

ISSUE 61 AUTUMN - SEPTEMBER 1998
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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 along the top inner edge of the circle, and "GUILD OF KNOT" is written along the bottom inner edge.

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KNOTTING MATTERS

**THE QUARTERLY NEWSLETTER OF
THE INTERNATIONAL GUILD OF KNOT TYERS
ISSUE NO 61 AUTUMN - SEPTEMBER 1998**

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SECRETARY:

Nigel Harding

16 Egles Grove
Uckfield

SUSSEX TN22 2BY

Tel: 01825 760425

EDITORS:

Lonnie & Margaret Boggs

78 Marlborough Avenue

KIDLINGTON

Oxford OX5 2AP

Tel: 01865 378104

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KNOTTING MATTERS 61

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EDITORS BYTES AND PIECES

This is the third issue of Knotting Matters this year, a little late and I apologise for that. There will be one more issue in December, that should be on time, to make four issues this year. I apologised in KM60 for the delay of that issue (see page 2), but we should be back on target by the next issue. There is still a lot of material coming in to fill the pages, thankfully.

We have copies of the Dutch publication in their own language and the excellent Knot News from the Pacific Americas Branch and other branch news letters. I posed the question of how much, if anything, I should include in KM from these other, 'LOCAL' publications. There is much I see and think "Gosh, (and yes, I do still say Gosh) I wish I'd had that for KM." I have had no response from anyone on this matter. Perhaps with other more important matters like Postal Voting; changes to the Constitution; publishing a new Journal; what should the new "6 Basic Knots" be; should the Guild buy or rent a building as a headquarters or not; to be thought about. Maybe I should just include as much as I

like from the Branch news letters and wait for complaints that I'm cribbing everything from the others.

CORRECTION

Bruce Turley's e-mail address is:
106077.1156@compuserve.com
Not as at first announced last issue, Editors apologies

New Bedford Meeting 6,7,8 August 1999

Next years meeting of the IGKT (NA) will be at the Whaling Museum New Bedford Mass. on Friday 6th, Saturday 7th and Sunday 8th of August. In addition, it is hoped to run a day visit to the Ashley homestead on Monday 9th August, courtesy of Mr. & Mrs. Chardon.

Further details of accommodation, booking fees and programme etc. will be available from

John Burke,
4417 Academy,
Deerborn Heights
Michigan, Zip 48125-2205 or
e-mail vwrk07a@prodigy.com

All IGKT members are welcome. Members in North America who wish to become members of the IGKT(NA) should contact John Burke with \$8 U.S.

Notes From The Secretary's Blotter

Having posted KM what seems like only a couple of weeks ago, it came as a bit of a shock that I was already holding up production of the next edition, so without further ado, here goes.

Those of you who have read my report on the meeting at Southampton will be as mystified as Sylvia was. "I thought you were in Portsmouth" she said - er - whoops. Perhaps a better map, (or perhaps a less senile Hon Sec might be the solution. No wonder it took me so long to find Boat Shed No. 7 once I had gone into the dockyard.

Whilst confessing to errors, I must apologise to those who have found errors in the Membership Handbook. If you would like to drop me a line pointing out the mistake, I will do my best to make sure that it does not re-occur in the next edition. In saying that, having written it, and then checked it on three separate occasions, one does become a little mesmerised by it all, and somehow one or two errors seem to creep in.

Finally, my apologies to all those fully paid up members who re-

ceived subscription reminders. Of the four hundred or so which went out, there were about a dozen which should not have done. The error lay in my master database, mainly due to my clumsy typing. Those in question have been quick to respond, for which I thank them.

The question of postal voting for candidates standing for election at the AGM has been raised in Council again, and I have been asked to test the members attitude towards this. The thought is that all members should have the opportunity to vote in the election process, rather than just those present at the AGM. The counter argument is that statistically speaking we are likely to receive less votes using this method, than we do at present. In addition overseas members will not be that familiar with the candidates, who if not by legislation, but from the sheer practicality of being a Trustee of a Charity domiciled in England, and subject to English law (I emphasise English, not Scottish or other UK law) need to be resident in the UK. If you have any thoughts on this subject please write to me about it (not email in this case).

Changing the subject to e-mail and the Internet, by the next edition of KM, we hope to be able to publish the Editors email address, which

we are sure will be of considerable assistance to him.

Those of you who are sufficiently adept at the Internet to have established a Web site, if it refers in any way to the IGKT, could you please check it for its accuracy of detail. I must confess that I have little or no time to 'surf the net', and on the odd occasion that I have, I have been relatively unsuccessful, hence I am not in a position to police it. All I know is that there are references to my old address and telephone number, and outdated subscriptions. Also, I am told, notices advertising meetings which have long since past. We are grateful to all those who do give us a mention, but please help by maintaining your sites on a fairly regular basis.

I am frequently asked advise about how to start a local group or branch of the IGKT, and so in the next KM I will publish the general guidelines that I usually give to those who ask.

In July I attended a weekend management course, on behalf of the IGKT, run by the Voluntary Arts Network. It was an enjoyable experience, although we worked quite hard. I am sure that the knowledge gained will be of great value to the Guild, so much so that we are arranging for the same organisation to run a course specifi-

cally for the present members of the Council. Although there will be some cost to the Guild, this will be heavily subsidised by other Charitable trusts and organisation. As the IGKT moves forward into the next Millennium, this training will be an invaluable asset.

Finally, I must give mention to, and thank the anonymous individual who has made a \$500 donation to the Pacific Americas Branch to be used as the branch sees fit, in order to further their work. It is very satisfying to know that there is someone out there who thinks sufficiently highly of our organisation and its aims, to make such a generous gift. Thank you.

By the time that you receive this, I will have seen many of you at the Gilwell meeting and some of us may be looking forward to Christmas. Don't forget to put the Nottingham meeting in your new diaries, as well as the New Bedford meeting next August. Best wishes - Nigel



FROM OUR POST BAG

Rigging Schools?

from: Paul O'Regan, Le Bourg,
47360 ST SARDOS, France.

I am trying to find out if there are any courses or apprenticeships available in Rigging (of boats) or how one might go about finding out about such things.

As you can see, I am living in France where I have been working as a tree surgeon for the last 6 years, and due to a health problem I must give it up. I am, consequently thinking about the next thing to do, hence Rigging. This is something I have always been interested in. Prior to Tree Surgery I spent 10 years fishing off the south west coast of Ireland so I have general experience in nautical matters and would really like to return to doing something related to boats and the sea.

(Ed: I have been given a hand-out for a Riggers Club or School but I don't have it any more, lost in the last "Tidy-up" no doubt. If any one can help, please let me know too.)

Thoughts on Sheet Bends

from: Bob and Nadine Edwards,
Ontario, Canada.

nabobedwards@accel.net

Greetings fellow knot tyers. I am very impressed with the knowledge of knots exhibited by the people who correspond through Knotting Matters. The purpose of this correspondence is two-fold: to introduce myself and to offer my "two cents" into the sheet bend discussion.

My initial exposure to knots developed through the requirements of a couple of different occupations. In my early twenties, I was employed as a groundsman and part-time climber for an electrical power line clearing company (we were contracted out to remove trees from around power lines). It was here that I was instilled with the importance of proper rope handling and care. However, my insatiable interest in knots did not develop until about three years ago when I went to work on the coastal waters of the Bay of Fundy.

I received a college diploma as an aquaculture technician (fish farm hand) in my home province of Ontario. Since I was

quite familiar with the east coast of Canada (my mother is from Newfoundland) and needed a job in my chosen field, I decided to move to Charlotte County, New Brunswick. This is when I began the most important part of my education.

I was lucky enough to be taken on with one of the hardest-working crews on the bay. The owner was a commercial lobster and scallop fisherman who got into Atlantic salmon farming early on. Since the company started small and grew quickly, we did not have some of the latest technology such as hydraulic net rollers and winches. This made for a crew that used its collective head as hard as our backs. The site manager, Mr. Ken Hawkins, was a wealth of information and knowledge about working on the sea. He first taught me how to splice three-strand line. I instantly became interested in knotting and working on the site proved to be an excellent opportunity to acquire and practise my new-found skills. By the time I left New Brunswick, I had quite a working knowledge of knots. I have deep admiration

and respect for the sea too, but that is another story.

My education in knotting continued back in Ontario, still fish farming but this time rainbow trout. It was at this time my wife gave me a copy of Ashley's Book of Knots. Much to her chagrin, this piece of literature, in no uncertain terms, had a profound effect on my life: it gave direction to my knotting education. I know I may sound somewhat fanatical about my interest in knots but when it comes to knot theory, there is nothing I take more seriously. However, this dogma does not prevent me from enjoying the simple act of knot-tying and instilling this enjoyment into others. Now that you know a little of my personal background, I would like to enter into the discussion about sheet bends.

Speaking from experience, sheet bends can be of questionable integrity if they are not set up properly or bent into line that does not accept that particular shape very well. I have always been taught and tied same-side sheet bends, and have had good success, although I would not

use it where security was of any importance. I only use this form in tying becketts; these bends generally have a bight for a tail for easy and quick untying on the farm site.

Ken Hawkins, pointed out to me an interesting aside to do with sheet bends: if you were to cut the loop made by a bowline, the resulting bend is a same-side sheet bend (it only works with one of the resulting tails). One must tie a left-handed bowline to achieve an opposite-side sheet bend using this method.

I will finish by saying I look forward to the next issue of Knotting Matters. I can be reached by e-mail at this address and any Guild member feel free to correspond.

From John Halifax - Suffolk,
UK

KNOTS IN TANDEM

Combinations and Conversions

1 Every Figure of Eight Knot will capsize into two interlocked 'Half Hitches' - Conv

2 A Reef Knot comprises two 'Overhand Knots' and will capsize into a Larkshead/Cow Hitch which is in turn two Half Hitches - Conv/Comb

3 A Sheepshank can be secured by a 'Locking Tuck' or 'Toggled' or 'Stopped'. If only one end is 'Lock Tucked' it becomes a 'Bowline' which in turn incorporates a 'Sheet Bend' and Half Hitch - Comb/Conv

4 A Round Turn & Two Half Hitches incorporates a Larks Head/Cow Hitch or Clove Hitch. - Comb

5 A Marlinspike Hitch will convert to a Bowline if you tuck the end through the slip bight and pull through and includes an overhand knot - Comb/Conv

6 A Half Hitch will also convert to a Bowline if laid out flat in the form of a Marlinspike Hitch and the end tucked over and under and through and when pulled will 'Flip' into a Bowline - Conv

7 A Half Turn over your finger will lift and twist down into a Clove Hitch - Conv

8 A Round Turn will convert to a Rolling Hitch if lifted and twisted down using the left side part of the 'Full Round Turn' - Conv

9 There is a Sheet Bend within a Bowline

10 Another Sheet Bend appears within a 'Lock Tucked' Sheepshank which in turn is a 'Bowline' - Conv/Comb

11 An 'Overhand Knot' is hidden under the frapping turn of a 'Constrictor Knot' - Comb

12 A 'Fisherman's Knot' (Anglers) comprises two 'Overhand Knots' & a 'Marlinespike Hitch'

13 Every 'Clove Hitch' comprises two 'Half Hitches' - Comb

14 A 'Clove Hitch' will convert to a 'Rolling Hitch' if you pull up the right side bight and twist it down over the structure end. - Conv

15 A 'Granny Knot' will convert to an 'Overhand Knot' and a 'Half Hitch' when capsized - Comb/Conv

There must be dozens more; why not seek them out!



from: Tony Doran, Surrey,
UK.**Proposal for an IGKT
Journal**

I beg to disagree with Richard Hopkins comments in KM60, and support Charles Warner's proposal in KM 59 that the Guild should consider publishing a Journal. I doubt whether a

membership of just under a thousand could also support a magazine.

A newsletter is an in-house exchange of information intended to attract the interest of people already 'in the know' about the Guild and its activities. Being in-house, the style is that of communication among friends - not formal, plenty of freedom for authors (and the Editor) to present their individuality. I think Knotting Matters fulfils this role admirably.

On the other hand, the Editor of KM has himself pointed out the difficulty of presenting longer papers aimed at promoting serious discussion, setting a standard or presenting the results of research. If the Guild is to advance knotting knowledge to a wider readership, such material needs a degree of formality and discipline in presentation. As Des Pawson pointed out at the AGM, material to be published to the external world under the IGKT flag should be subject to peer review within the Guild.

I do not share the view that a second publication would be

divisive. The two publications (and their editorial effort) should be complementary, and KM could use abstracts from the journal as source material for editorial comments.

The IGKT can only publish a journal if there is sufficient support among the membership. Support is not just saying 'yes' to the idea. We need to address four questions:

- Are there sufficient potential authors to support a journal? (Only the members themselves can answer this question.)
- What aspects should be included in the scope of the Journal? (I would advocate that practical matters are well represented - perhaps we could have some guidance from the Committee.)
- Do we have sufficient people who are capable and willing to be reviewers? (Non-elitist and with uninflated egos, of course.)
- Should the Journal have a separate editor/s? (I suggest that it should.)

Lethargy will not advance the Guild's objectives one step.
MEMBERS - make your feelings known!

Proposal for an IGKT Journal

from: Charles Warner, Australia

Oh dear, I do seem to be in trouble in KM60. I seem to have irritated Karl Bareuther when I doubted the real relevance of an article on the history, form and making of a sailor's ditty bag to knotting and then I seem to have outraged Richard Hopkins when I suggested a need for a special publication on specialist knotting topics.

Both criticisms have a bearing on just what the IGKT is for. I joined the Guild in 1984, after I read in Geoffrey Budworth's book, *'The Knot Book'*, that the Guild's objects included 'to promote the art, craft and science of knotting, it's study and practice: to undertake research into all aspects of knotting ...'

Amendments were made to the Objects in 1989 on becoming a Charity; again I quote Geoffrey in *Much Ado About Knotting (1993)*, they now include 'the study and practice of knotting, past and present, its art, craft and science. . . undertake research into all aspects of knotting and to publish useful results . . . publish periodicals,

papers and books about knot craft and related matters . . .' Nowhere is there any mention of special, let alone exclusive, emphasis on mariners' knots and nowhere is there mention of other mariners' crafts. (I say this because my own knotting background was little influenced by the mariner's traditions until I started work on my knotting book.) Anyway, I joined the Guild, and have never regretted it despite some tussles with the Council and others.

To Karl I would say that a sailor's traditional ditty bag is a container for a number of things, including sometimes knotting tools though it has no special fittings for them; little knotting or ropework is involved in making it, none of which is described in the original article. I keep my knotting tools in a couple of cardboard cartons; in the past I have used various drawers and shelves, again none with any special fittings. Would Karl be interested in an article in KM about the history and design of these things? Of course, the ditty bag was associated with the tradi-

tional mariner, who was also associated with some aspects of knotting, and with scrimshaw, sailmaking and many other things. Naturally, the Guild is very interested in the knotting, but I still fail to see why the Guild (as distinct from individual members) should be particularly interested in other activities of the mariner.

As for Richard, I would really say: calm down, cool off and reread what I actually said. I cannot for the life of me see how my suggested new Journal could 'destroy the relaxed but serious and enthusiastic approach' of the present KM, which would most certainly continue to serve its present invaluable function.

Likewise, publishing a specialist journal is not 'failing the aims of an educational charity' when the official objects of the Guild, approved for charity purposes, include 'the publication of periodicals, papers and books'.

Then Richard suggests I attend Guild meetings; my two nearest Guild neighbours live about 100 km away, there are only another 3 or 4 between 200

and 300 km away. The Guild is an international not a parochial organisation and has always claimed to cater for members with few knotting neighbours, and indeed looking at the recent Membership List suggests that there are hundreds of members outside the reach of regular meetings, dependent on correspondence and reading.

Finally, Richard says 'we are getting the articles anyway in KM'. Well, actually, we are not. Firstly, the proposed Journal would cater for long articles, maybe up to 60 pages or so. My present series on the Prehistory of Knots (with Pieter van de Griend) will need 60 or so pages to complete, and it looks as if it will spread out along a couple of years or more; by the end, it will be hard to remember how it started. Much more important, the articles have not been peer-reviewed or in any way substantiated since being edited which would have happened in the Journal. So my articles are less readable than they would have been and may well contain undetected errors of fact, of argument or of judgement. Incidentally, had Rich-

ard's letter been peer-reviewed, the referee could have informed him about the Guild Constitution, and might well have recommended that he omit the personal abuse and concentrate on his quite valid arguments (which I personally do not put much weight on), so saving a lot of bother.

My understanding is that the Guild is for a wide variety of people interested in all aspects of knotting. Cannot we all work together, making allowances for our idiosyncratic ideas, without making invidious remarks about each other? I put forward a serious suggestion for expanding the Guild's interests. If too few other members agree with me, then too bad, let's forget it, but do we have to be offensive to each other?



Proposal for an IGBT Journal

from: Lonnie Boggs, Oxford UK,

I hope that the membership will seriously consider Charles Warner's suggestion of a **Journal of Knotting and Braiding**, Occasional Papers of the International Guild of Knot Tyers.

There is enough support for our goal of wider recognition as serious professionals and the loosening of the Anorak from our shoulders, I feel. The new Journal would be a good way of starting this change. Competent, expert and literate, writers and teachers could, I am sure, be persuaded to contribute to such a publication. If funds are tight to start with, perhaps when the Journal is ready, it could be published instead of the newsletter, so that there would still only be four printings and postage per year. I think the Journal would quickly make its value known and be considered more than worth the extra cost of one more publication per year. The membership list now is virtually a fifth KM as far as the costs are concerned.

