

THE HOT IRON SPARKLE

* Newsletter of the North Carolina ABANA *

www.ncabana.org

Volume 27 Number 3



3rd. Quarter 2009 – July/Aug/Sept



**Annex To The Francis Whitaker Blacksmith Shop At The Folk School
*** Timber Framing Is Done *****

Inside This Issue					
President's Message	P 2	Southeast Old Threshers Reunion at Denton, NC	P 15	Characteristics of 5160 Spring Steel	P 36
Editor's and Secretary's Notes	P 3	Shipsmithing at NC Museum of History	P 16	Spring Tongs for Punches and Drifts	P 37
Regional Group Meetings	P 4	GALLERY – Bernd Mergener	P 19	Blacksmith Classes	P38
Third Quarter 2009 Chapter Meeting	P 8	Mästermyr Project	P 20	Blacksmith's Exchange	P 39
Second Quarter, 2009 Chapter Meeting	P 9	Timber Framing at the Blacksmith Annex	P 24	Forms	P 42
Tenneberg Gravestone	P 11	Devcon H2 Shock Resistant Epoxy	P 35	2009 Chapter Calendar	P 43
Blacksmithing At the State Fairs	P 12	Lubricant for Punches and Drifts	P35	New Members	P 44
Madison Conference Reflections	P 13			Chapter Officers	P 44



Jimmy Alexander
Photo by: Hill Willis

A Message from Our President

We held our 2nd quarter meeting in Winston Salem at the Dixie Classic fairgrounds. I would like to thank Marshall and the Triad Area group for hosting the meeting. Sorry that I had to miss the meeting, I started dealing with a kidney stone and I didn't think you'd want to see a grown man cry!

From what I hear the meeting was great with about 35 people in attendance. I also heard that Ian did a fabulous job demonstrating and how talented he is. Sorry I missed it. Thanks again Marshall and group for hosting us. We may have to make this meeting an annual one!

We had a great time helping to put on the SBA blacksmith conference in Madison, GA. There was a record crowd in attendance with a great vendor and tailgate area. It was great to see some of you there. During the SBA board meeting we were appointed chairman of the 2011 conference. Cindy and I have some ideas and have already started planning. We will be asking for volunteers to help us with that conference. The dates are May 19-21, 2011. Plan to be there!

Our next meeting will be at the Roxboro Machine Co. in Roxboro. Jason and his crowd promise to show us a good time. Hope to see everyone there including myself!

Forge safely,

Jimmy

PS My kidney stone ended up being a rock at 8 mm and required emergency surgery!

EDITOR'S NOTE: Kidney stones was not the only medical situation Jimmy has had to deal with lately. On Thursday, August 13, Jimmy underwent back surgery. I talked to Cindy the next day and Jimmy did well (as did as the surgeon).

Submissions to the HOT IRON SPARKLE can be made to:

Martin Lyon
220 Fearrington Post
Pittsboro, NC 27312

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

The Hot Iron Sparkle is published quarterly by the North Carolina Chapter of ABANA. Chapter dues of \$25.00 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

Dear Readers,

This issue is chock full of good articles. In fact, I had to increase the length back to 44 pages.

I felt it was important to chronicle the progress of the new annex to the Francis Whitaker Blacksmith Shop at the John C Campbell Folk School. The Folk School is a vital resource to the membership of NCABANA. Located within our state, it provides hands-on learning experience for many of NCABANA members. Our members also teach blacksmithing at the Folk School. One of our regional groups is located there, and Paul Garrett, the master blacksmith at the Francis Whitaker Blacksmith Shop, is a member of our board. Anyone who has been to the school, whether to take courses, attend meetings, or just to visit, knows what a jewel the school is. Recently, a major milestone was reached with the completion of the timber framing. The photographs on pages 23 – 34 show the efforts taken to complete this phase and foretells how great the finished annex will look. Another reason for devoting so much of this issue to the blacksmith annex is to remind the membership that the financial goals needed to complete the work have not been reached

Another unique happening was the display of the Mäsermyr Project at a couple of NCABANA meetings. I wish we were able to keep the project longer to make it available to other chapter and regional meetings – but that was not to be. The project is the reproduction of a 1000 year old Viking chest and a couple of hundred tools found with the chest. Read all about it starting on page 20.

I really like to include metalwork done by our members. So, check out a couple of objects of art made by Bernd Mergener. I thank Allan Green for his article on his demonstration at the North Carolina Museum of History in Raleigh. I know several members demonstrate at local events. I would like to chronicle these efforts, so please tell me about them so I can share with the rest of the members. Send photos, too, if you can.

I thank the other members who submitted content to this issue: Randy Stoltz, Randy Calhoun, Marshall Swaringen, Shirley Kayne, James Kennady, Jim and Cindy Alexander, Bill Tanneberg, and Paul Garrett..

DON'T FORGET THE TWO STATE FAIRS IN OCTOBER.

One little bitch: I know I've talked this to the death, but I finally did something about it. I have removed the "Return Service Requested" from the back cover of the newsletter. Now, if a member moves without giving me a change of address the post office will no longer return the newsletter to me with his new address. The post office does not do this service for free – I have to pay first class postage to get it back. I often have to drive the 18 miles to the Pittsboro post office to retrieve an issue. Then, I have to try to get the member to write me a check for twice the first class rate (about 4 bucks) so I can resend the newsletter to him first class. Only two out of more than a dozen have even responded to my request. So contact me if you move.

If the postal service loses your newsletter, or if it arrives mangled, or incomplete, please contact me and I will be more than happy to replace it. I won't ask you for the first class postage.

Happy Reading and Good Blacksmithing,

Martin Lyon, Editor

SECRETARY'S NOTES

There is no Secretary's Report for this quarter

Respectively Submitted,

Martin Lyon, Secretary NC ABANA

Regional Group Meetings

Triangle Blacksmiths Guild Meeting - Randy Stoltz

Meeting at Peter Ross' Shop – June 20, 2009

The Triangle area blacksmiths met at Peter Ross' shop near Siler City in June on a day the temperature was forecast to be 99 degrees. Despite the heat, 40 members came out to see Peter demonstrate traditional blacksmithing methods. In addition to Peter demonstrating and answering questions, the Mastermyr project collection of replica Viking era tools were on display, and we had a cookout. Peter hosted this meeting without a planned agenda. All the demos and discussion were based on request and questions from the audience.

Peter started the demonstration with a discussion of working iron versus steel. Iron has a grain structure much like wood and the workability can vary greatly. To test iron to see how well it forges, Peter suggested spreading the end of a bar to see if it splits, partially cutting through a bar and folding it over to see how brittle the piece is, and punching a hole near the end of a bar to see if it splits.



Next Peter showed how to make a colonial strap hinge, reproducing an original hinge he had. After drawing and tapering the stock to the desired shape, he drew out the butt end, folded it over, and formed the hinge barrel by wrapping it around a drift. After forge welding the open end of the barrel he punched the holes starting at the small end and evenly spacing them towards the butt end.

Peter then showed two methods of making a carriage bolt head. First he cut through the end of a

piece of round stock, folded it over, and forge welded it to provide more material for the bolt head. Then he upset the thickened end of the bar, used a bolt header to flatten out the head and put a shoulder on the bolt, and squared up the bolt head to finish. Noting that this method produced a thinner head than the original bolt he had used as an example, Peter proceeded to make a second bolt by wrapping the round stock with another piece of steel. This method gives you more material to work with but you need to be sure to leave a small gap where the ends of the piece being wrapped around the bolt body meet. This gap will close up as you hammer the two pieces together and form a tight fit. If the ends of the piece being wrapped around the bolt body don't have this gap the ends will butt together and leave a void when you try to weld the two pieces together.



After a cookout lunch of hot dogs, hamburgers, fresh fruit, and some delicious home made desserts, Peter continued demonstrating, enlisted Al Cody for some team hammering, and made a pair of tongs to finish up the day.



Note the floor in this picture of Peter and Al Cody hammering on the tongs. The floor is made of end grain wood blocks set on a bed of sand and not brick. The wood blocks give you a more resilient surface to stand on. The anvil stand is buried in the ground and is not just resting on the floor.

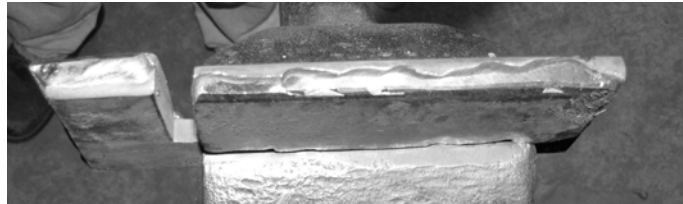
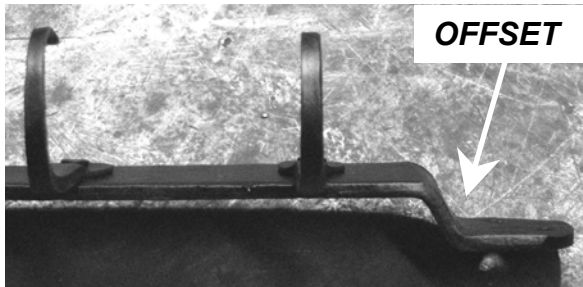


Tongs, Strap Hinge, and Carriage Bolt Made by Peter Ross At the Meeting

Triangle Blacksmiths Guild Meeting – by Marty Lyon

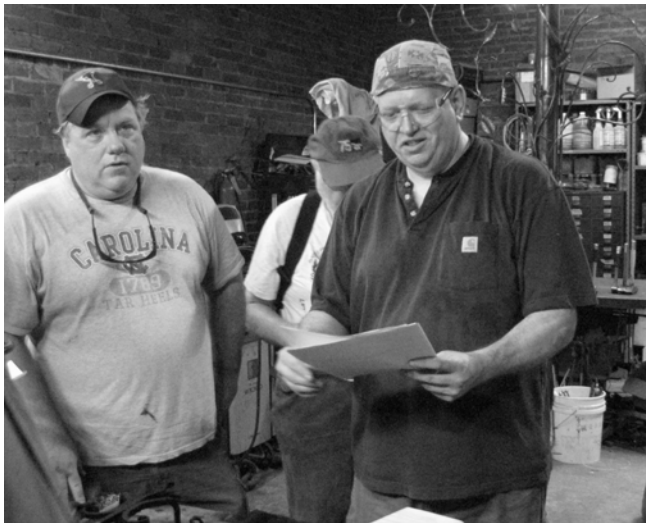
Meeting at Jimmy Alexander's Shop – August 1, 2009

The meeting at Jimmy's was, as usual, well attended. Jimmy, however, didn't lift a hammer – couldn't actually because of a really bad back. Parks Low started the meeting off showing how to make the jig he uses to easily put an offset on a bar when making items such as the one below:



Parks' Jig for Making the Offset

Next Randy Stoltz showed and talked about his collection of chisels, punches, and drifts. He talked about the design, forging, heat treatment, and the selection of material for these tools. He later took to the forge to demonstrate the fabrication of a universal handle that can be used to hold tools with different diameters.



