Knotting Matters

The magazine of the International Guild of Knot Tyers

Issue 92
September 2006

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Knotting Matters

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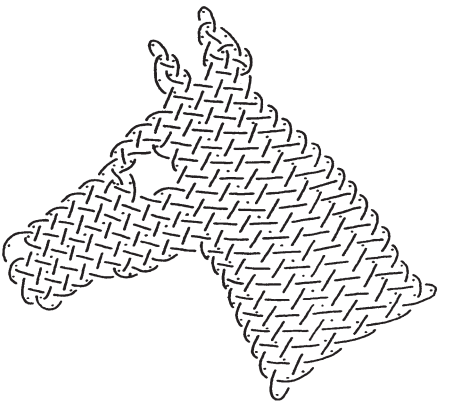
Issue 92 - September 2006 *www.igkt.net*

COVER PHOTOGRAPH

This issue features the work of Paulo Escudeiro of Portugal and his fine cotton work of chalices and key fobs.

Back Cover - a door knocker in the style of a chest becket by Madeleine Arnell, Sweden.



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Knots from the Mouse Pad

Dear Fellow Knot Tyer,

Here I am, the new "Hon Sec". I've been a member of the Guild for nearly 18 years and during that time I have not only been a Council member but for the last couple of years I've also been the Chairman of the Council.

After a long and loyal service, Nigel Harding retired as "Hon Sec" and I have taken over the post. I have had a lifetime of interest in knots, but it's since joining the Guild that I have discovered the true world of knot tying. I will waffle on about this in future KM's.

At the last Council meeting, it was agreed to invite Willeke Van der Ham, Europa Chang Dawson, Lonnie Bogs, Howard Denyer and Robin Gray to form the long awaited Education Forum under the Chairmanship of Charlie Tyrell. They are going to collect knotting projects to form a collection of teaching aids for all those members interested in bringing knot tying to the public. If you are already teaching this ancient craft, please let us know, by passing on any tips and ideas you may have. You may also have some thoughts on who we should be targeting and how we should be doing it. You can send your contributions to me and I will forward them on to the forum members. Hopefully you will see the results during our 25th Birthday celebrations at the AGM at Fernham Hall, Fareham, (hosted by the Solent Branch) and at the October meeting (hosted by the North West Branch) at Quarry Bank Mill, Styal, Wilmslow, Cheshire.

At the council meeting after the AGM, I was told to be mindful of costs. I am spending the members subs, therefore I intend to whenever possible, to communicate by email. The cost of postage is always going up and the amount of envelopes and paper that we use is frightening, however, don't let this put you off from sending me your letters. I will send a letter of response back, if you are not on the Internet yet. Be sure to send me your email addresses as you get them. Also, I'd be grateful if you could please send me any address corrections as and when you find them.

I am mindful that the more I write, the less space our editor has to give to explanations and drawings of knots.

I look forward to our next meeting and seeing you all again.

Happy knotting,

Dave Walker

2K7 Workshops, Demonstrations & Static Displays

I can have as many 'bright' ideas as I like, but what it most certainly will not do is suit all the needs of all the men (sorry ladies, that's just a saying). What I would really like is some input from you, and that means both ladies and gentlemen. So please let me have your thought so that we can know what you want.
The plan is to use the three days at the Red Lion as workshop days.
Subjects that can be covered are: -

* Make your own Ditty Bag- with tuition on hand sewing

* Make you own Ditty Bag Lanyard-

* Fancy Leather Work

These are just my ideas, so if you have a wish list of 'knotty' subjects you have always wanted to do, please do not keep it to yourself. It does not matter how big or small the project is, let us know well in advance so we can worry (I mean plan).

Alternatively, if you have a subject you would like to demonstrate, then again let us know and we shall gather some students.

Should you wish to give a lecture then please contact Gordon Perry so that he can work out the programme for the main event.

We shall try to be as flexible as possible, but two minutes notice of "Ken have you got a sky hook?" Could just get you a nautical answer.

However, if you are travelling by sea or air and can not bring all your equipment, please let us know your requirements in advance and we can then try our best to accommodate you.

Now is the time to get planning, and give Gordon or myself notice of what you would like or want.

Ken Yalden

Some members are already making their plans towards 2K7. Swedish member Jonny Ekdahl, well known for his puzzles at 2K2 has produced these ships of oak with 4L x 3B Turk's head napkin rings.

Presidents Letter

What better time to write a Presidents letter than after a good show.

The Solent Branch attended the 'Queen Elizabeth Country Park' Annual Show held on Butser Hill, which is near Petersfield Hants. Of course there is a down side to working on hills, and that is the wind, plus trying to display on lopsided tables, but as it is the twentieth show I have done on this site we have most things worked out.

The show as always is good value for families, and this year was no exception. It was better than ever for the IGKT, with a good gathering of knot tyers who are all good friends, some of which have travelled from far and near, for instance Jeff Wyatt our immediate Past President who drives down from Dunstable. In fact the show would not be the same with out him, not just because he has a big tent, however, I must admit joining his tent to Gordon Perry's did give us a palladium pavilion to work from in grand style.

This year was a first for the Solent Branch apprentice, young Josh Peake, and you can see his enthusiasm in picture form. At least it gives me hope for the future of the Guild, and I hope some of you will take heart and continue to encourage young folk to join your branch.

Talking of knot tyers and friends, Nigel Harding who is rather good at statistics has pointed out that for the first time ever, the guild has had a loss in membership numbers. My feelings are this could be a

partial administration error. We changed our system of subscription collection a couple of years ago, by passing subscription details to an organisation that specialise in handling charity groups. This I feel could be partly the reason as they are more focused on methods of payments and not friendships. This is at present being looked into by the Council, who are checking and double-checking everything to find out what has happened.

In the meantime I know of two long-standing members, both of which are personal friends, who had slipped off the database but are now safely back in the fold. It has been said more than once that we are a friendly Guild, so please check this years membership list with the last one, and if you have a friend who is not on the list, find out why, after all what are friends for!

We have another long-standing Guild member, who may look forward to some friendly contact from other knot tyers. Andrew Halcrow who is from the Shetland Isles, is sailing single-handed around the world. It is 19 years since he last made this journey with his brother as a companion. This time he has chosen to take his copy of Ashley and some back copies of KM as his companion. In his spare time Andrew is planning to tie the belt by Vince Brennan, shown in KM90 & 91, Technology has moved on since he last circum navigated in his 32 foot sailing yacht called *Elsi Arrub* because he can now be contacted by email: - elsiarrub@fsmail.net Whilst this will not dry out his bedding, nor his socks, it may give him a warm feeling that other Knot Tyers are friends enough to want to contact him. I'm sure we all wish him the best of luck.

Ken Yalden

Phew - Knotting Matters Settles Down at Last!

After all the movement of the KM postal address over the past few months, there is a final destination for your correspondence, that will hopefully remain the same in the future.

The Council have decided to use a Post Office Box number for the Guilds correspondence. This will mean in the future, that it will be easier to redirect mail should any of the officers of the Guild change.

The address is -

INTERNATIONAL GUILD of KNOT TYERS
PO BOX NO 3540,
CHESTER,
CH1 9FU.
UNITED KINGDOM.

Mail sent to the editor will find it way from this address to my inbox.

Regarding emails, occasionally members have phoned me to say that they have sent emails that have bounced! The direct email address for the magazine is

knotting_matters@btinternet.com

The address posted on the IGKT website, is a link from the website to the above email address.

I hope this clears matters up.

Colin Grundy

A TRIBUTE TO LESTER COPESTAKE

by Geoffrey Budworth

'We don't so much learn knots; we learn from them.'

Lester Copestake died peacefully on Saturday 28th February 2006, aged 89, at Ullapool in the Scottish Highlands, where he had been living with his son and family, since moving two years earlier from his Worcestershire home in Malvern after the death of his wife Geraldine. The Guild lost a loyal friend and an active member who, a work colleague of his once observed, could be *'...infuriating, stimulating and fun, all at the same time.'*

He bought a copy of *Knots & Splices* by Capt. J.N. Jutsum when he was 12 years old. At the time of his death he had a collection of 60 knot books, 4 ring binders containing *Knotting Matters,* and two large files of notes and jottings on knots. These included, of course, *The Ashley Book of Knots* which he had augmented with his own notes, sketches and references.

Lester attended Glasgow High School until the age of 13 when he transferred to Repton School in Derbyshire. From there he went to Pembroke College, Cambridge, graduating with an Honours degree in Mechanical Engineering. He began work with the steel firm of David Brown where, once World War Two began, he assembled and tested gear boxes for Valentine tanks.

In 1942 he was commissioned into the 2nd Division, Royal Engineers, posted to India and promoted to Captain. When his tank led the advancing regimental convoy towards Kohima, he became the first regular soldier to enter Burma after the Japanese invasion. Army duties evidently involved the ingenious application of ropes and knots, because a fellow officer observed that Lester was, *'...the only man I know who can make string push.'* (His elder son Paul added recently, *'... and cut a tree so that it fell upwards.')*

Demobbed in 1946, Lester returned to Glasgow where he followed his father and grandfather into the North British Locomotive Company, and was employed as Chief Design Engineer specializing in gas turbine technology. Then, after a brief involvement in nuclear power, he switched jobs again and joined Cammell Laird Shipbuilders in Birkenhead.

Lester was a gifted pianist and recorder player. He also enjoyed sport, playing golf, squash, hockey, cricket and football, (his last game at his 80th birthday party). Another pursuit was racing Dragon sailing dinghies on the Clyde, which also involved

knotting. He once remarked that, *'Those who tie knots tend to be opinionated.'* And this assertion was confirmed by his brother Gerald, recalling an occasion when they were beating off a lee shore in squally conditions and a jib sheet parted. He tried to jury rig with a sheet bend. Lester's characteristic comment was, *'No one in their right mind would attempt to bend a sheet using a sheet-bend.'* He advised a buntline hitch, which (with a draw-loop) was a knot he rated highly.

He was 70 when in 1987 he spotted an advert for the IGKT and promptly joined, remaining an active and enthusiastic member until the frailty of very old age intervened. He attended meetings and contributed a variety of articles and letters to Knotting Matters on topics that included knot names, terminology and tying techniques. He was one of several Guild members to shed fresh light on the history of the constrictor knot.

Aged 72 he published the Penguin Cruising Club Members' Handbook, in which he wrote, *'The general rule of Knots is to look what others did before & do the same provided it will untie easily.'*

His knotting was practical, rather than decorative, and he had a keen eye and mind for the performance of knots, viewing the bowline, for instance, with caution because he once lost a 25-pounder field gun through its failure. 'The merits of any knot, its strengths and weaknesses, have to be learnt by empirical trials and experience; will it slip or come undone, will it jam? Is it easy to tie and untie; how will it perform in different ropes and weather?'

Lester corresponded with knot researchers and theorists Harry Asher, Desmond Mandeville and Pieter van de Griend. Indeed, it was to him in 1992 that Pieter addressed *A Letter to Lester,* a limited edition booklet on specific knot histories and heresies. He also reviewed the 1995 book *Symmetric Bends* by Roger E. Miles.

When, in the mid-1990s, the IGKT's Surrey branch published its list of half-a-dozen knots they considered a newcomer to knotting ought to learn first, Lester assembled his own selection of six novice knots. They were: the Figure of Eight (used as a stopper, a bend or a loop); the Buntline hitch (slipped); the Strait (or Alpine butterfly) bend; the Carrick bend; the Alpine butterfly loop; and the Angler's loop. Also-rans were the Timber hitch; the Constrictor; the Tarbuck knot; and the Poldo tackle.

[Lester's nickname within the family was Dodo, invented by his younger daughter Pippa when she was small, and later adopted by his grandchildren. An illustrated leaflet of *Dodo's knots* will be reproduced and available at the Guild's silver jubilee celebrations in May 2007.]

During the last few months of his life Lester became very frail and he settled, comfortable and content, into a quiet routine with carers although flashes of his old self remained to the last. A short cremation service at Inverness on 11th March was followed by a Service of Thanksgiving at the Priory in Great Malvern on 28th April. Lester leaves four children - Felicity, Philippa, Paul and James - and eight grandchildren.

The Symmetric Simple Simon Bend

Dick Clements

The Simple Simon Bend was introduced by Harry Asher *(The Alternative Knot Book)* and marked by him as a 'new knot'; it does not appear in the *Ashley Book of Knots* or other earlier publications. Two versions of the knot appear in Asher's book, termed Simple Simon Over and Simple Simon Under. The Simple Simon has subsequently appeared in a number of knotting books including, for instance, those of Charles Warner *(A Fresh Approach to Knotting and Ropework)*, Geoffrey Budworth *(The Ultimate Encyclopaedia of Knots and Ropework),* Maria Costantino *(The Knot Handbook)* and Richard Hopkins *(Knots).*

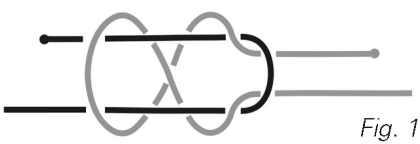


Fig. 1

The basic Simple Simon Over is the bend shown in figure 1. The knot can be understood as a straightforward and logical variation on the reef knot (figure 2); the Simple Simon Over is reef knot in which one cord takes an additional turn around the paired standing part and working end of the other cord. However the method of tying the Simple Simon is entirely different to that of tying the reef knot. The reef knot can be tied by the classical 'left over right and right over left' method whereas the Simple Simon is tied by forming a bight in the dark cord and then threading the light cord through and around it to form the knot shown. The Simple Simon Under is a variation of the Simple Simon Over in which the working end passes under instead of over the standing part during the forming of the knot. Figure 3 shows the Simple Simon Under; it is identical to the Simple Simon Over except for the crossing marked 'A'.

