



Capital District Blacksmiths' Newsletter

May 2008

Volume 7 Number 1

Founding Member Requests Aid

On Nov. 7, 2001 a group of interested Blacksmiths gathered at the Bethlehem Town

Park with Mike and Jeannette as demonstrators. The Capital District Blacksmiths Assoc. was formed that day and Sarah Ritchie Crowther was elected President and her husband

Dan elected Secretary and Webmaster. We started out with a good roster of members and under Dan and Sarah's leadership things went very well. Over time, for a variety of reasons the involvement of members has become less and less. Dan and Sarah seemed to be shouldering most of the work. If the organization is going to continue, we need a more active membership. Is there a team who could make the commitment to keep the CDDBA alive?

In 2009, Albany will celebrate Henry Hudson's exploration of the Hudson River and there will be many requests for blacksmith demonstrations. If we are to be involved in these events, we need an organization where we can call on its members.

Can we keep this organization going? If you have any input, ideas or interest in continuing the CDDBA, please contact me.

- Jim Moran

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April Gathering



Mike Parwana discusses the making of simple leaves.

Thanks to the efforts of Frank Shaw and Doug Delurey, the Capital District Blacksmiths Association had a great gathering at Frank's shop in Gansevoort on April 19, 2008. Due to a lack of communication on my part most of you never received word that this event was taking place, therefore attendance was very light. A fantastic job was done by demonstrators Mike Parwana and Jeannette Brandt of Chicken Coop Forge of Queensbury, NY.

The first demo consisted of making a simple leaf starting with $\frac{1}{4}$ inch round stock and made by pointing the end, moving back $\frac{3}{4}$ inch and forming a stem on the edge of the anvil, then moving forward and forming the leaf. There was a quick discussion on veining and using various tools such as edge of anvil, chisel and a lip shaped die. Then came the interesting part. The

steps were repeated using brass, copper and stainless steel. The metallurgical properties affected the forging temperature required for each metal. By far the stainless steel proved the hardest to work even when very hot while the brass fell apart when overheated. A trick was to use a Sharpie pen to mark the brass and copper. When the mark disappeared, the metal was ready to be forged.



The simple leaves (from left to right) in stainless, brass, iron and copper.

Mike got the young people's interest (and mine) when he started making a dinosaur out of $\frac{1}{8}$ x 1" strap. He drew out a long taper and discussed various methods of doing this efficiently. When he had it about 3" long, it was driven into a hot cut hardie in steps along the entire length of the taper. The resulting points were then rounded and looked like a dinosaur tail. Then he faked us out and started to roll the tail around itself in a tight scroll.

As he tapped down the rounded points, the dinosaur became a flower. Some of us were disappointed that our dinosaur had disappeared!

Mike then demonstrated a technique for making Damascus steel that he learned from Daryl Meiers of West Virginia. Daryl is a great experimenter in blacksmithing having developed a method of writing in

pattern welded steel back in the late 80's. Mike made an unclean billet alternating with mild steel and saw blades. This was then wrapped in



Billet peel (left) next to the alternating stack of mild steel and saw blades.

stainless steel foil and forced into square tube stock about 4" long. The ends of the tube were welded closed and a rod attached as a handle. The tube was placed in the gas forge and heated to a red heat (below my welding temperature). We saw Mike weld it with a few blows on the power hammer. The real surprise was when he cut off the end with a chop saw and out came the stainless steel foil wrapped welded billet free from flux, edge burning etc. It was ready for



Stainless steel foil sits atop various tools.

cutting and folding into whatever you wanted. The stainless had acted as a flux and was not welded to the billet or



Completed billet removed from tube and stainless foil.

the tube.

It was a great day with good food, warm hospitality and a chance to B.S

Upcoming Events

May 9 - Jim Moran at Menands School

June 10 - Patrick Grossi Forge at Normanskill Farm in Albany. Demonstrator needed. Contact Jim Moran for details.

Sept. 4, 5, 6, 7, 2008 - First Atlantic Coast Blacksmith Conference, Ashokan Center, Olivebridge, NY.

For registration info contact: Tim Neu, Registrar (845)657-8333 neutim@ashokancenter.org

See "www.acbblacksmiths.org"

Sept. 13 - Civil War Day at Albany Rural Cemetery. Capital District to supply Blacksmith Demonstrators. Contact Jim Moran (518)439-5439 to support this event.



Letter from the Secretary

Over the past 7 years CDDBA has seen enthusiasm, growth, and expansion. Currently, it seems, CDDBA is now seeing apathy and decline.

Although members are more than willing to participate in Hammer-In's there seems to be little interest in actually organizing them or helping with the necessary task of actively running the organization. As a result 20 of the 25 events we've had were organized by the same 3 people; Sarah, Jim, and myself.

Additionally, two of CDDBA's officers (the Treasurer and VP) seem to have dropped off the face of the planet leaving us in tough straights.

Finally, I am resigning my position as Secretary. The above situation of non-participation has finally taken it's toll and I do not have the time nor inclination to continue.

Those who are left can't do it all themselves, so step up and volunteer or watch CDDBA die.



Classes

Creative Art Time Studio

135 Adams Street
Delmar, NY 12054
(518)475-9472
www.catsartstudio.com

Weekly evening and monthly daytime blacksmithing classes available.

New England School of Metalwork

7 Albiston Way
Auburn, Maine 04210
207-777-6211 Toll Free 888-753-7502
www.newenglandschoolofmetalwork.com
(Full classes not listed)

Peters Valley Craft Education Center

19 Kuhn Rd.
Layton, NJ 07581
(973) 948-5200
www.pvcrafts.org

Confessions of a Bladesmith: 'Secrets' Revealed! - Part 6

by Kevin R. Cashen

This article originally appeared January, 2003 as a 'thread' on Sword Forum International.



Attention Newsletter Exchange Editors: Please contact Kevin R. Cashen c/o Sword Forum International (<http://www.swordforum.com>) for permission before reprinting this series.

In the last session, I had hand rubbed the blade to a 400X and then coated it with oil. Well as I have mentioned before, I hate dropping something in the middle and trying to pick it back up. So to regain the flow I rubbed it all down with 400X at 90 degrees to the last polish and then re-polished until all of the 90degree line were gone. This got me back into the swing of the process and I then repeated the entire operation with 600X.

Now we are ready for the heat treat but there are some maintenance problems with the salt tanks. So I will move on to forging a few other parts for the sword while I get the tanks repaired.



The blade is polished up to 600X (grit).

Today I was free to really get some forge work done. So I got a good lot of pattern-welded bars done and since the forge was running, I started on the fittings for the sword.

Now the fittings needed to be thought out in a way that would best utilize the amethysts that Dennis sent me to incorporate into the sword. I thought about it a bit while setting in my hotel room for the last two weeks and think I have an idea.

The problem is that I have to wrestle with hot steel



Additional pictures of the blade ready for heat treatment at a 600 grit polish level

while not only shaping it into a guard but also keeping it in dimensions that will fit the stones. So I will do a very rough forging and save plenty of shaping for the grinder and other more precise tools.

I will fall back on one of my favorite patterns for the cross guard. It is a reverse twist of 160 layer pattern welding, with the epicenter of the reverse falling in the center, where the blade and handle meet the guard. I find this to be very symmetrically appealing as well as accenting the central focus of the sword.



Fluxing the bar as it's being welded to an 160 layer pattern.

So now I draw the piece out and prepare to twist. I round it up a bit so as not to get a heavy threaded rod look to have to deal with.

Next I put half of it in the vice and twist it clockwise and then re-heat and twist the other half counter clockwise. Then I forge things a little cleaner and here is the rough shape after the twists.

Next I draw it out and start some taper on the ends and get them shaped to a proportion that will accept the gemstones eventually.