Randy Stoltz Talking About Forging Steels and Forging His Universal Tool Handle



Dan Ritchie Show His Latest Knife



Parks With Helper Dick Snow

Southern Foothills Blacksmiths – Randy Calhoun

Meeting at Steve Baringer's Shop – August 9, 2009

The Southern Foothills Blacksmiths met on Sunday August 9th at Steve Baringer's shop in Mooresville. We had a 12 people in attendance including Andy Chapman from Big Blu and Paul Garrett from the John C. Campbell Folk School. We had a great meeting. A lot of us made tooling such handled punches and drifts using Steve's press to drift the handle hole.

Andy demonstrated a lot of the "free-form" forging techniques the he uses everyday and Paul demonstrated a well designed bottle opener. It was a great time and I'm sure everyone is looking forward to next month.

As usual we appreciate Steve giving us access to his well-equipped shop.



Triad Area Blacksmiths – Marshall Swaringen

Meetings at Dixie Classic Fairgrounds, Winston Salem – Second Quarter, 2009

The Triad Area Blacksmiths met 6 times in the second quarter of 2009 at the blacksmith shop at The Dixie Classic Fair Grounds. Both the Tuesday and Saturday meetings are averaging 15 members. We are lucky to have some new and young visitors stop by. If they come more than twice we call them members of TAB and encourage them to join NCABANA.

The first meeting in April had Tommy McNabb and John Hege doing a basic blade forging. This is what the Clubs are all about when two very knowledgeable knife makers spend a night sharing their skills with a bunch of beginners. Thank you Tommy and John.

Andy Phillips led the April Saturday meeting with lessons about copper tooling. After showing different techniques on relief sculpting, Andy created butterfly wings and married the wings to a forged steel body. May started with demonstrations by George Manuel on different twist and shaft designs. Using knowledge he acquired at the first quarter state meeting, Richard Howard ended the month with a demonstration on pot trivets.

June started out with an old fashioned “church key” forging. If you know what this is, you are no longer a spring chicken. The last meeting of the quarter had Richard Howard back at the forge showing some welding and making a 13 sided ball.

Third Quarter Chapter Meeting

Jason Craft’s Shop, Roxboro, NC

September 26, 2009

545 Wind Dancer Lane, Roxboro, NC
Meeting starts at 9:30 AM

Our Demonstrator Will Be Robert Timberlake

Directions:

Roxboro is north of Durham, and the shop is quite a bit north of Roxboro, nearly to the Virginia state line. There are about as many ways to get there, as there are members who will attend. So get a map and find your way to Roxboro.

In the center of Roxboro US-501 joins NC-49. Eventually, as you are going north out of Roxboro, US-501 splits off from NC-49 (Virginia Road). Leave US-501 and take US-49

Continue on NC-49/Virginia Rd for 11.9 miles

Turn left at High Valley Church Rd/NC-1509

Turn left at Wind Dancer Lane.

Second Quarter Chapter Meeting – by Marty Lyon

Dixie Fairgrounds, Winston Salem, NC – June 6, 2009

We were all blessed with a beautiful June day and non-stop demonstrations at this meeting. When I left in the late afternoon the day was still fine, the fire was still hot in the forge, and I drove away with the sounds of a ringing anvil in my ears.

As usual, we have to thank Marshall Swaringen and his fine crew of Triad Area Blacksmiths who hosted a great meeting.

The featured demonstrator was Ian Thompson, a 16 year old, gentle giant of a young man, who has been blacksmithing since he was 10. He has been seriously smithing for the past



Ian Thompson

two years. Last November, Ian used a NCABANA scholarship to attend Ron Howard's Domestic Forgery course at the John. C. Campbell Folk School. This demonstration was part of his scholarship commitment, but he fulfilled that commitment with gusto and just kept making more and more things to show the appreciative crowd. I think he only stopped for lunch, iron-in-the-hat, and to allow Andy Phillips to show us how he combines copper and steel at the forge.

Ian brought a unique table that he made at the Folk School. He demonstrated how he made the steel legs, with the ring at the top and the fancy twists.

From there he kept working making wizards, fire pokers, etc., while demonstrating lots of embellishments. Ian really likes to twist metal. He showed one twist that he invented himself.



Ian's Table



Table Leg Detail



Ian's New Twist – each section twisted 90°



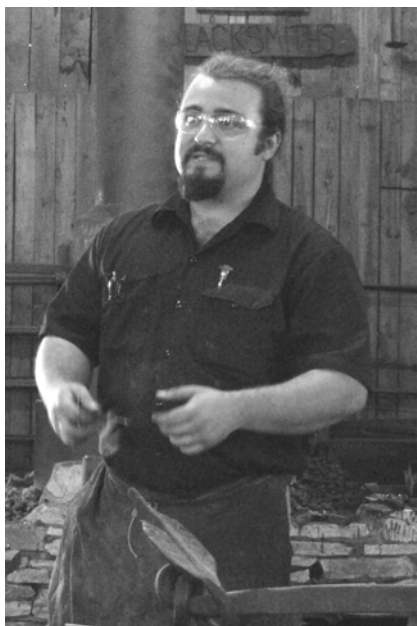
Ian's Wizards



Colonial Blanket Pin

Funky Twists

Giving Ian a break from the forge, Andy Phillips made a beautiful butterfly by combining copper and steel.



Andy Phillips



Copper and Steep Butterfly

Another feature of the meeting was the display of the Mastermyr Project. Please see the dedicated article on page 20.



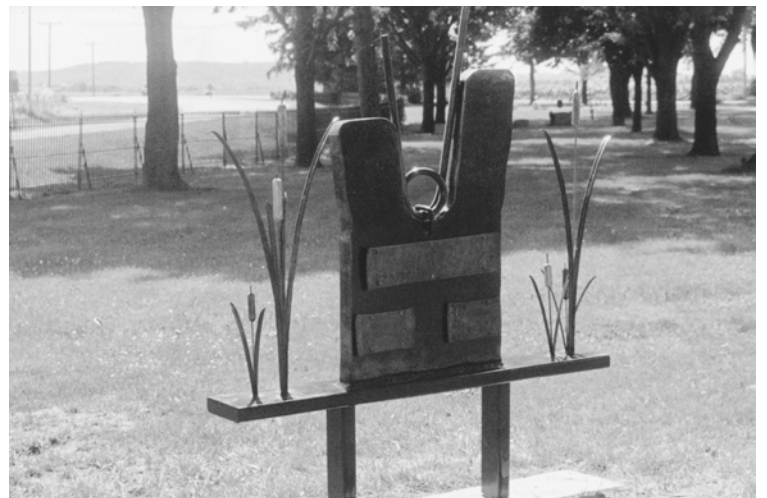
Grave Headstone made by Bill Tanneberg

EDITOR'S NOTE: Bill Tanneberg, an NCABANA member living in Wisconsin, sent me this photograph and a small newspaper article. The article, which had a photo of Bill, unfortunately, would not reproduce well enough for the newsletter. I think the article says it all so I have recreated it here. Our heartfelt condolences go out to Bill for the loss of his wife Deanna. The headstone stands 6' tall.

Article from the Sauk Prairie Eagle by
Jeremiah Tucker

Using a massive piece of metal found for him by his friend, the famous artist Dr. Evermor, Bill Tanneberg recently finished making his wife's gravestone.

His wife, Deanna, died last year in June, but last week Tanneberg finally placed her gravestone at her burial place in the small cemetery at the corner of Highways 12 and Z.



Blacksmithing at the 2009 North Carolina Fairs

Its that time of year again folks – Fair Time

Itching to demonstrate blacksmithing? It is time to scratch that itch. We need members just like you who are willing to share their love of the craft with the public. This is an excellent opportunity for NC ABANA to spread the joys of blacksmithing. Any experience level is welcome to demonstrate. So, take your pick from the Dixie Classic Fair or the NC State Fair. Better yet pick both!

Did you know that NCABANA makes most of its operating revenue from its portion of the sales from the blacksmithing shop during the NC State Fair?

DIXIE CLASSIC FAIR

Winston-Salem, NC

October 2 – October 11, 2006

To Demonstrate or to help out, please contact Marshall Swaringen at:

Phone: (336) 477-5022

marshall@swaringen.com



Heritage Forge at the North Carolina State Fair

Raleigh, North Carolina

October 15 – October 25

To Demonstrate or to help out, please contact Parks Low at:

Phone: (919) 818-3036

p.lowjr@att.net

Demonstrators wanted for the 2009 NC State Fair! Sign up now and avoid the rush. The demonstration day will start at 9:00 AM and end at 9:45 PM. We like to have enough demonstrators that they will not have to demonstrate for more than 2 hours at a stretch. The more folks we have to volunteer the more enjoyable of an experience it will be for all concerned. Help is also needed in the sales area.

When you sign up to demonstrate, or bring items for sale, we ask that you provide us with: Name, Business Name, Address, Telephone #, and an e-mail address if you have one. Additionally we would ask for a short list of items that you make and sell. We will take this information, compile it, and have it printed up on a card to be posted. This will put the information for everyone on one card that the prospective customer can write down your information to make later contact. This will save the folks in the sales area from having to look up this information and write it down for the customer.

Reflections On The 2009 Madison Conference

The Following Is From Cindy Alexander:

SouthEast Blacksmith Association (SBA) Conference Madison Ga. May 2009

Things got started in Madison on Wednesday before everyone came for the conference. We had to set up the fairgrounds and building for all of the activities planned for the next three days. Some of vendors started to arrive that afternoon with the rest of them coming in on Thursday morning.

The conference opened on Thursday afternoon with the vendors having their day and the start of registration. Friday morning brought the majority of attendees with the demonstrations and classes starting along with the iron-n-hat. There were over 500 registrants this year!

Jimmy and I were in charge of the gallery, people's choice award and auction. The auction was held on Friday night with Col. Tim Ryan acting as our auctioneer, Vana White (Lisa Kennady) returned for an oncore performance! After the auction the team forging contest was held. Each team had 10 short minutes to forge a cube from a 3/4 inch round bar, 3 inches long with each end cut on the diagonal. The top three teams were so close, 1/1000 of an inch apart, that they had to use calipers to judge them! I signed up Jimmy and Mitch (president of the Appalachian chapter) to be a team...they came in third!

Saturday morning brought the final demonstrations, classes and another small auction. We closed the conference with the traditional memorial anvil shoot by Col. Tim Ryan. That afternoon the vendors headed out and we cleaned up the fairgrounds and building. The conference was over for another two years.

