

THE ONE AND ONLY MONTHLY NEWSLETTER OF THE



EUGENE 5160 CLUB – SEPTEMBER 2011



The September Meeting will be Thursday the 1st at 6pm at the Woodcraft store in Sheldon Plaza on Coburg Road, Eugene. Informal Steering Committee meets at McDonald's at the North end of Sheldon Plaza at 5pm.



Wayne Goddard presented his tips and techniques for sheath making at the August meeting.



MARK YOUR CALENDAR

SEPTEMBER 1ST: Wayne Goddard invited ~ **BUTCH VALLOTTON** ~ to be the speaker at our September meeting, and Butch graciously accepted. My first awareness of his work was for the Applegate-Fairbairn combat folder project. To be brought in on a project like that you have to have proved yourself – and Mr. Vallotton has certainly done that. He has been a full time maker of functional and graceful knives since 1984. Including innovative and proven designs for folding, assisted opening, and OTF knives (<http://valknives.com/>). We are lucky to have him share his views and experience with us.



MISC. NOTES

My work called me out of town at the August meeting – so we owe **MIKE JOHNSON** our thanks for the notes and photos of Wayne's presentation on sheath making.

Remember that I post past newsletters here:
<http://www.elementalforge.com/5160Club/>

So without further ado – the following are Mighty Mike's notes and pictures from the August meeting... and you *don't* want to miss Butch Vallotton this Thursday!



AUGUST 5160 CLUB MEETING

WAYNE GODDARD started the meeting by reminding everyone that the end of the makeshift knife contest is fast approaching. The knife has to whittle a point on a stick. The contest is described here:

<http://www.elementalforge.com/5160Club/20110528WaynesWorldAndMakeshiftKnifeContest.pdf>

Wayne purchased about 50 copies of "The Wonders of Knifemaking" for about \$2.00 each when he was told the book was out of print. After making this purchase, the publishers asked Wayne to make a second edition.

The theme of the August meeting was knife sheath making with Wayne Goddard as the presenter. Wayne brought numerous tools and examples for his presentation.



Wayne began by showing his knife and sheath from 1963 that used aluminum aircraft rivets.

By 1976 Wayne's knives and sheath making had progressed to a much more professional appearance.



The first things to do in sheath making is to determine the size of the piece of leather to use for knife sheath. Wayne said you could make a paper pattern the way Ray Richard showed last month. Another way would be to use a gauge that Wayne developed.



The "T" is constructed from leather and/or leather and a strip of plastic. The long leg of the "T" is marked off, though the scale is a little hard to understand. The short leg of the "T" is placed against the spine of the knife and the long leg is wrapped around the thickest portion of the knife, usually the guard area. Wayne holds his thumb against the scale and moves it to the next largest scale marking.

The short leg of the "T" is about 1/4" to 3/8" wide. This represents the width of the welt spacer (where the sheath is sewn).

This is a critical point. Wayne said any good knife sheath will have a spacer between the two sides of the sheath. This protects the stitching from being cut by the edge. The welt spacer may be a single piece of leather, or may be stacked in a wedge, getting thicker toward the top of the sheath. This depends on how large or thick the handle of the knife is as well as the type of sheath you are making.

Wayne then cuts a piece of leather the width that the "T" measuring tool gave him. The length is determined by laying the knife on the leather and deciding how far up the handle the top will go.

Wayne showed us a Head knife, for cutting leather. Due to his Parkinson's Wayne has had to develop different cutting tools for leatherwork. One of the tools

is a simple short bladed “chisel” used to cut off ends of straps and skive ends thinner. The next tool that evolved was a short blade with a rounded end.



Wayne uses this tool held straight down onto the leather and rocks

it back and forth. He said a very small radius can be smoothly cut with very little effort and great control. Another tool he showed was a piece of steel with a notch cut into the end. This notch is the width of the welt spacer and is dragged across a piece of leather to mark where to cut the welt spacer. This way the welt spacer is always the same width (which is also the same width of the one leg of the “T” measuring tool).

Wayne cut the sheath to shape. For a pouch sheath for a knife with a larger guard, Wayne uses a notched welt spacer style.



This photo also shows a dagger sheath with a button stud. On the notched welt sheath, the welt and spacer extends past the edge of the blade part of the sheath so the knife guard rests on the step.

Wayne dyes his leather by dipping the leather into a container filled with his color mixture. He made it clear that we probably would not get the same color dye job he does as he has mixed colors until it was the way he wanted it. Using a dauber to spread on the dye doesn't result in an even color application. Wayne leaves the leather in the dye for a count of 10. This gives dye penetration of about 1/3 the thickness front and back.

While the dye is still wet, Wayne wet forms the sheath. The moisture from the dye is just right for wet

forming. Wayne lets the sheath dry at this point.

The next step is to install the belt loop. Wayne is using a high riding sheath that keeps the bottom of the sheath from pushing into the seat when you sit down. He is riveting either a short loop or a strap to the back of the sheath. See the previous photo and this one:



To keep the tube rivets from rubbing in the knife handle, Wayne uses a counter sink to cut a recess inside the sheath so the rivet head is below the level of the inside of the sheath.

