

# THE HOT IRON SPARKLE

\* Newsletter of the North Carolina ABANA \*

www.ncabana.org

Volume 26 Number 3



3 rd. Quarter 2008 – July/August/Sept



**NC ABANA Members -  
Working Hard**

INSIDE THIS ISSUE					
President's Message	P 2	Fireplace Grill – Tal Harris	P17	Blacksmith's Exchange	P 35
Editor's and Secretary's Notes	P 3	Dogwood Flower and Candle Holder – Randy Stoltz	P19	Forms	P 38
Regional Group Meetings	P 4	Tire Hammer Vise – Allan Kahkonen	P26	2008 Chapter Calendar	P 39
Second Quarter. 2008 Chapter Meeting	P11	Controlled Hand Forging - Splitting	P28	New Members	P 40
An Afternoon with Billy Phelps	P13	Blacksmithing Classes at Campbell Folk School	P33	Chapter Officers	P 40
Third Quarter 2008 Chapter Meeting	P16				



Jimmy Alexander  
Photo by: Hill Willis

## A MESSAGE FROM OUR PRESIDENT

Our second quarter meeting was at the Dixie Classic Fairgrounds in Winston Salem with Billy Phelps demonstrating. There was a crowd of about 35 watching Billy work his magic with animal heads! He showed us a lot of different techniques in creating the different animal heads. Billy also showed us about over heating spring steel and how the grain grew. Thanks Billy for a great day! Thanks to Marshall and everyone from the Triad Area for hosting the meeting.

I would like to thank Marty for the great job he did with the write up about my reproduction of the grate. As he said I did answer too quickly to reproducing the grate, next time I'll make sure I think about it before agreeing to do it. It was truly a lot of work!

Our next meeting will be at Steve and Shirley Kayne's in Candler. Tom Troszak and Susan Hutchinson will be our demonstrators. Hope to see everyone there.

Forge safely,  
Jimmy

---

Submissions to the HOT IRON SPARKLE can be made to:

**Martin Lyon**  
**220 Fearington Post**  
**Pittsboro, NC 27312**

or e-mail at: [ncabanaml@earthlink.net](mailto:ncabanaml@earthlink.net)  
(919) 642-0098

***The Hot Iron Sparkle*** is published quarterly by the North Carolina Chapter of ABANA. Chapter dues of \$20.00 (\$25.00 after July 1, 2008) per year include a subscription to *The Hot Iron Sparkle*. Any original material herein may be copied in any Blacksmith Newsletter provided appropriate credit is given. All other rights reserved.

## EDITOR'S NOTES

*To the NC ABANA Members,*

I would like to thank Allan Kahkonen, Randy Stoltz, and Tal Harris for their contributions to this issue. This is how the newsletter should be: articles from our members. People like to see what you are creating. If you have a technique or a project to share with the rest of us, this newsletter is the means to do it. Thanks again guys.

I enjoyed a wonderful trip to Billy Phelp's shop in southern Virginia. We discussed blacksmithing, and many, many other things. We talked a lot about coal and why the coal many of us buy is not adequate. If you look on the top of page 37, you will find an ad from Fred Pugh for sewell vein, pea stoker, washed, coal. The description of this coal sounds like what Billy would recommend. If you purchase this coal from Fred, please let me know what you think of it and I will put your comments in the next issue. I do not like putting in ads from non-members but I thought this would be a benefit to members. I tried to talk Fred into joining NCABANA, but I was not successful. If you purchase coal from him please mention the benefits of membership.

I have noticed attendance at our chapter meetings seems lower than in prior years. I am sure gasoline prices are a major contributing factor. We have a large state, and the distance many of us have to travel to meetings is considerable. The only thing I can suggest is to plan ahead and to carpool.

I try to get the newsletter out in time to notify members of the next chapter meeting. I sent e-mails to those members to see when they received their last newsletter. What I found is that it takes much longer for the newsletter to reach many of you and you received it after the meeting in Winston Salem. I apologize to you and will try my best to get the newsletter mailed sooner.

**REMEMBER; IF YOU ARE MOVING PLEASE LET ME KNOW SO YOU DON'T MISS YOUR NEWSLETTERS!!!**

Good Blacksmithing

Marty Lyon, Editor

## Secretary's Notes

There was no board meeting at the second quarter chapter meeting; however, Jimmy Alexander held a chapter meeting of the members in attendance.

Jimmy asked for nominations for President and Treasurer. No nominations were offered. If no nominations are offered at the third quarter meeting, on August 23, elections will not be held and Jimmy Alexander and Parks Low will remain in office for another two years.

The farmer's market in Durham, across the street from Jimmy Alexander's shop, has offered us free space for a one-day conference and auction. This would be at the end of 2008, or early 2009.

Jimmy and Cindy reminded us of the Southern Blacksmith Association (SBA) conference on May 15 and 16, 2009. NC ABANA is responsible for the gallery and auction. The Alabama Forge Council is in charge of this conference. NC ABANA will be in charge of the next conference in 2011.

Marty Lyon, NC ABANA Secretary.

## REGIONAL GROUP MEETINGS

### Triangle Blacksmiths Guild Meetings by Randy Stoltz

The Triangle Blacksmiths Guild met Saturday June 7, 2008 at Allan Green's shop in Hillsborough, NC. Randy Stoltz (me) demonstrated making dogwood flower candle cups from  $\frac{3}{4}$  inch steel pipe. In March when I offered to help out at this meeting I did not think it would be 98 degrees. Despite the heat 18 members showed up and participated. A special thank you to Allan's wife for preparing a delicious lunch for us using some of the grass fed beef they raise.

Before the demonstration members brought and displayed samples of various steels that we often talk about. We discussed the uses and properties of the various types of steels and iron. Displayed were S7 (air hardening tool steel), H13 (air hardening tool steel that keeps its temper at high temperatures), Coil and leaf spring steel (5160), L7 (used for saw blades), D2, cast iron, and wrought iron. As it was pretty hot already everyone declined the offer to try their hand at forging some of the tool steels so we proceeded with the demonstration.

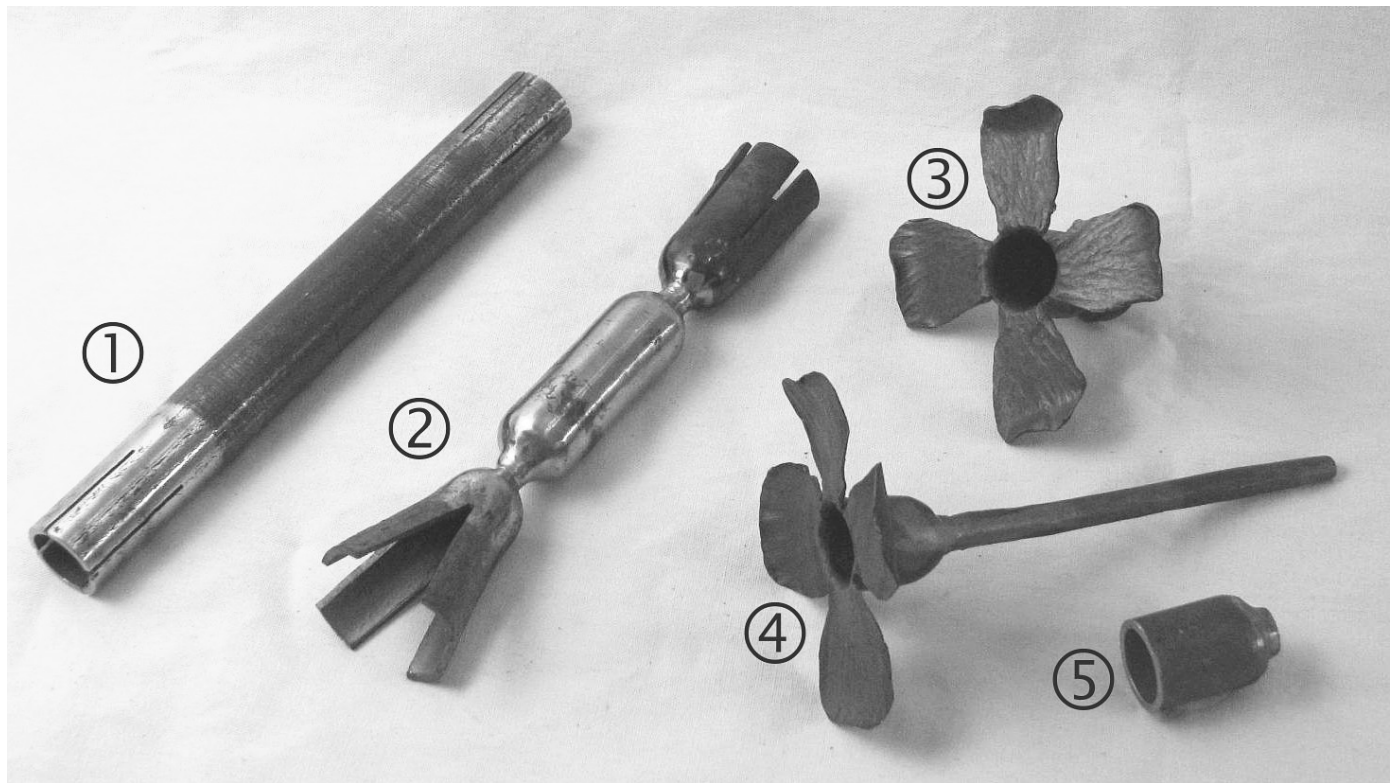
For the demonstration two  $1\frac{1}{2}$  inch cuts were made lengthwise in the end of a short piece of  $\frac{3}{4}$  inch black pipe to divide it into 4 equal sized petals for the flower. Note that galvanized pipe should not be used because the fumes released when heated are toxic. The next step is to heat the pipe below the cuts for the petal and use a hardy tool to fuller the pipe forming the candle cup. However in addition to the 98 degree heat this demonstration was not destined to go smoothly.

As common in many demonstrations I was sidetracked with a question and burned up the first piece in the forge. I had prepared additional pieces for the audience to use so I grabbed another piece of pipe and heated it up. Next the hinged fullering tool I used to make the candle cups would not fit the hardy hole in Allan's anvil so I clamped it in the post vice and promptly broke one of the welds when I started hammering on it. Fortunately I had brought a spring fuller as a backup and was able to continue to reduce the diameter of the pipe until the internal diameter was  $\frac{1}{4}$  inch.



The rest of the demonstration went better. I spread the fingers on the cut end of the pipe using the horn of the anvil. Holding the pipe vertically with the splayed fingers on the face of the anvil, I used the cross peen to shape the leaves. Then laying the pipe on the face of the anvil I used the side of the anvil to texture the top of the petals again using a cross peen. Shaping the petals can be done on the face or side of the anvil. I find it easier to shape the petals on the face and then add veins with the peen on the side of the anvil. To cup the petals and add a dimple I heat the petals, place the candle cup on the tip of the horn, and lightly tap the end of each petal with the peen. To complete the candle holder the candle cup is sawed off the remaining stock, a stem is formed with a  $\frac{1}{4}$  inch tenon, the stem heated and inserted into the candle cup, and peened into place.

*The author spreading the cut end of the pipe to form*



*The various stages of the making of the dogwood flower candle holder.*

1.  $\frac{3}{4}$  inch steel pipe with the ends cut to form 4 fingers.
2. A fuller is used to neck down the pipe 1 inch below the fingers to form the candle cup.
3. The fingers are spread out and shaped into petals.
4. A stem with a  $\frac{1}{4}$  inch tenon is created and peened into place.
5. The waste cut can be used to make a plain candle holder.



*Allan Green using repaired fullering tool*

Since this meeting was supposed to be both a demonstration and hands on workshop and we has some time left before lunch was served, we repaired the broken fullering tool and modified it to fit Allan's anvil. Some of the coil spring stock was used to create a rivet doming / set tool that could fit inside the candle cup and peen the head of the tenon on the stem. After the excellent lunch prepared by his wife, Allan Green took to the forge and made a dogwood flower candle holder.

## Triad Area Blacksmiths by Marshall Swaringen

### May Meeting

The May meeting was held with 18 members present. Safety was discussed while working at the forge and while watching. Arrangements were finalized for the 2<sup>nd</sup> quarter chapter meeting.

Our next "Saturday All Day Hammering" will be on June 21, 2008 starting at 9:00 AM. If you need information on the day please contact me at 336-998-7827 or [marshall@swaringen.com](mailto:marshall@swaringen.com).

Our young members were having a great time on the anvils and we decide to help them and socialize the rest of the evening.

### June Meeting

The June 3 meeting was attended by 16 members. We had 8 visitors that came to watch one of our young members at the anvil. The meeting was called to order and first item was to finalize our Saturday Hammering plans for June 21<sup>st</sup> at 9 AM. It will be a day of hammering and a workday to clean the shop and outside area. The NCABANA Scholarship was explained to the members. Billy Phelps provided a demo on how to create a welded hinge. Afterwards the anvils were in use for a couple of hours.



### June Saturday Hammering

Nine members were present for the Saturday Hammering and workday. Maintenance was performed on the outside of the building including re-nailing boards. The area was raked and cleaned. The wood pile that will supply the needed fuel for cooking at the fair this fall was cleaned and neatly stacked.

Inside the shop, tongs were tuned and display items were cleaned and polished.

While this work was being done, a group started cleaning the Ralph Zimmerman Museum. The building had been used for storage over the years and was not ready to use as a display facility. After removing a couple of loads of garbage and relocating equipment, the building was clean and ready for a new life. The sign above the door was painted red by Gail Wall.

During our lunch break, Bernd Mergener visited the Farmer's Market and returned with a large water melon to share with everybody.

After lunch the forges and anvils provided entertainment for anybody that had an arm left



## July Meeting

The July 1, 2008 meeting was called to order with a couple of items to discuss. Some members have asked about moving our meeting date to a Saturday from the first Tuesday. Discussion was had pro and con and a decision will be made at the November meeting. Members were advised of the fair dates and notified that a signup sheet will be ready at the August meeting.

The Ralph Zimmerman Museum was discussed at length. Many items were suggested for display. Additional work, lights, steps, and wall boards, was identified and will be addressed at the next Saturday Hammering.

Our next Saturday Hammering and work day is scheduled for August 9<sup>th</sup> at 9 AM. Forges will be open and anvils ready for use until all arms are tired.

It was nice to have Andy Phillips join us from Asheville.

Billy Phelps gave demonstration on making a spoon for applying flux. When the demonstration was complete, some of our younger members completed the same item under Billy's direction.



## Western North Carolina Blacksmiths by Shirley Kayne

### **December 2007 Meeting (We're doing a little catch-up)**

18 attendees showed up for the meeting on 12/12/07. David Burnette and Steve Kayne showed various fixtures, jigs, forms and time saving tricks.

### **January Meeting**

Steve Sane demonstrated on our 17th anniversary of having meetings at our shop.

In January we had 29 attendees to watch Steve Sane demonstrate the specialized tooling he uses to forge candle cups of various styles. He also exhibited a rose he made. David Kayne was suppose to demonstrate but was sick so Ronnie Boydston, with his sidekick, Bill Wiggins pitched in and forged a tomahawk from several layers of damascus. We had about 35 + attendees. Ronnie Boydston stated, per Bill Wiggins, that he was using "smashed steel" when asked what steel he was using. He said they smash it and smash it with layers and layers of 3 different kinds of steel

### **March Meeting**

David Kayne demonstrated on March 12 for 32 of us. He forged a complete thumb latch set including the various parts: thumber, various style catches, keepers and latch bars.



### **April Meeting**

On April 9th Bill Wiggins demonstrated under the adverse conditions of Ronnie Boydston harassing him. He started out with the makings of a billet, stacked it, and forged it under the power hammer into multiple layers of damascus. He then forged a blade, rough finished it, heat treated it, tested it. then he reheated it and purposely improperly heat treated it and broke it into a number of pieces to allow the 28 attendees who were in awe to inspect the broken pieces. This was a preliminary demo leading up to the metalurgy demo which he did in June.



## May Meeting

Mike Honecutt finally shared some of his extensive knowledge with us, and, in addition, produced a product which was a Railroad spike tomahawk. With David Burnette striking for him which was done in a very unusual manner with David standing on the rungs of a stool and delivering the blows. We were not aware of the fact that amongst many of David's skills, he was also an acrobat. (David is the head of the forging department at Haywood Tech.) Mike slit and drifted the eye with the skill necessary for it to be slit from both sides and meet in the middle.



## June Meeting

Bill Wiggins once again volunteered to demonstrate metalurgy for 19 of us. Charly Wilkens, who has not graced our meetings in many years, argued most every point even though he is blind. No one was willing to be struck by his white cane if they argued his statements. We appreciated Bill, his son, bringing him to our meeting and we look forward to seeing them again in the future. A book could be written about the life of Charly Wilkens, and bits and pieces have appeared in various newspapers and magazines over the years. Charly was the guy in the U-Haul-It truck sitting and directing the set up and tear down of the 1998 ABANA conference. We owe Charly a lot. Bill Wiggins and David Burnette took turns explaining and providing samples of the results of hardening and tempering of many different steels. The most dramatic exhibition was taking 6010 and 7014 stick welding rod, which is normally very flexible, especially with the coating removed, and hardening it in water, which made it almost impossible to bend. In the same piece of welding rod one end could not be bent and the other end was very easily bent. The 60 and 70 series rod does not have very much carbon in it. Yet the results were very dramatic.

Next month David Burnette will be demonstrating the techniques utilized in installing hilts and handles to various types of tangs.

We look forward to seeing everyone at the NC ABANA state meeting on August 23rd at our shop. We expect also to see our friends from Georgia, Tennessee, Va etc etc. Y'all come.....

## **Brasstown Blacksmiths by Paul Garrett**

### **June Meeting**

The Brasstown Blacksmiths met for our monthly gathering on June 22<sup>nd</sup> at the shop of Butch Dey in Brasstown. Butch had a new CNC plasma machine to play with and for starters we cut some disks out to make a bunch of travelers. They were sized for a full rotation of 12 inches. We divided the small jobs like measuring and marking, chiseling and stamping the disks, forging the handles, and assembly. Everyone went home with a traveler that worked. I have already used mine a couple of times. They are handy.

Paul Garrett showed how to make a simple bottle opener out of part of a horseshoe and a couple of folks made their own. They are easy enough to make. Start with any shoe and cut one end off just past the last nail hole nearest to the center. Drive a round punch or drift through this hole making it large enough to fit over the horn of the anvil or a small cone mandrel, and draw out the opening to  $\frac{3}{4}$ " or so. Cut through the circle about  $\frac{1}{3}$  of the way around the hole and forge out the two ends into a shape that will open a bottle. How do you know if it is good bottle opener? If it opens a bottle, nice job.

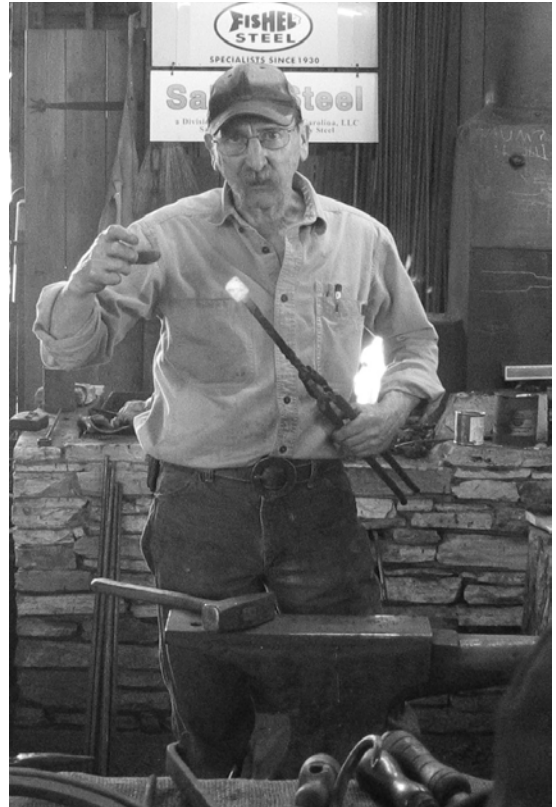
There was some discussion about the meeting schedule for the group, and some of the more notable ideas were to shift the day to Saturday instead of the usual 3<sup>rd</sup> Sun. of each month. Another was to have the meetings every other month to give every one a rest. Maybe both will work out. We will continue to discuss it and make a decision soon.

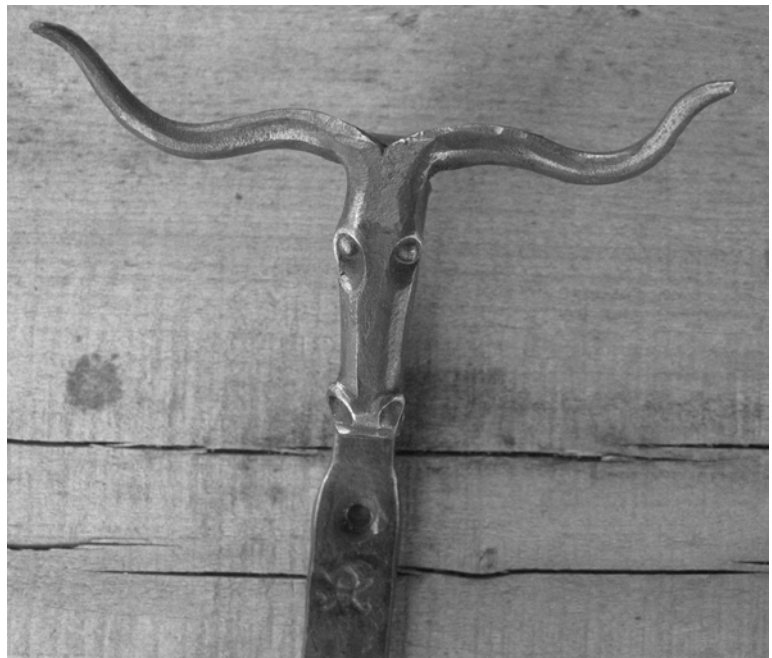
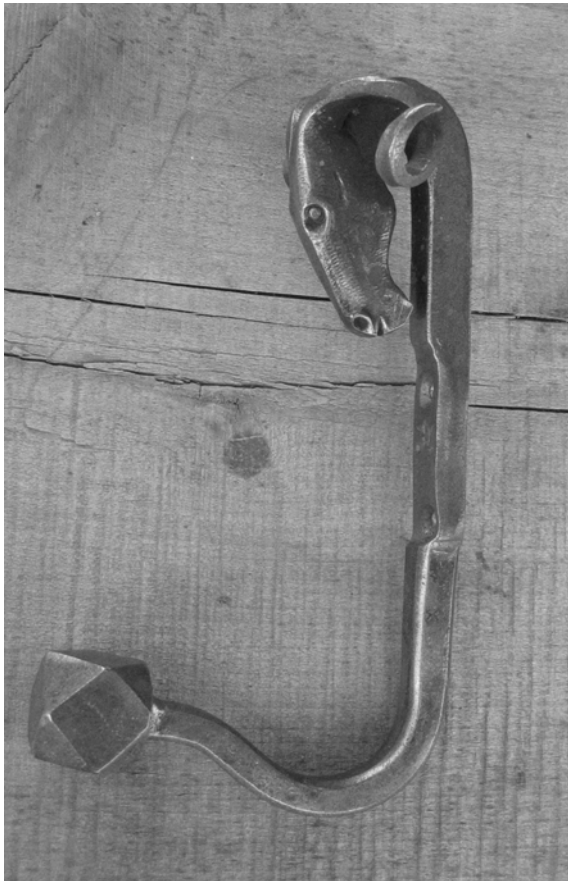
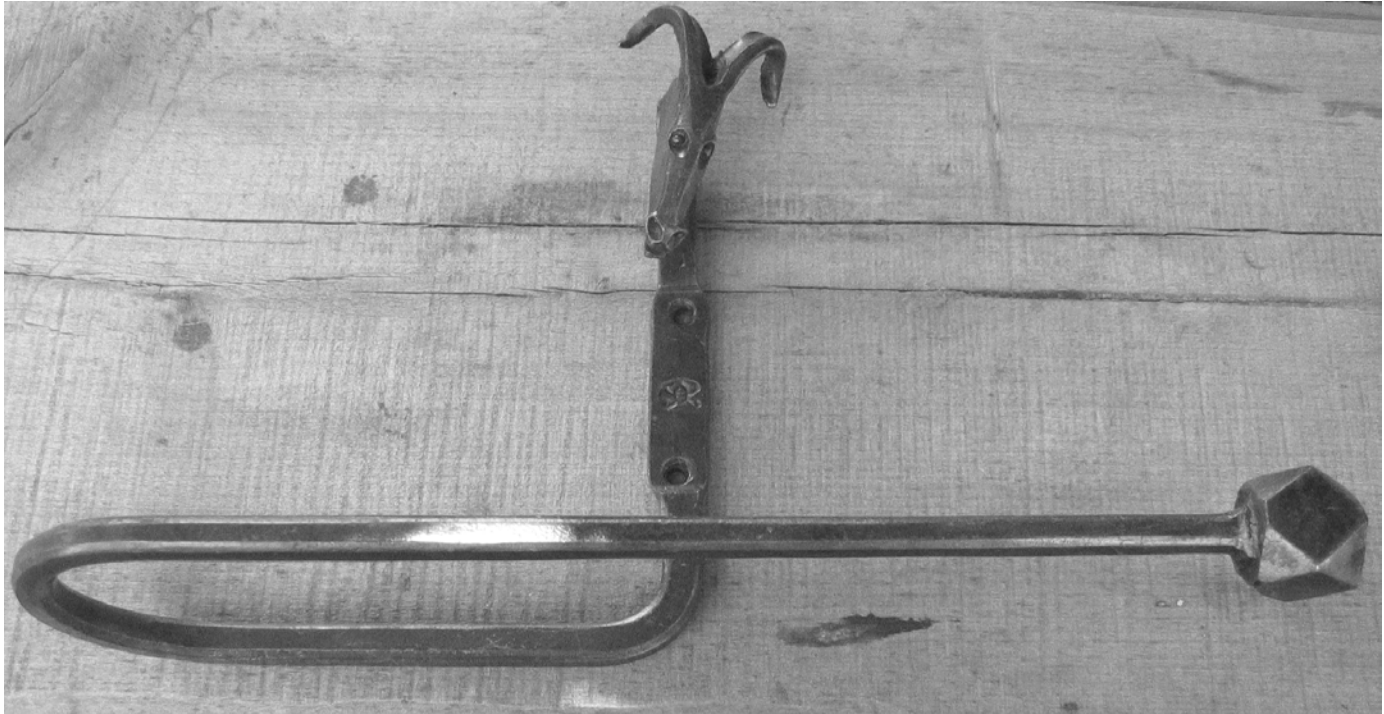
In the meantime, come and see us, and by all means bring gloves and a hammer and let's make stuff.

## SECOND QUARTER 2008 CHAPTER MEETING

### Dixie Classic Fairgrounds, Winston Salem, NC – May 17, 2008

NC ABANA was treated to a great day in Winston Salem – good weather and a great demonstration by Billy Phelps. Billy regaled us with a near constant stream of forging techniques, hints, advice and humor while forging his signature animal heads. Billy gave us so much information that I later took a tape recorder to his shop and recorded him so I could present some of that information in the newsletter. See the article “An afternoon with Billy Phelps” following this report.





The chapter would like to thank Marshall Swaringen for hosting the meeting at the Dixie Fairgrounds.

## AN AFTERNOON WITH BILLY PHELPS

**By Marty Lyon**

Billy Phelps gave us so much good information at the last chapter meeting that I thought some of that information should be written down. Consequently, I took an enjoyable ride to south central Virginia to visit Billy at his shop. I took my audio recorder and captured a couple hours of conversation.

Between talking about politics, war, gas prices, religion, the industrial revolution, his past lives as a farrier, welder, and rodeo rider, demonstrating blacksmithing at the Smithsonian, and many other interesting topics, we actually talked a little about blacksmithing. I found the time very enjoyable.

### **Welding Flux:**

Billy uses a combination of a 50% fine sand and 50% hardwood ash as his welding flux. Instead of sand he also uses marble dust he gets locally. This is fine like face powder. The purpose of sand, or marble dust, let's just call it sand, is to help keep oxygen away from the metal, reducing the production of scale. The metal, of course, must be free of scale for a weld to take place. You just can't weld rust. The hardwood ash serves two purposes. First, it is sticky; it sticks to anything including the sand and the steel, allowing the sand to be applied at a much lower temperature. Without the ash, the sand would have to be applied to the steel at welding temperature to stick to it. Secondly, the ash contains caustic soda, also known as sodium hydroxide and lye. This material dissolves scale – a very important function. The commercial product Easyweld is not too different. It contains caustic soda, silica (sand), and iron filings.

Billy reports being able to weld in a fire, using charcoal, and without any other flux. The charcoal ash liquefies and coats the steel, serving the twin purposes of keeping oxygen away and removing the scale.

### **Forge Welding:**

This advice is not only from Billy, but he emphasized it so here it is: For forge welding, along with a reasonably clean fire, you need a deep fire. The idea is to consume all of the oxygen from the air blast low down in the fire before it reaches the metal. Then, the heat rises to the steel, which is much higher in the fire.

You want to get the fire hot with a good quantity of air then reduce the air flow as much as possible, just maintaining the heat.

### **Welding high carbon steel and mild steel:**

It is important to know that high carbon steel has a significantly lower welding temperature than mild steel. Put the mild steel below the high carbon steel so it gets hotter and keeps some of the heat from the high carbon steel. High carbon steel is destroyed at a lower temperature than mild steel.

You can often get carbon and mild steel to partially weld in the fire. The fire should be fairly clean. Take a rod (3/8" is good) and upset the end to get a ball. When the mild steel gets to welding temperature, tap the pieces three times with the ball, and they will partially weld. Take the pieces out of the fire and continue the welding process. Of course they must be aligned properly. I would think this would work well with a tomahawk with a high carbon steel insert.

### **Making Hammers and Normalizing:**

Billy recommends 4140 steel because it is a great impact steel.

Normalizing is necessary for hammers and any tool with a handle. Normalizing reduces the stresses within the steel after the forging process. It consists of heating the steel to a cherry red and very slowly allowing the temperature to reduce to ambient. Billy places the tool in wood ash overnight when it comes out of the forge.

One thing you need to know about Billy: he heats his house with hardwood so he has a ready source of wood ash. There are other materials you can use rather than ash, like sand or clay. But making wood ash is pretty simple. Just put a rack inside of a barrel and put your hardwood on the rack and burn it to ash. You could also make charcoal by fitting a top to the barrel and using a controllable vent. Once the wood starts to burn, close the vent and let it smolder – making charcoal.