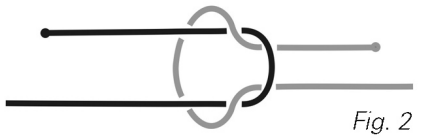


Fig. 2

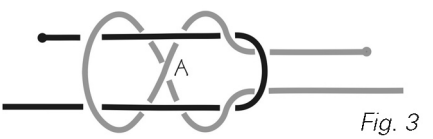


Fig. 3

The advantage of either version of the Simple Simon over the reef knot is that it is a more secure knot, that is it is more resistant to loosening and unravelling when subject to intermittent or jerking loads and more resistant to capsizing and spilling. Both Geoffrey Budworth and Richard Hopkins give a further version of the Simple Simon, termed the Double Simple Simon, in which the light cord (in figure 1) makes three turns around the paired standing part and working end of the dark cord instead of the two turns shown for the Simple Simon Over. The

Double Simple Simon could be tied based on the Simple Simon Over or the Simple Simon Under but the added complexity of making the additional tucks of the working end under the standing part may not contribute sufficient to make a Double Simple Simon Under worthwhile. The rational for the Double Simple Simon is that it is even more secure than the plain Simple Simon.

Another possible variation of the Simple Simon, which the author has not found previously published, is a symmetric version, which we may call the Symmetric Simple Simon or SSS (or perhaps even the 'Triple-S') for short. This is shown in figure 4. This bend is similar to figure 1 except that the dark cord is taken twice around the paired working end and standing part of the light cord as well as vice versa.

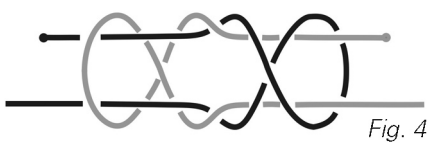


Fig. 4

It is also obvious that there are two ways of constructing a Symmetric Simple Simon. The symmetric bend in figure 4 is symmetric about a vertical axis in the plane of the page through the centre of the knot; if we rotate the bend by 180º about that axis the light cord and the dark cord are exchanged and symmetry is demonstrated. An alternative way of creating a symmetric bend from the Simple Simon Over is shown in figure 5. In this case the bend is symmetric about an axis perpendicular to the page through the centre point of the knot diagram. Rotating the bend by 180º about that axis and then exchanging the sense of each crossing achieves an exchange of the light and dark cords and so demonstrates a somewhat different form of symmetry.

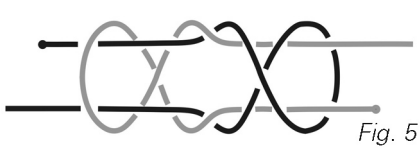


Fig. 5

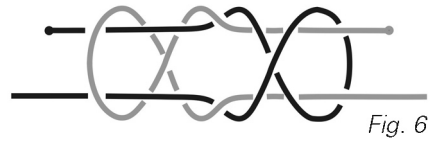


Fig. 6

Both figures 4 and 5 are based on symmetrising the Simple Simon Over but we can equally create symmetric bends from the Simple Simon Under. The two possibilities are shown in figures 6 and 7.

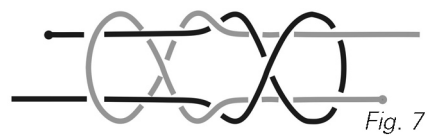


Fig. 7

So which of this rich variety of possibilities is the most useful? To answer that question the author proposes considering the properties of a 'good' knot. Charles Warner proposes that a 'good' knot should be

a) appropriate to the materials used and the task in hand,

b) easy to tie (an easily memorable tying method with little chance of error)

c) easy to work tight without slack or kinks,

d) easy to check that it has been tied correctly,

e) adequately strong, not weakening the rope unduly,

f) adequately secure, not unduly likely to slip, not likely to come undone when subject to intermittent or oscillatory load,

g) easy to cast off or untie when desired.

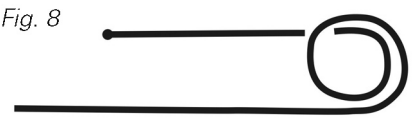
To this list we might consider adding some other properties which have been proposed by other authors, for instance

h) easy to adjust when tied (so that, for example, the working ends each have a

given short length)
i) compact
j) streamlined (the working ends naturally lie adjacent to standing parts)
k) elegant or beautiful or possessed of charisma for some reason

Whilst it would be possible to tie the SSS by taking a bight of the dark cord and twisting it into the form of the dark cord shown in figure 4, 5, 6 or 7, then threading the light cord according to the figures, this method is cumbersome and prone to error. A much simpler method starts by forming the dark cord as shown in figure 8. This can be done simply by winding the cord loosely twice around the index finger (a right-handed person will normally use the index finger of the left hand) and then removing the turns from the finger. With larger ropes the winding can be done around the first two or three fingers according to the size of the rope.

Fig. 8



Now thread the light cord up through the two turns and follow the sequence in figures 9 to 12. If the paired working ends and standing parts of the two cords are now grasped and the knot subjected to a light intermittent load it will quickly shake down into the form of figure 5. But this is actually unnecessary. Taking the form in figure 12 and pulling firmly on the two standing parts will cause the bend to tighten into the form shown in figure 13. This is the form taken by the variant of the SSS bend illustrated in figure 5.

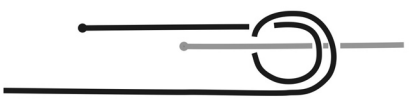


Fig. 9

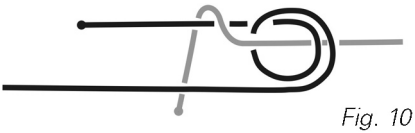


Fig. 10

If the light cord is wound around the paired working end and standing part of the dark cord in the direction opposite to that shown in figures 10, 11 and 12 then the variant of the SSS shown in figure 4 results. To tie the bends illustrated in figure 6 and 7 we must start by turning the double loop shown in figure 8 through 180º about the longitudinal axis, so that the working end lies on top of the double loop. Continue as in figures 10 and 11 and then pass the light cord through the centre of the second turn in figure 11 before completing as in figure 12. However the author believes any gain resulting from this additional complexity in the tying is so marginal as to be pointless.

Fig. 11

Some extended experimentation using both a fairly stiff and slippery 4mm braided nylon cord and a medium laid but quite slippery 15mm 3 strand twisted terylene rope has convinced the author that the form of the SSS shown in figure 5 has advantages over the others. The variants of figures 6 and 7 are both more complex to tie, more difficult to learn and, at the stage of tightening the bend, are more difficult to induce into a compact and neat form. Therefore on counts (b) and (c) above both are deemed inferior to the variants in figures 4 and 5. The variant

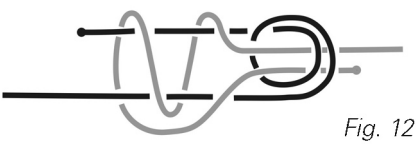


Fig. 12

in figure 5 does appear to tighten up to the form shown in figure 13 slightly more easily and more readily than the variant in figure 4 tightens to its equivalent finished form. Hence, on empirical grounds, the author believes that the variant of the SSS shown in figure 5 is the optimum. Through the same process of empirical trials the author is convinced that the SSS is a more secure bend than any of the variants of the plain Simple Simon whether Over, Under or Double. In fact it is also perfectly possible to tie two non-symmetric versions of a 'Symmetric' Simple Simon in which a Simple Simon Over is linked to a Simple Simon Under. The two versions having the working ends emerge on the same side of the knot (as in figures 4 and 6) or on opposite sides (as in figures 5 and 7). A great asset of the SSS is that both these derivatives appear to be stable and secure and so it does not seem to matter critically if such a variant is tied in error when attempting to tie an SSS.

To sum up then, the preferred version of the SSS (as in figure 5), is particularly good in these respects

b) easy to tie (an easily memorable tying method with little chance of error)

c) easy to work tight without slack or kinks,

f) adequately secure, not unduly likely to slip, not likely to come undone when subject to intermittent or oscillatory load,

i) compact

j) streamlined (the working ends naturally lie adjacent to standing parts)

On the other hand it would have to be conceded that none of the versions of the SSS are particularly elegant or beautiful (that, at least, is the author's subjective judgement) and they are all quite difficult to untie so the SSS is not very good in these respects

g) easy to cast off or untie when desired.

k) elegant or beautiful or possessed of charisma for some reason

But these disadvantages must be weighed against the security and the ease of tying and, particularly, the fact that the method of tying is easy to learn and master. Further, the bend is not unduly compromised by any of the likely minor errors which might be made when tying it! That is a very strongly positive property indeed.

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Harry Asher, *The Alternative Knot Book,* Adlard Coles, 1989

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Maria Costantino, *The Knot Handbook,* Sterling Publishing, 2000

Richard Hopkins, *Knots*, Salamander Books, 2003

Charles Warner, *A Fresh Approach to Knotting and Ropework*

Rope Ends

"We used a knot called 'a bolland on a bight' - one knot on top of another to make a third knot, any firefighter could show it to you. It's cinched in such a way that you can slip your legs into the formed loops, a half-hitch and a slippery-hitch around the chest offer further security.

last man down the fireman's story

Richard 'Pitch' Picciotto, 2002

Knotmaster Series No. 30

'Knotting ventured, knotting gained.'

Scout coil

This compact hank will keep a come-in-handy length of cord on your belt or in your grab-bag; but it was once used by Army scouts to keep a horse's leading rope out of harm's way (but ready for quick use) while riding ahead of troops.

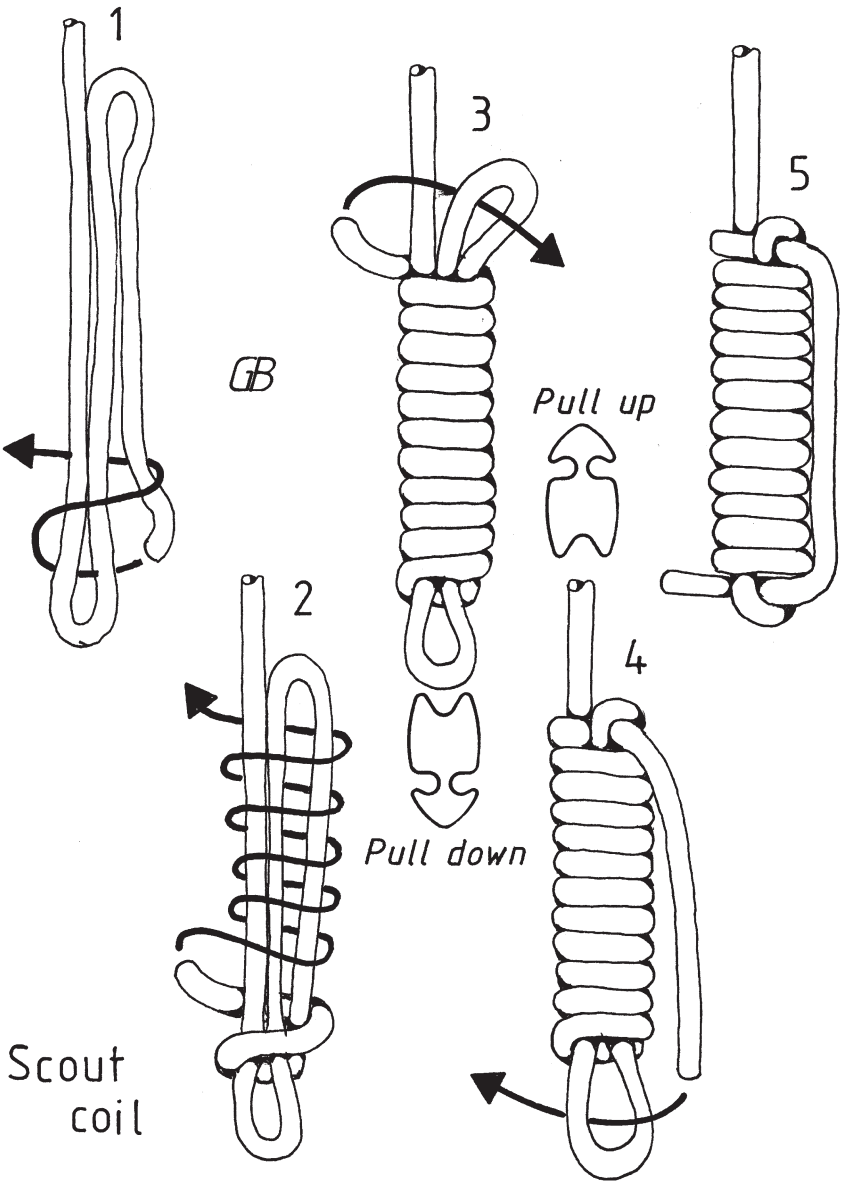
It was certainly employed in the Boer War where Robert Baden-Powell made his name. Perhaps this was how the technique later came to be associated with the Boy Scout movement he famously founded.

* Bend the cord into three lengths [fig. 1].
* Wrap one end from the bottom up [2] so as to trap and enclose all three parts.
* Tuck the working end through the upper loop that is formed.
* Pull the lower loop down to trap the w'end [3].
* Finally tuck the w'end through the lower loop [4] and then pull the upper standing part of the cord to trap it once more [5].

