

The Anvil's Horn

A Publication of: The Arizona Artist Blacksmith Association

Issue No. 162

May, 2013



Suit of Armor by Howard Noble, metal arts instructor at Northland Pioneer College

President's Message:

It has been a busy two months.

Thanks go to Cathi Borthwick, Ira Wiesenfeld, Grizz LaBrash, Peter Sevin and Dan Jennings for their participation in the DOVES Iron and Art event. It was a big success. Over 500 guests attended and purchased art and iron to support this great program.

Pioneer Village may be a promising venue for future events. After years of neglect the City of Phoenix has purchased the property. A non-profit foundation operates the facility and conducts educational programs for school kids. Our own Jess Hawley designed and built the blacksmith shop that we used for our event. I hope that we will be able to make some improvements to the lighting and visibility and be able to use this facility again.

Personally I thought Richard Bent did a great job starting with nothing but a hammer. His skills at the anvil reflect a level of ability that few achieve. While many want to see a well-planned demo that produces something, watching someone who can make do and improvise with whatever is at hand is a real education. I got to see him again at the CBA spring conference where he was a big attraction.

We have cancelled the May 11th event at Skull Valley due to a conflict with the 10th Anniversary of Pieh Tool Co. in Camp Verde. I encourage you to attend that celebration. Amy has a great lineup of demonstrators and activities, so please support her.

The annual AABA Auction and Luncheon sneaks up on us every year. I would like to encourage everyone to start early and put their best effort into making this year's event the best ever.

Be sure to check the calendar on our web site for the latest information.

Safe and productive forging,

Doug Kluender

AABA OFFICERS and BOARD OF DIRECTORS

PRESIDENT: Doug Kluender 73 W. Holly St Phoenix 85003 602-818-1230 DoungKluender@msn.com
FIRST VP: Paul Diefenderfer P.O. Box 7766 Cave Creek 85327-8094 602-509-1543 dief@phoenixrockgym.com
SECOND VP: Harold Hilborn Holy Hammer Ironworks Tuller School 5870 E 14 St. Tucson
SECRETARY: Terry Porter 2310 E Melrose Street, Gilbert 85297 480-988-2070 trp555@prodigy.net
TREASURER: Len Ledet 24200 N. Alma School Rd. #32 Scottsdale 85255 480-502-9498 Len.Ledet@cox.net
WEB MASTER: Paul Diefenderfer P.O. Box 8094 Cave Creek 85327-8094 602-509-1543 dief@phoenixrockgym.com
LIBRARIAN: Pat Clark 4149 E. Hampton Circle, Mesa AZ 85206 480-924-5582 pclark26@cox.net
EDITOR: Dan Jennings 2522 W Loughlin Dr. Chandler 85224 phone: 480-510-3569 danshammer@cox.net
DIRECTORS: Cathi Borthwick, Pat Clark, Chris Contos, Bill Ganoe, Sarah Harms, Ivan Hill, Jason LaBrash, Zach Lihatsch, Kristin Loving, Bill Morris, Peter Sevin, John Silvestre, Ira Wiesenfeld, Gordon Williams.

May Event: May 11 & 12

Pieh Tool 10 year Anniversary Celebration

AABA will not be hosting a demo in May. Instead we are supporting Pieh Tool's Anniversary Celebration. The registration fee is \$75 after April 15 and given the impressive list of demonstrators that's a super deal. Please pre-register with Pieh Tool as soon as possible.

Demonstrators: Tim Cisneros, *Blacksmith Artist*
Ray Rybar, *Master Bladesmith*
Fred Zweig, *Chasing and Repousse Metalsmith*
Valerie Ostenak, *Blacksmith, Silversmith and the Anvil's Ring editor*
Gordon Williams, *Blacksmith Instructor*
William Weathersby, *Metalsmith*
Eric LeBlanc, *Pioneer Blacksmith Demonstrator*.