### **Evaluating Coal:**

I learned a bit about coal from Billy. Because he lives near Galax, Virginia, he gets his coal, like a lot of us, from Hills Brothers. He pointed out to me why that is pretty bad stuff. They have their own mine and supply coal mainly for heating buildings. That coal does not have to be too good, just cheap. While the coal, itself may not be too bad (although it has a high sulfur content) it is not graded or washed. If they were supplying coal to Japan for their steel production it would be another product altogether. However, it probably would be \$30 to \$50 a ton more expensive. That coal for Japan would be washed and graded by size and would be more carefully extracted to make sure only coal was brought out – not the shale and bedrock found in Hills Brothers' stuff.

I never looked closely at the coal before. Billy showed me what to look for. You need to pick up a handful and look at it and rub the pieces together. First of all, it should not be too shiny. Shiny means hard and you want soft coal for smithing. But you don't want to confuse dull coal with rock and shale. Grind up a handful in your hand. What does not breakup is not coal, its probably rock. The good stuff, while not too shiny, should have some sheen to it. You should also see faceting. Another thing: good coal will be accompanied by lots of coal dust (because good coal breaks up easily).

### **Making Tools With S7:**

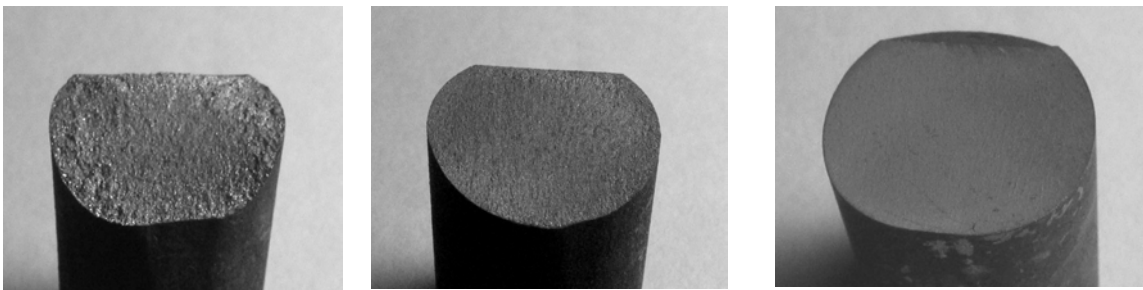
Billy makes his punches, chisels, and drifts out of S7. These tools hold their edge and are extremely durable – lasting for years. S7 has a wider forging temperature range than other high carbon steels. You have to be careful with any high carbon steel; it will be destroyed at forging temperatures that mild steel will easily tolerate. You just do not want to get these steels to a high yellow color. But, S7 is more tolerant than most others (1330°F to 1800°F). S7 will also air harden, but can be quenched in good quality oil that that is at least 70 °F.

Billy does not temper his tools after hardening (or quenching) because the only reliable way to get an accurate temper with S7 is with an oven. Consequently, he controls the hardening process. When hardening steel, for knives and tools, most of us know to bring the steel above the critical temperature, indicated by loss of magnetic property, and cool. Very few of us pay much attention to how far above critical temperature we go. Billy pays close attention to that temperature, and I have seen the value of this attention.

When we bring a piece of steel above the critical temperature it changes its internal structure. When we air harden, or quench, the steel retains this new structure. The iron and carbon molecules clump together in a granular structure. A fine grained structure is far superior to a coarse grained structure. When you shape a tool, the edge will tend to contain whole grains so a fine grained edge will be smoother and will retain its shape much, much longer. Here's the key: *while it is necessary to bring the steel above the critical temperature to effect this change in internal structure, the more you bring the temperature above critical, before quenching, or before allowing the steel to air harden, the coarser the grain will become.* With S7,

Billy has observed that if heated slowly enough, you see the red in the steel get brighter, but at some point, it will seem to darken before getting brighter again. The point when the steel darkens is when it reaches the critical temperature. However, this point can be easily missed so this is not a reliable technique. Rather, Billy goes by the color of the steel. The problem is the ambient light around the forge influences the color. When working in his own shop, his experience with the lighting allows him to pretty well judge the proper color.

At the chapter meeting, and for me in his shop, he proved that the temperature affects the grain size. He took a 1/2" rod of S7 and put it in the fire so he got a color gradient along the rod, quite a bright red on the end down to no color. Once assured that a significant portion of the rod was above critical temperature he quenched it. When cool, he nicked the rod in several places and broke the rod into several pieces at those nicked places. He just used the hammer and the edge of the anvil to break off the pieces. Where the rod did not get above critical temperature, it was not possible to break the rod at the nick using this technique.



The picture at the left shows the cross section of the rod where the rod was hottest before quenching. You can see that the grain structure is very coarse. The picture in the middle is further along the rod so it represents a cooler temperature before the quench. I hope this reproduces O.K. in the final printing but the grain structure is definitely finer than on the piece at the left but much coarser than the piece on the right. The grain structure of the piece on the right is hardly discernable. This cross section represents the closest to the critical temperature the piece got before the quench. The trick is remembering what the color of that exact spot along rod was before it was quenched.

### **Using an S7 Made Tool:**

We all know when using a punch, drift, or chisel, on a hot piece of steel, the tool must be periodically cooled to prevent loss of hardness. A tool made with S7 can be used over a fairly wide range of temperature, so it can get pretty hot before needing to be cooled. The important thing to remember, however, is that the tool, when hot, cannot be used to strike a cold piece of steel. If the tool has a narrow, sharp, edge, that edge will roll over. Keep the work at least as hot as the tool. If the tool is cold, it can be used on cold work, like a cold chisel.

### **The High Heel Effect:**

If a woman stomps on your foot with her narrow, high, heeled shoe, you know it's going to hurt. It will hurt much more than if a man does the same thing with the broad heel of his shoe. This is because her heel is tapered so the force she applies at the top is magnified and concentrated at the small end. This is pretty intuitive and most of us would make punches, drifts, and chisels tapered. But this concept works with other things too. For instance, if you make a die, those inside edges, that form the shape to the work, should also be tapered to concentrate the energy. If you want to upset a piece of metal, you can taper the end opposite where you want the bulge, the end you will hit with the hammer. This will not magnify the force but it will center the energy, forcing it down the shaft before it spreads out. This helps to keep the work from bending with the hammer blows.

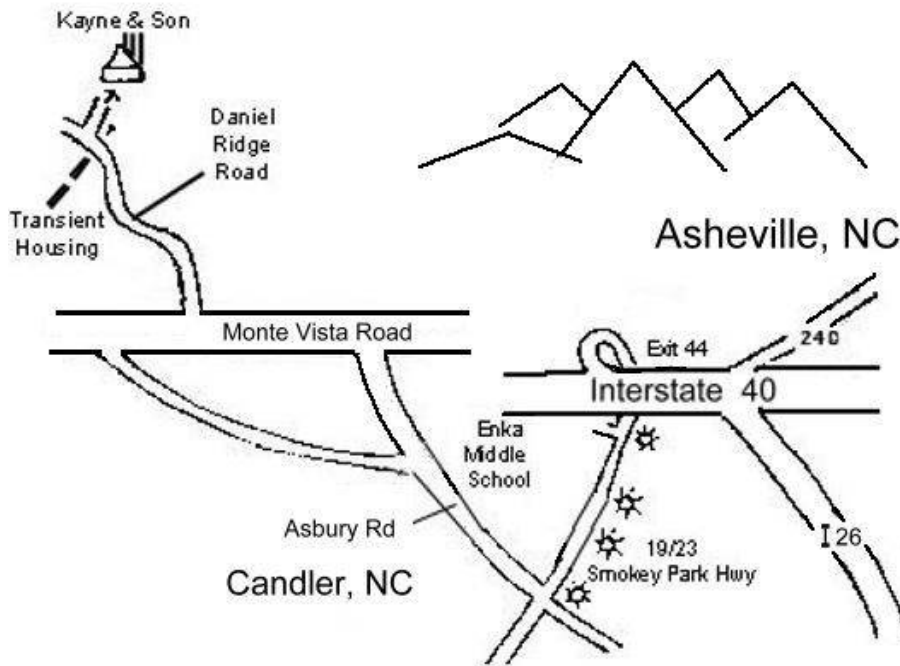
## THIRD QUARTER 2008 CHAPTER MEETING

**Meeting Location:** Kayne's, Shop  
100 Daniel Ridge Road, Candler, NC

**Date and Time:** August 23, 2008, 9:30 AM

**Demonstrators:** Tom Troszak and Susan Hutinson

### Directions to Kayne and Son:



- 1, I 40 to exit 44.
- 2, Right onto Rt. 19/23 South.
3. 4 traffic lights to Asbury Rd.
4. Make right onto Asbury Rd.
5. At fork, bear right staying on Asbury Rd till it Ts at Monte Vista.
6. Make left onto Monte Vista.
7. 2nd Road on right is Daniel Ridge Road.
8. 5/8 mile (almost to end of road), make right up driveway to shop.

If you're still lost after these fabulous directions call us at (828) 667-8868 or (828) 665-1988.

The morning demonstrator will be **Tom Troszak** of Bull and Phoenix air hammer fame. Tom has been building and working with machinery all of his life. He has traveled the world to repair and restore historic machinery since 1977, working for history museums from Berlin to Tokyo, and even for The Discovery Channel. He started forging steel for industry in 1980, and has also created a body of architectural ironwork. He has been a steam mechanic, locomotive fireman and engineer, boilermaker, millwright, and machinist, among many other things. Since 1996 he has specialized in the building of his own unique design of forging hammers and now has more than 500 machines in sixteen countries.

He is also an accomplished musician, actor, and very knowledgeable designer of machinery. He has been seen on the History Channel, and the discovery channel. We know that he has done work for the Holocaust museum, Massada and a lot of other things we are not aware of. A visit to his web site [www.Phoenixhammer.com](http://www.Phoenixhammer.com) will be a very rewarding experience and an introduction to what to expect from Tom.

**Susan Hutinson** will be the afternoon demonstrator. What she lacks in brawn and stature (she weighs 100 lbs), she makes up for in brains and skill. She can get the job done and make it look easy. See her web site: [www.southernhighlandguild.org/susanhutchinson](http://www.southernhighlandguild.org/susanhutchinson). She teaches at Penland, Campbell Folk School, and several other schools. She teaches her students that forge welding is easy and everybody can do it the first time out, and WITHOUT FLUX. She studied with Francis Whitaker and we keep a block in the shop, year round, so that she can get up to our anvils when she visits.



## A Fireplace Grille Project – First of Several Articles

By Tal Harris

In early 2006, I was contacted by a local interior designer about forging a fireplace grille. Doug Merkel had spoken with the designer about the project, but due to his other priorities and distance from Charlotte he allowed me the opportunity to pursue the job. After almost 2 years of on and off again discussion, a design was chosen and the work begun. Forging started in September of 2007 and the piece was delivered towards the end of April of this year.

The grille is forged entirely from mild steel, with all surfaces heated in a coal fire and re-forged. All connections are as they appear; forge welds, collars, rivets, etc. Once the forging and fitting were complete, all pieces were hand sanded and coats of Renaissance wax applied to protect the surface. It took about 180 hours to complete the project, not counting a few trips to the site.

I carefully documented each part of the process to forge this piece. In the next issue of the H.I.S., specific aspects of the layout, joinery, and assembly will be addressed in detail. Prior to that, if anyone has specific questions about the piece and would like to have that included in the upcoming article, please contact me and I will be glad to cover it.

Tal Harris  
4300 Daniel Dr  
Waxhaw, NC 28173  
704-843-5586



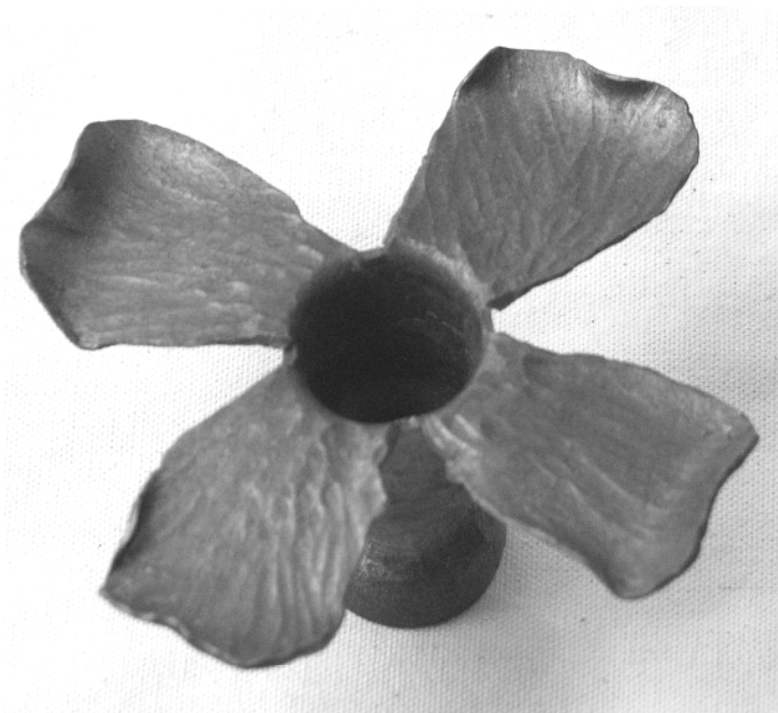


## Forging a Dogwood Flower Candle Holder

By Randy Stoltz

I got the idea for this design after watching Jimmy Alexander demonstrate making a candle cup from a piece of  $\frac{3}{4}$  inch steel pipe at a Triangle Blacksmiths Guild meeting. After seeing the demo I thought it would be easy to add petals to the candle cup by cutting the end of the pipe and spreading the sections. The  $\frac{3}{4}$  inside diameter of the pipe is perfect for standard candle tapers, and the wall of the pipe is thick enough to make flower petals. The dogwood flower with 4 petals immediately came to mind since 2 cuts in the end of the pipe can divide it into 4 sections.

**Caution!** Do not use galvanized pipe for this project as the fumes produced when heated are toxic. Also do not plunge a heated section of pipe into water as the steam will travel up the interior of the pipe and produce a nasty steam burn. When you do cool a section of the project, do so slowly and make sure the end of the pipe points in a safe direction.

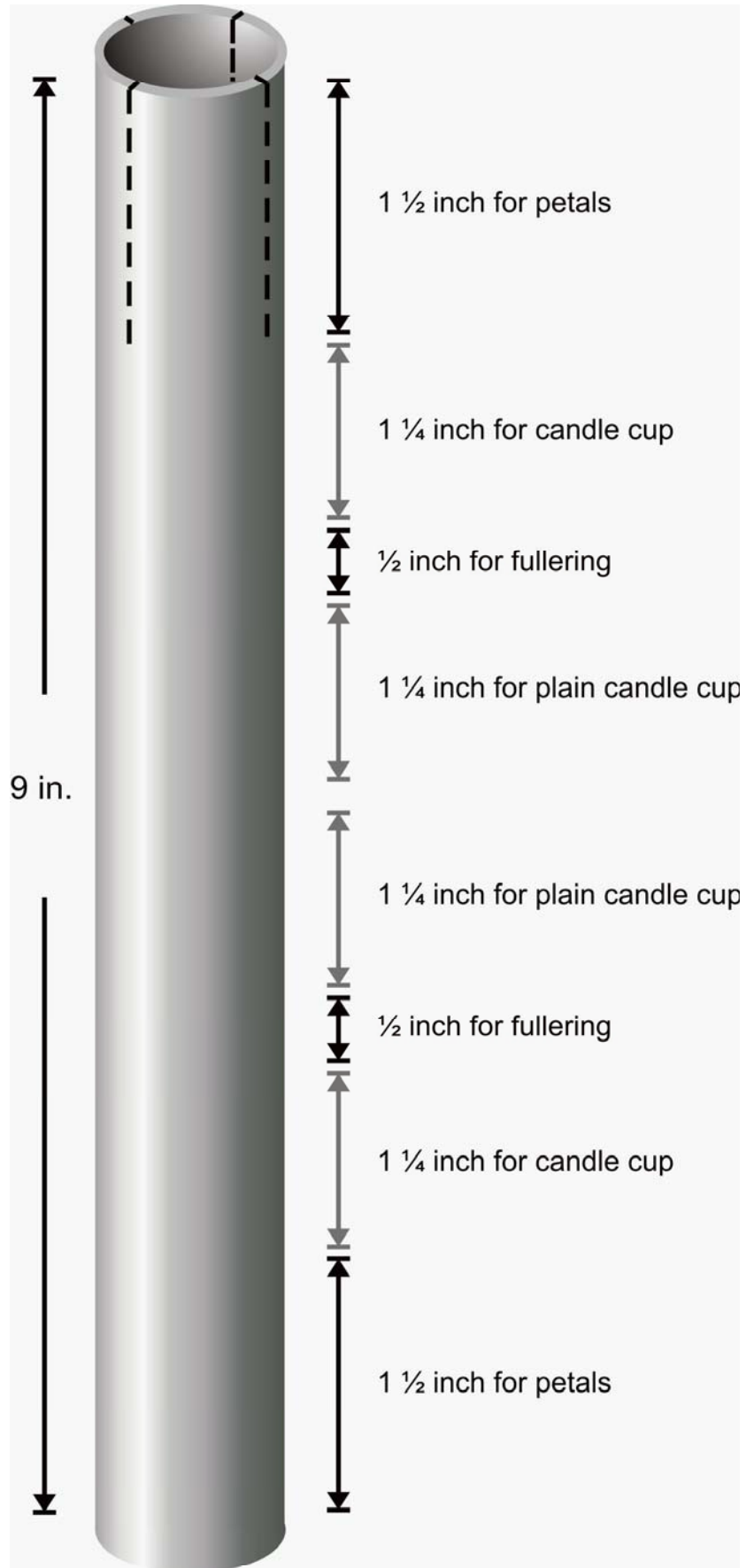


### Step 1 – Layout

To reduce waste I layout the candle cups on a 9 inch piece of  $\frac{3}{4}$  inch steel pipe. This allows for 2 dogwood flower candle cups, one on each end of the pipe, and gives you 2 plain candle cups in the middle of the pipe. Having the 2 plain candle cups in the middle gives you enough stock to hold on to when you finish the first dogwood flower and cut it off.

To mark the ends of the pipe for the cuts to form the petals, wrap a piece of paper around the end of the pipe so that the ends overlap. Use a knife to cut the paper where it overlaps. You now have a paper pattern that is the exact diameter of your pipe. For the dogwood petals you simply fold the paper in half twice to produce 4 equal sized sections. Wrap the pattern around the pipe and mark the 4 divisions on both ends of the pipe.

If you want to make 5, 6, or 7 petals you can use a ruler and dividers to mark the paper. To make 8 petals fold the paper three times.





**Step 2 – Use a hacksaw to cut the ends of the pipe**

You can wrap a piece of tape around the pipe to mark the depth of the cut. Go ahead and make the cuts on both ends of the pipe.

←

**Step 3 – Heat the pipe and use a fullering tool to neck down the pipe**

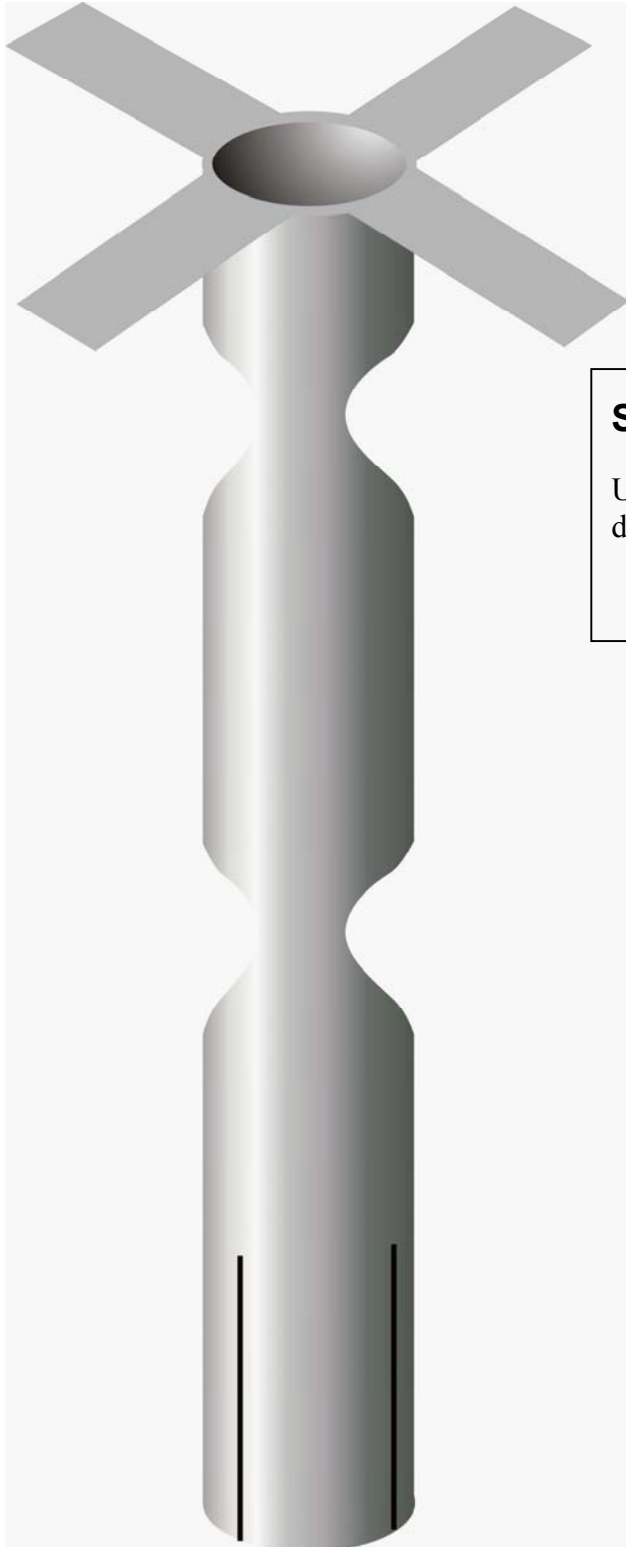
Fuller the pipe 1 ¼ inch below the bottom of the cuts and form the base of the candle cup. Fuller the pipe until the internal diameter is ¼ inch. Repeat for the other end.

→

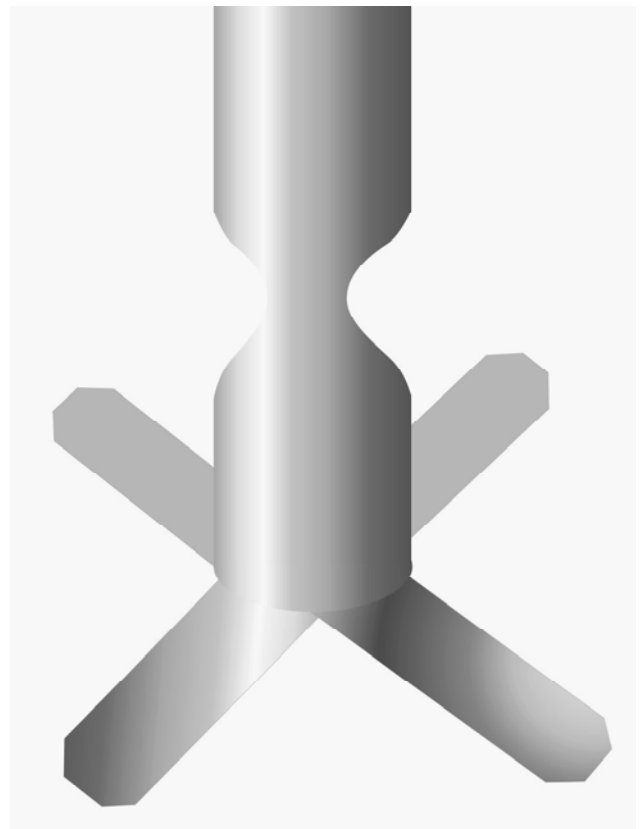


**Step 4 – Spread the petals on one end of the pipe.**

Heat the petals on one end of the pipe and spread them out using the point on the horn of the anvil. Then using the side of the anvil finish flattening out the petals.

**Step 5 – Upset or clip corners on petals**

Upset or clip the corners on the petals to make them dog eared (it is a dogwood flower after all).



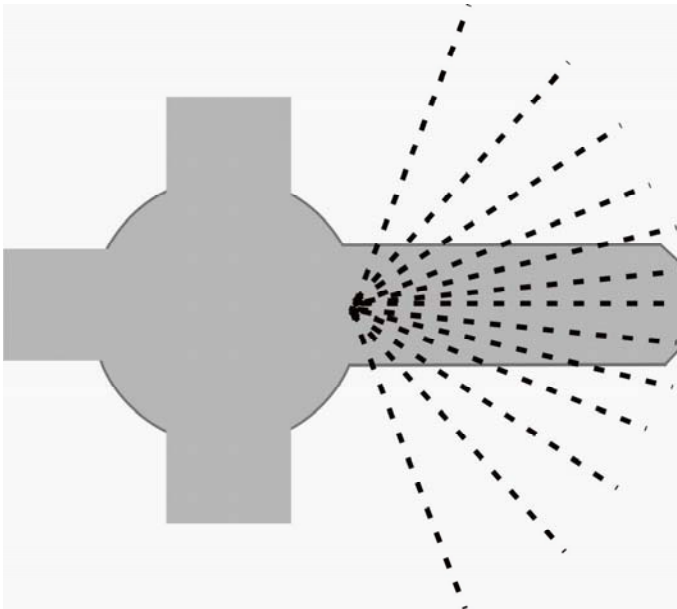
## Step 6 – Shape the petals

Shape the petals of the flower with a cross peen. Rotate the hammer as you strike the petal in a fan shaped pattern. You can do this on the face of the anvil by holding the piece vertically with the face of the petals on the anvil and striking the back of the petals. If you prefer you can hold the piece across the anvil so the petals hang off the side and strike the face of the petals using the side of the anvil.

To create uniform petals I partially shape all the petals first. Then in a second pass I finish the shaping of all the petals to the final dimensions.

If you use the face of the anvil like I do, add the veining and texture to the petals using the side of the anvil and a sharp peen with the same fan shaped pattern used to shape the petals.

**Warning!** As you thin out the stock on the petals it is very east to burn them up. Be sure to cool the petals frequently.

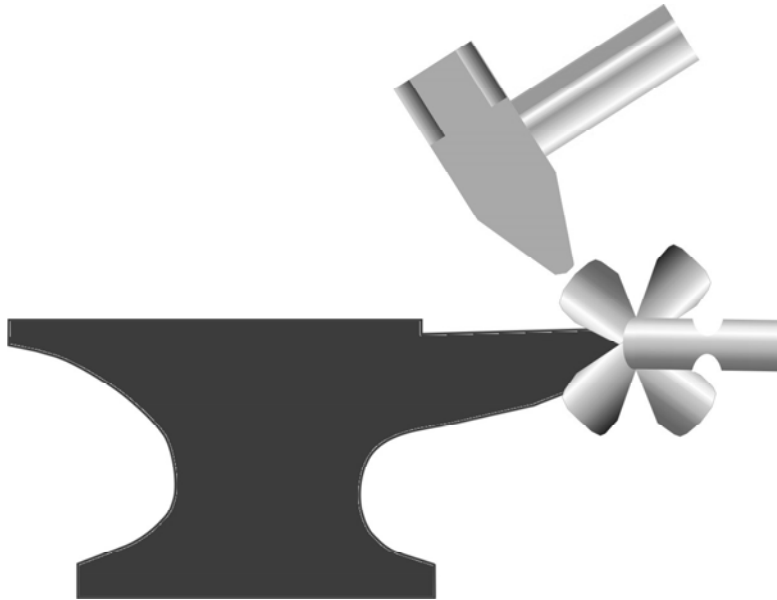


*Fan shaped or radial peening pattern for petals*



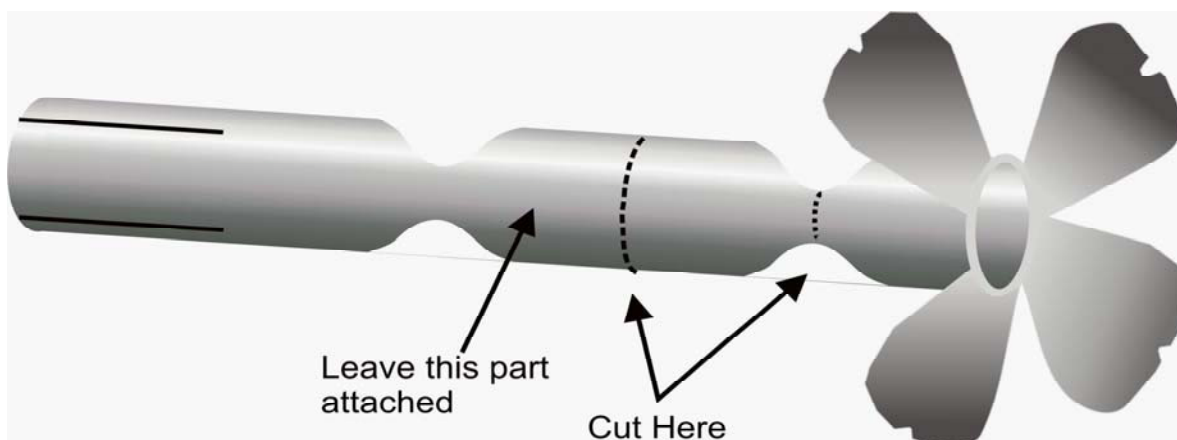
### Step 7 – Cup the petal and add a dimple

Dogwood flowers have a small dimple in the end of the petal and cup upwards. Since the texture is on the face of the petal you want to avoid striking the petal with a ball peen like you normally do with leaves. You could use a wood mallet but you still need to add a dimple. I found that you can add the dimple and cup the petal using a cross peen to lightly strike the petal on the end. Heat the petals and place the candle cup on the horn of the anvil. Gently strike the end of the petal in the center while holding the peen at a right angle to the petal. Strike the bottom edge of petal to cup the petal upwards.



### Step 8 – Clean up the candle cup and cut off

Wire brush the candle cup thoroughly and clean it up. Use a saw to cut the candle cup off at the bottom of the fullered section. Make a second saw cut in the middle of the 2 plain candle cups to remove the first one. Leave the second plain candle cup attached so you have something to grip as you work the second dogwood flower candle cup. Repeat steps 4 through 8 for the second flower.



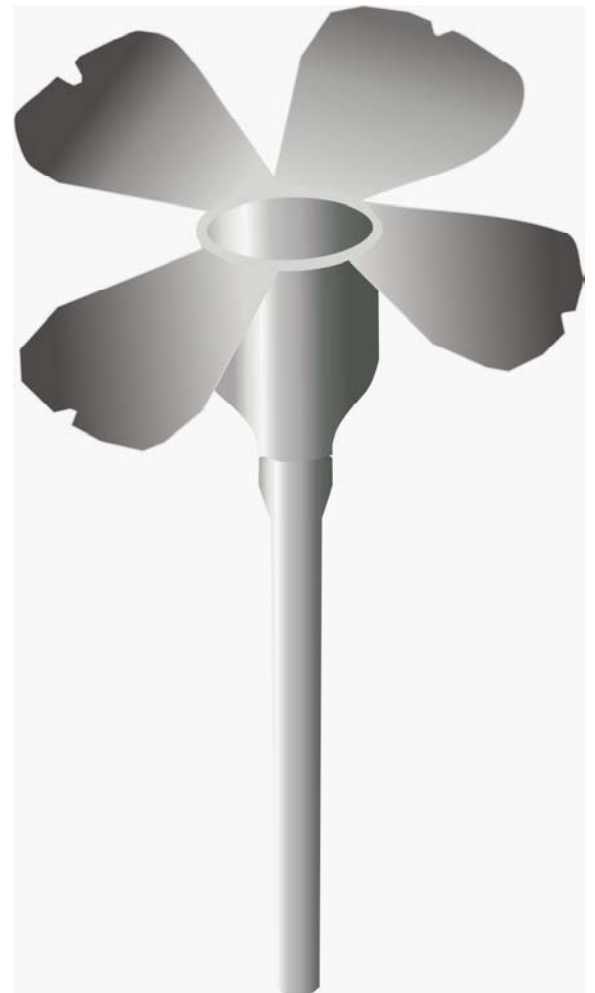


### Step 9 – Create a stem and join to the candle cup with a tenon

Using  $\frac{3}{8}$  or  $\frac{1}{2}$  inch round stock create a stem with a  $\frac{1}{4}$  inch tenon on one end. The tenon must be long enough (approximately  $\frac{3}{4}$  inch) to fit into the base of the candle cup and have enough material to peen and form a domed head like a rivet. The base of the candle cup will be about  $\frac{1}{2}$  inch in diameter so you will need to upset the stem at the base of the stem if you use stock that is less than  $\frac{1}{2}$  inch.

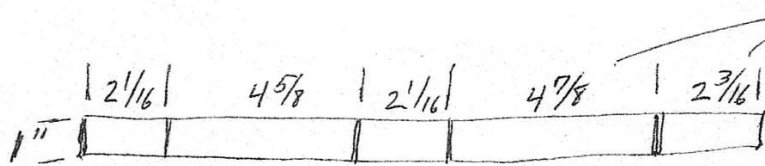
Depending on the hardness of the stock used to create the stem it can be difficult to peen the head of the tenon inside the candle cup. You can use an welding torch with a small tip to heat the tenon with the candle cup in place. Instead of peening the tenon you can make it shorter and use a welding torch to join the stem and candle cup.

The stem can be inserted into a vase, drawn out and formed into a free standing base, or attached to a base. Heat the the assembled candle holder to a black heat and brush with a brass brush to give it a bronze colored finish. Add a candle and you are ready to go.

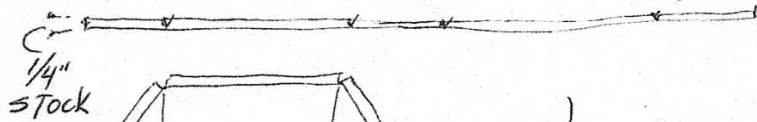


# Tire Hammer Vise

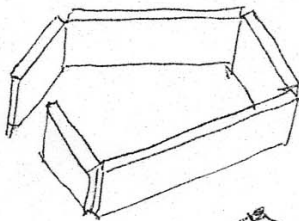
By Allan Kahkonen



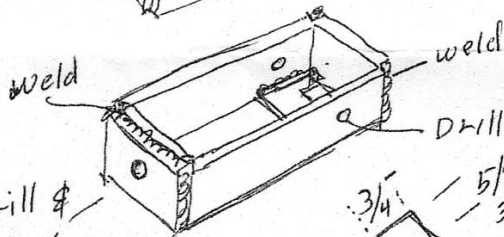
Note  
 1/4" Longer Than  
 other side & end



cut part way through  
 with hack saw or chisle.  
 Heat corners while bending.

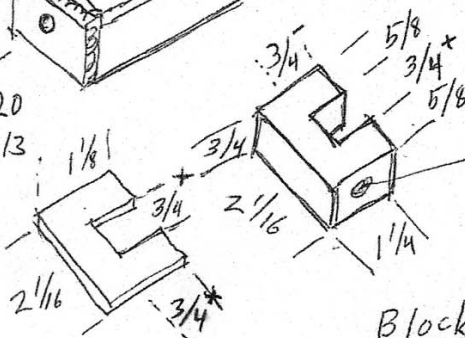


Lap Long end outside of short end.  
 check fit on bottom Die before  
 welding corners & lapped end.



Drill & Tap for Set screw

Drill &  
 Tap 1/2 x 20  
 OR 1/2 x 13



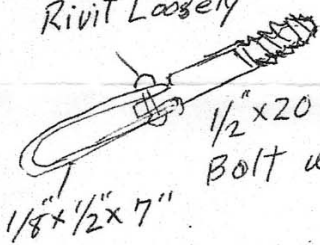
Detent  
 for Set screw  
 Both sides - Keep Loose So Block  
 can "Float"

Block sawed from 3/4" Stock

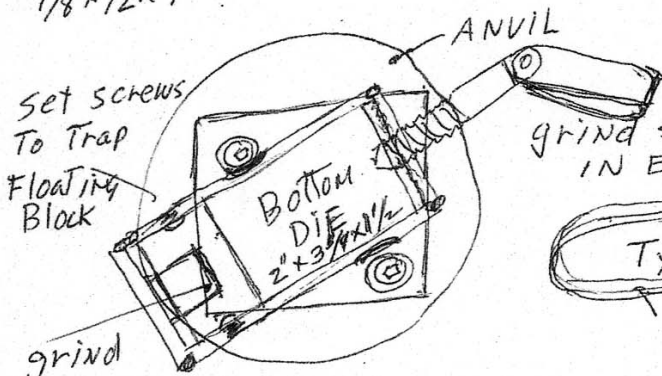
1/4" Floor Plate  
 welded  
 flush with Bottom

Some grinding will be Necessary  
 To Make clearance for Die cap-  
 screws & weld bead joining Die  
 To Dieplate.

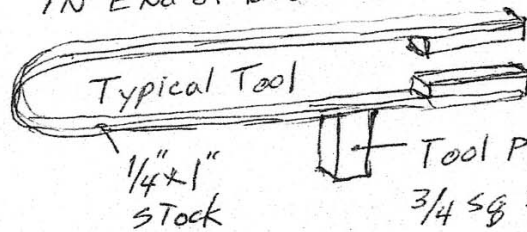
Rivet Loosely



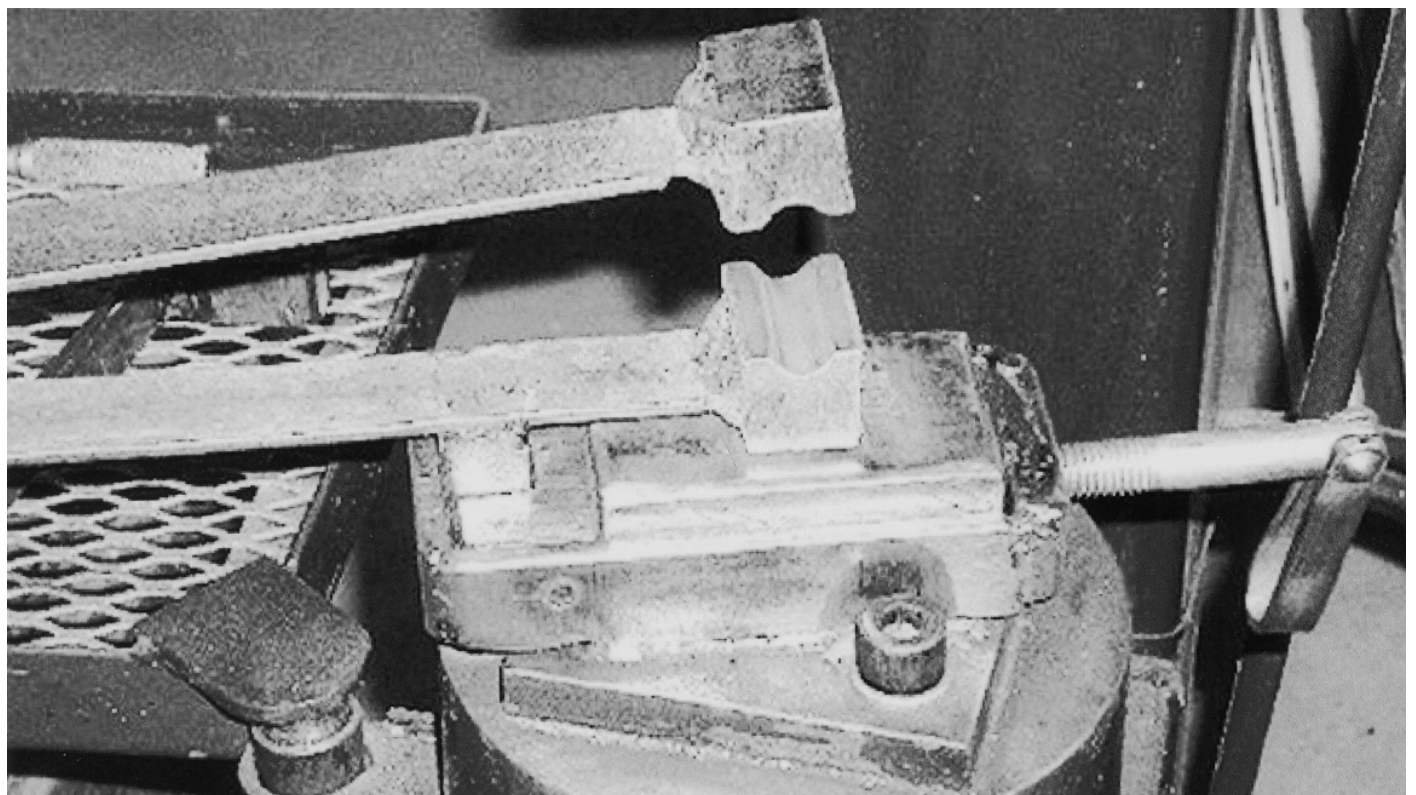
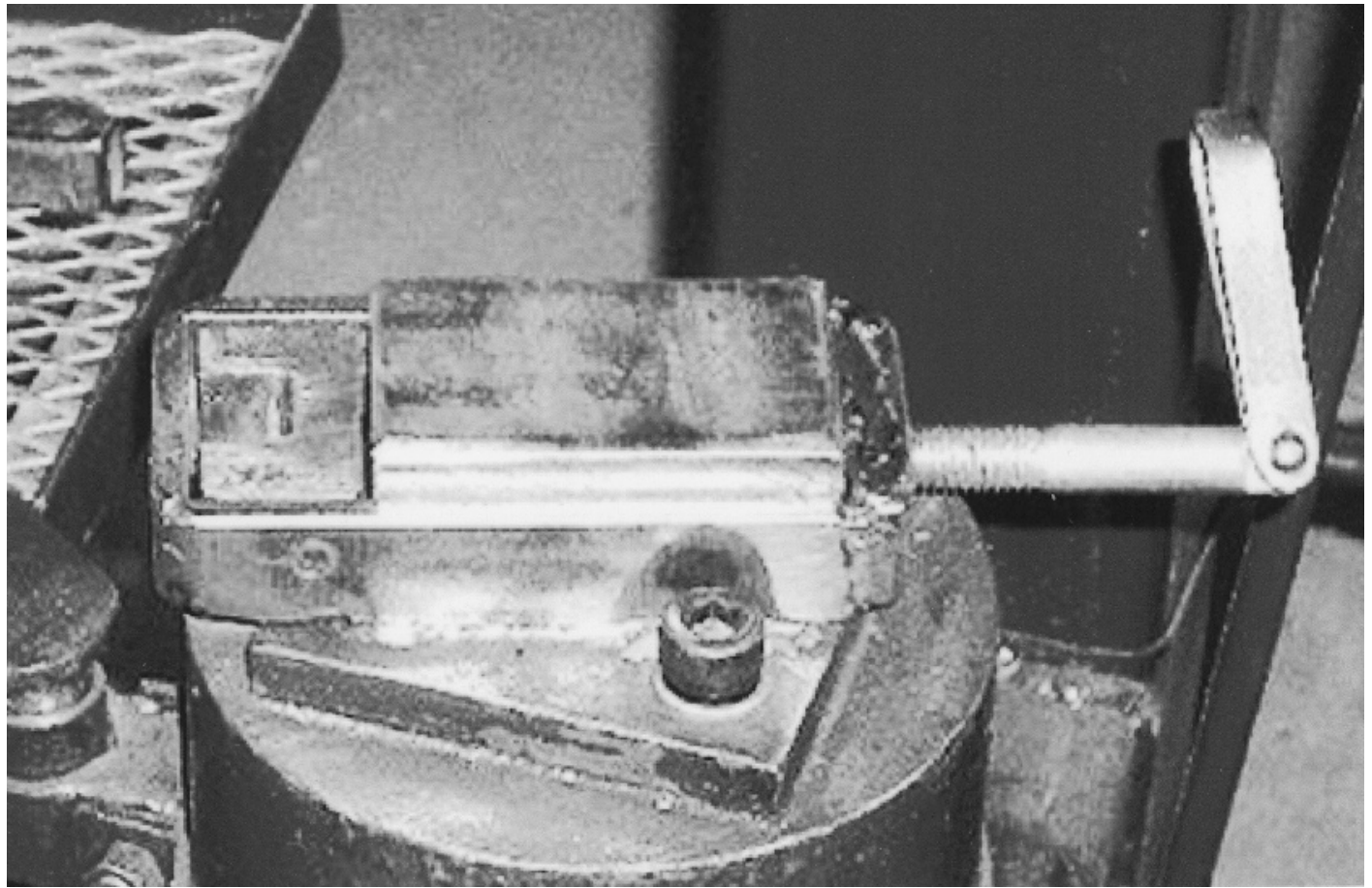
Vise is Reversible for Right or  
 Left handed use!



grind slight Detent  
 IN END of Die To recieve bolt



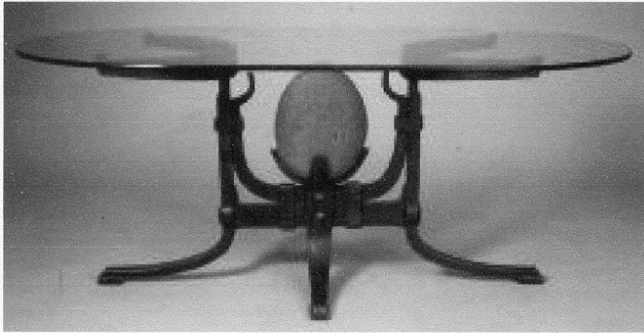
Tool post  
 3/4 sq x 2" approximately  
 cut post to fit  
 existing conditions,



**EDITOR'S NOTE:** This article was originally printed in the Spring 2004 issue of "Hammer's Blow". It is from a series of educational articles, directed towards beginning blacksmiths, made available by ABANA

## CONTROLLED HAND FORGING

# Splitting



*A coffee table by Doug Wilson using the techniques described*

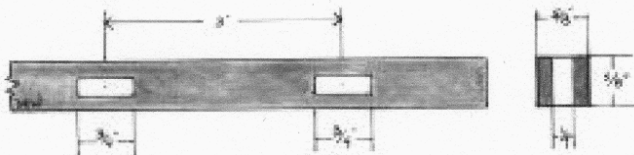
By Jay Close

Illustrations by Doug Wilson, photos by Jay Close

### Lesson Number Eight—Splitting

#### Definition:

Cutting a bar by driving a sharp-edged chisel usually parallel to the length of the bar.



*The finished practice piece with dimensions*

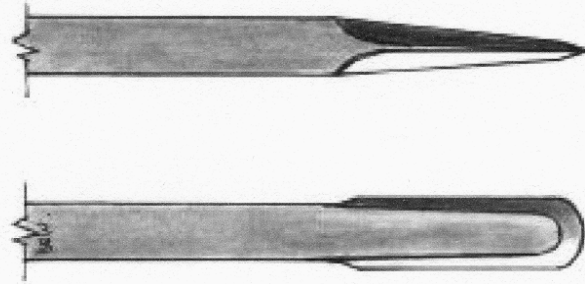
Lesson: slitting and drifting two mortises or slots in a square sectioned bar.

#### Intent:

The smith will learn the technique of slitting and drifting a narrow mortise to specified dimensions and how to anticipate the stretching of the bar to position mortises accurately.



*Jay's tooling for this lesson*



*A slitting chisel*

#### Materials:

24 inches of 5/8 inch square mild steel.

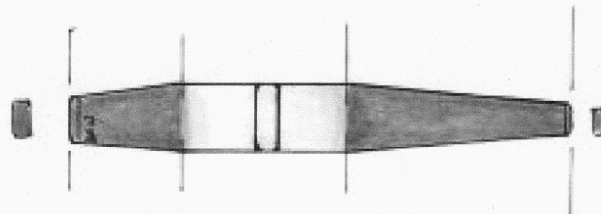
#### Tools:

In addition to the basic tools you will need a slitting chisel about 5/8-inch wide forged from W-1 or some other appropriate steel, and a drift 3/4-inch wide and 1/4-inch thick.

Make the drift of the same sort of steel as the chisel, although a drift of mild steel, carefully used, will work for a few repetitions of the lesson.

If the chisel is short, you will need chisel tongs to hold it. A pair of pick up tongs will be useful dealing with the drift.

Make the cutting edge of the chisel to approximate the drawing above. The edge is curved and thin. Keep it symmetrical—an off-center edge will be hard to drive straight. The length of the chisel edge should be about 75% of the length of the finished opening—in this case about 5/8-inch for an opening 3/4-inch long.



*A drift*

Make the drift to resemble the drawing. Provide a long, lead taper, a parallel section and a driving taper a bit longer than the bar thickness. To avoid sharp inside corners in the material, file or grind a slight chamfer on the edges of the drift. Round the top where the hammer hits to minimize mushrooming.

#### Method:

**Overview of the Process:** When a narrow slot or mortise is needed it is often slit and drifted rather than punched. This is particularly true when it is desirable to retain the full thickness of the bar stock around the opening.

## CONTROLLED HAND FORGING

In the process taught here, a slit is cut then a drift inserted into the slit. This drift works like an internal anvil as the sides of the bar are progressively forged thinner on either side of the slit and the ends of the slit squared as the drift is driven in further.

### Step One:

Measure the overall length of the bar you are starting with and record that measurement.

One inch from one end of the bar place a center punch mark deep enough that it will be readily observed on the heated bar. Center the punch mark in the middle of the bar.

Roll the bar 180 degrees and place a corresponding center punch mark on the opposite side. These two marks will guide the placement of your chisel as you cut from both sides.

### Step Two:

With tools ready at the anvil, heat the end of the bar to a full yellow. Make sure that the area around the center punch marks is hottest.

Place the heated end of the bar in the middle of the anvil with a center punch mark facing up.

Put the chisel edge centered over the punch mark aligned with the length of the bar.

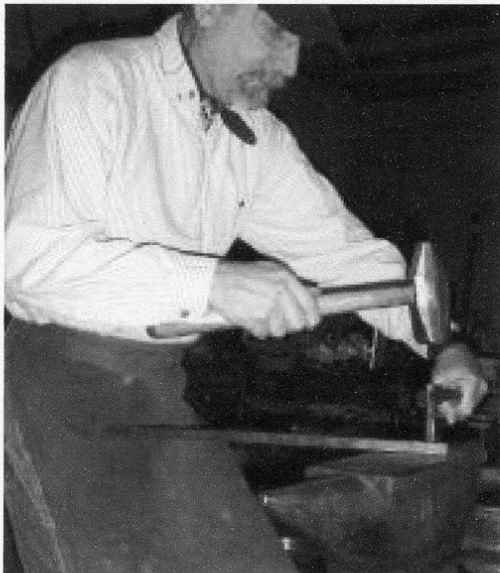
*Tip:* If you have difficulty seeing the punch mark, rub the side of your hammer across the bar surface. This will scrape the surface free of scale, but scale will collect in the center punch mark and make it visible.

Steady the end of the bar you have been holding against your thigh. Pick up the hammer.

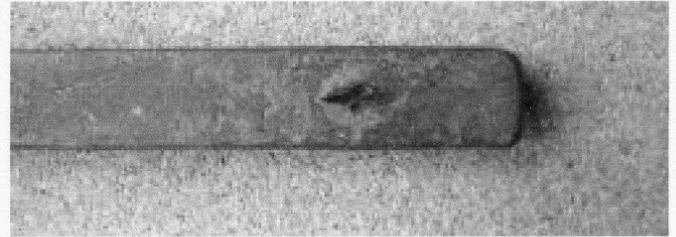
Hit the end of the chisel to leave a distinct but light witness mark to your chisel placement.

If necessary, correct the placement of the chisel and drive it hard into the bar a little more than half way.

Hold the chisel vertically. Hit the chisel vertically, and you will cut vertically.

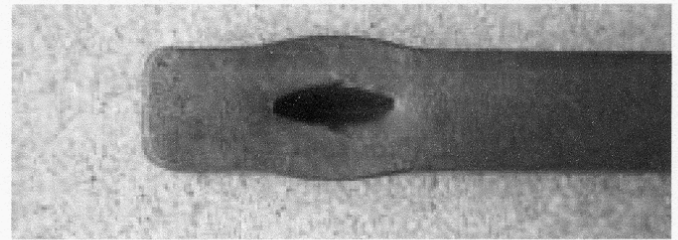


*Jay Close steadies the bar against his thigh.*



*A "witness mark" centered on the centerpunch mark*

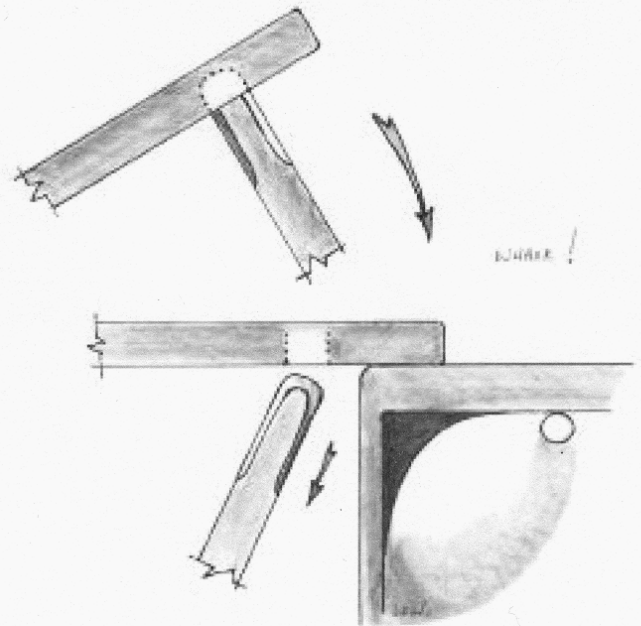
Do not allow the chisel to stay in the cut! If it softens in use, it stops cutting and begins to deform. As a starting point, three quick hammer blows to the chisel and then get it out of the cut.



*The cut halfway through*

Especially for a W-1 chisel, as soon as you notice it turning red, quench the edge. Residual heat in the rest of the tool will slightly draw the hardness, keeping the tool from becoming brittle.

*Tip:* If the chisel sticks, twist it to slightly widen the slot and it should pull free. Sometimes tapping the sides of the slot will knock out a reluctant chisel. Or turn the work upside down and swat the end of the bar on the edge of the anvil to use momentum to pull the chisel free.



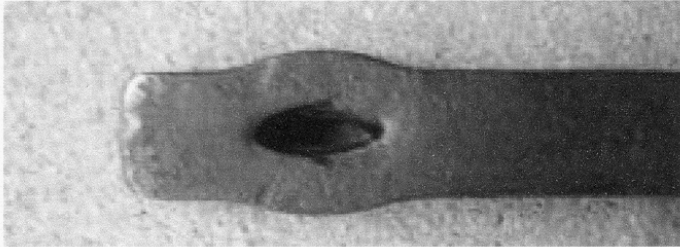
*Removing a sticky chisel*

## CONTROLLED HAND FORGING

With the cut a little more than half way through, put the bar back in the fire.

*Tip:* Inspect the chisel. If it has deformed on the edge, correct and resharpen before continuing.

Unless you need to resharpen the chisel, resist the temptation to thoroughly cool the chisel. It will cool in the air as you reheat the bar and will have enough remaining heat to not overly cool the bar as you continue cutting.



*The completed slit*

### Step Three:

Repeat step two chiseling through from the opposite side until the two cuts meet halfway through the bar. You should see a clean opening all the way through with the sides of the slit bulged out.

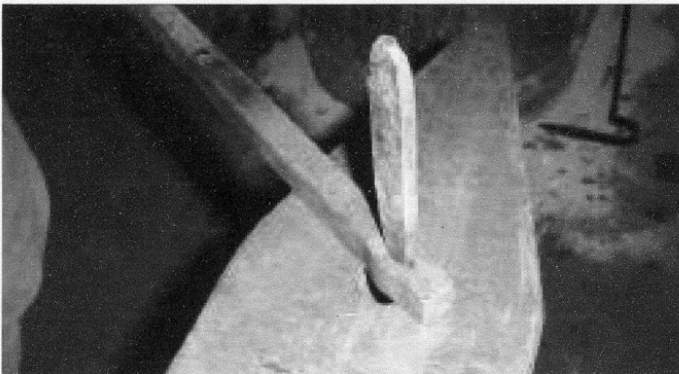
### Step Four

Prepare your tools so that the drift and pick-up tongs are handy. Take a good yellow heat on the bar around the slit. Tap the drift into the slit until solid resistance is met, i.e., until you are beginning to reshape the ends of the opening just by driving in the drift.

The lead taper of the drift should extend through to the opposite side of the bar. Make sure you are hitting it in over the hardie hole, the pritchel hole, a bolster block or open vise jaws.

The trick is to support the work as closely around the slit as possible.

*Tip:* An unsupported bar can collapse into a wide pritchel or hardie hole, so hold the bar along the side of the hole where one edge at least will receive support. If you are hitting the drift a number of successive blows, move the bar left, right, front, back around the square hardie hole or around the circumference of a large pritchel hole.



*Supporting the bar with the edges of the pritchel hole*

Once you meet resistance, forge the bulge of the sides against the drift working both sides evenly. Knock the drift in further to continue squaring the ends and bulge the sides again.

Remember, you are shaping the sides of the slot with the hammer working against the drift, but the ends of the slot can only be cleaned up by driving the drift in against them.

The exact balance between forging the sides with the drift in place and driving the drift deeper to clean the ends of the slot is a matter of experiment. The variables include the width of your chisel, the taper of your drift and how aggressively you pursue each shaping option.

Repeat the forging of the sides and then remove the drift by tapping on the end of the lead taper or tapping the lead taper on the anvil surface.

The sides will stretch longer and thinner. This is good. But the wall around the slot will also stretch wider. This is bad. The undesirable stretch must be forged out with the drift knocked free of the slot.

Do this now. A couple of hammer blows on each side should suffice.

**WARNING:** the drift is now VERY HOT and can only be handled with tongs!

If the drift has taken on a red color, quench it quickly to black but not down to hand-holding temperature.

If the bar is still at least orange, put the drift in from the opposite side of the slot and repeat the forging in of the bulge and re-setting the drift.

Do not work below a clear orange to bright red heat. Do not allow the drift to get red and soften while in the slit. Get it out and keep it relatively cool. A soft internal anvil is of little use.

Resist the temptation to cool the drift to hand-holding temperature. This will rob heat from the workpiece and slow down the pace of the work. Handle the drift with tongs.

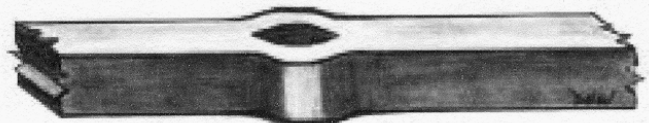
When the bar is red, remove the drift, forge in the unwanted stretch in width and get it back in the fire.

### Step Five

Complete the drifting of the hole using the same procedure outlined in Step Four:

Tap in the drift until the drift squares the ends of the slot. Forge in the bulge on both sides evenly. Remove the drift and dress the top and bottom of the slot. Re-set the drift from the opposite direction and work the sides evenly again.

As a final sizing step, as the bar cools to red, drive the drift through all the way from one direction. The sides should not bulge.



*The drifted slit*

## CONTROLLED HAND FORGING

Then, drive the drift through from the opposite direction as the bar loses forging heat. If necessary, do some low heat dressing of the bar surfaces and tap the drift through one final time.

### Step Six

Now that you have slit and drifted a mortise, measure its overall length with the bar at room temperature.

Compare that to the overall length of the bar before the mortise. The difference will tell you how much the bar stretched to create a mortise of that size.

Knowing this stretch factor, mark the center point for another mortise that will end up 3 inches from the center of the first one.

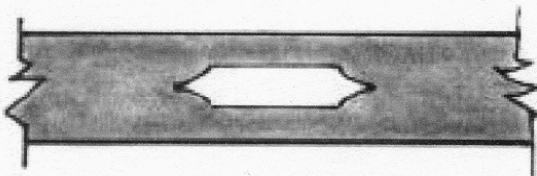
For example, say you started with 10 inches of bar. After you made the first mortise the bar grew to 10 and 1/2 inches. From the mortise center, the mortise pushed the bar 1/4 inch forward and another 1/4 inch back. If you want a second mortise a specified distance from the first, you must anticipate this 1/4 inch stretch center to center.

Mark the center of the second slot half the overall stretch of the material closer to the first slot than the needed final dimension.

Slit and drift the second mortise just as the first.

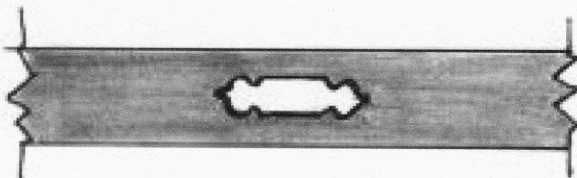
### Troubleshooting:

Your mortise should look like a rectangle reflecting the cross-section of your drift. If it looks like the drawing below, the drift never had a chance to square the ends of the slit. This came about because either (1) the length of the chisel cutting edge was too long compared to the width of the drift, or (2) you did not drive the drift in far enough before stretching the sides of the slot.



*Results of a chisel too long for the drift*

If your mortise looks like this, you have over-stretched the sides of the slot so that on the final forging the drift was not completely filling the mortise.



*Results of overstretched sides*

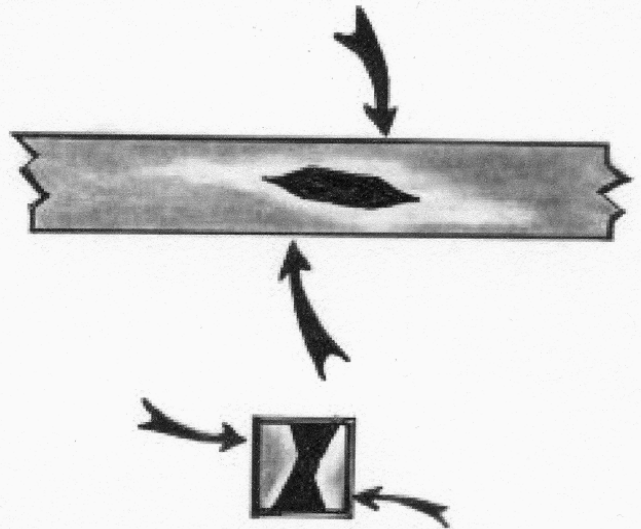
You can also create a mortise that is fairly rectangular but too long. This comes from over-stretching the sides of the slot. With a careful heat localized around the slot you can upset the slot shorter and then re-forged and drift. Remember to adjust the balance between stretching the sides and driving the drift on the

next mortise. If this does not help, you probably need a narrower chisel.

Sometimes the chisel cuts are centered in the bar but misaligned along the bar length. Often this problem will sort itself out in the drifting. You can also put the drift in—it will enter at an angle—and tap it more upright as you forge in the sides. Do a little at a time from both sides taking advantage of the stiffness of the drift “on edge.”

Chisel cuts not centered in the bar will leave uneven material in the mortise walls. You can help the problem by concentrating your hammer blows on the thicker sections and avoiding the thinner ones. In the drawing below with two off-center chisel cuts, hit where the arrows point.

A similar correction can assist if the slit is angled away from the axis of the bar. Work the areas shown below more.



*Correcting off center chisel cuts*

*Tip:* A poorly shaped chisel edge can cause much frustration. Even if centered on the bar and struck vertically, an asymmetrical edge will lead the chisel at an angle causing poorly centered cuts. Inspect the cutting edge of the chisel often.

If your mortises are not 3 inches apart, you will need to adjust them—hopefully, just slightly. For greatest accuracy, remember to make your assessment when the bar is at room temperature. For your own interest, record the measurement both while the bar is red and when it is at room temperature and note the difference.

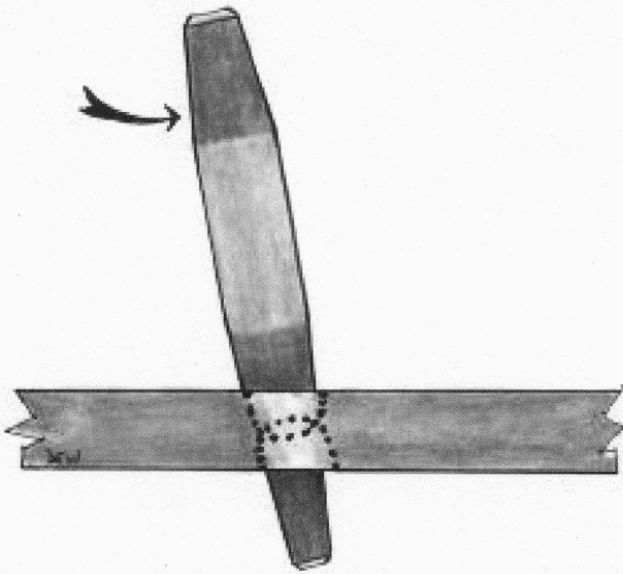
If the holes are a little far apart, take a long heat in the middle. Make certain the two slots are cool and carefully shorten the bar by upsetting. With care this can be done without producing an obvious bloating of the middle of the bar.

If the distance between the slots is short, you'll have to draw out the middle to lengthen the bar. Again, take a long heat and distribute your efforts over a long section of the bar so as not to produce an obvious thinning.

### TARGETS

Time Targets: With experience and confidence you will be able

## CONTROLLED HAND FORGING



*Chisel cuts angled away from the axis of the bar*

to cut the slit in one heat and drift it in perhaps two or three more. For your first efforts, cut half way in one heat and take a second heat to complete the slit from the opposite side. Then

allow four or even five heats to complete the drifting and a final one for clean up.

**Shape and Dimension Targets:** The dimensions of the slot will be largely determined by the size and shape of your drift, i.e., 1/4-inch by 3/4-inch. This should be "on the money," no more than a 1/16-inch longer than the drift is wide.

The bar should remain the same dimensions through the slot as the rest of the bar. A straight edge laid along the flats of the bar should show no particular swelling or cavity around the mortise.

*Tip:* Hot-rolled bar often has slightly rounded corners. The area around the two mortises has been bulged, stretched and reformed enough that the corners are likely quite square. The contrast of square corner areas and round corner areas can often fool the eye into "seeing" a change of dimension where none exists, so observe carefully when testing the sides for straightness.

The slots should be centered in the bar with even wall thicknesses. The distance between the two slots should be 3 inches plus or minus 1/16-inch.

If you upset or drew out the bar between the slots to achieve the proper dimension, any dimensional change in the bar should be spread over as wide an area as possible and not be immediately obvious. The bar should be straight along its axis.



## Blacksmithing Classes at the John C. Campbell Folk School

For more information see their web site: [www.folkschool.org](http://www.folkschool.org), then click on "Browse Classes" then: "By Subject", finally: "Blacksmithing".

Or, write, or call them for a catalog at:

John C. Campbell Folk School  
One Folk School Road  
Brasstown, NC 28902  
1-800.FOLK.SCH (365.5724)

**DON'T FORGET, NC ABANA HAS SCHOLARSHIPS AVAILABLE FOR ITS MEMBERS,  
AND SEE END OF THIS ARTICLE FOR CLAY SPENCER'S SCHOLARSHIPS**

Class Name	Date	Instructor(s)
Beginning Blacksmithing	July 20-26, 2008	Judy Berger
Get It Together	July 27-August 1, 2008	Dale Morse
Home & Hearth	August 1-3, 2008(Weekend)	Johnny Kierbow
Design and Technique in Architectural Ironwork	August 3-9, 2008	Walt Hull
Steel Repoussé - Chasing and Wonderful Colors	August 10-16, 2008	Mindy Gardner, Mark Gardner
Beginning Blacksmithing Techniques	August 17-22, 2008	Howard Pohn
Tomahawks	August 22-24, 2008 (Weekend)	Ryan Johnson
A Handful of Skills	August 24-30, 2008	Chris Winterstein
Accent Pieces: A Natural Connection	August 31-September 6, 2008	Bob Alexander
Celtic Iron	September 7-13, 2008	David Burress, Caleb Burress
Blacksmithing Fundamentals for the Beginner	September 14-19, 2008	David Tucciarone
Forge Welding	September 19-21, 2008 (Weekend)	David Tucciarone
Dragons, Wizards, & Horses	September 21-27, 2008	Steve Williamson
Out-of-the-Box Forging	September 28-October 3, 2008	Susan Madacsi
Good Techniques, Good Designs	October 5-11, 2008	Matt Jenkins
Beginner's Delight!	October 12-18, 2008	Zachary Noble
Blacksmithing Basics and More	October 19-24, 2008	William Rogers
Blacksmithing - Starting with Fire	October 24-26, 2008 (Weekend)	Kenneth Thomas
<b>Traditional Joinery Projects</b>	<b>October 26-November 1, 2008</b>	<b>Clay Spencer (SEE BELOW)</b>
Making Woodworking Tools	November 2-8, 2008	David Smucker
Domestic Forgery	November 9-15, 2008	Ron Howard
Joinery, Form, Function - as Language?	November 16-21, 2008	Daniel Miller
Beginning Blacksmithing	November 21-23, 2008 (Weekend)	Lyle Wheeler
Smashing Iron	December 5-7, 2008 (Weekend)	R.J. Hadle
Holiday Iron Trinkets	December 7-13, 2008	Allan Kress
Animal Sculptures in Iron	January 4-10, 2009	Darryl Nelson
Bowie Knives	January 11-17, 2009	Jim Batson
Critters	January 18-25, 2009	Joe Miller
Blacksmithing for Home and Hearth	January 25-31, 2009	Jeff Mohr

Class Name	Date	Instructor(s)
Tomahawks	February 1-7, 2009	Ryan Johnson
Domestic Forgery	February 8-14, 2009	Ron Howard
Blacksmithing—Starting with Fire	February 15-20, 2009	Kenneth Thomas
Beginning Blacksmithing	February 20-22, 2009 (Weekend)	Alwin Wagener
Blacksmithing—Function and Design	February 22-28, 2009	Susan Hutchinson
Repoussé	March 1-7, 2009	William Rogers
Scrimshaw—Even if You Don't Draw!	March 1-7, 2009	Ron Newton
Lighting that Spark of Enthusiasm	March 8-13, 2009	Roberta Elliott
Traditional Chest and Hardware	March 13-21, 2009	Bob Alexander, Pat McCarty
Early Scandinavian Ironwork for Everyone	March 22-28, 2009	Charley Orlando, Doug Merkel
Beyond Hooks and Pokers	March 29-April 4, 2009	Doug Merkel
Light It Up	April 5-11, 2009	TBA
Cock-a-doodle-doo	April 12-17, 2009	Julie Clark
Basic Blacksmithing: Good Habits	April 17-19, 2009 (Weekend)	Paul Garrett
Traditional Joinery Projects	April 19-25, 2009	Clay Spencer
Organic Blacksmithing	April 26-May 1, 2009	Rick Jay
Copper Roses and More	May 1-3, 2009 (Weekend)	Rick Jay
Making Woodworking Tools	May 3-9, 2009	John Kraus, Chuck Patrick
Flowers in Metal	May 10-16, 2009	Bob Alexander
Beginning Blacksmithing Techniques	May 17-23, 2009	Howard Pohn
The Joy of Blacksmithing	May 24-29, 2009	Judy Berger
Campfire Cookware and Tools	May 29-31, 2009 (Weekend)	Mitchell Latsch
Hinges & Latches of the 17-1800s	May 31-June 6, 2009	Lou Mueller

### Francis Whitaker Blacksmithing Scholarship at John C. Campbell Folk School

Two paid scholarships for tuition will be awarded for the **Traditional Joinery Projects Class** taught by Clay Spencer October 26 - 31, 2008.

For more information, go to: [http://www.folkschool.org/index.php?section=class\\_detail&class\\_id=2414](http://www.folkschool.org/index.php?section=class_detail&class_id=2414)

Students must be intermediate to advanced skill level and will be responsible for their own meals, lodging/camping, materials and fuel fee.

#### Application Requirements

1. Describe your blacksmithing training/experience: any classes, demonstrations, jobs, commissions, craft shows, work at your forge, etc.
2. Several photos of your work.
3. Drawing of the project you propose to do in class. It should be to scale showing stock size and joinery, no MIG or arc welding in project.
4. Goals for your blacksmithing, briefly.
5. Why you need scholarship help, briefly.

#### Send to:

Clay Spencer  
73 Penniston Pvt. Drive  
Somerville, AL 35670  
clay@otelco.net.

You may call 256-558-3658 with any questions.  
Application must be received by Sep. 15, 2008.

# Blacksmith's Exchange

*Have something for sale, or looking for something?  
This is just the place to look.*

Send your "for sale" or "looking for" requests to Marty Lyon (at the address or email address on the back cover). Please include your name and phone number

## For Sale

125 pound bullhammer air hammer, in excellent shape and hardly used. Two dies go with it. Need to sell it soon, and would like \$5000 for it. I live in south Asheville. Phone is 828-215-6003. Bill Drake

## For Sale – Antique Forge

I have an antique forge with some tools- it appears to still work. It is from the Champion Blower and Forge Company, Lancaster, Pa. I was told it is about 100 yrs. old. I also have a few blacksmith tools to go with it. I am interested in selling it. I live in Florence, S.C. E-mail me if you are interested in it. I bought it for my brother who has done some blacksmithing, but he has become disabled from cancer and is unable to use it. Thanks Martha Smith - memarmarsc@yahoo.com

## Tire Hammer For Sale

\$2,500.00. New never been used. Call 919 772 4111 or cell at 919 818 3036. Parks Low

## Ray Clontz Tire Hammer Plans by Clay Spencer

Ray Clontz Tire Hammer Plans, \$30, including postage to US and Canadian addresses. Send check or money order, e-mail me for cost to other countries

Tire Hammers for sale, 50 lb. hammer head, approx. 250 blows per minute, 1 hp motor, 6" diameter anvil, 700 lbs., 2 ft. square base, \$2200 at my shop or reasonable delivery if I am headed to your area.

Tire Hammer workshops at my shop 20 miles south of Huntsville, AL. Workshop cost expected to be \$1100, 5 days, contact me about lodging. Starting September 2008.

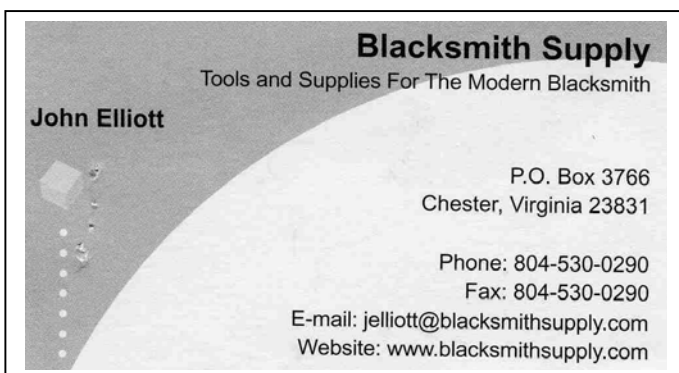
Beverly Shear blades sharpened, \$35 + postage. Blades must be removed from shear, extra cost for deep nicks or blades previously sharpened at angle.

Clay Spencer, 73 Penniston Private Drive, Somerville, AL 35670, 256-498-1498, cell 256-558-3658, [clay@tirehammer.com](mailto:clay@tirehammer.com)

## For Sale

### Blacksmithing/ Knifemaking/ Forging POWER HAMMER - 50# Little Giant

Little Giant 50#, manufactured in 1947, modern style (clutch at rear) excellent condition, Plug and pound! Has drawing dies, 2hp original motor, single phase, runs like a sewing machine can forge up to 2" solid metal. \$3800.00  
919 / 444-1665



**Blacksmith Supply**  
Tools and Supplies For The Modern Blacksmith

**John Elliott**

P.O. Box 3766  
Chester, Virginia 23831

Phone: 804-530-0290  
Fax: 804-530-0290  
E-mail: [jelliott@blacksmithsupply.com](mailto:jelliott@blacksmithsupply.com)  
Website: [www.blacksmithsupply.com](http://www.blacksmithsupply.com)

## Wanted

Anvil with missing horn. Original weight (with horn) in the 125-175 pound range. Heel of anvil needs to be intact. Prefer something in the Hay-Budden or Peter Wright line, but will consider what you have. I have some trading material available or cash. Thanks, Tal Harris 704-843-5586.