Jim Kennady Adds His Account:

I attended the SBA Conference 2009, 14-16 May in Madison GA. This conference covers the Southeastern region, Alabama Forge Council (AFC), North Carolina Chapter of ABANA, Appalachian Area Chapter of Blacksmiths (AACB), Ocmulgee Blacksmith Guild (OBG), Alex Bealer Blacksmithing Association (ABBA), Philip Simmons Artist-Blacksmith Guild of South Carolina (PSABG) and Florida Artist Blacksmith Association (FABA).

The conference was packed with blacksmith events for the whole family. Mark Asprey and Jerry Darnell demonstrated. Mark demonstrated a classic grill section. Jerry demonstrated colonial hearth equipment & lighting. Both Mark and Jerry are outstanding blacksmiths and it was exciting to see them work. Clay Spencer demonstrated Power Hammer Tools. Clay's tools are detailed on the internet at: <http://www.alaforge.org/Tools.html>. Other demonstrations included a Scotty Dog by Alan Kress, Copper Repoussé Picture Frame by John Blackledge and Forged Blades by Ken Durham.

Several tool vendors were on site as well as tailgate sales. Green coal stations were available to beginning blacksmiths through out the conference. Other events included as a quilt project, iron in the hat, auction, raffles and grill project made from the logos of region's blacksmith organizations. There were classes on copper flowers (Rick Jay), toothbrush rugs (Judi Chavers), broom tying (Jeff Mohr), stained glass (Mitz Bazzell) and jewelry making (Lisa Anne Connors). Dr. Tim Ryan concluded the conference with an anvil shoot. The next SBA conference will be in 2011. <http://sbaconference.com>

Shirley Kayne Contributed These Photos:



Clockwise From Top Left:

Clay Spencer

Mark Aspery

Mark's completed demonstration work.

Copper Rose Screen

SBA Logo Grill

Jerry Darnell

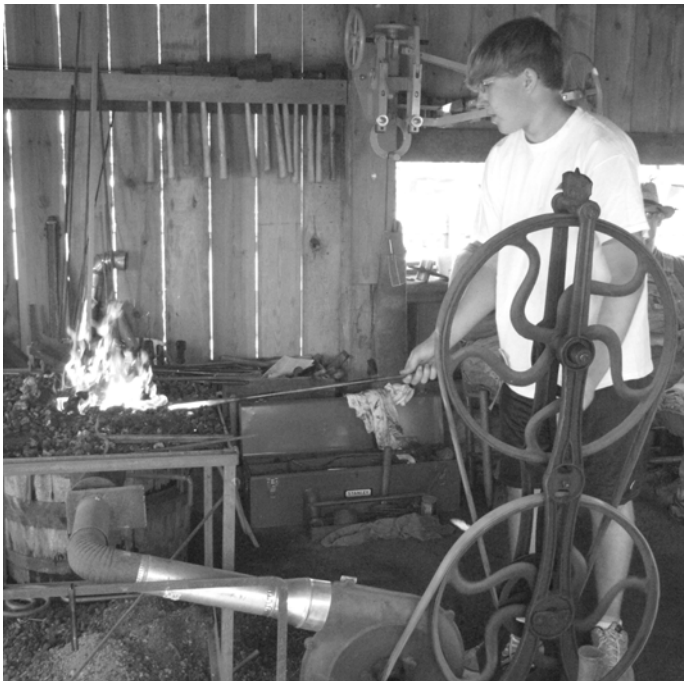


Blacksmithing at the Denton Farm Park

By Marty Lyon

Randy Stoltz and I spent a wonderful Saturday at the Denton Farm Park near Denton, NC attending the Southeast Old Threshers Reunion. This event is held every year around the fourth of July. The park is about 15 miles west of Asheboro, right in the middle of the state. If you haven't attended this event, I encourage you to go. You will see more tractors in one place than you ever will want to see in your life. It has one of the largest retail operations I think I have ever seen with people selling tools, both new and old, engines, books, food, and firearms. There are tons of crafts on exhibit from a cotton gin to soap making. Many devices are driven by steam, such as a printing press, steam tractors, steam shovels, and a train with a steam locomotive that runs around the periphery of the park. One of the highlights is a working, gigantic, Bates Corlis steam engine. One of my favorites was the building with antique radios and TVs.

I think one of the jewels of the park is the blacksmith shop. In the past, NCABANA has held meetings and conferences at Denton using that blacksmith shop. It was my first time seeing it though. The shop has several of unique features. There are two forges with hand blowers driven with the prettiest belt driven arrangement you will ever see. These pulleys and belts give you two stages of speed amplification. See the photo below. The other feature is a beautiful forge and bellows combination. See the photo on the next page. The last item of note is a new device used to mount solid rubber tires on wagon wheels. I think they were trying it out for the first time when I was there because it certainly took lots of trial and error to mount that tire on that wheel. Eventually, with a lot of head scratching and "let's try this" the job did get done successfully.



Zack Cody at the Forge



Father and Son, Zack and Al Cody



Scott Beam



Jimmy Freeze



David Chambers



Randy Stoltz Trying Out the Bellows



**Tal Harris and Scott Beam
Struggling With the Tire**



Success at Last

EDITOR'S NOTE: I wish to thank Kent Thompson and Eric Blevins, photographers with the North Carolina Museum of History, in Raleigh. Kent took the photographs that appear in this article and Eric arranged for me to have them. Unfortunately, Ed Rost must have been taking a break when Kent came around to take these photos for there are no pictures of Ed. Sorry Ed.

Shipsmithing At The North Carolina History Museum

By Allan Green

I have a life-long reputation for getting in over my head, and when I answered Randy's request for a blacksmith to demonstrate at the NC History Museum on June 6th, I was running true to form. To begin with, the occasion was the opening of the "Colonial Pirates" exhibit, and what the museum director had in mind was not just a blacksmith, but a *Shipsmith*, skilled in making chain, harpoon points, anchors, cleats, davits, draw knives, and whatever else would be needed on the high seas. But, I was looking for a reason to try out my little antique forge and I have a smaller semi-portable anvil, so with many caveats to cover my complete ignorance of shipsmithing, I agreed to do it - with a little help from my friends.



Fortunately, Ed Rost had also answered the call and on Friday, June 5th we met at my place to organize our equipment and decide what we could demonstrate. By this time, Randy had sent me some good online references on Shipsmiths and I had some ideas on how to fit what I can do into a nautical context. Hooks - I'm good at these and I had a picture of an old "eye-hook" for hanging lines and the like; handles - lots of them needed; chain - I've made a few links at home and thought maybe I'd be able to demonstrate that. And nails - Ed has made nails with Donny Covalt but we needed a nail header, so Randy, Donny, and Ed worked late Friday night making one for us.



Ed and I agreed to meet for breakfast Saturday morning and we didn't get to the museum quite as early as we might have. Our demonstration was due to begin at 11:00, but at 10:30 when we were setting up on the museum porch, getting the fire going, we already had crowds. By 11:00 we were in high gear, except that the blower unit I had cobbled together for my little forge wasn't doing the job. It didn't take us long to switch to our backup blower - my wife's ConAire Hair dryer that I had brought along for insurance! "Is that a genuine colonial blower?" we were constantly asked?

"Well, we had a small boy we were paying two-bits a day to work the bellows, but he quit", we would tell them. Everybody seemed satisfied with the explanation.

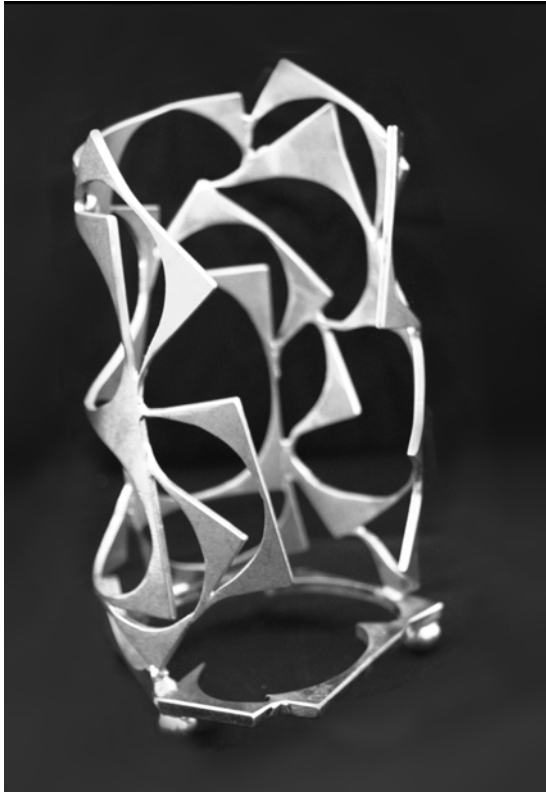
As predicted by many of you, our audience was delighted to watch us make just about anything as long as it didn't take too long. We gave everything we made away as a souvenir, and whether it was this or the thrill of watching two master blacksmiths at work, we had large crowds all day. Hooks and handles were great successes, but I learned a hard lesson about nails. When Dick Snow does it at the fair it looks so simple. Forge the nail, cut it off, shove it in the header, whack it through, and release it. Simple, except that I forged them too much and they ended up with no head; I forged them too little and they ended up bending in the header. I cut them off too short and too long. I quit making nails and let Ed demonstrate those. Sometime during the afternoon, prompted by a question from the audience, I realized that we weren't making just any old hooks - we were making the authentic pirate hooks that adorn the forearms of all the most notorious sea-going villains. Oh yes! Our hooks had the screw-in shank for attaching them to the missing limb; the same brassy sheen all the best hooks have; and just by straightening out the little fillip at the end (included for safety in these litigious days) one could imagine a hook worthy of Captain Hook himself.

The museum staff couldn't have been more helpful, but I was the victim of a slight misunderstanding about lunch. It showed up while I was busy demonstrating something, and when I checked a few minutes later, all I saw were some pastries and drinks. The drinks were appreciated, but I decided to skip the pastries. About two hours later, I told Ed, who was probably making nails, "I think I'll go and get a sandwich". "Oh, I forgot to tell you - there's a Chick Filet in the box.." Ed said. By this time it was pretty cold, but at least Ed hadn't eaten it. Hmmm. What to do with a cold Chick Filet? Let's see - we have a fire, we have a sterile shovel - Viola! I think the crowd took more pictures of me heating up my sandwich on my shovel than anything else we did.

It turned out to be a pretty busy day. The exhibit closed at 4 and we still had an audience. We finally had to say, "That's all folks!" and pack up. Hopefully, we sparked some interest in blacksmithing (all of the ABANA brochures were taken) and we'll see some of these folks at the fair. And if, while you are demonstrating, someone asks if you can make a real pirate hook, you'll know where they got the idea.

