the knots which allows him to say immediately if a knot can be tied with only one cord or will require more than one cord and how to manage when trying to tie unusual Turks Heads.

A study of the architecture of the knots has enabled him to produce a variety of fascinating examples - Turks Heads with windows, cut outs, at an angle and around corners - and to explain how these results can be achieved.

Iron Age Chariot - Richard Hopkins

There seems to be very little need to mention this because a full account of the work on the Chariot was given in KM. This talk had more illustrations than KM including some of the site from which the original remains were excavated together with some background on the history and archaeology.

As usual Richard talked for longer than he should but blames this on the questions which needed a full answer.

Classification of Knots - Frank Brown

Unfortunately I missed this and although I discussed it later with Frank I do not feel my comments would be valid in this context. He has done a lot of work on this but it is such a massive task that it will take many years of hard work to achieve his goal.

Europa Chang-Dawson holds a lace-making class with I - r Sheila Pearson, Lynn Brown and Pauline Bentley



The Fore Topsail of H.M.S. Victory - Louis Bartos

This fascinating talk was by someone who knows his subject inside out, both from the theoretical side of historical research and as a highly skilled, working sailmaker.

The recently discovered sail, showing evidence of battle, was examined in detail and comparisons were made with the sailmakers text books of the Nelsonian Navy and the actual practice as evidenced by analysis of the stitching and dimensions.

Louis brought the construction to life and his depth of knowledge and enthusiasm for the subject shone through.

Creating a Museum of Knots - Jan Hoefnagel

I missed this one.





Dan Callahan proudly displays this plaque from Mr Alan Davies, Chief Executive of Fareham Borough Council for contributing most to the exhibition.

The Chair Knot - Colin Grundy

Colin, a firefighter, has always believed his manuals, and when he saw that Geoffrey Budworth suggesting that one version of the Chair Knot was better than the version in his manual decided to put the two designs to the test.

After a brief history explaining how the knot was introduced, Colin compared various sources for the two points of view. Is the Tom Fool knot the best start for the Chair Knot or should it be the Handcuff Knot?

Exhaustive analysis of the test results by Colin indicated that within the bounds of error there was little to choose between the two starting knots. Altogether a fascinating discussion making me wish that this style of testing could be carried out more often and the results published so that we would have

solid facts to back our decisions.

I was unable to attend any more of the presentations.

Richard Hopkins

Fareham Conference

As the furthest travelled attendee in May, I wish to express my appreciation to the organisers.

Every few months, my day is made by the arrival of KM, my major contact with the Guild. Then there are the sad days when a notice of meeting at some Scout hall or training ship in Diddledum on Sands or other exotic place, and it is simply impossible to attend. This time however, I had the time, money and even something for “show and tell”.

The main thing that appealed was the unstinting manner that all members present so willingly shared their skills

Young Ben Corp getting to grips with a knot puzzle made by Anna Kuyienstierna and Jonny Ekdahl





An aerial view of the main exhibition hall.

and knowledge. Getting used to 15 regional accents after over 50 years out of the UK took a bit of effort, but that was not a big problem. I came, I saw, I learned, and I hope I contributed at least a little.

As a member of about 17 years, I have sometimes been a little resentful that I was subsidising, with part of my membership fees, meetings that I had no show of attending. Now I have attended one, assumedly partly subsidised by folks in similar situations, and I sincerely thank them for their contribution. I will never be resentful again. A major achievement of the meet was the distribution of knowledge of the craft, and if all the meets are as productive as Fareham, then the Guild is truly achieving its aims and objectives.

Frank Brown

Guild Smocks

Those of you who attended the Birthday Party and bought a smock from Footrope Knots will know that the idea was that profits from those smocks sold would enable a number of smocks to be given away to members who sent work but were unable to attend. [We thought that might make them almost feel that they had attended.] Due to the good uptake of smocks at the event, we are pleased to say that we have been able to send 16 smocks around the world. Liz and I would like to say a big “thank you” to all those who bought a smock. The people who were drawn from those who sent work for the event are:-

Michael Blake [UK], Jesse Coleman [US,(AL)], James Doyle [US,(MA)], Joaquim Paulo Escudeiro [Portugal], Jan Franklin-Regan [US,(OH)], Jorgen Friis-Christensen [Denmark], David Fukuhara [Canada], Rod Orrah [New

Zealand], Skip Pennock, [US (MD)], Gino Pietrollini [Italy], Joseph Schmidbauer [US(CA)], Robert Schwartz [US(NH)], Mike Storch [US(CO)], Albert Walton Jnr [US(FL)], Reg White, [UK (Wales)], Gert “Willy” Willaert, [Belguim].

We hope that they all enjoy their smocks and feel a real part of the INTERNATIONAL GUILD OF KNOT TYERS 20th Birthday Party. We are only sorry that we could not give still more away to all those people who supported the 20th birthday party but could not attend.

Des & Liz Pawson

Annual General Meeting

In his opening welcome, Brian Field said he was sorry that those members who arrived today (Saturday) had missed the main part of the event and the opportunity to partake in what had been a truly momentous occasion. He spoke of the friendship among the members from many countries that made the Guild what it is.

Nigel Harding in his Secretary’s report explained about the changes in his domestic circumstances and hoped that he would now be better placed to get on top of the Guild’s business. He also spoke about the ways in which the Guild was being administered. This would reduce the burden on his position as Secretary and ensure the Guild ran efficiently.

When he first took over it was necessary to administer the Guild in a more businesslike fashion. Now with the growth that has occurred - some 1200 members and rising - it must be put on a commercial footing.

Linda Turley (Treasurer) explained that the funds remained healthy and subscriptions would remain at their present level for the forthcoming year. Ken Yalden and Jeff Wyatt were both standing down having completed their term in office. In their place Ken Nelson and Charlie Tyrrell were both elected. Brian Field had offered himself for re-election for a further term with Jeff

Three people who worked hard to make the birthday happen, l - r Ken Yalden, Lesley Bell and Gordon Perry - and not forgetting the rest of the Solent Branch.





Sheila Pearson and Christina Smith raised an amazing £1100 selling raffle tickets - who could resist such charming ladies.

Wyatt being President Elect. This was carried unanimously.

In a break from tradition, the 'Portrait of a Knot-Tyer' was replaced by a series of keynote speakers. Geoffrey Budworth and Des Pawson as founding members of the Guild spoke of its formation 20 years ago and its future. Des commented, "We have come along way, but we still have a long way to go." Geoff supported this saying, "We must not be complacent." Des likened the Guild to a cable, the whole being stronger than the individual strands and stated, "The Guild must remain International."