The Editor/s could conference by e-mail or snail mail or telephone from anywhere in the world until ready to print. The printing and posting could be done wherever it was most convenient with the address labels being provided by the Secretary. I feel that, if done properly, the Journal would be a great asset to the Guild.

Change of Address

from: Brian A. Glennon,
Boston, MA, USA

This is to let you know of yet another change of address, even from the newest membership list.

My new address is:
Brian A. Glennon
93 St. Botolph Street
Boston, MA. 02116USA

From John Smith - Surrey, UK

Understanding Knots

This is an early thought that needs a lot more working on but hopefully will stimulate some investigation.

I have a piece of shock cord that is too short to do anything useful and too long to throw away. When I am trying out a knot, I now also try it out in this piece of shock cord. It reveals some characteristics of knots that are not obvious in other materials.

For example, how well a knot holds together is revealed quite easily. To try this out, tie a Bowline in shock cord and then

shake it about a bit. It soon falls apart. Now tie Angler's Loop and see that it holds together much better. This confirms two interpretations, depending on what you want and what you are using:

- An Angler's Loop is more secure than a Bowline
- An Angler's Loop tends to jam more than a Bowline

In some knots the shock cord will 'bite' and start to stretch showing where the initial nip of the knot takes place. The very smooth outer sheath of shock cord causes knots that rely on friction rather than nip to slide into nothing. And so on.

This is all very dynamic; you need to try all your favourite knots, in shock cord. Watch what happens. Trying to deduce why it happens will lead to more understanding of what is going on in the knot.



9B x10L TURKSHEAD

from Bryant Arrington - Tennessee, USA

I am trying to discover how a particular Turk's Head of 9 bights, 10 parts, is tied. I can tie the knot, but not as small as

some braided rings I discovered in Blak, Irian Jaya. The natives use a fibre that has a rectangular profile measuring approximately .009 by .023". I believe the fibre is from the inner bark of a tree.

Coincidentally, I have an old (50 years at least) blow gun from the Philippines that has a braided ring on it of the same knot. I am told the natives use bamboo fibre.

I cannot figure out how they tie this knot on such a small scale. The rings come in all different finger sizes but they all tend to be around 3/16" wide. I have had some strands made that measure .009 by .023" and I have tried working on a mandrel of 5/8" diameter which is about my ring finger size. I have not been very successful.

I have sent e-mails and letters to people in Irian Jaya, but they have no understanding of knots. So far I have not been able to find someone who can tell me how the natives do it.

Do you have any answer for how this Turk's Head could be tied in such a small configuration?

Ed you can be sure someone will!!

AGM PHOTOS

from Peter McDonnall, No.6
Fernhills Rd, Hythe, Southamp-
ton, SO45 3HE, UK

A note to say how much I enjoyed myself at the Portsmouth meeting of the Guild. I found all of the members who I spoke to, to be very helpful when it came to offering advice and also showing me how to tie some knots. I was really impressed with all of the displays. My only regret was that I did not bring a camera, however one of the Dutch members said he would send me some prints but I lost contact with him before the day ended, he therefore never got my address. I would like to request through the pages of KM for any pictures that were taken, I would reimburse them, negatives would also be good and I would return them once used.

I am going back to sea in the near future and as there are still some seamen who carry on the art of knot tying and may be unaware of the Guild, I would like to pass on news and application forms to anyone interested.



Finger Knot

Permission to reprint this cartoon was kindly given by the author Hanspeter Wyss.

Sent by Noëmi Speiser - Germany.



A thought for the day from Global Email courtesy of Clifford Ashley: 'A knot is never 'nearly right; it is either exactly right or it is hopelessly wrong. In a knot of eight crossings, which is about the average-size knot, there are 256 over and under arrangements possible...Make only one change... and either an entirely different knot is made or no knot at all may result'.

*Knotting ventured,
knotting gained.*

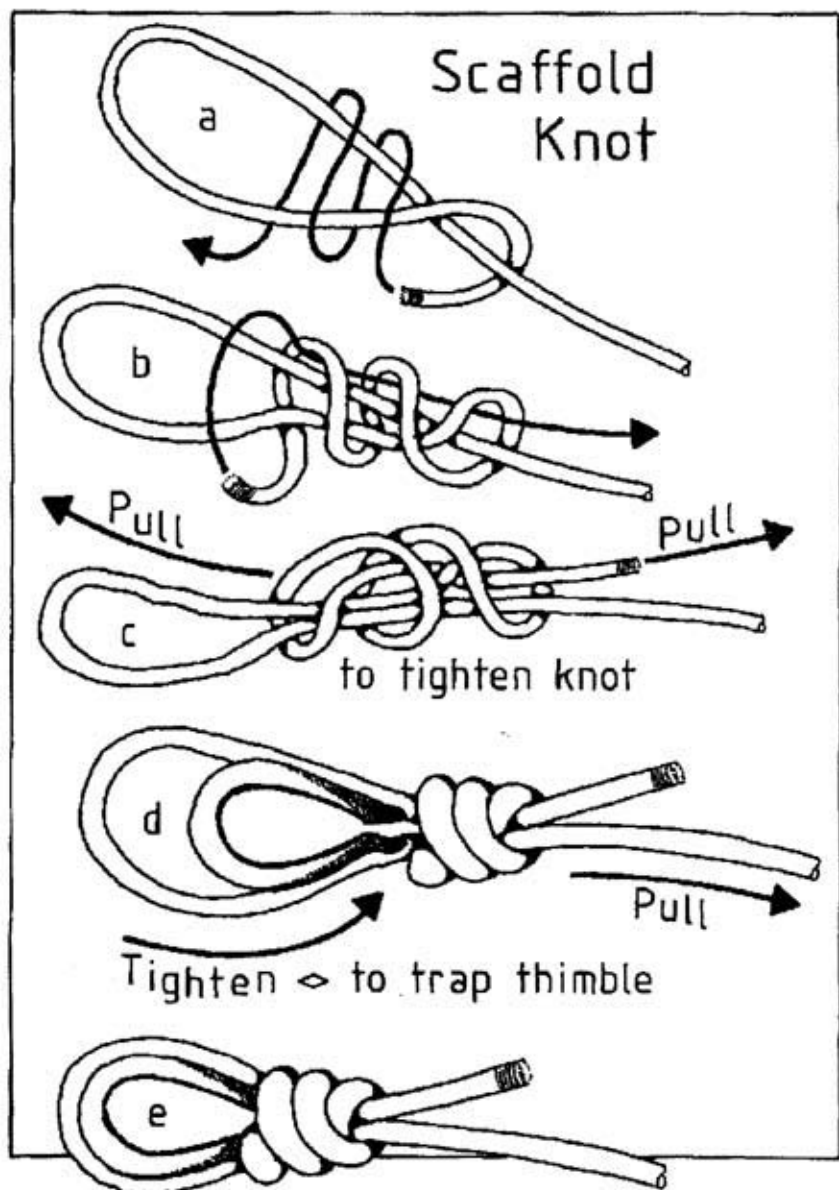
QUICK-TIE HARD-EYE (or Scaffold Knot)

Reinforce eyes with thimbles to reduce chafing and the risk of things coming adrift. An eye splice rarely stays tight (not even for Knotmaster) and in braided sheath-&-core stuff it's a fiddly job. So I cheat and use the Scaffold Knot.

This threefold overhand noose makes a snug 'hard' eye which practised fingers can produce in 30 seconds or less.

To attach directly to a ring or bracket, dispensing with a shackle, put the thimble in place first; then pass the working end of line around it and tie the knot.

--- oOo ---



PROGRESSIVE CONSTRICTORS

From John Halifax, Lowestoft, Suffolk, England.

In consequence of the articles in K.M.s.55 of March 1997 pages 19 & 52 titled 'A Hens Tooth' and 'The Boa Knot'.

I would like to negate assertion that Dr. Peter Collingwood was the first person to devise this knot.

Before such a claim is officially made the matter should have been put to the membership as it has been without the assertion that it was 'Devised in 1996' etc. After all what is it but a 'Two Ply/Fold' or 'Double Constrictor Knot'. I agree with the description of 'The Boa Knot' it is a very apt title.

BUT

I feel however that numerous members would have double plied a Constrictor Knot over the years by whatever means they tied it!.

I myself discovered the same result of forming a 'Constrictor Knot' by making a single bight and twisting it into a figure eight configuration and naturally because it was so quick frequently double plied it for extra strength.

Regrettably though I did not publish the method in August, 1989 when I discovered it because it formed part of my new discoveries of a whole series of new knot designs which I titled 'The Distinctive Norfolk Knot Series' of some 21 new knot designs all originating from one concept that I discovered whilst researching the famous and ancient 'Chinese Button Knot'. (I did a hand drawn thesis on this series and showed it to the late Dr. Harry Asher at one of our A.G.M. meetings and one or two other members. Because I was not satisfied with my drawings I 'Shelved' the thesis; then occupationally retired and moved house and county and then made other new knot design discoveries which were much more aesthetically pleasing and published them (a total of 54 plus in number) as 'Something Different' 'The Suffolk Collection' of Single Strand Button Knots. With the 'Distinctive Norfolk Knot Series' of 21 and still growing plus other new ideas that I have recently published in K.M.s. it amounts to nearly 100 newly designed knot shapes. (What price Dr. Hunter circa 1977 'Hunters Bend' that in fact had been discovered by an american some time before him.

All new assertions of knot designs should be published and comments invited from all and sundry before claims of 'First Devised' invented/discovered etc. (First Published is a better and more acceptable assertion!.) First devised is premature.

PROGRESSIVE CONSTRICTORS

John Halifax: Continued page 2

The following six pages of articles are new ideas that I have discovered which also have reflections on old themes. Articles marked 'A' and 'B' are about how I discovered a new way to tie a 'Constrictor Knot' and 'The Boa Knot' in July/August, of 1989 and have the original drawings to prove it!.

Articles 'C' 'D' 'E' & 'F' are about new variations of an old theme of progressing 'Constrictor Knots' with over riding frapping turns without increasing the underneath overhand knot and making it over bulky like the 'Boa Knot'. These methods make wonderful vice like clamps to form strong endurable whippings.

Articles marked 'G' & 'H' are about a new 'Sheepshank' shortening knot and enquiry into the origins of the 'Sheepshank' and a new Button Knot from a flat 'Clove Hitch' as a result of these ideas.

Article 'A' depicts how I discovered a new method of tying a 'Constrictor' whilst studying the Chinese Button Knot as per 'Ashley' page 101 No.599 in the hand over the fingers. Having made the 'Chinese Button Knot' in its 'Flattened Out' form by this method I dissected it back to its basic first two movements as at figures 1 & 2 from 3 & 4 and played about with it and the next thing I knew was that I made a 'Constrictor' in just two seconds of timing. At stage figure 3 I subsequently discovered and made a whole series of new designs as a result of which I was so delighted that I decided to call 'Phase 3' 'A Universal Knot' because it had so many different applications one of which is a new 'Sheepshank' at Article 'G' of which more later. If you tighten in figure 3 of Article 'A' it forms into two interlocked overhand knots but in a different format to that normally seen but makes a nice little

**'The Origins of the Universal Knot'
From the 'Chinese Button Knot'
Article 'A'**

By John Halifax, Lowestoft, Suffolk, England
Circa 1989:



PROGRESSIVE CONSTRICTORS

John Halifax: Continued page 3

'Diamond shape Knot' to stick onto an earring finding.

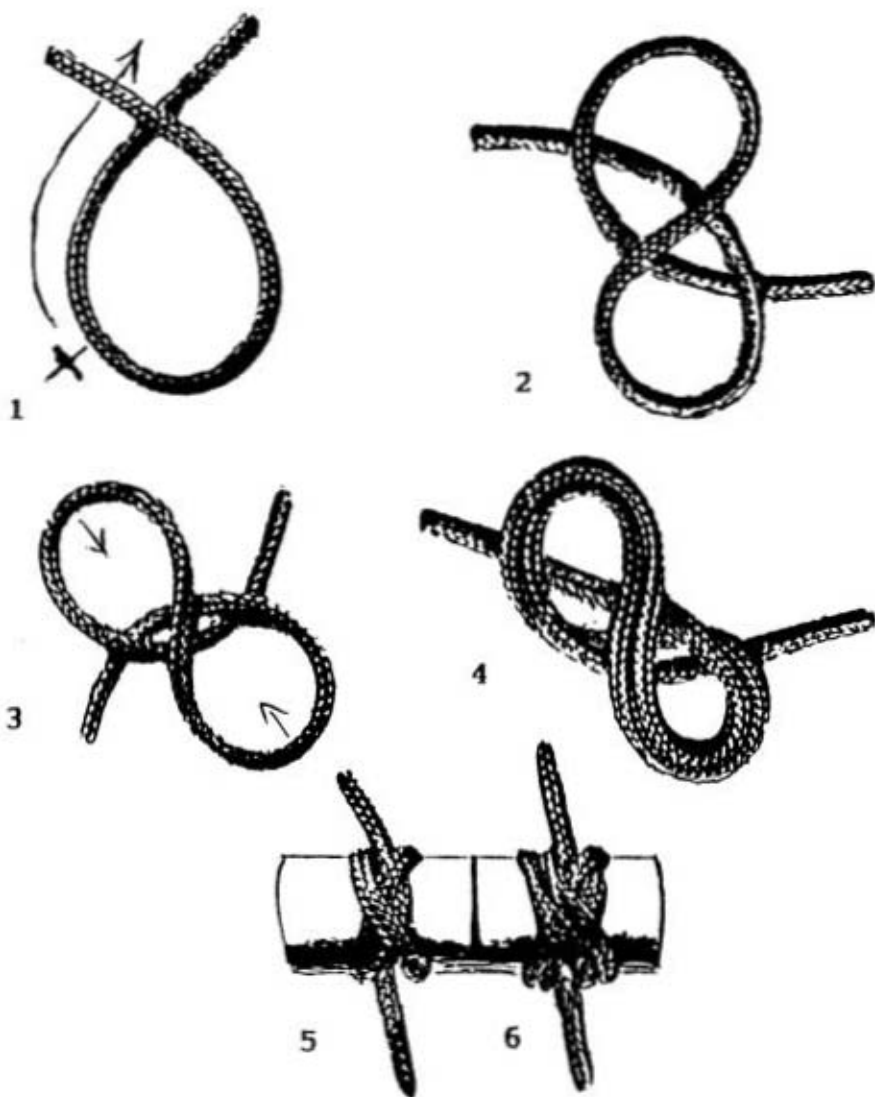
Article 'B' figures 1 & 2 shows you how to make the new figure eight type method of a 'Constrictor' using your thumb. Make an anti-clockwise half hitch and project it downwards away from yourself (Right handed people that is). With the loop at the bottom. At the point marked 'X' put your thumb underneath and 'Flip' upwards and over the top and it will form into a type of figure eight as at '2'. Figure 3 shows it closed in a little more; now fold it flat into a Constrictor Knot. Figure 4 shows it doubled as per the 'Boa Knot'. 5 & 6 depict the finished single and double Constrictors. My method is with the 'thumb' whereas Dr.Collingwoods' is with his fingers but the 'Figure Eight type twisting is exactly the same!.

Article 'C' depicts my new way of making a 'Double' i.e. 2 frapping/riding turns Constrictor Knot by the flat 'Clove Hitch' method. I discovered this following the article in K.Ms. No.55 about the 'Boa Knot' and found that in Ashley page 225 Nos.1251 and 1252 a double 'Frapped' Constrictor Knot was given but I had never 'locked onto it' before. I made it and then dissected it back to its basic concept flat in the hand and found that it was a 'Twisted Flat Clove Hitch' and worked it back again as follows: Make a double half hitch 'Clove Hitch'. Now move the right or top hitch over and past the bottom left hitch as per figures 1 & 2. Now with your right finger at the back, put it in the right loop inwards towards yourself. With the left finger put it through the left loop 'but' pointing out away from yourself at the positions marked 'X & X' above the two working ends and twist the right side bight downwards

'The Universal Knot into'
'Constrictor Knots.'

By John Halifax, circa 1989.

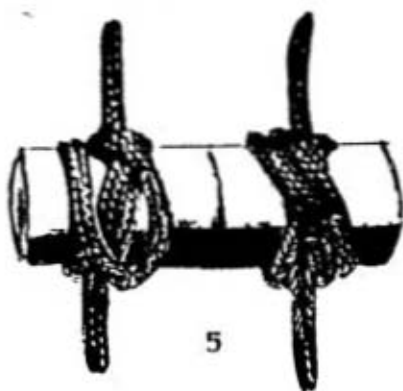
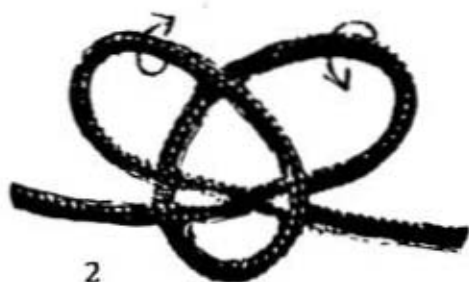
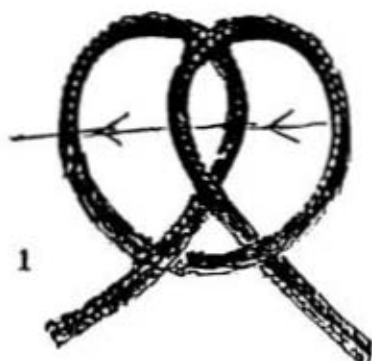
Article 'B'



'Progressive Constrictor Knots'
from 'A Clove Hitch'

by John Halifax, circa 21.4.97.

Article 'C'



PROGRESSIVE CONSTRUCTORS

John Halifax: Continued page 4

towards yourself in a spiral and the left side away from yourself. Keeping the 'centre' third bight that you have just made, open; insert your left index finger through all bights keeping the two working ends above your finger. Knot completed very quickly and a marvellous whipping.

