

Knotting Matters

The magazine of the International Guild of Knot Tyers



Silver
Jubilee
Edition



GUILD SUPPLIES

BOOKS

Geoffrey Budworth

Plaited Moebius Bends £2.50*

Knotlore 2 - *a miscellany of quotes from fact and fiction* £2.50*

Knot Rhymes and Reasons £1.50*

The Knot Scene £2.00*

Brian Field

Breastplate Designs £3.50*

Concerning Crosses £2.00*

Eric Franklin

Turksheads the Traditional Way £1.50*

Nylon Novelties £2.00*

Stuart Grainger

Knotcraft £4.00*

Ropfolk £1.30*

Knotted Fabrics (Hardback) £9.00

Colin Jones

The DIY Book of Fenders £9.95

Harold Scott

A Guide to the Multi, Single-Strand Cruciform Turk's Head £4.00*

Skip Pennock

Decorative Woven Flat Knots with CD £12.50*

* Bulk purchases of these items are available at a discount -
phone for details

Supplies Secretary: Dave Walker
PO Box 3540, Chester CH1 9FU
email: supplies@igkt.net
Telephone: 01244 682117

Knot Charts

Full set of 100 charts - £10.00

Individual charts - £0.20

Knotting Matters

Some past editions available

- contact the Secretary for details

Guild Tie

Long, dark blue with Guild logo
in gold - £8.95

Rubber Stamp

IGKT Member, with logo
(excludes stamp pad) £4.00

Badges - all with Guild logo

Blazer Badge - £1.00

Enamel Brooch - £2.00

Windscreen Sticker - £1.00

Certificate of Membership

Parchment membership scroll,
signed by the President and Hon.

Sec., for mounting or hanging
- £2.50

Cheques payable to IGKT, or simply send your credit card details
PS Don't forget to allow for postage

Knotting Matters

The Magazine of the International Guild of Knot Tyers

Issue 95 - July 2007

www.igkt.net

Except as otherwise indicated, copyright in Knotting Matters is reserved to the International Guild of Knot Tyers IGKT 2007. Copyright of members articles published in Knotting Matters is reserved to the authors and permission to reprint should be sought from the author and editor. All sources of quotations printed in Knotting Matters are acknowledged.

ADVERTISING RATES

	Members	Non-members
Full Page	£50	£70
Half Page	£25	£35
Quarter Page	£15	£20
Full (colour)	£140	£170

COVER PHOTOGRAPH

Founder members Geoffrey Budworth and Des Pawson cut the birthday cake at the Silver Jubilee celebrations.

Back Cover

Barbara Sessions (USA TxB) tries her hand at Marudai.



Features

8 The lesser used two-strand ringbolt hitching is explained by **John Shaw**

10 You don't have to use a stool for braiding - **Theo Slijkerman** describes his simple method.

12 Should it be 'Fake or Flake?' **Graham McLachlan** investigates.

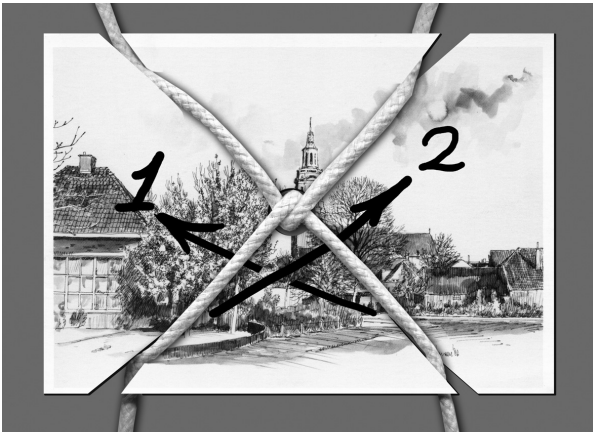
16 **John Halifax** shares his newly discovered replacement to the Turk's head for embellishing all things cylindrical.

19 Many of our greatest creations are based on a simple device. **Owen K Nuttall** explains one way that mankind has used cord.

22 What happened at Fareham. **Christina Ruth** and **Colin Grundy** share their experience.

40 Do you know how a ship's speed is measured? **Jerry Cronan** explains.

31 Canadien rock climber **Rob Chisnall** continues his study of the security of carabiner hitches.



Regulars

- 4** Knots from the Mouse Pad
- 14** Knotmaster
- 42** Branch Lines
- 45** Postbag

EDITOR

Colin Grundy
Tel: 07946841157
Email:
knotting_matters@btinternet.com

HON. SECRETARY

David Walker
Tel: 01244 682117
Email: dwfenders@yahoo.co.uk

MEMBERSHIP SECRETARY

Bruce Turley
Tel: 0121 453 4124
Email:
bruce.turley@blueyonder.co.uk

PRESIDENT

Ken Yalden
Tel: 02392 259280
Email:
ken.yalden@igkt.freemove.co.uk

GUILD POSTAL ADDRESS

for all correspondence
PO Box 3540
Chester, CH1 9FU, England

Annual Subscription Rates

Juniors	£5
Adults	£23
Families	£27
Group	£10

Corporate - by arrangement
The IGKT is a UK Registered Charity
No. 802153

PRINTED BY

Gipping Press Ltd.
Needham Market
Tel: 01449 721599
Fax: 01499 721372

ISSN 0959-2881

Knots from the Mousepad

I thought that showing a photo of myself in the workshop, with one of my fenders, might prove that I am a serious knot tyer and being Hon. Sec. is a second job. Therefore please understand if I'm a bit slow in replying to your letters, it may be that I am tying knots.

One of the perks of this job is that Guild members send in to me, pieces of their work. Quite a few times I've sat down and tried to figure out how do they do it. I am not complaining, keep it up, I love it. The last pieces I received, just before the AGM, I passed on to Sheila Pearson to put into the Guild's Raffle. So on behalf of the Guilds members, thank you for supporting the Guild.

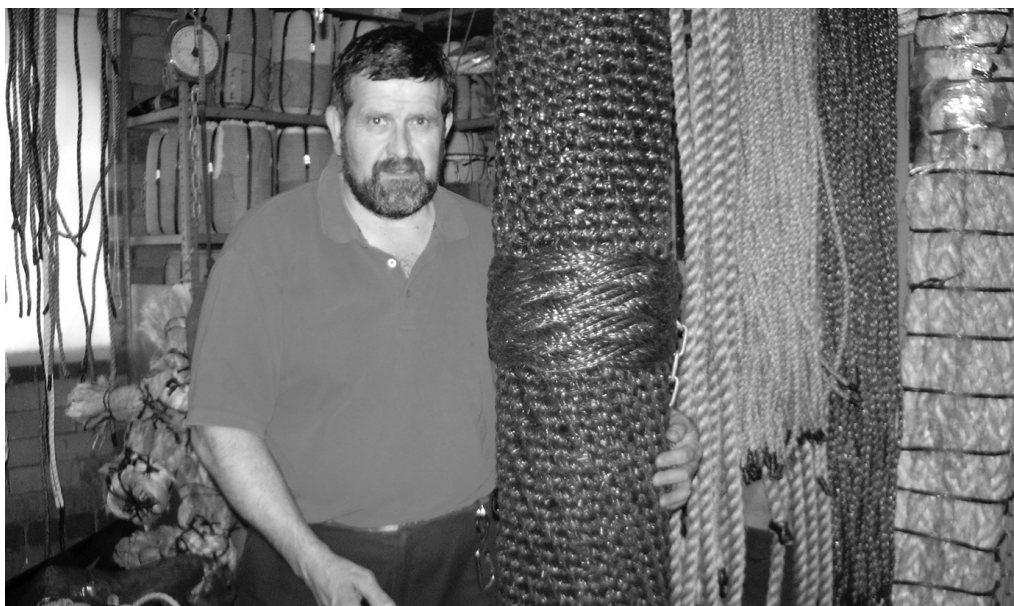
Getting down to serious business, our agreement with CAF will be coming to an end soon. If you pay your subs through them, please check your payment methods. If you pay by direct debit to them, CANCEL your agreement and ask me for a new direct debit form. Please

return the enclosed Gift Aid forms, we need every penny we can get.

Staying on the theme of paying money to the Guild, a problem we are having at the moment is, when you use credit/charge cards. Please give us all the details that are on the card including the three-digit security number that is on the signature strip on the back of the card.

Since taking over job as on Hon. Sec., we have delegated many of the responsibilities of the Sec. Nicola Tyrrell is Minutes Secretary, Bruce Turley, is Membership Secretary and Linda Turley is Treasurer. I think we have now achieved a really good administration team. None of the jobs are too difficult, and to strengthen the team we are looking for a Supplies Secretary. If you would like to join the team please get in touch with me

*Happy Knotting,
Dave Walker*



President's Letter

I do hope that the 'Silver Jubilee Celebrations' proved to be a memorable way to commemorate the first 25 years of the International Guild of Knot Tyers for all those who were able to attend, and that they share the view that it was looking forward in a confident way to start the next 25 years. I would like to take this opportunity to thank all who took part in the celebrations, with a special thank you to those of you who took time to send a card or email to tell me they were attending or not as the case may be.

For me one memorable part was 'Knot Academy Day', with five tables set each with six knot tyers earnestly bent on the task of learning from a 'Master', and in total silence, not something that often happens when you get a group of enthusiastic knot tyers together.

My only disappointment was the lack of young folk attending and I feel strongly

that this is an area that we as a Guild need to work on. However, the steady influx of general public, drawn in by the coverage in both the local papers, radio and television was rewarding, as was the interaction with the different craft folk of associated crafts which all added to the strong bond that was evident during the week and culminating in the Knot Supper held on the Saturday evening.

I have this morning received a very complementary letter of thanks from the Mayor of Fareham, who as well as formally untying a knot, to open our show, was most gracious in inviting all of our overseas members to her chambers for an informal visit, having enjoyed their company during an enthusiastic tour of our displays.

Now onwards and upwards into the 2007 summer season of various shows around the world which will include the Pacific Americas Branch celebrating their 10 year milestone in July. It only remains for me to wish good luck to you all in your forthcoming shows, and to remind you that these shows are really the seedbed for the young knot tyers yet to blossom.

Ken Yalden



Col's Comment

Some of you may have wondered why this issue of *Knotting Matters* is a month later than usual, or not as the case may be! If it has escaped your attention the International Guild of Knot Tyers is 25 years old this year, and we are celebrating our Silver Anniversary at Fareham in Hampshire. As your editor, I felt it appropriate that this issue should be published hot on the heels of the week's celebration. Indeed, as I write this editorial, I am sitting in Ferneham Hall in the company of knot tyers from around

the world.

Editing *Knotting Matters* is usually a solitary occupation, interspersed with emails or correspondence. It is a real pleasure to have this edition interspersed with live contact with members, as they come and chat about the magazine, or ask questions. To the many people who have complimented me on the look and style of KM, I say thank you. It would be easy to look on it just as a task to be done, rather than the pleasure it gives so many of our members.

The Half Yearly Meeting at Quarry Bank Mill Styal, Nr, Manchester

The North-west Branch has been invited by the Council of the IGKT, to host this year's October meeting. The meeting will be held at the famous Quarry Bank Mill, Styal. This is an historic building situated in the River Bolin Valley. It has excellent air, rail and motorway connections. There are many hotels in the area.

We are inviting all the regional groups to take part by putting on a display, we have plenty of space; please help us fill it. We are also looking for demonstrators and teachers. There is a meadow behind the Mill and we hope to have the Cheshire Forest Scout Group putting on a display there.

Entry to the Mill will be free to Guild members, Our Evening Meal will be in the Mill's restaurant.

We are thinking to have the formal Guilds business on Sunday morning, rather than the Saturday, what do you think?

More details will be passed on to you in the normal way nearer the time.

Keep an eye on our web site as well.

Dave Walker, North-west Contact.

28th Annual Telly Awards Announced



New York City, NY - The winners of the 28th Annual Telly Awards have been announced. With a record of over 13,000 entries from all 50 states and around the world, this year's competition has been the most competitive and successful in the long history of the Awards.

Robert Black and the Marlinspike Knot Works were honoured with the following four awards for excellence:

Hobby/Craft Category

Silver Award - DVD Making a Turk's Head Bracelet

Bronze Award - DVD Decorative Knotting & Braiding in Leather

How-to-Instructional Category

Bronze Award - DVD Making a Turk's Head Bracelet

Bronze Award - DVD Decorative Knotting & Braiding in Leather

Founded in 1979, the Telly Awards is the premier award honouring outstanding local, regional, and cable TV commercials and programs, as well as the finest video and film productions. Winners represent the best work of the most respected advertising agencies, production companies, television stations, cable operators and corporate video departments in the world.

A prestigious panel of accomplished industry professionals evaluate entries to recognize their distinction in creative work. Past winners include Dick Clark Productions, DreamWorks, The Discovery Channel, Kennedy Space Center, Proctor & Gamble, The Learning Channel, The History Channel, Disneyland Resorts, Marshall Field's, QVC, Nike and Bass Pro Shops Video Productions.

Robert Black commented, "Receiving these awards is an honour and represents my commitment to create the very best educational experience for my customers".

Maverick Ringbolt Hitching

from 'John Shaw'

(illustrated by Geoffrey Budworth)

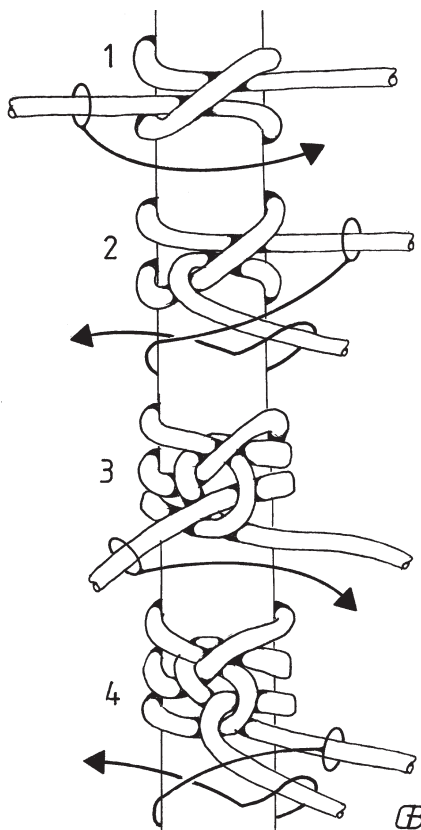
There are better-known forms of ringbolt hitching done with two strands (such as A#3608 and 3609), and others with three or more. The two-strand variant featured here is not often seen, perhaps because it is subtly asymmetrical. Nevertheless, decorative knotting devotees may like to add it to their repertoires.

- * Tie a clove hitch (1).
- * Next bend the lower end back and then trap it onto the ring or other foundation with a half-hitch made in the other end (2).
- * Repeat this process (3, 4) as often as necessary (5).

Ringbolt hitching of any sort, when tightened, can slide around off-centre. In this instance encourage it, using the asymmetry of the braided portion as the face of a flower to outline its circular foundation (5). Note - the illustration purposely shows the knot work loose and open to reveal its construction. Make it more compact.

No doubt many KM readers have already discovered this cute maverick for themselves, or are aware of some published source for it, but do you know the trick way to tie it?

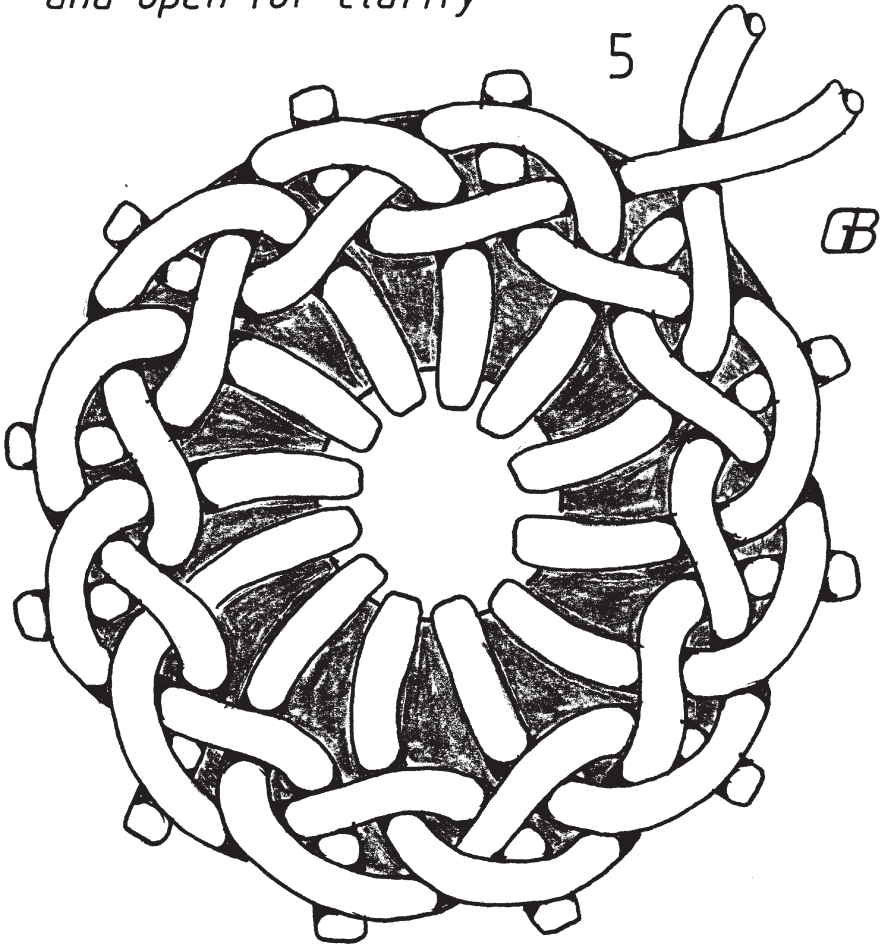
- * Start with A#2541 (Clifford Ashley's one-handed method of tying a clove hitch);
- * Then simply repeated the same finger movements once, twice ... several times.



The result will be this ringbolt hitching *on your thumb* ... not at all practical, since thumbs neither require nor are comfortable with ornamentation of this kind (which cannot then readily be removed onto a ring); but - who knows - maybe you can find an application for this offbeat tying method too. 🍀

Ringbolt hitching (2-strand)

*Knotwork left loose
and open for clarity*



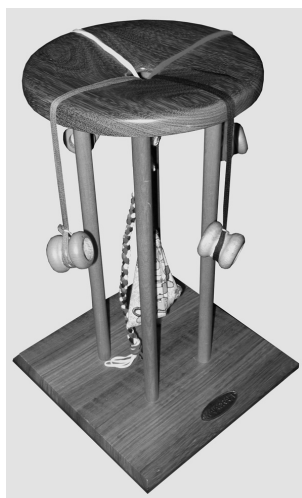
NEWS FLASH!

Police investigating a series of robberies, in which all of the victims were tied up with knotted ropes, believe that the same suspect committed each crime. A police spokeswoman said, 'The offender has a unique nodus operandi'.

Square Sennit with Mobidai

Theo Slijkerman

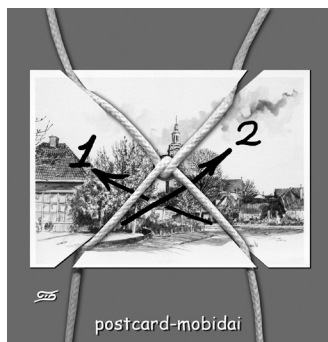
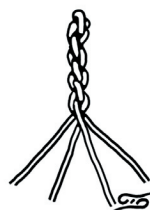
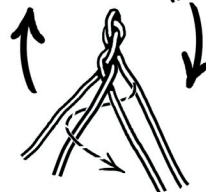
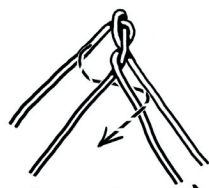
The square sennit with four strands, also called four-strand-round-sennit, it is generally made like here has been represented. See also Ashley #2999 and #3000.

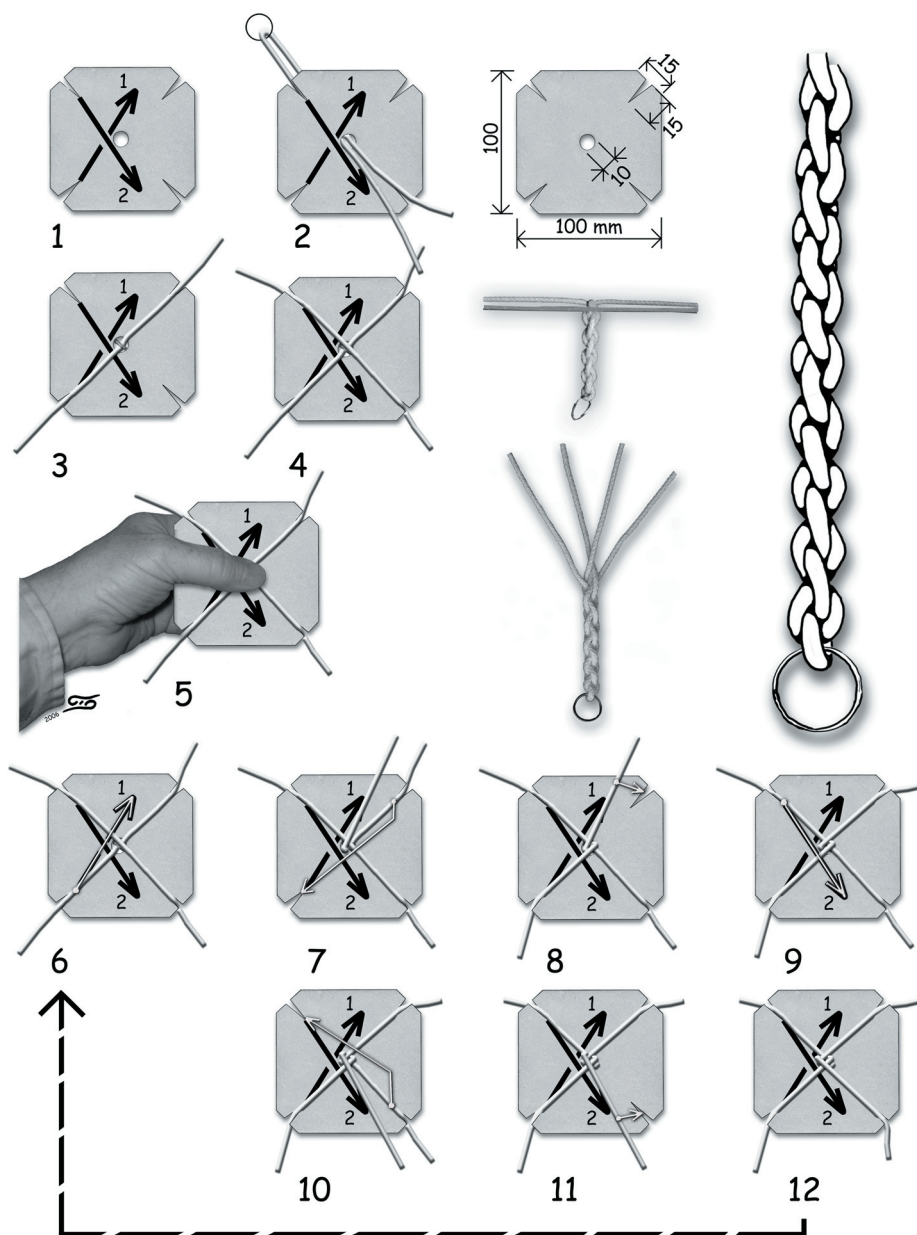


On holiday, with bicycle, tent and wife on tour, I got an idea. Kumihimo is the art of Japanese braidmaking, used the marudai, a little round table with a hole in the middle (see also Ashley #3037). Nowadays you can buy disks, with which you can make this complex braid technique also from the hand. As far as I know such a disk (in Europe) is called a mobidai (from mobile

maru-dai). For the square sennit I have made a very simple mobidai. A postcard cut at four places, a hole in the middle and two arrows signed. Sitting in the sunshine I have made a number of square sennits.

With this simple version as a basis, at home I have improved this mobidai for these sennits and made the description, which you find on next page. You can make a mobidai simply from a bit firm paperboard with dimensions 10 x 10 cm. The drawings speak for itself and no further explanation is necessary. 🌀





Fake or Flake?

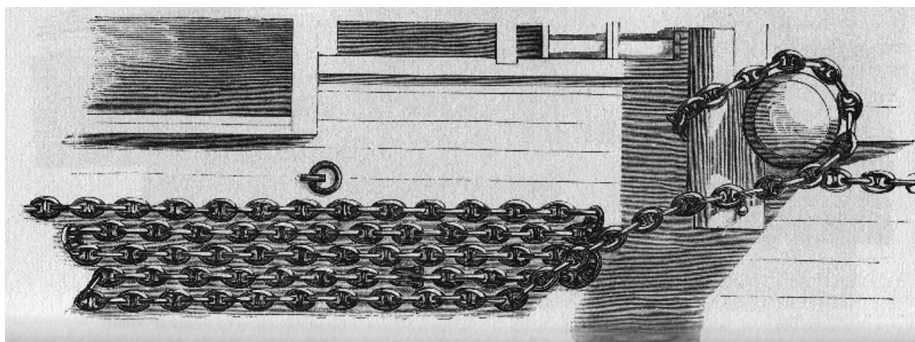
Graham McLachlan

I was reading through the chit-chat on the forum when I came across a thread discussing the origin of the word 'fake' as in 'fake down a rope'. Someone put forward that *'this was probably a typeset error in an Admiralty Seamanship Manual which should (if it describes what you are doing with a rope) read "Flake down a rope" but it was in the Seamanship bible - so it was right!'* I only knew the term 'flake' (having done it enough on the deck of a ship!) and had never heard anyone say 'fake', so I thought I would look into it.

What better place to start than my trusty friend the *Oxford English Dictionary* who told me that the nautical verb 'fake' meaning *'Lay (a rope) in coils so that it runs clear; coil'* was first attested in Late Middle English, roughly the 14th century, whereas the verb 'flake' with the same meaning first appeared in the late 19th century! The latter was also attributed the additional meanings 'lay

out a chain cable on the forecable deck for examination' (how precise!) and *'lay a sail down in folds on either side of the boom'*. Interestingly enough, the nouns 'fake' and 'flake' meaning *'a single turn of a coiled rope or hawser'* both appeared in the early seventeenth century, more than two centuries after the verb 'fake' and two centuries before 'flake' became a verb... The OED gives no origin for the word 'fake' but proposes that 'flake' comes from the German flechte of the same meaning. Also, outside of the nautical field, 'flake' was used in the late sixteenth century to describe *'a bundle of parallel threads'*, possibly drawing its origin from the Old Norse *flakna* meaning to 'flake off' or 'split' - and this may well be a plausible origin for both 'flake' and 'fake'.

Looking elsewhere, William Falconer's *Dictionary of the Marine* puts 'fake' into its (albeit late-18th century) context and is worth looking at here: *Coiling implies*



*Chain flaked out on a fore deck, ready to run.
Source: Nares' Seamanship 1862.*

a sort of serpentine winding of a cable or other rope, that it may occupy a small space in the ship. Each of the windings of this sort is called a fake, and one range of fakes upon the same line is called a tier; there are generally from five to seven fakes in a tier, and three or four tiers in the whole length of the cables. This, however, depends on the extent of the fakes. As I understand it (and this corresponds to my own shipboard experience) Falconer is describing a rope or chain laid out in parallel runs, like the lanes in a motorway, ready to be sent ashore or to follow the anchor into the water. However, the Admiralty Manual of Seamanship 1908 seems to consider a ‘fake’ to be one single revolution of a rope [a fake] *is a circle or ring formed by coiling a rope*. The latter may well just be sloppy definition because a revolution of rope in a coil is generally known as a ‘coil’ (late 16th century). The OED’s definition above talks of ‘a single turn’, but perhaps this name is only correct when the rope *turns around* something... although Biddlecombe in his *Art of Rigging* agrees (and doesn’t mention ‘flake’): *one of the turns of a rope when stowed away, or coiled.* The Manual of

Seamanship also defines ‘flake’ thus: *To arrange a rope or hawser in layers so that it will run clear.* I wonder if the ‘layers’ are what Falconer calls ‘tiers’? Funnily enough, it goes on to contradict itself when describing the laying out of hawsers in a small boat by saying that a single coil is called a ‘flake’ and not a ‘fake’: *...the hawser must be flaked round the boat close to the sides on top the thwarts, and each flake secured with a good stop...*

In two of my French-English nautical dictionaries dating 1848 and 1910 ‘fake’ is translated as *lover* meaning ‘to coil’ and ‘flake’ as *échafaud* which corresponds to flake’s other meaning which, according to the OED, is ‘a small stage or workmen’s cradle hung over the side of a ship’ and dates from the mid-nineteenth century.

Turning to literature, in *Two Years Before the Mast*, Richard Henry Dana’s brilliant account of sailing around the Horn to San Francisco (published in 1840), the author describes the process of swinging the lead aboard ship: “Watch! ho! watch!” *bawls the man on the cat-head, as the last fake of the coil drops from his hand, and “Watch! ho! watch!” is shouted by each one as the*


	FAKE	FLAKE
LME	verb: Nautical. Lay (a rope) in coils so that it runs clear; coil	
L16		noun: A bundle of parallel threads [Perhaps from Old Norse <i>flakna</i> flake off, split].
E17	noun: Nautical. A single turn of a coiled rope or hawser.	noun: Nautical. A single turn of a coiled rope or hawser. [Cf. German of same meaning <i>flechte</i>]
M19		noun: Nautical. A small stage or workmen’s cradle hung over the side of a ship.

line falls from his hold; until it comes to the mate, who tends the lead, and has the line in coils on the quarter-deck. Eighty fathoms, and no bottom! In more florid terms, the last shantyman to be employed on a clipper, Stan Hugill, uses flake in the shanty *Rolling Home* in his 1961 collection *Shanties from the Seven Seas*:

*Call all hand to man the capstan,
See the cable flaked down clear;
Heave away and with a will, boys,
For old England we will steer.*

So in conclusion, whatever its origins, in nautical terminology, ‘fake down a rope’ is quite possibly five centuries older than ‘flake down a rope’ and certainly much older than the first *Admiralty*

Seamanship Manual. But, if you are now confused as to which term you should use, take a lead from the greatest of all nautical writers, Joseph Conrad, who had no truck with ‘fake’ or ‘flake’ and never used either word in any of his novels:


‘The ship was ready for sea... The decks had been swept, the windlass oiled and made ready to heave up the anchor; the big tow-rope lay in long bights along one side of the main deck, with one end carried up and hung over the bows, in readiness for the tug that would come paddling and hissing noisily, hot and smoky, in the limpid, cool quietness of the early morning.’ *The Nigger of the Narcissus*, 1897. 

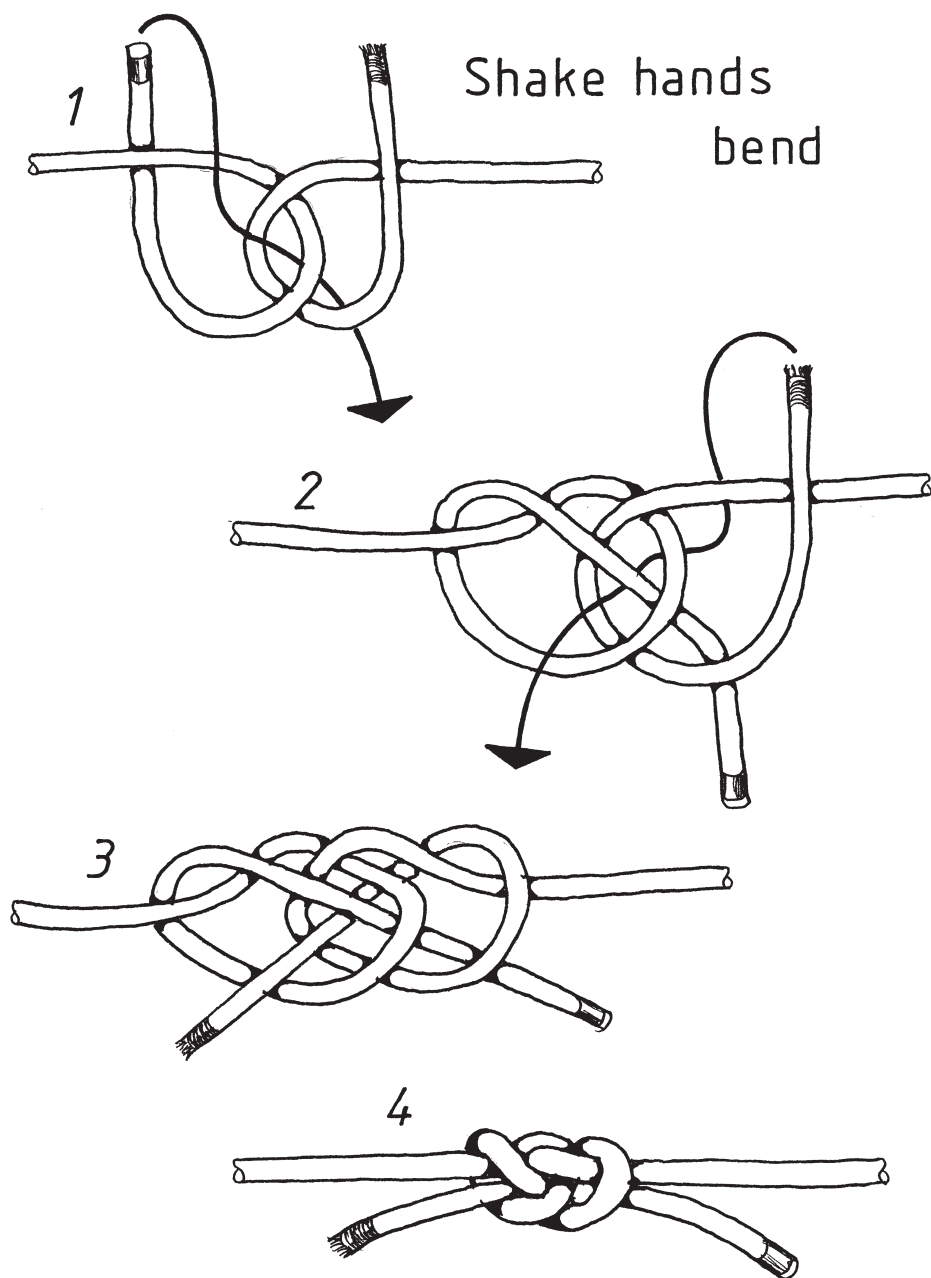
Knotmaster Series No. 33

‘Knotting ventured, knotting gained.’

Shake hands bend

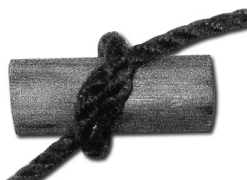
There is an entire clutch of bends that can be created with two interlocked overhand knots. The rigger’s (Hunter’s) bend and the Zeppelin bend are well-known. This compact cousin is another, which was first described by the late Harry Asher (a Guild founder-member) in Volume I of *A New System of Knotting* (1986),

Make a couple of interlocked loops, one overhand and the other underhand, as shown (fig. 1). Tuck each end in turn down through the central compartment (fig’s 2, 3). Tighten the resulting knot (fig. 4). 

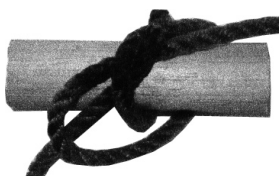


The Single Strand Matthew Walker - Ring Knot

John Halifax



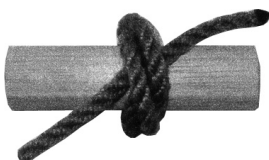
1. Overhand Knot



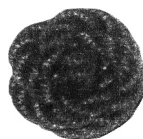
2. Clockwise round (and over) the standing end and through under the cross-over.



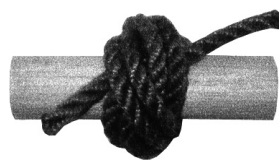
3. Round again and this time keep to the right hand side of the standing end and through and there you have it. (The mystery solved?)



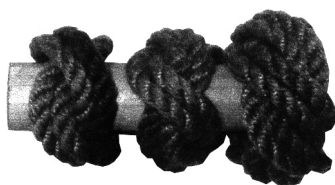
4. A Single Strand Matthew Walker 'RingKnot'



6. As at 4 - Tighten in to form a Button Knot 'Flower bud' (Tuck end back into centre to form loop/knob for Earring, Plaque or Knot Boards)



5. Follow round into two-ply. (The method is over two under two, then three then four.)



7. Left: A two-ply Blood Knot
Centre: A two-ply Triple Overhand (French Needlework Knot)
Right: A two-ply Blood Knot - 'New Single Strand Matthew Walker Ring Knot' (Follow the same principles as at 1, 2 and 3 above.



8. A selection of Single Strand Matthew Walker Ring Knots

*The knot that has been missing from our portfolio.
A welcome change from the ubiquitous Turk's head binding
knots that have been with knot tyers for generations.
This for a different embellishment on all things cylindrical.*

During 1995 after I had finished formatting and presenting my book *Something Different the Suffolk Collection*, about my newly discovered single strand button knots (53 in number) I set about learning how to present them as earring knots and learnt how to colour and mount them onto earring findings.

One day I saw an illustration in a magazine for a pair of earrings in a circular spiral design in what appeared to be gold wire and I set about attempting to replicate this design in cord!

All I did was to scroll the cord round clock-wise into a circle, passing the working end through and round and through about three times until I achieved a symmetrical nice looking shape - but - then decided to make it look like a rose bud by closing and tightening the turns in until it looked like a flower bud and then raising the working end up through the centre and forming a little raised looped bight knob. This looked very aesthetically pleasing to my eye and I was satisfied!

Eventually I worked this idea around my left index finger starting with an overhand knot and it took me quite a long time (weeks into months) to achieve the finished Matthew Walker knot.

I would get so far but it would not lay correctly and evenly until eventually it came right and I discovered the secret!

As follows: Form a right handed clockwise overhand knot (this of course being the basic start of all/any Mathew Walker knots when using multiple strands/cords. Then come round again

to the cross-over point and depending on which way you are viewing the forming knot, pass the working end over the standing end of the cross-over twist of the overhand knot to the left side or behind the cross-over point, and take it through and under the cross over from left to right, in other words through the circular forming knot.

At this point it is interesting to note that Ashley page 96 - No. 577 gives a single strand three-ply knot superficially resembling the Matthew Walker knot after it has been drawn up evenly and tautly. Note the wording 'superficially resembles' because this is where I initially got to in my experiments with this conundrum. Annoyingly it took a lot more 'doodling with my short end' before the full perfectly formed knot fell into place. (The original discoverer of this knot No. 577 was just one carefully placed tuck away from the full single strand Matthew Walker knot, so near, so far, what a pity!)

I doubt any person now will believe me when I say that I did not refer to Ashley at that time in the early 1990s when I discovered this interesting concept of the single strand Matthew Walker knot. I was too busily engrossed with the intriguing discoveries of my collection of single strand button knots and perfecting cord earring knots of the flat dimensional type!

I realised afterwards that (one usually cannot see what is right under your nose as the saying goes) and that simply

all that was required was to bring the working end round and over the standing end and through once more but not over the initial overhand cross-over but to the right-hand side or in front of the cross-over point then through and 'under' and hey presto, there it was. In effect it is very very simple to make. However to follow it round into two ply is another matter.

It requires very careful placing of the working end as you follow round and take the end under and through all the circular bights. It is annoyingly simple to make a mistake. The knack is to remember that the whole concept is based on the principle of 'over two, under two' and then over three and under three and then over four and under four and there you have it. I call it a ring knot, which is a refreshing change from the usual Turk's head binding knots and will I am sure compliment many a fancy crafted item of ropework.

It can be finished as a two ply knot as well as a three ply knot and the two ply, enhanced with a third coloured centre ply inlay in a blending or contrasting colour has a very pleasing effect. You cannot do this with the conventional multi-stranded Matthew Walker knots. (The single overhand Matthew Walker/ring knot gives four bights around the side rims and is suitable for circumferences up to about 20 - 25mm/one inch. For larger diameters you will need to start with a blood knot, double overhand knot that will give a seven-bight side rims). This is a little trickier to achieve though. Follow the same starting principles as for the single over-hand knot method but make a blood knot of two twists and remember when you go through for the second time round, to go through a second time again and carefully lay up the strand. But not as you would lay up/in for a grommet strop/quoit' (For an even larger circumference you will need to use the

triple/treble overhand knot, aka a French knot or needlework knot, which will give ten side rim bights. This is even trickier to lay up and interestingly can give a zig-zag effect!

It is again interesting to note that Ashley gives a ring knot at No. 1412 page 259 and suggests it is also known as a gut knot and likens it to a water knot. Knot 1412 is nothing like a single strand Matthew Walker knot and really nothing like a ring knot, save it spirals around itself and is more like its siblings the barrel and blood knots. In my opinion a complete misnomer!

How on earth this Matthew Walker knot in its single strand format has eluded thousands of knottists over generations is perplexing to say the least.

The nearest compatibles to this knot are 1. the French needlework/seamstress knot (triple overhand knot). 2. Ashley page 96 No. 577 and page 259 No. 1412.

There are many many knots that spiral and turn around any given circumference but non so handsome or appealing as the Matthew Walker in all its differing faces and formats! 🌀



Rope Ends

Quirky Quote

'I asked him where he had it made, he said he made it himself, and when I asked him where he got his tools said he made them himself and laughing added if I had staid [sic] for other people to make my tools and things for me, I had never made anything.'

(James Gleick,
Isaac Newton, a Biography
- 2003)



Owen K Nuttall

“The pyramids could not have been built without a guideline”.

To me what helped civilisation to be what it is today is the simple line band. At its most primitive just used for tying together poles to form a simple shelter or today used in setting out the most intricate of buildings, roads and such like. The pyramids could not have been built without a guideline. Walls were built from the corners to keep them

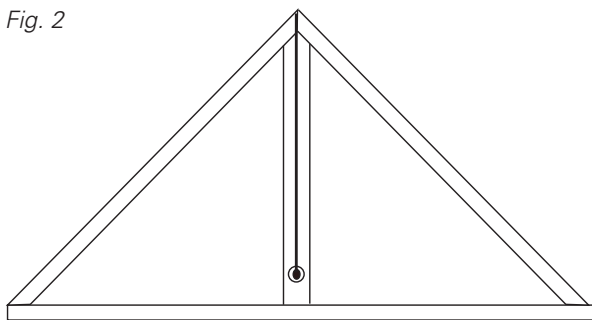
plumb (vertical) and a plumb bob was used (Fig 1).

This is a piece of wood a metre to one and a half metres in length, 100 millimetres wide and 30 millimetres thick. The piece of wood was straight edged and the same thickness all the way down. An inverted V was cut out of the bottom or a pear shaped hole was cut in the bottom of the

plumb rule. The base of the hole was about 100 millimetres from the bottom. The line was attached at the top of the plumb bob (three slots about 15 millimetres deep, the centre one exactly in the middle.) The line with a pear shaped weight



Fig. 2



attached was fixed until the weight was in the centre of the cut out hole and the line secured by fixing the line in the two other cuts at the top. A line marking the centre of the plumb bob from top to bottom. The plumb bob was placed against the corner stone, and when the line band was in line with the marked line, the corner stone was truly vertical.

The levelling was similar, but a triangular configuration was used (Fig 2). When the plumb line was attached to the top of the triangle and the point of the plumb weight was at the marked centre of the base of the triangle the stone wall was level. Both these have been superseded by the spirit level which has only been in use from the 1930's. One item, which has not changed over the years, is the line band that was used to keep the walls straight. This was a simple arrangement of

two pins attached to a line. One pin was fixed at one end of the wall and the other at the opposite corner. The only change in thousands of years is by the type of line and pin. Today's line pins are stainless steel, 150 millimetres long with a flat top 25 millimetres across, and a spear-like finish from half its length. The top section is seven to eight millimetres thick. The line is wound on from one pin to the other in one continuous length. Builders have two pairs, one for short intermediate walls and one for long exterior walls. The line is now mostly three-strand nylon (although some builders still prefer cotton line bands). The line is about one or two millimetres thick and 25 kilo braking strength. The line is attached to the top of the pin with half-hitches or a clove hitch, and wound down whiplike (Fig 3) to the base of the flattened part of the

pin and back up halfway and secured with a half hitch. The line is wound on using a figure of eight method, all the time twisting the pin while holding the line, while winding the line with a figure of eight. This prevents the line from kinking. After winding on about four metres of line, a few straight turns are taken around the pin and secured with a half hitch. If one of the pins drop out, it only falls a short distance.



Fig. 3

The line is built up with the figure of eight method until half the required line needed. The same amount of line is pulled off the spool, cut off and the end secured to the second pin, therefore making a knot free line between the two pins. If a breakage occurs, the line is repaired with a knot, usually a

'butterflies sunning themselves.'

reef knot, sheet bend or granny. If the wall is of a short length the repaired line can be wound onto one pin leaving a knot free line, although I have seen lines with numerous knots which in the building trade is referred to as a 'washing day line' or 'butterflies sunning themselves.' The only knot that lies true is a thumb knot with one side of the knot presenting a perfectly straight line. The disadvantage is that it is very bulky on the opposite side. With 'Sods Law' coming into play the bulky side prefers the wall side preventing a true line. I find the marling splice better than any other knot for repairing the line. To secure the line to a pin, a half hitch, two half hitches or clove hitch is

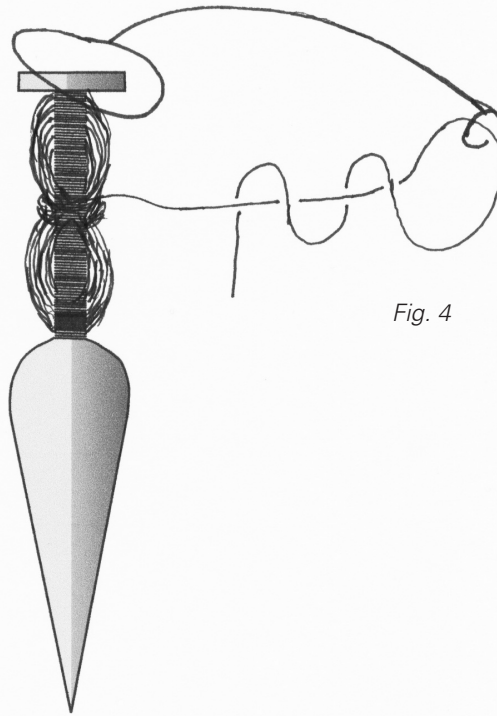



Fig. 4

used. I use a locking hitch (Fig 4). To tie the locking hitch, place the line across your fingers, do one full twist then place the loop over the pin with the back of your fingers facing the pin. I can't say I know any other builder who uses this method for securing the line to the pin. It is the only knot that does not work slack when tied correctly, especially in new nylon line. The only way this knot can be untied is by the use of a thumbnail and if you have very little or no nails it is a struggle.

The use of building line today is for setting out new buildings regardless of size and shape. After the corners have been built to a specific level, the line pins are used to keep the walls plumb and level. Roads are laid out with kerbs using a line band. Joiners use them for roof and studding walls, and the tiler uses a coloured line (which is twanged to mark the roof felt as a guide for the roof laths).

Today no substitute has been found to replace the good old line band. 



Knot to be Missed

Christina Ruth & Colin Grundy

Photo- Bruce Turley

The Silver Jubilee of the International Guild of Knot Tyers was aptly named *Knot to be Missed*. The weeklong celebration that was held once again in Fareham, Hampshire, as was the 20th anniversary was awash with lots of brilliant knot tying.

So, what was special about this event? It must surely be the fact that so many people from so many different backgrounds and parts of the world can be united by one common aim - to tie knots! To those of us who were present in 2002, it was the reuniting of friendships formed then, for those who weren't, it was the creation of new friendships. To find out what went on, read on!

The Workshops

The first couple of days were located at the stable room of the Red Lion Hotel. The room was a bit cramped and bereft of natural light (Liz Pawson was hidden behind a screen in a back corner making great use of the one window that shed a little light on the subject,

namely her intricate belt making project). On the Tuesday, members took the opportunity to talk, show and learn, an informal day by and for the members.

Wednesday was filled with formal workshops, the 'Knotting Academy'. Barry Brown gave net making classes, Jeff

Nancy Simons (USA) & Barry Brown (UK)



Photo- Christina Ruth

"You're here to enjoy yourselves, so get out and enjoy yourselves."

Wyatt made covered ball key fobs and Steve Judkins tried to make the pineapple knot easier. These were just some of the workshops available. There was no lack of members willing to teach, or wanting to learn and absorb as much as possible. There was plenty of work to admire but due to lack of space most members had not put up a full display.

The Visits

Visits had been arranged for those who wished to take a break from the knot tying. On Tuesday, some members went to the 170 metre high Spinnaker Tower at Portsmouth. It is said that on a clear day,

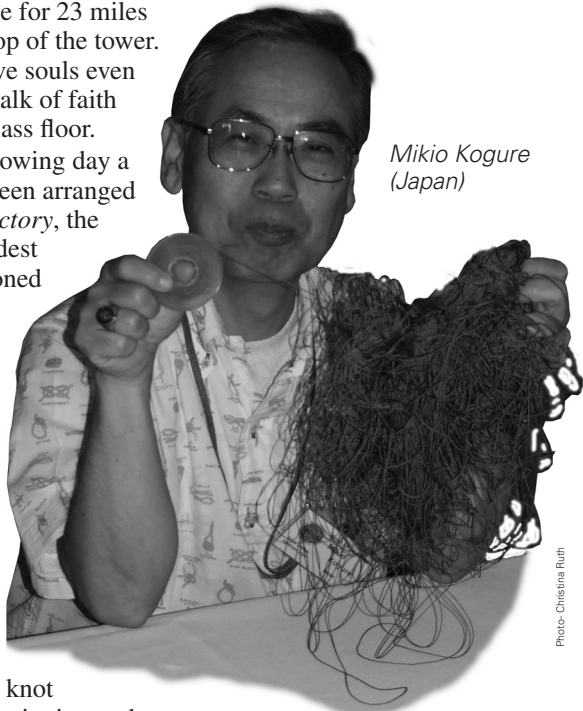
Sheila Pearson, Roy Morris & Barry Brown (UK) at the Spinnaker Tower

you can see for 23 miles from the top of the tower. A few brave souls even took the walk of faith over the glass floor.

The following day a visit had been arranged to *HMS Victory*, the world's oldest commissioned warship and Lord Nelson's flagship at the Battle of Trafalgar. Needless to say there was great interest shown among the knot tyers to the rigging and ropework of this old vessel.

Fareham Hall

On Thursday the venue moved from the Red



Mikio Kogure (Japan)

Photo: Christina Ruth

Lion to the spacious auditorium of Ferneham Hall. The atmosphere was electric as the members set up their displays and prepared to meet the public. Geoffrey Budworth was selling yet another book, witty knot poetry called *Knotty Potty* by Jennifer Wren. Footrope Knots were open for business selling tools, materials and books on our favourite subject. Sheila Pearson was preparing to sell raffle tickets to anybody who stood still long enough.

The displays were varied and colourful, as were the members. From



Photo: Bruce Turley

Photo: Christina Ruth



*Doris Dunkinson,
Hampshire Guild of
Spinners & Weavers*

*The Mayor shares a joke
with Robin Gray (UK)*



Photo: Willeke van der Ham



*Jon Bond, Wessex Guild
of Fly Dressers*

as far away as Japan, Canada and the USA and closer to home with members from Germany and the Netherlands, just to name a few. A great representation of what we are all about, from narrow boat knots to amazingly beautiful and intricate tatting work and all aspects in between.

A number of other organisations with similar interests had been invited to take part. The Hampshire Guild of Spinners & Weavers, the Ring of Tatters, the Wessex Guild of Fly Dressers and the European Association of Ships in Bottles, all showed their crafts.

An administration desk had been set up to deal with registration and local issues, manned by the Solent Branch.

Bruce and Lynda Turley were on duty to handle IGKT membership issues, while other members of the Solent Branch appeared here, there and everywhere to ensure the meeting ran smoothly.

Meanwhile, members chatted about their displays, or simply showed or learned to tie knots, which was the reason why we were all there.

The Opening

The Mayor of Fareham, Councillor Mrs Katrina Trott, accompanied by her Consort Mr Peter Trott, opened the show. She declared the event open by untying a ceremonial reef knot, witnessed by our President and Chairmen (the two Ken's).

They spent a considerable amount of time viewing the exhibits

Photo: Bruce Turley



Elliot Simons (USA) & Jeff Wyatt (UK)

and took time to talk to as many knot tyers as possible. They showed considerable interest in our craft. Local BBC reporters came to film the event, with Geoffrey Budworth acting as our front man. The filming was shown all over the south of England.

The following day, all the overseas visitors were invited to the Mayor's

Frank Brown (Australia)



office in the Council building next door. Everyone remarked how cordial and friendly the meeting had been. It also gave our members chance to view the knot board presented to a previous Mayor commemorating our 2K2 meeting in 2002.

Focus on Youth

The theme of this meeting was 'Focus on Youth'. A great deal of work had been done behind the scenes to attract younger people to the exhibition and encourage them into a world of knotting and ropework. Local youth organisations

Marilee Warner (Germany) and Bill Holt (UK)



(Scouts/Guides, Sea Cadets and others) had been contacted through the youth department of Fareham Borough Council.

A Learning Centre had been set up in the main part of Ferneham Hall, manned by a rota of knot tyers to teach and demonstrate to any young people who desired to learn. A Knot Information post was available to try and answer questions that anybody might have.

Sadly, the host of young people we hoped might come to see and try, failed to materialise. It was not through the lack of advertising, we had good coverage on local TV and press. The reason why will obviously be considered by the Guild Council.

The Raffle

As with most Guild meetings, a raffle is held to help defray the cost of the meeting. This time, as at 2K2, a raffle was held each day, with a Grand

Photo - Colin Grundy

Photo - Bruce Turley

Photo - Bruce Turley

Sheila
& Dave
Pearson
(UK)



Photo: Christine Griffin

Raffle being held on the Saturday evening at the Knot Supper.

There were so many prizes donated by Guild members and Marlow Ropes, that each raffle draw took quite a long time. The Grand Raffle held just a few special prizes.

Again, Sheila Pearson did splendid work selling raffle tickets assisted by Pauline Bentley. Who could resist two such charming young ladies?

David Pearson (he of the broad Yorkshire voice) once again was Draw Master, ably assisted by Barry Brown (scrutinizer). Woe betides anyone who missed the number on its second calling - "too late, it's gone". Thanks also to

everyone who dived deep in their pockets to buy tickets.

The Presentations

Thursday was the day for presentations. These were held in the Meon Suite adjoining the main theatre, so those members

who wished to chat or just tie knots didn't interrupt the sessions.

Dan Machowski from South Carolina presented the first session, entitled *Parallel Paths*. Dan spoke of the Pregnall family from the south of England who travelled to Charlestown and set up a boat building business in the 19th Century, and his own family involvement with boat building. He went on to explain about the idea to recreate a traditional pilot schooner, the *Spirit of South Carolina*, reminiscent of the *Frances Elizabeth*, a vessel originally built by the former Pregnall shipyard. Dan explained the work involved in building the ship that was launched just prior to our meeting. She will provide sailing opportunities for young people to experience the sea while participating in



Lindsey Philpott - 'Kids & Knots'

Photo - Willeke van der Ham

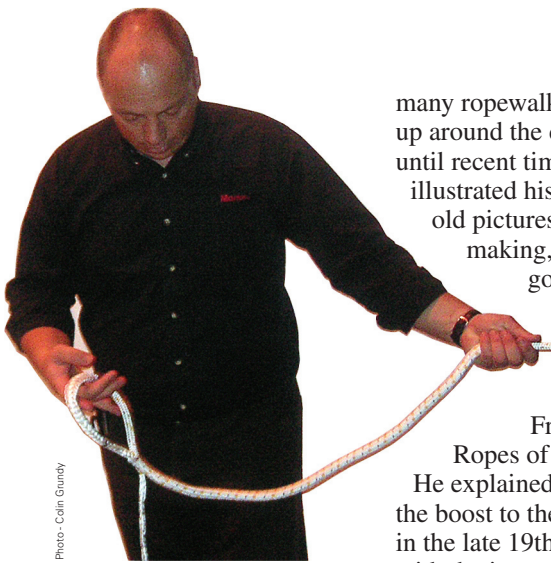


Photo - Colin Grundy

Steven Foy - Marlow Ropes

a variety of educational and youth development programs. IGKT-NAB has a vested interest in the *Spirit of South Carolina* in the form of a sponsored plank.

Des Pawson followed on with a talk about rope making. Not a technical talk, but one put together originally for genealogists. Des took us through the early days of rope making and the way

many ropewalks grew up around the country, until recent times. He illustrated his talk with old pictures of rope making, some going back to 1420, and some from Frost's

Ropes of London.

He explained about the boost to the industry in the late 19th century with the invention of the register plate and the development of house machines, where rope makers no longer had to rely on long ropewalks.

Steven Foy of Marlow Ropes gave a number of classes for the splicing of braid-on-braid ropes. With hands on tuition, members were able to complete and take away

an eye splice they had created themselves.

Lindsey Philpott gave a presentation entitled Kids and Knots. Lindsey talked about working with young people, and challenged our perspective of who we thought of as young people. He explained the PAB approach to working with children, and the importance of letting them touch and feel rope and knot work. How to

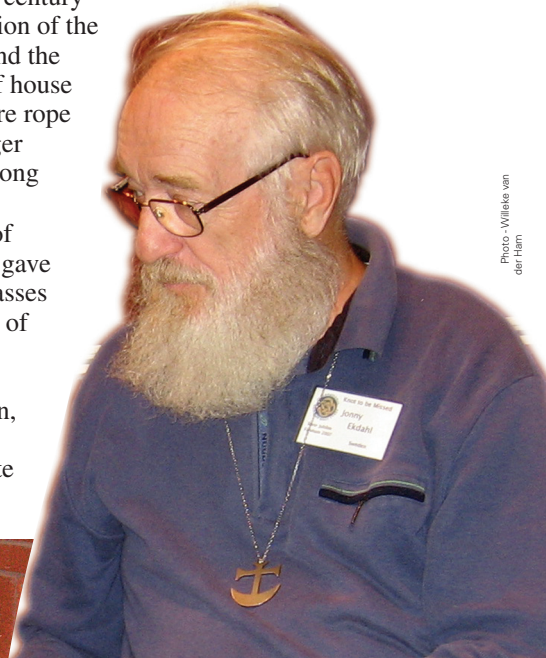


Photo - Wilkie van der Ham

Jonny
Ekdahl
(Sweden)



Photo - Colin Grundy

Ken Elliot and Meegan
Tomms during a brief lull
on the Registration desk



The AGM

Photo - Willeke van der Ham

engage with them and create interaction, and the importance of listening to them and how to use knots to teach.

The AGM

Ken Nelson (Council Chairman) formally opened the meeting. As President, Ken Yalden spoke about the Guild and the fact that, "since the first meeting on *R.R.S.*

Discovery where 25 members were present, we now

"It is because of them that we are here".

have nearly 25 branches all around the world". Ken reminded us what the week was about, "You're here to enjoy yourselves, so get out and enjoy yourselves."

Ken Nelson (too many Kens about) introduced our treasurer Lynda Turley, reminding

us of the hard work she does keeping the Guild's finances on an even keel. Lynda in her report told the meeting that the income from subscriptions were marginally up, and that cancelling the contract with the Charities Aid Foundation (CAF) will save the IGKT around £1500 a year.

Details of the next two meetings were announced, the half-yearly meeting at Quarry Bank Mill in Cheshire (October 2007) and the next AGM at Weald & Downland Museum, Sussex (May 2008).

*Lindsey Philpott
(USA)*

A sub-committee from around the world have for a number of months been working on a revision of Rule 2 of the Constitution. Gordon Perry explained the process behind this, and explained that they will also be looking at the objectives of the Guild. As it was not possible to vote on the change at this meeting, it was proposed that the October meeting would be convened as an extraordinary general meeting after giving members time to study the proposal. Robert Jackson proposed a vote of thanks to the sub-committee for their work, and also to Dave Walker for his recent work as Hon. Secretary.

The ballot was held for the election of Council members and post of Secretary. The new Council now comprises

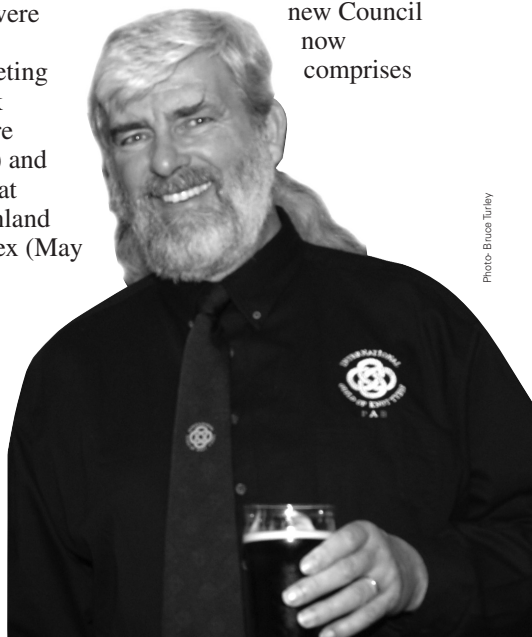


Photo: Bruce Turley



Hats off to the 'Two Kens'

Photo - Peter Bell

Ken Yalden - President
 Dave Walker - Hon.
 Secretary
 Linda Turley - Treasurer
 Andy Dart - Council
 Member
 Bob Myall - Council
 Member
 Ken Nelson - Council
 Member
 Lindsey Philpott - Council
 Member

Bruce Turley - Council
 Member
 Charlie Tyrrell - Council
 Member
 Nicola Tyrrell - Council
 Member

Gordon Perry spoke of our founder members, "It is because of them that we are here". It had been proposed at the Council meeting to mark their 25

years service to the Guild, that the founder members be made Life Members. Those present were Des and Liz Pawson, Geoffrey Budworth and Don Woods.

As usual at our meetings, two members gave a Portrait of a Knot Tyer. Elliot Simons (Massachusetts USA) is a cutlery collector, and was introduced to the Guild by a fellow collector. His knotting interests include Turk's heads and mathematics of knot work. Paul Wright (Chester, UK), a Cub Scout leader was introduced to the IGKT by Dave Walker at a Scouting event. His main interest is Turk's head knots.

Questions from the floor were taken, while the ballot for Council membership was counted, and Ken Nelson rounded off the meeting by thanking Bruce and Linda Turley for their hard work behind the scenes

*Don Woods
 (UK)*

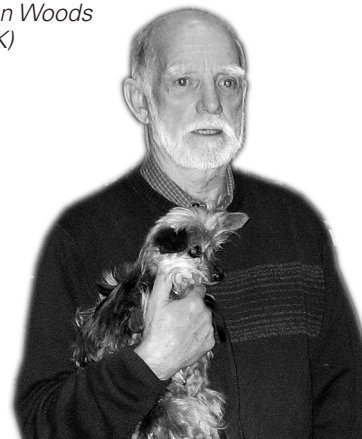


Photo - Willeke van der Ham

in sorting out the membership database.

Finally, Geoff Budworth and Des Pawson cut the celebratory birthday cake, donated by Gordon Perry and baked by his wife, Patricia.

Following a short break after the AGM, everyone assembled at the front of Ferneham Hall for a group photograph.

"No string on the table until after the toast!"

The talk flowed freely during the meal, and following the toasts came the opportunity to mingle with the other tables.

After dinner entertainment was provided by the Frayed Knots, in the form of Ken Nelson (accordion), Colin Grundy (mandolin and guitar) and Dave Lambert (spoons).

Sadly, all too soon it came time to make our farewells. What a great end to a great week - until the next time.



Photo- Christina Ruth

The Knot Supper

Some 80 members and their partners sat down to the Knot Supper at the Red Lion Hotel on the Saturday evening, as the finale to the Silver Jubilee celebrations. As those who have attended a knot supper before will know well, "No string on the table until after the toast!"

Everyone was presented with a commemorative scroll, hand drawn by Lynn Brown (Tasmania). Much sought after by knot tyers, the scrolls depict a personal item of knotcraft and are signed by the members present. Each diner also took away a cord coaster made by Bill Meakin.

Behind the organisation of any event of this nature is a dedicated team of willing volunteers. Without the work of the Solent Branch, it would not have happened.

In the next issue - the knotting exhibits.

The Frayed Knots

Photo- Bruce Turley



An Overview of Carabiner Hitches for Climbing And Rescue - Part 2

Rob Chisnall

© R. Chisnall, 2006.

The material and illustrations contained herein have been used and will be used in other publications.

Duplication by any means without express permission is forbidden.

Configuring the Münster Hitch: A Question of Security versus Strength

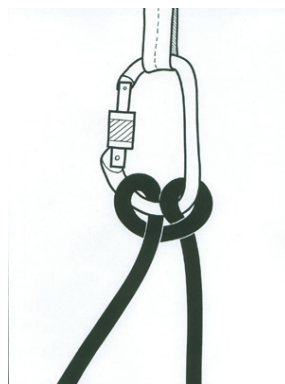
What is the safest way to set up the Münster hitch (Figure 4b; a.k.a. the crossing hitch, U.I.A.A. hitch and sliding clove hitch; en Française, c'est un Demi-Cabestan) - with the loaded side of the rope adjacent to the gate or opposite the gate? There seems to be a preponderance of advice toward the latter - with the braking side of the line next to the gate - but there are a few authorities with the opposite view.¹¹ It is my opinion that setting up a Münster hitch such that the braking side of the line runs near the gate can be dangerous, and here is why.

On one hand, experts are claiming that the

carabiner is stronger if the loaded side is positioned near the spine of the carabiner.¹¹ This is certainly true of the clove hitch (Figures 1a and 1b), and I think this is where the rule about keeping the brake side near the gate originated for Münster hitch belay set-ups. That premise has been speciously applied because the clove hitch is an immobile hitch. With the right equipment, it is possible to load a clove hitch until the rope breaks, the knot slips or the carabiner fails. This is not the case with the Münster hitch by itself. Its maximum holding capacity is somewhere between 600 and 750



4b
The Münster hitch (slant D-carabiner)



1b
*Clove hitch on a carabiner
The right-hand side of the rope bears the load.*

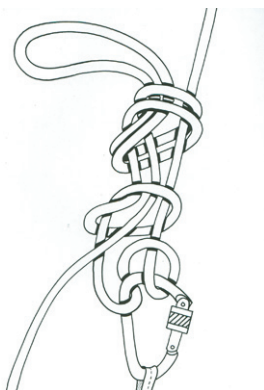
Warning!

Unsafe climbing practices and improper vertical rope techniques can result in injury or death.

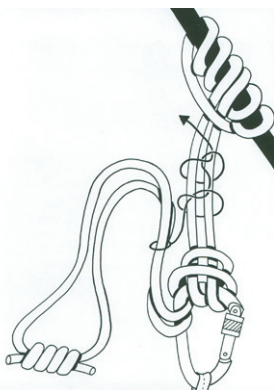
This article is no substitution for proper training, experience and common sense.

pounds, depending on the carabiner and the rope utilized. That is to say, no matter how hard you hang on, once the fall force transmitted to the belay exceeds 750 pounds, the rope runs through the belay until the kinetic energy is dissipated by friction and heat. This is well below the breaking strength of any carabiner.

However, what happens if you tie off the belay with a blocking knot or a mule knot, which is an overhand slip loop with an overhand knot secured to the standing part of the rope (Figure 12)? (There is also a variation that includes the Prusik knot/hitch, which is designed for partner rescue (Figure 13); and, as mentioned earlier, there is a method of converting the Münter hitch to a clove hitch, as depicted in Figures 14a and 14b (Verdier, 1999).) The Münter hitch is now immovable. Some preliminary testing indicates that, whichever way the hitch is facing, once it is tied off and loaded to failure its efficiency or strength performance is consistent, as is that of the carabiners employed. The load-bearing bight of the Münter hitch tends to centre itself over the pear-shaped HMS carabiner during slow pulls.



12
Münter mule
This hitch is used to tie off the belay during rescues.

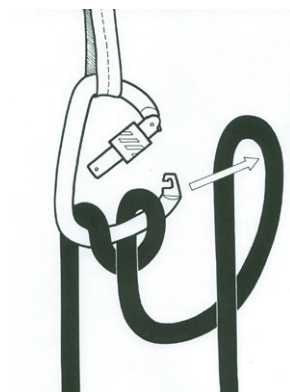


13
Münter mule with a Prusik knot or hitch
This variation of the Münter mule is also used to perform partner rescues because it can be released while under load.

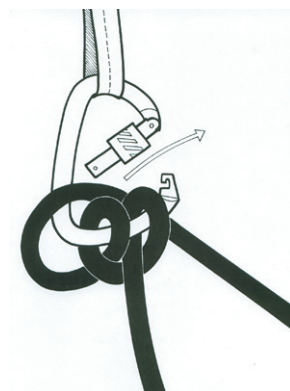
Admittedly, there is room for more testing because I am not aware of any drop tests having been performed to investigate the strength of carabiners when the Münter hitch

belay is utilized in different configurations to catch long falls.

The crux of this argument hinges on the question of carabiner strength versus security. I have never heard of or read about a carabiner breaking while a Münter hitch belay was in use.



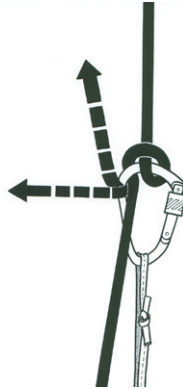
14a
Converting a Münter hitch to a clove hitch - step 1



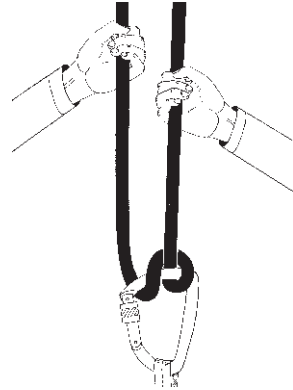
14b
Converting a Münter hitch to a clove hitch - step 2

However, I have heard of carabiners unclipping (whether they were auto-locking or manually locking carabiners), and I have been able to easily recreate accidental unclipping many times. There was a common factor in all the situations involving accidental opening of the carabiner. The main cause of accidental opening was the braking side of the line running over the gate, spinning the sleeve and unclipping the gate. This caused the hitch to unwrap itself and become ineffectual. Hence, carabiner security should be more of an issue than carabiner strength when it comes to the orientation of the Münter hitch. Just as you would when setting up a belay plate, position the braking side of the rope away from the gate (Figures 15a, 15b and 15c) so the rope is more likely to run over the spine rather than the sleeve and gate (Figure 15d). (Note that the braking side of the rope is on the right-hand side in Figure 15c, and this is the maximum friction braking position.)

Nevertheless, positioning the braking side of the rope away from the gate only minimizes the chances of ever compromising



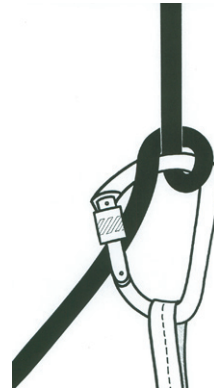
15a
*Münter hitch - braking
side of rope over spine*



15c
*Münter hitch - braking
side on the right*



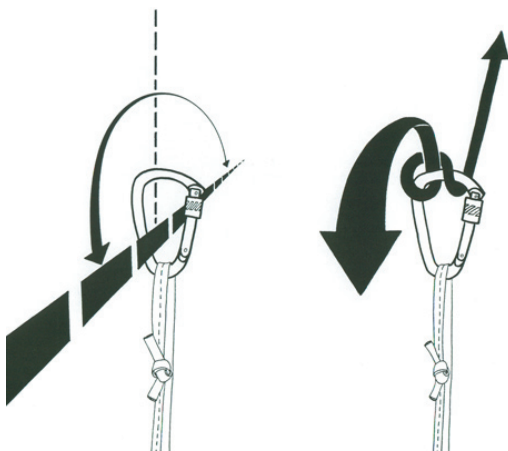
15b
*Münter hitch - braking
side of rope over spine*



15d
*Münter hitch
Caution! The braking
side of the rope is running
over gate sleeve.*

the sleeve and gate, and a number of authorities agree with this keeping the brake near the spine.¹¹ It does not eliminate that risk totally, and constant vigilance is required to keep the rope away from the gate. Remember,

there is no such thing as a perfectly safe knot, technique or piece of equipment. Everything can fail in some manner or another, and all climbers must be attuned to the weaknesses in their safety systems.



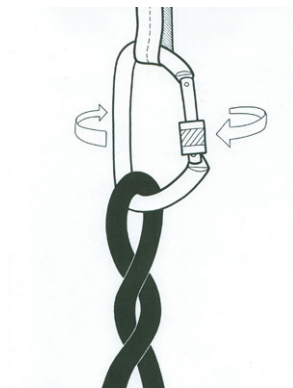
16

Reverse the Münter hitch by flipping it perpendicular to the plane of the carabiner to prevent jamming.

Münter Hitch Variations and other Carabiner Belays

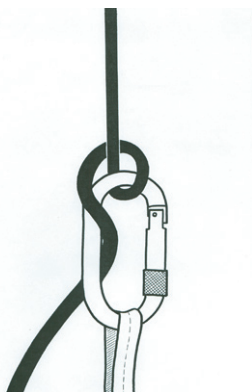
When the Münter hitch was first introduced at a UIAA meeting during the last century, there was no such thing as an HMS or large, pear-shaped carabiner that would adequately accommodate an 11 mm. rope and allow the hitch to reverse without jamming. (Note: Figure 16 illustrates how to flip the Münter hitch back and forth perpendicular to the plane of the carabiner to prevent jamming.) Sometimes locking ovals were used to prevent jamming (Figure 17). There was also a short-lived belay technique called the Saxon cross, which had a tendency to unravel if

floating carabiner belay (Figure 19a; Chisnall, 1979, 1985). The proper braking position is shown in Figures 19c and 19d, while Figure 19e depicts the improper braking mode (the rope could jam in smaller carabiners).



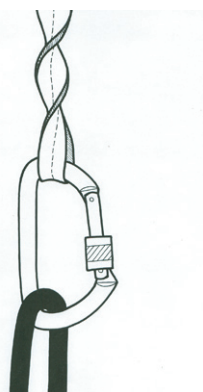
18a

The Saxon cross unravelling because it is clipped into a sling than can twist



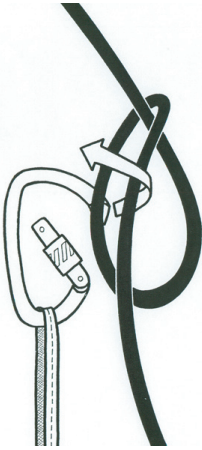
17

Münter hitch on a locking oval carabiner

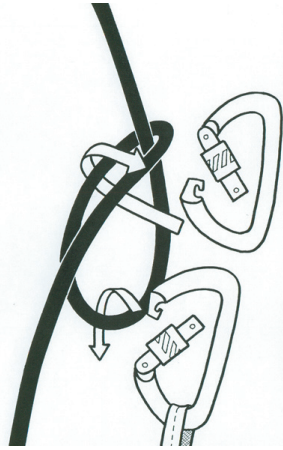


18b

The Saxon cross completely unravelled



19a
The Münter hitch setup (left) compared to the floating carabiner setup (right)

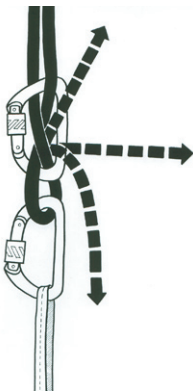


19b
The floating carabiner belay
In this configuration, slack can be taken in or let out easily.

The beauty of this system is that only two regular locking carabiners are required. Although its holding capacity is lower than that of the Münter hitch (its full range is about 250 to 500 pounds

versus 300 to 700 pounds, which is still within the acceptable range for lead belays⁴; Chisnall, 1985; Fillion, 1979) it operates and reverses smoothly, there is no need to clip the floating carabiner because it always returns to the anchor 'biner no matter what the orientation of the set-up is, and it is frictionally versatile like

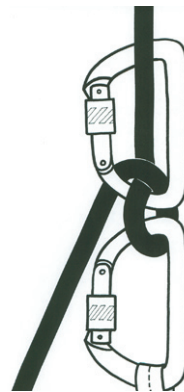
the Münter. Nevertheless, it shares some down sides with its counterparts: the hitch can twist the rope, and the rope-on-rope friction may result in rope damage during the severe loading and rope run-



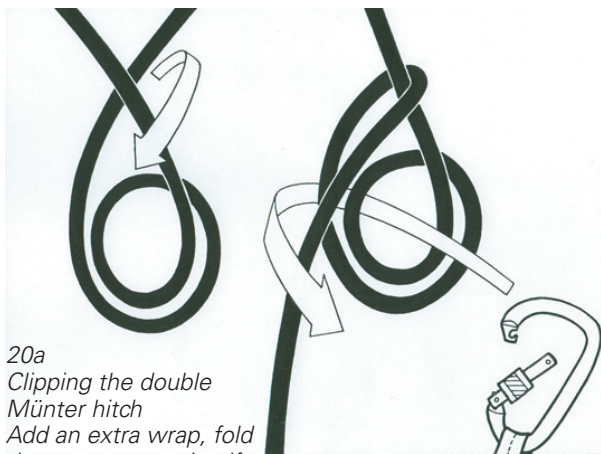
19c
Floating carabiner - proper braking mode



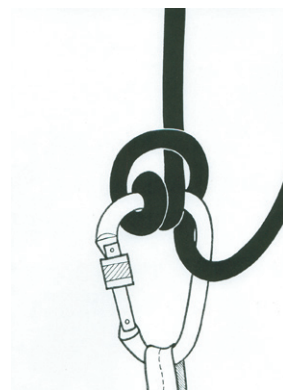
19d
Floating carabiner - proper braking mode



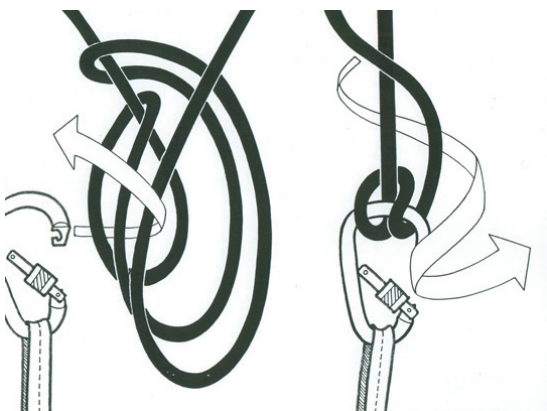
19e
Floating carabiner - improper braking mode
The rope may jam.



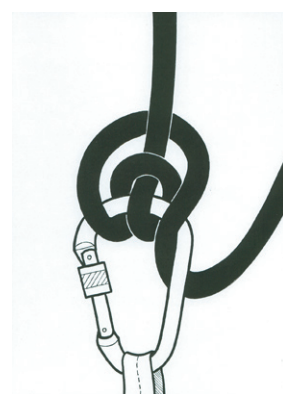
20a
Clipping the double
Münter hitch
Add an extra wrap, fold
the rope over on itself
and clip it in.



20b
Double Münter hitch
(HMS or pear-shaped
carabiner)



21a
Clipping the monster Münter hitch
Method 1 (left): overlap a Münter hitch with a second
fold and wrap, then clip it in.
Method 2 (right): starting with a single Münter, wrap
one side of the rope around the other and clip it in, a
shown.



21b
The monster Münter hitch

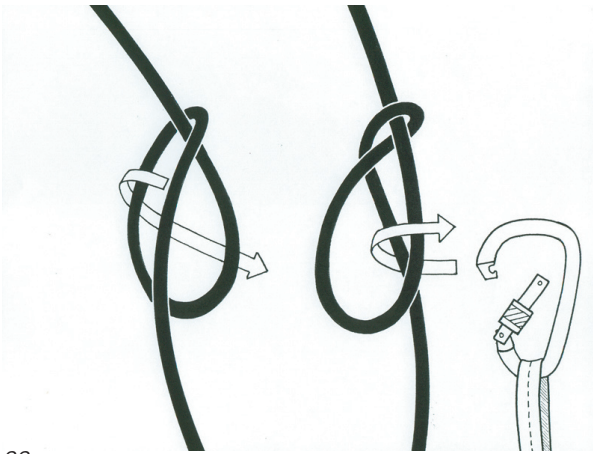
through associated with long falls. However, it is a handy improvised belay technique to know.

In the past few decades, the need for additional friction has given rise to more complicated versions of the Münter:

the double Münter hitch (Figures 20a and 20b), the Monster Münter (Figures 21a and 21b) and the Goulet Münter eight (Figures 22a and 22b) amongst others. Some climbers and rescue teams have been using these

variations to lower two-person loads, but caution is advised under these circumstances because the gear utilized is rated for one-person loads and manufacturers look rather askance at their carabiners and ropes being employed for two-person applications. However, extreme emergencies may warrant such use.

The double Münter



22a
Clipping the Goulet eight Münter hitch
Add an extra twist before clipping.



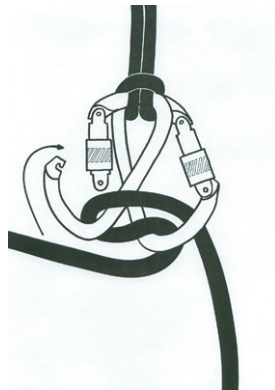
22b
The Goulet Eight Münter hitch

was devised in the 1970's (Chisnall, 1981; Budworth, 1999), and it simply incorporates an extra wrap around the carabiner. The Goulet eight, which involves an extra figure-eight-like twist in the hitch was invented by Michel Goulet (originally the co-owner of Multi-Trek in Ottawa, now working for Petzl America) in the 1990's, and I believe the Monster Münter, which has several variations, had its origins in Europe (Verdier, 1999) or in western Canada (ACMG). The latter combines a Münter on top of a Münter and probably offers the highest amount of friction, although I do not have any data to verify that claim at this time. Depending on the carabiner and rope

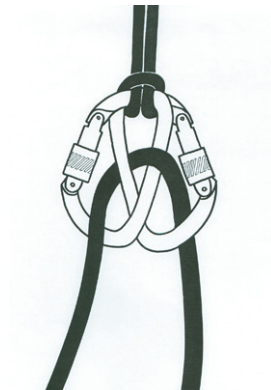
used, the Goulet eight is probably the easiest of the three to reverse, and the Monster is probably the most awkward, having the highest rope-on-rope friction.

A lesser-know technique, which was devised in the 1970's (Chisnall, 1981), is the crossed carabiner belay

(Figure 23a and 23b). Although it requires two carabiners, does not resemble the Münter, and feeds rather grudgingly, it is worth mentioning here because it uses no added rope-on-rope friction to produce a higher holding capacity. However, it may load the carabiners in bizarre ways, like the



23a
Setting up the crossed carabiner belay

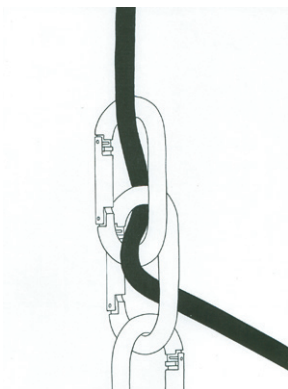


23b
The crossed carabiner belay

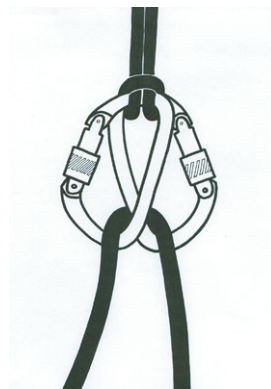
previously mentioned double carabiner brake (Figure 11).

Conversely, the Precursor belay (Figure 24) offers very little friction and is so named because it is a stepping-stone to a locking carabiner hitch that will be mentioned in the next section. It can be converted into a version of the floating carabiner belay (Figure 25a) and this is an important detail when considering the conversion of progress capture components in rescue haul systems for lowering (see Figure 25b). (Additionally, there is a less-than-adequate method of belaying double ropes with the Precursor belay (not illustrated).)

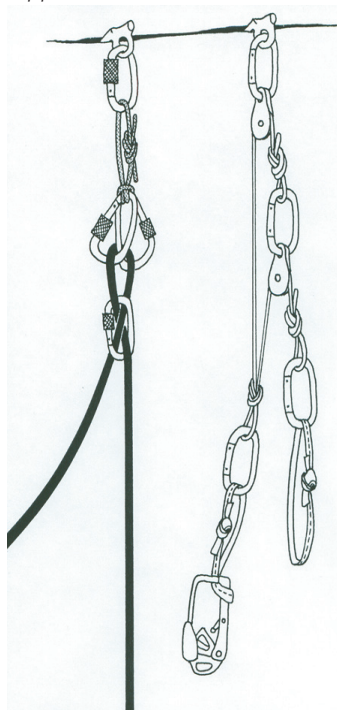
Hence, if extra friction and holding capacity are required, there are a



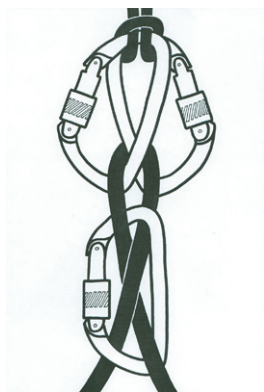
11
*The double carabiner
rappel*



24
The Precursor belay



25b
*The Precursor
floating carabiner
belay used for
lowering
The improvised
haul system has
been detached
during a rescue
procedure.*



25a
*The Precursor floating
carabiner belay*

number of Münter Hitch options available. Once again, care must be taken to ensure the rope does not run against the sleeves and unclip the carabiner.

In all illustrations presented, the braking side of the line rests nearest to the spine of the carabiner for maximal security.

To be continued

Footnotes

⁴ Belaying - To catch a falling climber; belaying also entails holding the fallen climber and lowering him or her to safety if necessary. Lead climbers - those who climb up first, place their own safety anchors, and drag the rope behind them while being belayed from below - run the risk of falling a lot further than anyone climbing on top- rope, or with the rope snug above them. Therefore, catching a falling leader involves greater impact forces.

¹¹ With regard to the Münter hitch and positioning the braking side of the rope, here is what a sample of publications propound:

Bechdel & Ray, 1989, Page 217:

Although it is not labelled as such, the illustration implies that the braking side of the line is next to the carabiner spine because that is the end of the rope, which is clearly visible in the drawing.

Eggstein, 1981, Page 45:

The Münter hitch, labelled the Karabinerbremsknoten, is depicted such that the braking hand (Brenshand) is shown gripping the rope closest to the gate. In fact the line is running directly over the sleeve. The working hand (Bedienungshand) is closest to the carabiner spine.

Fasulo, 1996, Page 22:

The Münter hitch is once again shown with the load-bearing side closest to the spine and the brake side next to the gate. Note that one drawing shows the brake side of the line running parallel to the gate sleeve. Quote: "Use a locking pear-style carabiner with the weighted segment of the knot toward the spine (opposite the gate) of the carabiner to preserve carabiner strength."

Graydon, 1992, Page 101, Figure 6-26:

The braking side of the rope appears to be opposite the gate and, notably, running over the spine of the carabiner.

Lipke, 1997, Page 21:

It is implied that the braking side of the of the rope is adjacent to the spine of the carabiner because that segment of the line is drawn as a slack curve, as if it were unloaded.

Long and Gaines, 1996, Page 22:

The illustration is labelled specifically showing the loaded side of the rope next to the spine.

Luebben, 1993, Page 27:

Again, the Münter hitch is depicted with the braking side adjacent to the gate.

Quote: "When belaying a leader with the Münter hitch make sure the load strand is next to the spine of the carabiner to get maximum strength from the carabiner.

Raleigh, 1998, Page 50:

A Münter hitch is depicted in use for lead belaying or rappelling. It is implied that the braking side of the line is next to and runs over the spine of the carabiner. However, the text contradicts this.

Quote: "Finally, when you use the Münter hitch in belay mode, arrange it so the loaded side of the knot is against the carabiner's spine. Reversing this set-up will cause the weaker side of the carabiner to be loaded."

DMM Carabiner Pamphlet:

The pamphlet accompanying DMM carabiners indicates that belaying with the brake side adjacent to the carabiner spine is the correct method and the opposite configuration is dangerous.

Lucky Carabiner Pamphlet:

The pamphlet accompanying Lucky carabiners indicates the braking side should be next to the spine, whether belaying the leader or second.

Petzl Catalogue (date unknown):

Several illustrations in various Petzl catalogues suggest the braking side of the line should be against the spine, but others are not clear on this point.

Rock and Ice: "How to Climb" - Special 9th Issue. Page 12 features and photographs of the Münter hitch with the braking side next to the gate.

How Ship's Speed Became "Knots"

Jerry Cronan

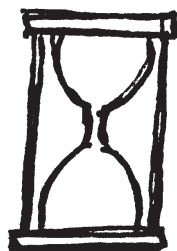
The 'Logship' or 'Chiplog' is a piece of wood in the shape of a pie, the arc weighted so that the chiplog stands upright in the water, fitted with three lines, one line fitted with a peg. The log line is 150 fathoms. The first 90 feet is the 'strayline' so the chiplog gets clear of the ship's wake. A piece of bunting marks the end of the strayline. Every 47 feet 1.2 inches from the bunting, knots are placed to mark each mile or knot, from two knots up to the number the ship is expected to go. Between the knots is a single knot termed a half-knot.

When the log is hove, and the strayline runs out, as the bunting crosses the rail, 'turn' is called out. When the

sand runs out, 'stop' is called out. The line is grabbed, the 'peg' comes out, and the chiplog rides flat in the water to be reeled back in. The number of 'knots' and 'half-knots' counted and logged. If the ship exceeds 5 knots the 14-second sand glass is used and the number of knots is doubled.

Note: The division of 'knots' (nautical miles) on the log line bear the same proportion to a nautical mile as the 28 second glass does to an hour.

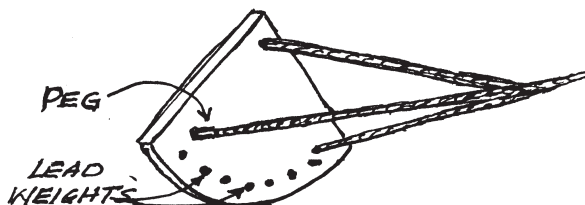
1 hour = 3600 seconds :
28 seconds :: 1 Nautical
Mile = 2027 Yards
? = 20 x 2027 = 15.7
yards = 47.1 feet =
Division on line
3600



The land mile is measured without reference to the size of the earth. The nautical mile is the number of yards contained in the circumference of the earth at the equator, divided by 21,600 (360° x 60) the number of minutes, in a circle, or the sixtieth part of a degree on the equator. Nautical Mile = 2027 yards.

(Condensed from a 1904 Royal Navy book on Seamanship.)

The log is hove each hour and speed entered in the ship's log. ⚓



Branch Lines

East Anglian Branch

Twenty members and friends met at Stowmarket on Saturday, 14th April, 2007.

Des and Liz Pawson brought their rope-making machine and we set a walk on the grass outside the Education Centre in the gloriously unseasonable sunshine. Des supervised while our youngest member Tim Lupton and most of the rest of us in turn walked the twelve yarns and held the three strands apart with the spacing cone. We did this twice as Stewart Weston turned the handle to lay up the strands and then the two lengths (about 3 metres each) of finished rope. Many members had put individual contributions in or on the ropes, which will be sent to the Pacific Americas Branch to celebrate the 25th anniversary of the Guild. Des will send the ropes to the overseas branches with lists of the individual contributors and photographs of the group of us holding the finished ropes taken by Tony Lee.

We repaired indoors and conducted the

business of the meeting over cups of tea and coffee provided as usual by Barbara Watson (thank you, Barbara) and then Ken Higgs entertained and instructed us with "magic" string and rope tricks. Then he showed us two books from which he had learned them, but he had not looked at the books while performing.

Duncan Bolt announced that all are welcome to attend his 5th Summer Gathering on 30th June, 2007, at his home Eaton Cottage, Thornham.

The meeting resolved unanimously proposed me to ask the secretary to write to all East Anglian Branch members to extend the invitation to them, with a request to let Duncan know by post or on the telephone 01485 512508 if they intend to go. Duncan and his friends will provide lunch from 12 noon onwards. Please take a sample of your recent work or "work in progress".

As requested by Dave Walker and the Council, I asked for volunteers to represent the Branch and the Guild at the Inland Waterways

Association National Festival at Hemingford Meadow, St. Ives, Cambridgeshire from Friday, 25th to (Bank Holiday) Monday, 27th August, 2007 Stewart Weston, being a member of both organisations, will be there with his boat. Unfortunately, the only others who might stir our stumps enough to attend are Ken Higgs and me.

Our next meeting will be at Stowmarket on Saturday, 15th September 2007. The indefatigable Ken Higgs will talk to us about weaving with sticks, and I will try to teach people how to cheat with tying long Turk's heads with a single line. I have to cheat because I am not clever enough to tie more than a 5-lead, 4-bight lashing out of my head.

Tuffy Turner

West Country Knotters

On a gloriously sunny Wednesday, 2nd May 2007, at 10am, a dozen members of this branch attended the retirement ceremony held for IGKT member James N. Wolf, at the Royal Naval Air Station, Yeovilton, in the rural English county of Somerset, where he had served as Chief Electronics Technician

(Surface Warfare) with the NATO Joint Electronic Warfare Core Staff (JEWCS, say 'Jooks').

Together with family and friends who had flown in from the US of A, more than 50 civilian guests gathered for the occasion. His father James Wolf is also a Guild member. Military personnel wore dress blue (with ribbons) or - as the venue is a NATO base - their own national equivalent. Many, including 'Chief' Jim Wolf, were impressively be-medalled as well as be-ribboned.

Formal proceedings lasted 45 minutes, with national anthems and flags, religious evocation and prayer, addresses by senior officers, audio-visual effects, and the presentation of numerous well-earned citations to mark Jim's 20 years service in the US Navy, and gifts (one of which, in accordance with tradition, was a folded 'Old Glory' stars-&-stripes flag). His wife Cindy, as a retiring US Navy wife, deservedly received her own citation.

Apt mementoes from the West Country Knotters included a turned bowl of English elm by branch chairman Vernon Hughes, suitably inscribed in pyrography on its base, and a neat knot display board from

Dave Pusill.

There followed a pleasant informal reception with refreshments in the military Sports Club nearby. Jim and Cindy Wolf have been welcome visitors to Guild activities while posted to the UK. So it was fitting that we could be present to mark the culmination of their time here before they return to America, where they will - we trust - still keep in touch as part of the IGKT extended family.

West Country Stringer

Australian (Temporary?) Chapter

The result of inviting all Australian members to the Australian Wooden Boat Festival in February 07 was a gathering of three at this fun event. Madeleine Rowles and David Glasson joined Frank Brown up in Hobart and proceeded to amuse and amaze an appreciative audience of boat enthusiasts, hobbyists, yachties and tourists.

The master mat-maker, Russ Hammond, unfortunately was unable to attend as planned but sent samples of his work. Willeke van der Ham sent some copies of her

latest publication. Vince Brennan posted a package of *objet d'art* from the US that required Frank to rapidly organise a cabinet to properly display it and provide adequate security. Two other cabinets of Frank and Dave's work were like a Chevy and a Ford parked beside a Rolls Royce, but did give the viewers a good idea of our craft. Mathematician and author Roger Miles made an appearance and offered to do some demonstrations of symmetrical bends, but the fairly noisy and often crowded venue was not really suitable for such an esoteric subject, to the regret of the group. As a result of the above, the Guild was well represented by people and product.

The IGKT group was located in a tent alongside other craft and trade folk shaping oars, carving name boards, lofting plans and sculpting a figurehead. Visitors had an awful lot to look at. Madeleine demonstrated the decorative arts of covering polystyrene balls to make key floats and building small bell ropes. Dave wielded a large Swedish fid like a toothpick, crowning great lengths of heavy-duty strands into sizeable fenders. Frank ran the

Six-Knot Challenge, and all three answered the unending questions about various aspects of knotting and the Guild. Frank's wife, Lynn, ensured everybody was fed and watered, helped with sales and guided poor bewildered tourists who got lost in the crowd round the stand. Sales were slow but steady for the smaller items. Donations for participating in the Six-Knot Challenge, with the proceeds going to the local Maritime Museum, were readily forthcoming. The certificates issued to each contender were usually an object of pride.

The next AWBF is in 2009, and it is suggested that members, and Australian ones in particular, start thinking about getting involved. It was a lot of fun.

Frank Brown.

West Yorkshire Branch

Our Branch meeting in March had a theme of "Knots, Bends & Hitches" so it was a case of back to basics again. It is very interesting to have Tim Field explain his system of knot classification and he did this very comprehensively for us. We followed this with a session by Graham

Smith out in the yard, testing bends with a block and tackle to see which was the weakest. This was a test without a real conclusion except that one should keep out of the way when the rope breaks and the block flies! This was another enjoyable day and from the distances that people are travelling it proves the desirability of branch meetings.

Sue Morris from the North West Branch had a stall at the Marsden Cuckoo Day Celebration (They built a wall to keep the cuckoo in and the good weather that comes with it, they built the wall one course of bricks too low and the cuckoo escaped "so they tell us"). So we took our mini rope-walk along to give the young people something to make. This was a small event and we enjoyed our day out. Skipton Waterways Festival was our next outing and we had nine members manning the stall. We had a lot of interest from boaters and the general public and with such a wide spread of knotting interest we had a very busy day. Only three of the nine members were from the West Yorkshire branch, we are desperate for more active members. Please note and get in touch. We always have a

good time at this event.

Our last outing to date was to the Bronte Vintage Gathering, which is a very large event for vintage vehicles. It may seem a strange place to have a knotting display but one of our members Tom Jowett is on the organizing committee. The weather was not in our favour and it was debatable whether we would be able to drive out of the field, however they did have tractors (vintage) standing by for anybody that got stuck. We had a different team out on each day and it was good to meet with other members and learn some different aspects of knotting.

So far this year the branch has been very active and we hope to continue in the same vein.

David Pearson

Midlands Branch

This year's round of meetings started in February at our usual venue of The Old Swan (Ma Pardoe's). The subject was an 18-face sphere covering that was originated by Luc Proveour of the French branch. Colin Grundy had been shown this by Luc at last years half-yearly Guild meeting and passed it on to the members present. All succeeded in completing

the knot despite a couple of stalled attempts.

At the April meeting, the subject for the meeting was the star knot. Bruce Turley demonstrated the

intricacies of this knot to some half a dozen members.

All Guild members who live anywhere near (or far) to Ma Pardoe's in

Netherton are welcome at our meetings that are usually held on the second Monday of every second month.

From our Midlands Stringer

Pacific Americas Branch!

Do you know who the Officers of your Board of Directors are? Do you know who the other Board Members are? Their postal address? Their email address? Their phone number? Well, I know, and I will share that information with you.

President:

Lindsey Philpott

3646 Gaviota Avenue
Long Beach, CA 90807-4306
U. S. A.
phone: 1.562.595.8854
email: president@igktpab.org
email: marline.man@verizon.net

Librarian:

Jose Hernandez-Juviel

1056 W 12Th Street
San Pedro, CA 90731-3904
U. S. A.
phone: 1.310.833.4575
email: webmaster@igktpab.org
email: jose@knotnerd.com

Secretary/Treasurer:

Jimmy R Williams

15521 Cerise Avenue
Gardena, CA 90249-4417
U. S. A.
phone: 1.310.679.6864
email: secretary@igktpab.org
email: igktpab@yahoo.com
email: aknotter@yahoo.com

Board Member & KN Editor:

Joseph Schmidbauer

1805 Kingsford Drive
Corona, CA 92880-7311
U. S. A.
phone: 1.951.737.4948
email: koolkatz@prodigy.net

Board Member:

Roy Chapman

P. O. Box 203
Marblemount, WA 98267-0203
U. S. A.

Board Member:

Patrick Ducey

19502 14Th Avenue
Shoreline, WA 98115-1112
U. S. A.
phone: 1.206.363.5122
email: plducey@comcast.net
email: pducey@deltamarine.com

Board Member:

Brian Kidd

640 N Fife Street
Tacoma, WA 98406-7224
U. S. A.
phone: 1.253.970.8463
email: bkidd@khww.net

If you have an email address that we are not aware of, or, if your email address has recently changed, please send a message to me, secretary@igktpab.org, including your name so that I can update our records.

Jimmy R Williams - Secretary/Treasurer

Pacific Americas Branch of the International Guild of Knot Tyers

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.

Pawitrak Rings

Satish Patki may like to note that the knot he illustrates in his article Pawitrak Rings (KM94) is, I believe, the well-known jug or jar sling, illustrated in ABOK as #1142 and #2554. Although Ashley described it as a practical knot for conveniently carrying a load, it is also an attractive lanyard knot and naturally lends itself to decorative and symbolic uses such as the Pawitrak Ring.

Dick Clements
Bristol, UK

With reference the article "Pawitrak Rings", by Satish Patki in KM, issue 94, page 43.

I really enjoyed this article as it made me think about the re-invention, re-discovery or happy coincidence of knots, how they first came about and who came up with the idea of using a particular knot for a particular purpose.

The rings pictured immediately reminded me of the jug sling (ABOK #1142) also shown in countless other books, and upon tying the jug sling and comparing the structure I noted that it was identical to the loosely tied knot in the bottom photo of the article minus the bight that would form part of the carrying loop, so my question is; does the jug sling owe it's existence to a symbol of Hindu mythology or visa versa, or did these two seemingly identical knot structures come about independently by happy coincidence?

If possible it would be nice to see the back of the ring, to see if the ends of the knot are continuous around the loop?

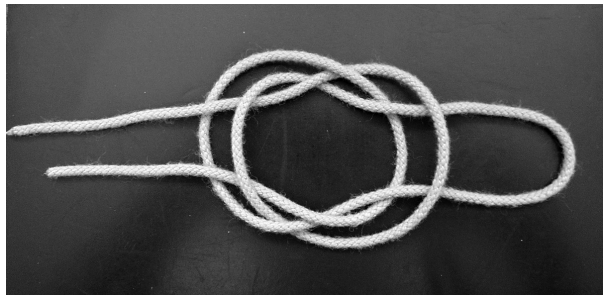
Barry Brown
West Drayton, Middlesex,
UK

Satish Patki replies -

I am glad you have rightly identified the knot as a jug sling.

*In fact, I had sent the article to the **Knotting Matters** almost a year ago and forgotten about it. Subsequently I had identified the knot as a bottle knot as given on page 136 of the book entitled **Practical Knots & Ropework** by Percy W. Blandford, first edition, third printing. I was just a little lazy to convey my finding to **Knotting Matters**. The only difference is that for a jug sling only one string is used and the carving is done with two strings placed side by side.*

*The two golden rings photographed, belong to a priest who had performed the marriage ceremony of my son. Subsequently I purchased a silver Pawitrak ring to study the pattern of the carving. I will be sending a photograph of the underside of the silver ring to **Knotting Matters***



that will show how the two ends of the left side string and the two ends of the right side string are fused together under a flower design.

Satish Patki

Sahakarnagar Pune, India

The Rabbit and the Tree

I write to support Ken Higgs wholeheartedly. As a new member, and strictly unreliably part-time amateur knoter, I can only remember three things about knots from my childhood: bows and laces; reef knots (used in virtually every need for over 30 years); and “the rabbit and the tree”.

I couldn’t remember what to do with the rabbit and the tree, nor why it might ever be useful, but it was a knot I’d once (and only once) been shown. It’s only since I took up knotting that I began to realise I might be able to “see” knots in the way Ken suggests.

Recently I was talking to a lady of my age about knots. She, too, remembered having once been shown a knot that went round and round, up and down. “Rabbit and tree?” I suggested.” “Yes,” she agreed.

May I suggest that the best way to catch knotters young is to respectfully take three pieces of advice from One who knows His creation well:

- 1 - Offend not the little ones - be they little in ability, or little in age.
- 2 - Choose the foolish and weak things to confound the mighty and wise.
- 3 - When a child, have childish things, but when a man, put childish things away - until you find a child to share them with, that is.

Glenys Chew

Bury, Lancashire, UK

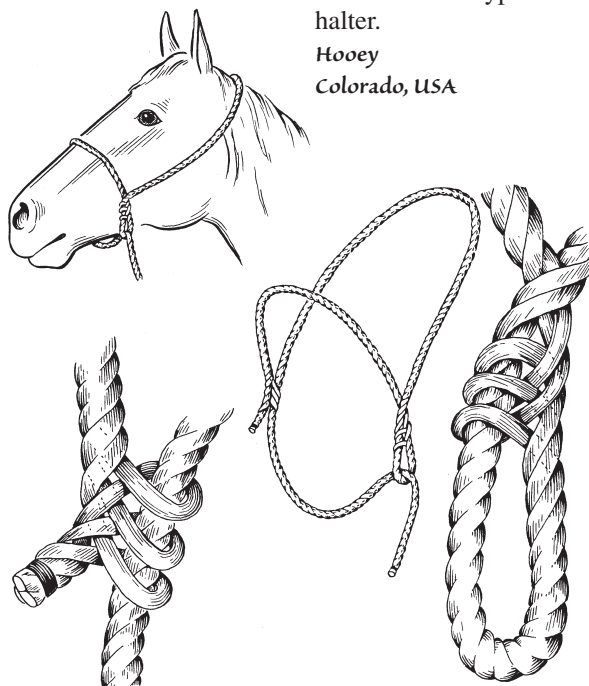
Crow’s Foot Loops

Regarding the crow’s foot loops on page 36, KM93 - this same type of ropework used to be fairly common in ranch country of the American west. It is becoming more rare to see it nowadays, I don’t recall it ever having an official name, but it was usually referred to as a ‘splice’ in a general sort of way.

The copy is from a page of an old book, *Restraint of Animals* by Leahy & Barrow, 1953, that shows one of several uses I’ve seen it put to. Last year I bought two young donkeys from a very old fellow, and they came with this type of halter.

Hooey

Colorado, USA



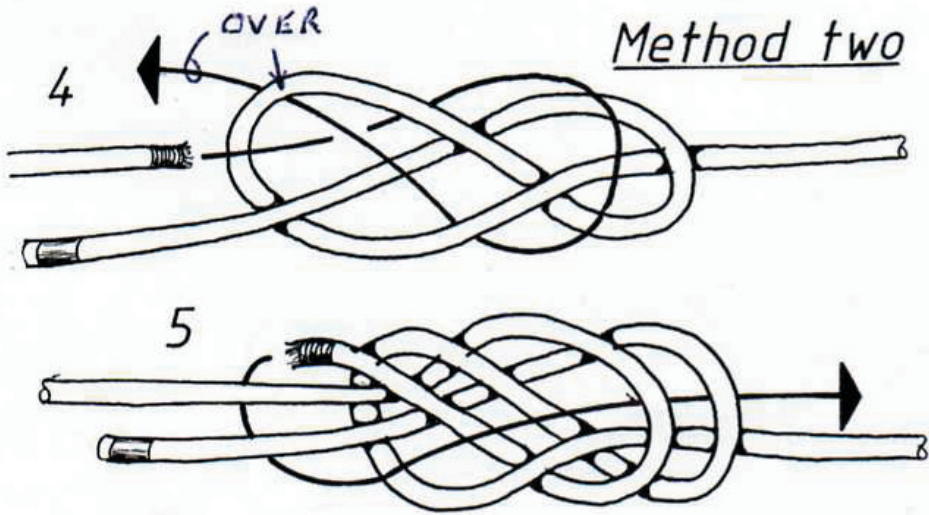


Figure eight bend

Amusing myself this evening trying the various knots in KM issue No.94 and found a small error with the figure eight bend. In figure 4 the working end is shown being passed UNDER the loop of the righthand cord but in figure 5 it has been passed OVER - which is correct.

Don Lewry

Newhaven, East Sussex, UK

The 'Green' Guild?

Well, we've been warned about it for some years now and people are finally taking notice - global warming

is here and we should go green to reduce our carbon footprint!

Natural resources such as fossil fuels are dwindling and prices are rising. Perhaps it is now time that the Guild took a part in the green revolution?

For some decades now we have had the luxury of using synthetic ropes and cords, all derived from oil. As knot tyers we have had to learn new ways of tying knots to get the best performance from these products. We have been able to create very decorative pieces of knot work in a multitude of colours and at the same time turning our backs on the traditional materials that have been in use for thousands of years.

Materials made from plants are good for the environment. Plants help our climate to survive.

So come on IGKT, let's do our bit for the environment and promote natural fibres!

Stan Fromunder
Harborough Parva,
Warwickshire, UK

Over or Under?

What's the difference (strength, security, ease of tying, etc.) regarding a hitch when the line is thrown 'over' a spar - working end behind the spar - or when the working end is placed 'behind' the spar and over towards the finish?

A J Sendziol
Berwyn, Illinois, USA

Knotting Diary

GUILD MEETINGS

Pacific Americas 10th Anniversary

4th - 8th July 2007

San Pedro, California

Contact: Lindsey Philpott

Tel: (001) 310 749 3541

Email: marline.man@verizon.net

Half-Yearly Meeting

13th-14th October 2007

Quarry Bank Mill, Styal, Cheshire

Contact: Dave Walker

Tel: (0044) 01244 682117

Email: dwfenders@yahoo.co.uk

AGM & Meeting 2008

10th - 11th May 2008

Weald & Downland Museum

Singleton, Sussex

Contact: Charlie Tyrrell

Tel: (0044) 01798 344258

BRANCH MEETINGS

Alaskan

Every Wednesday evening 6.30-8.00

Anchorage Senior Center

1300 East 19th Avenue, Anchorage

Contact: Mike Livingstone

Tel: (001) 907 929 7888

East Anglian Branch

15th September 2007

Museum of East Anglian Life,

Stowmarket, Suffolk

Contact: John Halifax

Tel: (0044) 01502 519123

Email:

john@endeavour-knots.freemove.co.uk

Midlands Branch

13th August 2007

The Old Swan (Ma Pardoe's),

Halesowen Road, Netherton

Contact: Bruce Turley

Tel: (0044) 0121 453 4124

Email: bruce.turley@blueyonder.co.uk

Netherlands

Last Saturday of each month

De Hoop, Nr Rotterdam Maritime

Museum, Rotterdam

Contact: Jan Hoefnagel

Tel: (0031) 078 614 6002

Pacific Americas

2nd Tuesday of each month

Los Angeles Maritime Museum,

San Pedro, California

Contact: Jimmy R Williams

Tel: (001) (310) 679 6864

Email: igktpab@yahoo.com

Solent Branch

14th August 2007

Travellers Rest Inn, Newtown,

Nr Wickham, Hants

Contact: Gordon Perry

Tel: (0044) 0239 2592808

Email: GORDON5463@aol.com

Sussex Branch

3rd September 2007

Sussex Yacht Club

Contact: Charlie Tyrrell

Tel: (0044) 01798 344258

EVENTS

East Anglia

5th Summer Gathering

30th June 2007

Eaton Cottage, High St,

Thornham, Norfolk

Contact: Duncan Bolt

Tel: (0044) 01485 512508

West Yorkshire

30th June 2007

Stainforth Canal Festival

Stainforth, Yorkshire

Contact: David Pearson

Tel: (0044) 0113 257 2689

South West

29th June - 1st July 2007

Saul Canal Festival

Saul, Gloucestershire

Contact: Ken Nelson

Tel: (0044) 07836 722198

Email: knotnut1@yahoo.co.uk

West Country

3rd - 5th August 2007

Discworld Jamboree

Wincanton, Somerset

Geoffrey Budworth will be hosting a

Knot Tying demonstration at this three

day event which is based upon Terry

Pratchett's Discworld with an additional

Scouting theme.

**To place your Branch Meeting
or Knotting Event in KM, please
send to the editor by post or
email. Ensure you allow sufficient
time for inclusion.**

Photo - Willeke van der Ham