Once the dye is dry, Wayne uses another small scribing/marking tool to scribe a line front and back along the welt where the sheath will be stitched. Before starting to stitch, Wayne uses a groove cutter along this line both front and back. This gives a recess for the stitches to lay in. By recessing the stitches, they can't wear and break.



Wayne showed that an additional use for the groove cutter is to run grooves on the inside of the sheath the width of the cross section of the handle. This method is used if the sheath is not going to be wet moulded as it helps the leather fold around the handle.

Wayne said he can usually freehand punch the stitch holes evenly enough. A stitching wheel marker can help keep the stitch lengths even. There are several different ways to punch to the stitch holes.



A hand awl with a diamond shaped point is one of the most common methods. The diamond shaped awl, or even a round awl can be chucked into a drill press. Wayne uses a fixture that sits on the drill press table with a notch that the awl pushes through. Wayne said the holes can be drilled, but they tend to be messy on the back side of the sheath.



Dave had another method for punching the stitching holes by converting a reloading press. The awl, a turned down Allen wrench, is fixed and the sheath sets on the piston that has a leather pad. The angle fixture pulls the sheath off the awl and is a guide for the next stitch.



A friend of mine said a reloading press is an "over-center" fulcrum device. Which means that it is capable of putting out theoretically infinite force. The real world limitation are on the material that the press is made of. This means with very little effort, a reloading press could be used as a pin press and could be used to punch holes in light metal. He and I are working on the tools for this application.

The next step in the process of putting together a superior sheath is to glue the welt together. Wayne uses Barge Contact Cement, which is made specifically for leatherwork. The small cans of Barge come with an applicator brush attached to the lid, but the gallon size do not. Wayne said he has experimented with all sorts of brushes and has not had very good success. He did however find that a small plastic squeeze bottle with a small application hole works very well. It lays a fine bead of Barge on each of the welt pieces, which can then be spread out with a small scrap of leather (there are always small scraps of leather laying around).

Note: if you are going to get a gallon of Barge Cement, also buy a gallon of Barge Cement Thinner. The cement will thicken up over time in the can and by keeping it thinned down it lasts longer, spreads easier and dries quicker.

Wayne uses a hair drier (I'm sure it's one he got at a garage sale) to help the Barge dry, which it needs to be before putting the pieces together. Wayne said you can also light the cement on fire with a lighter to dry it, but I have had little luck getting good adhesion that way. The directions say to put a second coat over the first, but Wayne told us that since the cement only has to hold the welt in place while stitching, it really isn't necessary.

To make the next step, stitching, easier, Wayne built a couple different tools (imagine that). The first tool is the stitching needle. Wayne takes a hook type needle made for an American Straight Needle shoe soling machine and gives it a blue color temper. These needles are available at Oregon Leather (that's where I get mine for my machine) and come in different diameters. The needle is mounted in a handle for easy use.



I mounted mine in an awl handle that already had a chuck/collet, but it looked like Wayne's as mounted in a home made handle.

The second tool Wayne finds to be indispensable is a stitching horse. Since this is a small version that is placed between your legs while setting on a regular chair, it could be called a stitching Pony. Wayne found that oak pallets are the ideal material for the stitching pony both because of the price and they are flexible and stiff enough to work well. The jaws of the stitching pony need to have spacers so they can grip the welt area while stitching and still have room for the sheath between the vertical arms.



Wayne gave us the formula for determining how much thread you need for your sheath. The thread should be 5 times the length of the welt.

Wayne uses a light cord/thread called Nyltex, again available at Oregon Leather. It is a flat waxed cord that comes in brown, black and white. The cord lays flat in the stitching groove and looks great.

To begin stitching, Wayne starts at the top of the sheath. He clamps the welt in the jaws of the pony with an inch or so sticking out in front. The needle is pushed through the top hole, the end of the thread is hooked and is pulled through so that half the thread is on each side of the sheath. The needle is moved to the next hole and pushed through. The thread is hooked onto the needle and only a short loop is pulled through. The end of thread "B" is pulled through the loop of thread "A" and the loop is pulled tight. This is a Lock Stitch, the same as the American Straight Needle Stitching Machine makes. Wayne said it is a much stronger stitch than a double needle stitch. Also, when using the double needle method the second needle is hard to push through the hole with the thread in it and

the first thread can be damaged. Wayne uses a leather fingerless glove while stitching to protect the hand from getting cut by the thread while it's being pulled tight. Once the exposed section of welt is stitched, move the sheath to expose another couple inches and continue stitching.

For finishing the welt, Wayne showed the round edger/cutter. It rounds each edge of the welt. The one in this photo is a commercially made one, but Wayne showed us his that is easily made by drilling a hole in a narrow piece of steel, bending it and grinding out the bottom of the bend.



Once the sheath is stitched and the welt rounded Wayne dips the whole sheath in his "secret mixture" of 50% pure neatsfoot oil and 50% bees wax that is heated to 160 to 180 degrees F. Wayne cautioned that there were neatsfoot oil with additives that did not work well.