- Included: morning coffee and donuts, daily lunches and Saturday dinner.
- On Saturday evening we will have teaching tents available for those who are interested.
- There is an area available for tailgaters, but you must register, as space is limited.
- There are campgrounds nearby and hotels available for your convenience.
- You can register online www.piehtoolco.com, item #DEMO
- Iron in the Hat proceeds will be donated to the Hurricane Sandy Blacksmiths Relief Fund.
- Demo times: 9:00 am – 5:00 pm

This event will kick-off the Blacksmith on a Bike and Mike – Gordon Williams (and friend Mike Allen) will fly to Fairbanks, Alaska. Upon their arrival in Alaska, Gordon will have a demo and the next day, start his 4,000-mile bicycle trek back to Arizona's Grand Canyon, stopping at blacksmith shops on the route (small detours expected). His journey, called Iron as Art through the America's, will be promoting ABANA and its affiliates. They fly out of Phoenix at the end of May, and Pieh Tool will follow their progress during the 3-month period.

Pieh Tool Company, Inc.
661 E Howards Rd. Suite J
Camp Verde, AZ 86322

www.piehtoolco.com
Tel: 928-554-0700
Toll Free: 888-743-4866
Fax: 928-554-0800

Directions

Take I-17 North or South Depending where you're starting from.

Exit the General Crook Trail ramp towards Camp Verde, exit #285 and go East (right) on Hwy 260/General Crook Trail

Drive 1.8 miles on Hwy 260. Take 2nd right after the Verde River Bridge on Howards Road. (This is the frontage and access road to Hwy 260)

Take an immediate left on Howards Road. Go 1/8 mi-we're on the right. 661 Howards Road, Suite J, Camp Verde, Arizona

If you miss the Howards Road turn, you have a second chance to turn right onto this road. It is about 1/2 mile.

We are located in the Zane Grey business and Mini Storage complex on the west end. (You will see 3 buildings) Our store has two large signs on the front of the building.

March Demo Report: Richard Bent

Richard's demo concept was *Blacksmith Unloaded*; he showed up with just a hammer and a request to be able use whatever bits and pieces of iron were laying about.

He promptly grabbed a piece of 1/4 x 1 mild steel and made a hot cut chisel, which he used several times during the weekend. He kept his work very

hot when using it and needed to re-forged the end a couple times, but it was a serviceable tool.

Richard forge welded several pieces together without flux. He waited until he could see sparks popping out of the top of the fire before he brought them to the anvil. He lightly tapped them to get them to stick.



Doves Iron and Art in the Desert Report

By Dan Jennings

Photos by Doug Kluender



I really can't say enough about Grizz's display, scope of work and the quality in everything he had.

Bamboo wall hanging, dragons, masks, jewelry, crosses, dinner bells and Damascus rulers were among the many items he had to sell. It really looks like he's having fun.

Below: Peter Sevin had a table full of belt buckles and an exquisite table.

Below: Ira had the complete nest works and useful art items made from found items. He even dressed up.



Below: Cathi Borthwick had elk head hooks, some really neat garden birds, tables and more.



Left: This guy got to tote a forge, anvil and tools to put on a dog and pony show for the attendees. Actually, they were boxer and horse head bottle openers. It was fun.

How did every one do? I don't know what everyone else did, but Lyn managed to separate over \$600 from the patrons. I thought it was well worth the time and effort. I'll do it next year, if possible.

Sahuaro Ranch Smithy Stewardship

by Jay Griffin

Beginning in November 2011, I took on the self-titled role of “Steward” of the blacksmith shop at the Sahuaro Ranch Park Historic Area in Glendale, Arizona. In the year and a half since, it’s been a good fit for me as the smithy needs the TLC, and I’ve got a nice place to do some smithin’.

The first couple of months were mostly just doing some (not minor) clean-up. The resident black bunny wasn’t too bad, but the fine dust floor makes for a Five-Star litterbox for the many felines that roam the campus. But once cleaned up and organized, the original part of the smithy makes for a very nice demonstration area. With the wrought-iron gates from Mesa Arts and Verde Valley classes arranged in a curve, it makes for an intimate shop area for teaching and observing with a small group. The gates allow for a good number of people to interact with a smith from a personal, but safer distance.

The overall building has suffered some decay and occasional vandalism since the big update back in 1997 done by several AABA members (did some research in old Anvil’s Horn newsletter to try to find out more about the history).

The three anvils in the outside shop are all nice to work with, but only one forge was serviceable, and even that one needed a handle. Having found one, I needed to find a screw that was the right size to set it to the axle, so one of my Sahuaro Young Smiths, Zackary Necker, forged a temporary one.

There is one nice Buffalo forge; we found a tuyere that fits the opening pretty well and had enough of a clinker breaker and ‘grille’ to hold a fire. The clinker ball stem needs an extension, but the ash gate seals pretty well. The forge has a long arm that I figured held a blower, and I managed to find a blower to fit the arm and its accompanying handle. The blower needed some reconditioning, so I took it apart, cleaned it up and put back together and oiled it up with some hydraulic fluid. That forge now serves as our main forge and it runs like a champ.

There were two more blowers, one on a wheel stand was portable, but hard to lug around, and another that was on a stem, but the base was rickety and too low. Peter Sevin took on the task of fabricating a better base that set the crank at a good ‘elbow’ height. It now serves very well as the portable blower for the smaller portable forge.

A second, more modern forge (that’s still in need of a firepot) had an electric blower mounted to it, but the motor was iffy. It looked to me like all it might need would be some rewiring of the cord to the motor, so I took it apart and refurbished it. The blower works great now and I think this setup should serve well to replace the original historic wood forge for demonstra-



Above: The Sahuaro Ranch Smithy when Jay Griffin first became Steward. Not a pretty sight (or smell...)

Below: After clean-up



Young smith, Zachary Necker, with the blower handle he forged. You can see that it works.



Steward Jay Griffon at one of the refurbished forges

tion use inside the shop. You can see some photos of the Buffalo 2E refurbishment on my website: <http://www.rtnj.com/buffalo-motor-type-2e-refurbishment/>

So now that we've got 3 working forges (4 if you count the historic original) and 4 anvils, the smithy can serve as a venue for several smiths to work at the same time. And they've been put to good use at several events so far.

I've spent some time setting up the 2 25lb. Little Giant power hammers, but I'm hesitant to do much with them until I can be sure they're tuned and cleaned up properly. I will be doing some research on those to get them in good working condition and hopefully can acquire a variety of dies for them too.

I've found out from Barry Denton that Chet Johns is the man to credit with the presence of most of the equipment at the smithy. Because of that, I'm brainstorming and looking for ideas on how to memorialize his generosity. If you have ideas to consider, let me know by email: jay@rtnj.com.

Early Days 2012

My 'inaugural' event as Steward was the Early Days Antique Tractor & Engine show in February 2012. For this event, we had just the main part of the shop open and worked out of the historic wood forge the first day. This forge is basically a big wood box filled with pavers and earth. The firepot is a depression in the center, bottomed by a large diameter pipe that runs the entire width of the forge and sticks out on each side about a foot. It was surprisingly serviceable, although keeping it clean of clinker wasn't the easiest since the ash doesn't have anywhere to go out the bottom.

School Tours 2012

The Sahuaro Ranch Park Historic Area offers tours of the ranch and schools have the opportunity to experi-

ence the history of this site—which is older than the State of Arizona. The blacksmith shop itself was built in 1887, not too long after the ranch was settled. As Steward, I try to be available for doing demonstrations for these school tour events or to coordinate other blacksmiths to do some demos if I'm unable to. These school tours are typically from about 9-Noon and 4 to 6 classrooms will rotate among the various stops on the ranch, with the



The historic wooden forge in action.

smithy being one of them.

Zackary Necker has helped out for the school tours, even finishing up with a couple of classes and taking on the responsibility of clean-up and closing the shop afterward so that I could return to my work schedule in the afternoon. Kurt Perry has also demo'ed for a few school tours doing an enthusiastic job of it. The classes had a lot of fun taking turns cranking the blower so the smiths could focus on talking and 'smithing'.