The part is then hammered into a heavy curve so that the arms of the cross guard extend down toward



Drawing out the pattern welded bar that will eventually become the cross guard for the sword.

the blade. With other cross guards, this can be much more complicated, especially when I am forging it with that little point in the center facing the blade.

I also hammered out what will be the pommel, but I am not sure if it is in the right proportions for the stone that it will take. I hope so, if not I will have to hammer out another.

I then went on to forge out two hunting knife blades in preparation for the upcoming shows. Then a friend walked into the shop with a big old bar of steel and asked if I could forge him a long pry bar out of it. Since the forge was hot, why not?

When all was done I loaded everything into the kilns and started the anneal cycle.

Tomorrow this sword will be born! I will bring my creation to life! Tomorrow I will heat treat!

The Heat Treatment

I started the day out by going to the hardware and getting that darned hose clamp- I remembered! I pulled all of the metal that I had annealed out of the kilns and lower my armor clad low temp salt tubes from the rafters and into the kilns. Then I had to reassemble the gas burner and then pull my short tube from the high temp salts and hoist the second tier for longer blades and lower in my long tube.



Reassembling the salt tanks once the repair and the long blade tank modification had been completed

I had been having some trouble with some decarb spotting on blades from this tube, which indicates that my salts have gone out of neutral. Looking in the top of the tube I can see why, with all of the dust and crap that had settled into it. I will need to cover them better in the future. Anyhow with all of this I really didn't trust my salts in this tube anymore so to play it safe I thought I would empty it out and start fresh. But how do you empty a tube filled with solid salts? I thought I



would have to heat them up to 1300F. or better and then somehow pull the tube dump it and run like hell! But last night I came up with an idea! It is, after all, sodium chloride. Which means they are fairly water-soluble, so last night I stuck a hose in the tube and let it run for several hours. It worked! If you ever need to empty a high temp tube just run some water into it for a while.

I entered 450F into my low temp. controller and had Igor throw the switch. While the low temp salts came up to temperature I fired the high temperature assembly. On my setup this is done as follows- go out to the propane pig and turn on the main valve, enter the desired high temperature into the controller, turn on the main incoming gas line valve, energizer the gas solenoid valve circuit via safety switch, turn on lower unit main gas valve, turn on upper unit main gas valve, turn on lower unit blower, open lower unit gas valve and spark igniter. Now the lower unit should be burning and raising the tube temperature quite quickly. I wanted this first, since there was still moisture in the bottom of my tube from flushing out the salts. Now I added a small bucket full of salts and then fired the top burner. There is always a bit of sputtering as the two burners fight each other for a minute or two in the limited atmosphere of the burner chamber. When both were up and running well, I then added more and more salt granules until I had topped it off. As the melt continued more salt needed to be added but eventually it leveled off. With this unit it normally takes me about 35 minutes to go from room temperature to 1500F. The low temp takes quite a bit longer.

While I waited for the low temperature unit to reach working heat, one of my customers arrived and wanted his steel so I ground it clean and prepped it all for him. By the time I was done with that business things were ready to go.

The spec. sheet for the O1 indicates an austenitizing temperature of 1450-1500F. while the spec. sheet for the Crucible L6 shows an austenitizing

heat of 1500-1550F. so I choose the nice medium of 1500F. So I type in 1500F. into the high temperature controller and wait for things to equalize.

When all is ready I step up onto a stepladder and slowly lower the blade into the high temp salts. It will take a minute for two for the blade to equalize with the salt temperature and this will be indicated by the dip and then gradual rise on the controller readout as the blade absorbs the required energy. When it has equalized I set a timer for a short soak time and then relax. When the timer beeps at me it is time to stop whatever else I am doing and go back over to get ready



to quench the blade.

here is the blade in the high temperature salts one



photo is with flash and the other is without:

When the time comes the blade is quickly removed from the austenitizing salts-and plunged into the low temp salts, which have leveled off nicely at 425F. The blade is agitated until the salts have cooled it sufficiently and then left suspended in there to equalize



while I prep some other work for austenitizing.

