Knot News

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Xiao Wei's Bracelet

by Pieter van de Griend

Bezint eer ge begint

Old Dutch proverb

Introduction

For a while a knotting craze, called *scoubidou*, has been ravaging Holland. The plague is said to have originated in France, somewhere in the 1960's. Like all crazes it died down for a while, but suddenly contaminated Dutch nationals, who started tying all sorts of funny and intricate things in flexible plastic strands. The artifacts are usually key fobs, animals, bracelets and so forth.

One evening I was visiting a colleague from the Far East. His little daughter, Xiao Wei, was playing with some scoubidou strands. Knowing about my interest in (Chinese) Knots, my colleague challenged this knotter to scoubidou something for her. Piece of cake, I thought. So, with the little girl watching my every move, I tied a 3-part **casa-coded** (U1O1) Turk's Head (TH) of sufficient length to fit around her wrist and rapidly expanded it into a 5-part casa-coded TH. Since the soft material collapsed, I thought let's chuck in a 3-stranded interweave to increase stiffness and beautify the weave. Needless to say, that was a mistake! The first time my interweaving strand came around, I noticed something was amiss. I already had a linkup and still had 2 interweaving strands to go!?! Grumbling I counted the number of bights and, yeah sure, my improvised bracelet turned out to have 24 of them. For my purposes that was a rather unfortunate number, as it would not sustain a single stranded 3 part interweave. As is well-known, the numbers 24 and 3 have a greatest common divisor greater than 1. So, the single-stranded interweave I had in mind would fail with absolute certainty; unless, of course, I would botch up the weave.

RKT-stuff

How did I get that 5/24 in the first place? What path in the Regular Knot Tree must be followed to get one? If you draw it out, as I have done in Fig.1 below, you see I followed the path: 1/1 →1/2 → 1/3 → 1/4 → 1/5 → 2/9 → 3/14 → 4/19 → 5/24. Hah, I had you there, didn't I? Just draw out the RKT. How to obtain these numbers? I will not elaborate this subject until some future article, but ever heard of **Euclid's algorithm** for finding the greatest common divisor? You keep on dividing remainders till no more division is possible. That should give those interested more than sufficient hint [3].

Okay, which bight number for a 5-parted TH does support a 3-parted single stranded centered interweave? The immediate numbers coming to mind are 23 and 25. Just make the bracelet length a notch shorter or a notch longer. Alas, 25 is no option, as the greatest common divisor of 25 and 5 equals 5. That means only the 23 bighted version would remain. Applying Euclid's algorithm to our 5/23 we get the following RKT-path: 1/1 →1/2 → 1/3 → 1/4 → 1/5 → 2/9 → 3/14 → 5/23. Ho and behold, a tacking TH path after 2/9 shows up [2].

In this article I want to show how this 5/23 TH can be made. Next we shall see how to interweave a 3 parted 23 bighted casa-coded TH onto it, resulting in a 2-pass herringbone weave along its centerline [1].

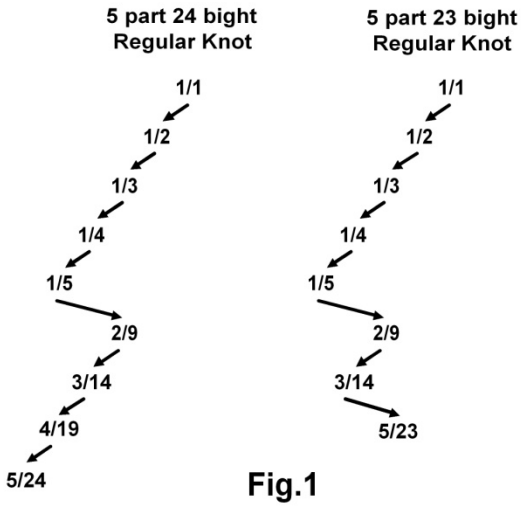


Fig.1

Making the 5/23 base knot

The casa-coding can be applied to the 5/23 in one of two ways. However, we are in the **MOBA** (Most Overs Braiding Algorithm) business, because of its advantages: (1) easier braiding, preferring Over crossings to Under crossings, and (2) less wear and tear due to chafe while ripping the working end through the weave. So, we go for the casa-coding illustrated in Fig.2. Out of a total of 4x23=92 crossings, some 64 are Over and merely 28 are Unders. Below the braiding algorithm for component 1 is given [3].