Brian Field in his presidential address commented that three years ago, he promised to visit as many branches as possible. While he has visited a number

of branches, including many overseas, recent health problems has meant he has not been fully able to carry out his promise. He is getting better and will do the best he can.

There is no remit for the role of President, but he has tried to reach out to all the members in his letter from a President in KM. Also the Presidential Honours for members who have contributed to the Guild.

Brian mentioned three members in particular who he has been able to encourage to raise the profile of the Guild - Richard Hopkins for his work with the BBC television programme *Chariot Queen*, Skip Pennock for the publication by the Guild of his book *Decorative Woven Flat Knots* and Europa Chang-Dawson who is to publish a book on Chinese knotting.

"Serving the Guild is no burden - it has enabled me to keep going, I will not

be a lame-duck President,” he said. Brian was truly moved by the standing ovation he received.

Three speakers talked for the overseas branches, John Burke (NAB), Lindsay Philpott (PAB) and Gary Sessions (TxB). John said he was glad to be here and represent the North American Branch. He spoke of how he joined the Guild and the formation of the NAB.

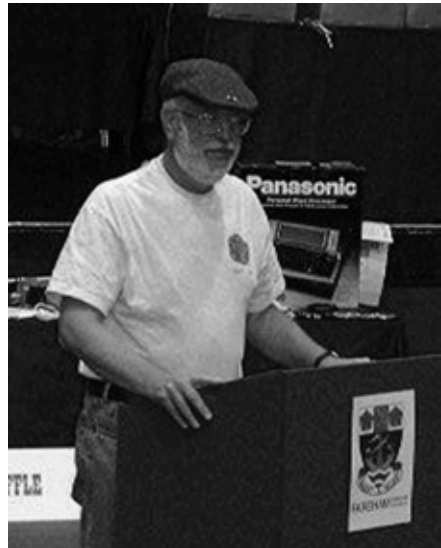
Lindsay hoped to increase the numbers in the Pacific-Americas Branch and contribute in some way to the whole organisation.

Gary explained about the Texas Branch and commented he and his wife Barbara were proud to have met so many people.

Following a break for the group photograph, Gordon Perry and Colin Grundy talked about Knotting Matters, Past, Present and Future. Gordon mentioned this was a unique occasion as all six editors of KM were present, being Geoffrey Budworth, Robert Jackson, himself, Lonnie and Margaret Boggs and Colin Grundy. Colin spoke of the changes in KM and the project to put all the back issues on compact disc.

Nigel Harding talked about the make up of the Executive Council and the meetings that were held at Wellingborough Bowls Club. “No knotting is done,” he explained, “It is purely a business meeting.” He thanked Ken Yalden for chairing the meetings and keeping the business on track, Ken’s favourite comment being, “All eyes in the boat.”

The meeting closed with the cutting of the birthday cake - magnificently made by Catherine Goldstone (Surrey Branch) - by Geoffrey Budworth, Des Pawson



Gary Sessions, a keynote speaker for the overseas members.

and Brian Field.

2K2 Dinner

The week-long activities culminated on the evening of Saturday, 25th May 2002, when 98 Guild members assembled at 8 p.m. in the Solent suite of the Ferneham Hall for a celebration dinner. It was a bitter-sweet occasion, despite the prospect of good company and food, bringing an end to our time together.

The session began with an apt and original Grace delivered in ringing tones - and a broad Yorkshire dialect - by Dave Pearson;

There’s fowk cum ‘ere from far an’ wide,

From ower t’watter too.

Sum cum be plane an’ sum be train,

Ta meet owd friends an’ new.

*Wiv' bin 'ere na' these last few days,
Wi' rope an' string an' cord.
An' as we're sittin' dahn to eat,
We ask yer blessin' Lord.*

The meal, laid on by an outside firm of caterers, consisted of a starter - leek and potato soup with crispy bacon bits plus croutons; the main course - roast leg of lamb cooked with rosemary, served with red currant jelly (or a vegetarian alternative), crisp roast potatoes, light roast carrots and parsnips, and florets of cauliflower in a cream source; a dessert - rich caramel mousse topped with a praline of roast hazelnut and almond toffee; followed by coffee and mints.

Ken Yalden proposed the loyal toast to Her Majesty the Queen. This was closely followed by Guild President Brian Field's toast to 'The Guild's Founders'. Two further toasts were, firstly, 'The Guild' (by Dave Walker) and secondly 'Absent Friends' (by Geoffrey Budworth).

Sheila Pearson announced that the daily raffles held throughout the week had raised a total sum just £1 short of £1,100, whereupon Solent member Martin Mosse promptly purchased an extra one pound ticket.

Winners of the special raffle held following our dinner - if my informants are correct (because I was distracted at the time) - were: Domenico Colonese (Italy) - pyrography picture with braided frame, by Jeff & Lesley Wyatt; Mick Jarman (Bedfordshire, UK) - a pair of traditional knotted chest beackets, by Karl Bareuther; Sheila Pearson (West Yorkshire, UK) - a unique macramé hanging, by Geoffrey Budworth; Ed Morai II (Maryland, USA) - picture in knotted and braided frame, by Bernard Cutbush; Derek Chipperfield (Kent, UK) - knotted Celtic cross, by Brian Field; (unidentified) - 2K2 birthday cake by Catherine Goldstone.

Shortly afterwards, the gathering dispersed. And, as we wandered off to our various hotels, guest houses, B-&-Bs and camp-sites, it rained. I nipped back for a final word with one of the organizers, only to find the catering staff stacking tables and chairs. The hall was otherwise bare. Our 2K2 celebrations were over.

Geoffrey Budworth

*What better way to round off the week
than convivial conversation at the Knot
Tyer's Supper.*



Two Ways to Design A Spherical Covering Knot - Part II

by Jesse Coleman

This note provides detailed instructions on how to design spherical covering knots. The first method was described in *Knotting Matters* 75.

How to Draw Plans for a Spherical Covering Knot:

Let's begin with a drawing of a 4B X 3L THK with all indication of which cords go over or under not shown. Draw a line through one of the triangles surrounding the central square. Make the line parallel to the inner line. Extend the line through the neighboring square and also through the outer triangle as shown in figure 8. The line that we are adding turns and heads back to the centre of the knot as shown in figure 9. Be sure to draw this line all the way around the outer bight before heading back to the centre of the drawing. Continue until the starting point is reached, as in figure 10. Erase all line crossings and redraw them, indicating a proper over/under pattern. The completed knot is shown in figure 11. This knot is almost identical to Ashley's knot number 2232, except that he used only one line in the drawing and one cord in the knot.

This method can be used on the drawing of any THK. I provide a drawing of another SCK designed by this

method. It consists of two 4B X 5L "THK's" woven together using this

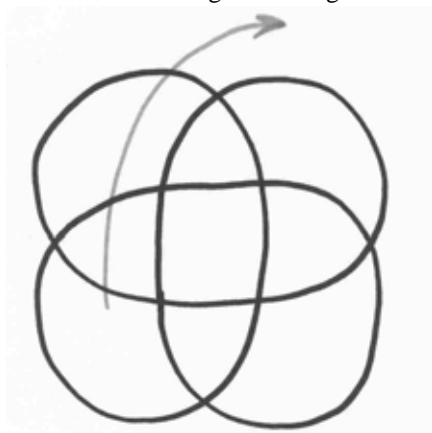


Fig. 8 - Drawing a Spherical Covering Knot (second method), the first three crossings of the second line.

method. The drawing is shown in figure 12. This past Christmas, I tied many Christmas tree ornaments using this knot plan. I used white and blue 6mm braided polypropylene cord on a 3in Styrofoam core. They now decorate several Christmas trees in northwest Alabama, USA.

The Shape of the Spherical Covering Knot

For SCK's designed by this, the second method, the SCK will consist of

two identical “THK’s” woven together. Both “THK’s” will have the same number of bights and the same number of leads. As before, the equatorial circumference will be twice the sum of the bights of the two identical “THK’s” and the polar circumference will be twice the sum of the leads of these two “THK’s”. Therefore, $PC = 4L$ and $EC = 4B$. A perfectly spherical SCK’s will require that $B = L$. For these perfectly spherical SCK’s, the rule of the greatest common factor requires that each “THK” be tied with B separate cords, so that the SCK would be tied with $2B$ cords. The largest SCK that I have tied to date using the second method required 18 separate cords. Each cord made one circuit of the sphere. The work to be tedious, but not difficult. I prefer to work with many relatively short cords

than with fewer longer cords.

The Size of the Spherical Covering Knot

For a spherical covering knot made by this method, the crossing number is given by $CR = 4B(L - 1)$. That is, the number of small squares covering a SCK, made by this method, will be $4B(L - 1)$. Notice that the crossing number for this type of SCK is four times the crossing number of the “THK’s” that were used in its design.

This table provides the crossing number or the number of small squares that cover a SCK made by this, the second method. The cells with the bold font are for those SCK’s that are perfect spheres.

		B= 2	B= 3	B= 4	B= 5	B= 6	B= 7	B= 8	B= 9	B=10
		8	12	16	20	24	28	32	36	40
L = 2	8	8	12	16	20	24	28	32	36	40
L = 3	12	16	24	32	40	48	56	64	72	80
L = 4	16	24	36	48	60	72	84	96	108	120
L = 5	20	32	48	64	80	96	112	128	144	160
L = 6	24	40	60	80	100	120	140	160	180	200
L = 7	28	48	72	96	120	144	168	192	216	240
L = 8	32	56	84	112	140	168	196	224	252	280
L = 9	36	64	96	128	160	192	224	256	288	320
L= 10	40	72	108	144	180	216	252	288	324	360

Table 2, Crossing numbers for spherical covering knots designed by the second method. B and L refer to the number of bights and leads in the two “THK’s”.

Numbers in the second row are the equatorial circumferences for SCK’s with the indicated numbers of bights. Numbers in the second column are the polar circumferences.

Spherical covering knots designed by this, the second method will also have

the barber pole pattern when tied with cords of different colors. Suppose that

the SCK is made using this method with a red cord and a blue cord. The top of the SCK will consist of four red squares and will have 2B stripes leading to the bottom which will consist of four blue squares. The red stripes will join with the red square and all blue cells will also join. The patterns of the two colours are identical, symmetrical and interlocking. The length of these stripes is given by the formula: Length = 2L - 3.

An Example of Design Using the Tables

The Christmas tree ornaments that I tied used the second method and 4B X 5L “THK’s”. They were tied using 6mm cord, doubled twice on 3 inch diameter Styrofoam spheres. According to Table 1, this knot has 64 crossings or cells, an EC of 16 and a PC of 20.

I wanted to use a 4 inch ball and the same cord, doubled twice for my next knot. My first problem was to determine the crossing number for the knot that would cover this cell. The crossing number is proportional to the surface area of the sphere and that is proportional to the square of the diameter. I set up the following ratio:

$$X / (4 * 4) = 64 / (3 * 3),$$

where X is the crossing number for the knot to cover the 4 inch ball. I calculated X to be about 114. I chose the SCK (second method type) with the “THK’s” that were 5B X 7L. This knot has a crossing number of 120, an EC of 20 and a PC of 28. It is quite attractive. However, the cells near the small gaps equator are stretched and there were small gaps between them. This SCK is somewhat prolate. I wanted

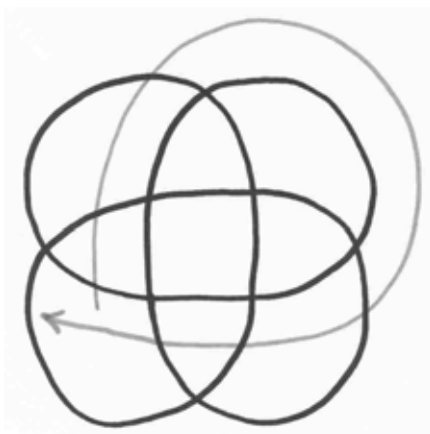


Fig. 9 - The first partial circuit of the second line.

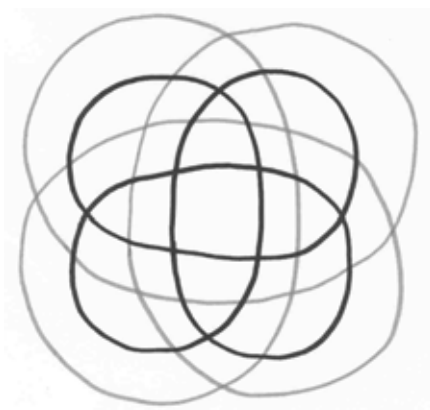


Fig. 10 - The completed circuit of the second line.

a SCK that was more perfectly spherical.

I should have anticipated the problem with the gaps between the cells near the equator of this knot. The circumference of a sphere is proportional to the diameter and we can calculate the desired EC using this formula:

$$Y/4 = 20/3,$$

where Y is the equatorial circumference of the SCK tied on the 4 inch sphere. I calculated Y, the desired EC, to be about 27. The knot I chose to cover this sphere had an EC of only 20. That is why there were fairly large gaps between the cells around the equator of that knot.

My next SCK was also on a four inch ball. To make it more spherical, I used the second method SCK with the 6B X 6L “THK’s”. This SCK is “perfectly spherical” and also has a crossing number of 120 and an EC and PC of 24. It was tied with 12 separate cords. The SCK was also quite attractive and the problem of stretched cells around the equator was solved. However, I was unable to draw up the gaps at the two ends of the SCK. The two ends were six sided cells where the cords were pulled away from the end causing a hole about an inch in diameter where the Styrofoam could be seen.

My next SCK covers a six inch ball. Bigger is better and I am now designing a SCK for an 8 inch sphere. Setting up a similar ratio, I found that a knot with a crossing number of 256 would be appropriate on a ball with a six inch diameter using this type of cord. I chose the second method SCK with the 9B X 8L “THK’s” (CN = 252, EC = 36 and PC = 32). I extended the drawing one lead on both ends of the SCK in an effort to close up the large holes that I expected because of the 9 sided cells on the ends. This required 18 separate cords and many hours of work, but the resulting knot is attractive. The end holes are about an inch in diameter. The above formula estimating the EC indicates that a desirable EC would be 40, close to the EC of 36 for the knot that was used.

Once I find an attractive SCK for a given cord (I usually double knots twice) on a



Fig. 11 - Spherical Covering Knot (second method) starting with a 4B x 3L Turk's head knot, similar to Ashley's knot #2232.



Fig. 12 - Spherical Covering Knot (second method) starting with a 4B x 5L Turk's head knot.

given diameter sphere and want to tie a similar knot on a different sized sphere I use these ratios to determine the desired crossing number and EC (and PC) and look on Tables 1 and 2 to find an appropriate SCK. The EC and PC are usually about the same for spheres.

I am working on another note to KM describing additional methods for tying SCK's that solve the problem of the gap at the ends of the above SCK's and allow more flexibility in designing SCK's.

Converting a Two Cord SCK to a One Cord SCK

I prefer to tie a SCK using two cords so that I can enjoy the contrasting colours and their interesting patterns. Occasionally, I tie a more traditional one using cords of the same colour, but still two separate cords. Suppose you wished to produce a drawing of a SCK using one of the methods discussed here, but you wished to use only one cord instead of two cords. How could you modify the one of these two-cord drawings to accomplish this goal?

Let's compare part of figure 6 to part of Ashley's corresponding drawing number 2218. Figure 13 shows nine cells in the lower right of figure 6. Figure 14 shows the corresponding part of Ashley's figure. These two figures illustrate how the modification from two cords to one cord can be accomplished. The numbered crossings in figures 13 and 14 are those that remain unchanged in the modification.

In figure 13, notice that the line passing through crossings 17, 23 and 2 is from the 4B X 5L "THK" and the line passing through crossings 49, 30, 36 and 8 is from the 4B X 3L "THK". These two lines represent separate cords. These two separate lines are connected in figure 14 by joining crossing 17 to crossing 30. It is not clear to me exactly how the starting point (no. 1) and the end(no. 50) go over or under their

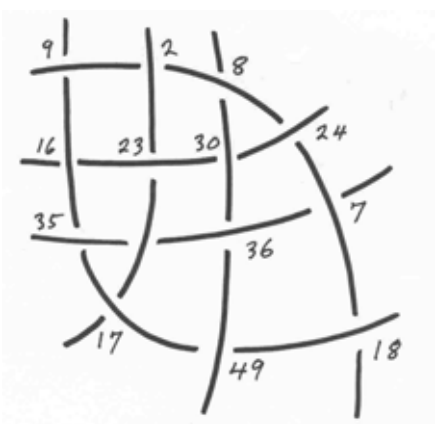


Fig. 13 - Nine cells in a two-cord Spherical Covering Knot.



Fig. 14 - The conversion from a two-cord Spherical Covering Knot to a one-cord SCK.

neighboring cords, but it probably does not matter as these two cord segments are ends and are tucked under. Also, notice that, in figure 14, crossings 29 and 30 are two consecutive overs and violate the usual over/under weave pattern. Harold Scott in KM 38 explained how to convert this and other of Ashley's SCK's

to two-cord SCK's. He also mentioned this problem with the over/under pattern.

Notice that Ashley counted 50 crossings for his version of this knot and I predicted 48 crossings for my version. When Ashley connected crossings 17 and 30, he added two crossings for the two new ends, accounting for the difference.

Spherical covering knots may be designed in different ways. Ashley and also Geoffrey Budworth (*The Complete Book of Decorative Knots*, 1998) present several interesting SCK's that seem to be designed by methods quite different from those shown in this note.

A Decorated Knife and Sheath

by James L. Doyle



This knife and sheath has been decorated using cotton seine twine. The handle has from top to bottom:

- 8 lead 7 bight Turk's Head knot
- Overhand grafting
- 3 Lead 8 bight Turk's Head knot

The sheath is from top to bottom:

- 3 lead 8 bight Turk's Head knots, over, needle hitching - right to left - left to right - right top left.

All knotwork has been treated with Ben Moore's 'Stay Clear' high gloss acrylic polyurethane varnish.

Wanted Guild Librarian

The Guild is still seeking a member to take over as custodian of the Guild Library.

Enquiries should be made to either
Nigel Harding, or
Colin Grundy

Bowstrings - Part I

Some History and Crossbow Strings

by Richard Hopkins

As knotters know, our hobby involves almost the oldest technology known on the planet, after pointy sticks and sharp stones.

Because of the nature of the materials used there is very little evidence left to indicate the techniques and methods used to produce cord and tie knots, but we can be sure that cord was present because of the existence of hafted tools and especially of very early stone arrowheads. Without cord there can be no bows shooting arrows.

Evidence has been found almost all over the world that archery was known to nearly every primitive people and it has developed with refinements over the millennia to become today's leisure activity. Although hunting is still carried out, and bows are weapons of war among Indonesian tribesmen and in the Amazon basin.

As a result of the importance of the bow in English history there are many expressions derived from archery including: fast and loose, in my opinion an archery expression before the explanation given in Brewer's *Phrase and Fable*, drawing the long bow, and having a second string to one's bow.

This last shows the importance of cordage in an historically very important

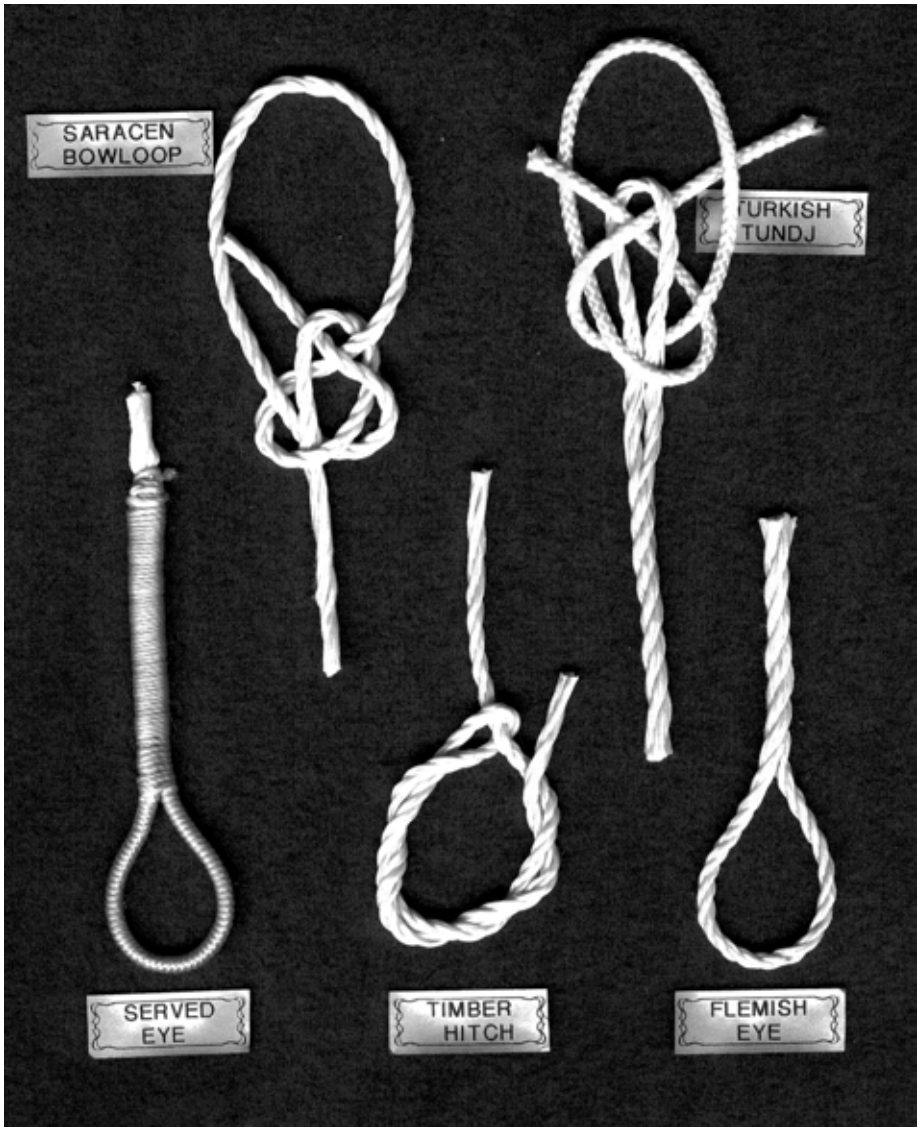
field. A fine but strong and reliable cord is required, able to withstand the shock and repeated strain of shooting without breaking too easily.

Should anyone not know, a bow is just a bendy stick with its ends joined by string. Over the several thousand years that the bow has been in use, either as a deadly weapon of war, instrument of the chase, device for pest control or a recreational tool, that string has been made from an amazing range of materials.

Bowstrings have been made from almost every possible vegetable fibre, from intestine, sinew, leather, silk, hair, wood, wire and now from synthetic fibres. There are records of Saracen strings made from human skin, and Swedish fox crossbows (pest control or fur gathering) using just three iron chain links. I do not count rubber, where any power comes from the elasticity of the string rather than from the bending of the limbs of the bow.

Techniques involved have included twisting, spinning, braiding, plaiting, and even, as above, blacksmithing.

You may find bows with a braided nylon string where the loops are secured by metal clips or staples. As you walk away, shuddering at the crudity,



remember that silken bowstrings were also used to dispatch unwanted members of the Sultan's harem, and you can reflect on other suitable candidates for this treatment.

Fitting the string to the stick can also

be done in a variety of ways, from whipping the ends in place, using eyes (of various construction) in one or both ends of the string, to tying loops in another loop at the end of the bow. The Turkish

“tundj” is an example of this last method (Ashley 1030). The extra loop may be of tightly twisted sinew, which would not chafe against the bow as much as silk and could be replaced without much cost when it did wear through.

Ashley also shows (1024) the bowstring or Honda knot, and a knot with some similarities to the tundj at 1029.

Nowadays, commercially produced strings, made to fit the factory-produced bows, usually have an eye in each end of the string. In order to accommodate the range of bow sizes, the strings are made in short increments to suit the most common bow lengths. The eyes, however, are usually of different sizes. The small eye fits over the lower limb and remains in the lower nock, while the upper eye is larger so that it may be slid out of its nock and down the upper limb when the bow is unbraced. The central serving on bowstrings is also not symmetrical about the middle of the string but the reasons for this need not concern knotters although putting a string on upside down will cause some interesting technical problems.

Traditional longbow users, however, since their longbows are most often made to measure, generally prefer a string with only one eye for the top of the bow. The lower end is fixed with a timber hitch. This allows for correct fine adjustment of the string, as the characteristics of a bow can alter during the course of a day’s shooting. This is more noticeable with wooden bows than with the modern laminated materials found in hi-tech bows.

In England, the bow developed from the short tool of the common man into an efficient hunting and war weapon, influenced greatly by the longer and

more powerful bow, used to great effect by my Welsh ancestors against the English. The quality of the bowstring then became of paramount importance but very little was done officially to ensure a reliable product, although bowyers and fletchers already had their own Guilds to ensure quality control of their products i.e. bows and arrows.

After Agincourt in 1415, there were probably several dissatisfied customers among the remains of the army of Henry V. In 1416, bowstring makers petitioned the Mayor and Aldermen of the City of London for a Warden who would be responsible for inspection and quality of bowstrings as “they were being blamed for many soldiers having lost their lives as a result of defective bowstrings”.

In those days, bowstrings were generally made from raw, undyed silk, linen or hemp thread, using perhaps 60 or more threads, stranded together and treated with wax and a waterproofing glue. Ideally the hemp threads were produced from the female hemp plant; those made from the male plant being considered worthless.

Strings today are generally about 2mm diameter but study of the nock dimensions of some primitive arrows suggest that they may have used strings of up to 5mm, possibly made from twisted gut or sinew which needed the thickness to give the strength required. The nock is the groove in which the string fits, at the end of a bow or arrow.

Nowadays, although some purists may still use linen thread (e.g. Barbour thread), many strings are commercially made using Dacron, Kevlar, Spectra or Dyneema, and the same materials are also used for custom stringmaking.

Selection of the thread depends on the requirements of the archer, some

needing a forgiving string, while others need a string that allows the bow to react rapidly and so make the arrow fly a little faster and flatter. Detailed explanations for the choice of material are outside the scope of this article, although the degree of stretch is important, as is the application or particular discipline followed by the individual archer. One of archery's attractions is the range of techniques and interests that may be followed by an enthusiast.

Many strands are needed to produce a safe, reliable and effective bowstring, but stronger modern materials can use fewer strands. Although there is still a rule of thumb that the string should be at least five times the draw weight of the bow, in order to be able to cope with the tremendous momentary strain when the arrow leaves the string and the bow snaps back into its braced position. The arrow might be going as fast as two hundred feet per second and gets all its "oomph" from the push of the string in the arrow nock, caused by the rapid straightening of the bow limbs when the string is "loosed".

Thus, for a bow of 50 pounds draw weight, you would need at least 50 strands of 5lb linen thread, but only six of 50lb Dacron. In fact you would use more strands of Dacron, usually between ten and sixteen, in order to build the thickness of the string, and we get a figure of six strands in this example, not five as the calculations suggest, because of the method of construction.

If taken care of, such a modern Dacron string should be good for a few thousand fun shots before needing to be replaced, although some repair to the serving may be called for during this time. Competitive archers get through strings more quickly. Kevlar has a shorter life

than Dacron, but some of the latest synthetic fibres claim a life of up to 25,000 shots, although they are not as forgiving to the bow.

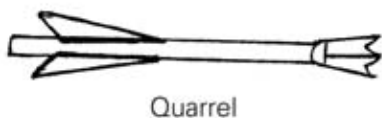
An accessory always associated with bowstrings is the bracer. This is a protective shield made from almost any suitable material (horn, bone, leather, silver, plastic) that saves the tender skin of the forearm from the impressive bruising that occurs when a bow is released with the various parts of the anatomy in slightly the wrong position. After release, the string vibrates and if the technique is not perfect this vibration is damped by the inside of the forearm. It hurts. Bracers have been found wherever bows have been used. They are not, of course, needed for crossbows.

There are various special strings such as double strings held apart by small bridges for stone or pellet bows and with a pocket for the projectile. *Stone's Glossary* depicts a Chinese bowstring made of two long narrow paddle shaped pieces of wood with a loop fixed at the broad end of each paddle to attach to the bow while the other ends were joined by a small cage for the ammunition.

Then there are crossbow strings which could be as thick as a little finger and could easily require at least 150m of fine, well-waxed 20lb linen thread wound between two pegs set about 5 metres apart. The distance between the pegs was chosen to match the length of the string. The hank produced was folded several times to give a string of the correct length. The end loops were served and then the string was frequently dressed with a thicker thread, i.e. cockscombing.

The centre of the string was served tightly. These strings do not fit an arrow nock, but presses against the flat back

end of the bolt or quarrel. Their eyes do of course fit the nocks of the crossbow limbs.



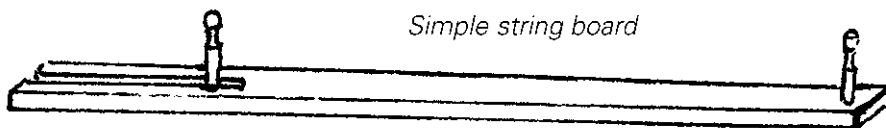
Digressing - the term quarrel, now indicating a disagreement, stems from the four (quatre) pointed head of a crossbow arrow designed to discourage the wearer of plate armour. When used against flesh it had characteristics akin to a dum-dum bullet. Given a serious dislike of ones opponent, choosing a quarrel indicated a desire to cause distress above and beyond the call of duty.

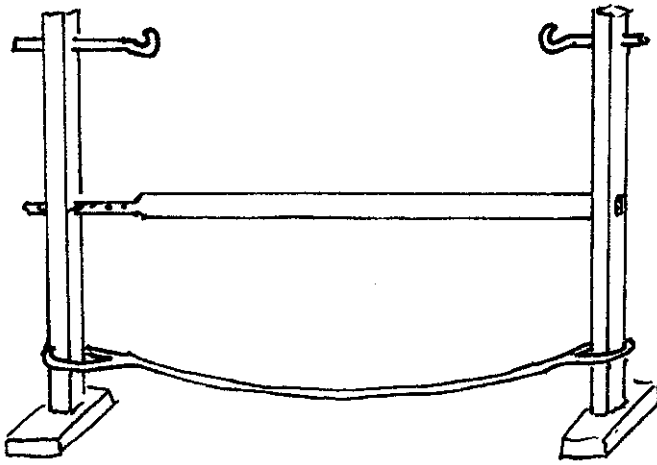
A light crossbow string may be made on a simple stringboard and will only require 100 strands of thread. The distance between the outsides of the pillars is set to be the string length plus 1/4-inch. Start by tying one end to one pillar, wind around the pillars until you have made 50 complete turns and then tie the ends of the thread together on the

outside of one of the pillars. Mark the exact centre between the two pillars and 1.5 inches either side of this. Put a tight whipping on each of the two bundles of strands for the three inches between the marks. These whipped sections become the end loops and after fitting around the bow nocks are whipped together firmly for another inch or two. The centre of the string is also whipped. This finishes the simple sporting string, which may be given two or four twists before fitting to its bow.

For heavier strings the method described earlier may be followed, but the Chinese had a variation of the stringboard that made matters much easier. The Chinese form has two uprights separated by a central bar, which has a means of adjustment for length. There is a rope joining the feet of the uprights. Hooks of the dimensions of the required crossbow nock are mounted on the uprights. The distance between the hooks is set to the required length when the rope is stepped on (one upright can rock a little on the crossbar). The thread is then wound as before and the ends tied together. The string can easily be removed from the hooks by stepping off the rope and allowing the arms to move inwards. If required the sides of the eye loops can be whipped in situ on the frame, as the hooks are the correct size for the nocks.

This procedure is the same as for making a selvagee strop but without marling the strands. The serving and





cockscombing on the eyes and the centre holds everything together.

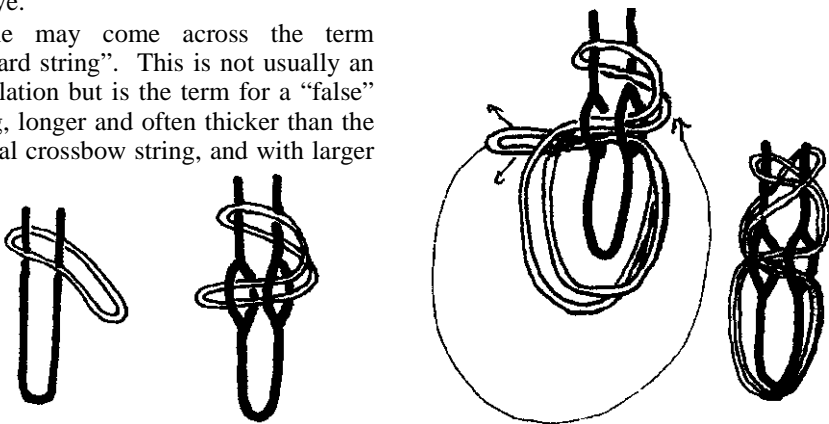
For a heavy crossbow the end loops may be reinforced with an auxiliary loop that is worked in around the eye before serving or cockscombing (see below). There are many possible ways of doing this but I have only shown one. It should be remembered that as the strands are parallel and not twisted. A similarly constructed reinforcing loop can be persuaded to fit snugly around the eye without distorting the smooth shape of the eye.

One may come across the term "bastard string". This is not usually an ejaculation but is the term for a "false" string, longer and often thicker than the normal crossbow string, and with larger

loops, used as an aid in stringing the crossbow.

The important thing with all bowstring manufacture is to try to get the tension in all the strands to be even so that undue strain is not placed on one strand and thus create a weak spot. A breaking bowstring can cause a lot of damage and frequently can break a bow.

Next time I will explain how to make a string for a modern bow and for a traditional long bow.



Branch Lines

New Zealand Chapter

New Zealand Patron and International Vice-President, Professor Vaughan Jones has been awarded one of New Zealand's highest awards: The Distinguished Companion of the New Zealand Order of Merit (DCNZM), which is equivalent to a Knighthood. This is awarded for his services to Mathematics. We here in New Zealand are very proud of this distinguished Guild member. Vaughan has expressed to me how much he values his association with the Guild, particularly meeting with members within the USA.

My wife, Carolyn has won a teaching job at Hall Mead Secondary School, Upminster and we will be shifting to England for a year from 20th August 2002. During my time in England, I hope to attend as many Guild meetings as possible. In particular, I would welcome hearing from any height workers who are Guild members; riggers and others interested in heavy lift/crane operations. I have made contact with Roddy Coleman of the 'Golden Hinde' project and hear that the "Endeavour" may be due for work at Whitby in the near future. I would love to climb some significant bridges or structures whilst in the Northern Hemisphere! I will be bringing my Petzl C-71 harness and

associated gear with me. I can be contacted at: 4 Dorkins Way, Upminster, Essex: RM14 1XX. No phone numbers or e-mail contact just yet!

I hope that the celebrations went well...looking forward to meeting you soon.

*Tony Fisher
President*



The Royal New Zealand Navy have issued for the first time a badge to recognise the rate of Able Seaman, it is the venerable Figure of Eight displayed here on the arm of a Maori AB. (Roger Carter)

Postbag

The views expressed in reader's letter do not necessarily reflect those of the Council. The Editor reserves the right to shorten any letter as necessary.

More on Tethering Goats

The letter in KM 74 about tethering goats for milking rang a bell.

While at school (in the 1930's) we lads often played with a piece of cord. One trick was to drape it over your hand - loop it around each finger in turn - then pull it off in one movement.

I can't remember who taught us to do it, but I was certain I've seen it in print somewhere.

Sure enough, it is in the *Ashley Book of Knots*, in Tricks and Puzzles #2602.

It might not be the same knot used for tethering goats, but it's an example of how it could be done.

Bob Stroud
Dover, UK

Errata

In the letter by Richard Hopkins asking about a method for tethering goats, he mentioned a photograph in the *National Geographic Magazine*. It should have been the June 1989 edition not 1987 as published. Richard says his fingers slipped.

Sorry if you have been searching without success, but I am sure you found something interesting to catch your eyes. The article is about Tibet.

Stays Clear

I have been using a product on my knotwork that I thought might be of interest to other members of the Guild.

The product is made by Benjamin Moore and Co. and is called *Stays Clear* acrylic polyurethane high gloss #422. It covers well but does not hide the detail of the work like paint does.

James L. Doyle
Salem, USA

Fisherman's Knot Anomaly

I had a lot of fun coming to a conclusion on the Fisherman's Knot Anomaly posed by Geoffrey Budworth (KM75 p36). My preferred method of tying has always been to tie the right hand working end 'over, around, over and through' then rotate 180deg bringing left side to right and repeat. This approach naturally results in the 'Orthodox' configuration. I find this is much more pleasing aesthetically than the 'Irregular' configuration and probably not much else to distinguish them however, if you compare the two configurations on a 'double fisherman's' the 'Orthodox' maintains its symmetry while the 'Irregular' becomes

increasingly distorted and therefore (in my opinion) inferior. Conclusion: better to have a common approach to both singles and doubles so; "I'm definitely with you on this one Geoffrey!"

Assistance please. Can any members offer advice on how to create a nice taper on a Bell Rope? Thank you.