After a few minutes the blade should be equalized at 425F. and I remove it and check it for straightness.

This one had curved a bit so I quickly laid the blade, comprised mostly of meta-stable austenite, over my knee and tweaked it back into shape. They are a lot



like a child in that sense.

And a little more before deciding that it was cool enough (enough martensite had formed) that 1. it wasn't going to move much more, 2. I couldn't correct it if it did!

Usually when the salts have solidified on the blade it starts getting pretty stiff from the new forming



martensite and it is time to just let it be.

When the blade is completely cold to the touch I then will run it under cold water just to be sure that we are beyond M_f and then put it right back into the salts for an initial temper cycle. If there are any warps left, I will get them when I pull it from this temper, before it cools again. It takes a WHOLE lot more to straighten it at this point but it can be done. Young's modulus seems to go completely berserk at these tempering temperatures so you can really get on it and keep things in line.

After the initial temper the worst is behind us and the world has a brand new, seriously effective sword, that the ancients would have given the three teeth that they had left to get their hands on!



Local Resources

Coal

Garnsey Coal & Trucking
952 Route 4 South
Schuylerville, NY 12871
518-695-3346

Morrell Metalsmiths

C. Leigh Morrell
207 Greenfield Rd
Colrain, MA 01340
1-800-371-1146
<http://www.morrellmetalsmiths.com>

Fix Family Enterprises Ltd

347 State Farm Rd
Valatie, NY
518-784-2781

Davis Coal Company

Turnpike Road, R.D.#2
Cambridge, NY 12816
518-677-2722

Safety Products

North River Supply
John Earl
412 Cedar Lane
Greenville, NY 12083
jwkearl@cs.com

Steel

Albany Steel
566 Broadway
Menands, NY 12204
518-436-4851

Kivort Steel

380 Hudson River Rd.
Waterford, NY 12188
518-590-7233
<http://www.kivortsteel.com>

Metal Supermarket

88 Railroad Ave
Albany, NY 12205
518-435-0024
<http://www.lebanonvalley.com/03Press/metal%20supermarket.htm>

Welding & Abrasives

Black Magic Forge Welding Flux
Canal Forge
496 Towpath
High Falls, NY 12440
845-687-7130
jonned@hvc.rr.com

Northeast Gas Technologies
84 Karner Rd
Albany, NY 12205
1-800-248-1215
<http://www.newelders.com/>

Local Shaklee Distributer

Rooney Health Associates

Other Publications

ANVIL Magazine

Rob Edwards
P.O. Box 1810
Georgetown CA 95634
<http://www.anvilmag.com>

Anvil's Ring & Hammer's Blow

ABANA CENTRAL OFFICE
PO Box 816
Farmington, GA 30638-0816
<http://www.abana.org>

Blacksmith's Gazette

P. O. Box 2168
Snohomish, WA 98291-2168
<http://www.fholder.com/blacksmithing/default.htm>

Blacksmith's Journal

PO Box 1699
Washington, MO 63090 USA
<http://www.blacksmithsjournal.com>

Irony

Stephen McGehee
PO Box 925
Corydon IN 47112
irony@epowerc.net

The Traditional Metalsmith

George Dixon
1229 Bee Tree Lake Road
Swannanoa NC 28778
<http://www.artist-blacksmith.org>

Like Minds - Other Organizations of Interest

ABANA - Artist-Blacksmith's Association of North America

ABANA CENTRAL OFFICE
PO Box 816
Farmington, GA 30638-0816
<http://www.abana.org>

New York State Designer- Blacksmiths

Pres: Bill Banker
P.O. Box 174
Almond, NY 14804-0174
607-276-6956
<http://www.nysdb.abana-chapter.com/>

Northeast Blacksmiths Association

Pres: Jonathan Nedbor
496 Tow Path
High Falls, NY 12440
845-687-7130
jonned@hvc.rr.com

Berkshire Blacksmiths Association

William Senseney
30 Frenier Dr.
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