Articles 'D' 'E' & 'F' depict my methods of making even more 'Progressive' riding/frapping turns Constrictor Knots using a 'Cylindrical' 'Clove Hitch' a plain 'Half Turn' and an 'Overhand/Simple Knot' as follows:

On your finger or on the end of your rope as a proper whipping: As at 'D' make an ordinary cylindrical 'Clove Hitch' as per fig.1. Now raise and pull out the right side bight at the back of the working end; twist anti-clockwise and turndown over the end of your finger or 'Ropes End'. This gives you exactly the same double frapped 'Constrictor' as at article 'C'.

Article 'E' depicts a single half turn and the same as before; raise and pull out the single bight this time, twist anti-clockwise and turn it down over the end of your finger or ropes end as at '2'. This gives you a 'Clove Hitch'. Now repeat the process by raising and pulling out the right side bight behind the working end, twist anti-clockwise and turn down over the end. You have the same result as at article 'C' a double frapped 'Constrictor'. Now again raise and pull out the right side bight and twist and turn it down over the end for a 'Three/triple Frapped' Constrictor Knot. 'But' 'But' before you tighten it slip/undo the extra turn which formed in the underneath overhand knot into a 'Double Overhand Knot/Blood Knot'; otherwise it will be incorrect and too bulky.

PROGRESSIVE CONSTRICTORS

John Halifax: Continued page 5

Article 'F' depicts 'Multiple Frapping Turn Constrictor Knots' but from an 'Overhand or Simple Knot' this time.

The method is the same again; make the overhand knot; raise the single bight at the top back of the knot near the working end and pull out, twist anti-clockwise and turn down over the end of your finger or ropes end. This tends to undo the overhand knot but don't despair, press on and repeat the process and you will think oh! good i've done it but if you open the two frapping turns and check you will see that the underneath turns are nothing more than turns!. So carry on and repeat the process and this time you will have a 'Threefold' Constrictor as per figure '4'. Press on regardless and repeat the process and you will achieve what appears to be a 'Four Ply Constrictor' or is it?. If you turn the knot over it appears to be a 'Five Ply' knot! which makes a very secure enduring whipping/binding with a vice like grip and more aesthetically pleasing than the 'Boa Knot'. One thing, don't forget to slip the extra turn out as you twist and turn down the bight and tighten. I have found that '5' turns/multiple is about the maximum that will tighten efficiently.

When you finish learning each process; slip the whole knot off your finger and pull gently and invariably they will form into 'Strangle Knots' or multiple 'Blood Knots' otherwise known as 'French Knots' in Tailoring etc.

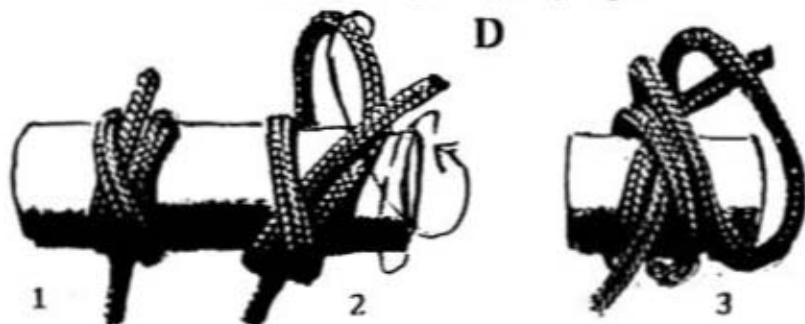
Interesting isn't it. By now you must all have been astute enough to realise that all the forgoing is really a waste of time and merely alternative methods because all the single and double frapped constrictors will raise up and extend into multiples! so it is just a matter of choice as to which method you prefer. Personally I like the method at 'C'.

'Progressive Constrictor Knots'
 from 'A Cylindrical Clove Hitch'
 'A Plain Half Turn' and
 'An Overhand Knot'

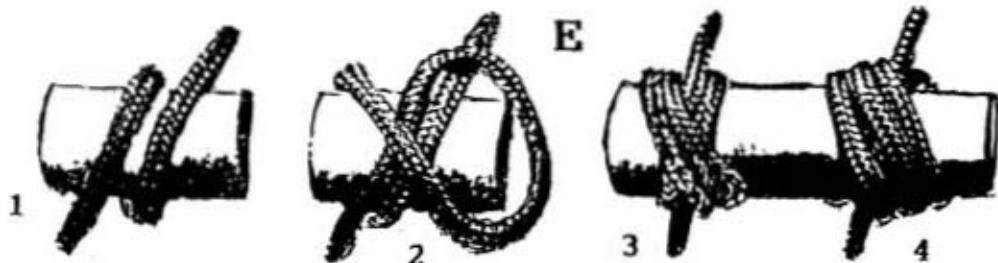
By John Halifax, circa 1.5.97.

Articles 'D' 'E' & 'F'

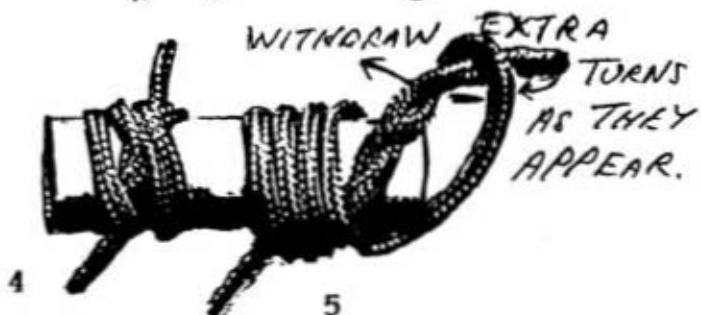
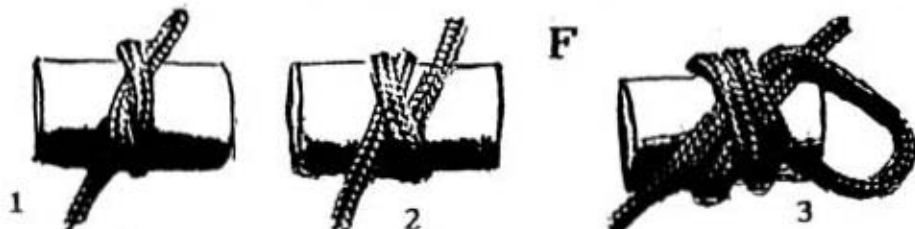
D



E



F



'SHEEPSHANKS'

John Halifax, Lowestoft, Suffolk, England.

Article 'G' Page 6.

Very little seems to be known about the 'Rope Shortening' method of tying 'Sheepshanks'. There seems to be various methods of tying the ordinary type by trebling the rope and then locking it into position with a half hitch at each end. There are various methods of securing the knot for a time served purpose such as 'Stoppering' part of the bights to each working end or putting a bight from the working ends through and then 'Togglng' with a 'Baton' or 'Spike'.

Then there are the methods of tying by making 'Three Interlocking Bights' and 'Four Interlocking Bights' which give the 'Firemans' Chair Knot' or 'Girl Guides Chair Knot' by the late Harry Asher or as I prefer to call it the 'Navy Sheepshank'.

But

There is nothing about its origins in any reference book that I can find!. However more on that aspect in a moment. In 1989 whilst 'Endeavouring' with my thesis on my newly adopted method of using the second and third stages of the 'Chinese Button Knot' as my 'Universal Knot' as just described in the 'Progressive Constrictor' articles.

I made a new style 'Sheepshank' from the 'Universal Knot' as depicted at 'G' 1,2,3 and C'. At the new figure of eight configuration instead of bending both parts down to form a 'Constrictor'; squash the whole body of the knot together and secure with a 'Half Hitch' on each bight end for a new 'Gorleston Sheepshank' so named because that is the name of the town I lived in, in Norfolk when I discovered it. Always subject of course to the criteria that Someone else may have known of this method before me!.

As I stated above, the origins of the 'Sheepshank' must have been lost in the mists of time. If you think about it.....

'SHEEPSHANKS'

Continued:

John Halifax: Page X. 7

If you think about it logically although by far and away the most knots, bends and hitches were originated and used on sailing vessels the world over; mankind first used 'Knotting' on land, thats where it all started. As we all know 'Trades Folk' invented knots for their own specialised use just like the 'Sailor'

'So'

What does the word 'Sheepshank' imply. Exactly: 'For hobbling Sheep around their Shanks'

'So'

Imagine a lonely 'Shepherd' in bygone days on a hillside at night with a small flock of sheep. A storm threatens or he knows that predators are about and anything might frighten them and cause them to run away. He has various lengths of rope with him which he needs to keep 'Long' for securing his shelter or scrambling down cliffs with to regain stricken sheep. 'He cannot afford to cut his ropes they are too precious for so many other uses.

'So'

He uses nearby trees or drives stakes into the ground and 'Hobbles' two legs i.e. one front and one back leg with 'Sheepshanks' drawing the half hitches up close around the 'Shanks' of the 'Sheep' and he is able to 'Hobble' several on one rope, then he can rest relatively peacefully by his camp fire and have a good nights sleep with 'Lassie' watching out for the predators! and still recover and re-use the full lengths of his ropes in the morning. In my opinion that is the origin of the 'Sheepshank' and I think it should have been called 'A Shepherd's Hitch' what about some of you out there; has anybody anywhere in the world any knowledge of the 'Sheepshank' and it being used to tether Sheep with?. Replies excitedly awaited!.

Ba-aa!.

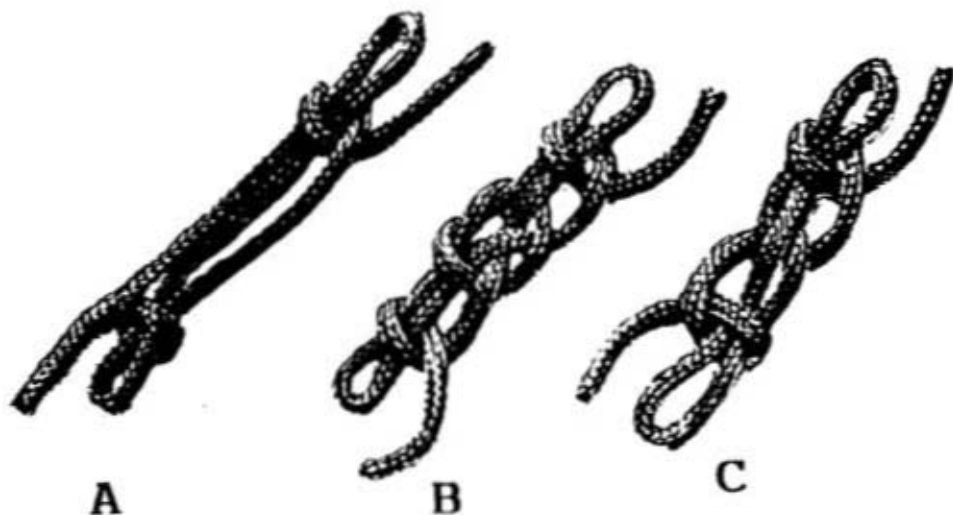
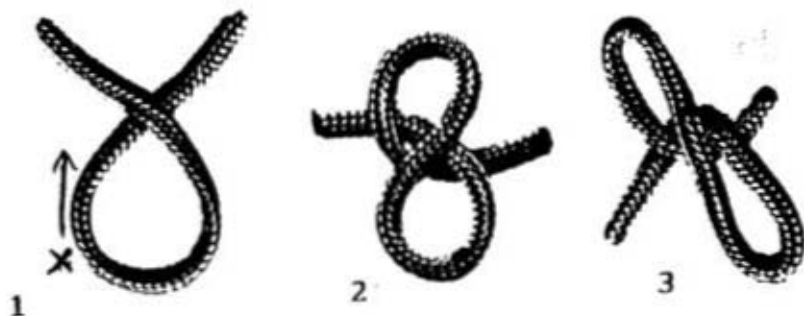
'A New Sheepshank'
From a 'Universal Knot'

By John Halifax, circa 1989

Article 'G'

'The Gorleston Sheepshank'

As at 'C' below:



'Another Clove Hitch'

'Button Knot' 1..5.97.

John Halifax: Lowestoft, Suffolk, England:
Article 'H'

On discovering the 'Flat Clove Hitch' method of making a two fold/double frapped 'Constrictor Knot', I then went on to create the 'Single Strand Button Knot' depicted.

Commence with a flat in the hand double 'Clove Hitch' and pass the top hitch/bight over to the left. Now as for the 'Progressive Constrictor Knot' twist the bights in opposing directions to form a centre 'Spiral' and 'Close' the whole configuration inwards by length and breadth as at Fig.2 and tuck the ends anti-clockwise down through the end bights as at '3'.

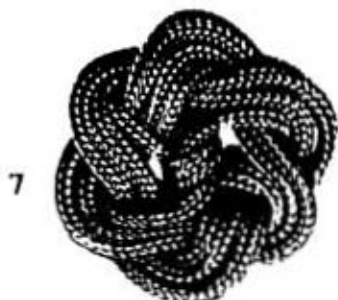
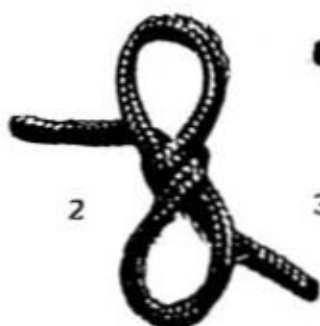
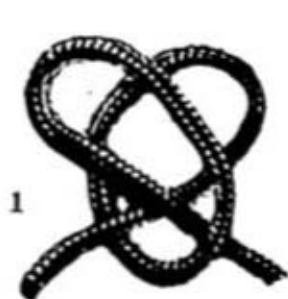
Now continue round in the same direction tucking down through the new bights just formed as at '4'. Then start to double the outer 'Rim Line' over and under, in and out, round and through to complete into 'Two or Three Ply' for a very aesthetically pleasing new 'Button Knot'. This being in addition to the other 'Clove Hitch' button knots that I published recently.

You can display this either side as a 'Double Bar Centre or Triple Twist Spiral!

'A New Button Knot'
From a 'Clove Hitch'

By John Halifax, circa 1.5.97.

Article 'H'



Hint/Tip No.3.

John Halifax: 'Bell Pull/Pull Bell'

At some time or other most of us turn our thoughts to making a 'Bell Rope/Lanyard Pull' Then to buying a 'Brass Bell'. Then where to hang/display it?.

If you are going to display it for ornamental purposes inside - no problem except for the 'Fixing'.

But

What if? - you would like to make it work for you! and operate from the outside. Well there is the way I use!:

Go to your nearest 'repair garage' and scrounge a length of small bore copper 'Copper' 'BRAKE' pipe. About 12" in length. You will probably only need to use 8" or 9" of it. Decide where you are going to hang your bell in relation to the front, back or side door and fix/hang it. (Iv'e got mine on the end/side of a kitchen cupboard behind the back/side door with a 'Bell Rope Displayed' inside. Now drill a hole in the 'Door Jam Post' big enough to just accommodate the Brake Pipe and slip it through. Make sure it protrudes sufficiently both sides say about 2" inches to allow you to bend/incline it 'Downwards' on the outside and 'left/right' inside depending where the Bell is sited.

Flute the 'outer' end slightly with a round piece of solid metal such as a large nail or similar to prevent chafe.

Now buy a length of 'Brass Picture Hanging Wire. Thread it through the 'Brake Pipe' and 'Wire On' another 'Working Bell Rope' on the outside and attach the other end of the wire to the inner 'Bell Clanger'!. That's all folks!. This lot should keep you occupied for hours!.

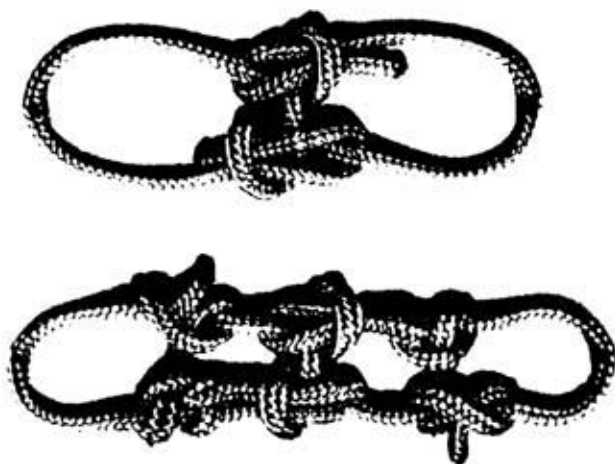
'THE ENDEAVOUR'
(Side by Side Bowlines)
(1994)

For use as a stretcher, sling or chair
in First Aid or Mountaineering Rescue.

When researching The Ashley Book of Knots and the Encyclopedia of Knots & Fancy Ropework by Graumont & Hensel to make a Bowline Knot Board Display and at the same time researching the Girl Guide Association knots in relation to a 'Chair Knot'; I happened to create the 'Side by Side' bowlines from a single piece of cordage for use as a 'Chair Knot' for looping the bights over two persons shoulders with the injured person sitting between or the additional use of four 'Clove Hitches' adding extended support, enabling it to be used as a stretcher. Very handy if no proper stretcher or tree branches available and with limited rope to use. Padded out with blankets or coats of course to cushion the lumpy knots.

The following references depict similar bowline scenarios but using 'Two' ropes'!

1. Two Bowline Bends & A Bowline Bend Ashley 1454/1455 refer.
2. A Bowline Hitch - Graumont & Hensel page 97 Plate 45/315.
3. An Interlocking Bowline Bend (Bowline on the Bight type) G. & H. page 26 Pl. 6/134. refers.



John HALIFAX,
Endeavour Ropecraft,
Lowestoft, Suffolk. 6.2.97.

THE PREHISTORY OF KNOTS

When, How and Why Knotting Might Have Started

Charles Warner, Australia, and Pieter van de Griend, Netherlands

PART 3: Try Anything Once

Section 3A: Binding Knots; Snug Hitches

We have seen that there is good indirect archaeological evidence for very early use of knots and knotting media. Something corresponding to binding knots, lashings, hitches and bends can readily be inferred from the evidence. There seems to be no unequivocal evidence for the use of stopper knots, nooses or fixed loops, but it seems likely that they would

have been needed fairly early. We then discussed possible kinds of knotting media that might have been used. Finally we have suggested reasons why conglomerate entanglements might have been gradually and partially replaced by recognisable composite knots.

In this Part we speculate about the earliest composite knots actually tied.

HYPOTHESIS

Our hypothesis is that our remote ancestors, faced with a need for some sort of fastening using a knotting medium, would have placed that medium in a position suggested by the purpose, and then have tried making a few tucks, twists or turns somewhere, continuing until the knot seemed satisfactory. Initially, there would have been no guide to those first tucks etc other than convenience; experience would have suggested that some moves gave more efficient results than others, and would have guided future trials.

The first knots tied would have been conglomerates, loose assemblies of struc-

tural elements in more or less random order so that the exact structure would not have been repeated. Later, the advantages of having the elements close up to one another would have been recognised, and then the more effective or efficient formulations would have been repeated and become what we have called, in Part 2, composite knots.

We think it likely that it would have been largely chance that determined precisely which composites would have been noticed first, so that many different first choices would have been made around the world. Here we try out a large number of different more or less random

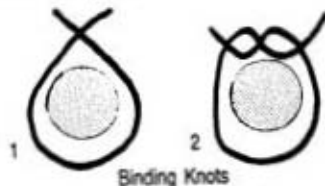
moves and record anything that seems likely to have been recognised as useful. We have largely ignored moves that were particularly clumsy or inconvenient, or that would have caused the knot to fall apart and become a **non-knot**. Many useful knots were found after only one tuck, and two tucks made most of those quite efficient. Some of the knots tried out are found in modern repertoires; we have recognised those in *The Ashley Book of Knots* by the knot number (#), but have not attempted to note those recorded elsewhere. We have been unable to find any records of some of our knots, though they seem satisfactory in use; most are simple variants of well-known knots. Nevertheless, we expect that these knots have already been tied,

somewhere, but just not recorded where we looked.

It is, of course, unlikely that the very earliest knotters would have been as systematic in trying all possibilities as we have. Probably, they would have stopped their experiments after the first one or two efficient knots were found. If they found such knots useful, they would have remembered them and perhaps tried to improve their algorithms; and they would have shown them to others, at least in their own group. Note that modern findings on the efficacy and security of knots tied in modern media that are smooth, regular and flexible have little relevance to the same knots tied in the rough, irregular and stiff media likely to have been used in the earliest times.

BINDING KNOTS

The aim is to constrict or hold together an object or a bundle, by fastening a knotting medium tightly round it. In general, there is no other function for the medium: it is not, for example, used to support the object.



Binding Knots

The natural start is to pass the roughly centred medium round the object so that the ends cross one another (1). The next obvious move is to tuck one end under the other (2), producing a Half Knot (#47). This is likely to hold only with

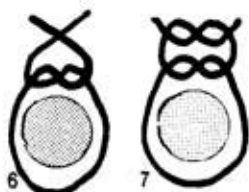
high-friction media in steady conditions.



Binding Knots

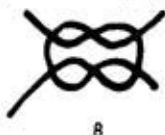
Greater security may be obtained by making another tuck, producing (3), a Surgeons Half Knot (start of #1209), or by passing the two ends round the object again and making another Half Knot, either where they first meet (4) or where they meet again beside the first (5). If this process is continued, something like a West Country Whipping (#3458) is

obtained. However, none of these knots is likely to withstand a lot of fluctuating loads or handling.



Binding Knots

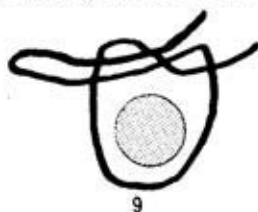
Sooner or later, whether by accident or through insight, the two ends will be found to cross again close over the last Half Knot tied (6). Once that is noticed, making another Half Knot on top of the first (7) is straightforward, producing a Reef (#1402) or a Granny (#1405) Knot.



Binding Knots

If by any mechanism the object is removed from knot (7), a knotting medium with the two ends joined is seen. It should not take much special insight to

realise that this formation can be used as a bend, uniting the ends of two separate media (8). With stiff and rough media, such as were most likely to be used in the early days of knotting, both Reef Knots and Granny Knots are adequate bends. Their deficiencies as bends are only likely to show up when more flexible and slippery media are used.



Binding Knots

Somewhere in this process, a tuck would have been made with a bight instead of an end, and at some time this slip knot, e.g.(9), would have been recognised as possibly useful for quick release (e.g., #1211); maybe, both ends could have been slipped (e.g., #1212). This kind of thing could have happened with just about any of the knots considered here, but we will not mention them.

SNUG HITCHES

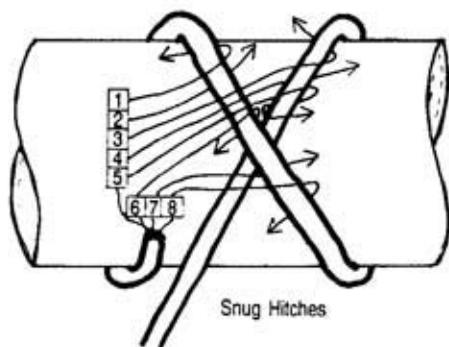
The purpose of these knots is to attach a knotting medium to an object (here imagined as roughly cylindrical). The end is passed round the object *twice* (terms in *italics* apply to the present series only; other possible series, with larger numbers, are referred to later); then the end is tucked *once* only under *one* of the turns. Final tightening is often by pulling on the standing part only, though the two ends may be used.

All these knots may also be used as binding hitches, when tightening is by pulling on both ends; some may be used as bends between a thin or flexible medium and a thick or stiff one, which takes the place of the object shown here.

All the knots can exist as mirror images or **enantiomorphs** of those shown here, that is the first turn passed to the left of the standing part instead of the right, as here. If the knot is made by

first passing the end under the object, instead of over it as shown here, and then tying the knot essentially behind the object, the knots obtained would be formally identical with those given here. All the knots can also exist reversed, that is treating the standing part as the running end and vice versa; most of these reversed knots are equally efficient as their originals, though it will not always be possible to tie them using only one tuck.

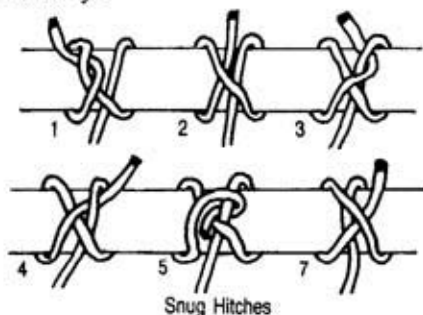
Here we introduce a way of showing on one diagram a number of knots derived from a common start, that we will be using several times in this paper. The main diagram shows the starting position, from which lead several numbered arrows.



To make a particular knot, place your medium in the starting position (allowing a sufficient length of running end) and then follow the appropriate numbered arrow, taking care to make all crossings according to the diagrams and taking up slack as necessary. We also show several completed knots.

We start with the most straightforward series, where the standing part is

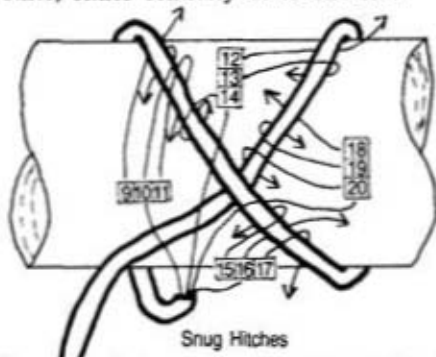
kept between the two turns. The end is passed round the object, and brought up on one side of the standing part and crossed over it; this first nip starts the process of securing the knot. Pass the end round the object again; then, working above the first crossing, tuck the ends under one of the two turns, with the end finishing either to one side of the knot or centrally.



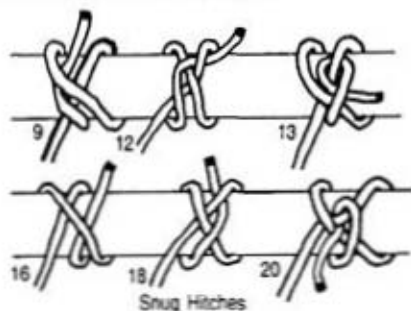
Knot (1), which may be considered a Single Hitch (#49) and a Half Knot (#47) is better as a binding knot than as a hitch. Knot (2) is the well-known Clove Hitch (#53); (3) is #1674, an unnamed hitch which, in reverse order, is #1467, a bend for different media. Knot (4) is a Millers Knot (#390), a binder, or a Picket Line Hitch (#1676), a hitch; it is the enantiomorph of the Groundline Hitch (#1680). (6) and (8) are marginal hitches, not detailed here. Knot (7) is a distorted Clove Hitch, sometimes made by modern knotters in error; it is quite a good hitch for a steady load, but if worked it readily reverts (rearranges itself) to the Clove Hitch.

In a second series the end is taken round the object on one side, taken across the turn just made, brought back between the first turn and the standing

part, then tucking under one turn or the other, either centrally or to one side.



Several of these knots might hold if carefully made under a steady load, but are really unsatisfactory in most media, and are not detailed here.



Knot (9) is marginal as a hitch under a steady load, but otherwise reverts to (16), itself unsatisfactory. Knot (10) reverts to a round turn, (11) and (17) revert to an unsatisfactory tangle.

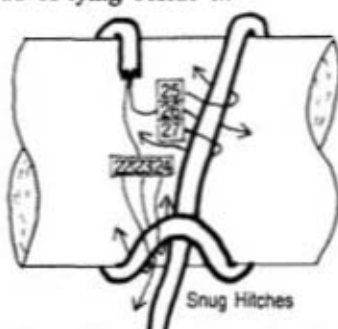
Knot (12) is the Bag Knot (#388), a good binder and adequate hitch; (19) readily reverts to the same knot. Knot (18) is the Sack Knot (#389), a good binder but inadequate hitch unless the knot is reversed and the load taken on the present running end.

Knots (13) and (20) are satisfactory as hitches, though a little clumsy to

make. Knot (16) might be called a False Clove Hitch, sometimes made by modern knotters by mistake: it readily reverts to a simple Half Knot, usually loose and so quite unsatisfactory.

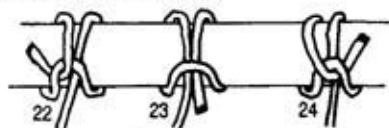


Knot (21) has the two turns taken sequentially on the same side of the standing part; only at the last is the end taken across both turns and tucked under the first from the indirect side. Tucks from the other direction or under the other turn collapse to a single Half Hitch or Overhand Knot, or to a non-knot. It can be considered as a two-turn Half Knot, better as a binder than a Half Knot alone, unsatisfactory as a hitch. Note the relation to (28) and (29), where the second turn overrides the Half Knot instead of lying beside it.



A similar series of knots can be obtained when the direction of the turns round the object is changed during tying. The most successful series changes direction between the first and second turns as shown here. Knots with the change of direction during the first turn, that is, knots starting with a bight, are tricky to make, unlikely

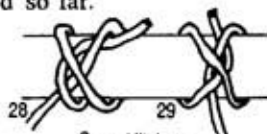
in the earliest days of knotting, and will not be considered further. When the direction is changed during the second turn, two tucks seem to be necessary to complete the knot; this takes the knots outside our terms of reference and, since the knots seem clumsy also, they also will not be considered.



Snug Hitches

Knots (22) and (24) are satisfactory hitches if the running ends are long enough; (23) is the Cow Hitch (#56), marginal as an ordinary hitch, though good if the load is shared between the two ends. (25)–(27) are unsatisfactory.

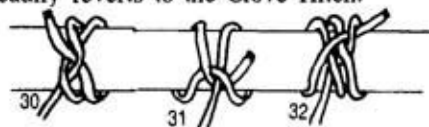
Other snug hitches that can be imagined as readily formed in the course of poking about with an end of a knotting medium have more tucks or more turns than those considered so far.



Snug Hitches

Thus Knot (28), the Strangle Knot (#1239), may be considered an extra tuck after (9), and (29), the Constrictor Knot (#1249), an extra tuck after (7). Because these knots are so readily made from simple one-tuck knots, it seems to us likely that both knots may well have been first tied very long ago.

Knot (30) can be tied direct using two tucks, but it can also be found by attempting to tie a Clove Hitch where one of the turns gets manipulated. It readily reverts to the Clove Hitch.



Snug Hitches

Knot (31) has one more tuck than (24), and is one of the Ossel Hitches, a good hitch when the core object is not much greater in diameter than the knotting medium (if it is, the knot is insecure).

Instead of increasing the number of tucks, one may consider taking extra turns. Perhaps the simplest three-turn, one-tuck knot is (32), the enantiomorph of the Net Line Hitch (#1246), a good binder or hitch.

ROUND LASHING

Of course, the binding of two long articles together, such as two poles to lengthen or strengthen them, or a long spearhead to a haft, a single binding knot such as already described, is insufficient.

It is possible to tie a series of binding knots along the objects, or, if a long enough length of knotting medium

is available, a Round Lashing (#2103, 2117) or the like is simple and effective.



Round Lashing

THE PREHISTORY OF KNOTS

When, How and Why Knotting Might Have Started

Charles Warner, Australia, and Pieter van de Griend, Netherlands

PART 3: Try Anything Once

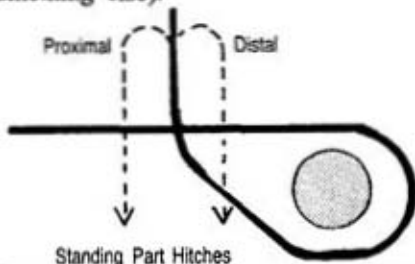
Section 3B: Standing Part Hitches

In Section 3A we put forward the hypothesis that the earliest people to tie what we called composite knots in Part 2 of this series would have placed their knotting medium in a position suggested by the purpose they had in mind for the knot, and then tried making a few tucks, twists or turns with the end until a satis-

factory knot was found. Section 3A contained some possible ways of tying binding knots and snug hitches in this fashion; here we continue with the hitches likely to have been tied when fastening a guy or something similar to an object.

STANDING PART HITCHES

These fasten a medium to an object (here imagined as roughly cylindrical) when the standing end is not used for tying the knot because it is either inconvenient or unavailable (e.g., already fastened to something else).

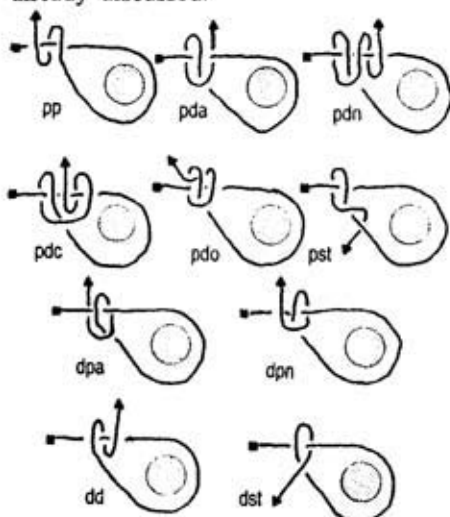


The running end is passed round the object and brought back to the standing part, making a first crossing. It is then

passed round the standing part, either towards (proximal, p) or away from (distal, d) the standing end, making a second crossing (see also the definitions in Part 2 of this series). It is possible to make good knots with these first two crossings the same (that is, placing a bight across the standing part), it is tricky and clumsy and unlikely to be attempted in the earliest times; such knots will not be considered here. We consider those knots where the arrangement is as in the diagrams, standing end to the left, object horizontal, the first crossing is over the standing part and the second below.

It is, of course, possible to take the turn round the object in the different

direction, and to make the first crossing of the opposite parity; these knots will not be considered any further; just remember that the total number of knots of this type possible within the constraints given should be four times those shown here, because of the various symmetries already discussed.



Standing Part Hitches

The first tuck is then taken along the proximal (p), distal (d) or subterminal (st) standing parts (see Part 2 for definitions). The **proximal-proximal** (pp) 'tuck' is more properly called a wrap or twist. The first three crossings are alternate (again, other arrangements are possible, but tricky to use and unlikely to be made early, and will not be considered here). In the **proximal-distal** (pd) and the **distal-proximal** (dp) tucks, the fourth crossing may be **alternate** (pda, dpa) or **non-alternate** (pdn, dpn); in the pdn tucks, the fifth crossing may be either in the distal direction (here referred to as simply pdn) or in the proximal, in

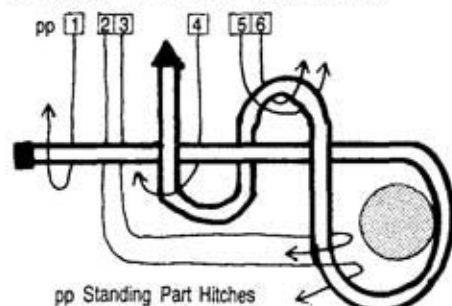
which latter case it may be either round the standing part (here called the **proximal-distal-clove**, pdc) or into the first bight (here called the **proximal-distal-overhand**, pdo).