To test your mixture, take a strip of leather and dip it into the warm mixture and count to 10. The leather should get stiff and when cut in half should show about 1/3 the thickness on both sides.

Hold the sheath in the mixture making sure the inside is filled. Submerge to the count of 10 then drain out all excess. Rub a dauber over the outside of the sheath to even out the coating. Check the sheath in about 10 minutes for dry spots and reapply a little with the dauber on the dry spots.

This should make the sheath stiff and give an even wax/oil finish. Wayne showed us a welt burnishing tool. A block of wood with a Air Force belt around it and into the notch. The welt is placed into the notch and rubbed. This gives the welt a finished edge.



Note: Any piece of heavy canvas with a little wax rubbed into it will burnish a welt to a high gloss, but the wooden block would make it easier and help create more friction/heat to melt in the wax.

One more addition Wayne makes to his sheaths is a drain hole in the bottom. He likes a hole punched through both sides rather than leaving the welt spacer short of the bottom.

When Wayne rivets his sheaths, he uses tube rivets top and bottom. They are available in brass or nickel.

Another option for decorating the sheath is to use copper nails along the welt instead of rivets (see photo). Wayne drives the copper nail through the welt and drives the point "into" a steel block to clinch them over. This makes a very strong "rivet" even without glue.

Wayne found a company on-line called "The Copper Nail" in California that caters to boat builders as a good source.



Wayne then showed and demonstrated several leather stamps. Some were home made and others commercially made.

Note: Thought Wayne demonstrated using the stamps on dry leather, if the leather is lightly dampened with water from a spray bottle or sponge, less energy is needed and the stamp leaves a deeper and more permanent impression.

While striking the larger stamps, Wayne showed a rolling motion while tapping on the stamp. This made sure all the edges of the stamp left an even impression in the leather.



Wayne made a stamp with his logo to use on each of his sheaths. He said every 10 years he makes a new stamp or changes the one used with a series of lines that allows him to tell when a sheath was made (photo 20). Some of the stamps were made on the heads of square nails.

Everyone had a chance to try out the stamps and different hammering methods.



The meeting ended with a request from Wayne for idea for speaker and/or subjects for the upcoming meetings. An in-depth discussion on folding knives was one idea and Butch Vallotton's name was suggested as a speaker on that subject. Another idea was a return visit by Bill Harsey which was approved enthusiastically.

The only show and tell was a small knife brought by Mighty Mike. The blade was forged from coil spring, the handle was finished in dark hardwood (Cocobolo?) and Birdseye Maple. The copper ferrel between the two woods was made from a piece of copper plumbing pipe that was forged rectangular. The whole handle is rectangular in cross section.



Wayne commented that he is not fond of light colored wood as handle material, the copper could have been narrower than the dark wood, the longer light wooden section could have been broken up by a copper pin pattern and could have flared out wider than the rest of

the handle. The tip of the blade could have had a little more belly, the width of a heavy pencil line, to make the tip stronger and give it a longer sharpening life (I asked for the advice). Other than that, Wayne thought the knife was well made.



Apparently I missed some delicious crab dip –
Mighty Mike sent along the recipe:

1 1/2 cups cream cheese
enough ranch dressing to thin the cream cheese to
"dip" consistency
1 plus cups of fresh cracked crab meat
4 drops of Worcestershire sauce
1 T of very finely chopped white onion

mix well and serve with chips or crackers



DE-CLASSIFIEDS

Buy/sell/trade/etc. notices received by the editor. I'll repeat notes a few times then drop them unless I hear that the deal is still on. Postings are not backed by anyone other than the person who sent in the notice. We're an honorable group of people but still, misunderstandings can occur and it's up to the folks making a deal to check it out first.

Larry "Bear" Criteser has a commercially made oxy/acetl. cart with an 80 or 100 cubic ft. oxy bottle (not sure which) with unknown amount of gas in it, for sale. No acetl. bottle, sorry. He'd like to get \$75 for the cart and bottle. He also has an extra oxy bottle the same size as the one with the cart, with some gas in it for \$40. Home phone is 541-689-5680, or email at [<bearsgunnery@criteser.com>](mailto:bearsgunnery@criteser.com)

Marty has a 6" jaw width post vise for sale. Also 1050 and 5160 steels, old files to make knives out of, and anhydrous borax. Martin Brandt 541 954-2168

Wayne's totally revised **Wonder of Knifemaking** is now available. And I believe he still has an active free steel pile beside his driveway, and an ongoing tool sale. Call for an appointment: 541 689-8098.

Mighty Mike has access to a steady supply of used LARGE brake drums that can be welded up as bases for post vices, grinders, propane forges or whatever. Let him know if you are interested: Mike Johnston 503 351-3104.



Once again – many thanks to Mighty Mike for taking great notes and photos at the August meeting. I felt like I was at the meeting – but who am I kidding – I *know* it's better to be there in person. See you Thursday!

Mossy Mike, signing off!