Rope Ends

In the ancient Oriental tradition knots and braids made by - or for - men to use spiralled clockwise, and for women, anti-clockwise. (Structurally, it may not make any difference to the effect). A simple example, still seen in Japan today, is the knot tying the obi (sash) to its binding-cord. [The True-love Knot]

Europa Chang


1
2
3
4
5
GB
Pull up
Pull down
Scout
coil

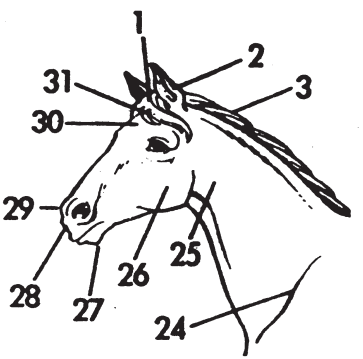
Designing a Complex Flat Knot

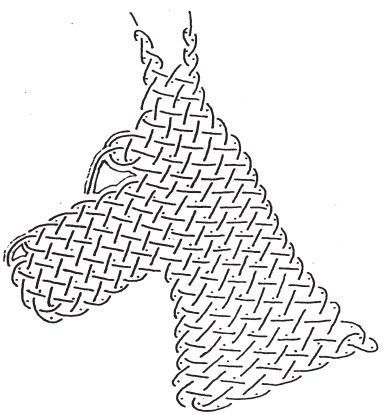
Skip Pennock

On these pages is a design example for a complex flat knot from concept to finish. It is hoped this will give you further insight into designing more complex knots, so that you may be able to do likewise.

The subject is the head profile of "Wild Blue Wonder," a horse.

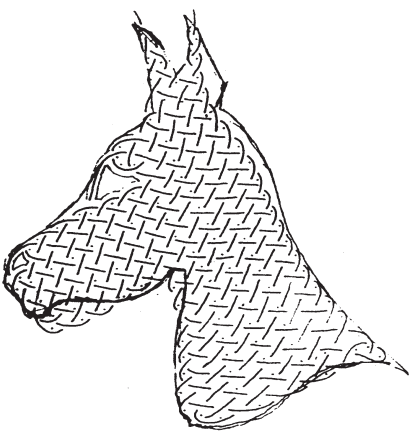
Step 1 - Quite simply, an excerpt from a popular college dictionary is utilised to provide a silhouette or profile. Very often you will need to do some (which is usually very little) similar research to obtain a clear idea of the shape, or form, of the finished knot.





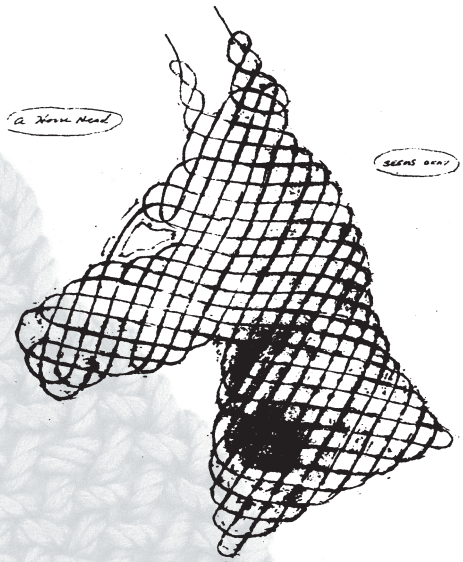
Step 2 - You notice that the shape is very much like the shape of an earlier designed knot, namely, a Great Dane dog head. In fact, it is so much so that several people have already complimented you on the horse!

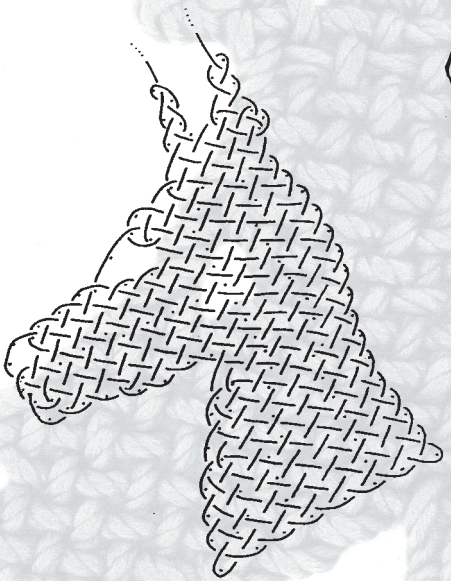
So, from your collected knot-tying files, you dig out the tying diagram for the Great Dane head.



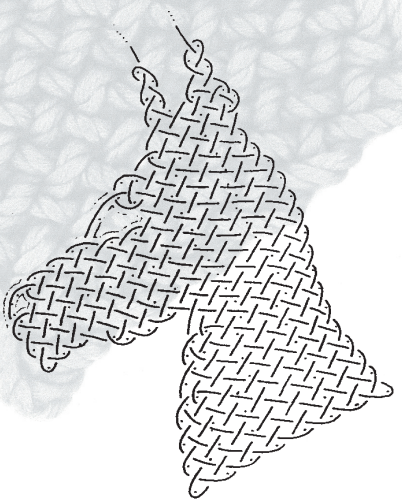
Step 3 - Sketching is done over the dog profile outline boundaries, in an effort to largely adapt the Great Dane weave in the finished horse head knot weave. This sketching is also an attempt to capture the horse head likeness, even unto caricature.

Step 4 - A rough pencilled adaptation is drawn. It seems okay, in the sense that it is a single piece knot.

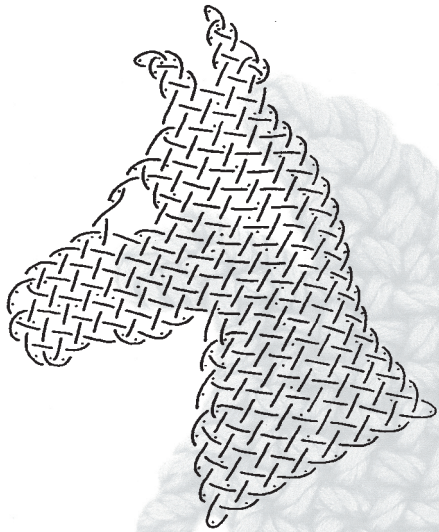




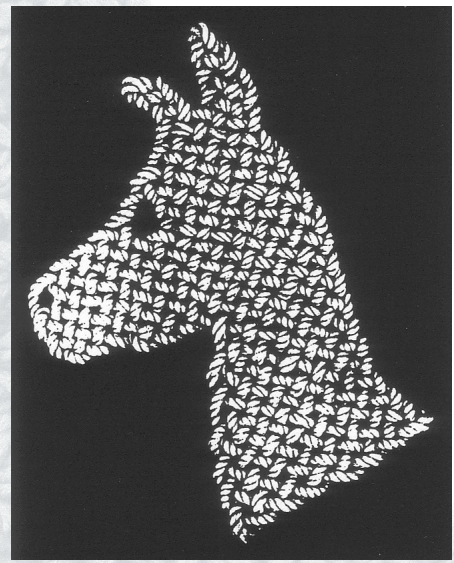
Step 5 - Over the pencil drawing a tracing is done with an indelible marker. It shows the locations of guidepost pins and weaving crossings. An indelible marker is used because sweat from your hand could otherwise cause smearing. Unfortunately, this step's result does not look like a horse head, but more like the predecessor of the Great Dane but with a narrower snout.



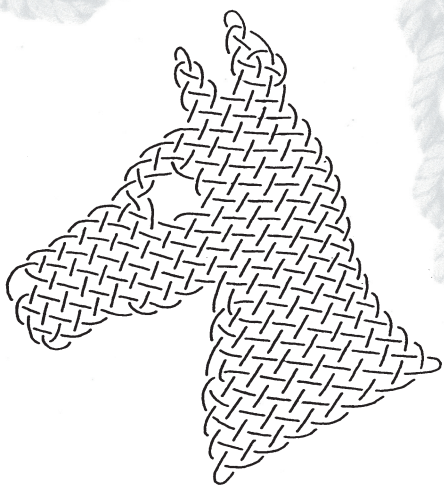
Step 6 - This is an attempt to firm up the mouth area. However, it looks rather like a bird of prey with external antennae ears!



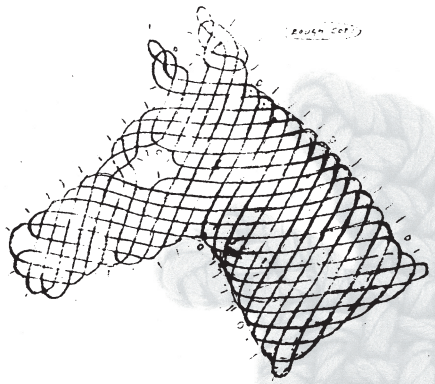
Step 7 - This step shows altering the ears and moving the eye downward. The result: this looks like a puppy! And not a bad one! But not like a horse.



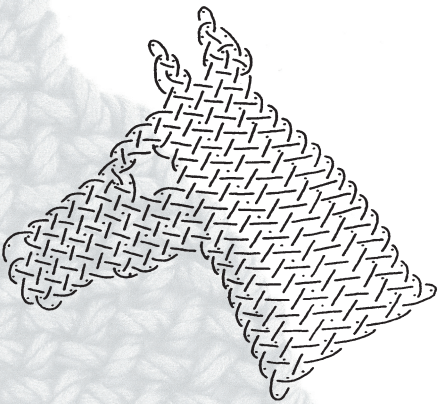
Step 8 - Because Step 7 produces such a good puppy head silhouette, you go ahead and take the time to tie it.



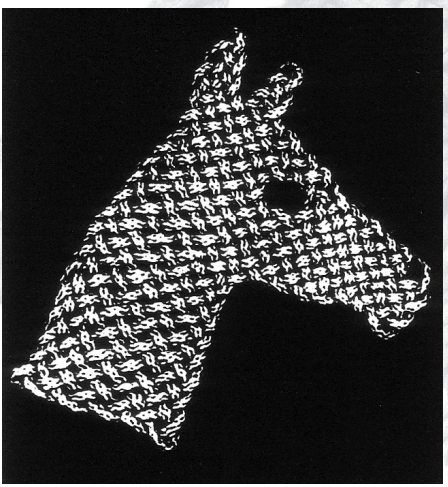
Step 9 - The eye is moved further downward into the face, and the head is lengthened by one bight.



Step 10 - This shows a pencil sketch of a one-piece knot with its neck angle altered, so the neck is less upright, and more levelled out horizontally.

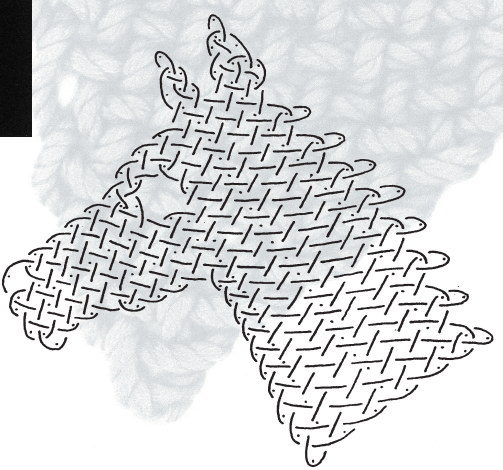


Step 11 - This is the tying/weaving diagram made from Step 10, intended to be enlarged, to 10 inches tall, for ease of tying with 6 to 7 millimetre diameter soft macramé cord.



Step 12 - This is a direct photocopy of the tied result utilising the schematic of Step 11. The cord had a start and finish outside one of the knot's outer bights, and when the weaving - was completed, the start/finish was moved inboard into the knot.

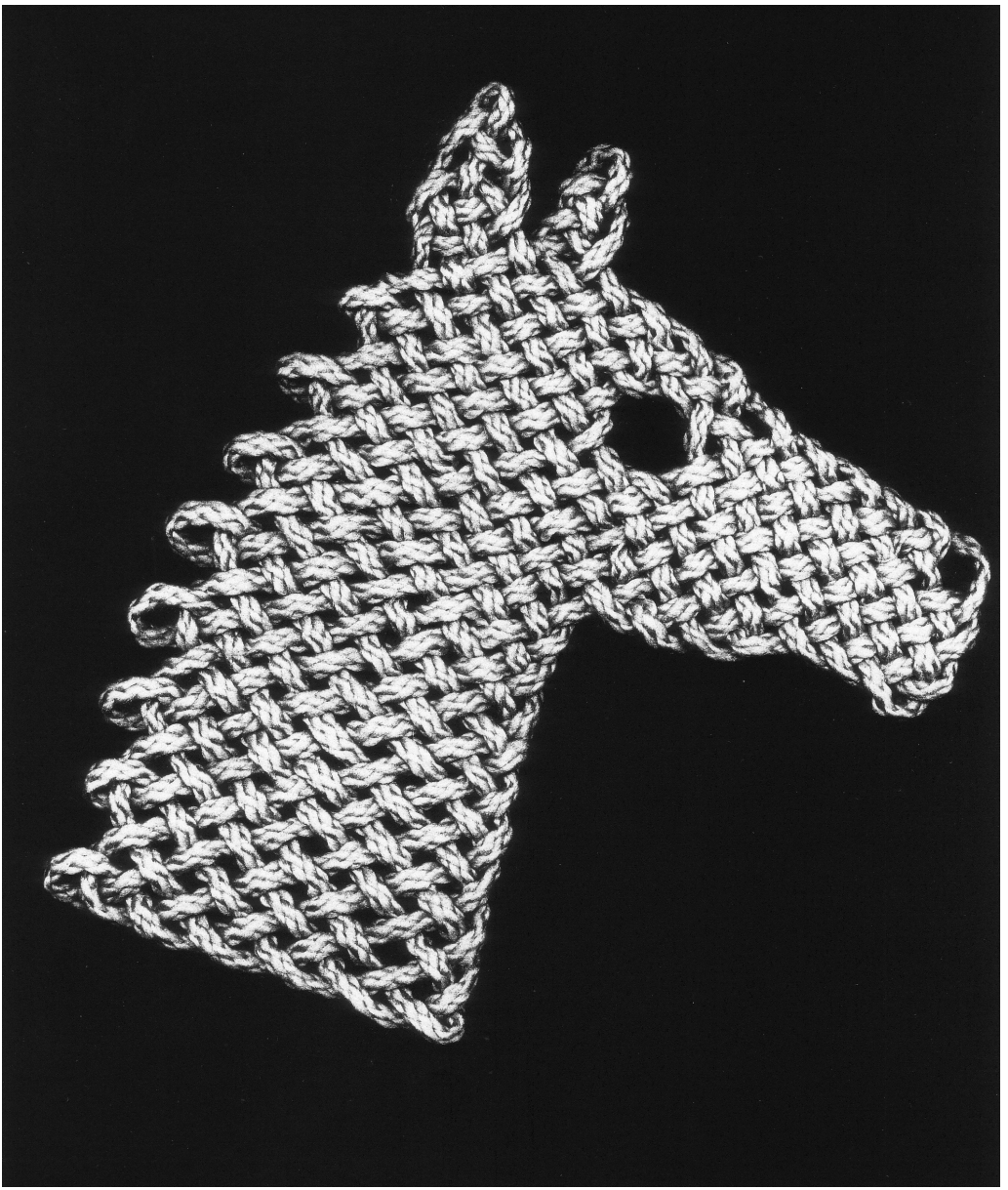
It looks a little like a Llama.