These first tucks are not in general at all secure; at best they might hold a light steady load if the medium is sufficiently rough, adhesive or stiff. At least one more tuck is needed for efficiency. The next ten large diagrams show most of the second tucks that are possible. To make any of these knots, as before, start with the first tuck as shown by the heavy line and, using the running end, follow the chosen numbered arrow, taking care to make all crossings as shown, and work tight. In general, the final tightening is by pulling on the proximal standing part against the object and attached medium. In many instances the knot as first formed according to the diagram may be satisfactory under a steady load, but with only a little manipulation it converts either into a non-knot or into a stable form. The small separate figures show only these stable forms. In what follows, we have chosen to illustrate all those that are now found in the standard repertoire, together with some that appear to us particularly interesting.

Note that many of these knots, if released from the object, form efficient nooses (they all form nooses of some sort). Also, many of these knots could act as binding hitches if the proximal standing part is prevented from sliding through the knot either by protruberances (as in brambles), friction or stickiness, or by a knot tied with the proximal standing part such as a stopper knot, a Half Hitch

round the distal standing part or a Half Knot or Reef or Granny Knot tied with the running end.

Proximal-Proximal (pp) Hitches



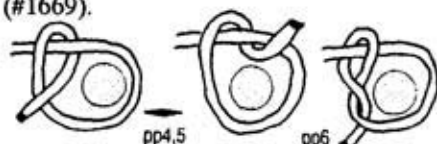
pp Standing Part Hitches



pp Standing Part Hitches

In knot pp1, the tucks should strictly be called wraps, and need something to hold things together, either a stiff rough medium or further manipulation, as to form a Binder Knot (#245).

Knots pp2, pp3 are not very satisfactory without further tucks. In fact they form starts to S and Z forms of the Figure Eight Hitch with Round Turn (#1669).



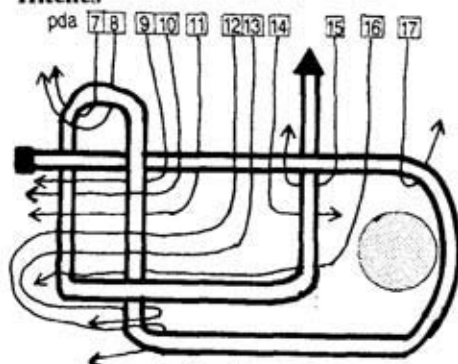
pp Standing Part Hitches

Knots pp4 and pp5 quickly convert to an S-Half Hitch (#50) or an S-Half Knot (#47). If the knot is removed from the object, it collapses to an S-Overhand Knot (#515).

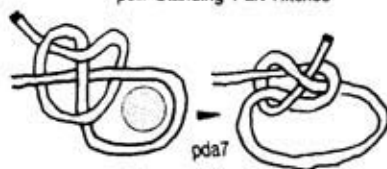
Knot pp6 converts to the start of an

S-Figure Eight Timber Hitch (#1668). If the knot is removed from the object, it collapses to a Figure Eight Knot (#520).

Proximal-Distal-Alternate (pda) Hitches



pda Standing Part Hitches



pda Standing Part Hitches

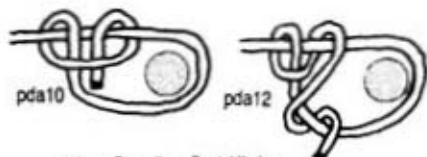
Knot pda7 forms a Crabbers Eye (#1987); the appearance of this knot might inspire the formation of a Marling Spike Hitch (#2030). The Crabbers Eye can be 'locked' by capsizing to a sort of transverse bowline, most readily if removed from the object.



pda Standing Part Hitches

Knots pda8, pda9, pda11 convert to a Z-Half Hitch Noose or a Z-Overhand Noose (#1114).

Knots pda10, pda 14 form Lobster Buoy Hitches (#1714), a good jamming



pda Standing Part Hitches

noose. Knots pda12, pda13 are starts to Z- or S- variant Timber Hitches; that from pda12 seems more secure.



pda Standing Part Hitches

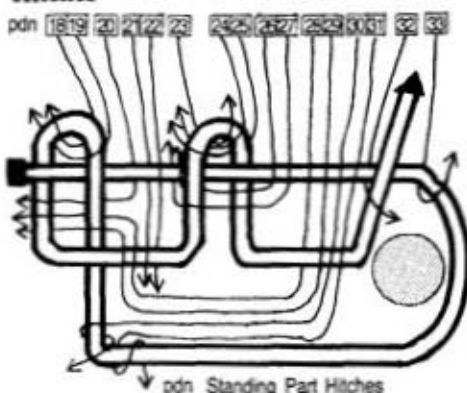
Knot pda15 is a secure jamming noose; note the basic similarity in structure to the Harness Bend (#1474); pda16 is somewhat similar.



pda Standing Part Hitches

Knot pda17 is a variant of a Half Knot, making a good hitch for a steady load.

Proximal-Distal-Non-Alternate (pdn) Hitches



pdn Standing Part Hitches



pdn Standing Part Hitches

Knots pdn18, 19 are satisfactory jamming nooses; pdn20, pdn28 readily convert to pdn18.



pdn Standing Part Hitches

Knots pdn21, pdn22, pdn29 are secure nooses that jam lightly; pdn32 readily converts to pdn21, pdn25, pdn27 to pdn22.

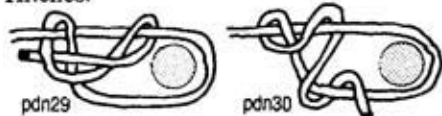


pdn Standing Part Hitches

Knot pdn23 is a secure though clumsy noose. Knot pdn24 and pdn26 readily convert to the Buntline Hitch (#1711), a secure jamming noose.

Knots pdn30, pdn31 are analogous to

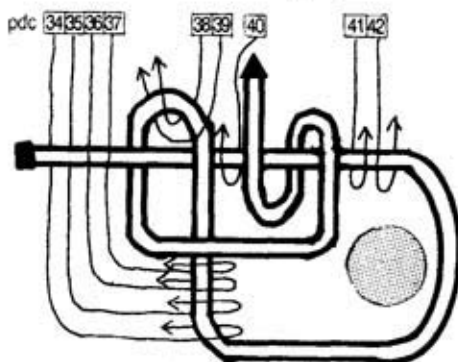
pda12, pda13, starts to variant Timber Hitches.



pdn Standing Part Hitches

Knot pdn33 is a variant of the Surgeons Half Knot, analogous to pda17.

Proximal-Distal-Clove (pdc) Hitches



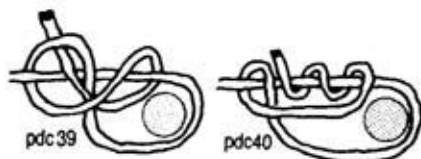
pdc Standing Part Hitches

Knot pdc itself is the same as pdn24, the Buntline Hitch (#1711).

Knots pdc34-pdc37 are Buntline Hitches with the running end tucked into the subterminal standing part; pdc41, pdc42 have an extra tuck round the distal standing part; none of these knots seem much advantage over the Buntline Hitch alone.

Knot pdc38 collapses to an Overhand Noose (#1114), as pda8.

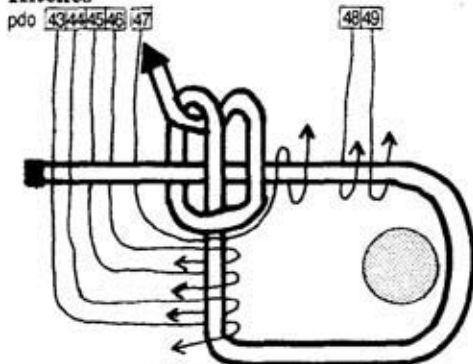
Knot pdc39 is a secure but rather clumsy hitch.



pdc Standing Part Hitches

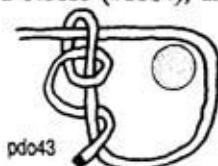
Knot pdc40 could be called a reversed Magnus Hitch (#1230).

Proximal-Distal-Overhand (pdo) Hitches



pdo Standing Part Hitches

Knot pdo itself readily converts to the Overhand Noose (#1114), as pda8.



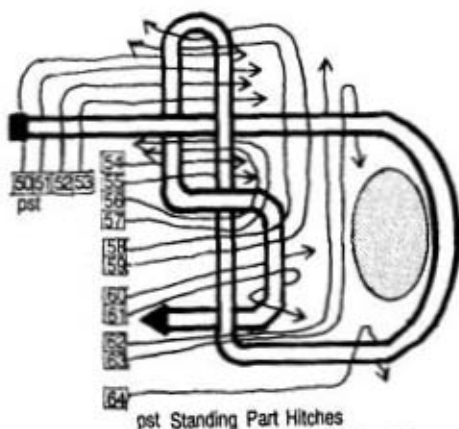
pdo Standing Part Hitches

All the knots in this series are just a little more secure than pdo alone. Knots pdo43 to pdo46 can be manipulated into starts to variant Timber Hitches.

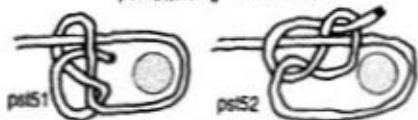
Proximal-Subterminal (pst) Hitches

Knot pst is the same as pp6.

Knot pst50, pst54, pst60 convert to the Overhand Noose (#1114), as pda8.

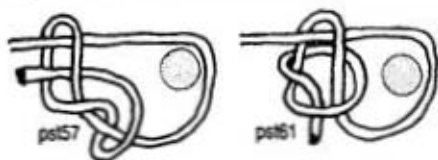


pst Standing Part Hitches



pst Standing Part Hitches

Knots pst51, pst53, pst55, pst56, pst58 readily convert to a kind of Figure Eight Noose. Knot pst52 is a jamming Figure Eight Hitch, a variant of #1116

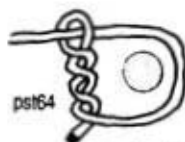


pst Standing Part Hitches

Knot pst57 is a Figure Nine Noose (based on #521); pst59 converts to it. Knot pst61 readily converts to a Running Overhand Noose; this can be manipulated to a Crabbers Eye (#1987), as pda7.

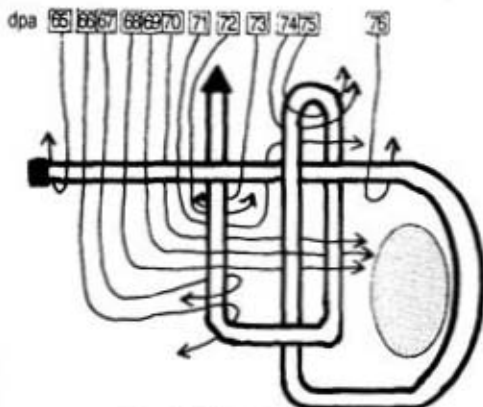
Knots pst62, pst63 are clumsy variants of pp6, reasonably satisfactory hitches under steady load.

Knot pst64 is the S-form of the Figure Eight Timber Hitch (#1668).



pst Standing Part Hitches

Distal-Proximal-Alternate (dpa) Hitches



dpa Standing Part Hitches

Knot dpa itself is a Half Hitch, equivalent to pp4.

Knot dpa65 is a twist, a little more stable than pp1.

Knots dpa66, dpa67 are not very secure but might hold in rough media.



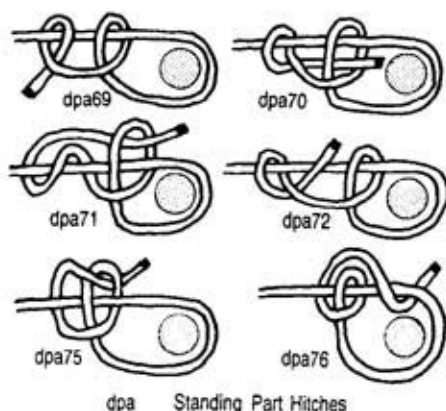
dpa Standing Part Hitches

Knots dpa68, dpa74 readily convert to an S-Half Hitch or Overhand Noose, enantiomorphs of pda8.

Knots pda69, dpa73 convert to the Reversed Half Hitches (#57).

Knots dpa70, dpa71, dpa72 convert to jam hitches, the reversed forms of

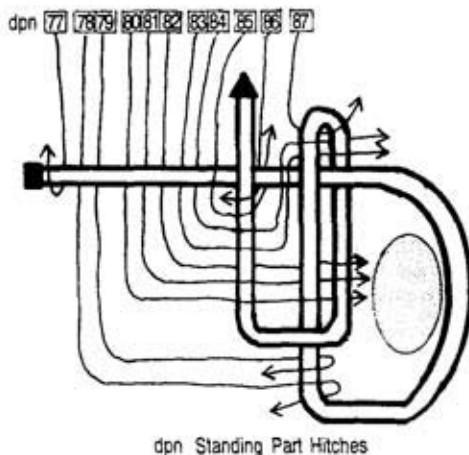
pda16, pda18 and pda15 respectively.



Knot dpa75 is the Z-enantiomorph of pda7, the Crabbers Eye (#1987).

Knot dpa76 is a more secure variant of the Half Knot, pp4.

Distal-Proximal-Non-Alternate (dpn) Hitches

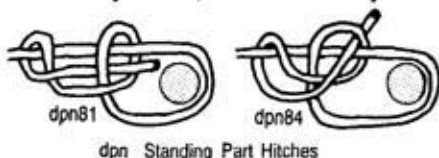


Knot dpn itself is a Half Hitch, as pp4. Knot dpn77 is a twist that needs to be held in place; it is a little more secure than pp1.

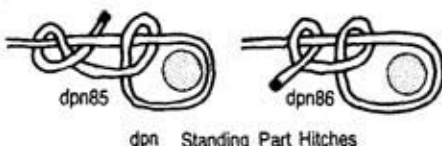


Knots dpn78, dpn79 could be considered starts to variant Timber Hitches, analagous to pdo43, pdo44.

Knot dpn80 readily converts to a satisfactory noose, the reverse of pdn22.



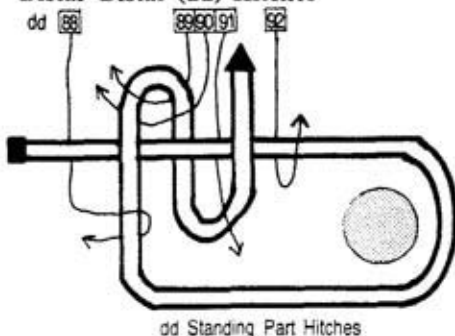
Knots dpn81 and dpn83 convert to nooses, the reverse of pdn29; dpn84, dpn85 convert to nooses, the reverse of pdn19, pdn27.



Knots dpn82, dpn87 convert to as S-Overhand Noose (#1114), as dpa 68.

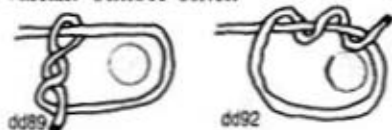
Knot dpn86 forms Two Half Hitches (#54).

Distal-Distal (dd) Hitches



Knot dd itself is a Half Hitch or Half Knot, as pp4, pp5.

Knot dd88 converts to dpn78, start to a variant Timber Hitch



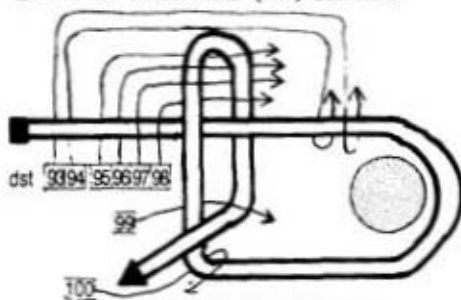
dd Standing Part Hitches

Knot dd89 converts to a Timber Hitch (#1665).

Knots dd90, dd91 are unstable and collapse to non-knots.

Knot dd92 is a Surgeons half Knot (start of #1209).

Distal-Subterminal (dst) Hitches



dst Standing Part Hitches

Knot dst itself is a Half Hitch or Half Knot, similar to pp4, pp5.



dst Standing Part Hitches

Knot dst93 and to a less extent dst94 are more secure than a simple Half Hitch.

Knots dst95, dst98, dst99 convert to S-Overhand Nooses, as dpa68.

Knot dst96 is the Z-form of the Crabbers Eye (#1987), as dpa75.

Knot dst97 is unstable and collapses to a non-knot.

Knot dst100 is a Timber Hitch (#1665), as dd89.

Next time we go on to consider Stopper Knots and Bends and Loops, bringing this part of our study to an end.

THE PREHISTORY OF KNOTS

When, How and Why Knotting Might Have Started

Charles Warner, Australia, and Pieter van de Griend, Netherlands

PART 3: Try Anything Once

Section 3C: Stopper Knots, Bends and Loops

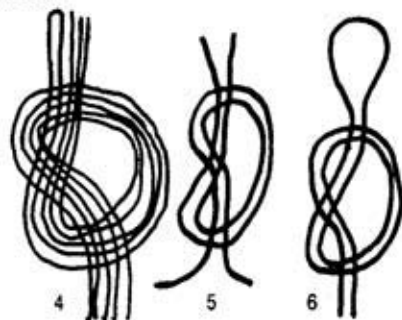
STOPPER KNOTS AND DERIVATIVES



Stopper Knots and Derivatives

Tendrils of creepers and the like sometimes form Overhand Knots (1) in mid-air, or Half Knots (2) round objects; tendrilous sea-weeds sometimes form Overhand Knots in the water. Figure Eight Knots (3) are much more rare, but have been found. So when early people started to use fibrous media as fastenings they would have natural models for a simple knot at the end of a medium that would prevent the end fraying, or provide a knob to aid grip or prevent passage through a narrow opening; even without natural models, making an Overhand Knot for these purposes would seem a natural move; a Figure Eight Knot could sometimes be made by mistake. Once relatively long and flexible media were available and in use, so that tangles would have arisen, both knots would have been found relatively frequently, as

well as more complex tangles more rarely. The Overhand and Figure Eight Knots are also found when the object is removed from some snug hitches and others.



Stopper Knots and Derivatives

Early media could not always be found in the sizes needed. Using several media in parallel is one obvious way of obtaining stronger media, and, by analogy with the use of Overhand Knots to prevent fraying, Overhand Knots would have been used to unite the parallels as in (4). Mostly, only ends would protrude from the knot, suggesting (5), a simple Overhand Bend (#1410), but sometimes

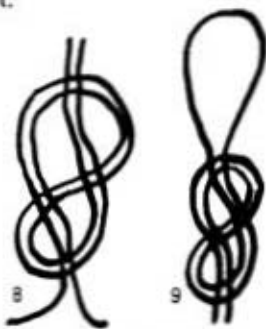
a loop might protrude from (4), serving as a model for (6), an Overhand Loop (#1046).



Stopper Knots and Derivatives

Early knotters would readily appreciate the advantages of entangling or trapping animals over hunting them; the idea of a noose, a sliding loop, would come from natural entanglements. It is easy to tie an occasional Slip Overhand (7) in the course of tying Overhand Knots as stoppers in awkward circumstances, and this may well have been how the first nooses were made. This Overhand Noose (#1114) might at first have been made by using a bight of the standing part as one end, resulting in parallel piercing of the central space of the Overhand. It is expected that it would soon have been

made by poking the standing end through the central space of an Overhand in the running end; this could produce either parallel or transverse piercings. Of course, Overhand Nooses also arise in the course of tying several of the Standing Part Hitches in that section) and this could have been the initial source of the knot.



Stopper Knots and Derivatives

Figure Eight Bends (8) and Loops (9) may well have been rarer and later in the development of knots.

BENDS AND LOOPS

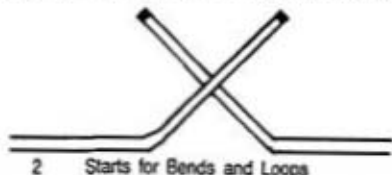
The need for bends to lengthen a piece of medium or to join the two ends in a circle would have arisen soon after the use of a medium became at all common. To join two knotting media, the obvious starts are end to end (1), with crossed ends (2) or with parallel ends (3).



Starts for Bends and Loops

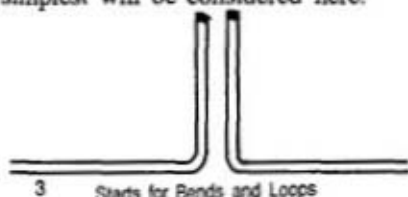
Most end to end starts to bends (1), and nearly the only ones considered here, have each running end making some kind of knot round the other standing part.

The two knots may be the same or different. In many of these bends, the two knots can be slid apart, shortening the combined media and making an adjustable bend; we rather doubt if this property was ever used to any extent.



Crossed end starts (2) are the most versatile, but most of the resulting bends are

relatively complex and unlikely to be found among the earliest knots; only the simplest will be considered here.



Parallel starts (3) can produce the simplest bends, such as a stopper knot tied in the two media together (see the section on Stopper Knots and Derivatives) but otherwise the knots with this start are relatively complex, at least in algorithm (e.g., some types of Weavers Knots), and will not be considered here.

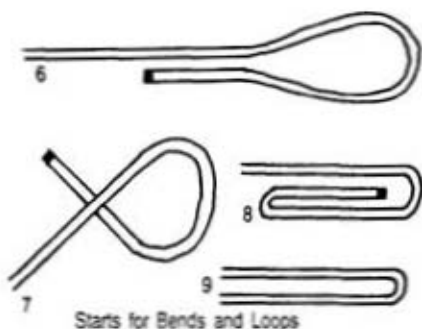


When one medium is thick or stiff and the other thin or flexible, they can be bent together using a suitable Snug Hitch in the thin medium on the thick one as object (4).



Sometimes, one medium can be held as a bight or loop (5) and the other bent to it. A special case of this kind will be considered as the Trapped End Start.

Loops may be imagined as formed from bends by uniting the running end of one medium with the standing end of the other. This means that the algorithms used to tie these loops can be very similar to the algorithms to tie the corresponding bends.



Thus the starting positions of the bends, (1), (2) and (3) have corresponding starting positions for loops, (6), (7) and (8) respectively; (9) shows the start for the loops analogous to the simplest bends mentioned above (section on Stopper Knots and Derivatives).

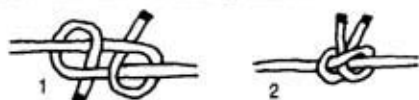
Indeed, one can regard a loop not only as a loop with appropriate ends joined but also as a fixed hitch of a running end on to its own standing part. Because the development of hitches and bends probably preceded that of loops, these relations could have played a part in the development of the earliest loops.

Most of the knots considered below work equally well as bends or loops.

END TO END STARTS

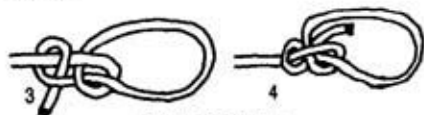
In these knots, the running end of one medium is used to tie a knot round the subterminal standing part of the other medium, then the running end of the second ties a knot on the standing part of the first. The two knots are often identical, or perhaps (usually by accident) identical except for a change in direction of twist or the like; or they may be completely different. Many basic knots have

been used at times to form this kind of bend or loop, but here we will consider only the simplest, that were also probably the earliest, the Half Hitch, the Crossing Knot and the Overhand Knot.



End to End Starts

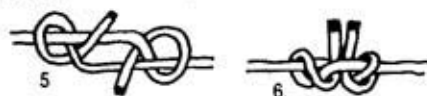
Half Hitch. The simplest knot of this kind is easiest to tie with stiff media. Knot (1) has the two Half Hitches of the same direction of twist; under load, it capsizes to the form (2). This has been called the Grass Knot (#1490), which suggests it would hold well with rough and stiff media, such as would have been used early. When tied in smooth flexible media it will not withstand variable loads. If the directions of twist of the two Half Hitches differ, the knot is much less secure.



End to End Starts

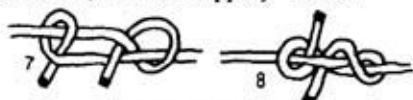
Tied as a loop (3,4), it works best with a steady load distributed more or less evenly between the two legs of the loop, but would probably be quite efficient in rough, stiff media. Note that the start of this knot (have a Half Hitch in the standing part, then insert the running end into it) is the usual start to tying a Bowline. Could the Bowline have been first tied in some culture by someone trying to improve on (4), or even just poking the end into the wrong place by mistake?

Crossing Knot. There is no generally agreed name for this element of structure. It has been called a Crossing knot (see #1420), by analogy with #1171, 1172, or a Backhanded Hitch (best seen in #1726). It is a little more tricky to tie than a Half Hitch.



End to End Starts

When two Crossing Knots are used (5), the knot pulls tight as in (6), called a Double Harness Bend (#1420) by Ashley or a Wire Knot by some others, indicating its modern uses and the kinds of ancient media it might have been used with. It doesn't seem to matter whether the two Crossing Knots have the same or different twists. The loop is quite tricky to tie, though it seems satisfactory; maybe it would not be attempted except by someone familiar with the bend. Knot (5) is the first member of a series with increasing numbers of turns round the standing parts: the next member is called a Barrel Knot (#1413), and recommended for 'small, stiff or slippery' media.

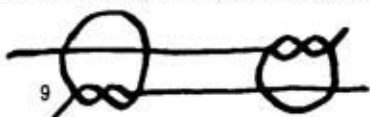


End to End Starts

A knot that is a little less tricky to tie starts with a Crossing Knot on one end and uses a Half Hitch on the other (7, tightened to 8); this is the Harness Bend (#1474). As with the Grass Knot, the knot with Crossing Knot and Half Hitch of differing twist is insecure.

Overhand Knots. Knot (9) uses

Overhand Knots; when the piercings are parallel and, usually, the knots are of the same twist, this is the well-known Fisherman Knot (#1414) or, in loop form,

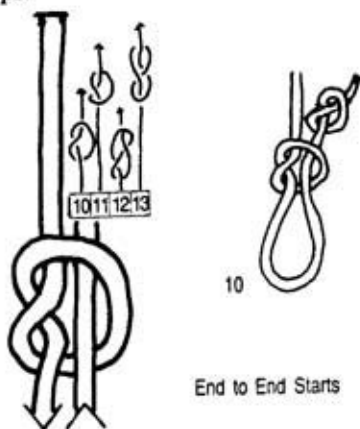


End to End Starts

the Fishermans Loop (#1022, or with different twists, #1038). Transverse piercings will give knots that are less tidy and might jam more readily when made in flexible media but are likely to be nearly as efficient.

An initial Overhand Knot on one end is commonly used with a whole series of bends or (more usually) loops using other knots on the other end. Four series will be considered, all using only one tuck after the piercing of the Overhands, and using stoppers, simple tucks, Half Hitches and Crossing Knots as the second structural element.

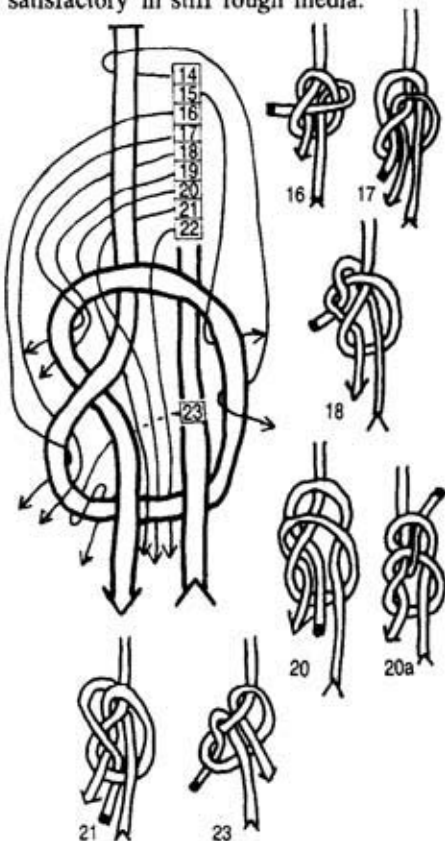
Overhand and Stopper. We have seen this system used in modern times only in loops.



End to End Starts

Knot (10) is the Department Store Loop (#1018) or Farmers Halter Loop (#1023); the partial enantiomorph knot (11) is the Halter Hitch (#258).

Overhand and Tuck. Knots 14, 15, 19, 20, 22 are not very secure when tied in modern ropes, but may well have been satisfactory in stiff rough media.



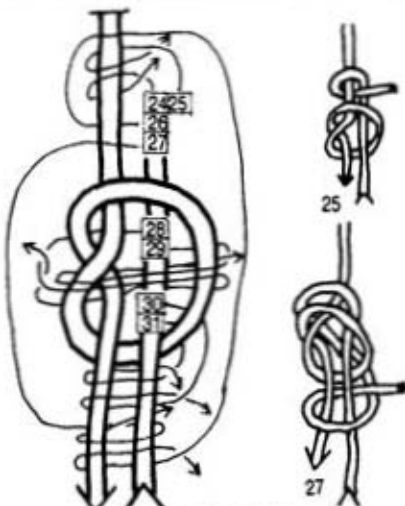
End to End Starts

Knots 16, 21, 23 are clumsy but adequate; knots 17, 18 satisfactory.

Knot 20 is interesting to modern knotters; it is not very secure by itself, but an extra tuck as shown in (20a) is

one of the few knots that have been patented. US Patent No 4 711 476 was issued in 1987 to Alden W Hanson for several related bends, loops and nooses, one of which is knot (20a). This is such a simple knot, formed by only one fairly obvious extra tuck from an insecure predecessor, that, it seems to us, it has quite likely been 'invented' on quite a number of independent occasions over the millennia. If it hasn't persisted, it is likely because it is a slightly complicated knot that has no advantage over several other simpler similar knots.

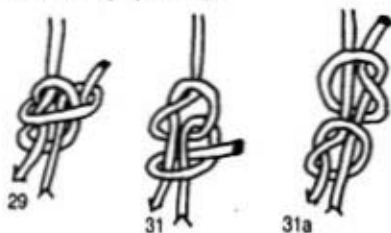
Overhand and Half Hitch. The Half Hitch is above the Overhand in the simplest knot in this series (24 or 25).



Knot 25 with the Half Hitch of opposite twist to the Overhand is sometimes said to be more secure than (24), with the same twist. (25) as a bend is the Marline Hitch and Half Hitch (#1477), and as a loop the Eskimo Bowstring Loop

(#1019).

The Half Hitch is around the Overhand in knots (28), (29) or below it from a direct lead in (30), (31) or after a turn above the Overhand in (26), (27). Knot (31) in loop form is the Adjustable Leader Loop (#1021),



End to End Starts

Note that (27) or (31) can be manipulated into each other, or into (29) by moving the Half Hitch upwards over the Overhand, after a little manipulation for (27); if the Half Hitch is further moved upwards above the Overhand, it capsizes to another Overhand (31a) of opposite direction of twist to the initial one, as a Fishermans Loop (#1038) or Knot (#1414 enantiomorph. Similarly, (26), (28) or (30) can be interchanged or manipulated into a Fishermans Loop or Knot of the same twist.

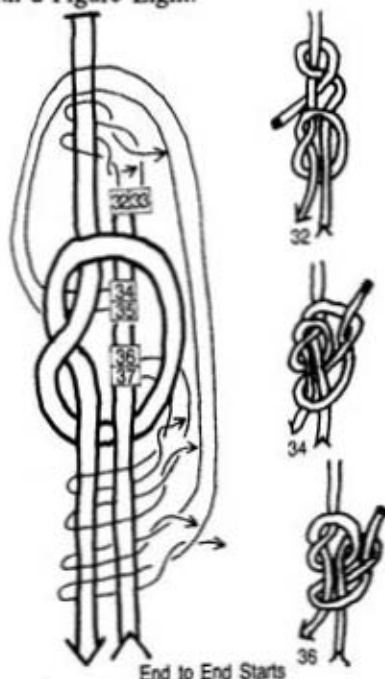
Knots (26), (28), (30), (31) are shown with the Half Hitch enclosing both leads out of the Overhand; this is more secure than the knots with the Half Hitch enclosing the standing part alone.

Overhand and Crossing Knot. These form a similar series of knots with the Crossing knot replacing the Half Hitch.

Those illustrated, (32), (34), (36) have the direction of twist of the Overhand and Crossing Knot the same, while

it is different in the others. All seem to be satisfactory bends or loops.

Note that Knots (36), (37) can be considered as an Overhand interlinked with a Figure Eight.



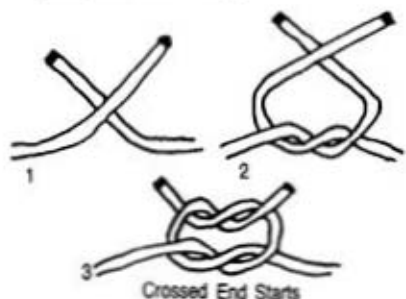
End to End Starts

As before, (34) can be manipulated to (36), or (35) to (37). If the Crossing Knot is manipulated above the Overhand it rather clumsily becomes an intermediate between the Fishermans Knot and the Double Figure Eight Bend (#1416).

CROSSED END STARTS

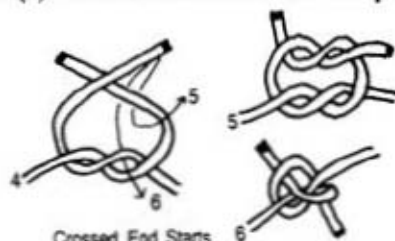
Simple knots with this start are rare except for the ubiquitous Reef/Granny series (see also Binding Knots section). The simplest has both crossings the same (1,2,3) to form a Granny Knot (#1405). As stated before, both the Granny and

the Reef would probably make satisfactory bends when made in the rough, stiff media likely to have been used in the early days of knotting.



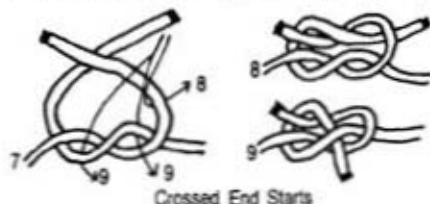
Crossed End Starts

The Granny Knot (4) is often tied by tucking the end into the space as shown in (5). If the end is tucked into the spine



Crossed End Starts

of the first Half Knot, as shown in (6), the Single Carrick Bend (#1445) is made. If the second tuck in (2) is made with the

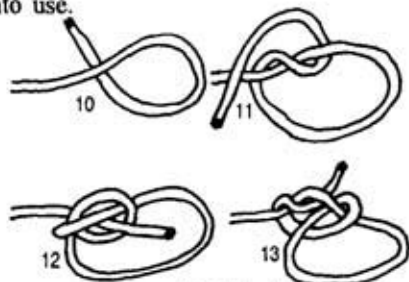


Crossed End Starts

opposite twist (7) and the end tucked into the space (8), a Reef Knot (#1402) is formed, but if it is made into the spine as in (9), we get an Oblique Sheetbend (#1432).

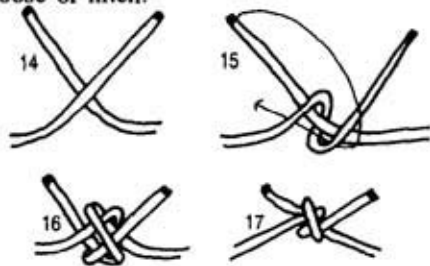
These moves (6) or (9) seems to us

quite possible as serendipitous mistakes when trying to make Reef/Granny Knots under inconvenient conditions; if recognised, two more useful bends could come into use.



Crossed End Starts

Making loops from crossed end starts is a little more tricky. The Granny Loop is shown in (10) - (13); it is likely to have been an adequate loop made in early media. It can, of course, be capsized to Two Half Hitches (#2553), a noose or hitch.



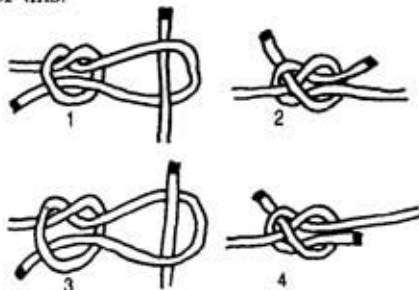
Crossed End Starts

A knot, now unusual, that looks as if it might have been developed from brief experimentation is shown in (14) - (17). One medium makes a turn round the other (15), then the second makes a turn round the first, interlocking with the first turn (16). The knot and its corresponding loop seem to be reasonably functional for use with many of the likely early media if drawn tight carefully (17). The knot is reliable in soft flexible media, but in stiff

media it can capsized to a Granny. Similar knots can be made by making the first turn (15) to the left instead of the right, and the second turn (to 17) either the same or different.

Trapped End Starts.

As already stated, Slip Overhands or Overhand Nooses can sometimes be found in entanglements of flexible knotting media, and sometimes an end can get trapped into that loop. This can then be readily capsized into useful knots by pulling on the appropriate end. It seems to us quite likely that such manoeuvres could well have occurred several times over the ages. Some insight might have been needed to recognise the utility of this.

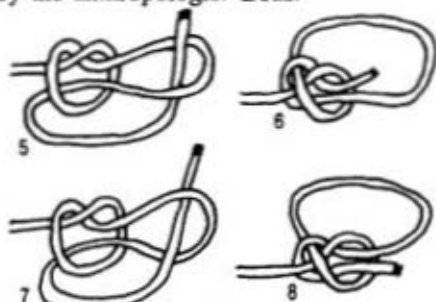


Trapped End Starts

Possibly the simplest knots found in this way are the bends formed by getting the end of one medium trapped in the loop of a Slip Overhand in another. If the entrapment is as (1), the result of capsizing is the Direct Inverse Sheetbend (2), if as (3), and Oblique Inverse Sheetbend (4). These are satisfactory bends in most media.

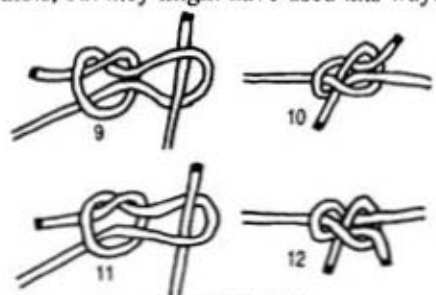
When the Slip Overhand has a long running end which gets entrapped in the loop, as in (5) or (7), we get the Direct

(6) or Oblique (8) Inverse Bowline. This Inverse Bowline was named the Boas Bowline by Geoffrey Budworth in *Knotting Matters* #27, p 9 (1989) from its occurrence in Inuit artefacts collected by the anthropologist Boas.



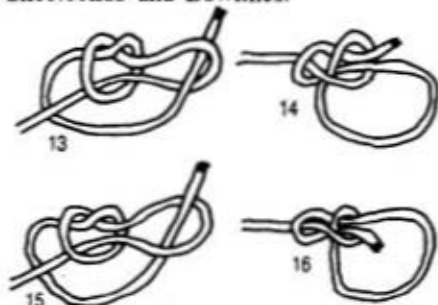
Trapped End Starts

We do not know how the Inuit tied their knots, but they might have used this way.



Trapped End Starts

We need to start from the Overhand Noose to get the better-known ordinary Sheetbends and Bowlines.



Trapped End Starts

In this way, one obtains (10) and (12), the Oblique (#1432) and Direct (#1431) Sheetbends or (14) and (16), the Oblique (#1034½, 1783) or Direct (#1011) Bowlines respectively.

CONCLUSIONS

We believe that we have shown that it is possible to obtain a large number of simple but satisfactory knots starting from knotting medium positions suggested by the desired function and making a very small number of tucks in one way or another. No special manipulative skill or cognitive insight is needed for any of

these knots, though their recognition and appropriate repetition would presumably require a moderately developed cognition.

Virtually every person who has ever lived in the world must have tied knots, or had knots tied for them many times just about every day of their lives from a period of at least tens or hundreds of

thousands of years ago until quite recently. Only now is it possible to go through life without knots, though in fact even now very few people avoid them altogether. Very many millions of millions of knots must have been tied over the world, and we regard it as near enough certain that every knot described here, and many more different ones, has been tied, probably many times, by someone or other, somewhere in the world, at some time over the ages. We cannot say that the knots were developed in the ways described here, or even that all were first made by chance; and indeed at some stage some special knotting cognitive powers must have developed to make a purely trial and error process unnecessary.

Somewhere round a quarter or a third of the knots described here are listed in *The Ashley Book of Knots*; a fair number are listed in other places; a few are likely to have been unsatisfactory in most media. This leaves a significant number of

satisfactory knots that do not seem to have been published in any readily available source known to us. Nevertheless, they are so simply made that they surely must have been tied by someone. And so must a very large number of other simple knots.

Consequently we do not feel that anyone these days is justified in claiming to be the first person ever to have tied any knot other than the most complex. But it is quite possible to be the first person to publish even quite simple knots, and very possible to be the first to publish in a readily available book or magazine in the English language.

In Part 4 of this series we look at some of the knots that have actually been found in ancient material, and some of those tied by traditional peoples little influenced by modern knotters, to see if there is any evidence relevant to our hypothesis.

FURTHER READING

We have said that we do not expect that any one of the earliest knotters to have been anything like as systematic and comprehensive in attempting all possible knots of particular kinds as we have been. Indeed, few modern knotters have published such studies.

George Russell Shaw in *Knots Useful and Ornamental* (1924, 1937, Houghton Mifflin) analysed a series of knots that included the Reef, Sheetbend and Carrick Bend. Ashley certainly tried out quite a

number of 'new' knots that he had not seen elsewhere, but there is little in his book to suggest that he was deliberately systematic and comprehensive. Harry Asher in *A New System of Knotting*, Vols 1 and 2 (1986, IGKT) and in *The Alternative Knot Book* (1989, Black, London) made fairly comprehensive studies of linked Overhand Knots and some other bends and loops, and Roger Miles in *Symmetrical Bends* (1995, World Scientific, Singapore) made a

systematic mathematical study of some bends, but there do not seem to be any other books of this kind.

Both the present authors have written briefly on some limited series of knots, both in 1992, both self-published. Pieter wrote on snug hitches of the strangle-clove-constrictor series in *A Letter to Lester*, and both Pieter (*Knots and Rope*

Problems) and Charles (*A Fresh Approach to Knotting and Ropework*) on knots of the Bowline-Sheetbend series.

Anyone interested in the production of 'new', that is, presumably unrecorded knots, should consider a systematic search, rather than purely random. Some insight might be needed to select an interesting starting point.

A Member's Profile

Mick Jarman, Luton, UK

I first started tying knots when I joined the TS Arethusa more years ago than I care to remember. Having them knocked into my head by Freddy Fuller (The Whizz) usually by the back end of a tiller. He was so popular that when he retired he opened a shop selling foreign stamps that ex 'Arries' had put on the letters sent to him and saved over the years.

Then followed five years in the Royal Navy, on my discharge I joined the scouts as a leader having been a Deep Sea Scout during my time in the Royal Navy. I am now in the Scout Fellowship having been connected with the scouts for

almost 40 years, trying to teach boys and leaders knots, bends and hitches.

Currently I'm employed installing refuse chutes and liner chutes around the world, so I get little time for AGMs etc, I do though, take knot books with me to pass the time in the evenings or alongside the pool each weekend.

from: IGKT/KN Pacific Americas Branch, Pieter van de Griend of Terneuzen, Netherlands announces a new Web Site, the on line edition of his *Het Knoope Knaumertje*. The address is
<http://www.euronet.nl/users/vdgriend/homepage.htm>

A Book Review
Climbing Knots for Lefties
and Righties

by Michael Noonan

This 9 x 6 paperback book of 138 pages attempts to address the problem that left-handed folk might have, when trying to follow knotting illustration and instructions intended for right handers.

As the title suggests, the emphasis is on climbing knots with instruction on proper knot selection for the task. It accepts that there may not be a perfect knot for every occasion, but that a knowledge of knots and their uses can help select the optimum knot for an occasion from one's repertoire. With this in mind it describes about 40 knots, their application and how to tie them, introducing them at the appropriate points in the relevant chapters.

Following the general patten of this book it starts by discussing the different ropes and materials, and introduces a few basic knots. It then proceeds to anchors, knots for anchors, self

equalising anchors, and back-up. Belaying has its own chapter, followed by mainline knots. Harnesses and slings are covered next and we eventually reach descending, with its attendant problems. We moved away from knots for a chapter on tackles and the book concludes with base camp knots, or generally useful information for everybody.

It is not a book on climbing techniques, purely on knots and ropework, but it does explain quite well how and why the knots are selected and used.

Will it help Lefties? The illustrations show both left and right layouts for the knots although the left diagrams are slightly smaller and not so bold. Generally I think that the book does succeed in its aim as the pictures are drawn very clearly for both 'hands' and you follow the pictures while the text explains the uses of the knot.

My only little quibble is with the illustration drawn to show how to tie the sheet bend. In order to distinguish between the 2 ropes, one is shown considerably thicker than the other. For both the left and right illus-

trations, the thin cord is used for the U loop, while the thick cord comes up, round and out in direct contravention of the effective practice. Interestingly, the preceding knot is the double sheet bend and this is drawn correctly.

Overall I would say that it is a handy addition to a climbers bookshelf and might help the odd knotter when a lefty asks for help.

Published by ICS Books Inc, Merrillville, Indiana, 46411. \$16.95. It is available from The Outdoorsmans Bookstore, 27 Monument Park, Charlgrove, Oxon. OX44 7RW for £12.99+pp. ISBN 1-57034-053-6, it was published in 1997.

Knot Names by Jack Fidspike

'Each planet, each plant, each butterfly, each moth, each beetle, becomes doubly real to you when you know its name'

*(John Cowper Powys,
English Novelist, 1872-1963)*

Some of us unsure what to call the results of our finger-craft. I mean, is there any real

difference between a footrope knot and a diamond knot? Creative knotsman Charles H.S. Thomason, of Cairns in Queensland, Australia, once gently put a query of mine in perspective when he wrote; "I don't know what they're called. I just tie them." Clifford Warren Ashley, who seems to have come up with quite a few knot names for his 1944 *Book of Knots*, justified himself thus; "It is hardly necessary to name a knot, but it assists materially in finding it a second time."

Some names suggest a knot's appearance (figure of eight, Turk's head, round turn and two half hitches); others indicate function (knife lanyard knot, bale sling hitch, pole lashing); a few (Chinese button knot, Flemish bend, Portuguese and Spanish bowlines) hint - often wrongly - at a knot's country of origin. Names can be nice (Alpine butterfly) or nasty (strangle knot). a lot indicate trades or pursuits (surgeon's knot, stevedore's knot, wagoner's hitch, fireman's chair knot); and 20th century knots tend either to be named after their discoverers and promoters

(Hedden, Prusik, Tarbuck) or, recently, to have whimsical names (clinging Clara, simple Simon, tumbling thief).

There are odd inconsistencies, too, that make sense only when the underlying reason is known. The fisherman's (or anchor) *bend* and the gaff topsail hal-yard bend are actually hitches-but, obeying a verbal quirk, old-time sailors always *bent* a line to ring or spar. The ossel knot, too, is a hitch (only there is already an ossel hitch), while the fisherman's knot is actually a *bend* but anglers-who recognise bends or hitches aboard their boats-talk only of knots in fishing tackle. Publishers unfamiliar with knots print the occasional howler, such 'bite' (when it should read 'bight'), my favourites being: grand line hitch (ground line hitch); and marlene's hitch (marline hitch).

A few knots have over the years acquired more than one name. Perhaps the most amply endowed in this respect is the fisherman's knot, which can still be found in print as the angler's knot, English knot, Englishman's knot, halibut knot, true-lover's knot, water knot

and waterman's knot. As the late, much missed, Desmond Mandeville poetically put it, '... but worse than those (knots) that have not any (names), some knots there be that have too many'

Ed: what an old know all you are Jack, so much related knowledge.

A Couple of Short Pieces by John Halifax

The Gordian Knot

In 1997 whilst discussing knots, an unknown person said 'Oh like a Gordian Knot'. In my ignorance I replied 'Yes'. I researched in my Reader's Digest 'Oxford Complete Word Finder' and extracted the following definition:

'A Gordian Knot'

An intricate, difficult problem or task.

'Cut the Gordian Knot'

To solve a problem, by force or evasion.

'Gordius' 'King of Phrygia'

Tied an intricate knot and defied people to undo it, and it was eventually cut undone by Alexander the Great. ie by force and evasion.

On 18 July 1998 I was watching a documentary 'In the footsteps of Alexander the Great'. When much to my surprise the town of Gordian in Central Turkey was featured as the actual place of the legend of: Untying the Gordian Knot. Believed to have been a Turk's Head type binding knot with the ends buried inside used for securing the yoke handle to the shaft of a cart.

Is this the Fastest Bowline

A Bowline in one continuing flowing movement. Holding your line about 50mm from one end; make a bight/loop with the

other hand in the standing part. Using the Lorry Driver's Dolly Hitch method, make Half a Sheepshank and as the bight/loop appears out of the Half Hitch of the Half Sheepshank, just pop it over the Short End. Hey presto, a Bowline. Another alternative method is to make a Slipped Overhand Knot or Marlinespike Hitch and just pass the other end through the bight and Pull/Snatch into a Bowline.

**Examples of tying
Turk's-Heads
using *The Disk Method*
(Ashley # 1362)**

**Mike Wilson
Alexandria, Virginia, USA**

I am not introducing a new knot, bend or hitch. Amen. However, I will show how to make Turk's-Heads that you thought were impossible. The last illustration is a knot chart for a Turk's-Head with Five-Leads and Eight-Bights (5L X 8B).

The purpose of this letter is to present examples of tying Turk's-Heads using Ashley's Disk Method, knot #1362.

I have concluded, after reading Ashley, that there are only two ways to make a Turk's-Head knot. The first, is the traditional, around-a-cylinder way. The second way is by using a direct method. There is no lack of literature devoted to the traditional way. For instance, I learned to tie traditional Turk's-Heads by following the instructions and illustrations in the book, *The Art of Knotting and Splicing*® by Cyress Lawrence Day.

In the text for the TURK'S-HEAD OF FIVE-LEADS, Day states, "*Five-lead knots of 2,3,6,7 or 8 bights are made direct.*" This is worth repeating, Turk's-Heads of five-leads and eight-bights (5L X 8B) are made direct. Unfortunately, Day doesn't illustrate a direct technique. Albeit, the only description of a direct method seems to be The Disk Method, knot # 1362, in Clifford Ashley's book, *The Ashley Book of Knots*®.

In order to tie a Turk's-Head using the Disk Method you will have to construct a pattern known as a knot chart first. Then, pinning a length of cordage to the chart makes the actual knot. You do not need special artistic skills or special, expensive equipment to draw a knot chart. A knot chart is a tool that lets you create a piece of art - a Turk's-Head knot.

In general, a knot chart for a Turk's-Head is developed in two stages. In the first stage, a geometric design is drawn. This consists of a circle with layers of triangles around it. As you will see, the number of triangles drawn in the first layer determines the number of bights and, the number of layers of triangles determines the number of leads. In the second stage, a single line or "cord" is drawn through the geometric design. All this is explained later in detail.

Before continuing, I want to stress that *The Disk Method* can not be used to tie a knot that violates the common-divisor rule. For instance, *The Disk Method* can not be used to create a Turk's-Head of 4-Leads and 8-Bights (4L X 8B).

I have become proficient at tying Turk's-Heads using Ashley's *Disk Method*. This proficiency did not come easily. I had to read and study the instructions more than once. What follows are step-by-step instruc-

tions derived from my study notes. These can be used to construct knots with any number of bights and, almost any number of leads. For pragmatic reasons, Turk's-Heads with eight bights are used for the examples.

Step 1. Draw a circle

Draw a circle that has a diameter of 3 inches, one-fourth of a foot. Experience will teach you how to vary the diameter according to the size of the final knot. Consider that a Turk's-Head with 20-bights will require more space than one with 6-bights.

Step 2, Divide the circumference into equal segments (bights)

Put small marks on the circumference, of the original circle, at equal intervals. Each mark signifies a bight in the final knot. That is, for a knot that will have 4 bights, 4 marks are placed on the circumference; for a knot that will have 5 bights, 5 marks are placed on the circumference and, so on.

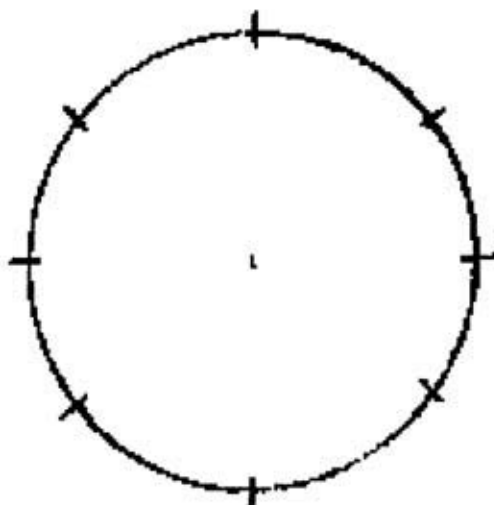


Figure 1

Knots with eight bights are used as examples in this paper. It follows that the foundation circumference for these knots is divided into eight equal segments. (See Figure 1)

Step 3. Put triangles on the circumference

In this step, a triangle is drawn on each pair of marks made in Step 2. An imaginary straight line between each pair of marks defines the base ("bottom") of an isosceles triangle. Using isosceles triangles will make the knot chart symmetrical. Please note that only the sides of the triangles are drawn. There is no need to draw the bases of the triangles. Figure 2, shows the first layer of triangles for a knot that will have eight bights. You will notice that there are eight triangles. Step 4, Add another layer of triangles

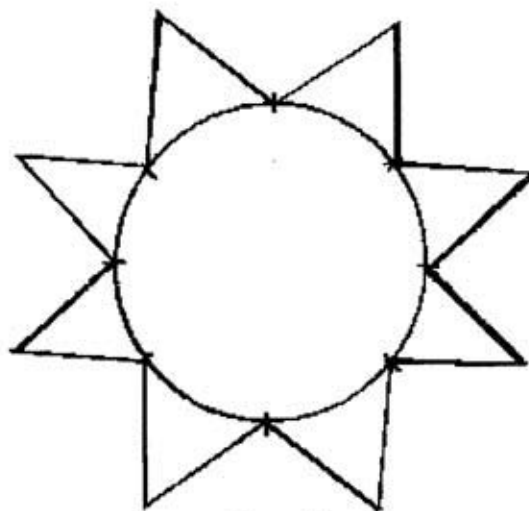


Figure 2

Add another layer of triangles on top of the triangles just created. Now, the base of each triangle is an imaginary straight line between two "tops," apexes, of adjacent triangles. Again, only the sides of the triangles are drawn.

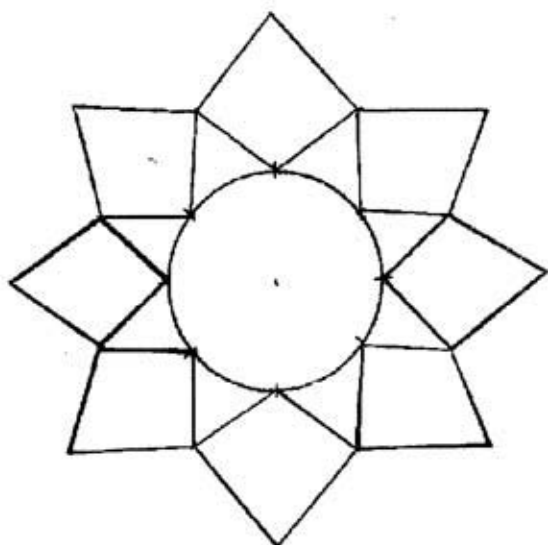


Figure 3

Figure 3 shows a circle with two layers of eight triangles; this is the geometric design for a Turk's-Head of 3-Leads and 8-Bights (3L X 8B).

Step 5. Add more layers of triangles as needed

When a knot chart for a Turk's-Head with more than 3-leads is being made, repeat Step 4 until the desired number of layers (leads) has been drawn. The number of leads in the final knot will always be one greater than the number of layers of triangles because the circumference of the original circle is a lead. The geometric design for a knot with 3-leads will have 2 layers of triangles. The geometric design for a knot with 4-leads will have 3 layers of triangles; the geometric design for a knot with 5-leads will have 4 layers of triangles and, so on. This is the last step of drawing the geometric design.

Step 6. Draw the "cord"

Now, it is time to draw a single line, cord, through the geometric design created above. The cord begins and ends near the apex of any outside triangle. The beginning of the cord is labeled 'A' and, the end of the cord is labeled, 'B.' Much of Ashley's directions are paraphrased here for your convenience. For clarification, "line" refers to all the lines of the geometric design including the circumference of the first circle drawn in Step 1 but, does not mean the line, cord, being drawn in this step. Start drawing the cord at point 'A' and continue towards the center of the design. At every point on the geometric design where four lines meet, or else two lines cross, which is the same thing, leave one line to the left and one to the right and follow along the line that remains, which is opposite the standing end. Believe me, this process is easier to do than it is to explain.

This step can be prone to errors. I recommend that the cord be drawn on a piece of tracing paper that has been placed on top of the geometric design.

Figure 4 shows the cord that is produced from the geometric design shown in Figure 3. It is for a Turk's-Head knot with 3-leads and 8-bights (3L X 8B).

When this step is completed, you can mark the tucks using Ashley's notation (knots 128 and 1363). Or, you can draw the tucks as explained next.

Step 7. Completing the knot chart

Figure 5 shows the result of redrawing Figure 4 with double-lines to show the individual tucks of actual cordage. This was accomplished by placing a sheet of tracing paper over the cord created in step 6. The first tuck is always an under tuck. When complete, verify that all the tucks alternate under and over.

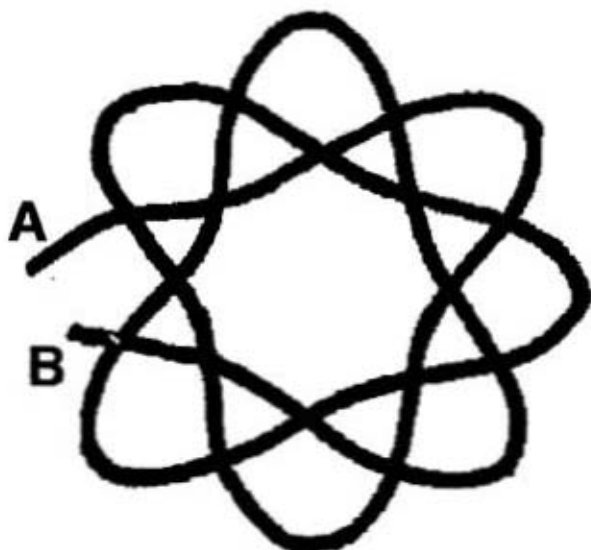


Figure 4

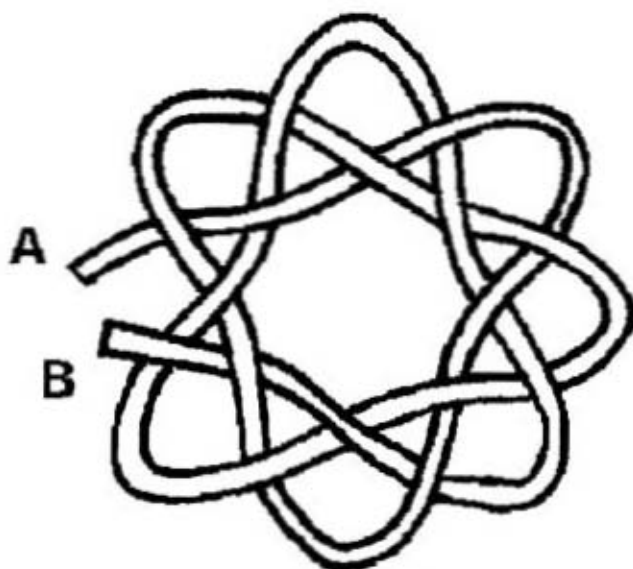


Figure 5

A Turk's-Head of Five-Leads and Eight-Bights (5L X 8B)

It is possible to tie a Turk's-Head of Three-Leads and Eight-Bights (3L X 8B) without using a knot chart. You have probably done it. But, watch what happens when two additional layers of triangles are added to Figure 3. The result is the geometric design presented in Figure 6. The cord derived from this geometric design is shown in Figure 7. It was redrawn as the knot chart shown in Figure 8 using the techniques discussed above. A

Turk's-Head of Five-Leads and Eight-Bights (5L X 8B) will result from using this chart.

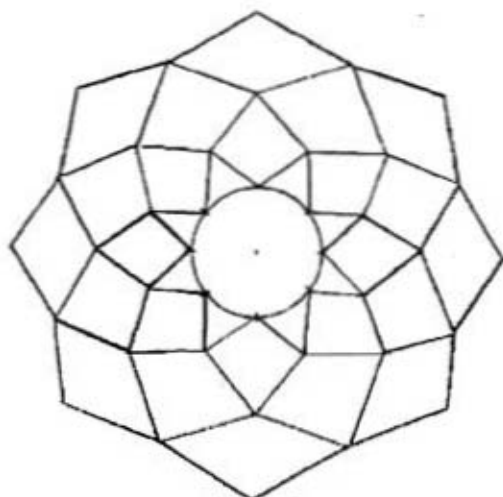


Figure 6

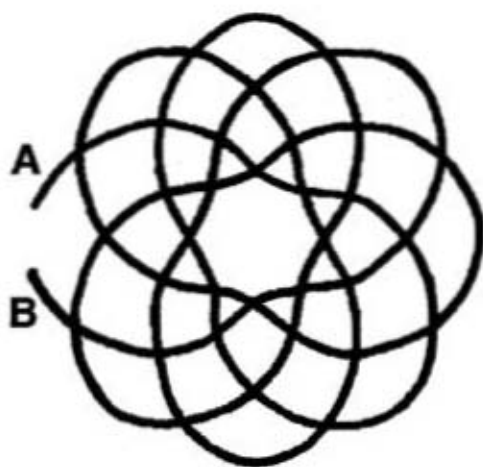


Figure 7

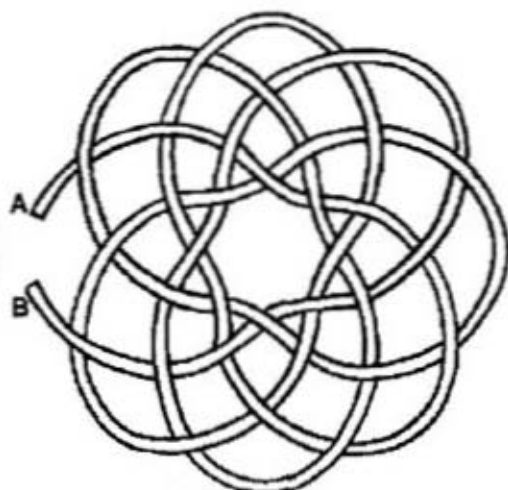


Figure 8

Notes

1) There is no limit to how many layers of triangles can be added to a basic geometric design. When 4 layers of triangles are added to Figure 3, the result is a Turk's-Head of Seven-Leads and Eight-Bights (7L X 8B). When 6 layers are added, the square Turk's-Head of Nine-Leads and Eight-Bights (9L X 8B) is produced, and so on.

2) All the triangles in a specific layer must be the same height. This can be achieved by drawing another circle that has a larger diameter than the previous circle (please see Ashley # 1361). Draw this circle very faint so that the pattern will remain less confusing. Incidentally, the sides of an isosceles triangle will intersect, on the circumference of the faint circle, at a point directly above the midpoint of the triangle's base. Knowing this makes drawing the triangles easy or, is the topic of another paper.

3) The shape of its component triangles influences the overall shape of the final knot chart. Using tall, skinny triangles will produce a certain shape and using short, chunky triangles will result in another shape. At first you may feel compelled to make all the triangles in the pattern the same height. But don't be afraid to experiment. Try for instance, making the first layer of triangles the tallest and outermost triangles the shortest while keeping all the triangles in the intermediate layers the same height between tallest and shortest. Of course, the diameter of the initial circle determines the eventual width of all the triangles.

4) Clipping off the tops of the outer layer of triangles with a circle will give a smoother, rounded effect when drawing the cord.

5) The circumference of a circle can be divided into equal segments easily by using a protractor.

Conclusion

Let me conclude with an old joke. A young person carrying a violin case asked the taxi driver, "How do I get to Carnegie Hall?" The driver replied, "Practice, practice, practice!"

'Hints & Tips'

John Halifax: Tip/Hint No. 1

'Publishing Knot Graphics by Photo-Copying'

Further to my article of publishing 'Knotting Graphics' by photocopying. I have refined the process by using 'Prit-Stik' Glue Stick to hold the 'Knots' onto the paper instead of little brass 'Marline Pins'. This way you don't even need to stick the paper onto cardboard. Prit-Stik is used extensively in the 'Printing trade'. Use weights or small/little Crocodile Clips to hold the shapes stable while the glue is drying for a few minutes.

I use the tip of a small pen knife to apply spots of the clean glue to the underneath of knot with and a tissue and water to clean.

Hint/Tip No.2

John Halifax: 'Displaying Brassware Outside'

I display an 'H.M.S. Victory' brass 'Anchor' door knocker outside as well as a 'Bell Pull' (more about the 'Bell Pull' in a minute.) I have become frustrated with the cleaning of this Anchor Door Knocker because a lot of the surface is 'Rough Cast' and try as you might it quickly blackens and turns to green 'Verdigris' (i.e. green rust on copper or brass). This is mostly on the edges or in cavities. It suddenly occurred to me to paint the back and all cavities and depressions with a grey undercoat and then only the front areas with whatever gloss colours you wish. I used 'Red & Green' i.e. 'Port & Starboard' on the front. Then when the paint is thoroughly dry just brasso/clean the 'Highlights'. Brilliant result. Then I marine clear varnished it. (Lazy).

A Non-running Noose

from: Claus H. Linhart, Dr.-Ing.
Volksdorfer Weg 50n
D-22393 Hamburg, Germany
Tel.: ++ 49 40 6400701

As I am studying the fine lessons about knotting in the German edition of "The Hamlin Book of Knots" by G. Budworth. I find knots used for tying ropes around a post either in non-running nooses, where the rigidity of the knot is less than that of the rope, or knots which pull slip tight around the post.

The loss of rigidity in the non-running types results, in my opinion from the narrow turn, in the out-going part, where the burden is fixed on. Is there a knot known, where the outgoing part is lead straight through to the post but nevertheless it does not slip or run?

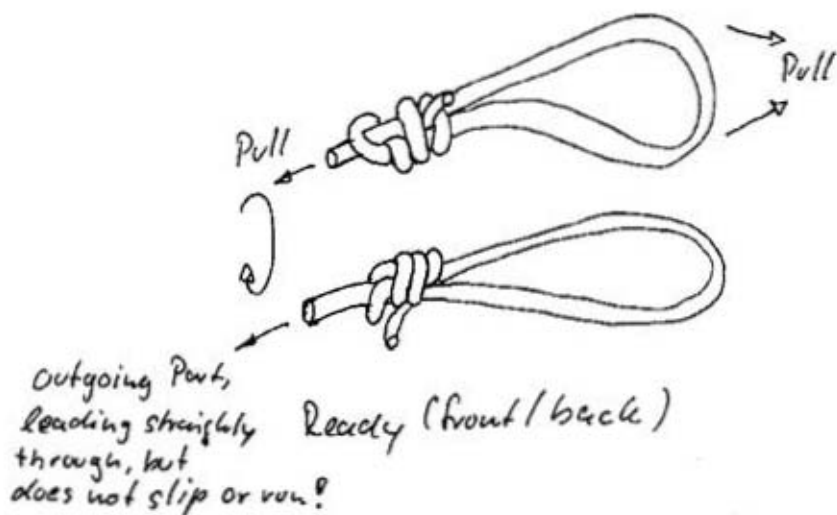
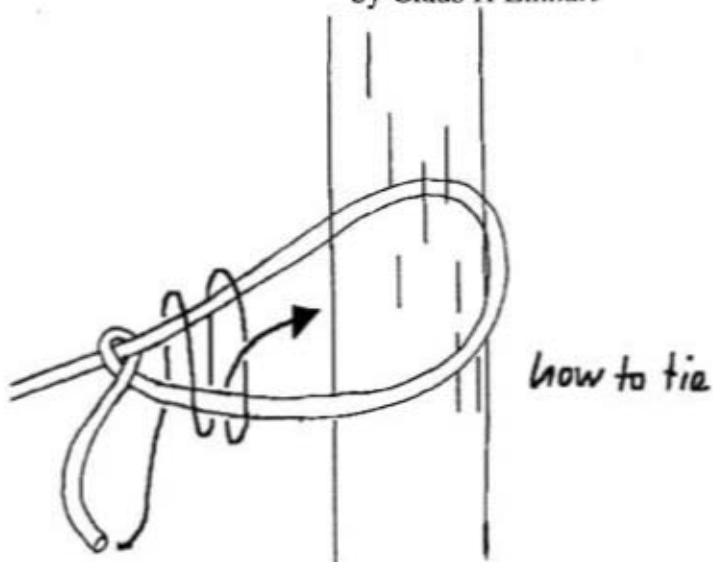
I am going to dare to propose a solution. See the sketch 1. The outgoing part is led unbent to the main bend of the noose, the loop is turned once around the pole and once around the outgoing part, coming back to half hitch onto the standing part, then reverse turned twice

around the neck of the noose and finally the end stopped between the last two turns and the inner noose parts. Pulling tight the end and the turns burdens the noose. The first turn will squeeze so tightly around the outgoing part, that the knot cannot slip, result is a self-stopping non-running noose, where the most burdened part is not bent like the 'Palstek' (sorry I only know the German term) or a comparable knot.

This knot works with material which either has a rough surface or is laterally weak, so that squeezing the turn results in a sufficient reduction of diameter to hinder further slipping. With stiffer or silkier materials it may slip anyway. To loosen the knot, the stopped end, which does not squeeze, can be pulled out slightly, and the knot opens.

I am not able to test the rigidity of this solution very well so I am hoping it will be of sufficient interest to be tested by someone. Your experts may know this knot or that it is not very useful. Either way I would be happy to contribute to the treasure of knowledge about knotting. Please contact me.

"Unknown Knot"
by Claus H Linhart



Claus H Linhart

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