

Rocky Forge News

Volume 8, issue 11 – December, 2009

December Meeting (12/12)

The December meeting of Rocky Forge Blacksmith Guild will be held at Chaz Kaiser's shop in Batesville. This is usually a great meeting in a very interesting shop. Ted and Dominick will provide transportation leaving from Ted's at 6:45AM.

Aubrey Williams, a well-known blacksmith from Brazil, Indiana will demonstrate. Aubrey was the official blacksmith for the recent reenactment of the Lewis and Clark expedition. Aubrey portrayed one of the expedition blacksmiths, John Shields, and went all the way to the Pacific in retracing the historic expedition of 1803-1806.

Lunch is a pitch-in so bring a nutritious and healthy dish to share. Also bring metal for Iron-in-the-Hat.

Directions to Chaz's Aesthetic Metal Studio

Coming from central Indiana, take I 74 east towards Batesville. Exit at SR229 and turn south towards Batesville. Turn left onto IN 46 / Broadway St. and follow for about 1 mile. Turn right onto Pearl St. (by Batesville Casket) then follow Pearl St. to Indiana Ave. The address is 16 Indiana Avenue, Batesville, IN 47006.

November Meeting (11/14)

Don Neuenschwander gave a dynamite demonstration of how he makes a beautiful copper vase. Don gave us for free (knowledge) what you have to pay for at the John C. Campbell Folk School.

See Dominick's article on the Don's demonstration that follows.



Two projects were discussed in the Rocky Forge November meeting. The first was the weathercock project commissioned for the woman's building at

the Illiana Antique Power Association's show ground in Rainsville. It was decided that Charlie Terrell has a great design that we should use for this project. The second was the IBA Table Contest for the summer conference in Tipton on June 25-27. Some people expressed interest in the table contest, but the table was tabled for want of a champion.

January Meeting (1/9/2010)

On Saturday, January 9, 2009, we will meet at Ted's Shop. The topic will be **nail making**. For those of you who do not have a nail header, Ted and Dominick will show you how to make a nail header. Those of you with a nail header will have lots of opportunity to fine-tune your hammer work. Dominick's speed record is a nail in 29 seconds.

For homework you should read the article on nail making in the November *Rocky Forge News*. The truly motivated student of nail making will also read the document that can be found at <http://appalachiablacksmiths.com/Documents/Making%20Nails.doc>.

ABANA Conference Registration

Now you can register online for the ABANA 2010 Conference at the www.abana.org by downloading the registration form and sending it along with your payment of \$199. Or if your ABANA membership needs attention, you can take advantage of several package deals. Please note that this \$199 registration rate is the super early bird rate and will go up after Dec. 30, 2009.

The Wise Old Smith

The Wise Old Smith once told me to work efficiently but without *too many irons in the fire* and to *strike when the iron is hot*. Remember, he said, that you may be *touch as nails* and still not succeed *for want of a nail*. When things don't go so well in your shop, it is helpful as a stress reliever to *chew nails and spit tacks*. But once you get your nail making procedures *nailed down* you will be able to routinely *hit the nail on the head*.

Don Does Copper

By Dominick Andrisani

Don Neuenschwander is a delightful demonstrator with a wealth of knowledge. He is patient and informative, and he's 86 years young.

In this demonstration Don made a copper vase from a 6-inch piece of copper pipe of 1.5 inches in diameter. Once the tubular body was

decorated he soldered on a flat bottom from a separate piece of sheet copper. Then he cleaned it up and added a chocolate patina. The process is outlined below as best as I can remember it.

- Use a light or medium thickness copper pipe of diameter ranging from 1-2 inches.
- Remove any manufacturing marking using light sandpaper or steel wool.
- Anneal the pipe by getting it red hot in a forge or with a torch. Be careful when you quench a hot pipe section as steam can come out the hot end.
- You will need a steel rod of diameter slightly smaller than your pipe. Secure the rod firmly in the pipe vice. The rod now acts as a mandrel allowing you to work on the pipe against a hard surface. You can buy a suitable pipe 4" pipe vice at Harbor Freight for about \$23. Alternatively you can use a bick horn or suitable PEXTO conductor stake.



- Two scratched lines are added near the top and the bottom of the pipe. Both lines go all the way around and are spaced about 0.25 inches from the ends of the pipe. Both lines serve to form a crisp and definitive end to the design. The lines can be added with a metal scratching point that can be held at a fixed distance from the end of the pipe. A slightly modified compass will work.



- Place the pipe on a flat surface. Gently hammer the bottom opening of the pipe to create a slight outward flare. This slight taper on bottom allows easier cleanup of solder joint.



- Create a pattern on paper of the design you want to put on the sides of the vase. Glue the pattern on the pipe with rubber cement.

- Lightly score the pattern on with a light hammer (a cobblers hammer with the face ground flat will do). This step only lightly marks the design. A canoe-shaped chisel made of s7 or w1 tool steel will work for this.



- Remove the pattern. Darken all the lines with a chisel to make them uniform and refined.

- Decide which side of the lines are to be visually higher in your design. On the low side of the line use butchers to push the metal away from the line. With the pipe on the mandrel use various butchers to make the design more prominent. Use at least a first pass butcher and a second pass butcher. Some people use a third pass butcher or even a flatter to further emphasize the line.



- With the pipe on the mandrel, use a ball peen hammer to uniformly peen the background to the design.

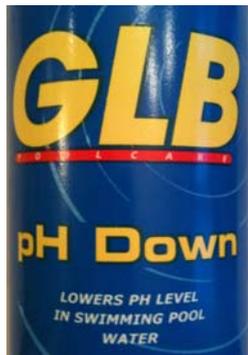
- Gently hammer the top end of the pipe to flare-in the top. This upsets the copper as the metal deforms to the smaller diameter of the flare-in.



- Find a flat piece of copper of larger diameter than the pipe to serve as the bottom of the vase. It

will be trimmed to suitable size later. The base can be a half-inch larger than the pipe all around at this stage.

- Use PHOS Copper solder or equivalent to fix the base to the bottom of the pipe. Roughly speaking, PHOS Copper is silver solder without the silver. See harrisproductsgroup.com.
- Place the pipe on top of the base with a weight on top to keep the pipe firmly pressed onto the base. Make sure the fit between the pipe and the base is tight. Check it with a flashlight. The light shining through the joint should be uniformly small. If not, remove the pipe and sand the bottom till the light is uniformly small.
- Cut a thin solder rod into eight or ten 0.25" pieces. Place them inside the pipe and push them with another rod to the edges of the pipe at the bottom uniformly around the circumference.
- Silver solder flux is optional. You can mix the flux with water. Don't get flux on the outside vertical side of the pipe or solder will tend to go up the side. Apply flux only to the bottom and where the bottom touches the pipe. All metal where you want solder to stick should be clean.
- With a torch, heat both the pipe and the base from the outside. Use an oxy-acetylene torch with number 2 or 3 tip. Don't melt the copper!
- Look for silver line! As the copper heats the solder will get sucked into the small gap between the pieces of copper. The gap will fill with solder and look like a thin silver line. This is the indication of a good bond. With the torch suck the silver line all the way around the pipe.
- Trim the bottom with Beverly Shear or tin snips. Grind or sand the edge till smooth. The slight flare-out added earlier will make the edge easier to clean up.
- Polish the edge with fine steel wool. Lightly peen edge with a ball peen, if desired.
- Prepare copper cleaner solution. Use Sparex No.2 Pickling Compound (or "DuPont Spa Care pH Decreaser" or any other pool pH decriaser which you can get from a pool store or sometimes



Wal-Mart). Put a handful of Sparex in a 2.5 gallon bucket of warm water. These products in water produce a mild sulfuric acid so be careful with your clothing and have adequate ventilation. The chemical compound in these granular products is sodium bisulfate.

- Clean the vase by submerging it in Sparex solution for several minutes.
- Rinse in a bucket of clean water.
- Prepare brownish patina brew. Add 2 pebbles of "liver of sulfur" in small bucket of warm water. Make sure pellets dissolve or you will get local dark spots. Stir with a wooden stick. You can buy liver of sulfur (sulphurated potash) at RioGrande.com for about \$16. Liver of sulfur works best when either it (or the work-piece) is warm or hot, producing a durable dark finish.
- Create the patina by submerging the vase in the liver of sulfur solution for several minutes.
- Remove the vase and polish with fine steel wool. This will lighten the high spots and leave the indentations chocolate brown.
- Repeat the process 2 or 3 times with liver of sulfur to get a dark chocolate patina.
- Rinse in a bucket of clean water.
- If the vase leaks when partially submerged in water, seal it on the inside with candle wax.
- Polish with Johnsons Wax.
- Admire your finished vase!



Don's Copper Details



Gene Hollingsworth's Copper Work



Dates to Remember

December 12: IBA Meeting Chaz Kaiser's (Board Meeting). Ted and Dom provide rides. Leave at 6:45 AM from Ted's.

January 9, 2010: Rocky Forge meeting at Ted's on the topic of nail making.

June 2-5, 2010: ABANA Conference, Memphis, Tennessee.

June 25-27, 2010: IBA Conference, Tipton.

July 16-18, 2010: Illiana Antique Power Association Show, Rainsville.

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Web Site: <http://www.rockyforge.org/> (previous newsletters can be found here).

Interesting Web Sites

Site devoted to Don Neuenschwander
www.donsforge.com/

The Secrets of Metal Shaping by Lasse Jansson
lazzemetalshaping.com/

Lorelei Sims: www.blacksmithchic.com/

Susan Madacsi: www.madacsimetalwork.com/

Jill Turman: www.bellaironworks.com/