Step 13 - A mane is added. The neck is lengthened by one bight so that the knot will be of a single cordage piece.

Just the mane is intended to be stiffened with clear varnish.

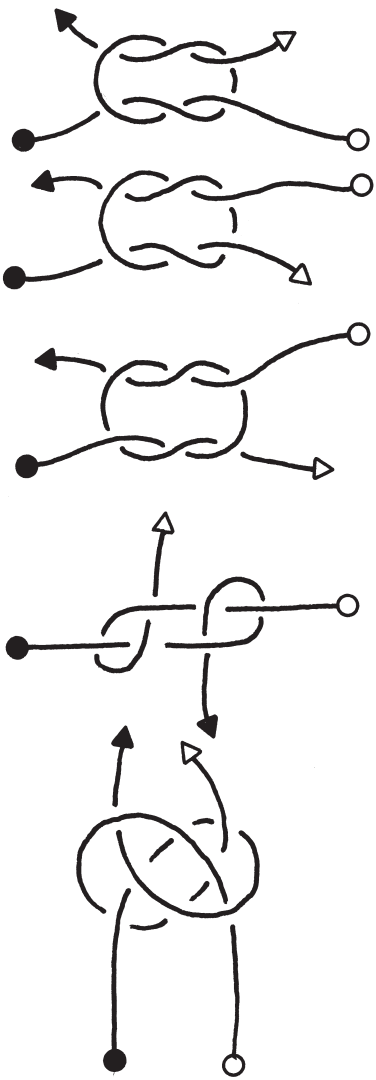
Shown is the final ornamental flat knot tying/weaving diagram.



Step 14 - Shown is an image of the finished knotted horse head profile of "Wild Blue Wonder," which made usage of the diagram in Step 13, and was tied in blue cordage. It is ten inches tall, and 11 inches across.

Knot Morphing

(a simple Tramble in rhyme)
by 'Jennifer Wren'



The 'flat' or 'square' knot is a REEF.

Swap w'end and st'end to make a THIEF.

Mix and merge it with a GRANNY
to create the slipp'ry THRANNY
(otherwise called WHATNOT or JINX),
which has two further knotty links;

just relocate each shorter end
to generate a neat GRASS BEND,

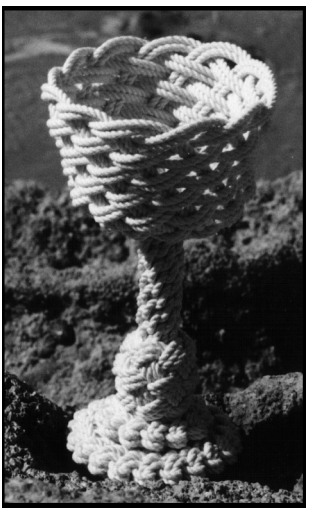
plus an orthodox, bog-standard
WALL (or WALE) knot 2-strand lanyard.

Joaquim Paulo Escudeiro - Portugal

Joaquim Paulo Escudeiro is our only Guild member in Portugal. Hailing from the town of Cacém, in the southern end of the country, his beautifully crafted goblets and key fobs have graced the pages of *Knotting Matters* for many years now. Paulo says, "What really moves me on is to go for works that were found once but few people still make them." His goblets are often presented to churches.

Paulo not only creates magnificent works of art in cord and rope, but he studies old rope making (see KM87) and how knots are used in rural areas. He found out about the Guild through the notes on the corrected edition of the Ashley Book of Knots. With only the name Geoffrey Budworth and the address Tonbridge, Kent to go on, Paulo managed to make contact and join the IGKT.

Here, Paulo describes some of his work.



Simple Goblets

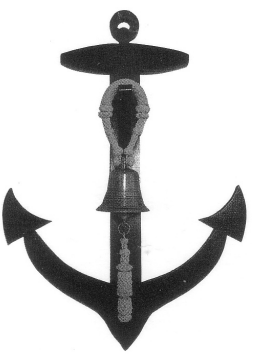
The beginning of all goblets is always the middle round crown sennit. Next is working the feet, using a series of star knots. The secret is to add more lines and to make any step, like a series of star knot rounds. Next the top, a simple diamond knot! The ends of the lines are concealed on the inside by other smaller diamond knots. Material - 2.5mm cotton fishing line.

Owls

Owls are always the same; the beginning is by the eyes. They are wooden rings used for curtains. Then join the eyes in the middle for the body. The wings can be closed or open. The secret is to make an outside long strip of square knots, and on it add more lines. Material - 5mm cotton.

Jars

Macramé earth jars are simple and effective. Just lace the top and add lines by easy ark's head knots Then come down exhibiting all the gracefulness you possibly give on knot work. The end is better if it is not frayed. Just conceal the points by coming up inside the back of the knot structure.



The work of Joaquim Paulo Escudeiro - Portugal

Key Fobs

I have a collection of 1000 different and original models. Fortunately I preserved them patiently in my 15-year professional job. When I was too tired of routine work, then for relaxation I started to try some strange passes. I still have the very first fob I made, naïve and grotesque. I love it!
Fobs usually start with a knife lanyard knot, then two-strand Mathew Walker, and a second two-strand Mathew walker. At this time add another line by walling it on the top of the Mathew Walker. The wall with four points stays round the Mathew Walker knot. Then at the middle of the joined line, fit another line for 6 points and another for8 points. Then rose it with your imagination!
Of course if I tell you that the navy museum is not very interested in my collection of rope work, no one would believe me. "Not of the school", I have heard this so many times!

Baskets

Baskets are always the same. Take a mat, any mat and with the ends come up and make a diamond. Again the secret is to add more lines in a symmetric way on the mat. The end is as in the cups, usually under a second diamond.

Royal Goblets

The secret for making complicated goblets is to work only with diamond knots. One can do it simple - from the top to bottom or from the bottom to top - from right to left, or opposite. You can double it, or half-double it and begin other diamonds before the other is finished. It is versatile work, you can leave it simple or mix it with star knots, crown or wall sennits, and that's all you need.

Hair Holders

Mats for ponytails are one of my typical pieces. Special are the ones with a distinctive middle that makes them with unique characteristics. Just keep the hair entangled between the rope mat and a spike.

Back To the Iron Age Again

Richard Hopkins

I have already written about a primitive tool like an old football rattle used to make cord by the Maya.

Willeke van der Ham showed me a Dutch book accompanying a Dutch experiment where people practiced living in an Iron Age settlement. This seems to have worked better than the BBC series.

Among the tasks set for the villagers was making a length of rope. They first tried to do this by twisting the threads into twine and then plying this into rope using one person on each strand and twisting everything by hand. The process was very slow.

The next attempt, described as "Rope making in the Gallic manner", used a "rattle".

The twine had already been prepared, presumably in the traditional way on the thigh. The twine threads were tied through holes in the blade of the tool and fastened to a fixed point some distance away, in this case 7 metres.

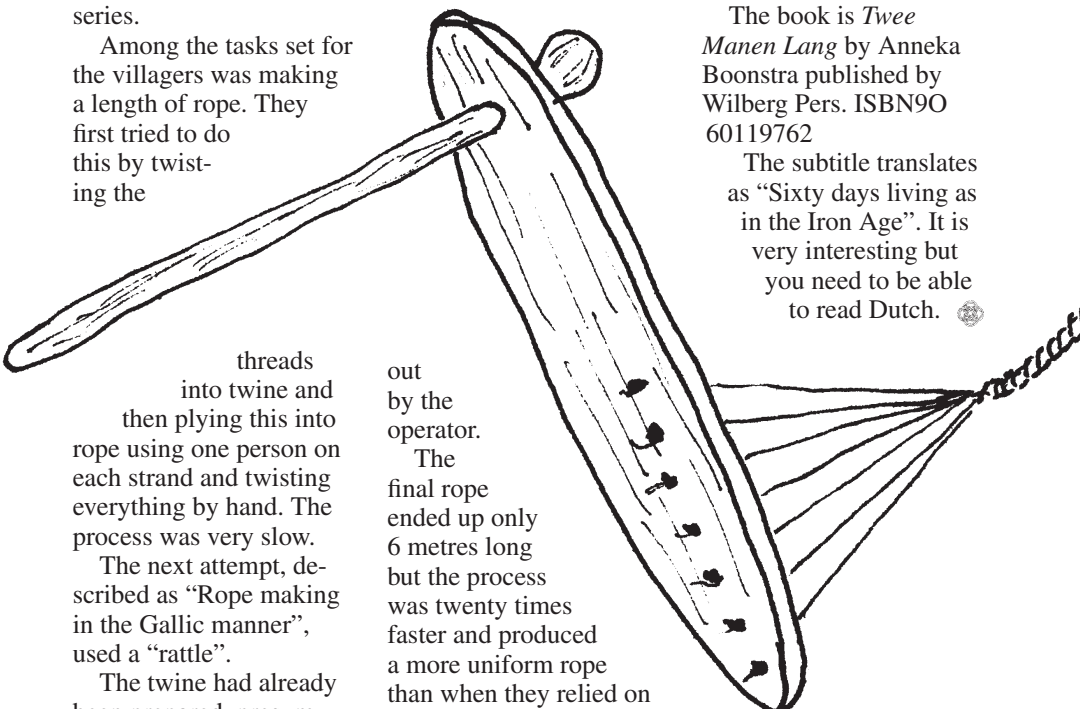
The handle was grasped firmly and the blade was swung vigorously taking care to get the direction of twist correct for the final rope. Control of the twist and tension was carried out by the operator.

The final rope ended up only 6 metres long but the process was twenty times faster and produced a more uniform rope than when they relied on purely manual twisting.

I could not find any references in the text to explain why this technique was described as Gallic and would be pleased to hear from anyone who can enlighten me. The tool seems to be far more widespread and ancient than I expected when I first wrote about it and I would be pleased to hear if there are other examples scattered around the world.

The book is *Twee Manen Lang* by Anneka Boonstra published by Wilberg Pers. ISBN9O 60119762

The subtitle translates as "Sixty days living as in the Iron Age". It is very interesting but you need to be able to read Dutch.



A General Method for Tying Turk's Heads with Arbitrary Leads and Bights

Roger W. Fuller

I found a copy of *Knots, Splices and Fancy Work* by Charles Spencer in my father's books, and have been tying Turk's heads using a former made up of two rows of small nails driven into a piece of wood as described in the book. The method in the book produces what I call "natural" or "L - 1" square Turk's heads with the number of bights one less than the number of leads. Fig. 1 shows the steps to tie a 5Lx4B and a 6Lx 5B. The working end enters above the bottom pin on the left, crosses horizontally, goes around the bottom pin on the right, then up over the top and down behind the former and back to the front at the bottom to complete the first turn. I call the initial horizontal segment the baseline. To begin the second turn, take the working end OVER the baseline and around the second pin on the left, then horizontally towards the second pin on the right. If the number of leads is ODD, go OVER the vertical segment of the first turn and around the right pin. If the number of leads is EVEN, go UNDER the first turn and around the pin. Then go over the top and around the back to complete the second turn. From now on, every time you reach the baseline, cross the baseline and the rest of the horizontal segments the opposite of the previous lead up to the next left pin.

PHOTO 6

The working end always goes OVER the previous lead before going around LEFT pins on L-1 knots. To determine how the upcoming horizontal segment crosses the vertical segments of the earlier turns, look at the right pin. If the number of leads is ODD, the working end will go OVER the previous turn before reaching right pins, and if the number of leads is EVEN, the working end goes UNDER the previous turn before reaching right pins. Tick over-under from the known condition at the right pin back across the vertical segments and lead the working end to make it come out correctly at the right pin. You may notice that every other turn you wind up with O-O and U-U sequences forming ladders that get filled in on the next turn.

The knot can be finished any time the working end gets to a left pin after filling in the ladders so that all crossings alternate. For the 5Lx4B there will be

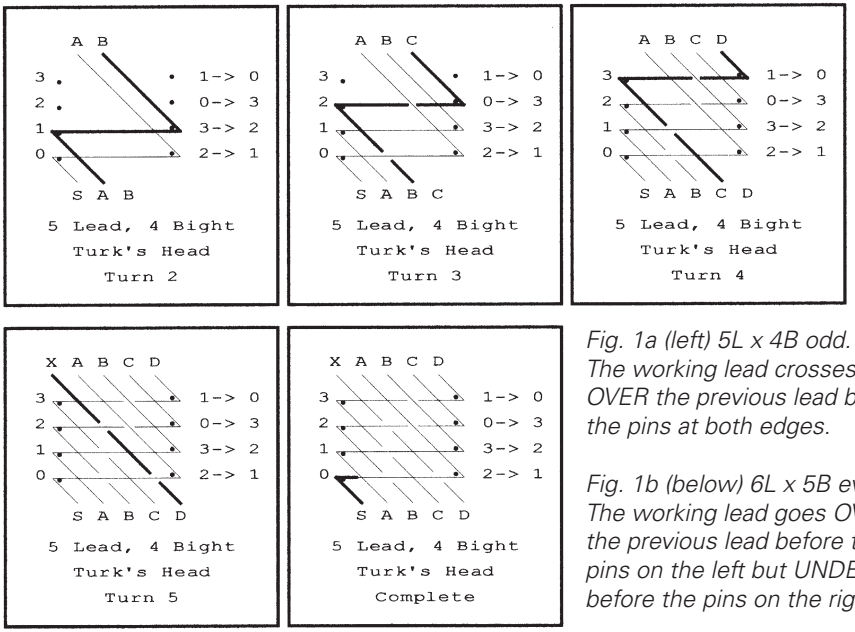
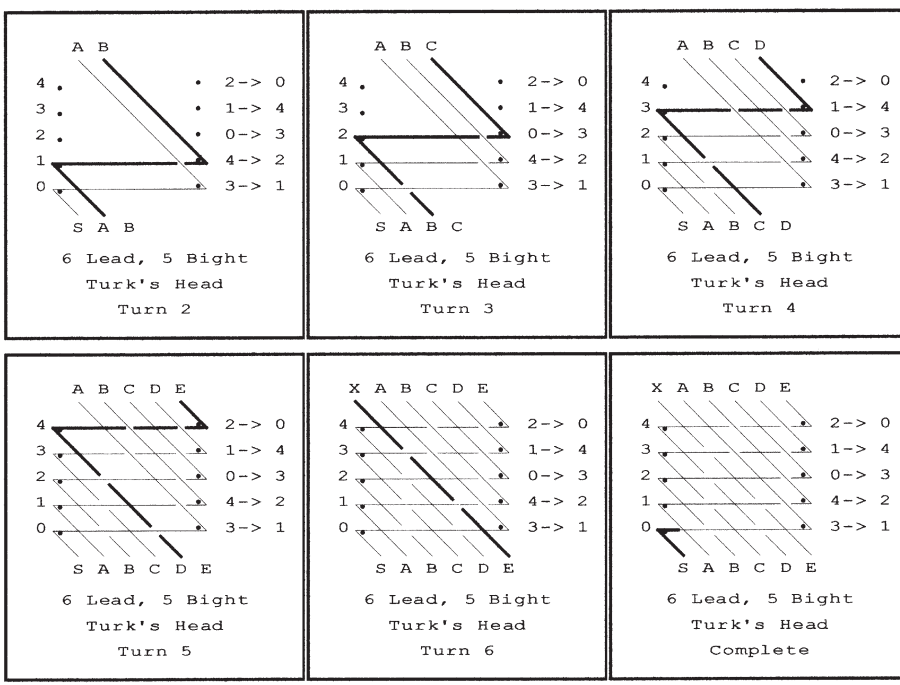


Fig. 1a (left) 5L x 4B odd. The working lead crosses OVER the previous lead before the pins at both edges.

Fig. 1b (below) 6L x 5B even. The working lead goes OVER the previous lead before the pins on the left but UNDER before the pins on the right.



4 pins used and 4 segments around the back. The 6Lx5B takes 5 pins and has 5 segments in back. To complete the last turn bring the working end around the back to meet the standing end then follow along doubling the baseline to the right pin. The knot can now be removed from the former and fitted onto an appropriate object by working the slack through the knot. In fact, you can keep on going to make knots with as many leads as you wish, but they will always have the number of bights (and pins and segments around the back) one less than the number of leads.

Note that the diagrams only show a gap in segments where the working end must be crossed UNDER a previous turn; to cross over, simply continue along the lead path.

The knot is actually tied with the bights on the right pins offset from the left pins such that the left-to-right strands are horizontal while the right-to-left vertical strands are angled. This puts the whole knot with all of the crossings in the front. At the end of each turn, the working end goes straight from top to bottom around the back to the baseline, and you don't have to worry about the backside of the knot.

I tied a lot of Turk's Heads with one less bight than leads. Spencer also shows a method for doing what he calls "Long Turk's heads" (also Ashley 1324-1360). This uses pins or nails driven into the object to be covered, spaced equally around the object at the top and bottom of the knot. Using this method, I tied a 31Lx2B for a head handle and covered bottles with 31Lx6B, 29Lx4B, and 16Lx5B knots. I even made a 50Lx7B for a friend's 50th birthday, but it was too large to fit on the bottle of Scotch I got him for a present, so it will become a tiller grip for the recently restored 1883 sandbagger *Annie* at Mystic Seaport.

I wondered why I could only produce certain knots. Why couldn't I tie something like a 7Lx11B, a "Lucky Numbers" knot? Tripled, this knot is 7-11-21! I set out to find ways to make knots with arbitrary leads and bights.

I had purchased a copy of *The Complete Book of Decorative Knots* by Geoffrey Budworth. The last page of the Turk's head section has a "Universal Turk's head Chart" published by Frank

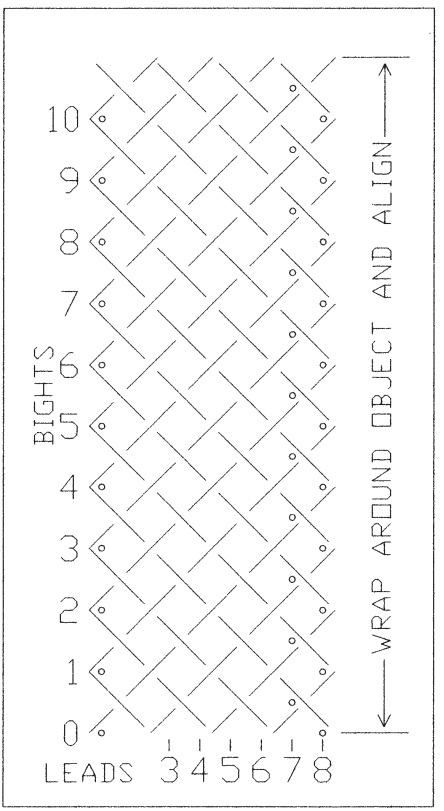


Fig. 2 - Turk's head chart as from Budworth with pins for 7L and 8L knots up to 11 bights. Note that for even-lead knots, pins are directly across the bight flow at two edges is different. Odd-lead knots have right pins offset by half the pin spacing and bight flow is the same at both edges.

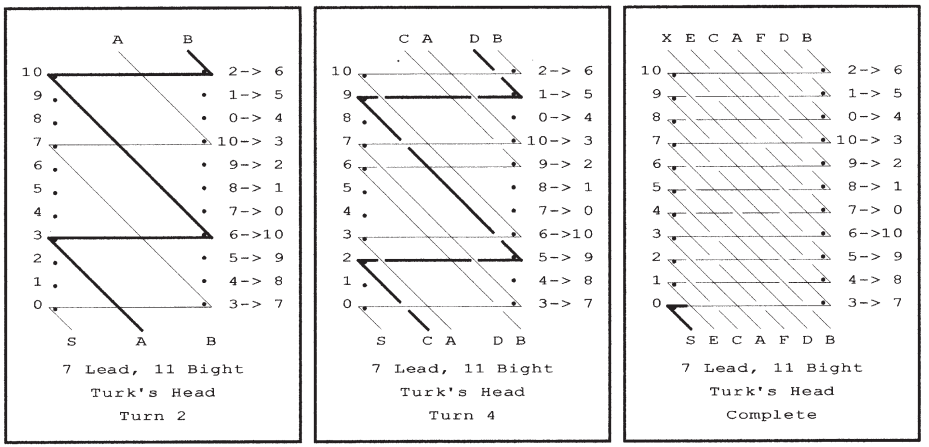


Fig. 3 7Lx11B Turk's head - "Same-Vertical-Under" crossing rule

Harris IGKT in *Knotting Matters* #12. The first time through the book, I didn't really understand the chart. In my new quest for the 7Lx11B I went back to it. To use the chart, you make a copy then cut it to wrap around the object to be covered. The string is forced to follow 45-degree paths back and forth across the knot. I wound up driving screws into the bight turning points of the 7x11 chart (Fig. 2) wrapped around a piece of PVC pipe and made the knot! But I had made a mistake; I put the screws directly across from each other on the chart. The resulting knot was actually an 8Lx11B. I figured it out, but this seemed like a hard way to make a knot. Also, I don't want to or can't drive nails or screws into most of the objects I'm covering.

The pins for the long method and the screws in my PVC pipe sure looked like the old former wrapped around the pipe. I then made myself a special flat former with a 7x11 chart glued on it. I put the 11 sets of pins at the correct bight turning points on the chart, with the right pins offset 1/2 the pin spacing. I was able to tie the lucky knot, but it would bunch up

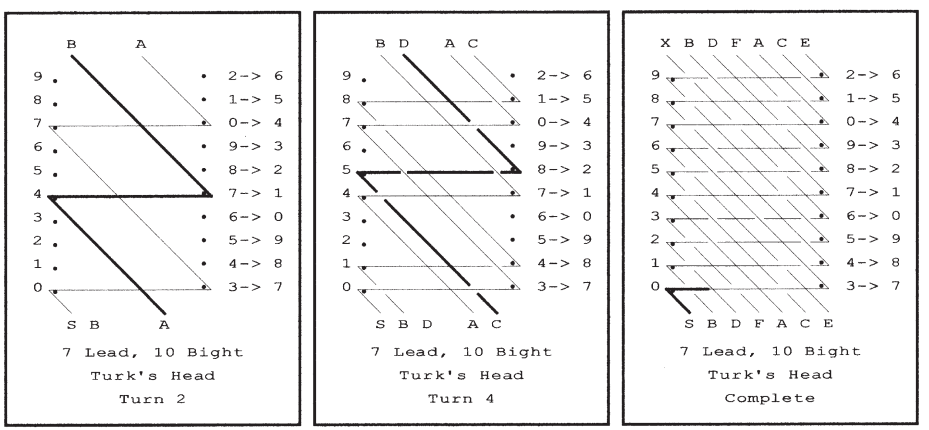


Fig. 4 7Lx10B Turk's head - "Same-Horizontal-Under" crossing rule

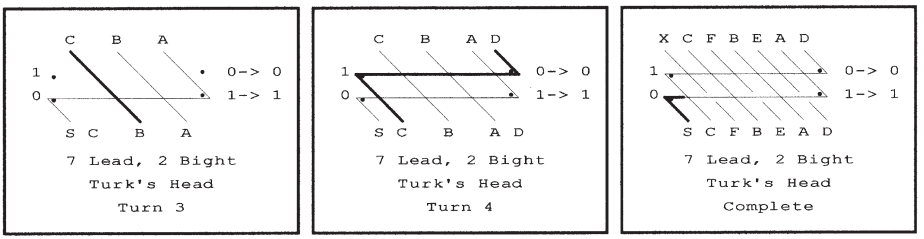


Fig. 5 7Lx2B Note 3 turns before returning to pin on left, "Same-Vertical-Under" rule

at the top and the bottom and it was hard to keep the crossings correct.

Suddenly I realized that I had to offset the bights on the right pins to make the baseline go across horizontally like the natural knots. The next question is how much? The chart told me. While tracing paths around my PVC pipe I had recognized the characteristic behavior forced by the diagonal geometry of the chart. The distance between the two rows of pins on the chart is always the number of leads times half the spacing between the pins along the row. On even-lead knots, the pins are directly across from each other, but on odd-lead knots the two rows are offset by 1/2 the pin spacing. This makes the lead go from pin 0 on the left across to the right at 45 degrees to the right pin at 1/2 the number of leads. The lead then goes back across at 45 degrees, ending up at the left pin labeled with the number of leads! This happens on every knot whether the number of leads is odd or even. To flatten out the baseline, the bights on the right need to be shifted down by half the number of leads!

With the bottom pin on the right labeled with 1/2 the number of leads (ignoring the extra 1/2 on odd-lead knots) the starting lead goes straight across forming a baseline. The working end will go around the right pin then to the left pin labeled with the number of leads. The lead then goes straight across to the right again. Each time the working end returns to the left side it has advanced along the pins by the number of leads, including wrapping around back of the former when the destination pin is back at the bottom. All the crossings are in front and there is no bunching up.

The lead path follows a simple general rule: From any pin number P on the left, go straight across and around the pin on the right. The next pin on the left will be (P + L) modulo B, where L is the number of leads and B is the number of bights. If (P + L) is larger than B, the go-to pin number will be less than P, the current turn is done at the top, and the working end goes around the back to start the next turn at the bottom. On the last turn, (P + L) modulo B will be zero and when this lead returns to the left side the knot is complete and ready to double.

With the chart, the width must be exactly the number of leads times half the pin spacing to produce the lead path, so the width of the chart is different for each L. When you directly determine the lead path from pin to pin, the actual dimensions of the former don't matter anymore.

I made a new former with the pin spacing at 1/2 inch (13mm). The two rows are spaced about 4 inches (10 cm) apart and the former is about 8.5 inches (22cm) long allowing 16 pairs of pins. (The pins actually go through the wood and out the back, allowing me to wrap around the back to make knots with up to 31 bights.) The left pins are labeled 0-15. I glued a strip of easily-erased plastic

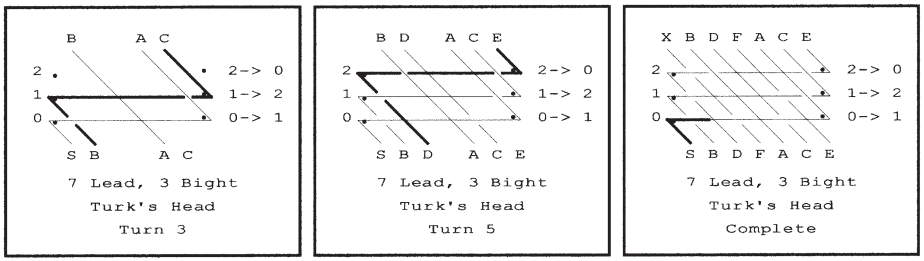


Fig. 6 7Lx3B Note 2 turns before returning to pin on left, "Same-Horizontal-Under" rule

outside the pins on the right side. When I am setting up to do a knot, I write the value of (P + L) modulo B next to each right pin to indicate the go-to left pin. For the 7Lx11B knot the bottom to top sequence for the go-to labels is 7, 8, 9, 10, 0, 1, 2, 3, 4, 5, 6. For knots with B greater than L, the bottom pin on the right always has a go-to of L and the top pin on the right always has a go-to of L-1. For knots with B less than L (including the natural knots where B = L-1), (P + L) modulo B still gives the go-to pin number. One or more turns will run from the baseline to the top and around without coming to a left pin. When L/B by integer division is greater than 1 it indicates how many times around the former the lead has to go after leaving a right pin before coming to the left pin. For example, in a 7Lx2B the lead will go around 3 times between pins. This is shown in Figs. 5 and 6.

To tie a 7Lx11B knot, measure out enough cord to go around the former about 1.5 times the number of leads, about ten times for the lucky knot. The standing end can be fixed near pin 0 on the left. Lead the working end between left pins 0 and 1 and straight across to the right pin, forming the baseline. Take the lead around the right pin, and up to pin 7 on the left as indicated by the go-to label. Go straight across again and around the right pin, which will be labeled 3, which indicates the lead must go around the back. This ends the first turn.

Always start the second turn by going OVER the baseline (as with the natural knots) and around the left go-to pin, in this case pin 3. Now the lead goes straight across to the right, but the leads from the first turn are there. Does the working end go under or not? You only have to know when to go under. The general rule described below reduces to a very simple rule for the second turn, described by Spencer for the long TH method: If the number of leads is ODD, the second turn crosses OVER the first turn everywhere, and the lead simply follows the path to the top and around the back to end the second turn. If the number of leads is EVEN, the lead will alternate OVER-UNDER as it follows the path, starting with OVER the baseline. For the 7-11 knot the second turn is over the baseline, across to the right pin labeled go-to 10, then back across to the left pin 10, then straight across to the right pin labeled go-to 6, then around the back to the baseline, where the decision to go under or not must be made again. In the "natural" knots, this decision is easy since the lead always does the opposite of the previous lead which is always adjacent. In an arbitrary knot, the critical third turn is usually not adjacent to the first or second turn, so a general rule must be developed for determining when the working end must cross under a segment of a previous turn.

Note that the baseline starts on the

even number left pin 0. This makes the baseline segment EVEN parity. The second turn goes to the odd left pin 3, so the second turn vertical segment going TO left pin 3 and the horizontal segment going FROM left pin 3 are both ODD parity. The ODD parity vertical segment of the second turn crosses OVER the even baseline segment. The pattern of crossings for this knot is determined: If the parity of two crossing segments is different, the vertical goes over the horizontal. This implies that when the parity of the segments is the same, the vertical goes under the horizontal. Since we only need to know when to go under, I call this pattern "same-vertical-under" (same parity, vertical goes under).

The third turn begins at the baseline with go-to left pin 6, so its vertical segment is EVEN parity. The lead has to go UNDER the baseline, because when the parity is the same, the vertical goes under. As the working end reaches each segment, check the relative parity between the two segments to determine when to cross under. Just keep in mind that the parity of a segment is the parity of the pin on the LEFT end of the segment. The relative parity between two segments determines whether the working end crosses under.

On most knots, the third and fourth turns (and a few more on knots with larger numbers of leads) are the trickiest, where you have to keep track of relative parity. After 1/3 to 1/2 the turns are complete, the crossings become clear since a lead will cross another lead in the same way as a lead with the same parity two, four, six etc. pins away, and in the opposite way as leads with the opposite parity one (adjacent), three, five etc. pin(s) away. In fact, the number of pins between two leads is what determines the relative parity. As the knot progresses, the crossings become obvious as ladders form and are filled in. To complete the 7Lx11B knot follow Fig. 3, observing how the crossings follow the rules. You may notice that the "same-vertical-under" rule seems to be violated at the upper right of the knot. This happens with knots that have an odd number of bights since the top left pin B-1 and the bottom left pin 0 both have the same numerical parity although they are actually adjacent pins with opposite parity. To follow the parity rule on knots with odd bights, reverse the parity of the vertical segments leaving the upper right pins labeled 0, 1, 2 etc. that are the pins left over from offsetting the right pins to flatten the baseline. The vertical leads from the left-over pins have a parity as if the lead go-to number was P + L without taking the modulus of B. For example on the 7Lx11B, the lead with odd go-to pin 5 is effectively going to what would be left pin 16 if the left pin numbers didn't reset to 0 by taking the modulus, and is thus even parity. When the lead returns to the baseline, again use the numerical parity of the go-to pin. This parity reversal doesn't happen on even-

PHOTO 1

PHOTO 2

bight knots since the adjacent pins 0 and B-1 have different numerical parity and there is no parity shift from taking the modulus.

As it turns out, odd-lead knots where B modulo L is even will be "same-vertical-under" (examples: 7Lx11B, 7Lx4B). On these knots the second turn go-to pin will be odd, and in the finished knot every lead will go over the lead before rounding the pin on both edges ("over-before" bight flow). Odd-lead knots where B modulo L is odd follow the opposite rule: "same-horizontal-under" where crossings between like-parity segments have the horizontal under (examples: 7Lx10B, 7Lx5B). On these knots the second turn go-to pin will be even, and in the finished knot every lead will go under the lead before rounding the pin on both edges ("under-before" bight flow), and there is no parity reversal.

Single-strand even-lead knots always have an odd number of bights with the result that B modulo L is always odd. The crossing pattern is always "same-vertical-under". The second turn go-to pin is odd, and the finished knot will have "over-before" bight flow on the left edge but "under-before" bight flow on the right edge.

When you know the bight flow at the edges of the knot, you can tick over-under from a known crossing (usually at a right pin) to help find the crossing decision. I usually make the crossing decisions at the right pins by ticking across from the known crossing at the pin determined by the bight flow, especially in the upper right of odd-bight knots. The right edge parity reversal on even-lead knots is particularly confusing. Use nearby leads and the known bight flow to make crossing decisions.

These patterns result from always choosing to go over the baseline at the beginning of the second turn. If this is reversed, the crossing rules are reversed. The resulting knot is in fact the same knot, simply turned "inside out". Why choose to go over first? For every one of the several cases I checked, going over first results in a lower total number of times the working end must be crossed under previous segments to complete the knot, making it easier overall.

The general procedure for tying arbitrary Turk's heads on a former:

1. Label the pins on the left 0 through L-1.
2. For each pin P on the left, label the pin directly across with (P + L) modulo B.
3. Complete the first turn following the lead path.
4. Start the second turn following the lead path OVER the baseline. Note second turn go-to number. If ODD, this knot

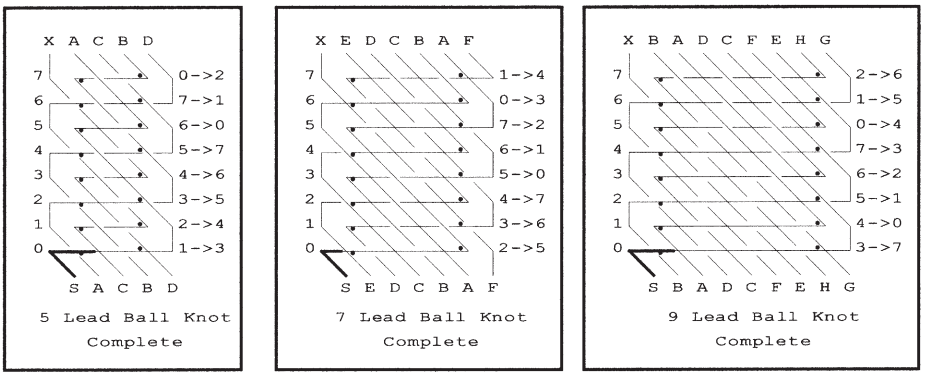


Fig. 7 5L (Earth), 7L (Uranus) and 9L Ball Knots

is "same-vertical-under". If EVEN, this knot is "same-horizontal-under".

5. Complete the second turn following the lead path

a. Odd-lead knots always over

b. Even-lead knots alternate over-under, start over baseline

6. Continue completing turns following lead path. To make crossing decisions use crossing rule, ticking back from known condition or bight flow at the pins, and clues from nearby leads: the working lead crosses other leads the same as leads an even number of pins away, and opposite to adjacent leads and leads an odd number of pins away. Take care at the upper right of odd-bight knots.

7. On the last turn the working end rounds the right pin labeled with a go-to number zero; the knot is complete when the working end next reaches the left side.

8. Take the working end around the back and follow the baseline to begin doubling. Then remove knot from former, fit to object evenly by working slack through knot, complete doubling, tripling, etc. loosely, then tighten. Cut ends off closely and tuck under to make disappear.

Fig. 4 shows a 7Lx8B to demonstrate the "same-horizontal-under" crossing rule and show a knot with B = L + 1. Fig. 5 shows a 7Lx2B and Fig. 6 shows a 7Lx3B as examples of under-square knots where several turns are made before arriving back at a left pin. Spencer's "long Turk's head" method produces the same strongly under-square knots.

I have made a few other interesting observations. On "natural" or B = L - 1 knots, the next turn is always adjacent to the previous turn and the turns advance left to right across the baseline. This pattern is the same on L - 1, 2L - 1, 3L - 1 etc. The L + 1, 2L + 1, 3L + 1 etc. knots also have each turn adjacent to the previous turn, but the leads advance from right to left. In general, knots with the same L that have the same value of B modulo L will have the same baseline crossing pattern. For example, the 7Lx5B, 7Lx12B, and 7Lx19B have the same pattern, which makes sense since each knot adds a multiple of the number of leads.

To tie a knot on a fixed object like a stanchion or pole, lash or tape the former to the object perpendicular to the axis of the object so that the knot is formed around the object. When the knot is finished and loose, slip the former out, then follow around and tighten the knot. For T-shaped objects like a ring-with-spokes steering wheel, a 6Lx5B knot can be tied with the upright of the T splitting

the bights. Lash or hold the former parallel to the upright with the horizontal about even with the third pin. Tie the knot with the first two turns around the back to the left of the upright, the next three turns around the back to the right of the upright, and the last turn around the back to the left of the upright to follow along the standing end to double. Slip the former out, follow around and tighten the knot with the bights evenly distributed on both sides of the upright.

Turk's heads with common factors can also be easily tied on the former with multiple strands; the number of strands will equal the largest common factor. The first strand will be complete when it returns to left pin zero. Start the second strand at left pin 1 and follow the lead path and crossing rules. The second strand will be adjacent to the first strand and will be complete when it returns to left pin 1. Start the third strand on left pin 2. Continue until all strands are complete.

Budworth's book also has a section on "Globe" knots intended for covering spherical objects. These are usually tied by pinning the cord on a diagram of the flattened out knot. In experimenting with his Earth and Uranus knots (Also Ashley #2216 and #2217) I discovered that they behave like Turk's heads with eight bights. The bight turns are modified to alternate turning "inside" or "outside" (see Fig. 7) so there are four "outside" bights on each edge to collapse into a square crossing at the poles as the knot is fitted to the object. It wasn't a big step to develop the method for tying these knots on the former. I also wanted to extend these knots to produce 9L, 11L etc. knots to cover larger objects, and the former method makes it straightforward. I have done a couple of 15L ball knots on 2.5 inch (6.35 cm) wood balls that make a nice toy for a dog.

Regular Turk's heads with four bights (7Lx4B, 9Lx4B, 11Lx4B work well) can also be shaped to fit a spherical object by collapsing the bights at the edges of the knot into a square crossing at each "pole" of the knot. With these and the Ball Knots, after removing the completed knot from the former, fit the knot to spiral evenly around the object as you work the slack through the knot. Leave extra slack in all the crossings around the poles, double, triple, quadruple etc. and tighten evenly. I have found that most of the time covering balls that quadrupling is necessary to get the knot to cover the ball without gaps at the equator.

To produce the diagrams, I developed a Windows program that ties virtual Turk's heads and ball knots on a virtual former. The program is called THFormer.exe and I have made it available for distribution on the IGKT website www.igkt.net. Download THFormer.exe, double click the icon to run, then pull down the Help menu and click on About for instructions

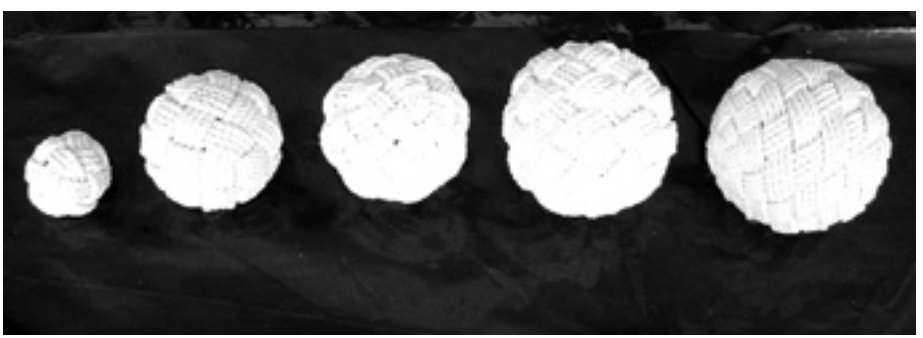


PHOTO 3

PHOTO 4

on how to use the program. I now use the program to print out diagrams for a couple of stages of a knot and refer to the diagrams as I am tying the actual knot.