EDITOR'S NOTE: We featured Bernd's work in the Third Quarter 2007 Issue of "The Hot Iron Sparkle". For you inspiration and enjoyment we have more his metalwork to show you.

Gallery – More From Bernd Mergener



Windows of War



If You Point



Pendulum

Mästermyr Project

By Marty Lyon

EDITOR'S NOTE: Not too long ago I was watching Roy Underhill's program: "The Woodwright Shop" on PBS. He was visiting blacksmith and carpenter Don Weber in Paint Lick, Kentucky. The program was about the Mästermyr Project – items replicated by members of ABANA of a 1000 year old Viking tool chest and its contents.

I had never heard of the Mästermyr Project before so I did an Internet search on the project and the original find in Sweden. The more I found out, the more fascinated I became. At some point I discussed it with Randy Stoltz. Shortly afterwards, I received a call from Randy who was at Peter Ross' shop planning an upcoming regional meeting of the Triangle Area Blacksmiths. Randy said, "Hey Marty, do you think NCABANA members would like to see the Mästermyr Project?" "Well, of course", I exclaimed. It so happened Roy Underhill took the over 200 pounds of crated materials with him when he left Don Weber's place and dropped it off at the shop of his good friend Peter Ross. There was plenty of information, in books and CDs, packed with the exhibit. Randy and I used some of this information to make the two display boards you can see on pages 11 of this issue.

We had originally intended to show the exhibit at the three remaining chapter meetings and to make it available to the regions to show at their meetings. However, I had to return the project in time for it to be displayed elsewhere. Unfortunately, we were only able to display the project at the June chapter meeting in Winston Salem, and at the June meeting of the Triangle Area Blacksmiths at Peter Ross' shop.

THE MÄSTERMYR PROJECT:



The action takes place in 1936 on the Swedish Island of Gotland in the Baltic Sea between Sweden, proper, and Latvia (see map to the left). A farmer living in the Mästermyr area of Gotland was plowing a newly drained swamp when his plow tangled in an old chain. He dug into the bog and pulled up a chest containing many, many tools and other items. Fortunately for the rest of us, he notified Swedish archaeologists of the find. What they found was truly amazing: the bog remarkably preserved the wooden chest and its contents. The archaeologists dated the find to be **over 1000 years old**. It is thought that the chest would have been on a Viking vessel.

There were blacksmithing and carpentry tools as well as a large cauldron, a device for weighing things, several bells, pad locks, and keys. Nearly all of the tools looked like those in use today. There were blacksmithing tongs – that look like tongs. Any blacksmith would recognize the nail header along with a small complement of nails. The carpentry tools were really amazing with hammers, chisels, axe heads, adzes, files, rasps, knives, saws, etc. The Viking chest had a working locking mechanism with keys. The original artifacts now reside in a museum in Stockholm.

The island off the Swedish coast referenced in the text to the right is Gotland. Mästermyr is a section of Gotland

In 1983, a book by Greta Arwidsson and Gösta Berg, titled "THE MASTERMYR FIND, A Viking Age Tool Chest from Gotland" was published by Larson Publishing Company, of Lompoc California. This volume contains beautiful drawings and descriptions of the over 200 items of the find. Greta Arwidsson (now deceased) was an archaeologist on the faculty of Stockholm University and had done many excavations in Gotland.

The drawings in the book were detailed enough for blacksmiths, carpenters, and other craftsmen to recreate many of the artifacts. - hence, the creation of the Mästermyr Project. The project was started in 2000 by ABANA members in the United States and Canada with the goal of reproducing the original items in time for the ABANA 2002 conference to be held in LaCrosse Wisconsin. Many, but not all of the items have been reproduced. The collection has been displayed at many events, mostly in the north. It was shown at the 2005 conference in Madison, GA, however.

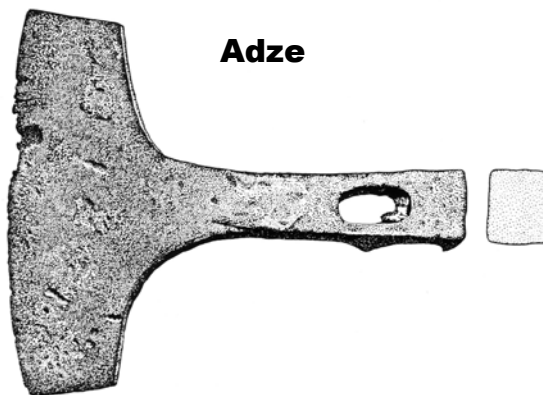
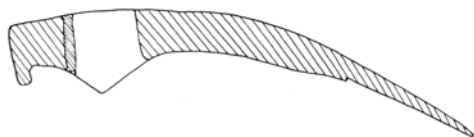
There is a copy of the book mentioned above sent with the Mästermyr Project for display. If one wishes to purchase it, however, it is not easy to find. Amazon lists several used copies for about \$90 each. I did find the book listed at Astragal Press (astragilpress.com) for \$17.95. I do not know if they actually have it available for sale.

Bill Clemens oversees the Mästermyr Project. Bill edits the newsletter of the Blacksmith Guild Of Central Md. If any NCABANA Regional Group, or any other blacksmithing organization wishes to exhibit the project contact me and I will provide you Bill's contact information.

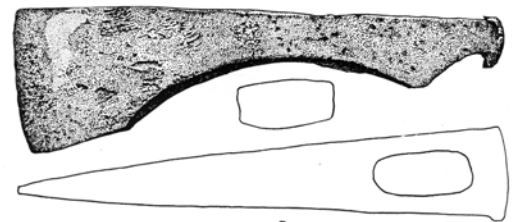
Drawings of several of the ORIGINAL pieces are reproduced below. It is amazing how little the tools have changed over the centuries.



Original Viking Chest and some of the tools found with it

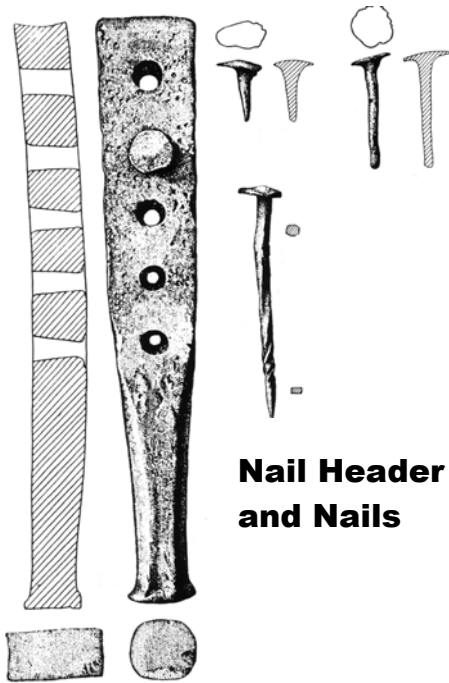


Adze



Axe

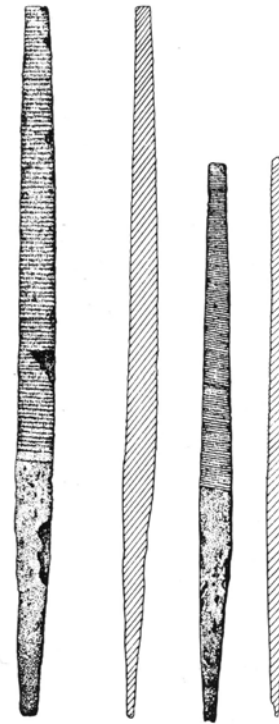




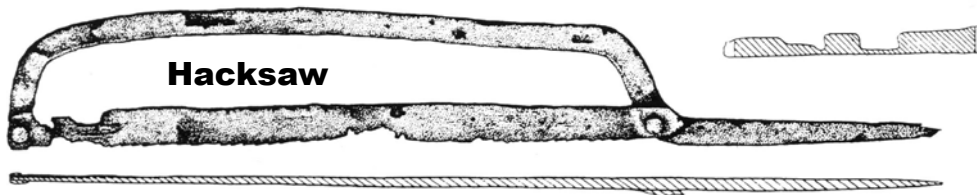
Nail Header and Nails



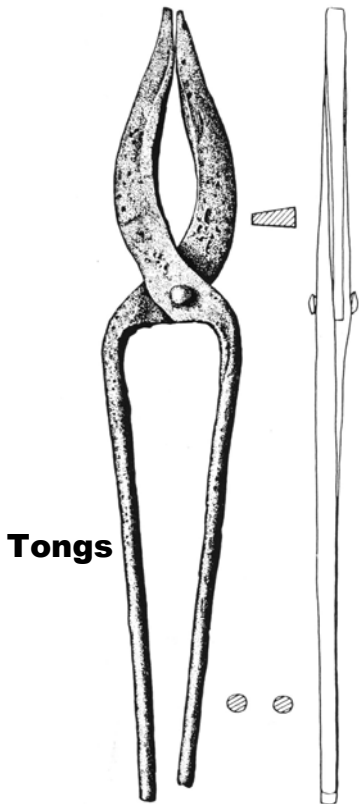
Bell



Files



Hacksaw



Tongs

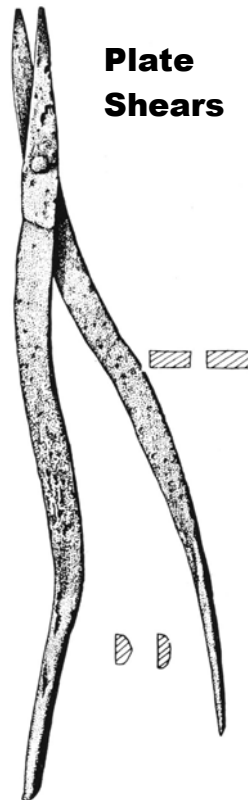
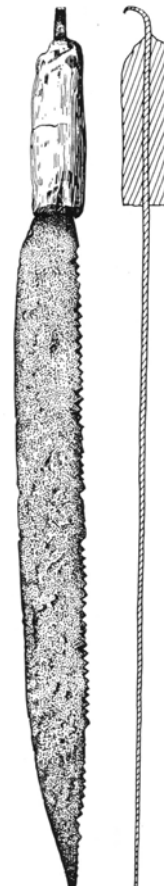
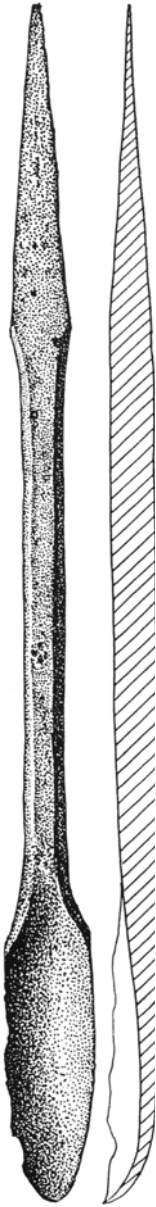


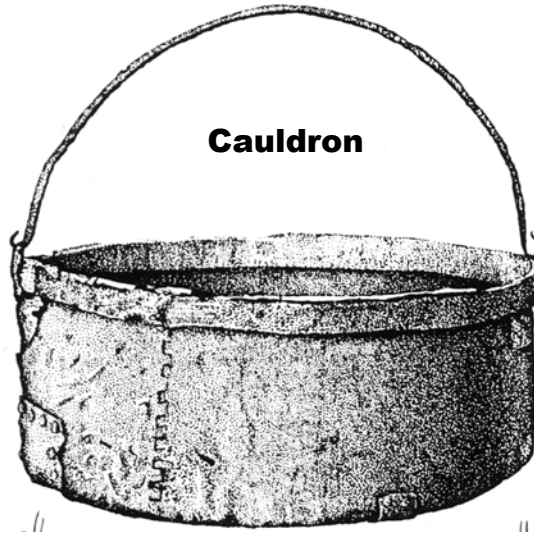
Plate Shears



Saw



**Spoon
Auger**



Cauldron

Here are the names of those blacksmiths who made reproductions:

Ken Zastrow of Maryland
 Steve Smith of Colorado
 Ralph Douglass of Oregon
 Kim George of Ohio
 Larry Brown of New York
 Don Plummer of Pennsylvania
 Robert Bergman of Ohio
 Bill Clemens of Pennsylvania
 Bob Patrick of Arkansas
 Jeff Valentine of Florida
 David Collier of Maryland
 Dan Tull of Georgia
 Dan Kretchmar of Minnesota
 John Newman of Ontario

Michael Horgan of California
 Wayne Ackman of Michigan
 Bob Ehrenberger of Missouri
 Mike Linn of Alabama
 Ralph Newmeister of Ohio
 Rick Korinek of Massachusetts
 Rob Fertner of Kansas
 Tom Morrison of Kansas
 Jan Kochansky of Maryland
 Bruce Woodward of Ohio
 H. Foster of Quebec
 Matt Wills of Kansas
 Wayne Ackman of Michigan
 Tim Underwood of Missouri

This information is current to sometime in 2006. If I have missed anyone who worked on the project at a later time, I apologize for the omission.

There are original items that have not been reproduced. If anyone is interested in working on any of these, please contact me and I will tell you how to reach Bill Clemens. Believe me he will be happy to hear from you.

EDITOR'S NOTE: The following is taken from various blogs on the Folk School's website, <http://blog.folkschool.org>. There are a lot more photographs and videos there for you to see.

Blacksmith Annex at John C. Campbell Folk School

***** The Timber Framing *****

The slab has been poured!

by Paul Garrett, the Folk School's resident blacksmith on May 20, 2009



Day one at Festival Barn

by Paul Garrett, the Folk School's resident blacksmith on May 29, 2009

Work started today at the Festival Barn where 47 timber framers have begun turning more than 200 large pieces of white pine and oak timber into individually crafted frame members for the New Forge Building.

The participants are from all over, but each share a common love for wood and timber framing. The leadership team assigned each person to a crew, and they began laying out and marking the timbers, some as large as 12 by 12 inches by 30 feet long weighing more than 1,400 lbs! Each frame member has a drawing showing all four sides, and precise measurements to aid in laying out and scribing each joint for accurate cutting.

I learned by watching and listening, that each timber is inspected for flaws, and that these flaws are worked around by cutting them away as part of the waste from a joint or leaving them in an area that won't affect the strength of the frame member. Knots are avoided in a joint as they are difficult to cut around and hard on sharp tools.

Speaking of tools, I have never seen so many woodworking tools in one place. Most of the guys and gals brought along everything they had including very large circular saws, some with blades as big as 16" and

Dennis, the tool salesman brought I think a 20" saw for sale. I wanted to buy it just to have, but I'll save my money for blacksmithing tools.

All power tools had to pass the Timber Framers Guild's safety inspection before it could be used in the work area. The guild is very safety conscious, and has only had a couple of injuries in all the years that they have been doing events like this. After the tool is checked over, it is marked with a plastic zip tie so that it is easily identifiable as safe. This is a great thing, and it got me thinking about my own tools and giving them a good looking over.

The crowd was pensive and quiet all day, and I think that there was a certain level of stress about doing things right and there was a whole lot of head scratching going on as the instructors challenged the students with remembering their high school math and geometry to figure things out. Lucky for these folks, we had timber that was surfaced on all four sides and square, making it much easier to get the layout right. Often, a framer is working with rough sawn beams that are not only not square, but change dimension along the length of the beam. This was typical of traditional timber framing where the timbers were hewn from logs by hand, and irregular.

After a supper of broiled chicken with rosemary, green beans, rice, and homemade bread, the framers got treated to a fascinating engineering lecture about design of both timber and concrete in construction. One would think such a lecture dry and sleepy, but no one could tear themselves away as the presentation was so good. We were fortunate to have such a wise and experienced fellow be a part of this project.

The night ended with a bonfire, music and singing just below Festival Barn at the old fire pit, and it was a great time. It was a good way to get to know one another and relax a bit after a very focused day.

Wood Chips and Coal Smoke

by Paul Garrett, the Folk School's resident blacksmith on June 1, 2009

Today, the wood chips started flying, and there is sawdust everywhere. I love the aroma of fresh cut pine as it reminds me of trout fishing next to a small sawmill where I grew up in western Montana. Here, it mixed well with the smell of coal smoke wafting it's way up from the blacksmith shop and from the small forge that I set up amongst the timber framing.

I set up the portable forge near the action so that there could be a melding of the crafts, both skilled, and both ancient, during this event. It is especially fitting since the group is building our new forge building. I started by making small give away items like bottle openers and such and then began making specialty tools and things the framers. The more tools that I made the more ideas that they came up with. I really like to make tools for craftsmen, especially ones that are not available anywhere else. It is comforting to know that even today, with all of our technology and conveniences, people still have to seek out a blacksmith to have certain things done. I don't think that will ever change.

Some of the wood joinery is complex, and while the precise layout was complex and time consuming, the cutting is equally fussy. There are all manner of saws and chisels in use, and I never knew what a wide array of equipment was available. But even so, each joint still must be finished





smooth and to dimension with good old fashion planes and chisels. There was a big talk about sharpening, and all are encouraged to keepis sharp for both accuracy and safety.

Tonight, after a dinner of eggplant parmesan and olive bread, the guys taught me how to play a game called Stump. As I watched them play, Ira explained the rules to me. Each player gets a big nail and starts it straight into the top of a stump or big timber, and then takes turns driving each other's nails all the way in. To determine how many swings a player gets he or she must flip their hammer up in the air and catch it by the handle.

One flip, one swing, two flips, two swings and so on. Flipping it under the leg doubles the score, and behind the back triples it. Some of these guys were pretty good, and the last nail standing wins. It was a lot of fun.

Tomorrow. more forging and cutting.

Test Fitting

by Paul Garrett, the Folk School's resident blacksmith on June 3, 2009

The level of energy here is high in Festival Barn as the timber framing crew and class have reached full stride, and are making serious progress. Today they test fitted an entire wall section, and it looked massive as seen laid out on the floor. To do this, the individual timbers are checked again and then fitted up taking care to have the whole assembly absolutely level and square. This was a challenge in the barn, as the floor was sloped drastically to allow for drainage during the time that it was used as part of the dairy operation here at the school.

After all the joints are checked for fit and all dimensions are good, then a mark is transferred through each peg hole in the mortises to the tenons that fit inside. After the the timbers are marked for re-assembly, the section is taken apart, holes bored in the tenons, and the pieces are stacked for transport to the job site. Then it happens all over again with the next wall.



Tonight, there was a demonstration by Ford Hall of the leadership team covering his method of affordably transporting logs from where ever he can find them, and sawing them up on his own band saw mill. Ford is a great timber framer residing right here in Brasstown, who finds logs that are already down from storms, or around construction sites, or where ever, and mills up all the timbers for his business. He uses a converted boat trailer, and a bumper mounted winch to do this and can move an amazing amount of wood this way. He began to saw up a couple of walnut logs that had to be cleared away to make room for the building, into stock for making some braces in the frame. It is nice to know that some wood from the site will be a part of the finished frame.

Also, tonight we all had a great treat in watching this weeks woodcarving instructor Wayne Barton to some chip carving on one of the timbers that will be visible as you enter the new building. He worked till well after dark with flash lights to get this done, and now the timber frame will be forever marked with the year 2009, and the Timber Framers Guild logo, and a nice bit of whimsy to boot.

Leaving Our Mark

by Paul Garrett, the Folk School's resident blacksmith on June 10, 2009

Although I first thought “Argghhh, the timber framers have one-upped the blacksmiths again,” it was really not that way at all. For an instant though, my competitive auto racing background, had passed my current and much more relaxed thought process and life here at the Folk School. I will never be able to suppress that part of my past, but I do like the non-competitive environment here in Brasstown.



So what happened was, the last couple of days, timber framer Will Fowlkes from Oregon, came down to my shop and asked to measure up a couple of anvils. He said that the framers were going to carve them into the ends of the of the huge 6" by 12" floor joists that support the future classroom over the new forge building. “Great” I said without really knowing much about it, then I kept hearing more about everyone pitching in to do it. Tonight, Will came down after supper to take a couple more measurements, and curious, I followed him back up to Festival Barn to see what was up.

I expected to see some relief carving or something simple, but these guys, with Will's leadership I am told, had carved life size and accurately proportioned anvils in three dimensions into the end of these beams. Eighteen of them! I had to fetch my camera and however many smiths as I could find to show them too. Here is a picture of Will roughing out the shapes with a nice Mafell band saw. The rest of the carving was done by hand with chisel, plane, draw knife and whatever else was handy.

The framers have been scheming of ways for the blacksmiths to incorporate iron into the frame such as the post bases and other things, but each one was looking for ways to leave their signature as well. Just as our individual

iron post bases were unique, each anvil was a bit different. There is really not a competition, but rather an individual and a group spirit to do the best work that we can, and as our craftsmen ancestors did, to leave beautiful surprises for our future generations to see.

I was recently at the Washington National Cathedral in Washington D.C. snooping around in dark corners of the chapels and crypts with a flashlight, and I saw many examples of all the crafts that make up the cathedral. For each craft, the artisans took the extra, and probably unpaid time, to leave little surprises that some people, and especially knowledgeable crafts persons of the future would discover. As the framers and smiths return to the Folk School until they are no longer able, they can point and say "I made that one." And their successors can look on with appreciation for their skill and effort.

Anvils Carved Into Ends of Floor Joists Shown in Place



Work Week

by Paul Garrett, the Folk School's resident blacksmith on June 24, 2009

Well, another Blacksmith's Work Week has come and gone here at the Folk School. This invitation only event has been going on for a long time, and most of the major pieces of iron work to be seen on campus such as the dining hall chandeliers, the red railing, and the bell tower have been done during these weeks. This year however, was special in that we all got to witness the timber frame raising that so many have hoped for and anticipated for so many years. And what an event it was. Both the blacksmiths and the timber framers had a great time and enjoyed the company of each others craft.





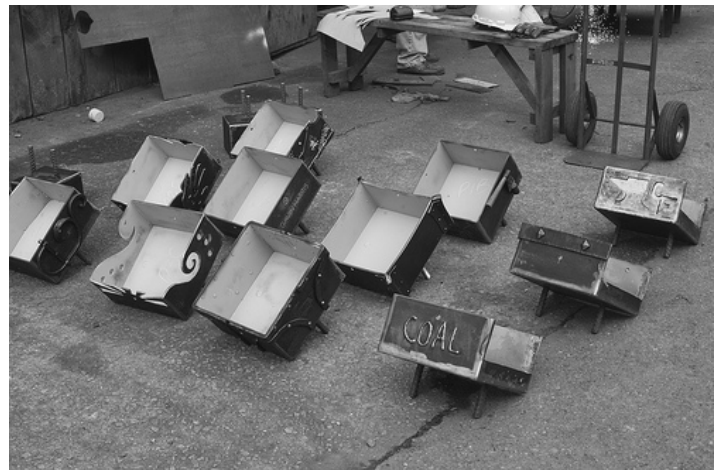
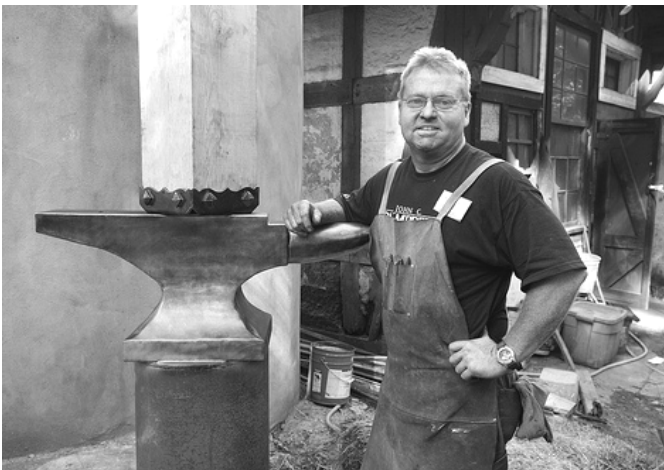
We started the week off with the making of the 12×12" iron post bases that will hold the big timber posts in place. There were 16 in all and each smith took one and embellished it with his or her own style, with the idea that they would be there as long as the building, so we did work that we all could be proud of. Each was beautiful, and completely different. I am proud of all of them.

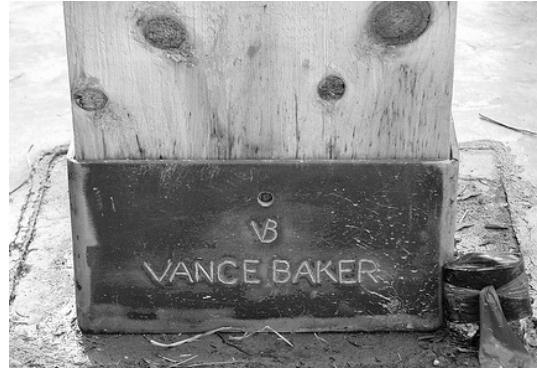
As the week progressed, the framers kept coming up with reasons to incorporate iron into the frame. And, although the iron was not needed structurally, it was nice to put the two together as they contrast so well. We did all sorts of neat embellishments, and we all felt useful to the framers in our own way. Both teams really enjoyed working together, and a lot was learned by all. One of the really nice touches were the iron anvils and stumps that were forged and fabricated by Julie Clark and Ted Thompson. The anvils support the two posts in the beautiful entry bent. I thought that they looked too big on the work bench, but in place, the proportions are perfect.



We also did a lot of our usual tool making and repair of existing equipment in the Francis Whitaker shop, and did some making of new carts and fixtures for the new forge building as well. This repair and improvement has always been a large part of work week and has helped the school stay on top among the teaching facilities in the country.

My hat is off to all of the selfless effort of the blacksmiths and timber framers that made this the best work week that I can remember.





**Post Bases Honoring The Lives
of Vance Baker and Bert Smith**

Timber Magic

by Keather on June 18, 2009

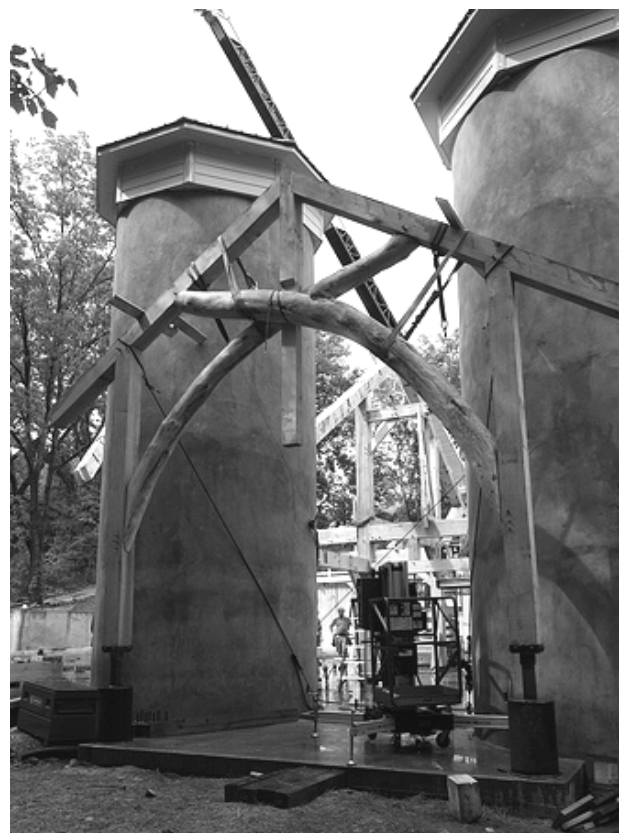
During the two weeks that the timber framers were here building the frame for the new forge building, I had the privilege of taking photos of the entire project, from the preparation of the timbers to the assembly and raising of the frame. I don't think I've ever experienced a group of people so dedicated to a craft. The process of building the artful bent that is located at the entrance to the new forge is a fine example of this. Many hours and a great amount of focused energy went into the design, cutting and fitting of the 2 massive yellow pine logs that form an arch on the bent.

Early on I remember seeing those 2 curved logs resting on the bed of a trailer wondering "Is this something that the saw mill rejected?" They sort of stood out from the perfectly square beams neatly stacked around the perimeter of the Festival Barn. Turns out those logs were hauled over the north Georgia mountains from South Carolina by timber framer Stephen Morrison who had been faithfully storing the logs on his property for 7 years, waiting for the right project to come along.

Stephen explained that the logs had been kept in a natural "live edge" state which means they have not been sawed into the squared-off edges as all the other beams being used for the structure. The way that these organic boughs are incorporated into the bent design is magical. Connected to a large wooden pin that suspends from the top of the bent, the logs rise up and flow across one another to form a magnificent arch.



The extraordinary amount of time it took to create the entry, from the 7-year storage of the logs on Stephen’s property to the careful measuring and cutting and fitting, seems so right for a structure that is built to last hundreds of years. It is traditional to add a “live edge” feature to a timber frame structure, but most modern timber frame builders do not do this because it is, well, a little bit odd...perhaps something the neighbors would not appreciate. For the Folk School, the unique “live edge” design fits right in and lends a medieval, almost fairy tale quality to the building. As a matter of fact, I think I just saw Robin Hood and his Merry Men riding past that entry way.



Blacksmiths Buy a Beam in Honor of the Late Bert Smith

by Keather on June 17, 2009

Last week 20 blacksmiths were on campus for our annual Blacksmith Work Week. It was a very special week because the Timber Framers Guild was also here building the frame for the New Forge building. Emotions ran deep as the blacksmiths witnessed magnificent timber frame bents being hoisted into the air by cranes and fitted into place behind the Francis Whitaker Blacksmith Shop. Blacksmith Steve Barringer confessed, "I even shed a few tears when I saw that first bent go into place."

The 20 smiths pooled their resources and bought a beam in honor of instructor Bert Smith, who passed away recently. The "Buy-A-Beam" campaign is a great opportunity for individuals and organizations to contribute to the building of the New Forge. Donors can have an individual's name, a smith's touch mark or an organization name carved or branded into the beam. The Timber Framers Guild has created a 3-D map of the design that will help donors locate their beam once the building has been constructed.

Beams can be purchased for \$1000 each. If you are interested in purchasing a beam or would like more information please contact our development manager, Reed Caldwell, at (800) FOLK-SCH or reed@folkschool.org.

Other Photos





Yep! They Even Had An Anvil Shoot

Up-To-Date Progress Report on the Blacksmith Annex by Paul Garrett

Well, the big timber frame raising event here at the Folk School has come and gone. We had a great two weeks that saw 47 timber framers, and 20 blacksmiths produce their best work in raising the 50' square building behind the Francis Whitaker Shop.

The Framers and Blacksmith had a great time together and kept a pretty close eye on one another with mutual interest and respect for each other's crafts. There was also a surprising amount of cross talent between the two groups with a good bit of experience in both trades.

We kept challenging each other with new ideas to utilize the two crafts and join them together to create a building that would showcase the best of both.

After the two groups left, the general contractor moved in and began putting up the walls and roof that will enclose the structure. At this writing, the walls are up, the roof panels are on and covered with paper, and the shop is "in the dry". It is truly impressive to see, but sadly, that is when our funding has run "dry". We have raised a good amount of money thanks to generous contributions both large and small, but we are still at least \$200,000 short.

Our recent “Buy a Beam” program is starting to add up. In the program, any individual or group can buy a beam in the shop for \$1,000 or more. With more that 250 beams in the building, this could add up.

Our hope was to get the building ready to move into over the holiday break, but it looks more like next year sometime before that will happen. In the meantime, spread the word, and help us in any way that you can.

Happy forging,

Paul Garrett



EDITOR’S NOTE: In the photos above and the lower right note the carved anvils on the ends of the floor joists and the post bases between the floor and the ends of the beams. Also note in the upper right photograph, although they are a little hard to see, the two steel anvils at the base of the vertical posts. See the lower left photo on page 29 for a view of those anvils before installation.

Devcon H2 Hold Shock Resistant Epoxy – by Randy Stoltz

Devcon makes a flexible, waterproof, shock and vibration resistant epoxy that is very useful in the shop. This epoxy will even set up under water. I came across this epoxy at Burke Brothers Hardware when I was looking for an epoxy to set some anchor bolts in concrete for a machine that vibrated (a lot). Regular lead anchors work loose and most epoxies that set up hard cannot withstand constant vibration.

Additionally I had a hammer with an odd shaped eye that was loose. Rather than make a new handle from scratch, I set the handle in the hammer head using this epoxy. Using epoxy also eliminates the need for wedges in the handle and the epoxy absorbs some of the vibration and shock when hammering.

To put a handle in a hammer head (note attaching a handle to a tool is called hafting) using epoxy:

1. Cut or sand the top of the handle so that it fits very loosely in the socket of the hammer head.
2. If you want to apply epoxy to the top of the handle like in commercial hammers, you need to cut the top of the handle so that it sits about 1/8 inch below the top of the head.
3. Mix the epoxy and apply liberally around the top and sides of the handle eye.
4. Insert the handle into the hammer head and make sure there are no voids or gaps. You can use a putty knife to force epoxy into any voids and to smooth the epoxy on the top of the handle.
5. Make sure the handle is straight and let the epoxy cure for 24 hours. I clamp the handle upright in a vice with soft jaws so the epoxy on top flows into the socket (and does not glue my hammer to the workbench).



Lubricants for Punches and drifts – by Randy Stoltz

At the August meeting of the Triangle Blacksmiths Guild we had a workshop on making punches and drifts using 5160 spring steel. We also discussed different lubricants for use with punches and drifts to keep them from seizing in the work. Here are some details on the various lubricants.

Homemade Wax and Graphite punch lubricant

I heated water in a small pot and used a stainless steel cup (\$2.49 from Agri Supply and it's not made in China) to melt bees wax and parafin wax. When melted I added 3 tubes of powdered graphite to the wax by cutting off the tops of the plastic tubes and dumping the contents into the melted wax. This graphite powder is the stuff you get at the hardware store to lubricate locks. Graphite is also a high temperature lubricant frequently used on dies and molds in industry. You can get 4 tubes for \$2.95 from American Science & Surplus (www.sciplus.com). Before the wax graphite mixture solidified I filled the 3 empty graphite

containers with some of the mixture to make some lubricant sticks. These sticks of lube is why I used paraffin in the mixture. It has a higher melting temperature and is less sticky than the bees wax. The rest of the mixture I left in the cup to use with my punches and drifts. When I put a hot tool in the cup the wax melts, helping to cool the tool, and it makes the graphite stick to the tool. This mixture works much better than bees wax alone and it is cheap to make.

Graphite Based Coatings

In addition to graphite powder there are graphite lubricants and graphite based paints available in spray cans. The liquid graphite lubricant can be sprayed on punches and chisels but use caution since many of the graphite sprays are flammable. Also the graphite will rub off on your hands and clothes. The graphite based paints need to dry before use but form a permanent coating that does not rub off. The spray lubricants are available at many hardware and agricultural supply stores. Tractor Supply carries the graphite based paint in spray cans, quarts, and gallons.



Molybdenum Based Lubricant

The molybdenum or moly based lubricants are more expensive but can withstand higher heat and pressure than graphite. If you really need something not to stick, molybdenum does the job extremely well. Again the liquid base may be flammable. CRC makes a molybdenum spray and it is available at industrial suppliers such as MSC.

Characteristics of 5160 Spring Steel – by Randy Stoltz

This material property data is from www.suppliersonline.com

Chemistry Data:

Carbon: 0.56 - 0.64%;	Chromium: 0.7 - 0.9%;	Manganese: 0.75 – 1%
Phosphorus: 0.035% max;	Silicon: 0.15 - 0.35%;	Sulphur: 0.04% max

Principal Design Features: 5160 is a carbon-chromium spring steel. It exhibits excellent toughness and high ductility, with a high tensile-yield ratio.

Applications: Commonly employed in heavy spring applications primarily in the automotive field for leaf springs.

Machinability: Machining this grade can be very difficult in the "as rolled" condition, and the alloy should be annealed prior to machining to obtain maximum speeds and feeds.

Welding: Weldability is poor in this alloy due to its high carbon and chromium content. For best results, preheat the section and stress relieve after welding. Either gas or arc welding methods may be used.

Heat Treatment: 5160 is normally hardened in oil. Recommended quenching temperature is 1525 F, with a wide range of mechanical available by tempering between 800 and 1300 F.

Forging: Forge this grade between 2100 and 2200 F.

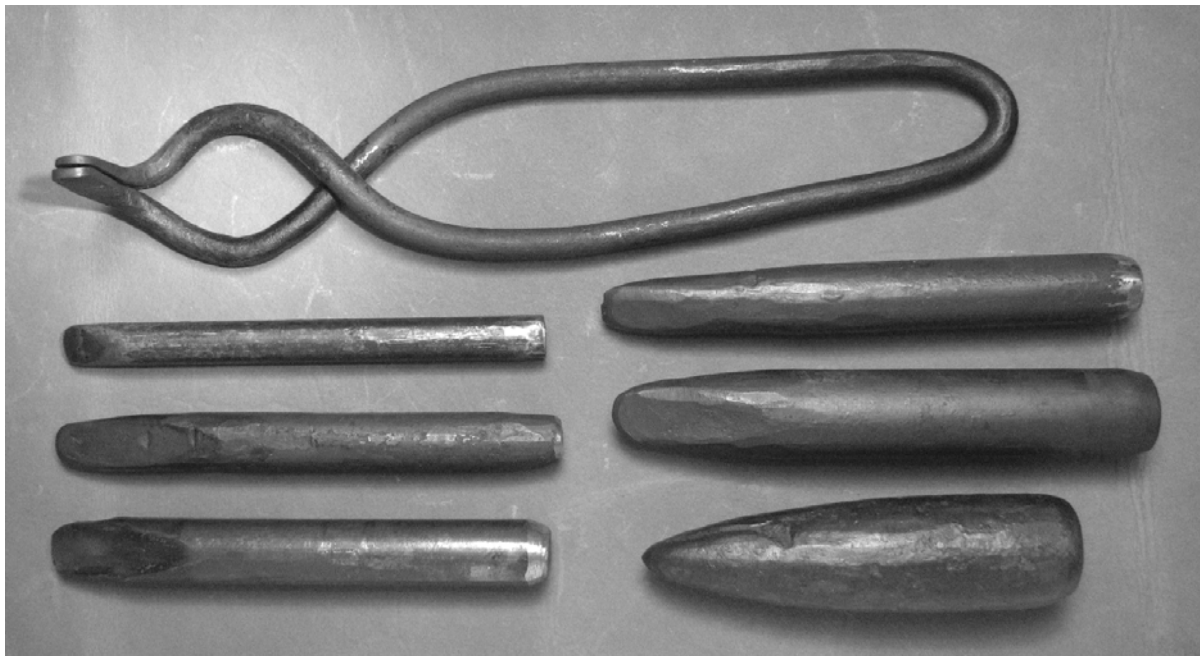
Annealing: Heat to 1450 F and air cool.

EDITOR'S NOTE: 5160 is also a preferred by many bladesmiths.

Spring Tongs for Punches and Drifts – by Randy Stoltz

While working on a project recently, I made and used a series of drifts to punch a 1 inch hole in a thick piece of 5160 spring steel. As I used each successively larger drift, I had to find a different pair of tongs to hold the drift. And each time I pulled the heavy work piece from the forge, I had to set it on the anvil, drop the big tongs holding the work piece, pick up the tongs for the drift, put the drift into the jaws of the tongs, and then start hammering. Only once would the tongs holding the work fit the drift, and then the 2 feet long heavy tongs were way too long and heavy to hold a drift.

So I decided to make a lightweight pair of tongs that could hold a wide range of punches and drifts. I came up with several designs that would work but I decided to make a pair of tongs using spring steel that opens as you squeeze the handle and applies pressure to hold the tool in the jaws when released. This design, that works the opposite of regular tongs, allows you to load a punch or drift into the tongs and set it down ready to pick up and use.



These spring action tongs hold drifts from ¼ inch (not shown) to 1 ¼ inch in diameter.

The tongs pictured above are made from 5/16" diameter coil spring steel which may be a little too heavy. In addition to holding punches and chisels you can use them to exercise and strengthen your grip. The first pair I made using 3/16" spring steel was too light so you could use 1/4" steel or draw out and reduce the diameter of a heavier material in the area of the bend. Also the fuller the jaws into a crescent or v shape before you bend the material so that it holds the tool more securely. The curve in the jaws above is too shallow (they work but could perform better if v shaped). I made these tongs at the August 1 Triangle area meeting where we had a workshop on making chisels, drifts, and punches using 5160 spring steel.

Blacksmithing Classes

Bill Brown's Sculpture Class - Linville Falls, NC

Nothing but Sculpture

Art can be hard to define; yet, without it, our lives would be lacking. As Henry James states, "It is art that makes life, makes interest, makes importance... and I know of no substitute whatever for the force and beauty of its process."

With that thought in mind, I have decided to schedule a workshop here at my studio. I am very excited about this endeavor because I feel as an artist, it is important to be able to rejuvenate the creative process by working with others. We each have something that we can bring to the creative process. To borrow from Basil Bunting, "as with a piece of sculpture, what matters is not what it has in common with others of its kind, but what is singularly its own."

Workshop Information

Who: Sculptor - Bill Brown -

To familiarize yourself with my work please view my website at www.studiosculpture.com

What: Five day workshop entitled, "***Nothing but Sculpture***" to explore artistic inspiration and the technical processes in making contemporary sculpture. Main medium used will be steel.

Where: Anvil Arts Studio - 9600 Linville Falls Hwy, Linville Falls, NC

Fully equipped studio with a myriad of equipment ranging from the traditional tools of blacksmithing, three forges, Mig-welders, to powerful air hammers such as a 3B and 5B Nazel. Air hammers such as these used in forging and fabrication of steel sculpture are not for the faint of heart!

When: Monday, October 5, 2009 thru Friday, October 9, 2009

Each day will begin at 8:30 a.m. and last until at least 5:00 p.m. Can be later depending on class discretion

Details: Limited to four participants - Familiarity with metal is encouraged - the only prerequisite is the desire to create art - Early registration is recommended as class will fill to capacity quickly.