1 L->R: FREE RUN.	24 R->L: 2o.
2 R->L: FREE RUN.	25 L->R: 2o
3 L->R: FREE RUN.	26 R->L: 2o.
4 R->L: FREE RUN.	27 L->R: 2o.
5 L->R: FREE RUN.	28 R->L: 2o-u.
6 R->L: FREE RUN.	29 L->R: 2o-u.
7 L->R: FREE RUN.	30 R->L: 2o-u.
8 R->L: FREE RUN.	31 L->R: 2o-u.
9 L->R: FREE RUN.	32 R->L: 2o-u.
10 R->L: o.	33 L->R: 2o-u.
11 L->R: o.	34 R->L: 2o-u.
12 R->L: o.	35 L->R: 2o-u.
13 L->R: o.	36 R->L: 2o-u.
14 R->L: o.	37 L->R: 2o-u.
15 L->R: o.	38 R->L: o-u-o-u.
16 R->L: o.	39 L->R: o-u-o-u.
17 L->R: o.	40 R->L: o-u-o-u.
18 R->L: o.	41 L->R: o-u-o-u.
19 L->R: o.	42 R->L: o-u-o-u.
20 R->L: 2o.	43 L->R: o-u-o-u.
21 L->R: 2o.	44 R->L: o-u-o-u.
22 R->L: 2o.	45 L->R: o-u-o-u.
23 L->R: 2o.	46 R->L: o-u-o-u.

The 3/23 two-pass herringbone interweave

Putting in the 2-pass row-coded interweave the braiding instructions below can be followed. The bold uppercase indicates a self-crossing of Component 2.

1 L->R: u-o-u.	24 R->L: u-o-**U**-u.
2 R->L: u-o-u.	25 L->R: u-o-**U**-u
3 L->R: u-o-u.	26 R->L: u-o-**U**-u.
4 R->L: u-o-u.	27 L->R: u-o-**U**-u.
5 L->R: u-o-u.	28 R->L: u-o-**U**-u.
6 R->L: u-o-u.	29 L->R: u-o-**U**-u.
7 L->R: u-o-u.	30 R->L: u-o-**U**-u.
8 R->L: u-o-u.	31 L->R: u-o-**U**-u.
9 L->R: u-o-u.	32 R->L: u-**O**-o-**U**-u.
10 R->L: u-o-u.	33 L->R: u-**O**-o-**U**-u.
11 L->R: u-o-u.	34 R->L: u-**O**-o-**U**-u.
12 R->L: u-o-u.	35 L->R: u-**O**-o-**U**-u.
13 L->R: u-o-u.	36 R->L: u-**O**-o-**U**-u.
14 R->L: u-o-u.	37 L->R: u-**O**-o-**U**-u.
15 L->R: u-o-u.	38 R->L: u-**O**-o-**U**-u.
16 R->L: u-o-**U**-u.	39 L->R: u-**O**-o-**U**-u.
17 L->R: u-o-**U**-u.	40 R->L: u-**O**-o-**U**-u.
18 R->L: u-o-**U**-u.	41 L->R: u-**O**-o-**U**-u.
19 L->R: u-o-**U**-u.	42 R->L: u-**O**-o-**U**-u.
20 R->L: u-o-**U**-u.	43 L->R: u-**O**-o-**U**-u.
21 L->R: u-o-**U**-u.	44 R->L: u-**O**-o-**U**-u.
22 R->L: u-o-**U**-u.	45 L->R: u-**O**-o-**U**-u.
23 L->R: u-o-**U**-u.	46 R->L: u-**O**-o-**U**-u.

In Fig.3 you can see that the interweave causes a so-called Symmetric Nested Knot to come forth. The number of nests *B** equals 23, nesting number *A* equals 2, the width of the equatorial weave *x* equals 6 parts and the vertical shift *y* equals 2 parts.

Epilogue

Reducing the images to fit the paper format I found it rendered their grayscale resolution suboptimal. May I suggest you make some enlargement photocopies and try to color their components? After all, there should be a challenge somewhere in this exercise. ☺

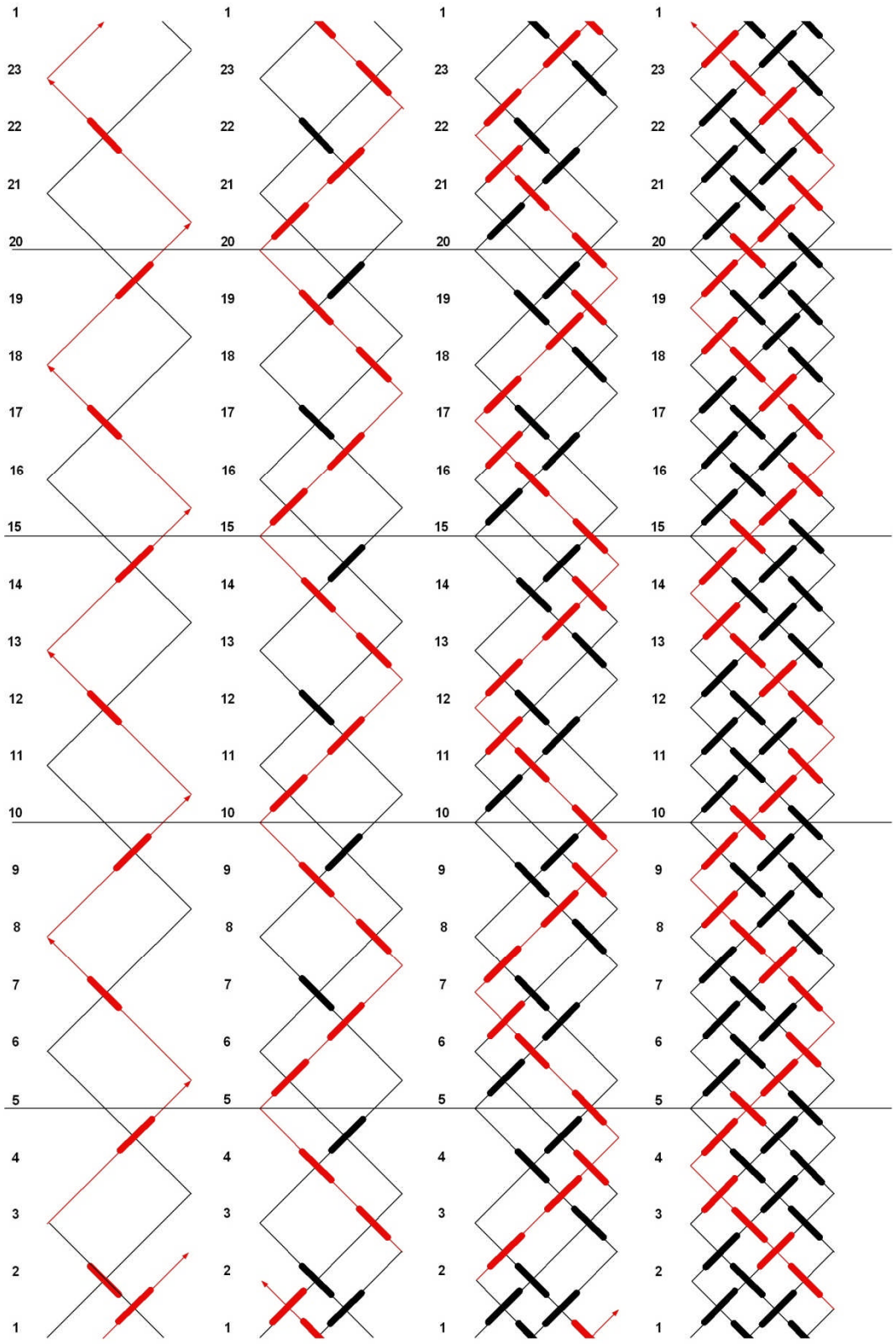
References

1 C.W. **Ashley**, *The Ashley Book of Knots*, Doubleday inc., New York 1944. Faber and Faber, London, isbn 0-571-09659-X, 1977.

2 P.v.d.**Griend**, "Tacking Turk Head Knots", *Knot News*, issn 1554-1843, pp1-4, Issue #49, May 2005.

3 A.G. **Schaake** and J.C**. Turner**, *The Regular Knot Tree and Enlargement Processes*, Topics in Braiding Theory and Practice, pamphlet no. 4, issn 1170-7003, isbn 0-908830-09-2, Hamilton, New Zealand, 1991.

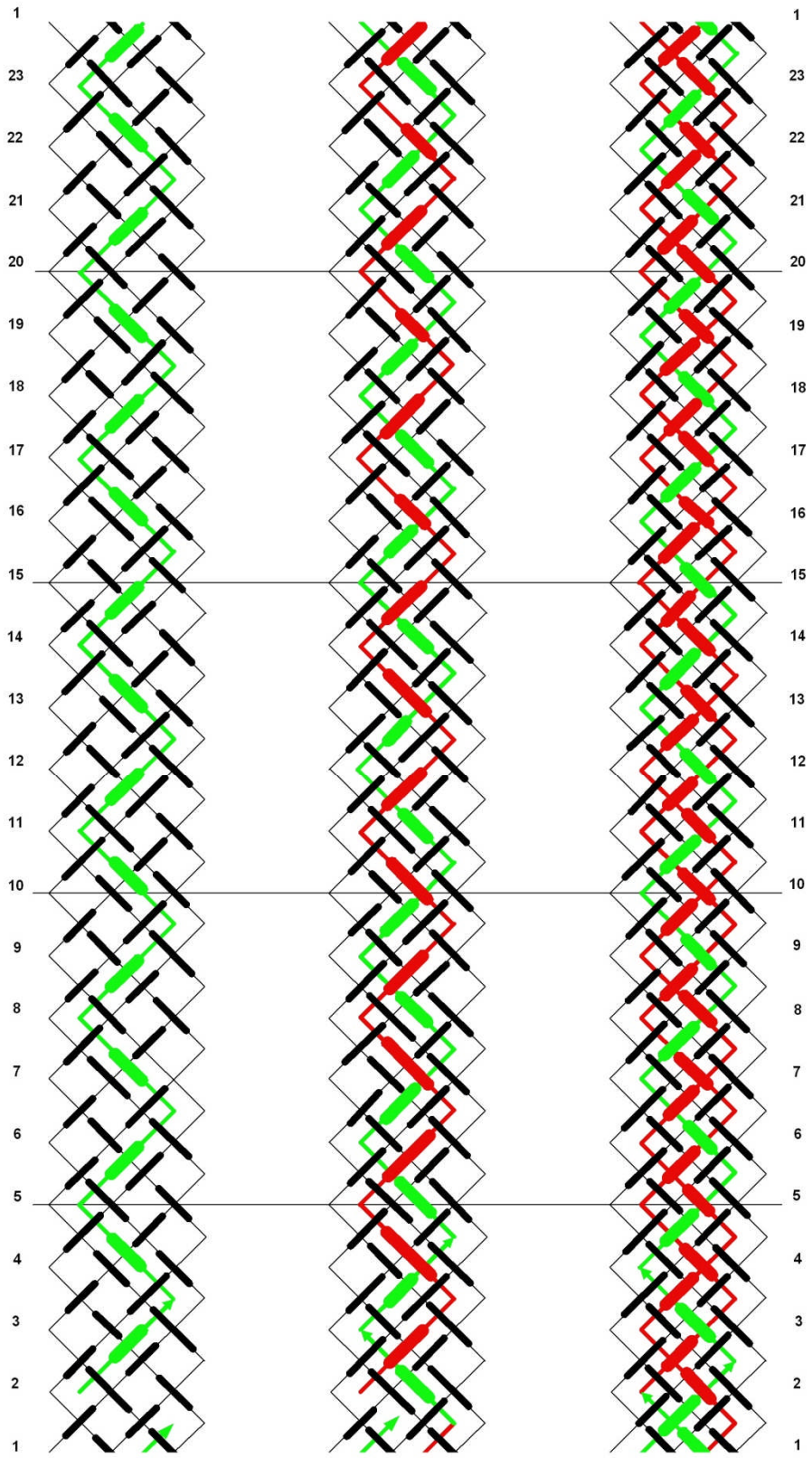
Stiphout July 2005.



(C) Pieter van de Griend
Stiphout July 2005

Regular Knot - casa coded
5 parts 23 bights

Fig.2



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Regular Knot Interweave
5/23 + 3/23

Fig.3

8-Bight Mat

by Pat Ducey

I was at my Mom's house over the holidays drinking some adult beverages when out came some coasters my Mom found among some stored stuff. They were all knots my Grandfather had tied. Most were Prolong Knots but two of them caught my eye. One is the subject of this article and the other will be in the next issue. This is an 8-bight mat and the other will be a 15-bight mat.

In the photo of the 8-bight mat, it looks like a collection of four loops of string, but in reality it is a single line. In the center of the knot the pattern changes from over one-under one to over two-under two. This is very characteristic of my Grandfather's style of tying knots. Changing to an over two-under two pattern will help the knot lay flatter in the center.

This knot is similar to ABOK #2360, which can be tied very quickly in hand. Roy Chapman has a tutorial posted at www.KHWW.net on how to tie it.

The 8-bight mat cannot be tied quite so easily, so I developed a template to tie it. The enclosed sheet of paper wraps around a toilet paper tube. Trim it so the ends meet cleanly at the joint and tape it to the tube. If you place pins or nails at the grey donuts you are ready to tie. Start where there is a color change in the pattern and follow one color at a time, paying attention to the over-under pattern. When you get back to where you started, pull out the nails, slide your work off, double the plies and tighten.

If you start now and tie enough of these, you will have a great coaster set ready to give away at Christmas. If you want a little larger mat, wait for the 15-bight mat in a future Knot News. As always I can be reached on the IGKT website www.IGKT.net and at www.KHWW.net if you have any questions about this or any other templates.

The Rigger's [or Bosun's] Club

with Jose Hernandez-Juviel

At the October 2005 LAMI Rigger's Club monthly meeting, Jose Hernandez-Juviel demonstrated how to perform a "Lock-Tuck Liverpool Splice", otherwise known as "Blood on the Wire". (You may recall the article that Jose wrote back in KN#37 describing this same process.)

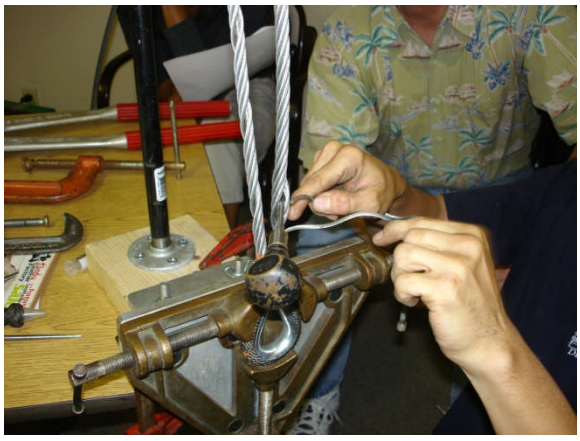
This splice is forming an eye in 7x19 wire rope. 7x19 means there are seven strands consisting of 19 smaller strands that make up the rope. The wire has been prepared by a coat of red lead paint and then parceled with 2-inch-wide canvas friction tape. It was then served with #72 tarred seine twine.

The rope used in this example was prepared for another purpose, so you can see the serving extends beyond the thimble. The splice will begin at the end of the serving (as you can see) an inch or so beyond the thimble. Under normal use the serving would be even with the ends of the thimble and the thimble would be tight within the eye formed by the splice. So, for the purist, the serving *is* incorrectly placed. But as this was just for instructional purposes, it worked OK.

Jose placed the rope in a splicing vice. The thimble is put in place. Wire rope and the thimble are seized in the vice. Everything is held in place for the splicing.

Beginning to separate the strands in preparation for inserting the first strand of the splice.

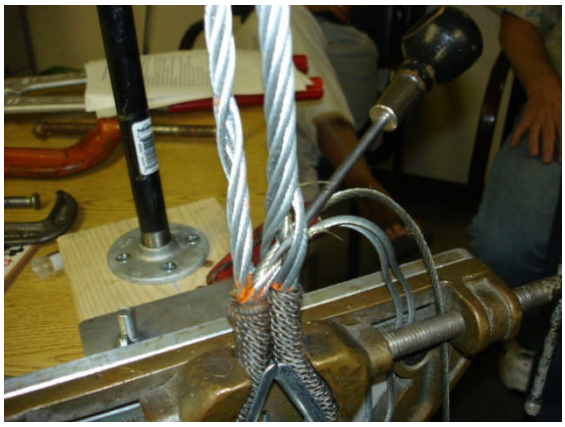
Shows the strands being separated.

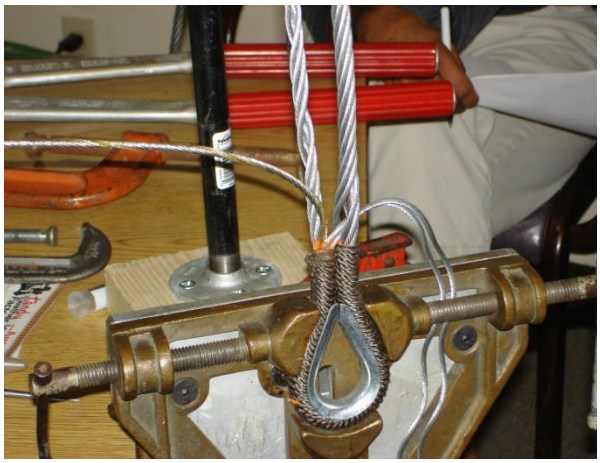


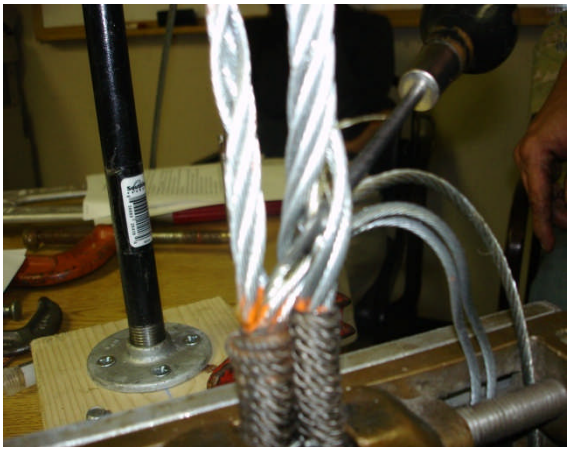
One strand unlaid from the rope and about to be reeved through the separated strands.

First strand laid in the rope, now separating the rope for the next strand in the splice.

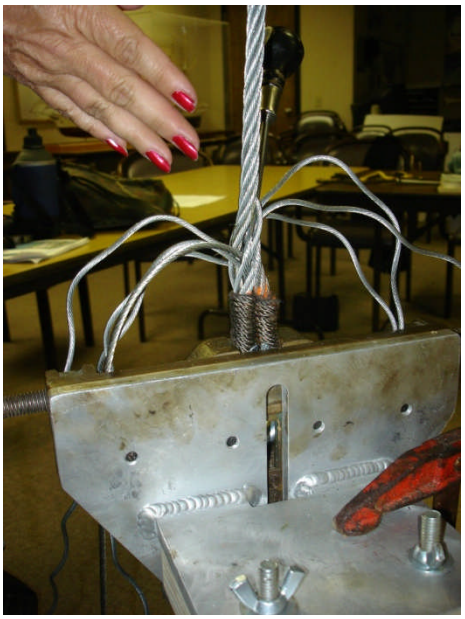
Following the sequence of opening the rope and inserting the unlaid strands forming the splice.⇩

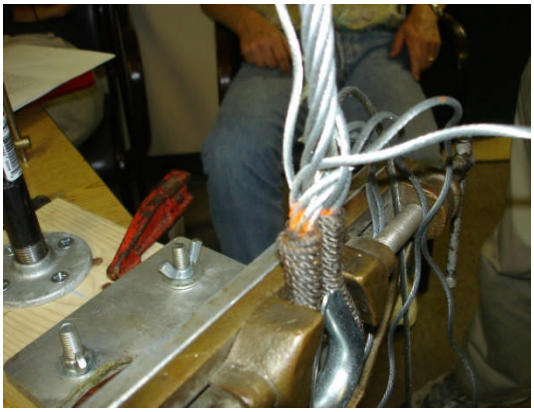


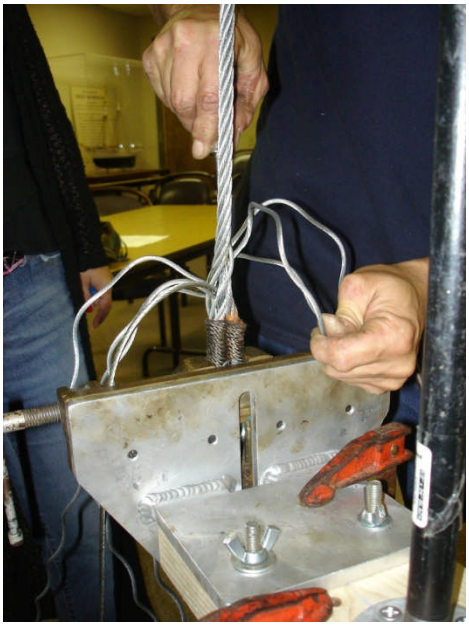


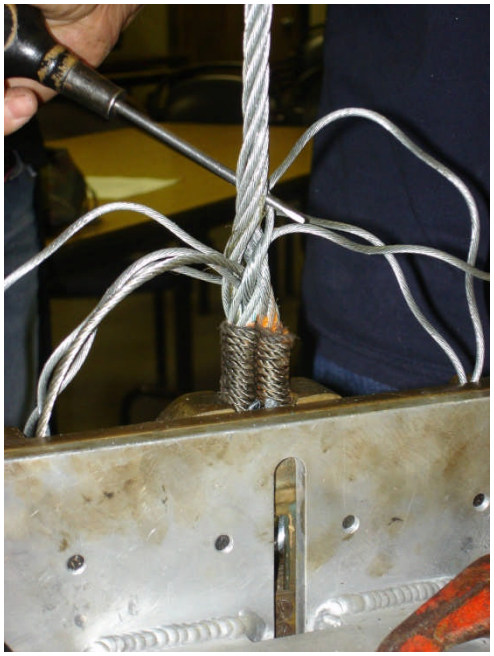


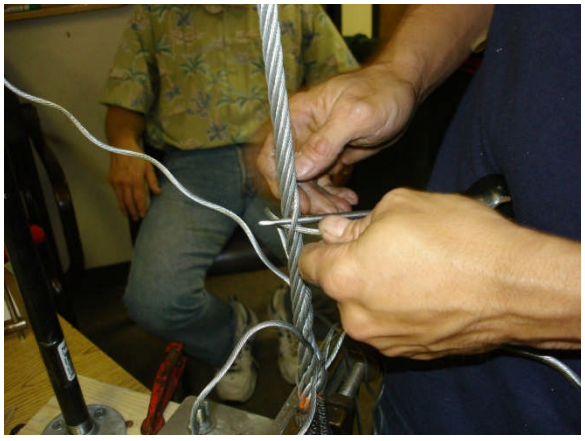
Continuing the splice one strand at a time. ⇩











The completed splice.

To be finished it would need to be pounded with a mallet to “seat” the strands of the splice, the tail ends removed, then probably painted with red lead, parceled and served.

The “classic“ Jose making the point known to the class!”

From the Mail Bag

Darrell Ausherman of , California sent in this correction for the Angler's Loop article that was published in KN 53.

"I believe there is an error in step 7 of the instructions for tying an Angler's Loop. These photos show the mistake and the correct way to make the knot:

Step 6 [KN]

Step 7 [KN]

The resulting slip knot

Corrected Step 7

Corrected Angler's Loop

Knot drawn up tight

Opposite side of finished knot