The photos show some of the items I have created with the former methods. Photo 1 shows a set of six stone cups each with a different Turk's head - 2Lx5B, 3Lx5B, 4Lx5B, 5Lx7B, 6Lx5B, and 7Lx5B. Photo 2 shows from left to right 5L, 7L, 9L, 11L, and 15L ball knots on various size wooden balls. Photo 3 shows wooden bowls with three "Birthday Knots": a 7Lx20B for my brother July 20th, an 8Lx15B for me August 15, and an 8Lx21B for my son August 21. Photo 4 shows a display of a variety of Turk's heads, mats, and ball knots mostly tied with the former. Photo 5 shows a 7Lx11B "Lucky Numbers Knot" on a round wooden box. Photo 6 shows a couple of birthday knots: a 12Lx23B knot on a bell jar and an 11Lx17B on a glass container.

PHOTO 5

COIR ROPE REMEMBERED

Thomas Simpson

Having in the past sailed in a number of British-Indian crewed ships, I can remember being reminded from time to time that the word "coir" was of Hindustani origin. However, all the sources I've checked for this article indicate that it's an English language corruption of a Malayalam word, Kayar (rope/cord); a language of the Malabar Coast, Southwest India. The best explanation, by far, appears in *Hobson-Jobson* (a glossary of Anglo-Indian colloquial words and phrases), by Jule and Burnell. First published in 1886, and still in print; it usually can be found in most decent reference libraries.

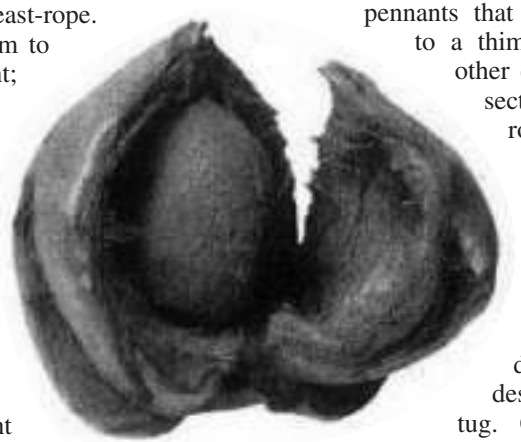
A product of the coconut husk, coir has been the principal utility cordage in India and Southeast Asia for thousands of years. Its nautical uses were many and varied, ranging from ship's cables, through to caulking the seams between the planking. And back further in the mists of time *Hobson-Jobson* cites an Arab traveller and chronicler, Al-Biruni, whose AD 1030 translation included the following snippet: "... the cord plaited from the fibre of the coco-tree with which they [the Indians] stitched their ships together." Coir was first brought to Europe by the Portuguese. Presumably it first arrived in the UK, in any quantity, in the 1600's when the Honourable East India Company's vessels started trading regularly with India.

- so prompting a cordage crisis

For the past 300 years or so coir has maintained a marginal presence in the western world's cordage industry; that is except for the 1940s and 50s (during and after the Second World War). As a result of Japan's occupation of the Philippines, the Allies lost access to 90% of the world's manila output. Manila in those days, was still the shipping industry's most extensively used cordage - so prompting a cordage crisis. With the help of a stringent productivity plan, and coir and sisal at their combined maximum output, they just about managed to provide cover for the lost manila. To eke out the meagre manila supplies still available, a 30% sisal interweave was added to all wartime manila rope manufactured in the UK. After the cessation of hostilities and the eventual return of manila to full

production and worldwide distribution, coir reverted to its previous more modest status quo. It did hang on until the 1960s, vying with nylon as a towing rope, but along with other natural fibres eventually succumbed to the advance of the proliferating synthetics.

One well remembered shipboard practice of the 1940s and 50s: as a ship was secured alongside her berth, a coir rope hawser was often used as a forward and after breast-rope. It was quite the norm to be used with a bight; that is the rope's eye on the quayside bollard, the rope leading back on board, around a set of mooring bitts, then back ashore (as a bight) through the same ship's aperture (fairlead, Panama lead, etc.), the bight placed over the same quayside bollard, the working end taken back round the ship's bitts and hove taught on a mooring winch drum-end, then stoppered off at the leading side of the bitts (to momentarily seize the tensioned rope) whilst the rope was transferred from the winch drum end to the bitts and made fast in the regular figure-of-eight fashion. This tripled the breast-rope between ship and quayside bollard, and as coir rope was only around 30% as strong as an equivalent sized manila or sisal rope, it roughly equalised the strength of the various ropes used to tie-up the ship. Coir was almost 40% lighter (in weight) than manila and sisal ropes of corresponding size.



As alluded to earlier, coir's most popular use was towing; specially harbour manoeuvring with tugs. Even until the 1960s a good number of merchant ships still carried coir towing springs for harbour towing duties. These particular towing springs usually consisted of around 30 fathomn/55m lengths of 10-15inch/25-38cm circumference hawsers, which terminated in a spliced soft-eye at one end, to facilitate connection to the tug's safety-tripping hook, and varying suitable lengths of 3 to 3½ inch circumference wire-rope pennants that were shackled to a thimble-eye in the other end of the coir section. The wire-rope pennant was made fast to the ship's bitts/bollards in a regular figure-of-eight fashion at a distance/length designated by the tug. Coir's floating and stretching properties were quite prodigious - outperforming all other ropes - natural fibre or manmade. The outstanding buoyancy was attributed, in part, to the coir seed-hair fibres having hollow, air-filled, capillary canals (medullas). Elasticity was exceptional: 40-50% in a hawser lay and up to 80% in the occasionally seen right-twist (Z) cable-laid towing spring. I never saw or heard mention of a coir towing spring parting/breaking; unlike all-wire-rope or nylon-rope towing springs, which when parting under stress, usually gave no audible or visual warning, and sometimes resulted in injuries (occasionally fatal) associated with their instantaneous whiplash-recoil (at parting) and striking back to the source of tension at (what seemed) the speed of a bolt of lightning.

A long-running harbour practice, which proved invaluable for the best part of a hundred years, involved a relative small number of ports around the world that suffered from a semi-open weather aspect, thus occasionally subjecting their normally safe inner harbours to periodic high swells from a particular compass quarter. As a safeguard, special heavy-duty coir mooring lines, with wire-rope pennants attached to both ends of the coir section, were permanently secured to the quaysides, ready and awaiting attachment to all berthed vessels at the onset of the particular weather situation. These mooring lines were purposely soft-laid in their coir section and could be up to a foot/30cm in diameter (36 inches/90cm in circumference). It wouldn't surprise me if some of these coir mooring lines are still around today. Shorter sized versions of the above moorings were also used to tether barges/lighters alongside anchored or buoyed ships, loading or discharging cargoes at locations where the only cargo-handling facilities were off-shore open roadsteads that were often subjected to sea or ocean ground swells. During and following a "hard blow" the ground-swell rollers were capable of generating spectacular pitching, scending and surging motion on the barges/lighters, placing tremendous stresses on the mooring lines.

allowed to rot in shallow seawater

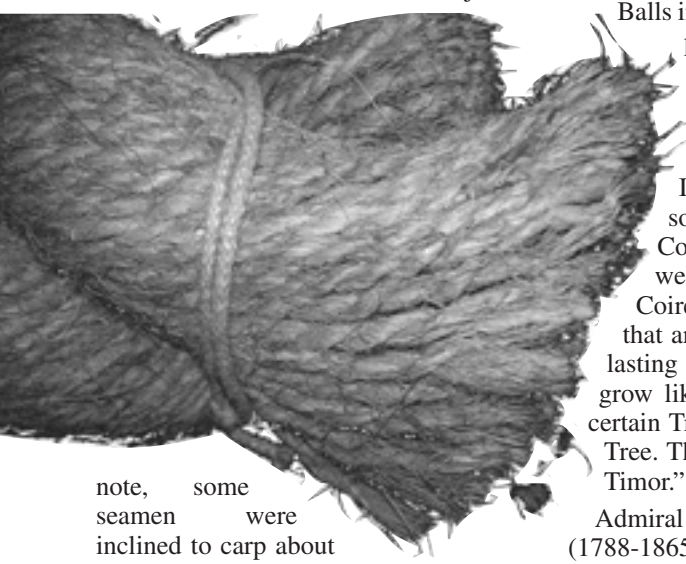
The mention of size calls to mind that I recently read in William Tyson's book, *Rope*, that Wright's Ropes Ltd., Birmingham, UK, constructors of the coir drag-ropes used at the January 1858 launch of the *Great Eastern* (then the world's largest ship), had a circumference of 47 inches/1.2m, and each rope was closed with four strands containing a total of 3,780 coir yarns!

The coconut, in its natural state on the coconut palm tree *(Cocos nucifera)* is completely covered by dense fibrous insulation, which in turn is covered by the outer bark - the husk. It is from the husk that the coir fibre is sourced. The fibres are retted, allowed to rot in shallow seawater for a period of two to eight months; this softens the husks, dissolves the acids, pectin, and the cellulose bonding the fibres (the longer retting periods produce a higher quality finished rope). The husks are then pounded on stones to free the fibres from the bast, which are then dried. Following a mechanical preparatory process to remove all excess debris the fibres are spun by hand-wheel into a two-ply yarn, up to a maximum diameter of 3/16 inch/5mm; at that time (1940s) no spinning machinery could handle the short, 10 inches/25cm, processed fibres. The main production areas are the Malabar Coast, Southwest India, and Sri Lanka/Ceylon. David Himmelfarb, the United State's leading cordage authority of the 20th century, mentions in his book, *The Technology of Cordage Fibres and Ropes*, that the fibre yarn is graded

according to the area of production and subgraded by the evenness of the yarn and its size. Best quality yarns for coir rope production are spun in the Anjengo, Aratory and Alapat areas of Southwest India, are a mid-brown colour, often with a reddish hue. The superior quality yarns from these areas are subgraded as A, coarsest, 300-350 feet per pound. AA 350-400 ft per lb. AAA 400-450 ft per lb. The yarns were supplied to rope manufacturers, worldwide, in the form of skeins weighing several pounds, which in turn were tightly compressed into bales of 336 pounds/3cwt/151.5kg.

Coir rope's Achilles heel

Coir rope's Achilles heel was the average length of its fibres, only around 10 inches/25cm long, which undermined its load bearing capacity. In comparison, manila fibres ranged from 5-15 feet/150-450cm in length, and sisal fibres 3-6 feet/96-l80cm. On a more subjective note, some seamen were inclined to carp about the brittleness of the coir yarns, claiming they were more prone to wear and abrasion than manila and sisal.



William Dampier, (1652-1715): the English (Somerset) seaman, buccaneer, privateer, navigator, explorer, etc., set out on his first meandering world circumnavigation when he left England in the spring of 1679 on the *Loyal Merchant*, bound for Port Royal, Jamaica. Twelve and a half years later he arrived back at the Downs on September 16 1691, aboard the East Indiaman, *Defence*. In his popular, best selling book, *A New Voyage Round the World* (first published 1697), he wrote:

"The Husk of the Coco-nut Shell is of great use to make Cables; for the dry Husk is full of small Strings and Threads, which being beaten, become soft, and the other Substance which was mixt among it falls away like Saw-dust, leaving only the Strings. These are afterwards spun into long Yarns, and twisted up into Balls for Convenience: and many of these Rope-Yarns joined together make good Cables. This Manufactory is chiefly used at the Maldive-Islands, and the threads sent in Balls into all places that trade thither, purposely for to make Cables. I made a Cable at Achin [now Banda Aceh, on the northwest tip of Sumatra; the first town flattened by the recent Indian Ocean tsunami] with some of it. These are called Coire Cables; they will last very well. But there is another sort of Coire Cables (as they are called) that are black, and more strong and lasting and are made of strings that grow like Horsehair, at the heads of certain Trees, almost like the Coco-nut Tree. This sort comes from the island Timor."

Admiral William Henry Smyth RN (1788-1865), compiler-editor of the celebrated *Sailor's Word Book*, first published in 1867 (still in print), also mentions "this other sort" of coir rope, which was sourced from a palm tree with

the then Latin botanical name, Borassus gomotus: "The stem has a long fibrous black cloth-like covering; it's from this that the black cables of the east are made. The coco-nut fibre being of a reddish hue."

More exhaustive 20th century botanical research has classified the above palm as belonging to the Arenga genus, and it now has the Latin botanical name *Arenga pinnata.* It's also known by the following common names in a variety of geographical locations: gomuti, jaggery, sago, sagwine, sugar, black sugar and black fibre palms. It's described as first-rate cordage and is made from a substance resembling long black horsehair, which grows on the trunk of these palm trees.

Returning to Dampier: he also mentioned another surprising rope material (also a great floater) when he wrote of having tow new cables made of rattans (canes), each cable, four inches in circumference, made to order at the port of Malacca, Malaya. This was at the time he was shipping out of Achin, Sumatra, in 1687-90, sailing as mate or master on a number of local trading vessels, working the ports and factories (trading posts) around the East Indies, India and South China Sea.

Caption Corner

Readers of *Knotting Matters* are invited to guess what your editor was up to on the IGKT stand at the recent Crick Boat Show!

Branch Lines

West Yorkshire Branch

The branch has had two display outings this year with one day at Skipton Canal Festival and one day at Stainforth Canal Festival and there is obviously a need among the boaters for the advice that we are able to give. Most of the boaters have no practical knowledge of knots and we are frequently asked, "What is the best knot to tie a boat up." There are also a lot of questions about how to make fenders for canal boats and whilst we suggest that they buy the book and make their own, most of them can find a good excuse not to. We were asked by two separate people who had barges if we could make five-foot bow fenders for them, whilst we could not manage that size we were able to give them the contact for a man who can.

Our next branch meeting is on the 19th November, with a theme that has not yet been decided.

David Pearson

North West Branch

The North West Branch held a local meeting at the Middlewich Folk and Boat Festival in June this year. This is the second successful year that we have attended this event and like last year proved to be another busy event with large crowds coming to this popular Cheshire market town.

We were supported at this event by Ken Nelson, Linda and Bruce Turley, Sue and Roy Morris, David and Sheila Pearson, Kate Nicholls (who brought her own boat to the event), Paul Wright and my wife Anne. My thanks go to all those who attended over the weekend.

Over the weekend we held a Six Knot Challenge. Unfortunately, we did not have that many people trying it. In hindsight, I think we should have publicised it better, however, the challenge was won in a time of 45sec by Helen Gardner of the Waterways Recovery Group who has her own boat. Her prize was a complete set of polypropylene fenders, which I donated as a prize. David Pearson did an admirable job in awarding the prize to her.

During the weekend we set up a ropewalk and made up some cotton mooring lines and cotton cable laid towlines for the Horse Boating Society. The mooring lines especially proved to be very popular with the boat owners.

We look forward to attending this event next

year (Dates are 16th and 17th June 2007 if you would like to come and help).

Dave Walker

Pacific Americas Branch

On a positive note, we have been showing off knots to plenty more people. On a middling note we have changed our leadership. On a down note we see fewer and fewer knotters being available for events. Let me explain all three to those who like details. If you don't like details, skip some paragraphs and see what else takes your fancy.

Showing off knots: at the Hyde Street Pier in San Francisco, California, we have been happily showing off our knotting skills and yours by displaying the Branch materials on three tables supplied by the National Parks Service for the purpose of having a Knotting Faire (for some reason, people seem attracted by the word Faire, although there was no attempt made by us to make this old-fashioned as the name may imply). Carol Wang was constantly working at beautiful pieces of Chinese knotting that she brought for display, Bob and Sue Bosch were happily ensconced in entertaining people with descriptions and explanations of the knots on display and yours truly (I) was showing any kids that came by the wonders of the "magic" appearance and disappearance of overhand and figure-eight knots on a piece of string, with the admonition that they should look after the knots I pulled off the string for them. The weather was cool but it did not stop several hundreds from coming to the pier and, in wandering by the display, stopping to say "Oh, I used to do that!" with a quick rejoinder of "But, I don't remember how to do them now." just in case they might be asked to display their skills for all. We greatly enjoyed the time we had there and our hosts were most gracious, for which our eternal thanks.

Changing our Leadership: On the middling note, we had our ninth annual general meeting in San Francisco at one of Frisco's finest restaurants, Capurro's. It was middling because, despite knowing that 'tis advertised in Boston, New York and Buffalo (words from an old sea-shanty, Blow Ye Winds in the Morning) there were a total of four IGKTPAB members in attendance, plus several family members to whom our very warm and grateful thanks go for having joined in the spirit and adventure, not to say having also stood in for our Members when, over the next two days, one had to visit the loo! We did have proxy votes from thirteen members, so that we were able to carry out our elections to pass the gavel on to Jimmy Ray Williams as our new Secretary/Treasurer, Jose Hernandez-Juviel as our continuing Librarian and Lindsey Philpott as the recycled President. Nevertheless, it is sad that we could not meet with more of our compatriots. We now do have a full Board, with Roy Chapman, Patrick Ducey, Joe Schmidbauer and Brian Kidd offering their services to guide our Branch through at least the next two years. Thank you to all who made their wishes known and especial thanks to our intrepid Board Members for stepping up to the plate - fine knotters one and all!

Fewer Knotters: How is it that a company of 1100 or 1200 knotters from all over the world do not take part (seemingly)

in the proffered services of the Guild? OK, this is not just about our Branch I realize, but it is symptomatic of the entire series of choices that we each make that only a small cotillion make it their activity to try to ensure that a good time is available for all. What might convince a person (and here, I am not talking about those who already are in attendance) to be present at a function or event? What might convince a person to write in their proxy? What would convince a person to become involved by writing an article for *Knotting Matters* or our own *Knot News*? I am not complaining here, because I feel that, as I have come to expect, 10% of our small company of knotting rogues does take part. But I wonder what happens to the other 90%? I shall make it one of the platforms to follow during this next two years.

I have heard from Ken Yalden through the KM pages of his reaction to the set of questions I posed in the previous issue, and I have heard from a total of four other knotters on that same subject - thank you all. What about the other 99.5%? Any other opinions available? We are looking forward to another year of shows (our year starts in September and finishes in June and we manage to put on about six or seven exhibitions a year) and to lots more involved chat about knots and knotting at our local Branch meetings. We welcome strangers (who is stranger than a confessed knotter?) and past members and of course all current members and we look forward to reading and hearing all about your activities. Join us as we wend our merry way through the intricacies of knotted matters - to adapt a phrase - come on in, for the cords are twine!

Lindsey Philpott

New Zealand Chapter

I have just been informed that New Zealand Chapter member, Jack Sheahan, has been awarded the Queen's Service Medal.

This has been awarded for his services to the New Zealand Fire Service, particularly to his home area, Silverstream.

When Dutch member, Willeke Van der Ham, was in New Zealand some years ago, I took her to see Jack in action, teaching a varied group of Firemen, knots splices and rescue techniques. We were impressed with the quiet authoritative manner that he dealt with the group.

This award recognises a lifetime of service to his community, to being an active fireman and one who has spent so much time helping and encouraging others.

Jack has been a stalwart on the floating crane the *Hikitia*, the New Zealand Chapter's headquarters, where he has been of great support to our other Guild member, Pat Cunningham. They make a great team splicing the big wires, making ships fenders and other assorted rigging activities.

Tony Fisher

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.

Hidden Secrets

I was delighted to read in KM87 [June 2005] of Selby Anderson's discovery that the Carrick bend enlarges in a Fibonacci sequence approaching the Golden Mean proportions. We may know less than half of all there is to learn about knots and they probably conceal many more secrets which like this one hint at underlying order and meaning. Whether detecting them will enable us to discern some supernatural power in the universe, or is merely the way we humans are hard-wired to comprehend things, I find this latest revelation exciting. As he (or she) is not a Guild member, and I have been unable to contact him (or her), I would simply like to say here and now, 'Selby, well done indeed'.

Geoffrey Budworth
Salisbury, UK

Marrison Splice

In reply to your letter concerning the Marrison Splice, it is a very common eye splice in France and used for making *"cordes à vaches"* or cow leads/halters. You can still buy these halters, which are a fathom or so long, in many agricultural equipment retailers of the region where I live (Normandy).

In my opinion, this knot shows that knots are not just designed according to the use to which they are to be put, to their holding/structural properties or to the material from which the rope is made. Indeed, this knot (I don't think it can really be classed as a splice as it is easy to undo and redo) shows how knots are also designed according to the method used in making the rope. This is an obvious case as you can only work it into a rope that has been made up from one single strand, wound from the rope machine to the end (swivel) hook in one continuous loop.

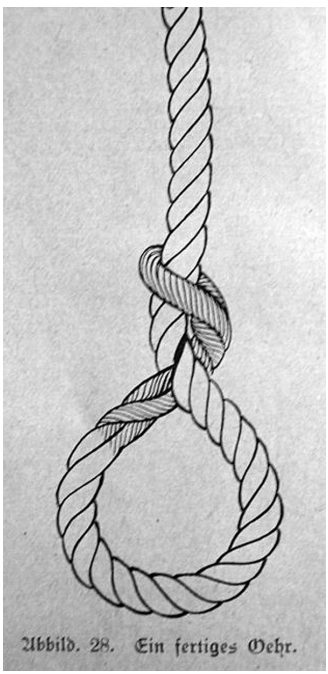
A final thought, I think that this knot is also best made with four-strand rope as the rope can be middled instead of "thirded".

Graham macLachlan
Ancteville, France

More Marrison Splice

Recently I looked in a small book printed in 1929 as guide and the use of ropemakers apprentices. Title of the book is *Leitfaden für Seilerlehrlinge*.

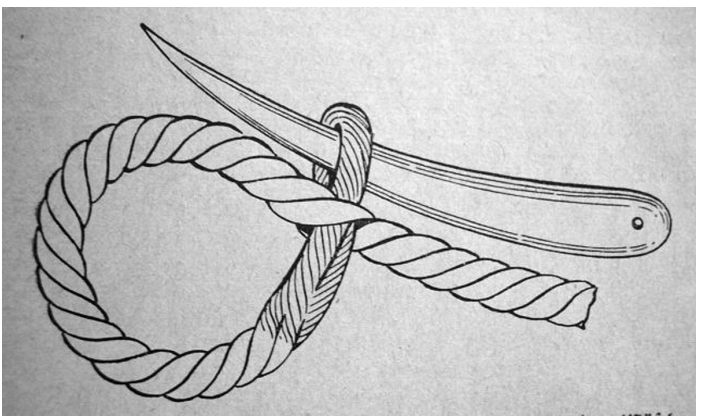
The eye of which has to be passed through the standing part of the rope is called "Mäsche". I have never heard this word before nor do I know what it means exactly . I think it is an expression used by the old ropemakers. Maybe it is used among them still today. The picture showing tools is taken from the same book.

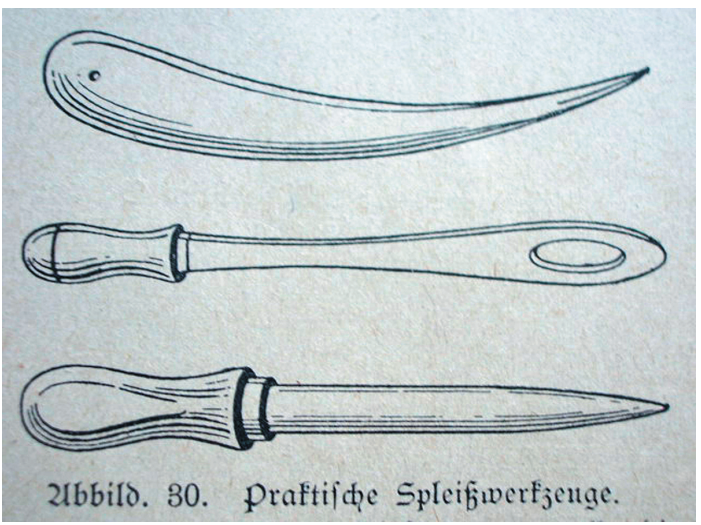


Two weeks ago when I visited a whaling museum on the German tiny island of Föhr, I have seen the same fid as you see on the picture. After seeing it in the book, I am sure: It is not a sailors fid what they have in the museum, it is really a ropemakers fid, called "Spleißhorn" or "Oehrnagel". Oehr in German means the eye of a needle. Second tool is called "Spleißnadel" (splicing needle) and the third tool is called "Drahtseilspieß". Drahtseil is wire rope and spieß means something like a lance.

I did`nt see that kind of splice in any knot book but will look out for it.

Karl Bareuther
Glucksburg, Germany





Ocean Plait

When others take over your idea it have been a good idea. Ken Higgs describes in KM91 a simple method to make a ocean plait.

I have made the original idea and design in 1987. I had the assignment to make with groups of children (age 7 - 15 years) something with rope in 15 minutes. I wished they make something and take along. It was directly a success, many children returned to make a ocean plait again.

I developed better the design and frequently used it on markets and workshops. In 1988, I published the design for the first time in the journal *Actie*, a publishing of Scouting Nederland. In 1989, I published the idea in KM26. And you see, there is still interest in it.

You can find an comprehensive description on my website.

The address is http: //home.hetnet.nl/~splits/indeknoop15/0.htm

Theo Slijkerman
Nijkerk, Netherlands

Knotting Diary

Guild Meetings

Half-Yearly Meeting
14th October 2006
Maison de la Jeuness et del la Culture
14000 Caen, France
Contact: Graham macLachlan
Tel: 0033 233 076 704
Email: igktfrance@club-internet.fr

25th AGM & 2K7
24th-26th May 2007
Fernham Hall, Fareham, Hampshire
Conact: Ken Yalden
Tel: 023 9225 9280
Email: ken.yalden@igkt.freeserve.co.uk

Branch Meetings

UK

East Anglian Branch
23rd September 2006
Museum of East Anglian Life,
Stowmarket, Suffolk
Contact: John Halifax
Tel: 01502 519123
Email:
john@endeavour-knots.freeserve.co.uk

Midlands Branch
9th October & 11th December 2006
The Old Swan (Ma Pardoe's),
Halesowen Road, Halesowen
Contact: Bruce Turley
Tel: 0121 453 4124
Email: bruce.turley@blueyonder.co.uk

West Country Knotters
30th September & 25th November 2006
Almondsbury Scout Hall, Almondsbury,
Nr. Bristol
Contact: 'Tug' Shipp
Tel: 01275 847438
Email: tugshipp@tiscali.co.uk

West Yorkshire Branch
19th November 2006
Scout Headquarters,
opp St Bartholemews Church,
Wesley Road, Armley, Leeds
Contact: David Pearson
Tel: 0113 257 2689
Email: wayzegoose_uk@yahoo.co.uk

Non-UK Branches

Alaskan
Every Wednesday evening 6.30-8.00
Anchorage Senior Center
1300 East 19th Avenue, Alaska
Contact: Mike Livingstone
Tel: 907 929 7888

Netherlands
30th September, 28th October,
25th November 2006
De Hoop, Nr Rotterdam Maritime
Museum, Rotterdam
Contact: Jan Hoefnagel
Tel: 078 614 6002

Pacific Americas
10th Octobe, 14th November,
12th December 2006
Los Angeles Maritime Museum,
San Pedro, California
Contact: Joe Schmidbauer
Tel: (909) 737 4948
Email: koolkatz@prodigy.net

Events

Australia
9th - 12th February 2007
Australian Wooden Boat Festival
Hobart, Tasmania
Opportunity for Australian IGKT members
to meet - visitors welcome
Contact: Frank Brown
Email: frank_brown@bigpond.com

INTERNATIONAL GUILD OF KNOT TYERS

IGKT the freindly Guild