Workshop includes: Daily Discussion, Demonstrations, One on one Instruction, Illustration of all equipment on premises, Atmosphere will be one of encouragement solely for the purpose of creating sculpture by combining techniques, tools, and aesthetics.

Materials: Steel can be purchased here or BYOS (Bring your own steel).

Cost: \$ 750 per student

Requirements: Registration deadline is September 21, 2009. A \$375.00 payment is expected for registration, Remainder of balance is due at sign-in. Sign-in is scheduled for Sunday, October 4, 2009, at 5:00 p.m. This will be a meet and greet session to discuss the upcoming week. Signature for a Waiver of Release form will be signed at that time. Travel/Lodging accommodations are participants' responsibility. If you're interested, we are more than willing to assist in recommendations for accommodations.

Refund Policy: Refunds can only be issued up to two weeks prior to workshop. After September 21, 2009, there will be no refunds. No exceptions.

Please visit www.studiosculpture.com or contact us directly at 828-765-6226 or bill@studiosculpture.com

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

For Sale - Looking To Sell As A Complete Set Up:

Large Hay-Budden Anvil	Sheet metal anvil	Post vise	Propane forge on stand	a lot of tongs
Gattis Williams		New Bern, NC		252-637-7348

If Interested, I will be happy to email pictures

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, Contact me for price/availability. Reasonable delivery if I am headed to your area..

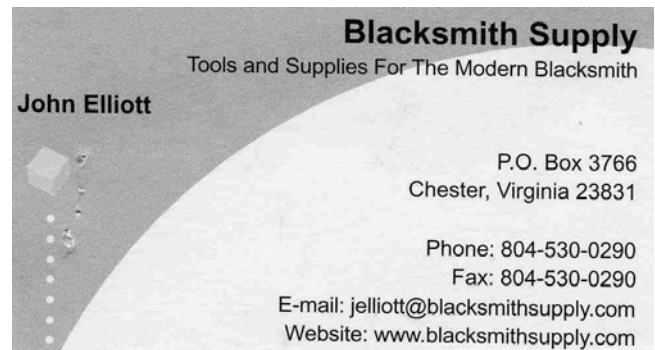
Beverly Shear blades sharpened, \$35 + postage. Blades must be removed from shear, extra cost for deep nicks or blades previously sharpened at angle.

Clay Spencer, 73 Penniston Private Drive, Somerville, AL 35670, 256-498-1498, cell 256-558-3658, clay@tirehammer.com

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
Website: www.blacksmithsupply.com

Wrought Iron Rods (up to 14' long) Available

Wisconsin Woodchuck LLC has iron rods ranging from 5/8" to 1 1/2" in diameter (from a 1887 grain elevator). They also have iron flat bars and millions of iron square nails. Prices start at \$2 per pound. Call to check inventory.

Wisconsin Woodchuck LLC
2 Banks Avenue P.O. Box 97 * Superior, WI 54880-0097
Phone: 715.392.5110 * Fax: 715.392.5112
Email: d.hozza@wisconsinwoodchucknet
Web site: www.wisconsinwoodchuck.net

www.BlacksmithsDepot.com



Off Center
Products

Proudly Made in
the U.S.A

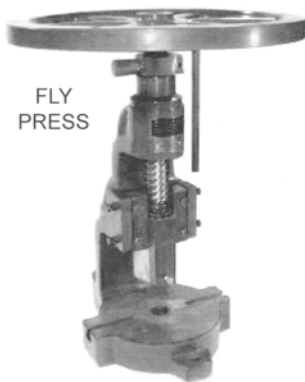


100 Different
Textures and
Swages

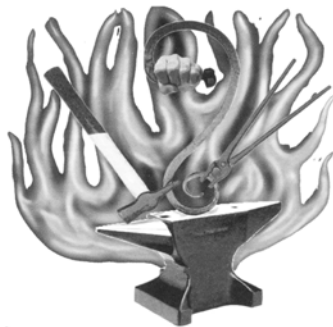
Highest Quality Hammers, Tongs and all your
Blacksmith Equipment Needs

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 USD FOB

BLU MAX 155 \$6295 USD FOB



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

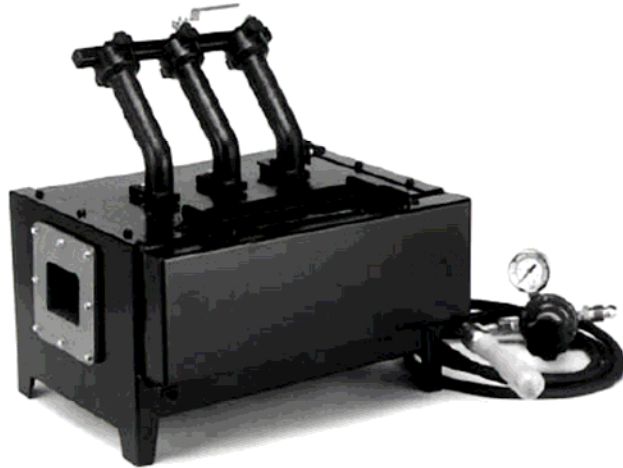
www.powerhammerschool.com

Big BLU Hammer Mfg. Co.

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

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

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

Here is an Excellent Source of Tool Steel:

The Atlantic Steel Corp
 35-27 36th St.
 Astoria, NY 11106

For Sale: Small Oxygen and Acetylene Tanks with a plastic carrier.

Easily carried with place for hose. No hoses or regulators included. Originally purchased from National Welders. Current price is \$250. Selling them for \$150.

Parks Low at 919 818-3036

Change of Address Form. Please Use This Form or E-mail Me your Changes Important – Don't Miss a Newsletter or a Notification

Change of Address Form:

Your Name: _____

New Address: _____

New City, State, and Zip: _____

New Phone Number(s): _____

New E-Mail: _____

Comments: _____

MEMBERSHIP APPLICATION

NORTH CAROLINA CHAPTER OF ABANA

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Telephone: (_____) _____

E-mail Address: _____

ABANA Member?: Yes No

Blacksmithing Experience: _____

DUES: \$25.00 per year (within USA)

\$35.00 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
15754 Widewater Dr.
Dumfries, VA 22025-1212

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 2009

January	☞ <u>Regional Meetings</u>
February	☞ <u>Regional Meetings</u>
March	☞ <u>Regional Meetings</u> ☞ <u>1st QUARTER CHAPTER MEETING</u> March 21 AT 9:30 A.M. DEAN CURFMAN'S, OAK HILL IRON WORKS MORGANTON, NC
April	☞ <u>Regional Meetings</u>
May	☞ <u>Regional Meetings</u> ☞ <u>2nd QUARTER CHAPTER MEETING</u> - June 6 , AT 9:00 A.M. DIXIE FAIRGROUNDS, WINSTON SALEM, NC
June	☞ <u>Regional Meetings</u>
July	☞ <u>Regional Meetings</u>
August	☞ <u>Regional Meetings</u>
September	☞ <u>Regional Meetings</u> ☞ <u>3rd QUARTER CHAPTER MEETING</u> September 26 , AT 9:30 A.M. JASON CRAFT'S SHOP, ROXBORO, NC
October	☞ <u>Regional Meetings</u> ☞ <u>Dixie Classic FAIR</u> OCTOBER 2 – OCTOBER 11 ☞ <u>NORTH CAROLINA STATE FAIR</u> OCTOBER 15 - 25
November	☞ <u>Regional Meetings</u> ☞ <u>BONUS MEETING</u> Date TBD at 9:30 a.m. J.C. Campbell Folk School, Brasstown
December	☞ <u>Regional Meetings</u> ☞ <u>4th QUARTER CHAPTER MEETING</u> Date TBD AT 9:30 A.M. INTRACOASTAL IRON, WILMINGTON, NC

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
2nd Wednesday evening, each month
(2)

Triad Area Blacksmiths
Marshall Swaringen Advance, NC
(336) 998-7827
1st Tuesday 6:30PM for demos
3rd Saturday, 9AM for business
and all day forging
Dixie Fairgrounds, Winston Salem, NC
(3)

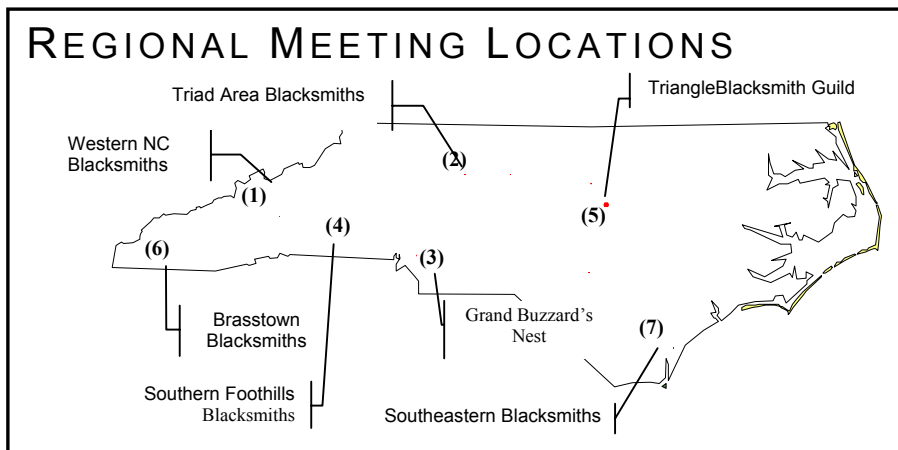
Grand Buzzard's Nest
Tal Harris Waxhaw, NC
(704) 843-5586
Last Saturday, even # months
(4)

Southern Foothills Blacksmiths
Steve Barringer Mooresville, NC
(704) 660-1560
2nd Sunday, each month
(5)

Triangle Blacksmith Guild
Randy Stoltz Cary, NC
(919) 481-9263
1st Saturday, even # months
(6)

Brasstown Blacksmiths
Paul Garrett Brasstown, NC
(828) 835-8441
3rd Saturday, even # months
Noon to 4PM
Note Changes

(7)
Southeastern Blacksmiths
Richard Coley Wilmington, NC
(910) 547-3131
Quarterly Meetings



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

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 / 818-3036
P.Lowjr@att.net

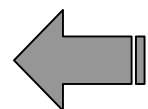
PLEASE WELCOME THESE NEW MEMBERS

Jim English	Monroe	NC
David A. Tosi	Pfafftwon	NC
Russell Wrye	Mocksville	NC
Andrew Melton	Advance	NC
Randy Marshburn	Morrisville	NC

Don't Forget
2009, 3rd Quarter Chapter Meeting

March 21 - 9:30 AM

Jason Craft's Shop, Roxboro, 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

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

Non-profit
Organization
US Postage Paid
Durham, NC
27705
Permit No. 344

**MEMBERSHIP
EXPIRES**



TO: