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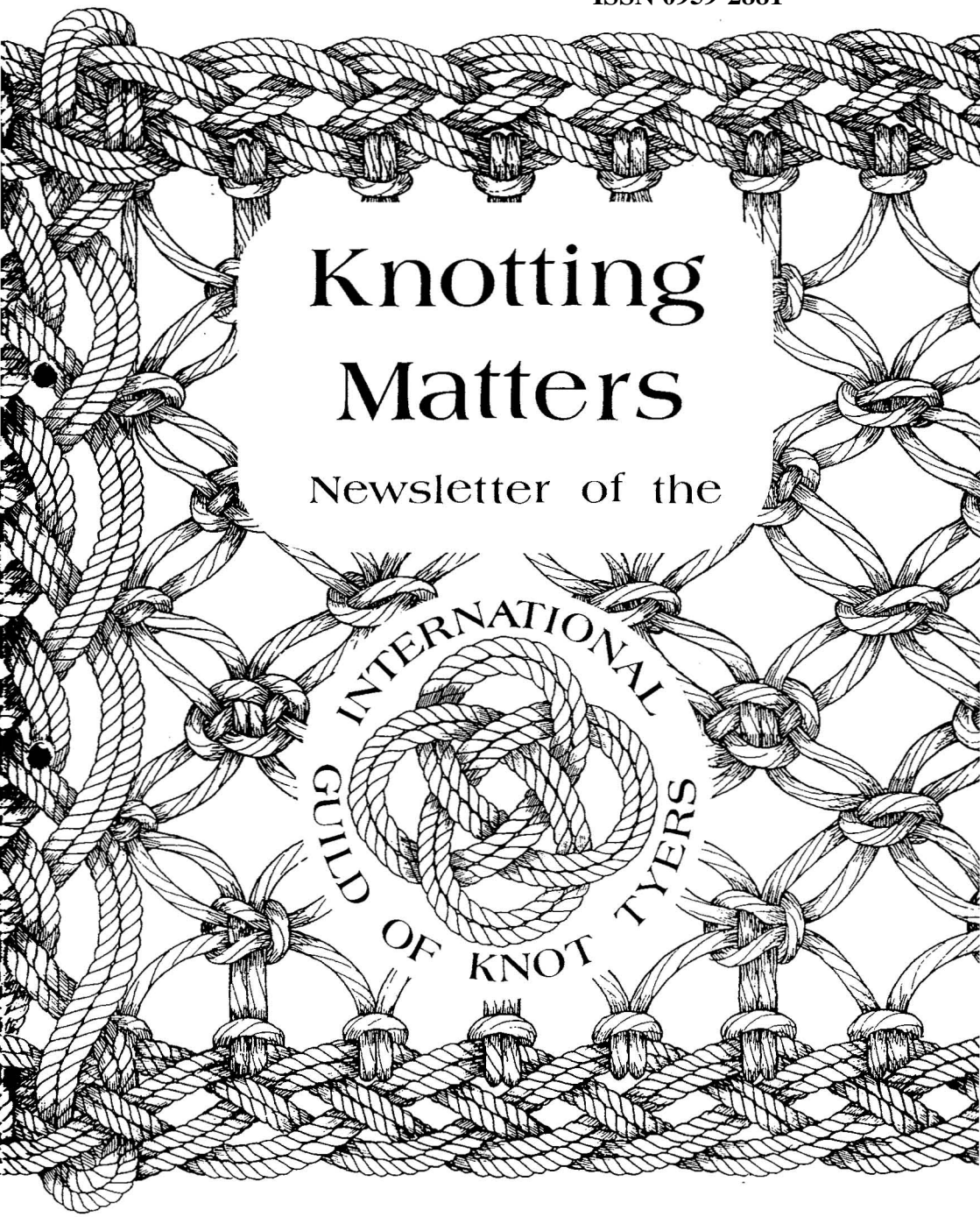
Knotting Matters

Newsletter of the



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KNOTTING MATTERS

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ISSUE No. 49 SUMMER 1995

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EDITORS BYTES AND PIECES

'But what does an editor do?' we asked.
'Why, edit of course.' the rugby player shaped secretary of the Guild smiled. 'Its not hard, but we must get the issue out on time. You do the editing and compiling but only do as much of the typing and layout as you can do and keep to the printers deadline, 32 pages an issue is your target and except for the standard bits, you can do what you want.' he said sitting back with his now cold tea.
'Gee thanks.'we say, looking at each other wondering what we have taken on. 'Well it could be fun, like a toothache!'

Now that our first issue is going to press, we realize that all we can do is shuffle your letters and articles around. If you don't write to us, 'we ain't got nothin' to say'. Yes,yes, we can hear some of you saying 'But I did write to you and you didn't use it!! Ok, but remember, we're just starting and intend to do this job for a long time. If you send it in time, we will print it or answer you directly as soon as we can.

We are glad to have this opportunity to serve the Guild. We hope to be able to maintain the very high standard of production set by Gordon Perry. We would like to add some new features pages for specialist interest groups. Perhaps a Basic Knots page for Climbers, Scouts, Crafts people (sewing, knitting, quilting, Macrame or square knotting, caravanner's and wig makers). Perhaps a Background page, stories from Circus Riggers, tall ship sailors, Army gunners, firemen from the days of horse drawn hand pumps. Perhaps a history page, like the history of some of our world famous rope makers, schooner ports and docks, ship builders and chandlers. Is there a 'Howards Way' somewhere that still make wooden boats? Perhaps a crime page, crime stories with a significant knotting reference. Perhaps a training page, discussing training, I still hope we can finally get a training programme going.

Please write with any suggestions, hints, criticisms or comments which we will always take seriously. We will do our best to give you the INTERNET you ask for. Don't be put off if you don't feel you can draw the diagrams or knots, we can do the explanation drawings for your questions if you can explain the question to us.

Everyone has their own ideas of what should be in KM. Some say 'Can we have more technical articles, like the background article on the work of our Hon VP, Dr. Vaughan Jones and the current series of articles on knot testing. Then some say 'can we have more practical knots and practical applications', like all the 'How To' pages from Stuart Grainger, Harry Asher, Geoffrey Budworth, Charlie Smith. Ed.

Notes From The Secretary's Blotter

By the time that you read this, here in the northern hemisphere the nights will be drawing in again, and winter will be on its way again, with the attraction of sitting in front of the fire knot tying. Actually, as I am writing this, it is "Flaming June", and as it has been so cold and wet, I have been sitting in front of the fire, knot tying..

Since I last wrote, there has been a lively response to many of the items in KM48, not least of which were a number of applications for the post of editor. I am pleased to announce that the Council have appointed Lonnie Boggs, and I must thank him, and all the others who volunteered their names. I am sure that Lonnie will do his best to produce interesting, *and regular* editions of KM, in fact, the principle delay in producing this edition, was having to wait for those wretched "Notes from the Secretary's Blotter". If you have any observations, criticisms, or suggestions to make, I have no doubt that he will be pleased to hear from you. Whether he would be able to accommodate your particular requirement would, of course, be another matter.

We must of course not forget to thank Gordon Perry for the splendid work he has done over the past four years editing and producing KM for us. Although the magazines were not as frequent as he would have liked due to his other commitments, he took on the role solely to help us out as there was nobody else prepared to volunteer. Despite being press ganged into it, he has established a high standard of production, which his successors will have to work hard to match.

In May we held our 13th AGM at Weston Super Mare, where a great time was had by all who attended. Fortunately the Secretary's Report only lasted about 10 minutes, the brevity of which was applauded. In accordance with the constitution the existing council retired, with all except the President offering themselves for re-election. As has become tradition, it is the duty of the outgoing President to nominate their successor, and in this case Glad Findley nominated founder member, and council member since the formation of the Guild, Des Pawson. Des graciously accepted this nomination, and was duly elected for his two year period in office.

To complete the team, Lonnie Boggs, our new editor put his name forward, and was subsequently elected. He felt that he could better serve the membership as editor, if he were privy to Council proceedings.
The rest of the meeting was much more interesting than the boring official agenda, with numerous informal displays and demonstrations all going on simultaneously within the building. I am assured that the evening entertainment was very good, with over 20 members eventually sleeping rough on the floor. Unfortunately I was unable to stay as I had to be at work at 07.30 the following morning, and with a five hour journey each way it was a long and hectic day, but very enjoyable.
In amongst the melee of the days activities, the new Council (or was it the old one), omitted to give their vote of thanks, and make their planned presentation to Glad Findley, the retiring president. This formality will be carried out at the meeting in October, in Leeds, however, in the meantime we would like to thank Glad for commitment she has given the Guild over the last two years, and for bringing courtesy and clear thinking to the Council Meetings
Changing the subject, I have had a letter from Frederick Browne, reporting on the contacts he had made with many of the universities of America, making them aware of our existence and of our interest in that particular field of mathematics. I realise that the mathematics of knot tying is not everyone's favourite topic, but if the Guild is to establish itself as the World Authority on knot based subjects, it cannot afford to ignore any particular aspect. To that end I must thank FB for the amazing amount of work he has put in to this project, travelling personally, by public transport to the various palaces of learning.
I have received correspondence from a number of sources which have come by way of Internet, or the "information super highway". It seems strange that our most ancient craft is now associated with the latest technology; I am told that it is just another sign of changing times. For those who may be interested, there is no immediate intention for the IGKT to sign on, however, if the membership feels that this would be of benefit, then this decision could be reversed.
Another sign of changing times is the extent to which we all now travel around the globe. This has generated another modern day need for knot tyers, and that is a "Dictionary of Knots". I have received correspondence from individuals who are thinking of embarking on such a project, but the Council have already made a start, albeit on a small scale, with a target publication date of the next AGM. It is our intention to produce a small booklet, with pictures of about forty of the most common knots, with their names listed in as many different languages as we can

manage. The aim is to produce a pocket sized *aide memoire* for the travelling knotter, rather than a great tome of reference. That does not preclude the eventual production of such a tome which would take many years of research, but at this stage we want something relatively small and to be available soon. If you have any suggestions, or contributions let me have them as soon as possible, and I will pass them on the appropriate authority.

Moving on, I would like to welcome the 6th Banbury Scout Group to the Guild, as they are the first unit to apply for group membership, under the trial scheme we announced in KM 47. Hopefully they will be the first of many, and that they will benefit from their membership. This development of attracting younger members to knot tying creates a need for space in KM, and hence articles to fill that space aimed specifically at this age group. Incidentally, if you are involved in teaching scouts, I can recommend the outpatients department of the local Accident and Emergency hospital. At half term I went camping with a group of scouts who did seem somewhat accident prone, and I spent several hours in the waiting room. Armed with a piece of cord we tackled a number of basic knots, and one or two fancy ones, taking the victims mind off his own injury, and much to the entertainment of the other patients. - "String" ought to be available on the NHS - it is much cheaper than modern drugs, and can be more therapeutic.

Going back to the AGM, the only question raised Members Question Time was from Frank Harris, who wanted to know what the Council proposed to do to celebrate the turn of the century. Frank still has the knack of asking embarrassing questions, as the Council were unable to offer a reply. As we have a reasonable period of time ahead of us to plan such an event, this gives you, the members, to put forward any ideas you may have so that a suitably fitting extravaganza/ funday/ knotorama/ stringaree/ tye2000/ can be organised

In conclusion, (at last), did you spot the deliberate mistakes in KM48? My apologies to those who work was affected, such as Stephen Whalley, whose cartoon of Penny's legs sticking out of the bath water, should have been printed opposite the article "Tangles From the Tub", which would have made its relevance more obvious. Despite the errors, thanks must go to "Pen and Ink" for stepping in to the breach and getting KM on the move again.

In the last three months a lot has passed across the blotter for me to write about, however if I am to get this article to the printers before they print KM49 without it, I must stop now.....

Nigel

MEMENTO MORI FRANK G HARRIS

(Ed. previously printed in KM but worthy of repeat we feel.)

"Whenever I prepare for a journey I prepare as though for death. Should I never return, all is in order. This is what life has taught me. (Katherine Mansfield–Journal, 1922). Thus with this in mind:–

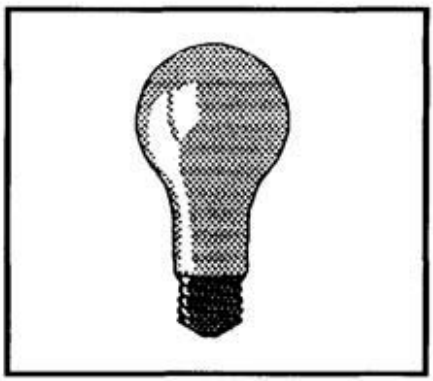
Much of our knotting will outlast us, a unique legacy, tomorrow's antiques. So will our accumulations of books, tools and ropeworking ephemera. Some collectors I know, like the idea that when they die this stuff will be dispersed, that way some person has the fun of tracking it down and collecting it all over again. Many however, prefer their hard won treasures kept together for others to enjoy.

When an IGKT's member dies, it is too late then to secure for the Guild their knotting possessions, it is difficult to ask a grieving mourning spouse or family member for permission to root through and carry off the best of the deceased's knotting paraphernalia. Consequently, it may later go to he first museum which turns up on the doorstep, or even worse cleared out into a hired skip.

If you want your knotting effects preserved, exhibited and used, make your wishes known to someone now, tell your executors in certain terms just who must have those knotboards, antique fids and rare books.

Preferably have it put into your will. It does not have to be to us (IGKT), although we do promise a good new home with others of their kind. So that tools get demonstrated in practised hands, books contribute to research, knotted samples and drawings teach future generations.

This way our short life span can be extended a trifle as we maintain a presence (a faint immortality) here through our knot tying achievements.



Don't let the light go out on your collection, act today!!
Editor

MEMBERS PROFILE FROM DES PAWSON OUR NEW PRESIDENT

I am 48 years old and knots and ropework form the greater part of my life. At the age of seven I was given a book with some knots in it by my Uncle George and from that point on I was hooked. When I joined the Cubs I could already tie what were then tenderfoot knots, reef knot, sheet bend etc. So all of my time in the Scouts, right up to Rover Scouts, I was one step ahead of their knotting requirements. I was still in the Cubs when I was tying Turk's Head woggles, selling them for four old pence when the cost was three and a half. This established my expectation that knotting could be a way of getting the cash to pay for material. Much of what I learnt I learnt from books and, after borrowing Ashley from the public library, my father bought it for me when I was 14. It is still my most referred to book in my now extensive library. Mostly I learnt from books, but I got stuck on netting until I saw the fishermen at Hastings making and mending nets, when I got the action the books seem to miss. My first real paid job was a set of billiard table nets; I was paid ten shillings, which I promptly spent on a knot book.

When Liz and I were saving up to marry and buy our first home, I made up a couple of samples of bellropes and took them to Captain Watts, the London West End chandler. They were not quite what they wanted, so I made another. This time the buyer said "Fine, here's an order" and wrote down 3, my heart dropped until he wrote dozen. How the hell was I going to make that many! That was my introduction to commercial quantities. We still make this pattern of bellrope.

Married, the house bought and less financial pressure, together with a problem of supply on the right cord, slowed down this commercial venture, but I was still knotting and researching ropeworking tools until out first child, Gael was born. The desire to get some pocket money to help buy knotting books put me back into business, this time with a little company 'Nautical Antiques', soon to become 'Nauticalia', whom I still supply. I also sold my keyrings and bellropes to a gift shop in Greenwich. When the tall ships came to London in 1975 I got a pitch

in St Katherine's Dock demonstrating my craft.

We moved to Ipswich in 1976, hoping that one day knots would be my way of earning a living. Meanwhile I continued to work in the office furniture and stationery trade. As I got more bellrope orders than I could cope with, Liz started to help. The first East Coast Boat show gave me the chance to demonstrate my skills and sell a few goodies. I became a regular feature there and, as the money came in, so I could buy more stock materials and tools, and build up a list of people interested in knotting. I also got my first teaching job, teaching macrame at a local evening class centre.

One day a friend phoned me with the amazing news on the front page story in the 'Times' newspaper, a new knot, 'Hunters Bend'!
I wasted no time in writing to Geoffrey Budworth, who was quoted mentioning 'journals that concerned themselves with knotting matters'. Geoff wrote quickly back to say there were none, but as our interests seemed so similar, perhaps we could meet. We did, showing each other knotting books and tools and having such a good time, agreed it would be even better if we could arrange a meeting of more similarly interested people, even if just in a room over a pub. My contacts and Geoff's contacts were written to and so the first IGKT meeting came about. What a wonderful day, meeting so many people together who had an interest in knotting!

That summer I had a very small patch on someone's stand at the Southampton Boat Show, where I sold knotted objects and a few books, tools and materials. Over the next years, my paying hobby grew to a part–time business, Liz's knotting skills expanded greatly, we continued to exhibit at the East Coast Boat Show, and had an exhibition of our work in a gallery in Paris in 1987.

In 1989 we had a stand at the first Shotley Classic Boat Festival, and it was during this that we realised that the time had come to turn our dreams into reality. I shocked my employer of 19 years by giving my notice. We were now full–time craftsmen in ropes, twines and cord, as well as suppliers of knotting books, tools and materials.

'Footrope Knots', as we had called our partnership continued to grow. I was invited to be part of the 'features' at the London International Boat Show. This lasted for 4 years. I started to write a series of 'Rope Yarns' for the

'Boatman' magazine. We have travelled to Poland with our knots, exhibited at Brest '92, had an exhibition in St Malo, appeared on television several times, visited Sweden and Denmark and the USA, where we attended the first US meeting of knot tyers. ***And now the honour of being elected President.***

I am especially interested in sailors' ropework, both the practical techniques and decorative work. I collect and study ropeworking tools and continue to expand my library of knotting and rope books. This library is available to anyone who would like to use it in situ, by arrangements.

My aim in life is to open people's eyes to the value of knots and sailors ropework, to save information and techniques before they are lost, and hope by my enthusiasm to encourage museums and magazines to take more interest in these fields, so that a wider public can have their eyes opened to the world of ropework, and also in our world of ropework to develop the International Guild of Knot Tyers international links. I wish I could visit every country of the world to meet fellow knot tyers and see their country's knotting heritage, especially in the next two years as your President. Unfortunately, this will not be possible as the profession of knot tying has small financial reward, but knotting and ropework gives me (and you, I hope) rewards beyond value. I look forward to meeting as many of you as I can.

Des Pawson, President – International Guild of Knot Tyers

A Proper Bellpull

It is appalling to walk the docks and see proper yachtsmen with proper yachts fitted with shiny and expensive brass bells from which hang clappers fitted with either machine-made atrocities, or rat-tailed pieces of cordage. To my knowledge, it is impossible to buy a proper bell pull in today's commercial marketplace.

This series of knots creates a proper pull for a smallish bell. It can be raised and embellished to match any size bell if the tyer has an adequate level of knotting knowledge, enough patience and an abundance of time. The sequence of tying, from start to finish is...

- 4-strand Square Sinnet (Ashley's #2999)
- Full or Double Matthew Walker (Ashley's #678)
- Double Diamond, lead above (Ashley's #694)
- Doubled 4-strand parallel reverse (alternating) Crown Sinnet (Ashley's #2928)
- 8-strand Star (Ashley's #727, but much better shown by Hervey Garrett Smith in "The Marlinspike Sailor", page 32).
- (optional) 8-strand Doubled Crown (KM 44, Oct. 93, p. 26; first part of Bernard's Dahlia knot)
- Full Matthew Walker around the shaft of the bell pull above the Star.

How to Tye It

Middle four, 8-foot strands of 1/8" cotton, dacron or nylon braided cord. A firm-handed (moderately stiff) cord is easier to work as it holds the Sinnets and knots firmer. (Three-strand will do, but some tend to distort and unlay as you work up some of the knots).

Temporarily seize the four strands with a slipped Constrictor knot (Ashley's #1250, sail thread or whipping twine is excellent) about 2 inches to one side of the middle. Work a 4-strand square Sinnet about 4 inches long, through the middle and form a bight. This is the bell clapper loop; making 4 inches allows you to form the bight without worrying with the loosely-knit ends. Size the bight as you like; allow about 1/2" overage on each side for the following Matthew Walker, and permanently seize the two Sinnets tightly together with a doubled Constrictor (Ashley # 1252).

Remove the slipped Constrictor temporary seizing and loosen the 8 strands back to the permanent seizing. Arrange as symmetrically (round) as possible...inserting in the middle a 3/4" strand of the same 1//8" cordage helps keep the 8 strands rounded and makes the Matthew Walker work up neater.

Hold in the hand so that the clapper loop is pointed downward, and the 8 strands are draped over the hand. Tie an 8-strand full Matthew Walker back onto the doubled Sinnet, covering the seizing and leaving a neat clapper loop protruding from the lower end. The finished Matthew Walker should leave the 8 strands protruding toward what will be the bottom of the bell pull.

Divide the eight strands into four pairs. Form one snug Crown knot (Ashley's #2928 or 2929) with the 4 doubled pairs; this gives you a neat, tight start for the Double Diamond. Hold again in the hand so that the clapper loop points down and the 8 strands are also draped downward. Using a small rubber band, secure the 8 strands against the Matthew Walker to make it easier to set up the Diamond.

Tie a Double Diamond with the eight strands, taking care to use the "lead above" technique in Ashley (#694), or the finished knot will not come out nearly so neatly for the following Crown Sinnet. Work the Diamond up carefully and snugly so that it covers the joint between the Matthew Walker and the Crown and leaves a nice, flush end. (a surgeon's clamp makes this knot much easier to tie and work up.)

Divide strands into 4 pairs and tightly Crown alternately (Ashley's 2928) 10 times. This forms the solid shaft of the bellpull. (Note: Other Sinnets can be used, and you can insert a core such as a pencil, small paintbrush handle, etc. if you want it thicker.)

After 10 alternating Crowns, the bellpull is an adequate length for a smallish bell commonly found on many yachts. Snug up the last crown tightly and proceed to tie an 8-point Star knot.

The Star is easier than it looks, especially once you have tied several hundred of them. Smith's diagrams are the best I have found and the first one should be easy to set up in about 10 minutes. The key to success is the patient, consistent tightening of the knot (a surgeon's clamp greatly

helps this work, as does a small marlinspike. A carpenter's steel nailset makes a good substitute.) There is no more proper, distinguished and nautical a bellpull end than a Star.

Upon completion of the Star to the point where the 8 strands protrude from the bottom of the knot, you can simply lead them back up through the points of the Star and have a very attractive end pattern with the center being the doubled 4-strand Sinnet. Or, you can tie a doubled crown (The first Crown in the Bernard's Dahlia Knot (KM)with each strand then going up through the nearest Star point, and have a very nice result. The doubled Crown takes some patience to get the symmetrical shape just right. There are many innovative ways to finish the end of a bellpull, subject only to the whims, patience and insanity of the tyer.

In any event, you now have all eight strands protruding upwards (towards the clapper loop) and through the points of the star. You will find it preferable to tuck through the Star points so the strands come out as close to the center, or shaft as possible. This requires a tool like a small loop button or pair of surgeon's clamps.

Holding the bellpull by the shaft, Star up, tie a full Matthew Walker with the strands exiting flush against the Star. Draw up carefully and snugly, alternating tension on one strand at a time, clip the ends close, work them under the spiralled strands of the Matthew Walker with a pointed tool and they will completely disappear. Now you're done!

Finishing Touches

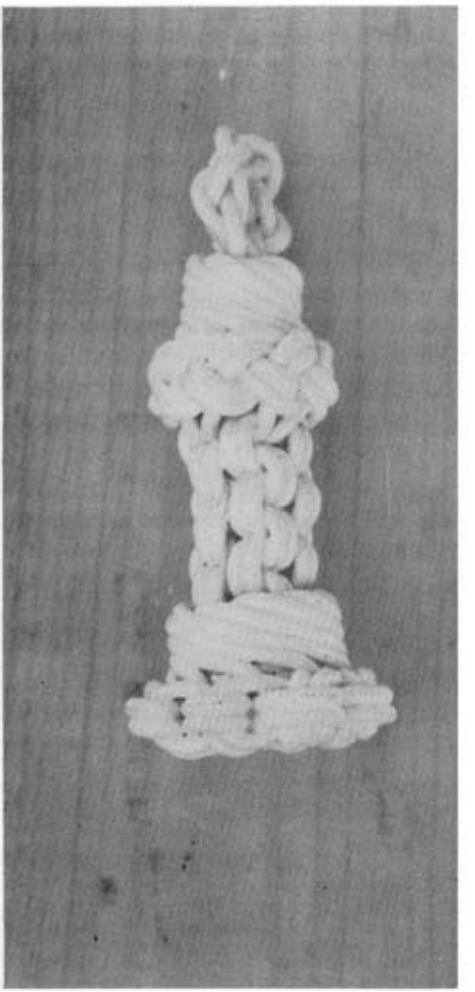
I find that dipping the finished pull in a clear urethane or water-base poly-acrylic; a slightly-thinned, oil-base white enamel paint; a white, oil-base primer, or shellac (which darkens the color) works well to harden the bellpull. Let dry for a day or so. Carefully painting with a white, outdoor enamel paint (careful spraying or dipping) makes it look very bright and functional.

A bright red or royal blue Running Turkshead (Ashley's #1303, 1305) around the middle of larger pulls, or around the base upon the Matthew Walker and above the Star adds a neat touch of color and additional flair.

I usually tie the bellpull to the clapper with a short cord, sometimes

accompanied by a diamond lanyard knot (Ashley's #787) and snugged up with a buntline hitch (Ashley's #1711). Any stout seizing will do nicely. A small stainless steel (Wichard makes several models) or bronze shackle is also very efficient and attractive.

After a little practice, this bellpull takes two to three hours to tie and a few days to paint and dry. It makes a much-appreciated gift for those who have a dirty and rat-tailed piece of string hanging from their clappers and will often get you invited for a sail and a pint of ale.



A FEW NOTES ON TESTING KNOT STRENGTH AND SECURITY
PART II. TESTING METHODS

In Part I, Terminology, some terms and concepts fundamental to knot testing research were described. Here is how some of the basic tests are performed.

II. TESTING METHODS

(a) Static Methods

Essentially, a continuously-increasing load is applied until the knot fails. The failure force or load is measured with some kind of mechanical or electronic instrument. This is the most common static method.

There are three fundamental types of instruments, strain gauges, tensometers, dynamometers or testing machines for testing textiles and knots (Canadian General Standards Board, 1984, 4.1):

Constant-Rate-of-Specimen-Extension (CRE) Machine

"A testing machine in which one end of the specimen is held by a virtually stationary clamp attached to a suitable weighing system for detecting and recording the force applied. The other end of the specimen is gripped in a clamp that is driven at a constant speed."

Constant-Rate-of-Traverse (CRT) Machine

"A testing machine in which one end of the specimen is held by a clamp driven at a constant speed while the other end is gripped in a clamp attached to a weighing mechanism of the type that permits movement of the attached clamp - e.g., as in pendulum machines. The specimen is therefore not extended at a constant rate."

Constant-Rate-of-Loading (CRL) Machine

"A testing machine in which one end of the specimen is held by a stationary clamp while the other end is gripped in a clamp that moves at varying speeds so as to increase the tensile force on the specimen at a predetermined rate."

Inertia and specimen extensibility can produce significant errors, and any researcher must recognize that different machines produce different results.

Another static testing method can be utilized to evaluate knots that will be loaded for long periods of time: prolonged loading. Straining a knot up to its safe working load, or higher, for specified durations allows the investigator to learn more about its behaviour as it tightens gradually.

The simplest approach is to suspend a known weight using a knotted cord and leave it for a number of days, weeks or months. Intermittent 'rest' periods can be introduced if that is appropriate to the analysis and the knot's application.

This kind of investigation can reveal much about a knot's tenacity. If the plasticity or deformability of the rope or cordage in question is unusual, the effect of a gradually tightening knot can be studied. Also, a knot's behaviour may be related to various types of rope/cord elongation -- nonrecoverable extension, hysteresis or extension recoverable over a period of time, and immediately recoverable extension (Cordage Institute, 1991). Suspension or prolonged loading tests, whether continuous or intermittent, can reveal a lot about a knot's behaviour.

(b) Dynamic Methods

Dynamic tests involve dropping weights, or applying impact forces or pulses to investigate knot performance. A variety of techniques have been used. Specially-designed drop towers have been employed by safety equipment manufacturers. Slow moving vehicles have simulated fall loads, and even truck tires have been dropped from trees to test various belay hitches.

Impact force, impact elongation, energy absorption and qualitative knot performance are some of the variables that can be measured using dynamic tests. There are a variety of highly standardized dynamic test methods, as well as crude, informal ones. Here are a few:

Belay Competence Testing

The British Columbia Council of Technical Rescue (Canada) has conducted tests to assess the performance of a number of belay techniques and hitches. These tests involved dropping a 200-kilogram weight attached to a low-stretch rescue rope a distance of up to 100 centimetres. These criteria were maintained to facilitate a comparative standard, and they were deemed appropriate to the conditions of actual application (i.e., lowering and raising two-person loads in rescue situations).
(Dill, 1990; Larson, 1989)

UIAA or Dodero Testing

Traditionally, the Union Internationale des Association d'Alpinisme (UIAA) has been the authority on testing standards for mountaineering ropes. Named after its inventor, Dodero, the following drop test is performed. An 80 kilogram mass (176.4 pounds) is dropped about 5 metres (16.4 feet) and is caught by half as much rope. The fall factor is 1.79 (fall distance divided by mount of rope).

For climbing ropes to receive the UIAA label, they must sustain at least five of these drops before breaking, and the maximum allowable impact force must below a specified standard. This UIAA testing protocol is not used to test knots. But similar types of tests involving high fall factors have been employed to evaluate climbing knots and belay hitches (Cannon, 1985; Chisnall, 1985 & 1979; Microys, 1977).

Pulse or Repetition Testing

Ashley (1944, Page 17) describes how he tested the Sheet Bend using " ... a series of single jerks of gradually increasing force." where "The weight was dropped at regular intervals." "The number of drops required to break the line decided the knot's relative strength."

Similar methods of pulse testing are invaluable to the investigation knot security. For example, I have compared the security of knots by tying them in stiff kernmantel rope and applying manual tugs of approximately equal magnitude at regular intervals (using a watch or metronome). The forces involved are quite low compared to the breaking strength of the rope. Whether or not a knot unties, and the number of tugs required to untie it determine its relative security (Chisnall, 1991).

(c) Comparative Methods

Comparative tests do not measure exact knot strengths. Relative breaking strength is the focus. To perform acomparative test, tie two knots in tandem and apply a force until the weaker one breaks. This is ideal for comparing bends, like the Flemish Bend and Double Fisherman or Fisherman's Knot. (Three identical pieces of cord are tied together with two different knots during each trial.) The applied force can be a slow pull or a sudden impact, and several repetitions or trials should be made for each pair of knots compared.

Quick-and-Dirty Testing

For lack of a better term, this is what I call manual tests using thread or string. Again, two different knots are tied in tandem using three identical pieces of cord. This kind of investigation is somewhat analogous to scaled-down engineering models. Breaking knots tied in thread or string is cheap, quick, convenient and requires no special equipment. Small forces which are sufficient to cause failure can be applied quickly or slowly. This crude approach affords some insight into how

knots will compare when larger ropes and higher forces are involved. However, if a particular knot proves to be stronger than another in thread, this does not necessarily mean that the same performance is guaranteed in larger ropes. This is a procedure of preliminary estimation.

Large-Scale Comparative Testing

The same comparison of knots can be made on a bigger scale -- with larger ropes and higher forces. Follow the same basic procedures: tie the two knots to be compared using three identical pieces of rope. A testing machine, like those described previously, can be used to apply a steadily increasing force that is recorded at the time of failure. When a sophisticated gauge is not available, some sort of mechanical advantage device can be employed to obtain a force high enough to cause failure. However, without a gauge, the failure force will not be recorded. Block-and-tackle, a winch or a come-along are suitable. (One note of caution: Ropes stretched to the point of failure contain a great deal of elastic energy. Make sure no one is in a position where he or she could be struck by snapping rope ends or flying bits of hardware!) (Chisnall, 1985)

Comparative Drop Testing

Comparative knot tests can be made using a dynamic method like those described previously. Large weights, high fall factors or repeated drops can cause failure. One procedural detail should be noted, though. Perform half of the trials with knot 'A' in the upper position, and the other half with knot 'A' in the lower position. Neglecting this step may allow differential energy absorption and inertia to bias the results. (Recall the following high school experiment involving string and a weight. If you tie the weight to an anchored string and drop it, the string breaks. If you suspend that weight from a piece of string, tie a second piece to the bottom of the weight and yank downward on it, the second piece breaks.)

THE VARIABLES

Determining knot reliability is not a straightforward undertaking. There are several factors to be considered in any analysis:

(a) The characteristics to be measured.
(b) The method(s) of testing.
(c) The conditions under which a given knot will be used.
(d) The materials involved.

Each factor is closely linked to the other three. The first two should be governed by the last two. Testing should reflect use.

My reading and research indicate that conclusions made from knot tests depend on these basic elements

(a) The knot itself:

1. Its size or bulk, specifically the bight radius,
2. Its general and specific configuration,
3. The knot's dressing or neatness,
4. The initial knot tension,
5. And the length of the working ends, if pertinent.

(b) The rope or cord in which the knot is tied:

1. The material from which the rope or cord is constructed,
2. Rope or cord dimensions (diameter, denier, density, etcetera),
3. The age and condition of that material,
4. The construction of the cord (weave, braid, lay, etcetera),
5. The rope or cord modulus and elasticity,
6. Its stiffness, surface friction and flexibility,
7. And temperature, moisture content, dyes and contaminants.

(c) The test method:

1. Measuring gauge and setup,
2. Speed of force application,
3. Duration of of application,
4. Repetition of force application,
5. Test protocol,
6. Attachment points and linking hardware,
7. Data handling procedures,
8. And the protocol for making conclusions.

SUMMARY

There are many methods of testing knots. Just a sample has been outlined here. Considering the number of variables, it is best to design testing procedures that are specific to the research question(s). The reliability, validity and repeatability of the trials are vital.

NEXT ISSUE: PART III. A REVIEW OF SOME RESEARCH

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BOOK REVIEW

TITLE:	ROPE & TWINE CRAFTS – ISBN 0–85091–555–4
AUTHOR:	GYPSY HUSSEY–SMITH
SERIES:	LOTHIAN AUSTRALIAN CRAFT SERIES (1993)
PRICE:	AUS$20.00 (APPROX)
ADDRESS:	THOMAS C LOTHIAN PTY LTD, 11 MUNRO STREET, PORT MELBOURNE, VICTORIA 3207. (or write to the author at Polly Woodside Maritime Museum, South Melbourne, 3205, Australia).

The book is handsomely produced with 63 A4 size pages, and soft covers. It has six full page colour photographs, colour photos on back and front covers (the front cover shows Gypsy reclining in his rope hammock.)

After a brief introduction on the history of knots, it gives advice on the cords and tools needed for the projects to be presented later. Then a variety of knotting techniques are explained, including whipping. Twentyseven pages are devoted to two kinds of whipping, eight base knots, four combined knots, five end rope knots and four splices. The black and white drawings for these are superb – as good as any I have seen. The explanations are excellent. I tried a few out for myself; being a mathematical knot buff, I really should go through the lot!

The remaining half of the book is devoted to THINGS TO MAKE. Again all of these are accompanied by splendid black and white diagrams together with the six full page colour photos.

The projects include the following:

Ladders and leashes, belts and bracelets; round and square mats; a hammock; baskets of all sizes; a garden swing; pot stands; coasters; rope toys, serviette rings; rope balls; woggles (scarf rings); and quoits.

Highly recommended for beginners, improvers, and mathematics professors.

Professor John Turner – Hamilton, New Zealand.

INTERNATIONAL GUILD OF KNOT TYERS

Calender of events - 1995/96

Date of Event	Event	Location	Contact Name	Tel. No.	Help Needed
1995					
tba	Inland Waterway Rally	Bulbourne			
July 3-7	Summer School	Suffolk College	Des Pawson	01473 690090	No
July 9 (Sun)	Hants County Fair & Sheepdog Trial	Butser Hill, Hampshire	Ken Yalden		No
July 15 & 16	Model Boat Show	Weymouth	Dennis Murphy	01752 568159	No
July 18 (Tues) 8pm	IGKT Yorkshire Branch Meeting	The Beulah Hotel Tong Rd, Farnley Leeds.	D. R. Pearson	01132 572689	
July 28-30	Classic Boat Show	Plymouth	Ray Tucknott	01752 404941	
August 17-19	Navy Days	Plymouth	Dennis Murphy	01752 568159	Possibly
August 27-28	Chatham Maritime Festival	Chatham, Kent	George Aldridge	0181 7784050	No
Sept 2 & 3	Huddersfield Waterways Festival	Huddersfield	D. R. Pearson	01132 572689	
Sept 3-7	Footrope Knots	Hull Shanty Festival	Des Pawson	01473 690090	No
Sept 19 (Tues) 8pm	IGKT Yorkshire Branch Meeting	The Beulah Hotel Tong Rd, Farnley Leeds.	D. R. Pearson	01132 572689	
Oct 7	Half-year A.G.M.	Leeds			
Oct 15	Workshop by Ann Norman	Bampton Village Hall		01993 850823	
Nov 21 (Tues) 8pm	IGKT Yorkshire Branch Meeting	The Beulah Hotel Tong Rd, Farnley Leeds.	D. R. Pearson	01132 572689	
1996					
May 11 (Sat)	IGKT 14th A.G.M.	Gilwell Park, Essex			

MORE EVENTS REQUIRED PLEASE !!!!!

As you can see from the above brief list, the 'Diary' has got under way albeit sparsely. Items will be added as and when they are received, but this is the best I can do for now.

Jeff Wyatt

KNOTTING DIARY
(or WHAT'S ON IN KNOTS)

Knotters in the UK and abroad are often interested in attending events where there is a knotting involvement, however small. Members are usually aware of most of the big events, The Boat Show, the Knotting Guild A G M etc, but others, such as The Wooden Boat Show, The Tall Ships Race, Inland Waterways rallys, model boat shows or Scouting/Guiding meets often go unnoticed. In fact, anything remotely connected with knots and knotting could go in the Diary.

At a recent Guild Committee meeting it was pointed out that there had been attempts to inform knotters about coming events through Knotting Matters, but in many cases the details were not known about far enough in advance to be published, or the information was published too late. In order to remedy this I was volunteered to collate and keep a diary which could be accessed by members by 'phone or letter, rather than wait for details to appear in Knotting Matters. Those wanting to find out what's happening in a particular area or country can contact me at the address below.

However, none of this can happen if members don't tell me what's happening in their area; so, the following information would be most appreciated:

Date of Event: _____ Time: _____

Name of Event: _____

Location: _____

Knotter(s) involved (if known): _____

Contact Name: _____

Notified By: _____
_____
_____
_____ Date: _____

This can only work if you all participate. I need to know what's happening in other countries too. Members going abroad for their holidays would often be delighted, I'm sure, to be able to attend knotting events if only they knew about them.

Yours in anticipation of a veritable flood of notifications,

Jeff Wyatt

91 Luton Road
Dunstable
Beds LU5 4LW

01582 664504 (Ansaphone for when nobody's available - so don't be afraid to use it!!!!!)

TIM FIELD WRITES FOR THE WEST YORKSHIRE BRANCH.

The West Yorkshire Branch is busy making arrangements for the autumn meeting on 6–8 October 1995. It seems that the maps and directions are delegated to me. I shall have some graphics prepared as soon as possible.

Membership List 1994 – errors:the following underlined details are correct:
page 4 West Yorkshire, David Pearson, 44 Water Lane...LS12 5LX
page 36 West Yorkshire, Tim Field, 46 Tivoli Place.

The following oddments might be of interest to Guild members. The A5 double–sided leaflets, are used when introducing knots to the uninitiated, which usually means Scouts.The leaflets show a diagram of what knots and splices are, some pendant ideas and Solomon, the rope doll.

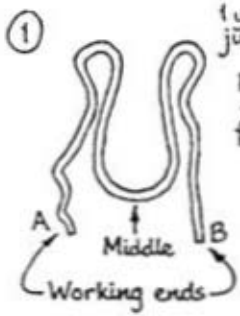
To answer Ken Yalden's (**KM 42** page 7) request for the music for the song 'Tom Bowling' (Dibdin), I have included the sheet music from my vast store of various sheet music. It is from 'Songs of England', edited by J.L. Hatton, Boosey & Co, London 1886; volume 1 (of 2), pages 169–171. I have also included 'The Knotting Song' (words by Sir Charles Sedley, music by Henry Purcell and arranged by H.A. Chambers, from The Musical Times, number 1201, Novello & Co, London 1943) (Sorry but must check copyright before we can re–publish..Ed)

Some questions:
Why are the cords left–hand laid? Except for small stuff, most modern cordage is right–hand laid.

What machinery or methods might have been employed in the production of the cords?

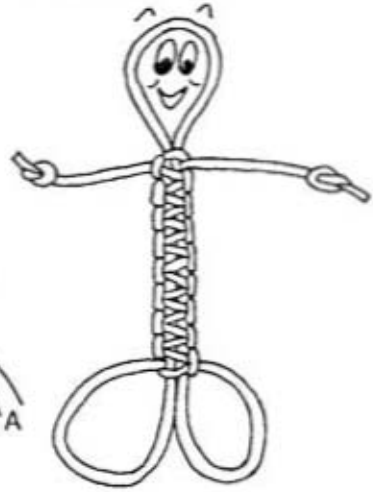
Is the direction of the final lay influenced by the machinery used in the production of the cord?

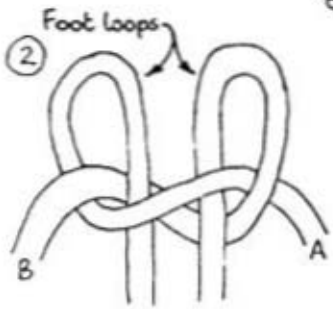
Solomon



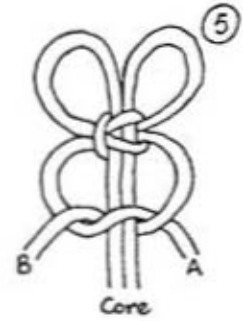
1 yard, 1 metre, jute or cotton string.

Foot loops — 4 inches, 100 mm, from the middle.

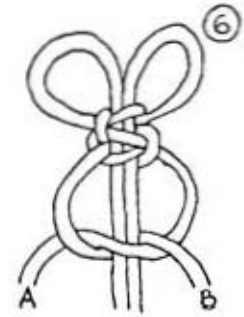




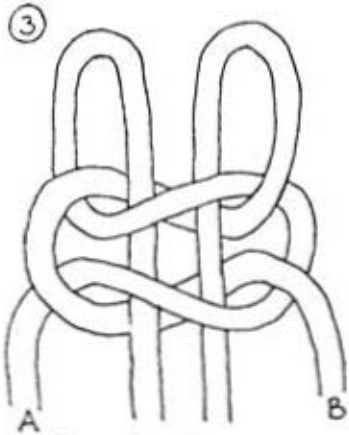
First half knot.



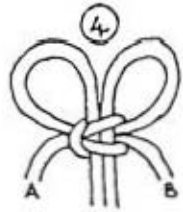
Next half knot, opposite to the last one. Pull tight. Keep core straight.



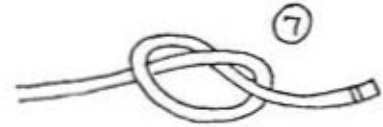
Continue half knots — each opposite to the previous one. Stop with 1½ inch, 40 mm, loop for head.



Second half knot, opposite to the first, one complete flat (square) knot.



Pull tight, leaving loops for feet.



Tie a Thumb knot on A and B.

Try different materials and colours.

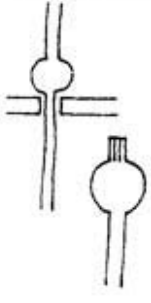
Flat knots (square knots) on a core are also called Solomon bars — hence our friend's name.

TJF.

WHAT ARE KNOTS AND SPLICES?

KNOTS
The rope is tied in itself.

STOPPER KNOTS
Making a bulky part in a rope to stop it passing through an object or to stop the strands unlaying.

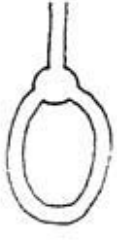


BINDING KNOTS
Joining the ends of a single rope around an object or objects. The knot 'bears upon' the object.

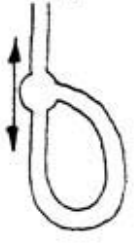
Whippings, lashings and seizings are special types of binding knot.

LOOP KNOTS
shortenings

FIXED LOOPS
A single loop or more than one loop which does not close under strain.

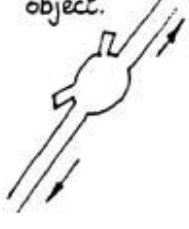


SLIP LOOPS
Knots which slide, closing the loop under strain or allowing it to be opened.



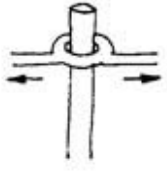
BENDS
... for ends.

Joining the ends of two ropes. The knot must hold, even when jerked in mid-air. Unlike a binding knot, a bend does not have to bear upon an object.

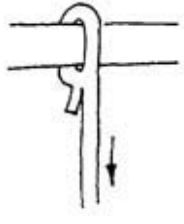


HITCHES
... to something else.

MIDDLE HITCHES
Attaching the middle of a rope to an object when there is strain on both sides of the knot.



END HITCHES
Attaching the end of a rope to an object — a ring, a post, a bollard, a peg, even another rope.



SPLICES?
Working with the constituent parts of the rope — disturbing the structure and intertwining the strands.

FOR EXAMPLE....

STOPPER KNOTS

Thumb k.
Figure 8 k.
Oysterman's k.

Heaving line knots also make weight at the end of a rope:
Barrel k.
Monkey's Fist
Loaded Turk's Head

BINDING KNOTS

Reef k.
Surgeon's k.
Packer's k.
Constrictor k.

Whippings for binding rope ends:
Admiralty w.
West Country w.
Palm & Needle w.

Lashings for binding spars:
Square/Japanese
Diagonal/Filipino
Sheer l.
Tripod l.

Seizings for binding ropes:
Flat s.
Round s.

FIXED LOOPS

Bowline
Artillery l.
Figure of 8 l.
Fireman's Chair k.
Alpine Butterfly

SLIP LOOPS

Running Bowline
Honda knot
Handcuff knot
Jarsling
Hangman's knot

BENDS

Sheet b.
Carrick b.
Fisherman's 'knot'
Hunter's b.

For different thicknesses:
Racking bend
Bowline bend

MIDDLE HITCHES

Clove h.
Marlinespike h.

Various other hitches are adapted as 'crossing hitches' from other knots:
Mooring hitch
Constrictor knot

END HITCHES

Cat's paw
Lark's Head
Timber h.
Becket h.
Round turn and two half hitches
Anchor h. *
Buntline h.

To a hook:
Blackwall h.

Quick-release:
Highwayman's h.

Lengthways pull:
Rolling h.

Increase tension:
Harvester's h.

* Fisherman's 'bend'

SPLICES

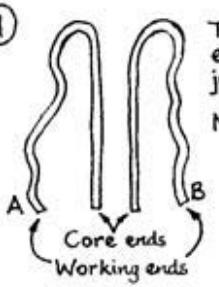
Eye s.
Shorts.
Long s.
Cut s.
Back s.
Chain s.
Tucked s.

SHORTENINGS

Sheepshank
Chain shortening
Bellringer's knot

Flat knot (Square knot) Pendant

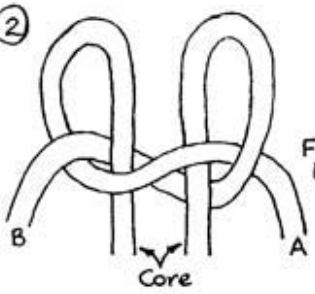
1



Two pieces, each 1 yard, 1 metre, jute or cotton string.

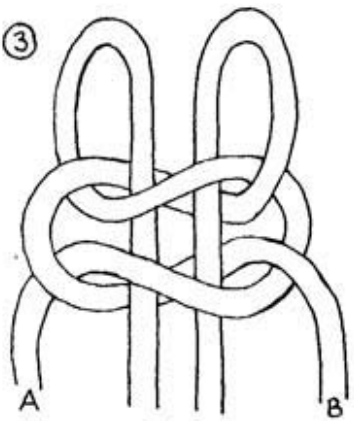
Make loops — 6 inches, 150 mm, from the core ends.

2



First half knot.

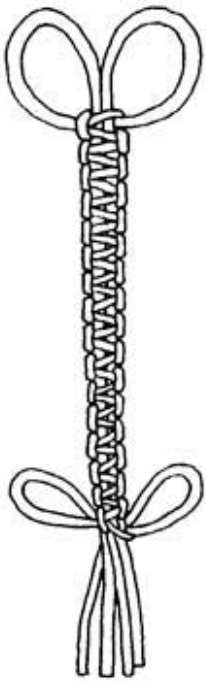
3



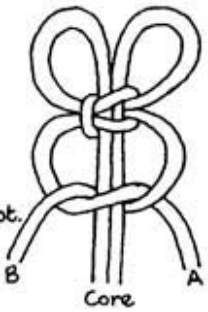
Second half knot, opposite to the first, one complete flat (square) knot.

4

Pull tight, leaving loops.

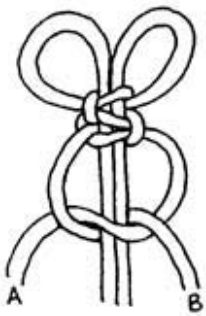


5



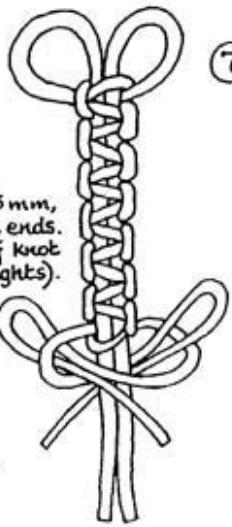
Pull tight. Keep core straight.

6



Continue half knots, each opposite to the previous one.

7



Stop 1 inch, 2.5 mm, from the core ends. Make last half knot with loops (bights).

Try different materials and colours.

Flat knots (square) on a core are also called Solomon bars.

TJF.

YOUR LETTERS

A C Lee writes:....
Last August I received a call from Mrs Brian Smith of Loveland, Colorado. The Smiths are members of the Northern Colorado Yacht Club who had been to the UK and met Brian Field. Brian sent his greetings by way of the Smiths. It was a most agreeable surprise. ***(It's amazing how close we can be, even when so far apart. More like a big family than just a bunch of people with a single common interest. Ed.)***

I have included a couple of snippets. a. A clipping from The Colordoan of Dec 91 discussing the general move away from country knowledge and natural ways, turning from learning knots to using Velcro, camping in houses on wheels instead of under canvas. People will be making decisions about the outdoors and wildlife with little personal knowledge to gauge how much they don't know. Yet they cast their votes with a false confidence. The article is written by Kevin Cook, who is a naturalist and free lance writer in Fort Collins, Colorado. b. An article from an unknown source discusses the engineering book 'The Evolution of Useful Things' (by Henry Petroski:Knopf). There are references to bed ropes, asking why beds are the dimensions they are and why do the ropes always go end to end and side to side. The answer put forward is that the dimensions have something to do with the dimensions of the human body, the ropes do not go diagonally to save time and materials. ***(We would have liked to use this very good article complete but cannot without the permission in writing of the author. This we could not get in time to meet this issue. Please include the name, date and if possible the address of the publisher of any previously published material you send, this will save time and possible litigation in the future. Thanks Ed.)***

A colour photo of a knotboard from the 'History Walk of the Pacific War' the Admiral Nimity Museum, State Historical Park, Fredricksberg, Texas was also included. This very large board has the frame made of knots and rope with what looks to be large Star and Turks Heads, matts at the corners. Besides the knots there is a rope and metal winch in the middle. However, due to reflected flash and part of the very large board being out of focus, it does not reproduce very well. Please note that a good test of how well a photo will reproduce is to photocopy it, should it photocopy with good, distinct definition then we can use it (this will always happen best with black and white pictures). Please send your photos in anyway (with a sae if you want them back please) and we will try to include them or at least a description. Ed.

Charles Warner – New South Wales, Australia writes.....

In the article 'The Ties That Bind' in KM48, the author (P J Skerrett) makes the apparently ridiculous statement that 'the bows we tie on our shoes aren't really knots'. How can such presumably intelligent people make such statements? I suggest that they are falling into the simple fallacy of taking a word with several meanings and then sliding from one meaning to another without noticing. The word knot has a number of meanings, some vague, some fairly precise, some straightforward, some figurative. I list some of the more precise meanings.

KNOTS[1]: The first member of the triumvirate of knots, bends and hitches, that is intertwinings of a single cord.

KNOTS[2]: Comprise knots[1] bends (intertwinings of two cords) and hitches (intertwinings of a cord with another object, such as a spar, cleat, ring etc). When the general public say 'knot' they often mean knot[2], many small books entitled 'Knots' contain knots[2]; and nothing else.

KNOTS[3] Roughly what is contained in Ashley's Book of Knots and similar volumes. Sometimes the books are called Knots and Splices, Knots and Braids, Knots and Ropework or the like, which suggests the kinds of things included in addition to knots[2]. Note that all knots[1] are included in knots[2], and all knots[2], are included in knots[3].

KNOTS[4] Used by mathematicians to mean (following Skerritt) 'one dimensional curves in three dimensional space that begin and end at the same point and never intersect themselves'. Such abstractions cannot be seen, so mathematicians often visulise the curves as if made in endless cords as shown in the article. They can be approximated by taking any knot[2] or many knot[3] and transforming them by joining the ends. But the untransformed knots[2] are not knots[4], or as Sumners (quoted by Skerrett) says 'if a knotted string has loose ends (that is a knot[2]), it's not really a knot (he means a knot[4]). So knot tyers are dealing with different things from the mathematicians and knot[4] theory has very little relevance to knots[2]. Knots[4] theory is not even much help in classifying Knots[2]. Any knot[4] (except the trefoil) can form several or many apparently unrelated knots[2] by starting with different forms after twisting, rearranging or capsizing; cutting at different points; and pulling tight differently.

However, some (but not all) knots[4] make attractive designs for some kinds of knot[3], such as mats: but again, the actual theory that generates the design need not be studied. There is another branch of mathematical theory that deals with such things as braids, and has much more relevance to the things that the knot tyer calls braids or the like.

Brian A Glennon (sorry if misspelt – printed names would be appreciated) writes....
I was not impressed by the P J Skerrett 'The Ties That Bind' for a number of reasons. First of all, I see very little relevance between knot theory and knot tying. Skerrett's article was particularly annoying to me, he had such great difficulty integrating the terminology from each discipline that I was left with two immediate thoughts: (1) Mr Skerrett has little if any experience in either knot tying or knot theory or (2) they are more mutually exclusive than I had first supposed.

Guild members should review Clifford W Ashley's definition of a knot. It will be seen that he excludes hitches, bends, sennits, braids and splices from that definition.
Syllogism 1: A grommet is a form of a long splice.
According to Ashley : Splices are not knots, therefore, a grommet is not a knot.

Yet in P J Skerrett's article appears a 'Periodic Table of Knots' which are grommets. So what recognized expert with years of rigging experience and knot tying skills compiled this table of so called knots? Was it Barnacle Bill? Matthew Walker? Sinbad? or Captain Ahab? **NO**! But an expert talented in dealing with other fictitious characterizations, a mathematician.

There is little or no overlap between the theoretical world of knot theory and the empirical world of knot tying. Try this test: Using knot theory, tie a bowline! It can't be done. The opposite is equally true: Using knot tying, determine the homeomorphism of an isomorphic closed curve in E^3 space. Good Luck!

In fact, knot theory is actually dealing with the geometry of a closed curve, any closed curve – and not knots. The word knot is a misnomer in knot theory, and I would like to see the name changed to closed curve theory, which would be more to the point.

It would be hard for any experienced rigger or any serious knot tying enthusiast to accept the definitions of a futurist like Buckmaster Fuller, or a theoretical mathematician like Vaughan Jones on what does and what does not constitute a knot. There are too many treatise done, too much debate delivered, and too much hard earned tradition in knot tying for already established and accepted definitions to be suddenly challenged or redefined by academics.

According to academics, the simplest knot is a circle which they call the 'unknot'. Now after you review Ashley's knot definition for a second time, review George Orwell's cure for the un–formation by memorizing this sentence:
"A not unblack dog chasing a not unsmall rabbit across a not ungreen field".

Even the most functionally illiterate rigger I have ever worked with has ever called a circle an 'unknot'. (This is probably an Americanism). Poor English aside, anybody without knot tying experience has any right to determine what constitutes a knot. Either out of ignorance, temerity, or design, theoretical mathematicians have no business telling the world what constitutes a knot.

Now that I have let off some steam, I know there are some good knot tying folk out there who are advocates of knot theory. I have already debated the issue with two of them and we all came away unconvinced.

I do not mean to beat you over the head with my opinions, but the IGKT and Knotting Matters are the only international forum I am aware of, which one can question the issue. Does knot theory have anything to do with knot tying? I do not hear or read anyone else challenging knot theories relevance to knot tying; yet I do hear and read knot tyers name dropping or trying to interchange knot theory terminology in an effort to enhance or exaggerate their knot tying knowledge. This is just an example of a little knowledge being a dangerous thing.

oooOooo

Frederick Brown who inspired the re-printing in KM of 'The Tie That Binds' article has made the following request after trying to drum up interest in the article in the colleges around his area in Boston, Massachusetts.....

If there is a college or university located near your home, then go directly to the campus and seek to talk directly to the Dean or Science as to the names of professors who are doing research into knot theory. If several IGKT members live in the same town, please confer to avoid duplication of effort. Please mail the details of visits to Nigel Harding so that he can publish from time to time a master list of schools visited and any possible professors working with knot theory.

YOUR LETTERS CONTINUED

Heinz PROHASKA writes.....
Robert Pont of France mentioned in KM47 a clothes line made of two lines twisted together. An Austrian woman trid to get a patent for that some years ago. The question is, if there are two inventors, who was first? Perhaps Robert could inform about more details. Also the Piwick knot isn't new, sorry. ***(Heinz does not give the name or the date that the 'Austrian woman' made her claim. Also he gives no details of where he has seen the Piwick knot before. Charlie Smith who is now enjoying retirement, and a known tyer of repute remembers his grandmother opening the twists of her clothes line to hang her washing, his mother is now in her 91st year and has used this during most of her lifetime. Ed.)***

P W HUGHES writes....
I notice my letter is printed in KM47, pity about the heading. ***(Yes, sorry perhaps it should have said "Why Not Try Your Hand At Drawing Knots". Point taken and will try to do better. Ed)***

Ref KM47 page 13 'Knots and Life', No.2, I was taught to hang clothes on a line like this in 1946. Whilst a deck boy on the 'Orontes' Orient Line. I have hung heavy jeans with security even when soaking wet.

Bill Sorenson writes....
In reply to Ben Gilbert's dilema of tying two nylon ropes together of unequal diameter, I can offer a solution that I've 'bet my life on' many times.

I would use either a figure of eight loop and tie a bowline through the loop, or a bowline loop and then a second one through that loop. Of course, I would back up the bowline with a half hitch or two. I've often used a lighter rope to tie to a climbing rope for rappelling and have never had a problem untying them when off rappel or have seen any indication that they were going to come untied by accident. ***(Perhaps Cy CANUTE'S article in KM41 (page15) about the Tarbuck knot would be worth re-reading as another way of tying a pair of loops together. Ed.)***

Richard HOPKINS writes....
I enclose a photocopy of a letter from the Boy Scouts of America giving permission to use the 'Forty Knots' card in KM. The card comes printed red and black on a stiff white card with lengths of red or white cord to practice knots.

I am reading the 'The Knots and How to Tie Them' booklet (Boy Scouts of America ISBN 7 30176 33170 6) and enclose a copy for the archives, if not already there. I am not altogether happy about the BSA's naming of the Rolling Hitch, it seems more like two round turns and two half hitches to me. What do you think?

(The names of knots can be confusing, the two overhand knots, one tied in the opposite hand is called a reef knot, or a square knot if you are American. A Becket Hitch is made on a loop or a spliced eye, made with the end of a line it is called a Bowline or Rescue knot (depending who you ask) and made to join two lines together, it is called a Sheet Bend, or a Weaver's knot depending on how you make it. Drawing the Bowline with no reference to the connection of the ends you would not know what to call it. The "Two Round Turns and Two Half Hitches" shown on the card uses the old name (Ashley 1721) of 'Rolling Hitch'.

The 'Taut Line Hitch' looks exactly like the 'Midshipman's Hitch'(Ashley 1730). The 'Tiller's Hitch' is called a 'Slipped Sheet Bend' in Ashley, No 1437 and in the BSA's booklet on page 11! The 'Midshipman's Hitch' (also called the 'Stopper Hitch' on page 17 of the BSA's booklet). as shown, is the wrong way round (see Ashley's 1730) and the loop would tend to slip closed rather than lock open under strain. Can you see any more Oh Dear's? Ed.

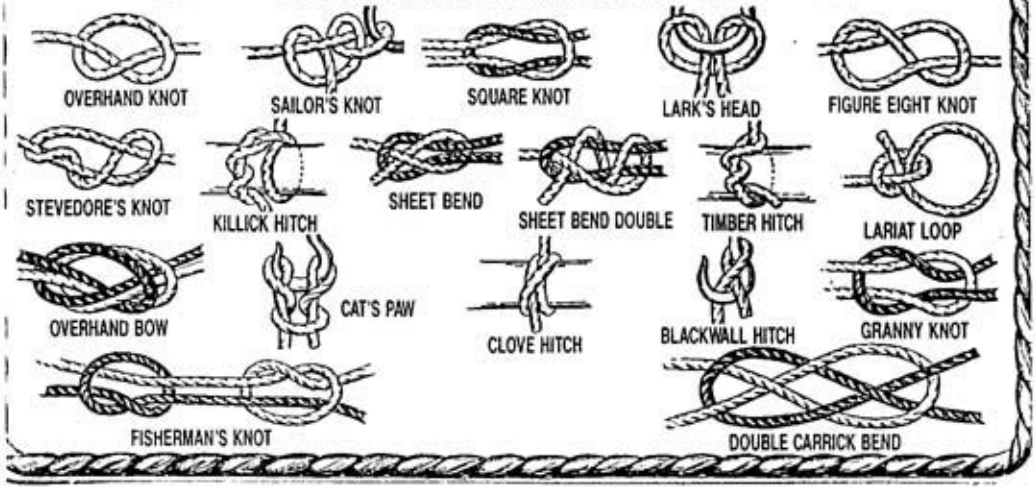
CAT. NO. 1057A

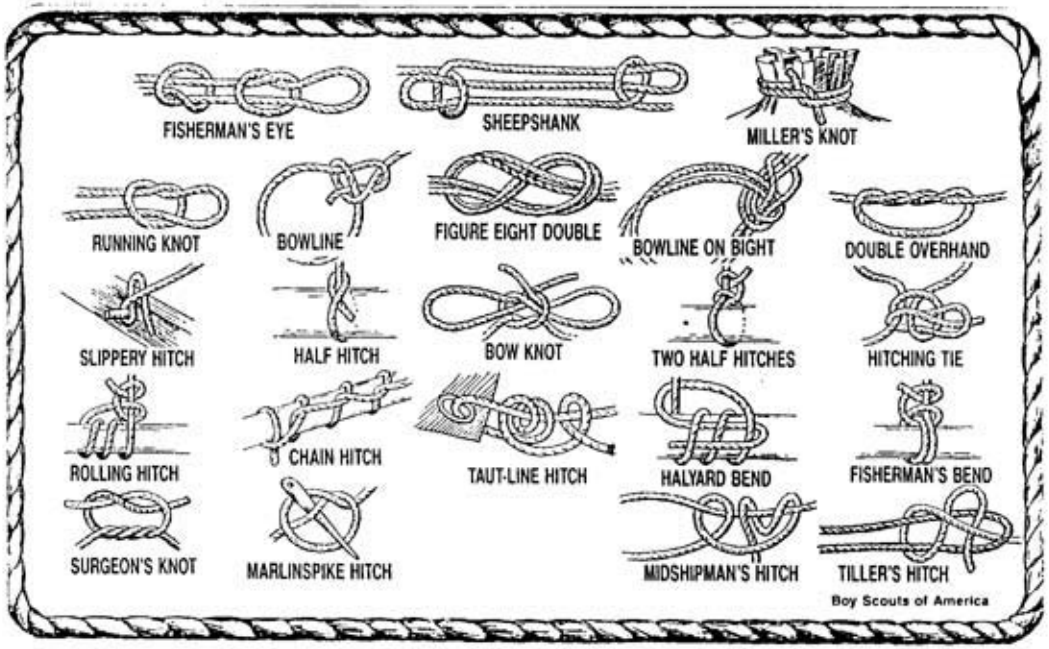
FORTY KNOTS

A VISUAL AID FOR KNOT TYING

OFFICIAL EQUIPMENT—BOY SCOUTS OF AMERICA

The Scout Seal is Your Guarantee of Quality, Excellence and Performance





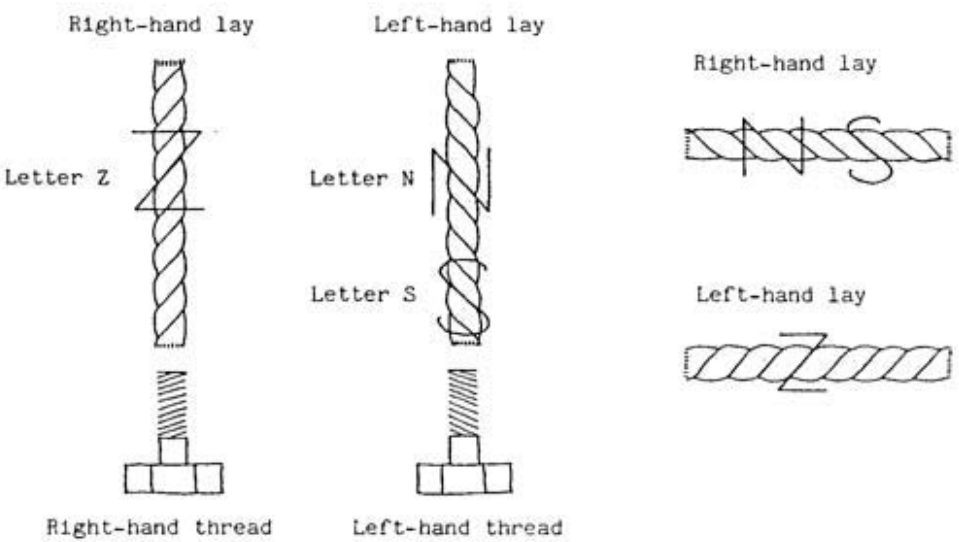
Boy Scouts of America

A comment

Some researchers in the Archaeological Sciences Department have referred to the lay of cord samples with the letters Z and N, where the direction of the cross-piece of the letter is parallel to the direction of the contlines in the sample. (Z refers to contlines appearing thus /). Unfortunately, this is ambiguous. A right-hand laid cord is Z when held vertically, but it is N when held horizontally. Similarly, a left-hand laid cord is N when vertical, but Z when horizontal.

Some people substitute the letter S for N, but this does not entirely remove the ambiguity, unless it is also remembered that the cord must be viewed vertically.

With great respect for the expertise of the researchers, I would encourage the adoption of the terms 'right-hand' and 'left-hand' to describe the lay, on the understanding that it follows the same principles as the thread of screws and bolts.



Geoffrey Budworth writes....
MANTLETS (or mantelets) – KM47 were (a) short mid 19th century capes worn by women, or (b) portable screens used to protect soldiers.

You may see photographs of rope mantelets in the Royal Engineers Corps Library at Brompton Road, Chatham, Kent ME4 4UG Tel 01634 44555, ext 2416. I came across them a few years ago while on the track of something else.

The prints I found were of 1840–64 trials (akin to clumsy sword–matting) with English and Russian rope, to make a sort of armour to shield field gunners from enemy fire. I have no evidence that they never saw real action.

POINT OF INTEREST: Re KM47 page 8, in answer to Geoffrey Budworth's request, J A Smith has put the Guild on the World Wide Web and can be accessed on EMAIL address J.A.Smith@uk.ac.durham. J Smith has sent us printouts of scouting pages, knots and tests which we shall print in a future issue.....

Tom Skemp writes: I am looking into getting a board or group onto the Internet. I am still sifting through the net getting the information I need to start one, and will probably have some questions to put to the Guild concerning things like moderated or unmoderated group and use of the Guilds name. While I am still trying to find the right questions to ask, anyone is welcome to contact me on the 'net' – I need all the help I can get! My EMAIL address is tomskemp@aol.com.

Stuart GRAINGER writes....
A non member of the Guild recently approached Ann Norman and me asking advice about making a Cat O' Nine Tails for a replica of the Golden Hind sailing ship, which sails around the coast collecting for charity from holiday makers, as I understand it. Anyway, he was having trouble deciding how to start and it was difficult to communicate over the telephone the method I suggested, so I produced a quick drawing to clarify it for him and I have heard since that he was very happy with it. I subsequently realised that I have never seen this method illustrated in print or anywhere else, so I am enclosing a copy for use in Knotting Matters if you care to do so. I have found this really very simple technique most useful in the past for covering the end of a tube to make pencil boxes, pill canisters or to make needle cases and even for the ends of cylindrical fenders. It may well be that others have worked it out already for themselves, but, if so, I do not think they have passed it on to Knotting Matters.

MULTIPLE CROWN

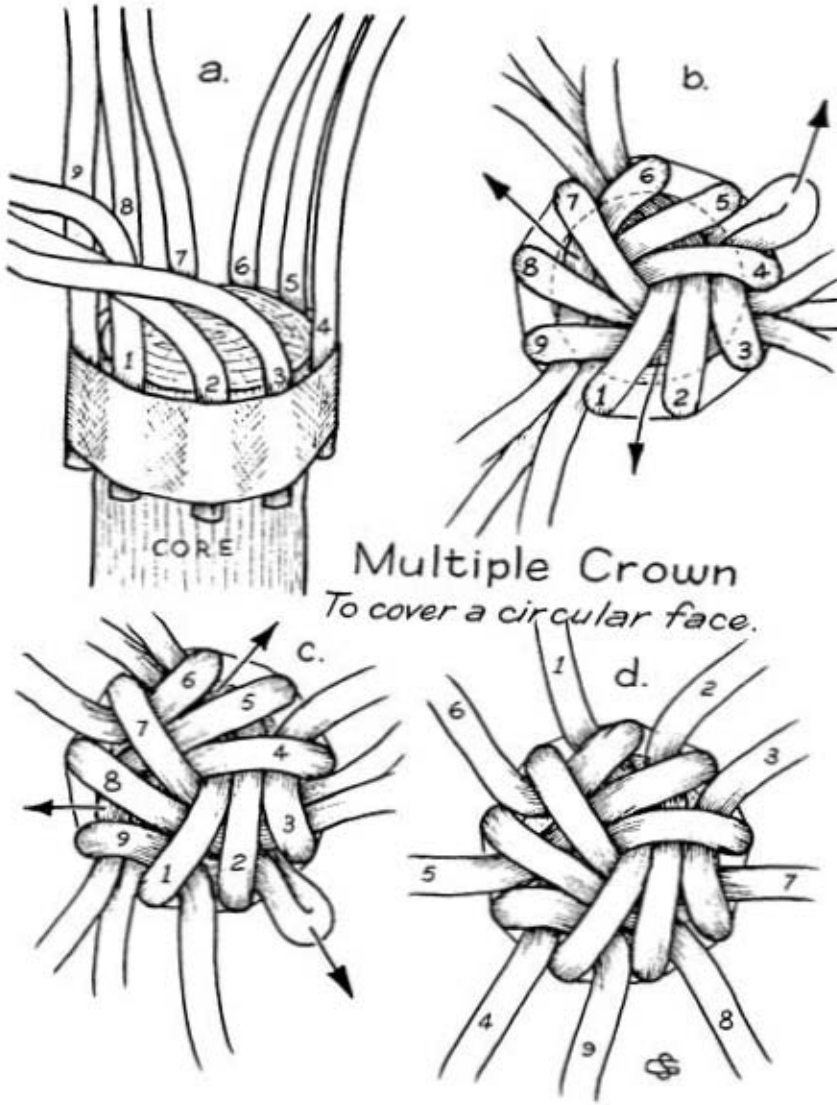
Any circular face of a cylindrical form, such as the end of a tube, rod or dowel, can be covered in this way, by using a suitable number of strands, appropriately grouped. The illustrations show nine strands, but the same method can be applied to larger numbers; thus 24 strands might be tied in four groups of six, or thirty strands might be tied in five groups of six and so on. Generally four or five groups produce the most satisfactory results unless the area to be covered is very large. All the strands should eventually emerge evenly spaced around the circumference, separated by one strand's "root". After making the Multiple Crown, the strands can be conveniently tied into conventional lanyard knots of choice, Crown Sennit, Cross Pointing, etc. to cover the sides of the cylinder. The drawings show the following method:-

a. The strands are taped, or otherwise secured, at even intervals of approximately one strand's diameter, around the core. They are then separated into groups - three groups of three as shown.

b. The groups of strands are tied together as a three strand Crown knot, so that strands 1,2 & 3 emerge together between the "roots" of 6 and 7, strands 4,5 & 6 emerge together between the "roots" of 9 and 1, and strands 7, 8 & 9 emerge together between the "roots" of 3 and 4.

c. Strand 3 is pulled back and out to emerge between the "roots" of 4 & 5; strand 6 is pulled out to emerge between the "roots" of 7 & 8 and strand 9 is pulled out to emerge between the "roots" of 1 & 2. Finally strand 2 is repositioned to emerge between the "roots" of 5 & 6, strand 5 between the "roots" of 8 & 9, and strand 8 between the "roots" of 2 & 3. Strands 1, 4 & 7 remain where placed at b.

d. Shows the resulting Mutliple Crown, with the strands evenly distributed around the circumference.


a.
b.
c.
d.
CORE
Multiple Crown
To cover a circular face.

The following has been extracted from our New Zealand Chapter, Spring 95 newsletter.....

The letter starts by wishing all a Happy and Fruitful New Year quoting an old Chinese curse, "May you live in interesting times!".

David Blogg of Napier and Rod Orrah of Nelson both came to Britain last year for military reunions, experiencing six week hangovers. He goes on to write 'David like Rod had great difficulty in contacting UK members, David was of course very busy, and quite likely that he could not dial properly with one eye closed, but Rod kept trying, and there was never anyone at home, except in the latter stages when he managed to get through only to find that the member had died a day or two before! Rod did manage to get through to Nigel Harding our Guild Secretary and pass on good wishes and greetings from NZ.' The newsletter goes on later to say. 'Jack Sheahan who did such a stout job of hosting our UK guest last year, I think you will agree acquitted himself on our behalf in a warmer manner than was accorded our visitors over there (UK), mind you it does pay to announce your arrival with plenty of notice.' ***(Yes it does, we do have ongoing lives here too, I am sure had we known before their departure from NZ arrangements could have been made to entertain them royally.)***

The newsletter continues: 'The ships bell of the HMS Farndale, a hunt class destroyer launched in 1941 and broken up in 1962 was given to the village of Farndale in the remote hills and dales of Yorkshire. Farndale pub closed down for a few years, and the bell was hung in a pub in another valley. Twenty years on the Farndale pub re-opened, and the bell was returned, this was reported in the local newspaper, and the event just coincided with Rod's visit, so to cut a long story short, the Farndale Bell once more hangs from a beam in the old Farndale pub thanks to a visitor from half way around the world, who just happened to have a bell rope about his person at the time!

John Turner of Hamilton, NZ Editor in Chief of a contributory book entitled "History and Science of Knots". Other editors are Guild member Charles Warner, of Sydney, Australia and Pieter van de Griend from Holland. The book is to be published in the very near future by an American scientific publishing house. John writes with the news that Patron Prof Vaughan-Jones was here in NZ in December, for a conference on mathematics, you will all know that he received the Fields Medal in 1990, the maths equivalent of the Nobel Prize, I now learn that he is the first recipient of the Rutherford Gold Medal which is awarded by the NZ Government.

The article in the NZ Herald from which I quote said "He is self deprecating about his achievements, but points out proudly, that he has been made Vice-President of the Guild" our Patron obviously has his priorities in the correct order.

John also reports on a visit to the Polly Woodside the beautifully restored sailing vessel in Melbourne. Well known on this side of the Tasman as A H Turnbull & Co's Rona whose only significant mishap in a long and dangerous trading life was stranding on rocks at the entrance to Wellington Harbour. John comments on her 'miles of rigging'. It might surprise members that that is no exaggeration, the four masted barque Pamir had 26 miles of standing and running rigging, so even little Polly Woodside could boast at leat 10 miles! John goes on to say that the shore alongside is a very substantial Maritime Museum. Buried away there, assigned to one cordoned off area at the end of a large display shed, is a dedicated, fully paid up member of the knot tying fraternity. He is not paid by the museum, he earns his keep by maintaining a huge display of knot work, and by speaking to school parties and others that come around viewing it. There are many large knot boards no doubt collected from old sailors. The name of the incumbent knot tyer is (and you can check this in your membership book) Gypsy Hussey–Smith. He sits rather like a spider (but in the standard knot tyers garb of jeans, heavy knitted jersey, long grey beard, flat rimless cap moulded over his head) midst a broad array of his work, literally extending from floor to ceiling in five directions. His enthusiasm for knotting is unbounded. John has written a review of Gypsy Hussey–Smith's book.
(Thank you New Zealand Chapter for a copy of your local newsletter Ed)

Eric Franklin writes.....
Some seven or eight months ago I wrote an article for 'The Magic Circular' the monthly journal of the The Magic Circle, bewailing the fact that my disabilities prevented me from attending meetings or taking part in discussions, lectures or shows and all that was left to me was looking backwards (the title of the article) to past achievements, particularly firsts.

So it is also with my knotting activities, all is gone and for the future all I can look forward to is the receipt of 'Knotting Matters' and possibly an occasional visit.

This means I can only look back and here again there are several FIRSTS. For many years scouts, guides and perhaps others have tied the six 'Tenderfoot knots' competitively in games, relay races and badge tests, but I was the first to institute the idea of a race against time. Somewhere about 1962/3 on the Scout Stand (we called it the Scout Marina) I erected a banner with the words 'What is your speed in knots?' (One of my better puns) and Smith's the clock people, lent us a twelve inch diameter stop watch so that all could see and check times. We offered a prize for the fastest time during the exhibition. The fastest time was just over fifteen seconds which was made by a young man, a non scouter. He declined to take the prize since he said that as a rigger he was a professional and could not compete against amateurs. The prize went to a young Ranger Guide whose time was about a second more. Since then, this competition has gone world wide – quite a big oak tree from my little acorn.

Another 'invention' of mine, and another first, was String Sculpture (I also coined the name). The first ever appearance of again in the early sixties. The 'Scouter' announced the advent of String Sculpture with a series of my drawings and several of the ideas were used on the Scout stand. The drawings, incidently, were reproduced in the South African Scout Journal, they sent me a copy. The following year I made a scale model of a three dimensional string sculpture using dowels and twine. That year the first three dimensional String Sculpture appeared on the Scout Marina at the Boat Show. Again, the idea took off and soon string sculptures were appearing at many camp sites, including Gilwell. They now seem to have tailed off since we do not see many such structures today. Perhaps the very considerable cost of the large quantity of rope needed each time may be the cause.

In claiming these two firsts, I am not forgetting my 'Logical Knot Board' which first appeared in 'The Scouter' in 1960. This is, of course, another first and I still claim that it is the most ingenious, yet at the same time, the most practical of knot boards ever devised.

A picture and letter from Alf Langford....
I have had a change of address due to age and ill health combining to put me into a home for the aged. However, I will have my revenge, I will have all these old b———s tying knots before I am through. I have included a photo of my latest endeavour, a 93 part, 4 turn Turkshead Knot. Look forward to seeing you all at Weston. (Tying knots Alf must be more therapeutic than finger painting etc. Ed)

GUILD SUPPLIES

I.G.K.T. BOOK PRICE LIST 1994

ITEM		WEIGHT	PRICE
POSTCARDS			
	Set of 8 instructional (Brown & Cream)	35 gms	£1.50 Set
POSTCARDS			
	Set of 8 Single Strand Ornamental Knots (White on Blue)	35 gms	£1.50 Set
TIES			
	Polyester (Dark blue, with white Knot motifs)	30 gms LONG	£8.95 each
		30 gms BOW	£7.80 each
BADGES			
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	Car Sticker (Soft Plastic)		£1.00 each
	3" (75mm) Pressed Printed Metal		£0.30 each
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KNOT CRAFT - THE VIDEO elementary teaching aid VHS or NTSC			
	Stuart Grainger	270 gms	£8.50 each
T-SHIRT			
	Size - L	145 gms	£6.95 each

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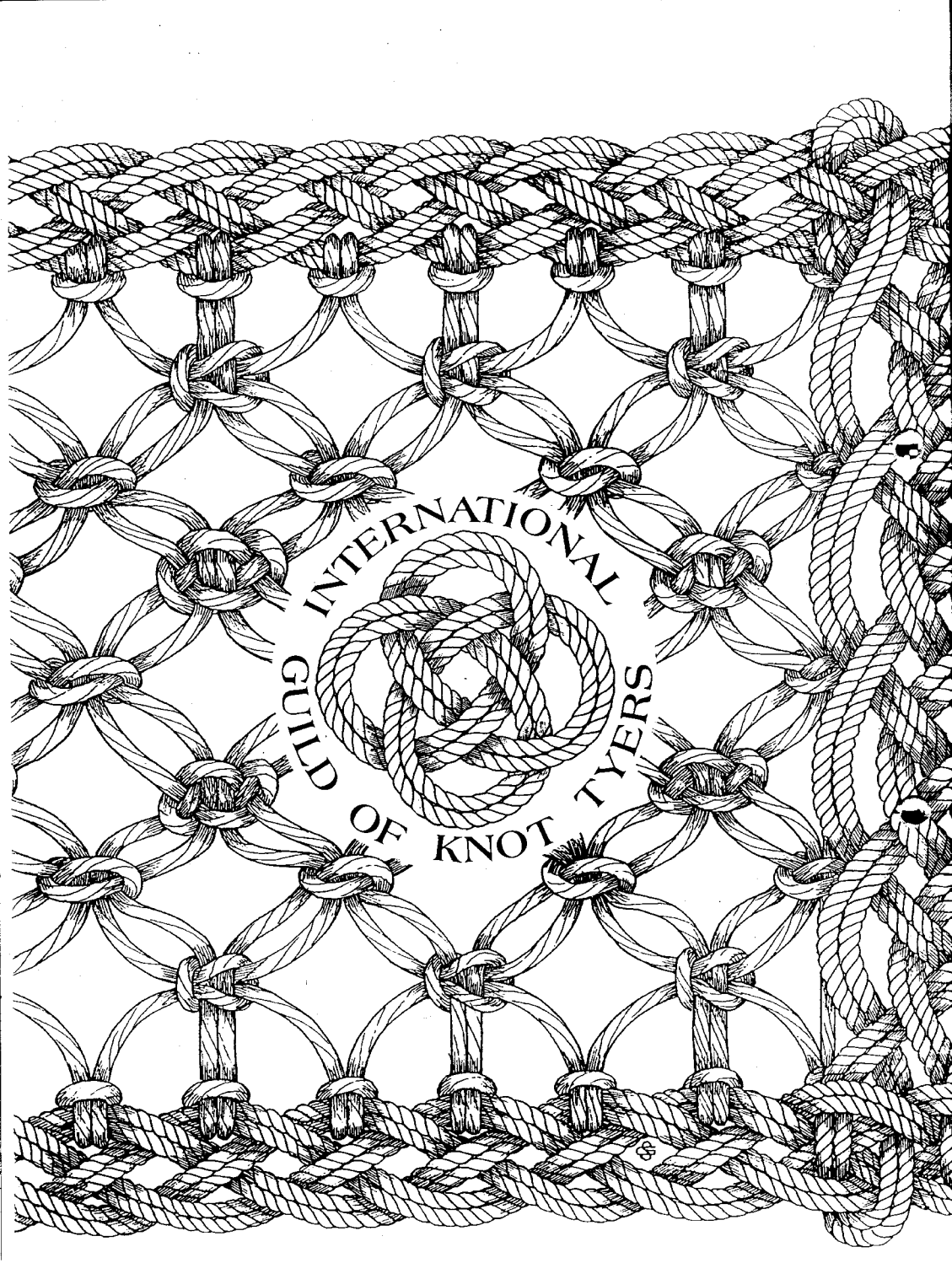

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