*Jim Caswell
Sydney, Australia*

The Dulcibella Hitch

At the risk of trying to teach a few grandmothers to suck eggs, may I introduce a new application for one of Ashley's more obtuse knots. The knot in question is #1120, described as a Scaffold knot and found in the sub-

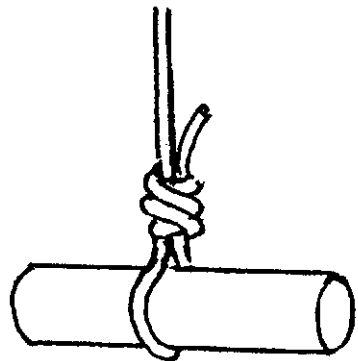
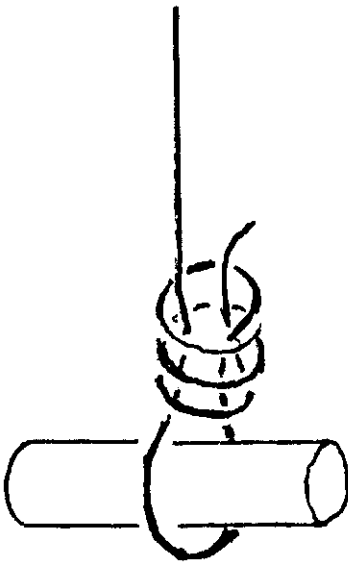
section devoted to hangman's nooses.

I would like to remove it from its morbid associations and reintroduce it in more respectable company. Tied in modern braided rope as a useful snug hitch. Furthermore I would like to name it the Dulcibella Hitch as it was aboard my friend's yacht of that name that I first met the knot in its new role.

Aboard the Dulcibella, this hitch replaces the rather bulky eye splice on all halyards. The long taper of braided rope eye splices tend to jam in the sheaves but the short length of the Dulcibella Hitch enables the halyards to be hauled chock-a-block.

The hitch shows no tendency to work loose, no matter how much slatting the sail may do. In fact it tends to work tighter making it an ideal semi-permanent hitch with which to replace an eye splice.

When one remembers to cost of modern halyards with an eye splice at



The Dulcibella Hitch

one end, it is good to know that it is fairly easy to undo the hitch and reverse to rope end for end should it become worn. For that matter cut off six inches and re-tie the same end ad infinitum!

Although nowadays most halyards are terminated by a stainless steel ring, the shape of the bight of the Dulcibella Hitch fits snugly into an old fashioned thimble, once again making a useful alternative to the eye splice.

Finally, although the true Dulcibella Hitch has three turns about its standing part, it can be tied quite successfully with only two, in which case I would suggest it would be a Half Dulcibella. Similarly the bight of the hitch could be taken completely around the spar or ring before completing the knot, making a Round Turn and Dulcibella!

As Davies tells Carruthers in *The Riddle of the Sands* by Erskine Childers, "That's the way we do it aboard the Dulcibella!"

Keith Paull
Bedford, UK

Bamboo Rope

Having read John Constable's letter in KM 70 on the subject of bamboo rope, I thought that both he and other members might be interested to know that the subject is covered in a book by G R G Worcester, called *Junks and Sampan of the Yangtze*.

Mr Worcester did a seven year tour of the entire river detailing all he saw (at the instigation of the Chinese Custom Service) to document virtually the history of the Chinese vessel in its

myriad forms. He finished just as WWII started.

The book is published by United States Naval Institute, Library of Congress catalogue - 68-54115, ISBN 087021-335-0.

Roger Carter
Plimmerton, New Zealand

Victory Sails

If anyone comes across any old documents related to the sails of HMS Victory or the Chatham sail loft, please pass the information on to me, it would be most appreciated. The correct e-mail address is: lbsail@marinersails.com

The address is incorrect in our membership handbook.

Louie Bartos
Ketchikan, Alaska USA

ROPE ENDS

'In all artistic endeavours . . . the worker should strive to extend the scope of the craft by the application of imagination, originality and experimentation. Many experiments will end in failure, or, at best, only limited success, but an open-minded attitude towards new approaches and techniques is of great importance.'

Stuart Grainger
An Introduction to Pyrography -
1982, 2001

Knotting Diary

AGM's & 1/2 YEARLY MEETINGS

IGKT Half-yearly Meeting

Hanover International Hotel,
Bromsgrove, Worcestershire
11th - 13th October 2002
Contact: Bruce Turley
Tel: 0121 453 4124
E-mail: bruce.turley@blueyonder.co.uk

21st AGM

TS Weston, Weston-super-Mare
9th - 11th May 2003
Contact: Nigel Harding
Tel: 01825 760425
E-mail: nigel@nigelharding.demon.co.uk

BRANCH MEETINGS

West Yorkshire Branch

17th September & 19th November 2002
Beulah Hotel, Tong Road, Farnley, Leeds
Contact David Pearson
Tel: 01502 519123

Midlands Branch

14th October & 9th December 2002
The Old Swan (Ma Pardoes), Halesowen
Road, Halesowen
Contact Nick Jones
Tel: 01384 377499

East Anglian Branch

28th September 2002
Museum of East Anglian Life, Stowmarket,
Suffolk
Contact John Halifax
Tel: 01502 519123

West Country Knotters

28th September & 30th November 2002
Almondsbury Scout Hall, Almondsbury Nr.
Bristol
Contact Tugg Ship
Tel: 01275 847438

EVENTS

Von Hundepints, Schweinsrücken und
Neunschwänziger Katz (Pointing,
Cockscombing and Cat o' Nine Tails)
Until 14th October 2002
Flensburg Schifffahrts Museum, Flensburg,
Germany
Contact Karl Barethur
E-mail: jacktar@foni.net

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The Knot Book	£3.99
Plaited Moebius Bands	£2.50
Knot Rhymes and Reasons	£1.50
Brian Field	
Breastplate Designs	£2.50
Concerning Crosses	£1.50
Eric Franklin	
Turksheads the Traditional Way	£1.50 *
Nylon Novelties	£2.00 *
Stuart Grainger	
Knotcraft	£3.60 *
Ropfolk	£1.30 *
Turks Head Alternatives	£2.20 *
Creative Ropcraft (Hardback - 3rd Ed.)	£9.95
Knotted Fabrics Hardback <i>price includes UK postage</i>	£9.00
John Halifax	
Something Different <i>with over 50 Button Knots</i>	£3.20
Colin Jones	
The DIY Book of Fenders	£9.95
Harold Scott	
On Various Cruciform Turks Heads	£2.50
Sliding Template Method for Designing Cruciform Turks-Heads Vol. 2	£3.00
Skip Pennock	
Decorative Woven Flat Knots	£12.50*
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