[www.BlacksmithsDepot.com](http://www.BlacksmithsDepot.com)



Off Center  
Products

Proudly Made in  
the U.S.A



100 Different  
Textures and  
Swages

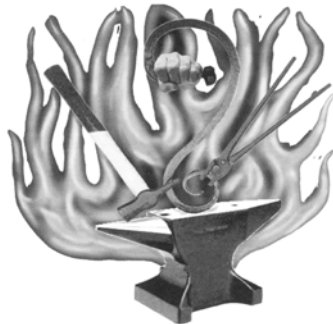
Highest Quality Hammers, Tongs and all your  
Blacksmith Equipment Needs

Forgemaster™

Gas Forges



FLY  
PRESS



Kayne and Son Custom Hardware, Inc.  
100 Daniel Ridge Road Candler NC 28715  
(828) 667-8868 or 665-1988 fax (828) 665-8303

# THE NEW IMPROVED **BIG BLU** **MAX**

MAXIMUM POWER MAXIMUM VALUE

ASK FOR "THE MAX"

**BLU MAX 110** \$5295 <sup>USD</sup>/<sub>FOB</sub>

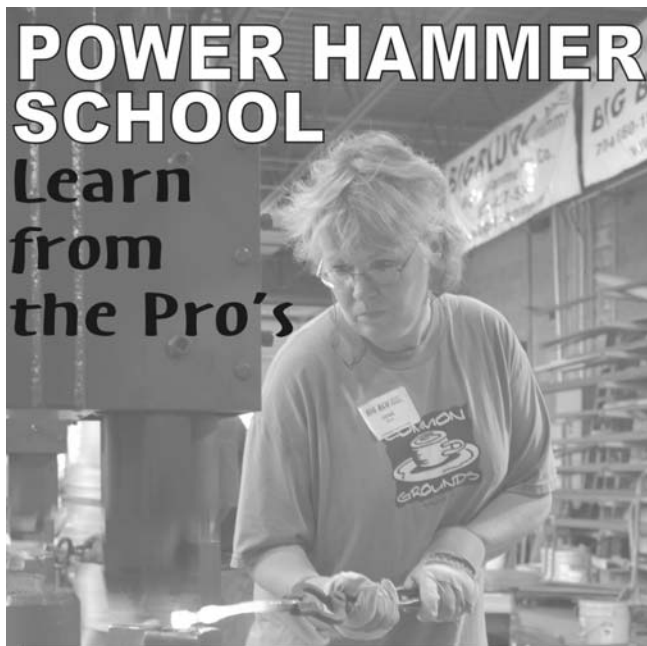
**BLU MAX 155** \$6295 <sup>USD</sup>/<sub>FOB</sub>



Made  
in  
USA

## POWER HAMMER SCHOOL

Learn  
from  
the Pro's



Sign up for October classes NOW!

Free form forging and hand forging with  
Amit Har-lev. Spaces limited to 8 per class.  
Call 828-437-5348 See web site for details

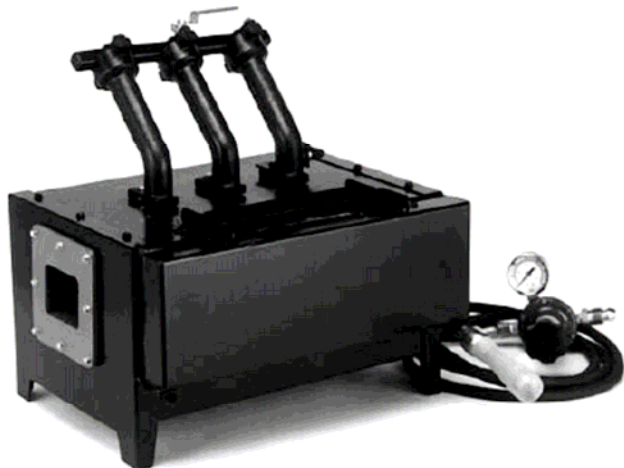
[www.powerhammerschool.com](http://www.powerhammerschool.com)

**Big BLU Hammer Mfg. Co.**

3308 Frank Whisnant Rd., Morganton, NC  
Phone: 828-437-5348 - FAX: 828-437-9217

[www.BigBluHammer.com](http://www.BigBluHammer.com)

## NC WHISPER LOW BOY



### Low Profile

- 3 Burner, Large Fire-box
- Insulated Door
- 3" h x 12" w x 9" Front to Rear
- Ideal For Competition Shoe Making
- 3" x 2" End Ports
- Rapid Heat Recovery Time

Call your dealer today — shipping by UPS



**NC Tool Company Inc.**

6133 Hunt Road, Pleasant Garden, NC 27313

Web site: [www.nctoolco.com](http://www.nctoolco.com)

### Coal For Sale

I have roughly 15 tons of Sewell Vein pea stoker washed coal from the Green Valley Mine. 15.5 BTU, 1.25-2% ash. I sell it in 50 lb. bags for \$10.00 and no charge for the bags-you pick up. Whatever bulk load the buyer wants, my front end loader bucket holds 400 lbs. \$10.00 loading fee (or I can furnish shovels). I prefer not to make deliveries. I should have a consistent supply for several years. References available. Fred Pugh, 5332 NC87N, Pittsboro, N.C. 919 542 4164

### Carpool to SOFA Conference

I would like to find someone that may want to carpool to the SOFA conference. I will be driving up and would like to find someone to split the cost of gas with. Call or e-mail. Jim Kennady, 919-528-5636, [jim@kennadycustommetal.com](mailto:jim@kennadycustommetal.com) Creedmoor, NC.

For more information on the conference see below:

#### QUADSTATE CONFERENCE 2008

September 26 – 28, Miami County Fairgrounds, Troy, Ohio

<http://www.sofablacksmiths.org/conference2008/conference2008.htm>

Don't miss this wonderful opportunity to learn from some of the best blacksmiths and enjoy one of the largest annual gatherings of vendors and tailgate sales in the country. Your hosts are the Southern Ohio Forge & Anvil members.

### Wanted:

Champion Forge Fire Pot / Box Whirlwind  
Any condition considered  
Kirt Jarrett 919-736-1280 home. 919-583-8089 cell  
[kirtj@earthlink.net](mailto:kirtj@earthlink.net)

**EDITOR'S NOTE:** The following was submitted by Bill Brown concerning a proposed congressional bill:

Finally...

This artist deduction bill (S.548) would give artists the right to deduct the fair market value of their work when donating it to a charity. We artists are always asked to donate work to charitable causes for fundraising purposes but when our work is auctioned, the buyer gets the benefit of being allowed to deduct their contribution above the market value, whereas the contributing artists and artisans can only deduct the amount of the material costs of creating their work (the cost of paint, canvas, clay, paper...)

Please...

This bill is non-partisan and fair. Please click on this link and simply by typing in your zip code a letter of support will be sent to your particular senators and congressmen. The link below will allow you to enter your easily enter your zip code so a letter can be sent to your congress person.

<http://capwiz.com/artsusa/issues/alert/?alertid=9521951>

### MEMBERSHIP APPLICATION

NORTH CAROLINA CHAPTER OF ABANA

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Telephone: (\_\_\_\_) \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_

ABANA Member?: Yes No  
 Blacksmithing Experience: \_\_\_\_\_

DUES: \$20.00 per year (within USA)  
 \$30.00 per year (outside USA)

MAKE CHECK PAYABLE TO: NC ABANA  
 REMIT TO: Marty Lyon  
 220 Fearington Post  
 Pittsboro, NC 27312

If you are renewing your membership and your address and phone number have not changed, you do not need to use this form.

### ABANA APPLICATION

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Telephone: (\_\_\_\_) \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_

DUES:  Regular (US/Canada/Mexico) \$55.00  
 Senior 65+ (US/Canada/Mexico) \$50.00  
 Student (US/Canada/Mexico) \$45.00  
 Foreign \$65.00  
 Library (US) \$45.00  
 Contributory \$100.00

Make check payable to: ABANA  
 Credit Card:  American Express  MC  
 Discover  VISA

Card #: \_\_\_\_\_  
 Expiration Date: \_\_\_\_\_  
 Signature: \_\_\_\_\_

REMIT TO: ABANA  
 P.O. Box 816  
 Farmington, GA 30638-0816

### NC ABANA LIBRARY BOOK ORDER FORM

Date of Request: \_\_\_\_\_  
 Requested by: (Please Print)  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Telephone: (\_\_\_\_) \_\_\_\_\_

Library Code of Item: (if known) \_\_\_\_\_  
 Title of Item: \_\_\_\_\_

Mail this request form to:  
 Dick Snow, NC ABANA  
 4222 E.L.G. Road  
 Efland, NC 27243

If you are a member in good standing of the NC Chapter of ABANA, the book you select will be mailed to you as soon as it is available. You may keep it for up to 30 days and then you must mail it back to the librarian. A return address label will be included when the book is mailed to you. All books must be returned in the condition they were received in or you may be charged for the damages. You may have ONE book (Code BK) or up to THREE Hot Iron Sparkles (Code HIS) or THREE magazines (Code MAG) at any one time. A new copy of this form will be sent with each book.

## CHAPTER CALENDAR 2008

<b>JANUARY</b>	☞ <u>REGIONAL MEETINGS</u>
<b>FEBRUARY</b>	☞ <u>REGIONAL MEETINGS</u>
<b>MARCH</b>	☞ <u>REGIONAL MEETINGS</u> ☞ <b><u>1<sup>ST</sup> Quarter Chapter Meeting</u></b> <b>MARCH 15</b> , at 9:30 a.m. Dean Curfman's, Oak Hill Iron Works Morganton, NC
<b>APRIL</b>	☞ <u>REGIONAL MEETINGS</u>
<b>MAY</b>	☞ <u>REGIONAL MEETINGS</u> ☞ <b><u>2<sup>ND</sup> Quarter Chapter Meeting</u></b> - <b>MAY 17</b> , at 9:30 a.m. Dixie Classic Fairgrounds Winston Salem, NC
<b>JUNE</b>	☞ <u>REGIONAL MEETINGS</u>
<b>JULY</b>	☞ <u>REGIONAL MEETINGS</u>
<b>AUGUST</b>	☞ <u>REGIONAL MEETINGS</u> ☞ <b><u>3<sup>RD</sup> Quarter Chapter Meeting</u></b> <b>AUGUST 23</b> , at 9:30 a.m. Kaynes Shop, Candler, NC
<b>SEPTEMBER</b>	☞ <u>REGIONAL MEETINGS</u>
<b>OCTOBER</b>	☞ <u>REGIONAL MEETINGS</u> ☞ <u>Dixie Classic Fair</u> <i>October 3 – October 12</i> ☞ <u>North Carolina State Fair</u> <i>October 16 - 26</i>
<b>NOVEMBER</b>	☞ <u>REGIONAL MEETINGS</u> ☞ <b><u>BONUS MEETING</u></b> <b>Nov. 1</b> at 9:30 a.m. (Tentative Date) J.C. Campbell Folk School, Brasstown
<b>DECEMBER</b>	☞ <u>REGIONAL MEETINGS</u> ☞ <b><u>4<sup>TH</sup> Quarter Chapter Meeting</u></b>

## REGIONS

See map on bottom of the page for approximate locations of each region within North Carolina

(1)

### Western North Carolina Blacksmiths

Steve Kayne Candler, NC  
(828) 667-8868

2<sup>nd</sup> Wednesday evening, each month

(2)

### Triad Area Blacksmiths

Marshall Swaringen Advance, NC  
(336) 998-7829

1<sup>st</sup> Tuesday evening

Dixie Fairgrounds, Winston Salem, NC

(3)

### Grand Buzzard's Nest

Tal Harris Waxhaw, NC  
(704) 843-5586

Last Saturday, even # months

(4)

### Southern Foothills Blacksmiths

Steve Barringer Mooresville, NC  
(704) 660-1560

2<sup>nd</sup> Sunday, each month

(5)

### Triangle Blacksmith Guild

Randy Stoltz Cary, NC  
(919) 481-9263

1<sup>st</sup> Saturday, even # months

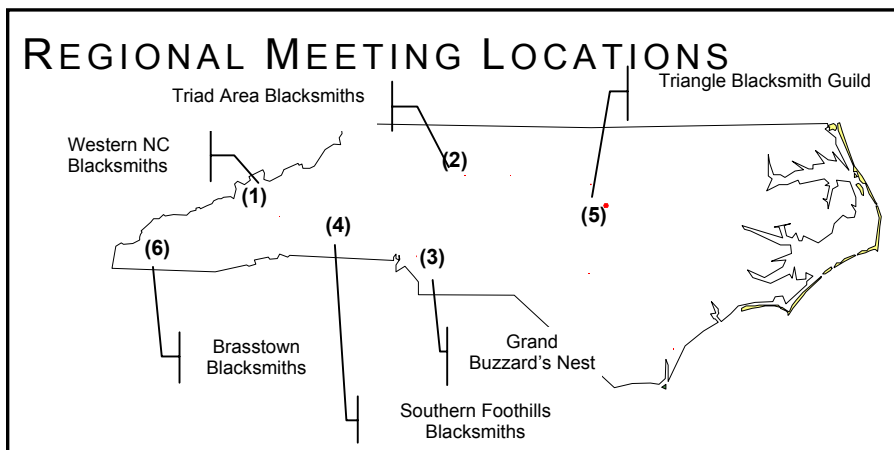
(6)

### Brasstown Blacksmiths

Paul Garrett Brasstown, NC  
(828) 835-8441

3<sup>rd</sup> Sunday, each month

Note: Any member is welcome at each of the Regional meetings. Call host to confirm date, time and location.



PRESIDENT

**Jimmy Alexander**  
922 Lakeside Drive  
Durham, NC 27712  
919 / 684-7820  
jima136040@aol.com

<u>PLEASE WELCOME THESE NEW MEMBERS</u>		
Joe Chockley	Efland	NC
Thomas W. Wagoner	Boonville	NC
James Heaton	Winston Salem	NC
Joshua Blessman	Woodwine	VA
Chris Hayes	Millers Creek	NC

VICE-PRESIDENT

**Steve Barringer**  
1154 Bevan Drive  
Mooresville, NC 28115  
704 / 660-1560  
steve@powerhammerschool.com

SECRETARY

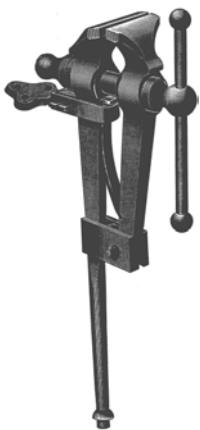
**Marty Lyon**  
220 Fearington Post  
Pittsboro, NC 27312  
919 / 642-0098  
NCABANAML@EARTHLINK.NET

TREASURER

**Parks Low**  
8108 Deermeadow Drive  
Apex, NC 27539  
919 / 772-4111  
P.Lowjr@att.net

**Don't Forget**  
**2008 3<sup>rd</sup> Quarter Chapter Meeting**

August 23, 2008 9:30 AM  
Kaynes Shop - Candler, NC



**North Carolina Chapter Artist Blacksmith  
Association of North America**

**THE HOT IRON SPARKLE**

Marty Lyon, Editor  
220 Fearington Post  
Pittsboro, NC 27312  
919 / 642-0098

Non-profit Organization US POSTAGE PAID DURHAM, NC 27705 Permit No. 344
--

**MEMBERSHIP  
EXPIRES**



TO: