

Knot



News

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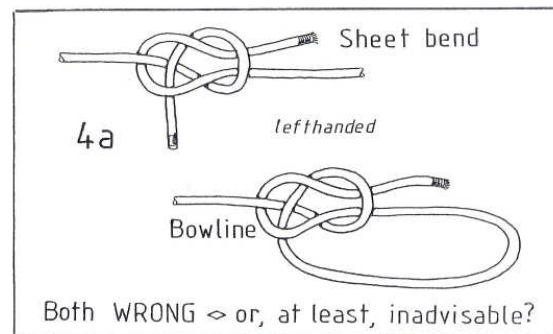
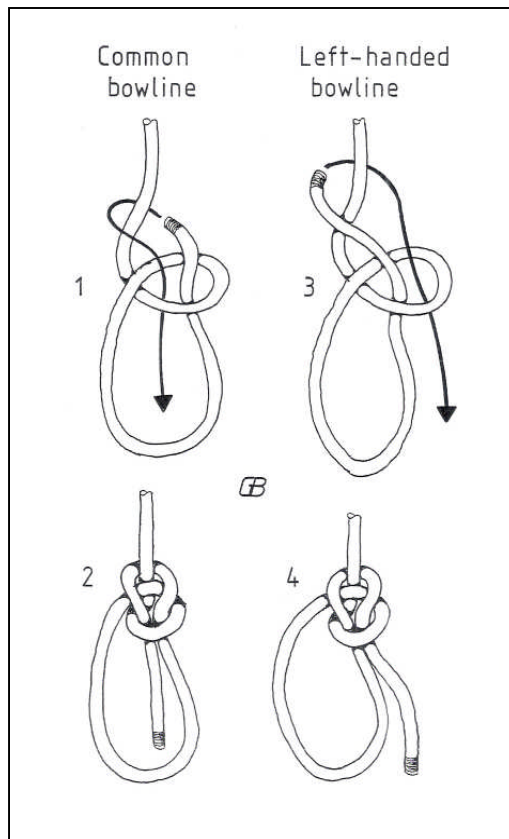
Issue # 71

Basic Bowlines

Geoffrey Budworth

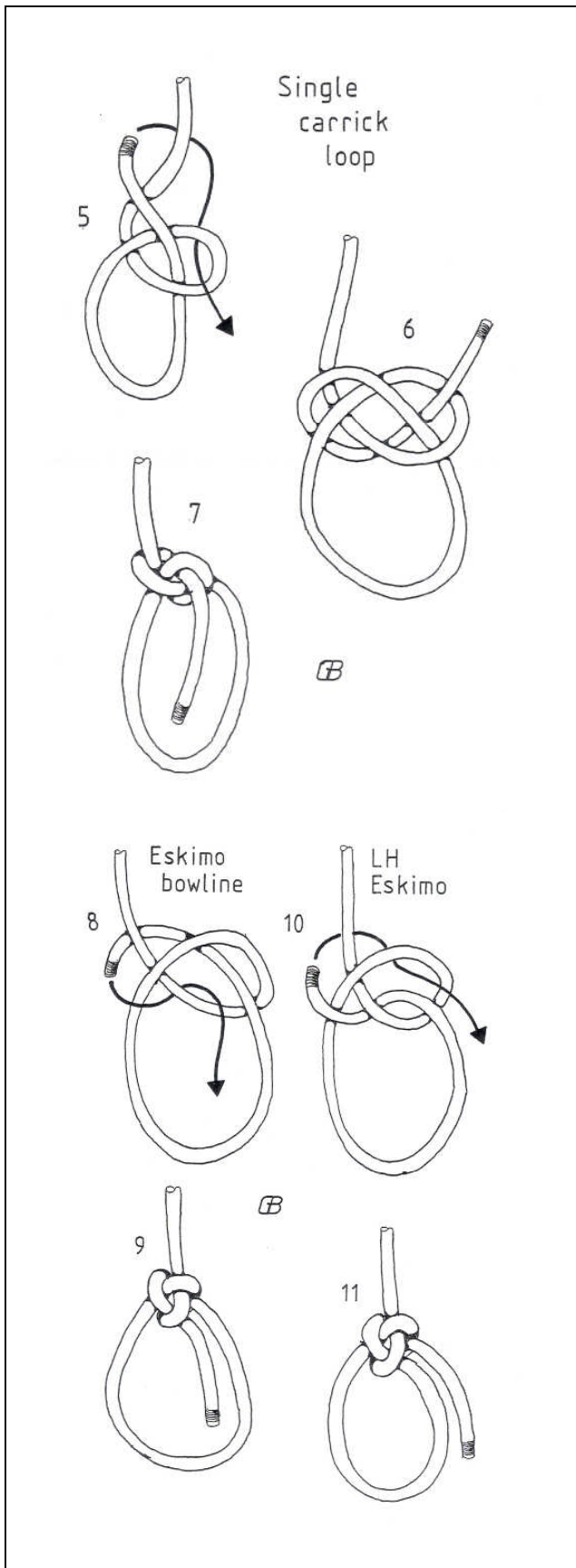
The common bowline is no longer, and perhaps never really was, 'the King of Knots' idealized by the English writer and wit Sir Alan P. Herbert (1890-1971) in his poem *The Bowline*; but the numerous other bowlines – strictly speaking members of the 'knot' family, although often employed as hitches – are certainly varied and versatile.

Get to know the basic bowline (1, 2), since it is your introduction to all its more reliable relatives. Be wary however of the so-called 'left-handed' bowline (3, 4) which Clifford Ashley seems to have included in his *Book of Knots* as an afterthought, numbering it #1034½ [sic] with the comment that it is "*distinctly inferior*" to the orthodox version. Other later students of knotting agree. He also observed that the LH sheet bend, similar in layout to the LH bowline (see 4a) "...has a poor nip and is unreliable".

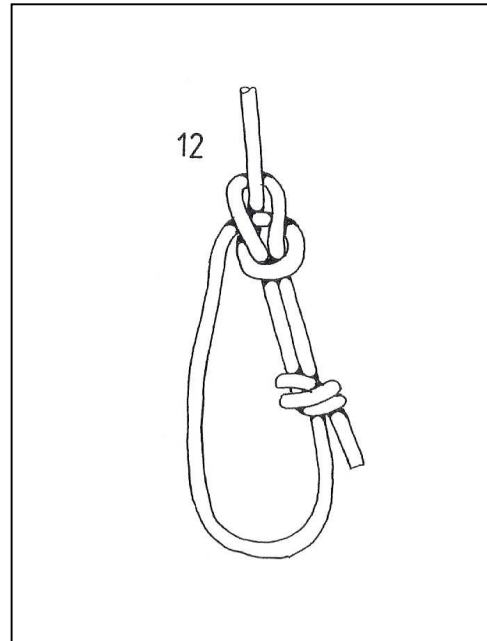


If the final tuck of a LH bowline is made in the opposite direction (5), however, the result is a 'false' bowline (6, 7). Indeed, it is NOT a bowline at all but a single carrick loop. Viewed with disfavor by many it is, nevertheless, trusted by some and used in locations as diverse as American horse or cattle country and European yacht marinas.

Then there is the Eskimo bowline (8, 9), a laid-back cousin much more dependable than the common bowline. It is easily tied and readily untied again after use. There is a LH version (10, 11), which may or may not be as good.



Whenever the possibility of a bowline coming adrift might cause injury, damage or loss, reinforce it by means of a double overhand knot tied with the working end around its adjacent loop (12).



Sea Chest Becket by Pieter van de Griend
Displayed at the Ashley Retrospective, New Bedford 1997

Some Thoughts on Braiding

Mike Storch

Edge Braiding

Recently I was asked to do an edge braid on the brim of a cowboy hat. Edge braids are not common anymore, and the few I've seen were not all that good. Poor leather lace, insufficient coverage, etc. And the books I looked through only had the basics to offer. So I decided I would work out my own. After much effort and experimenting I achieved the results I was after. What follows are some of the steps along the way, as well of the formula for the braid itself. I believe it can be applied to other things beside hats, if you are willing to work at it. To cut the slits I used a 4 prong thronging chisel with 1/8" prongs set at a 45 degree angle. I cut, split, and pre-stretched my lace slightly before re-sizing it to a bit over 1/8", and then beveling. I estimate an inch of braid requires about a foot of lace, or a 12 to 1 ratio. This need not be continuous as it is easy to introduce a new piece of lace anywhere along the way.

The braid begins by going through hole number 1 from front to back, bring it back over and go through hole number 7 from the front. Next go through holes 2 then 8, 3 then 9. When 3 parallel strands need to be crossed is where the tucking begins. The sequence is: over 2, under 1, under 1, over 2. Over 2, under 2, under 2, over 2. Over 2, under 2, over 1, over 1, under 2, over 2. From here the sequence remains constant. I also experimented with a start of holes 1/8, 2/9, 3/10 and then 1/9, 2/10, 3/11. There was no real improvement on coverage as it is already at 100%, but it did give the chance to work with a variety of tucking sequences. The part you will have to work with is the start and ending to get it filled in. This can be done by back-braiding those parts after the braid is completed, so leave a little extra length of lace at the start and finish to work with.

Leather Talks

I used to use something greasy on my leather all the time when braiding. Over time I began to work dry instead. Right away I liked the fact that my leather wasn't getting discolored from the oils and waxes. Sometimes the greasiness couldn't all be wiped off so on a hat band the residue would leave an unacceptable stain on the crown of the hat. There are still times when it is necessary to grease my strings. For instance, I sometimes use a dye which, after it dries, leaves the leather dried out as well. It is probably the alcohol in the dye that does it. It is then that I apply Williams Saddle

Dressing, which restores the leather and gives it slip for tightening the pineapple knots. The advantage gained is especially helpful when I am working my "micro" button knots with strands 1/16" wide or less, and correspondingly thinned. Anyway, I prefer to work dry, and it has its own advantages. I like the sound of the leather creaking as I tighten the pineapples. I can easily tell how much more tightening a knot needs not only by the feel, but by the sound as well. Old timers would tell you something similar. The timbers they used to shore up and support things were exactly that: timber. The wood would creak under the strain. Old time miners would tell you the wood was "talking" to you, telling you what was going on around and above you. In modern times steel is used instead. Steel of course is much stronger than wood, but it doesn't talk. There is no warning before it fails. I think it is good to understand both ways. So it is with dry strings. I roll a button knot in my fingertips and know exactly how much more tightening it needs. I feel it in my fingers and I hear it creak. Leather talks.

Note Keeping

Over the years I have kept notes on my braid-work. Some simple, some difficult, and some are not to be found in books anywhere. The notes kept accumulating and I would look to them as a reference. At first, I didn't think of them as very important. But as the braiding became more involved, it also became more difficult to remember the many tucks of a particular button knot, or the way I prepared my materials to get a certain effect. That is when I realized how important my notes became to me, and whenever I work with a new braider I always encourage note keeping. Don't rely on memory, or even books already in print. Your notes will be a record of your own discoveries. Something else: don't take anyone else's notes as the final word on braiding. Take them as a starting point then add your own experience. See where it will lead you. Be creative and find new designs, new solutions. Create, don't just copy. Someday you may be able to share your own original notes with others. They say if you draw a line on a map to all the places you have been in life, you will have drawn a picture of your own face. Let your notes be your own self portrait. Mixed in with my notes I have some of the articles I have written over the years, the mathematics, and some of the things that still need to be worked out. They show the stops and starts along the way. Taken as a whole, these notes are my own self portrait, which, by the way, is still in progress.

Micro Cut Lace

Sometimes I cut my leather fine and work in miniature. I call this type of work “micro”. The width of micro lace is 5/64” or less, and it is split to a thickness of 1/64”. Then I bevel it. Handling this lace can be tricky, especially in darker colors. It also takes a while to develop a feel to tighten micro knots successfully. A weak spot in leather which would go unnoticed in 1/8” lace will become obvious in micro. The tools necessary to cut micro are about the same as with heavier lace, with a few exceptions. I use a small fid to tighten knots with, and a small diameter brass needle to braid the knots. I also use a tool that looks like an old time harness-makers “collar awl”. This is easy to describe and easy to make – a wooden haft for the handle into which is secured a long slender needle, pointed end first. There should be a few inches left exposed, with the eye of the needle at the outermost end. The diameter of the needle should be less than the diameter of the threaded brass needle, and the eye just large enough to accept the micro cut lace. In use, the needles’ eye is pushed through a tight spot, the lace inserted into the needles’ eye, and the lace is pulled back through. Another thing I have done is to modify my string cutter to be adjustable via machine screws, which allows for super fine and accurate adjustments. I also wear magnifying eyeglasses. With this setup I can cut even finer than I usually do, but strength then diminishes quickly.



At the level I take it to I have no problem with fixed knots on hat bands or stampede strings. Of course I recommend micro cut for fine dress hats only, and standard cut lace for working hats that will actually get worn in the field, but they do function in the same way. As for preparation and braiding time of micro, I find it takes about 2 ½ times longer than my standard cut lace. I don’t braid it often, and only on

request. But in the end, I do enjoy it when it comes along. I find it keeps my skills sharp.



Dying Leather

Some leather suppliers offer more choices than others. The one I deal with offers four, in addition to natural. Black is self explanatory, and brandy is like a very rich and dark chocolate. Tan and whiskey are similar to each other, but tan has a little red in the mix and finishes like a dark palomino. Whiskey has more light brown in the mix. Natural is the lightest, and is made to be dyed. With these color limitations, I find myself using natural more often and dying in some creative ways. The dye I tend to use is “Fiebings” and with the 25 or so colors they offer, and the variations I can mix, I’m never at a loss. I am not very good at mixing colors, but I know what I like. If you would like to get more serious than this about it, a good way to begin is with an inexpensive color wheel. I got mine at an art supply store, and it gives the basic of color theory. Anyway, these colors are available from Fiebings, and can be altered easily enough, giving much more variation to choose from. By adding a second coat to dye to a piece, it will darken, or, by diluting the dye with up to 25% alcohol, either ethyl or isopropyl, a lighter will result. The color wheel will help you if you intend to mix 2

colors to get a third, for instance yellow and blue to get green. Keep in mind that when dyeing leather, a little residue will be left on the surface. This residue should be wiped off after it has completely dried. In saddle work I dye the large pieces, but in braid work I cut my pieces first, and then dye them individually. After about 20 minutes air drying on the clothes line I wipe off the powdery residue. Sometimes lace will stiffen a little after dyeing, and then I apply a light coat of Pecards or Williams Saddle Dressing to put life back into it. The thing to remember here is that most leather dressings will darken leather a little more. Take this into consideration when applying dyes. You might choose a lighter color than the one you want, and then let the leather dressing bring it back to the finished color. The best advice I can offer here is to dye a scrap of the same material first so you can check the results. Dyeing is not an exact science, and this will help to eliminate errors.

The Cow Magnet

In ranch country of the American West there is a magnet that gets used to cure a cow of "hardware disease". It is cylindrical, with rounded ends, and no sharp edges. Its purpose is to be run through the cow to pick up any hardware [staples, wire, nails, etc] the cow may have accidentally ingested while grazing, carry them through the digestive system and out where they can do no more damage. I find these magnets great to braid over. My first was just an experiment to see if I could get full coverage. My initial try was successful, and I sent that one to Ron Edwards in Australia. Since then I have done a dozen more to fine tune some details, and to take notes. To cover a 3 inch long by half inch diameter magnet, I use an extended and expanded pineapple knot built on a four bight by three turn Turk's Head. There are two interweaves in the pineapple. I start with 150 inches of lace at 3/16" wide. In tightening the knot some of the length is taken out, and the width narrows down some as well. I find that for every two magnets I braid over, I have enough lace left over to braid up a key ring. There is no waste. What I really enjoy about braiding over a cow magnet is that, unlike my other braid work, it is very portable. Being single strand, there are no loose ends to look after. And being small, I can keep it in my pocket and work on it as slack time in my day allows. I can start or stop on a moment's notice, without having to work through to a "stopping point". It is a real pleasure to be able to braid whenever I feel like it and wherever I happen to be. Once they are braided I use them to pick up tacks on a workbench, or paperclips on the desk. They are unique.



The Braided Dog Leash

Dog leashes are available anywhere, from specialty shops to swap meets. But if you really want a unique, high quality leash more suited to your needs, consider making your own. I just finished making a few, all for the same dog, and all different for different requirements: a long one for walking, a short one for training, one with a loop handle, and one without. They are all braided of kangaroo leather. Eventually I will find myself favoring one over the others, but for now the fun is in the braiding. There are two at present I use more than the others. The main difference between these two is that one has a loop handle so I can walk along mindlessly without concern about having the dog jerk it out of my hand in an impulsive moment. The other has no loop. It ends with an extended and expanded pineapple knot that fits my hand well. The pineapple knot also acts as a stopper if I feel the need to choke up a bit on the leash, grabbing it ahead of the knot for more control in a training situation. Also, lacking a loop, it coils smaller and fits easily into a pocket of my shirt. All these leashes are 8 braid kangaroo leather over a core. The core is 1/4" diameter braided nylon cord. At the collar end a brass snap swivel is spliced in. The other end either has a terminal pineapple knot, or a larger loop spliced in to fit over a gloved hand. Over both of these there are 4 bight x 2 turn x 3 pass pineapple knots. The pineapples function well, and also give a balanced look to the leash. The kangaroo lace gets the same detailed prep work as any of the other braiding lace. Kangaroo leather lace has that quality that allows it to get better with age. It will get smoother with use and gain character. And the more attention to detail put into the lace before braiding actually begins, the better it will age. Prep includes the initial circle cutting, which is a rough cut. Then a little stretching, splitting, cutting to width, and finally beveling. Sometimes I can get an entire hide cut and completely prepared in a single length. Other times it will come out in 2 or 3 lengths, due to a slip in the cutting, or a weak spot in the leather. One length at 60 yards or a couple of shorter ones equal

to 60 yards does not matter. All it really is telling you is that your skill and experience level are improving. It also says something of your attention to your work. If, while you are cutting, your attention wanders a moment, or if there is an expected distraction, your work will reflect it. I suggest you don't try for perfection, especially on your first try. But do try for quality. Build quality into all your work and it will improve automatically.



Realizing that not everyone is set up to work with leather, or is able to justify its expense, I suggest braiding with parachute cord. There are several advantages to this. It is inexpensive, comes in many colors, requires no preparation, and is durable beyond belief. It is also easy to work with. Even a beginner should have no problem. I keep a few para cord leashes around the place all the time. A simple design I like a lot is to middle 4 strands of para cord, put in a few inches of round braid at this middle point, add the snap or other hardware at the middle point, then join the 2 four braided section into an 8 braid to the length you want. At that point a diamond knot or any other stopper knot you prefer is put in, the excess cut flush, and the exposed cut surface melted with a match or a hot knife. It will never come undone – simple yet practical and quite useful. Get a little creative with two different color

cords and add a braided knot over the stopper knot, and you will have something quite fancy. I suggest that if you do add a braided knot over the stopper knot pull the core out of the para cord of the braided knot to reduce the bulk.

Parachute Cord

I've braided with parachute cord several times, and while I don't often use it, it has its place. The horse hobbles I made of parachute cord lasted me for years, even though they were soaked daily in wet grass and sometimes didn't get a chance to dry out for weeks. For the body of the hobbles I'd use cord straight off the spool. For the ring knots and the pineapples I remove the core from the cord. This takes the un-necessary bulk from the cord and the braided knots, and adds what I call "definition". To braid these knots I ground the sharp point off a "sack needle". These needles can still be found at some ranch or farm supply stores. They are used to sew burlap sacks shut after filling them with wool from the sheep shearing sheds. For a dog leash I would braid a four round [at the center] through the eye of a snap swivel, and join the 2 four rounds into an 8 braid. This I would finish with a button or knob knot. I would cut the excess cords flush to the knot, and using a flat knife well heated. I'd melt the cut ends flush to the knot. Be careful not to breathe the fumes of the heated cords. They will probably gum up your innards. Any end knot will do, and of course I choose the pineapple every time. Anyway, I've found the things I've braided with parachute cord to be entirely maintenance free, and nearly indestructible. I also use it to teach a difficult student to braid with it as it needs no preparation, is easy to handle, and is inexpensive to buy. I get it at the local military surplus store for about 5 cents a foot on 1000 foot spools. The choice of colors is vast. What I don't use for braiding I take along on camping trips into the back country. It works great around camp. As I've said, parachute cord has its place in the scheme of things.



Tudor Rose Knot

© 2008 Lily Qualls Morales
Original Design by Stuart Grainger



Materials:

Five 30-inch strands of practice cordage –
parachute cord is great, or similar
One 12-inch strand of fine, **STRONG** line for
constrictor knot (I like to use R&W “Kite String”)

Tools:

Scissors

Lighter

Fid

Knots:

Constrictor Knot

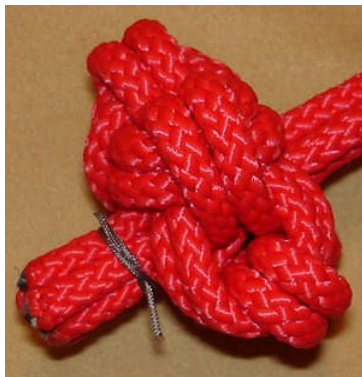
Star Knot

Wall Knot

Crown

Lark's Head Knot (Cow Hitch)

Tie the five lines together, at one end, with a
constrictor knot; trim ends. Tie a star knot, but
leave the working ends on the opposite side of
the knot as the standing ends (omit final tucks).



Star Knot

Tie a Wall Knot.



Wall Knot

Tie a Crown Knot.



Crown Knot

Tuck the ends through to the sides, by taking each end over the wall knot and under the three strands below:



First Tuck



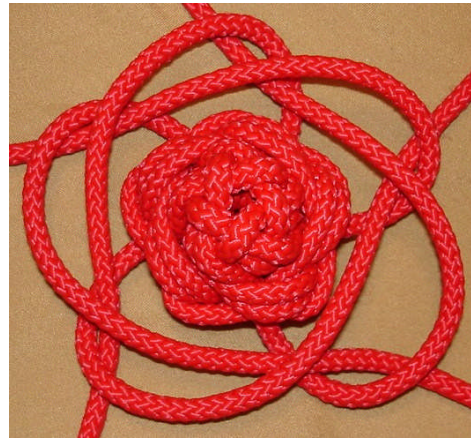
All five tucked, top view

Tie a crown knot around the star knot:



Crown Knot around Star

Tuck again, to make a Matthew Walker Knot.



Matthew Walker Knot, loose



Matthew Walker Knot, tensioned.

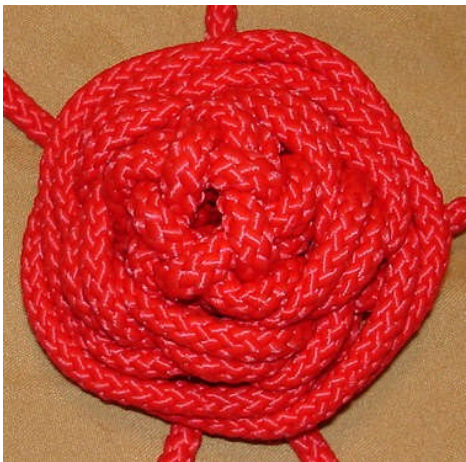
Tuck each strand down through the strand below it (the first hitch of the star knot).



First Tuck, bottom view



All Tucked and tensioned, bottom view



All Tucked, top view

Tie a lark's head knot [tatters know this knot as a direct-method double-stitch (as used in the second half of a split ring) around the two strands of the Matthew Walker Knot above each working end.



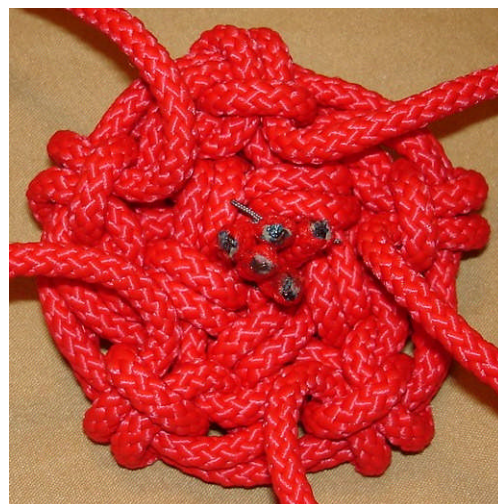
Lark's Head Knot, loose



First Lark's Head Knot, tensioned, bottom view



First half-hitch of lark's head knot



All five Lark's Head Knots, tensioned, bottom view

Tuck each end under the two strands directly below and to its right.

You may wish to continue using the working ends further in your project, however if you prefer to finish the rose here, this is how I do it: Trim all ends and *CAREFULLY* (don't want to burn the rest of the knot) melt them with a lighter. While all ends are still hot and melted, press them into the strands below them with the metal part of the lighter (don't want to burn your fingers). This keeps the ends from loosening.



First of final tucks



All tucks finished, bottom view



All tucks finished, top view



Ends melted and finished



Finished Rose, top view

Totally Tubular... Needles, that is

Roy Chapman

Many folks more talented than I am have suggested that I try using tubular needles. It took awhile but I have found the virtue in tubular needles for some tasks. Making spherical coverings the "pears and avocados" from a previous article finally pushed me into it. I am a convert.

A good task for a tubular needle.



Several fellow knotters had told me about making tubular needles from aluminum knitting needles. They offered several ways of making an internal thread in the cut off needle. They tap in the thread with either machine taps, screw in wood screws or various self-taping screws. Yard sales here I come!

Needle on cord.



Armed with needles, I grabbed my hacksaw and presto-change-o: tubular needles! As I was about to work out the internal thread problem I realized that any ordinary right-hand thread would unlay my "Z" laid cord. Better if my internal thread were left-handed, tightening my cord as I screwed the needle

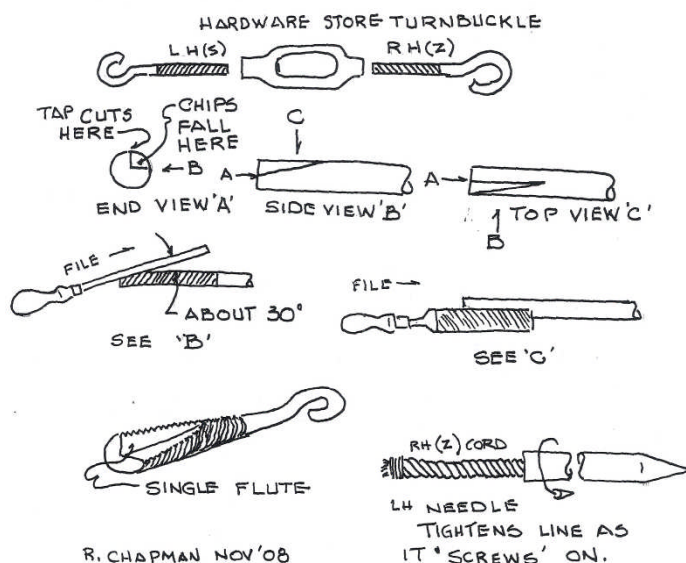
on the end. Left-handed hardware is rare. There's the rub. Where to get some left-handed metal taps (threading tools)? Well, it is aluminum we are working with (soft, as metals go) and we are only cutting a few threads, so why won't any bolt work? Well, it will. I'll just cut (file) a flute in a bolt, screw it into the tube as a tap and we are done! What has left handed threads? After a bit of brain sweat I thought: *turnbuckles*! They are built with one left-handed and one right-handed bolt. Select a bolt diameter that will just almost slip into the needle... we don't need very deep threads to hold well.

Internal Thread (LH).



Keep in mind that cutting threads isn't your everyday household task but it also need not be perfect (in a machine shop sense) to work great on tubular needles.

See sketch on how to file the flute. Almost anything will work as we just need a groove for chip removal and to make the sharp edge cut well. Close is good enough.



You will just need to gently and slowly screw your “tap” into your cut off knitting needle. Alignment by eye is good enough as the tap will try to self-align. Any oil helps the cutting go more easily. Clamping the needle in a vise or locking pliers helps. Start slow and in ¼ turn steps. In a bit, out a bit, in two out one, in two out one, and so forth. Three or four times the diameter of the tap for depth will work fine. Wash the oil out and put your new needle to work.

While you are at it you might make a threaded sleeve (handy when pulling in line with a “clue” or “mule”, which some knotters use to work or expand Turk’s Head Knots, add plies and work complex coverings. I found that one knitting needle would make two or so tubular needles and two or more tubular sleeves. If you use only braided line the needles will work with right-hand or left-hand thread, so you could save the modest cost of turnbuckles and use any bolt or machine screw for your tap.

Making tubular needles.



I hope you enjoy your new needles. My thanks go to all our knotting friends who have urged the use of tubular needles (even given me favorite examples). See, I can be trained after all!



The Braider was a quarterly Journal, which was produced for almost ten years from 1995 on. It described new ideas and methods for making braids. It was the work of Georg Schaaake, a tireless researcher for over 30 years into the problems of making braids and understanding how they can be described, evolved and classified. Although many efforts were made to spread his ideas to other knot-tyers around the world, they met with limited success.

So to keep this knowledge from fading away, John Turner of New Zealand is now offering for sale a complete set of the sixty issues of the Journal. This includes over 1600 pages of new knowledge about braids, with numerous ideas, philosophies, theories, and instructions on the design and production of decorative braids. In each issue there are numerous diagrams and drawings which illustrate these theories and techniques. It is available now either on a CD or as a hardcopy in the form of four spiral-bound volumes, each volume containing about 400 pages. You may purchase these either in single volumes, or as a 4-volume set at a discounted price.

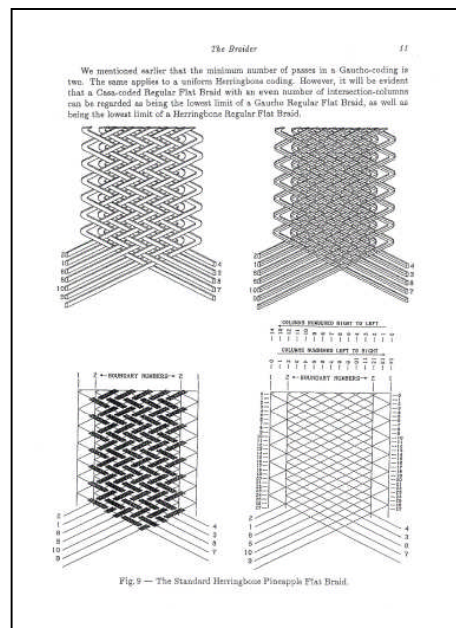
All prices include the considerable postage and packaging costs. If you live in NZ or Australia, these prices can be adjusted accordingly.

CD available (chapters in Adobe pdf format)
US\$5 UK£3

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PayPal payments can be received at John Turner’s email address, jturner@clear.net.nz. Or for additional information please go to John Turner’s web page at: jturner.fortunecity.com. George Schaaake may truly be said to be the father of Modern Braiding Theory. Very little of consequence existed before he began his researches.



A sample page from *The Braider*