

# Rocky Forge News

Volume 7, issue 1 – January, 2008

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## Meetings

*By Ted Stout*

Hope all of you had a nice Christmas, as usual I ate too much. It is always good to get together with family and friends. Carol and I had a good holiday time.

The next meeting will be January 12th at three different sites around the Crawfordsville area. We will meet at 10:00 A.M. at Harrington's Welding Shop, located at 100 East North Street in Crawfordsville. This location is in a three story brick building off highway 231 (Washington street), north of highway 136. It is the top floor of Rotton Robbies Bicycle Shop across the street from "KFC".

After spending some time at Harrington's Welding Shop we will proceed to Rob and Deanna Durrett's place for lunch and iron-in-the-hat. Rob will give us directions while at Harrington's. After lunch we will go to the Fred Robkey military museum.

Please bring a covered dish for the meal and iron-in-the-hat items. Ropkeys will join us for the Harrington tour and for lunch at Durrett's. This will be a good opportunity to visit this museum, an opportunity the general public does not have access.

Please call me on 765-491-2194 or Rob Durrett 317-341-1393 if you have any questions or get lost.

Hope to see a good turnout for this meeting and opportunity to visit such a famous, private collection.

## IBA News

*By David Childress*

The major event during the December IBA meeting at Chaz Kizer's shop was that the IBA Building Committee has found a possible facility for permanent home for the IBA. The property is in Tipton County just outside Goldsmith. There is a usable building and three buildings in need of repair on 5.5 acres. As of this writing the IBA could purchase the property for \$10,000 and paying the back taxes of about \$6,000. I personally think that any progress toward establishing a home for the

IBA is an immense improvement over not doing anything.

By the time you receive this open house to view the property will have passed, but I am including Larry Whitesell's email with directions. This property is in need of many hours of clean up. The three larger buildings need roof repairs. Even with these problems, the price is right and the building in front should be usable as is. If you get the chance stop and view the property and/or let a member of the Board of Directors know what you think about the purchase of this property.

Also of interest to our group Ted announced that he and Dominic are running for seats on the Board of Directors in March.

From: Larry <lane@tiptontel.com>  
Sent: Thursday, January 03, 2008 7:34 PM  
Subject: Goldsmith Property

Gentlemen,

It occurred to me that it might be a good idea to make arrangements for any of our members, and especially our board and committee members to meet and look at the site. The members that have been there have not seen the inside of the blue metal building. I will secure the key tomorrow and will plan to have it open at 10:00 Saturday morning Jan. 5, for anyone that wants to come and look around and give their input.

Directions:

US 31 to Tipton County, take 100 South West 1.25 miles to Goldsmith. You will be driving along the South side of the rail road. The site is on the North Side of the rail road and you'll see it as you go by. You just need to go to the first street cross the tracks and turn back East. You'll see the blue metal building near the street and the long narrow buildings to the North. Also weeds and pallet debris all around.

Please feel free to pass this information on to the other members. Your input will be very important.

Larry Whitesell

## Great Lakes International Ironfest 2008

### "Hammer on Down, the Anvils are in Our Town"

May 23, 24, 25, 2008

Hosted By New York State Designer Blacksmiths

Demonstrations by Jymm Hoffman, Kim Thomas,  
Mark Puigmarti / Bob Cook, and Deke Wedow

One Day Advanced Class Offered by Jymm  
Hoffman on Monday, May 26th

Gallery / Auction - Iron in the Hat – Camping -  
Spousal Program

For more information please visit us at  
<http://www.nysdb.org/> or contact GLIFF  
Conference Chairman Peter Parry at  
[blacksmith@forterrie.com](mailto:blacksmith@forterrie.com)

## Smoke and Noise

### Articles from e-mail and the Internet

*Compiled by David Childress*

From: Daniel Kretchmar  
Date: Dec 29, 2007 10:23 PM  
Subject: [TheForge] Fwd: bog iron/pig  
iron to wrought iron

Greetings,

A few months back I participated in an iron smelt at the home of Stewert Stone in Ripon, WI. He built the furnace out of clay and pulled out a sizable bloom. A bunch of us (SCA blacksmiths) heated up the bloom in a stone forge and pounded it into managable ingots

Now a question. I took the ingots home and I have used my JYH Tire hammer to pound it into bar stock but somewhere I remember reading that I should fold and weld it several times to convert it to wrought iron. Can anyone help me out here? What's the next step?

Dan

From: Bruce Freeman  
Date: Dec 29, 2007 11:22 PM  
Subject: Re: [TheForge] Fwd: bog iron/pig  
iron to wrought iron

Dan,

Did something similar at Peters Valley some months ago.

By the fact that it was hammerable, it wasn't cast iron. So from the carbon-content end of things, it's either wrought iron or steel. A spark test will distinguish the two, but be aware it could be wrought iron on the inside and steel on the outside (by carbon absorption).

I think what you're really asking is about refining.

Additional hammering will consolidate the bloom and drive out excess slag. This has to be done white hot, and if your bloom is large, the heat may be hard to get in a blacksmith's forge. (I tried it with a small piece of a bloom, and gave up when the firepot started glowing!)

So if you've got much mass to deal with, you may want to build a pit forge (or BAM forge as those of us on theforge fondly think of it - a hole or trough in the ground with a good air source and considerable pile of fuel, suitable for heating blooms or melting anvils...)

You may also want a striker to help with the hammering. Even with a treadle hammer, you'd probably not get too much working time up close to a white-hot bloom. A power hammer might not have the stroke to deal with such a chunk. A sledge should work fine.

Use LONG tongs so you don't cook your knuckles!

Hope this helps,

Bruce

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From: Andrew Vida  
Date: Dec 30, 2007 1:43 AM  
Subject: Re: [TheForge] Fwd: bog iron/pig  
iron to

Drawing and rewelding comprise the process of refining. As it comes out of the furnace, the bloom is worthless. There are numerous voids in the iron, much of which is filled with slag. The purpose of drawing the bar is twofold. It alters the bloom into

a useful form (bar, sheet, etc.) and also it drives out the excess slag.

As the slag and the iron are drawn, they intermingle with each other, forming long threads of iron and iron silicate which orient themselves parallel to the direction in which the bar is being drawn and resulting in an almost wood-like structure.

After the first drawing, most of the slag has been forced out, but much remains. The grain structure is coarse and under the hammer may have some rather undesirable characteristics, such as splitting like wood when forged at anything less than bright yellow heat. Such iron is called "muck bar" and is good for many applications, but not all, e.g. the creation of fine architectural work including gates and window treatments, or furnishings such as tables, or utensils such as forks.

Nicking the muck bar and rewelding/redrawing results in a single-refined iron. Such iron will be a bit more forgiving than muck bar in terms of temperature, but not so much. Nevertheless, it has its uses - e.g. some of the simpler straight elements in a garden gate such as uprights.

Another reweld/redraw produces double-refined iron, which has yet more slag forced from it, a finer grain structure, and is therefore a finer product. Such iron may be suitable to the decorative elements of that garden gate including scrolls, leaves, animal figures, etc.

Yet another reweld/redraw results in triple-refined wrought iron, the highest grade commonly available. This iron is very fine-grained, far more forgiving in terms of cold-shortness, and would be used in the production of the finest items such as instruments, tools, household utensils, etc.

There was another grade that was finer yet and that was called king's bar. There is not much in the literature about it, save to say that it was the finest iron available, was very costly, extremely fine-grained, and not very common at all.

That's wrought iron refinement in a very small nutshell. I hope you find this marginally helpful at the least.

Regards,

Andy

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From: Daniel Kretchmar  
Date: Dec 30, 2007 3:40 PM  
Subject: Re: [TheForge] Fwd: bog iron/pig iron to wrought iron

Andy and Bruce,

Both were very helpful! Thank you!

Now another few questions: I would like to make a knife for my wife. My wife is in the SCA (like me) and portrays the part of a woman living in Viking Dublin (890 AD). I know she should be carrying a wrought iron knife. I know how to make steel knives and carving tools and have made a few in medium and high carbon steel as well as with pattern welding, but I have never made one from wrought iron....How do you harden and temper it? Does normalizing work on wrought iron in the same way as steel? Should I quench in water or oil? or wax? Should I do a full straight down quench (like I do for my pattern welded blades) or do an edge quench like I do for my carving tools..

Inquiring reenactors want to know :)

Daniel Kretchmar

who plays the part of Danr Ketilsidr ("small cooking pot" craftsman in old Norse)

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From: Bruce Freeman  
Date: Dec 30, 2007 6:35 PM  
Subject: Re: [TheForge] Fwd: bog iron/pig iron to wrought iron

Andy is right. You can either carburize the knife-shaped-object (AFTER THE GRINDING OPERATION!) or just turn the wrought iron into steel by blistering it and re forging it down like (layered) pattern welding.

If you choose to carburize it, you then must sharpen the knife by grinding from one side only, or you'll grind off the steel from BOTH edges and be left with a knife-shaped object. By grinding from one side only, you will retain steel at the edge.

The other general approach is to simply weld steel into the edge of the knife. This is not necessarily easy to learn, as steel and wrought iron want to weld at different temperatures.

I have never done this, so can only make a suggestion from what I have read. I'd suggest you make your knife by folding a sheet lengthwise so

the fold will become the back of the knife. This metal can be a good deal thicker than the final knife, as you will be able to forge it to shape after the welding operation.

Make the fold, but before welding, slip in a piece of steel about the same thickness as the wrought iron.

Remember to scarf to avoid cold shuts. Then weld it up with the steel sandwiched between the wrought iron. Draw out to shape, and sharpen by grinding from both sides.

Hope this helps.

Bruce

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From: Jerry Smith  
Subject: [TheForge] Banding Steel

I have a bucket full of banding steel, would this be good for making billets or some kind of practice damascus?

If it is just junk steel, it will go to the recycling pile.

Merry Christmas,

Jerry

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Reply:

The only thing wrong with it is it, is that it is usually painted which is a pain to grind off. My son used to use a mix of band steel and band saw blades. The band saw blade was L6 or 15n20 which was brighter when etched. Another problem you may have is, it is so thin it is hard to get a good soaking heat without burning the outer layers. The good thing is that because it is thin you get a lot of layers on the first weld and only have to fold it a couple times, or not at all if you want a bold pattern.

We discovered that we got better results when starting with thicker stock. Get a really good first weld and then do the folding.

Robert Ehrenberger

Shelbyville, Mo.

From "Washington, Aubrey O."  
Date: Dec 13, 2007 12:20 PM  
Subject: RE: [TheForge] Banding Steel

Jerry,

I made my first ever pattern welded blade using scrap banding steel and band saw blade (all from the scrap bin outside the shop at John C. Campbell). To my amazement, it came out very well with nice contrast between the layers. Since I just made it on a lark during a slow point in a class I was taking, I did not take the care I should have in cleaning the steel first. I didn't even attempt to get the black paint off the banding. Consequently, there are some visible flaws (inclusions) in my blade. So I would suggest cleaning off the paint first. Otherwise, it made a very nice blade.

Aubrey

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## Announcements

The Rocky Forge News is available by E-mail and on our website (<http://www.rockyforge.org/>). If you wish to receive the newsletter via E-mail sent Dave Childress a note at [trollkeep@gmail.com](mailto:trollkeep@gmail.com), or e-mail directly to [rocky@rockyforge.org](mailto:rocky@rockyforge.org).