

ISSUE 35      SPRING 1991  
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# Knotting Matters

Newsletter of the

The logo is a circular emblem. In the center is a detailed illustration of a reef knot (square knot). The words "INTERNATIONAL" and "TYERS" are written in an arc along the top and right sides of the circle, respectively. The words "GUILD OF KNOT" are written in an arc along the bottom and left sides of the circle, respectively.

INTERNATIONAL  
GUILD OF KNOT  
TYERS

## KNOTTING MATTERS

THE QUARTERLY NEWSLETTER OF THE  
INTERNATIONAL GUILD OF KNOT TYERS

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PRESIDENT - Jan VOS

Issue 35  
April (Spring) 1991

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## EDITORIAL

The next edition of Knotting Matters will be special. It will be devoted to the achievements of Knot Year 90. We will celebrate the remarkable efforts of I.G.K.T. members promoting our shared interest in knot tying and ropework. If you have not yet told Frank Harris of events you saw, helped at or organised last year please do so as soon as possible...anecdotes and photographs, press cuttings and gossip will go to record our international impact on the knotting world.

K.M. number 36 will be special for another reason - it will be my last. I have chosen to devote more of my time to establishing the Midlands branch. This was the reason I gave for standing down as I.G.K.T. treasurer two years ago and this time I mean to do it.

Your next editor, whoever (s)he is, will find a wealth of material to dip into - the editor's archive is bulging with good lively articles simply waiting to be put into Knotting Matters. All it takes is an interest in knots!

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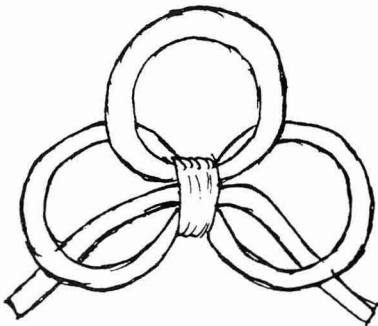
## KNOTTING IN HERALDRY from Roger CARTER

I enjoyed Brian Lamb's article on knots in heraldry in K.M. 33. I have done similar research and have come up with similar answers. Further to Brian's information, here are some additional items of interest.

The Heneage Knot (P6 K.M. 33), sometimes called the Hennepin Knot or Fret, is fairly common in heraldry. It can be found in the arms of the Verdon Le Despencer, Maltravers, Tollemache families. In these cases the fret does not necessarily represent the herring net but the reinforcing trellis on the shields of ancient warriors.

Another piece of heraldry of topical interest occurs where the Arms of "maids", wives and widows are concerned. Heraldically there is a complicated set of rules. Put simply for our purposes, a lady's Arms may be in a lozenge and be suspended or surmounted by a Truelovers Knot tied in blue ribbon - illustrated in the accompanying sketch.

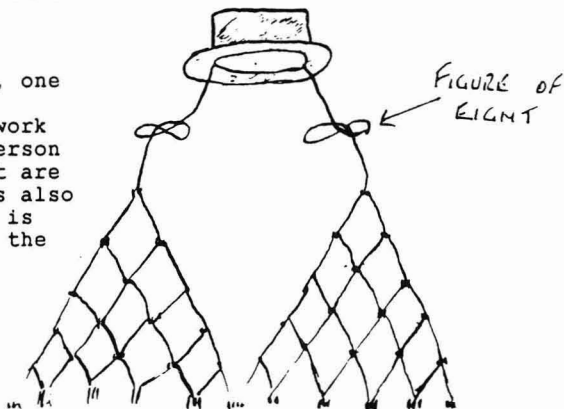
TRUE LOVERS KNOT  
AS DEPICTED IN  
HERALDRY



This is interesting in view of Frank Ide's pub sign (K.M. 33). Though I realise that the sign shows a Jury Masthead Knot, it is interesting that both show three bights as do the True Lovers Knots in Ashley's #2301, #2387 and 2419. Though I have always demonstrated #1038. (See also Ashley's remarks introducing chapter 13.) I should be interested to learn which knot Frank will teach the publican as the "one true knot".

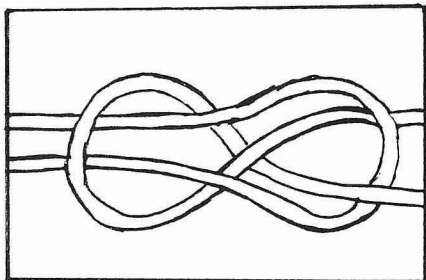
Another branch of heraldry I have uncovered is ecclesiastical heraldry.

As can be seen in the sketch, one piece shows a cardinal's hat suspended from which is ropework indicating the rank of the person by the number of tassels that are shown. The figure of eight is also used in another form when it is called "The Knot of Savoy of the Annunciation."



Other minor items that have come to light...on the Bayeux Tapestry there is a Wyvern, a mythical monster, with a thumb knot in his tail. The garter, as in "Knight of", after buckling has a half hitch added over the standing part. Of course there's too many examples to name of the Reef knot used to tie the rope surround of the badges of nautically associated groups - 20,000 yacht clubs to start with!!!

I take it as a compliment to our interest that the flag of the flagmakers, The International Federation of Vexillological Associations, has of all the possible symbols they might choose to represent their interests...a knot.



One wonders why this knot, particularly?

Although at first glance it gives the impression of some sort of half carrick bend, when pulled up it is actually a sheet bend or weavers bend - possibly more appropriate in this context. The colours, pale blue ground and yellow knot are exactly similar to the Swedish National Flag. A very striking and attractive flag.

If there is a knot historian up there in Northern Europe looking for a subject there's a feast waiting in Fine Art, apart from the well documented examples (the fringe on the Mona Lisa's dress and the macramé edging on the table cloth in Paul Veronese painting "The Supper of Simon the Canaanite"). There must be many more in the art galleries up there, go to it someone!

## LETTER

Dear Robert,

After sending a report to the *Fire Service Drill Book Committee* of the Central Fire Brigade Advisory Council regarding the use of the "risky reef knot" as a bend the drill book is now being amended to a double sheet bend.

An influencing factor was a letter written by Geoffrey budworth which I included with my report. Many thanks to Geoffrey for sharing his time and expertise. He has helped to make the world of the fireman a safer place.

Yours

Keith Howard  
(Natty knot tyer from Nutgrove)

7th February 1991

79 Nutgrove Rd  
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WA9 5PJ

## MORE SQUARE MESH NETS From Percy Blandford

The article about square-mesh nets on page 16 of issue 34 describes what I am certain is a most ingenious way of producing square-mesh nets and I congratulate Robin Fearnley on his skill. However, there seems to be a built-in implication that square-mesh nets cannot be made using the sheetbend method common with diagonal meshes. That is not so. Look at a tennis net. In most you will find sheetbends.

There are several ways of working square meshes, using variations on the diagonal-mesh technique. In effect you make diagonal meshes, but work at 45° to a corner (A). The method described here is probably simplest and gives you edges with alternate single and double cords at the edges of meshes. Another method gives you alternate doubles and trebles, for greater strength.

Have the line on the usual needle and use a mesh gauge or stick of the depth of half a mesh. Make a bowline with its loop equal to half a mesh (B). Hang this over a nail and make the first mesh with a sheetbend into its end. Put the mesh stick in place and make the second mesh into the bottom of the first (C). Continue and make a third mesh into the side of the first (D).

You can continue with the meshes hanging, but for a first attempt it is easier to see the shape forming if you pin it out. Go down the side of mesh 3 and knot the line to it (E). Make meshes across (F), then bring down the line to knot to the side of mesh 6 (G). If you prefer always working left to right, do this stage with the work turned over.

Work back across, putting four meshes on the bottoms of those three. Knot down the side of the final mesh again, ready to start back with another row of meshes.

When you have made enough meshes to complete the lefthand short side, go around the corner and knot on what will be the bottom of the last mesh (H) and start back again, reducing at the bottom edge every time you come to it. When you have made up sufficient length along the top edge, turn down that end in the same way, then continue until you finish - with relief - at the final corner (J).

Percy Blandford

## LETTER

Dear Robert,

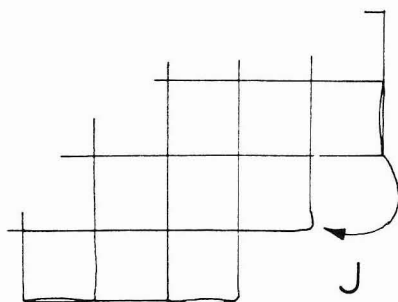
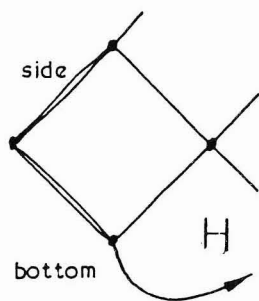
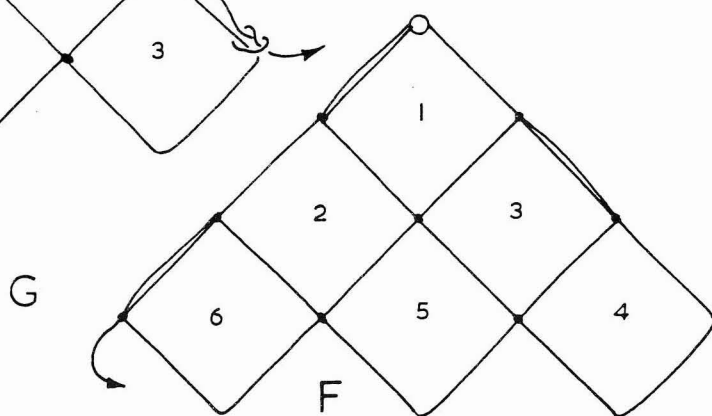
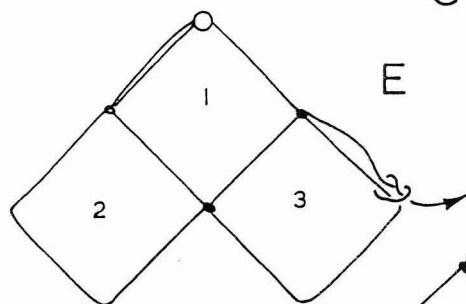
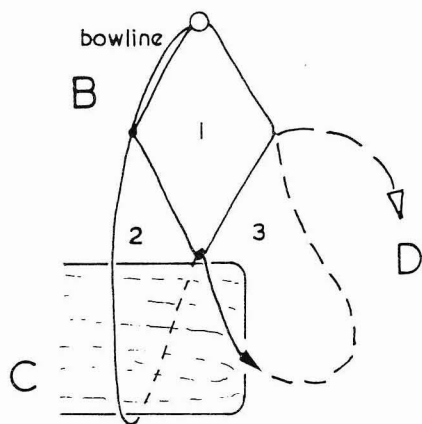
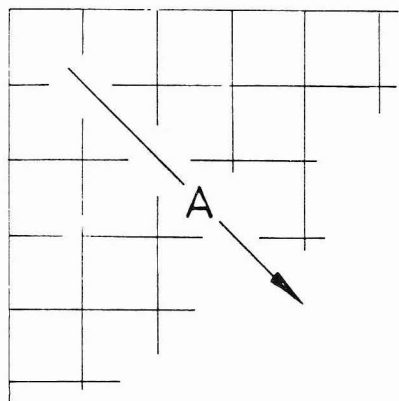
I must join issue with Roger Miles (A Companion for Corrick - K.M.34, Page 17) when he names it the Rhombic Bend. This name really comes too close to a bend of my own (The Rhomb, K.M. 29, top of Page 11) for comfort. Apart from claiming prior publication, I should add that The Rhomb displays a well-developed 'rhomb' on both faces, whereas The Rhombic Bend shows it on only one!

If Roger were to withdraw both standing parts from their initial tucks, in his bend, he may be just a little surprised to find himself holding a reef.

Yours

Desmond Mandeville  
29th January 1991

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# A PROOF OF THE LAW OF THE COMMON DIVISOR IN BRAIDS

J.C.Turner and A.G.Schaake

*University of Waikato, Hamilton, New Zealand*

It is common knowledge amongst braiders that if one wants to make a "Turk's Head"<sup>1</sup> with  $p$  parts (or leads) and  $b$  bights, then one will have to use more than one string if the numbers  $p$  and  $b$  have a common divisor greater than 1. In the literature of knot-tyers and braiders this is called "the Law of the Common Divisor". In Ashley's Book of Knots (page 233) it is enunciated thus (referring to "Turk's Heads"): "A knot of one string is impossible in which the number of parts and the number of bights have a common divisor". The statement is followed by a 40x24 table to show which "Turk's Heads" are possible<sup>2</sup> for all values of  $p$  between 1 and 40 and  $b$  between 1 and 24. This table is rather pointless, as anyone can quite simply check whether any two numbers in this range do or do not have a common divisor. For example, if  $p=18$  and  $b=24$  we see at once that 6 divides both  $p$  and  $b$ ; so a "Turk's Head" with these values will require 6 strings for its construction.

It is curious that although Ashley (and Bruce Grant too, in his excellent Encyclopedia for braiders) refer to mathematical studies of braids having been made in the past, neither of them includes references to mathematical papers on the subject. Since beginning our studies of braiding processes, some twelve years ago, we have tried to track down such literature related to the law of the common divisor in the libraries of the world, and have failed to come up with any.

We find it hard to believe that no-one has written down, somewhere at sometime, a correct proof of the law of the common divisor for regular knots.

Since the law is so fundamental to the braiding craft, we would like to present a proof, with the hope that it will appear in the I.G.K.T. quarterly newsletter. The proof is based on very elementary geometric and arithmetic principles, and we are sure that most I.G.K.T. members will be able to work their way through it easily. We hope that they will thereby gain much satisfaction. Mathematics is to be relished for its beauty and power - not shrank from for

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<sup>1</sup>In the braiding literature, many quite different knots are called "Turk's Heads". In our writings, *Regular Knots* (see below, and ref.1) include all the so-called "Turk's Heads" of Ashley, but we remove ambiguity in nomenclature by defining a Turk's Head as being a Regular Knot which has a weaving pattern that alternates overs and unders throughout.

<sup>2</sup>In this table, Ashley declares that single-string "Turk's Heads" with only one part ( $p=1$ ) are impossible. Whereas it is true that such knots have no crossings, they can certainly be formed; and indeed they are an essential initial stage in the formation of infinitely many  $p/b$  regular knots. Any useful theory of braiding must recognize this.

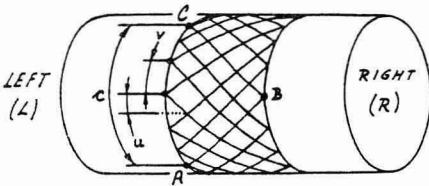
its supposed difficulty!

The need for a general proof of the law should be obvious. Even if Ashley had given a 100x100 table of examples of the law (that is, if he had shown how it works for 10,000 regular cylindrical braids), and even if a braider were to check this table out by actually trying to tie each of these 10,000 braids with a single string, that arduous and lengthy process would in no way **prove** the law. It would not ensure that an example outside the table, say the 10,001th, could not be proposed that would cause the law to fail. There lies the need for a proof: to show unequivocally that the law can **never** fail, for any pair of values chosen for  $p$  and  $b$ . A mathematical treatment is absolutely necessary for a general proof. Here is one.

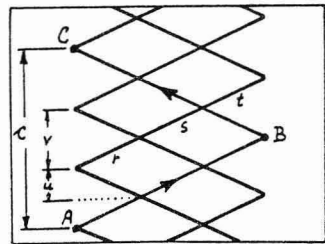
The first thing to say is that the law does not depend at all upon the weaving (or interlacing) pattern of unders and overs which occur at the string crossings. Hence in the following diagrams and proof, nothing need be said about weaving patterns.

We shall explain our proof with reference to what we call the *grid-diagram* of a regular cylindrical braid; that is, to a geometric diagram of a cylindrical braid form which has equal numbers of bights neatly arranged on the parallel left and right boundaries of the braid, with equal spacings between them; and which has all its string-passes taut, the Left-to-Right half cycles being all parallel on the cylinder, and the Right-to-Left half cycles being all parallel too. A picture of one is given below. Knots resembling grid-diagrams are ones that braiders strive for, when working their completed braids to make them neat and tidy, and symmetrical in the important aspects. In our books and other writings on braids (see refs.1,2,3,4) we make extensive use of *grid-diagrams*, which are pictures, or graphs, of "ideal" forms of braids. The grid-diagram is an essential tool of braiding theory and design (ref.5).

Below, on the left, we give a diagram depicting a regular cylindrical braid with  $p=3$ . On the right is the grid-diagram of the 3/4 Regular Knot, shown as a development in a flat plane.



$p/b$  Regular Cylindrical Braid



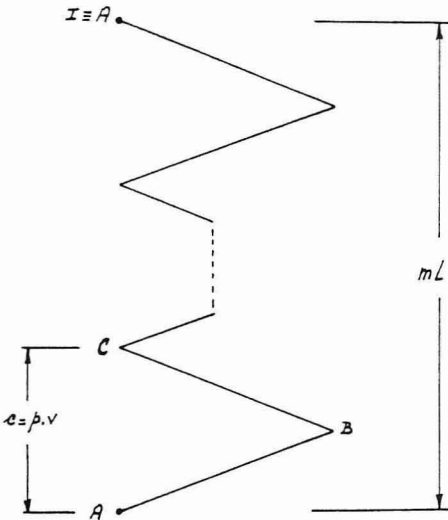
Grid-diagram of 3/4 Regular Knot



In the diagram on the left we imagine that the braid was formed by beginning with the string at A, then making a L-R pass to point B where a bight was made; then a R-L pass took the string to point C, where another bight was formed, and so on. We call ABC the first full-cycle in the formation of the braid's *string-run*.

Note from the left-hand diagram that we can observe several useful geometrical facts. First, we have labelled the three parts  $r$ ,  $s$ ,  $t$  which occur in the first half-cycle AB. Likewise, three parts ( $p=3$ ) occur in every half-cycle. By symmetry, each of the parts in the Regular Knot must be of equal length, and so must their projections onto the left-hand boundary. Let us call the projection of a part a "unit arc", and designate its length by  $u$ . Then the arc distance between successive bight points on the boundary is  $v=2u$ . Further, the arc distance between the two bight points at the beginning and end of a full cycle is  $c=pv=2up$  (in the example it is  $3v$ ).

We now ask the reader to imagine that the knot be carefully *unrolled* from the cylinder, keeping all the cycles exactly in the shape they are in the braid, rotating the cylinder under them in order to let them come away and be laid out flat on a table. The result will be as follows. We call this a *bight index diagram* of the Regular Knot.



The braid is developed from A, and is completed when I is reached, and coincides with A.

$m$  = total number of revolutions the string makes around the cylinder.

$L$  = circumference of the cylinder.

It is evident from this diagram that if  $n$  cycles form the complete knot, then

$$nc = mL.$$

Bight index diagram for the  
 $p/b$  Regular Cylindrical Braid

The crux of the proof of the law of the common divisor lies in the following

observations. In order to form the  $p/b$  Regular Knot (a regular cylindrical braid with one string), full-cycles must have been laid down around the cylinder until the end point of a cycle coincided with the starting point A, and all of the  $b$  bights must have been formed in them. Further, simple geometry from the grid-diagram and bight index diagram tells us the following.

Let  $m$  = number of revolutions around the cylinder  
 $n$  = number of cycles laid down  
 $c$  = arc length of each cycle  
 $L$  = circumference of cylinder  
 $v$  = arc length between adjacent bights ("bight-length")

Then 
$$n.c = m.L \quad (1)$$

And, from the grid-diagram we see that

$$L = v.b \quad (2)$$

since the  $b$  bights are evenly spaced, distance  $v$  apart, around  $L$ .

Further 
$$c = v.p \quad (3)$$

since  $p$  parts in each half-cycle project into  $p$  bight-lengths within each full cycle.

From (1), (2) and (3) we can deduce that

$$\begin{aligned} n.v.p &= m.v.b \\ \text{and hence} \quad n &= \frac{m.b}{p} \end{aligned} \quad (4)$$

Now let us assume that  $p$  and  $b$  have a greatest common divisor  $x$  (we write this in short  $\text{g.c.d.}(p,b) = x$ ). Hence there are integers  $p^*$  and  $b^*$  such that  $\text{g.c.d.}(p^*,b^*) = 1$

and 
$$p = x.p^*$$

and 
$$b = x.b^*$$

Then 
$$n = \frac{m.x.b^*}{x.p^*} = \frac{m.b^*}{p^*} \quad (5)$$

Hence after  $m = p^*$  revolutions around the cylinder, we shall have laid down  $n = b^*$  cycles, and have returned to our starting point (check this from (5)). But to construct a single-string  $p/b$  regular cylindrical braid, we should have laid down  $b$  cycles *before* returning to our starting point. It therefore follows that  $b^*$  must equal  $b$ , and hence  $x$  has to be equal to 1. Thus the values for  $p$  and  $b$  have to be coprime (that is, their  $\text{g.c.d.}$  must be 1) for a single-string  $p/b$  regular cylindrical braid (Regular Knot) to be possible.

This completes the proof of the "law of the common divisor" for all braids which have (or which can be topologically transformed into) string-runs on cylinders as previously defined for Regular Knots.

It should be carefully noted that the proof, insofar as it referred to *grid-diagrams* of

braids, was geometric in nature. This is generally true about any theory that can be constructed to model *braiding processes*, and to describe the braids which are studied and constructed by braiding artisans. Connections between this kind of braiding theory and topological theories of braids do, of course, exist; but these remain to be explored.

**Corollary:**

An immediate consequence of the above theorem is that, if  $\text{g.c.d.}(p,b) = x$ , where  $x$  may be equal to 1 or greater than 1, then  $x$  strings are required to construct a regular cylindrical braid with  $p$  parts and  $b$  bights.

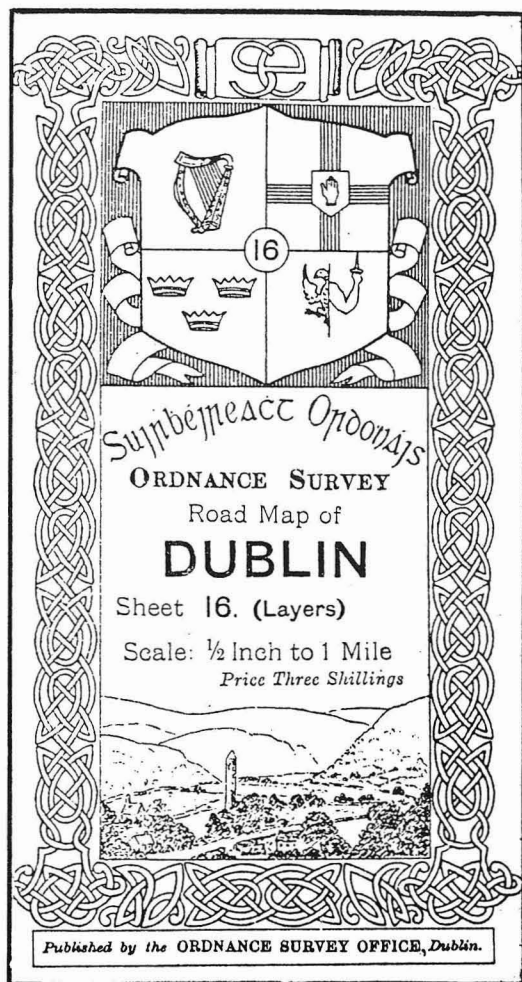
It has taken a somewhat lengthy sequence of diagrams and explanations to arrive at the required proof of the fundamental braiding law. However, the proof has been accomplished; and it has brought out clearly the fact that the theory of braiding processes is not pure topology, but a hybrid of geometry and topology, with the former playing the major role. The explanations could have been shortened considerably, had we been able to assume in the reader a knowledge of modular arithmetic. A condensed proof may be found in our Research Report, reference 3.

**References**

1. BRAIDING - Regular Knots : 117 pp. A.G.Schaake, J.C.Turner  
and D.A.Sedgwick; 1988.
2. BRAIDING - Regular Fiador Knots : 159 pp. A.G.Schaake, J.C.Turner  
and D.A.Sedgwick; 1990.
3. A New Theory of Braiding : Research Report 1/1, No.165; 42 pp. A.G.Schaake  
and J.C.Turner; 1988.
4. A New Theory of Braiding : Research Report 1/2, No.168; 41 pp. A.G.Schaake  
and J.C.Turner; 1988.
5. Introducing Grid-Diagrams in Braiding : 32 pp. A.G.Schaake, J.C.Turner  
and D.A.Sedgwick; 1991.

All the above publications may be obtained from Dr.J.C.Turner, Department of Mathematics and Statistics, University of Waikato, Hamilton New Zealand; or by ordering from FOOTROPE KNOTS, 501, Wherstead Road, Ipswich, Suffolk, IP2 8LL, England.

## CELTIC KNOTTING



While indulging in his other hobby of collecting maps, I.G.K.T. member Peter DYSON came across this old map of Dublin, Eire, which has a cover border of celtic knotted designs.

The map itself was published in 1932 after being reduced from the One Inch Map of 1899 - 1913.

At first sight the knotting resembles a single belt. Closer inspection shows it to be made up of at least seven pieces.

Peter wonders...do any of these patterns have names?

Well, now, you could try your local library for a book on celtic art. The works of the late George Bain and his son are especially lucid. I bought my copy of the A4 paperback version of *Celtic Art, the Methods of Construction* Pub Constable, London, a few years ago from the bookshop of a National Trust stately home. It's a pretty thorough introduction to celtic knotting for those keen to learn.

## QUOTATION

If you can't tie good knots, tie plenty of them.

Gary Jobson

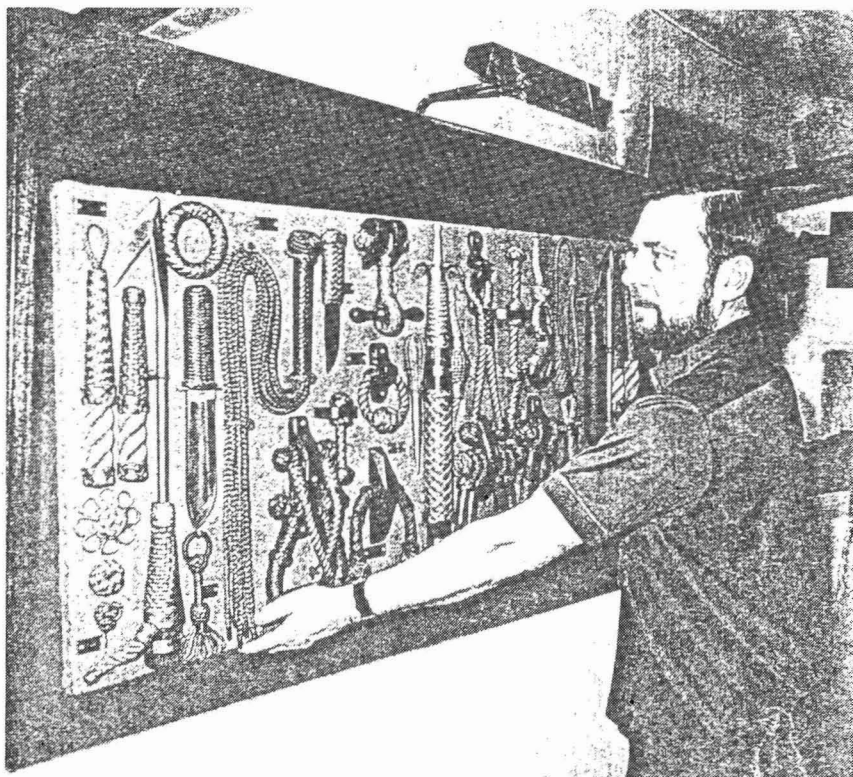
## INTRODUCING....Ray TUCKNOTT

A new display of knots of all shapes and sizes representing at least 300 years of naval history opened recently at the Merchant's House Museum, Plymouth, England...the work of Chief Petty Officer Ray Tucknott. Mr Tucknott, who joined the Royal Navy as a junior seaman at 15 in 1963, has spent 10 months making the knots. Although Ray learned the basics of knot making in the Royal Navy he is mostly self taught. "The best present my wife ever gave me for my birthday was Ashley's book of knots" he once said.

After much practice he now sells some of his bellropes to local pubs and other knots are much in demand when he goes abroad.

The Merchant's House display includes a variety of different knots such as a bell rope, cat o' nine tails, buttons and a harpoon. The ropes are stained and then varnished. Ray offered to donate the display to the museum, while the wooden and glass case has been provided by Plymouth City Lottery Fund.

Plymouth City Museum's assistant keeper of archaeology, Mr Win Scutt said the work was very skilled and complicated. We decided to put it in the sailor's room because it's about what goes on in Plymouth locally. There is also some rope making machinery on display, and a sail-maker's chest along with other exhibits.



## LETTER

Dear Robert,

Having read the Autumn '90 edition of Knotting Matters I feel that I must comment on the 'Independent View' of Bradford '90.

I consider Ms Seagroatt's view of the I.G.K.T. exhibits to be somewhat condescending and typical of certain fellow craftspersons who consider their skills to be superior!

Many of our members enjoy the challenge of artistic and decorative talents exhibited in what we term macrame - owls and their like are as typical as bell ropes and needle hitched artifacts and provide the same satisfaction to the creator. Are we to be signified as makers of votive emblems? Is the purchaser of a holder for a tea towel or a wall decoration any more typical of a 'tourist' than one who prefers the multihued rugs or skirt lengths synonymous with the weaver?

We must be prepared to accept praise or criticism as appropriate, but I do not feel that this is truly an 'Independent View' and whilst it was excellent to see our Nederland members mentioned for their efforts, the review gave no credit for the many creative hours exhibited by other members displaying their talents or providing display material.

Yours sincerely,

Peter Goldstone  
12th March '91

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Woking  
Surrey GU21 1PN

## ERRATUM

Dear Robert,

Have we in knotting discovered the secret of longevity?

Theo Slijckerman, in Issue 34, page 22 of the newsletter tells us that he has been writing items for the Dutch Scouting magazine since 1886! Even allowing that he may have started his literary career at the early age of eleven, this would still make this gallant gentleman about 116, surely the oldest member of the guild, for I see he is included in our recent list of members.

Perhaps, as they say about cigarette smoking, if each cigarette takes a day off your life, then knotting adds a day. Anyway, to be on the safe side, I am currently tying a double knot in my shoelaces each morning in the hope of now living long enough to pay off my mortgage.

Hopefully,

Alan King  
13th February 1991

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*SORRY for my mistake, Theo, 1986 I should have typed - RLJ.*

# CATALOGUE OF KNOTS AND ROPEWORK

Dear Robert,

Frank Brown's suggestion for a Catalogue of Knots and Ropework (KM 30) is well worth deep consideration. There is a need for such a compilation, but in my opinion that need only becomes of great moment if the compilation is arranged to make easy the identification of a knot new to the reader, whether observed in use somewhere or stumbled on in the course of manipulating cordage.

If you have an unknown knot in your hand, at present you have to search through 4300 diagrams in Ashley, or the lesser number in the various chapters that might be relevant, and you have to keep in mind that Ashley might show your knot with the opposite handedness or from a different aspect; or you might have a loop, but Ashley shows only the corresponding bend. If we had a compilation much larger than Ashley, as would be needed to include all the knots discovered since that book was published and all the knots that Ashley omitted, and if it was no better arranged to answer the question 'what knot is that?' the task would become almost impossible. So let us have a Catalogue of Knots and Ropework designed for identification, but including all the other information suggested by Frank Brown.

The IGKT is the obvious body to write and edit such a compilation. Between us, we cover most of the craft and many of the ethnic knotting traditions - and no single person has anyway near that experience.

To my mind, we need to consider at least three things before we can get started; maybe international committees could be formed for each to invite and consider ideas from members. Those three are:

We need to devise a system of classification that will allow ready identification of any knot already catalogued, and ready cataloguing of any knot new to the system. Several members of the Guild have tried to devise such systems, but none of them seem to me to be completely satisfactory in their present form, and either much development or a new system seems needed.

We need to develop a more critical attitude to our writings, or ambiguities or lack of clarity, to say nothing of errors, will greatly lessen the value of the publication.

We need to get a clear idea of just what sort of compilation we want, who will buy it and who will pay for its publication. As a half way house, or a trial run, how about attempting a comprehensive study of the bowline-sheetbend family of knots with all their variants, or the interlinked overhands that Harry Asher has spent so long studying, or the magnus hitch - rolling hitch - midshipmans hitch family with multiple turns incorporated into half or single hitches? I think any of these might make a marketable book.

I have sent a fuller version to the Committee for their consideration.

Charles Warner

'Glenellen'  
Hume Highway  
Yanderra, NSW 2574  
Australia.

## LETTER

Dear Robert,

Looking for similarities, even identities, between apparently different knots is very interesting; it is also important, I think, but rather neglected. Knotting Matters (Issue 34, January 1991) provides some examples.

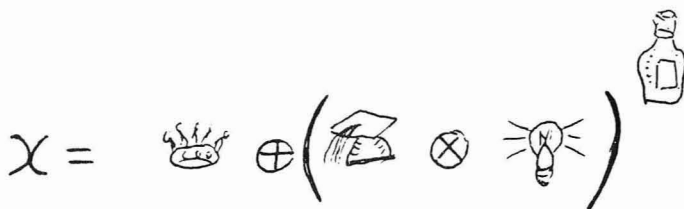
*Perfect Pineapple Knots*, Neil Hood P3, are a subdivision of what I called "Disc Knots" (K.M.6, January 1984, pp 9-11) and hence can be traced back to Ashley. The knot in Neil's Fig 2 is identical in structure to the Double Disc Knot in Fig 2.3 of my article, which has the same structure as Ashley #2216. Some of the Turksheads demonstrated at various meetings by our Secretary, Frank Harris, are also, I think, Pineapple Knots, but Frank does not seem to have written up this variation in Knotting Matters.

The "True Lovers' Knot" (John Turner, "Will the real true lovers' knot please stand up?" pp 4-5) is identical in structure to a 4-bight 5-lead Turk's Head; the associated design of co-centric squares provides a recipe for a 4-bight Turk's Head, with as many leads as there are squares, and is the same in principle as that advocated by Geoffrey Budworth in "How to draw knots - 4" (K.M.7 April 1984, pp 9-10). This True Lovers' Knot is dated 1741, which is earlier than any of Ashley's Turk's Head references, so perhaps the Turk's Head was derived from such a knot.

Regards,

Ettrick Thomson  
13th February 1991

Woodhaven, Leiston Rd  
Aldeburgh  
Suffolk  
IP15 5PX



At school did mechanics or statistics tie you in knots?

Yes? Then give your sheepshanks a real zing with some statistical mechanics.

The November 1990 edition of *Scientific American* carries a six page article by Vaughan F.R. Jones - the winner of the Fields Medal for his work on knot theory. The article discusses the links between the physics of sub-atomic particles and the theory of knots.

One day, perhaps it will be put in language the ordinary knot tyer can understand and enjoy.

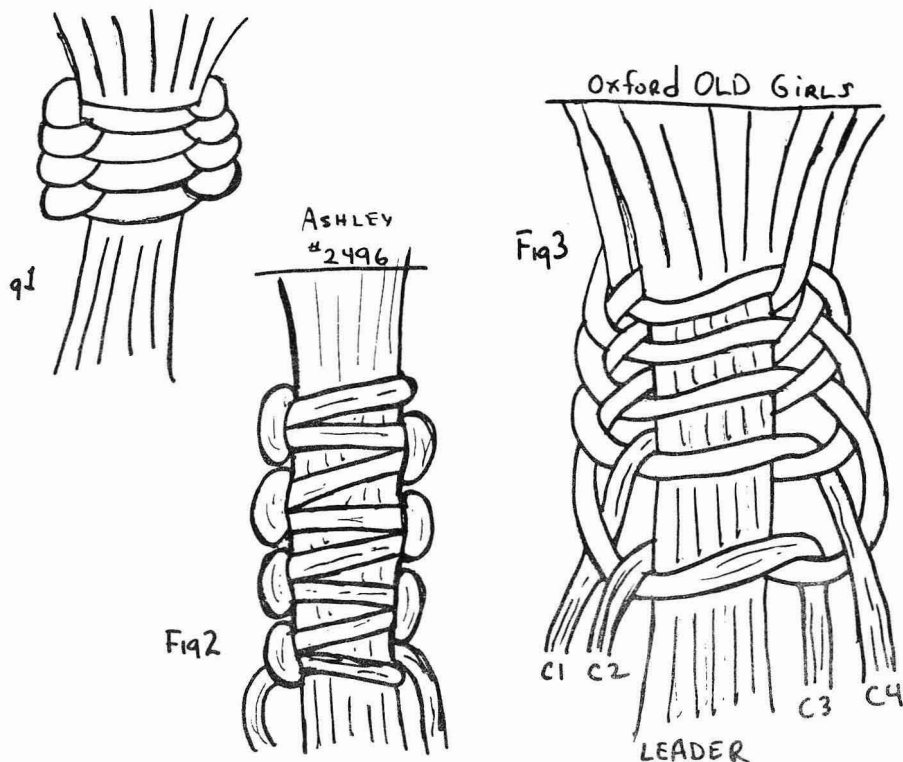


## LETTER

Dear Robert

I need the guild's help to answer two hard questions.

Firstly, an Oxford lady I met recently remembered a special kind of hair plait that she used as a girl. It was special in that it was plaited down both sides, with horizontal lines joining them. See her own drawing (fig 1). It was suggested to her that she might be referring to a macrame knot, Ashley #2496 fig 2, but she thought not.



So, working from her drawing, I have done a similar knot. Using five cords, the centre cord being the bulk of the hair, like the leader cord of the macrame knot, Ashley #2493. The outside cords C1 and C4 (fig 3) go over 2 cords, ie C2 & leader and C3 & leader, before being half hitched over each other to make the macrame knot and becoming the new cords C2 and C3, while the old C2 and C3 are promoted out to become the new C1 and C4.

Is this a new knot or does someone know the right (and possibly simpler) knot?

The second question concerns knots used in serious kite flying. Are there any books on kite making or possibly balloon rigging from military manuals? I am building a kite to lift a person off the ground. Perhaps he could also do with some parachute training!!!

Sincerely yours

Lonnie Boggs  
22nd January 1991

78 Marlborough Ave.  
Kidlington  
Oxon. OX5 2AP  
Tel 08675 78104

p.s....The Oxfordshire I.G.K.T. group has been asked to be represented at a Cubs fun-day, Youlbury Scout camp site at Boars Hill on Saturday 8th June 1991. Any willing helpers please contact me.

## LETTER

Dear Robert,

Did I hurt some feelings when I dropped out of the knotting scene a while ago, saying I wanted a rest from it to pursue other interests? I fear so. Forgive me. I kept the real reason quiet, hoping it might go away. It hasn't and now I must admit the truth.

I have eye trouble. Much of the sight in my left eye has gone. It is practically useless and will not recover. I am receiving treatment at Moorfields Eye Hospital in London, England, simply to prevent further problems, with no chance of improvement. (This is why, sadly, I could not revisit the Dutch branch in Rotterdam last Autumn.)

I am learning to cope with somewhat blurred monocular vision; and, as my other eye has failed before now, hoping that it will not let me down in future.

Let's not make more of this disability than it deserves. I do not even qualify to register as partially sighted. My sole reason for going on about it here is to save us all a lot of awkward conversations when I get out and about to future guild meetings, and to let distant members know how I am.

So, there you have it. Small and detailed knotwork is out. I was never much good at it anyway.

Kind regards,

Geoffrey Budworth  
7th March 1991

7 Hazel Shaw  
Tonbridge  
Kent TN10 3QE  
England

## QUOTATION

It took even the strong fingers of Merry some time to loosen the knot attached to one of the iron handles of the chest, for it had been tied by one who knew something of knots and cordage.

*Doctor Syn Returns* - Russell Thorndike 1935

## SQUARE KNOTTING

Dear Robert,

I thought you may find these of interest for the newsletter. They are from a very rare booklet in our collection - one that is definitely NOT for sale - "The Square Knot Book No.3", published New York 1926.

P.C.Herwig Company appear to be the source of most of the square knotting in Graumont & Hensel.

All the best wishes for the Knotting Nineties.

Des & Liz Pawson

501 Wherstead Rd.  
Ipswich  
Suffolk  
IP2 8LL

3rd Jan '90

### INTRODUCTION

Square Knotting does not need any introduction as a new work, but it does need introduction to new people. This fascinating handicraft has been a favorite diversion of the men of the United States Navy ever since there has been a Navy. It is said that the art of square knotting (better known as Macrame in Europe), found its origin in Arabia early in the Middle Ages and that the sailors of Columbus bartered square knot articles with the Indians of the newly discovered continent, which they had made on their long journey across the Atlantic.

However, not until recent years, when physicians of our leading hospitals, sanitariums, asylums and penal institutions recognized the great curative value of light and systematic occupations for bed patients and convalescents (including those suffering from mental diseases), has square knotting come into its own among civilians of America. It rapidly became popular with occupational therapists, because it requires practically no equipment, is easy to learn, never becomes tiresome, and develops skill and originality, at the same time providing mild exercise and pleasant diversion.

To those who desire to learn how to do this beautiful work, we address our

### SQUARE-KNOT BOOK NO. 3

and in fact all of the facilities and the experience of our establishment now recognized as

### SQUARE-KNOT HEADQUARTERS

P. C. HERWIG COMPANY

121 Sands Street  
Brooklyn, N. Y.



**P. C. HERWIG, Author and Compiler**

Formerly  
Chief Electrician, U. S. Navy  
Gunner, U. S. N. R. F.

**DEDICATION**

To the many of my old shipmates and friends who have so kindly given me designs and have helped to work-out the details of successful pieces of work, to the disabled veterans and especially to Mr. F. A. Toombs and Mr. and Mrs. W. A. Alexander, whose persistent and untiring efforts while connected with this establishment, have made us the foremost square-knot authorities in America. I extend my sincere thanks and gratefully dedicate this little book.

Very sincerely,

# I.G.K.T. SUPPLIES

## THE INTERNATIONAL GUILD OF KNOT TYERS

Supplies Secretary, Yew Tree House, Goosey,  
FARINGDON, OXON SN7 8PA.  
Telephone no. 0367 710256.

### 1991 PRICE LIST.

"The Knot Book" (95 gms)		
Geoffrey Budworth - ISBN 0-7160-0704-5	£1.99	each
"Breastplate Designs" (65 gms)		
Brian Field	£2.50	each
"Ropefolk" (30 gms)		
Stuart Grainger	£1.30	each *
"Knotcraft" (130 gms)		
Stuart Grainger- ISBN 0-9513506-0-8	£3.25	each *
"An Introduction to Knot Tying" )		
"Solly's Single Strand Star" (	Available as a set at the	
"Some Splices & Lanyard Knots" (	reduced price of	
Stuart Grainger )	£2.50	per set
"Turksheads the Traditional Way" (110 gms)		
Eric Franklin	£1.50	each
"Lashings" (55 gms)		
Percy Blandford	£2.50	each
"New System of Knotting"		
Dr. Harry Asher Vol. I (160 gms)	£1.85	each
Vol. II (130 gms)	£1.40	each
Postcards, set of 8 (35 gms)	£1.50	per set *
Ties, silk, (dark blue with knot motif)	£6.50	each
Bow ties " " " " " "	£7.80	each
Enamel Badges	£1.80	each
Cloth badges (embroidered)	£1.00	each
Metal badges, 3" dia. painted	£0.30	each
Christmas Cards, pack of ten with envelopes	£3.00	per pack

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\* Quantities of ten or more of items marked with an asterisk can be supplied from central stock subject to a discount of 33.33%.

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## I.G.K.T. LOCAL SUPPLIES

The I.G.K.T.'s supplies secretary, Mrs Mary Harrison, has set up five small display cases of guild books, ties and badges. These have been issued to key members in five of the more distant areas within the U.K. who will make them available for local functions.

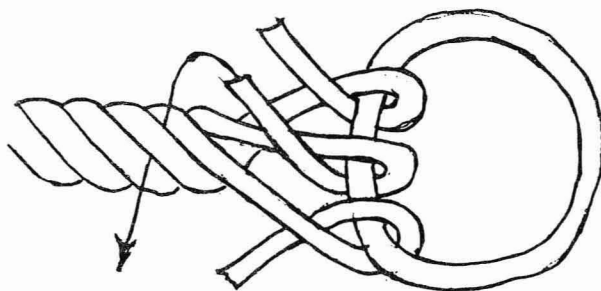
So far, we have arranged for stocks to be held by Mrs Pauline Long in Runcorn, Cheshire, for the North-West; Mr Denis Murphy in Plymouth, for the South-West; and Mr Ken Higgs in Felixstowe for the East.

We are endeavouring to arrange for similar depots in the North-East and the South.

S.E.G.

## DOGLEAD RING SPLICE by George Pask

Recently I have been making dogleads and harnesses for my friends' pets and my dog. These needed quite a few ring splices. Ashley's #2859 and #2860 show how this can be done. I believe a neater result is obtained by starting the splice as shown.



## GRASS CUTTINGS?

Writing in 1910 about markets in the African Congo where slaves were sold to cannibals for meat, Herbert Ward explained how - incredibly - individual buyers could mark a living body to indicate the portions they required. It was often done, he recorded, by means of '...strips of grass tied in a peculiar fashion'.

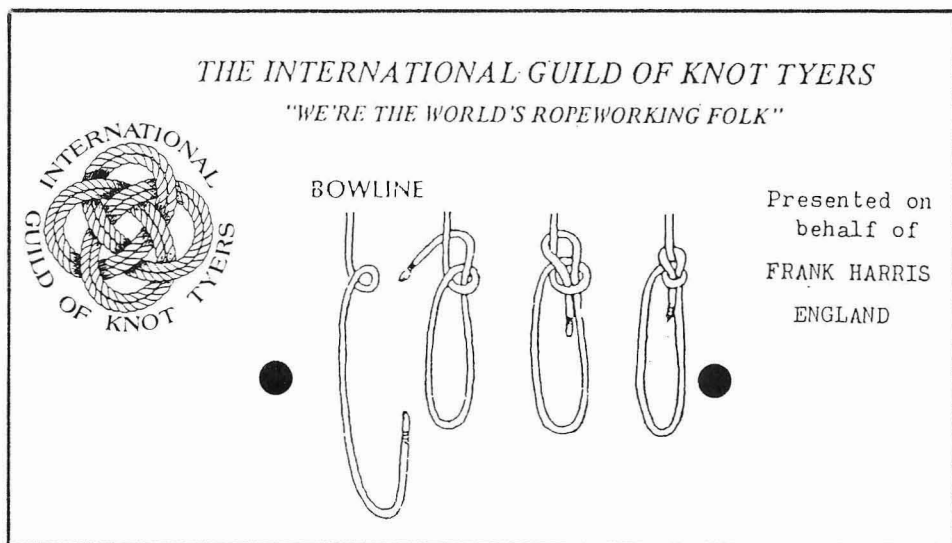
## TEACHING KNOTS...from Carey Parks

(See the letter opposite)

Carey Parks, of West Chester, Ohio, U.S.A. and I.G.K.T. secretary Frank Harris have come up with an elegant and fairly robust way to show large numbers of youngsters how to tie knots.

Carey has told me that he is prepared to co-ordinate the assembly of a collection of knots (the bowline and reef/square knot) for presentation to the South Street Seaport Museum, Front Street, New York.

Any resulting publicity for both the I.G.K.T. and the museum must be a good thing!



This is a suggestion for labelling the varnished knots - pasted on a board with the cord threaded through holes and fixed with a stopper knot (a varnished double overhand knot, say).

So, Ladies and Gentlemen, the I.G.K.T. is an educational charity and this is an excellent way to promote knotting.

### BACK-ISSUES OF 'K.M.'

Copies of ALL earlier editions of KNOTTING MATTERS are available from the secretary Frank HARRIS for only....

ONE POUND FIFTY PENCE EACH!

This price includes postage and packing (anywhere).

## LETTER

Dear Mr. Jackson,

This past summer I had the opportunity to visit the South Street Seaport Museum in New York City. The city has quite a development in addition to the museum. There are nautical shops, gift shops, clothes shop, and restaurants in a several block section of New York. The Peking, a four masted barque and star of the film 'Around Cape Horn', is moored there as are several other interesting sailing ships.

I did not feel there was enough knot work, so I approached them with the idea of the guild furnishing some. As it turns out they do not have the space to display things such as a knot board. While discussing the matter with Kathleen Condon of the museum, she mentioned some art museum had made felt objects which were passed out to groups of school children upon arrival with the intent of keeping their hands busy and not on the displays. We developed this thinking into knots for the children.

I tied a carrick bend, coated the knot with varnish so it would stay put, and left the ends long enough for the knot to be duplicated. Same with a square knot. These seemed to please. As it turns out, they teach the children to tie a square knot and a bowline, and would like some 50 or 60 odd examples.

I think it would be a worth while project if members of the guild would make one or two examples of knots as above and forward them to the Museum. It would be especially nice if each knot were somehow labeled with the name and country of the maker to reflect the international flavor of the old time sailing ships.

Keep up the good work!

Sincerely,

December 11, 1990



Carey J. Parks  
5741 Chadwick Ct.  
West Chester, Ohio 45069  
USA

## QUOTATION

Piled in utter confusion lay beautifully carved figure heads, well turned stanchions with brass caps, handrails clothed in canvas 'coach whipping' finished off with turksheads - the work of some natty, clever A.B.

*Shackleton's Boat Journey - A Graveyard of Ships, F.A.Worsley.*



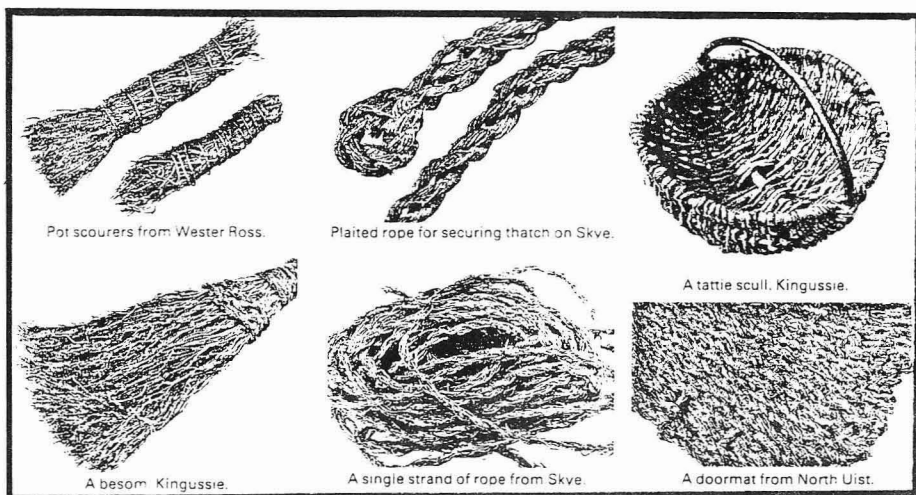
## TRY YOUR HAND with different material!!!

Suggests Ken Higgs of Felixstowe

In the August 1990 edition of *The Scots Magazine* was an article by David Lambie of the Speyside Heather Centre, Inverness-shire, Scotland.

In it he gave a comprehensive view of the many and varied uses for heather...medicine, bedding, thatching, packing, fencing, basketry, brushmaking. And you've guessed it - rope.

So, if you want to try a new material, have a go with *Calluna Vulgaris* stems. By the way, if you go to the Hebrides for a supply do remember to do the pulling "only wi' the flowerin' tide".



PHOTOS COURTESY OF HIGHLAND FOLK MUSEUM, KINGUSSIE

## QUOTATION

CLYDE 'Puffers' were Scottish trading vessels designed for mixed conditions - the canals of the central lowlands, the treacherous estuary of the lower Clyde and the sea lochs and islands off the west coast.

Preparing to sail, the puffer's boat was carried on the fore part of the hatch, a rope pad being used to protect the hatch cloth and chocks to keep the boat upright.

*The Clyde Puffer* - Dan Mc Donald.  
Pub. David & Charles 1977.