Second Saturdays @ Sahuaro

In September 2012, I started having 'open forge' of sorts at the Sahuaro smithy. My initial idea was to be able to make the resources of the shop available and to have the event on the calendar on a day that could bridge the Open Forges that are typically held on the first Saturday of the month, and the 'formal' Demos which tend to be the 3rd Saturday. Several other young smiths have come out to participate in the Second Saturdays which ran until December.

Saharo Ranch Smithy Continued



Right: Kyle Walz, Rik Reardon, and Daniel Hogg at the Early Days Tractor and Engine event February 2012

Saharo Young Smiths

These gatherings were also a boom time for participation by Young Smiths too. I ended up mentoring high school senior Daniel Hogg for the Fall semester as his Senior project revolved around blacksmithing. As part of that project, Daniel developed a display board which provides some blacksmithing history and a storyboard of the nail-making process. It will be displayed at the smithy and also put out for viewing during the school tours. For this Spring semester, Kyle Walz is doing his Senior project in blacksmithing as well..

The Saharo Young Smiths seems to be a continual draw, and the 3 anvils and forges make the Saharo Smithy an excellent venue to practice and collaborate under supervision. It's also proven to be an opportunity for outreach for AABA membership as many Historic Park patrons are often surprised and intrigued to find the blacksmith shop active.

Wild Western Festival October 2012

This event was very good for a bumper crop of young smiths, as Daniel, Kyle and Rik brought one or two friends (and girlfriends) a piece to participate. While very good for our group, we ended up not getting much Festival traffic due to our area being more or less fenced off from the rest of the ranch campus...Something I'll hopefully be able to address for the next WWF2013.

How can you help with the Saharo Ranch Smithy?

- 'Smith-cycle your iron

Your Steward and the Saharo Young Smiths would greatly benefit from any spare iron and steel you may care to donate. Used horseshoes, files, RR-spikes, bar stock, punches, chisels, and whatever can be re-made by the imaginations of our next generations of smiths-young

and old. I'd be happy to arrange picking up your scrap stock rather than to let it waste away in that 'indefinitely deferred' pile.

- SRPHA School Tour Blacksmith Demonstrators Because the school tours are during school hours, it's been a bit of a challenge to develop a pool of available blacksmiths. Having AABA smiths available helps the Park program to appeal to more schools because of the added pizzazz our participation brings. If you can help, I'd be very glad to hear from you regarding the degree of commitment you might be able to make.

- Blacksmith Demonstration Scripts Although I've been doing demos for over a quarter of a century, I'm always looking for "scripts", particularly patterns (whether interpretive historical or yarn-spinning tall tales) that run 'nicely contained' for about 5-15 minutes. If you know of any blacksmiths that I can contact to that would be willing to help me develop a library of these scripts—it would not only help me, but also serve as a resource for demonstrator volunteers who are willing to participate, but are a bit shy as to "what to say and do?"

- Saharo Ranch 'Smithin' Storyboards

One idea I've been considering to develop as a fixture at the Saharo Ranch Smithy—partly geared as a learner resource and partly as a memorial endeavor for Chet Johns (mentioned earlier)—is to have many secured displays that feature piece by piece storyboards showcasing a blacksmithing technique or forging process. For example, showing all the steps in making a spiral basket twist. I'm thinking each set would be fixed to a display panel crediting the smith or smiths who created them and each panel would be visually accessible, but relatively vandal-proof in the shop. An added benefit to having such a collection as a fixture of the smithy is that it can serve as a self-guided educational destination when there aren't demonstrators around.

Saharo Ranch Smithy is on Facebook

For those of you who use FB, SRS has a group at <https://www.facebook.com/groups/262319570510856/> or just do a search on Facebook for Saharo Ranch Smithy. I also make occasional postings related to the SRS on my own website at <http://rtznj.com>. And so you know, AABA has a Facebook group as well at <https://www.facebook.com/groups/274367809332502/>

I'd love to hear from any interested smiths. Also, please consider me as a possible place to refer your inquiring smith wanna-be. For me, email is easiest at jay@rtznj.com or look for the Saharo Ranch Smithy group on Facebook and post there.

Jay Griffin, Steward at Saharo Ranch Smithy
jay@rtznj.com
623-349-1422 Mobile/Text

Member's Gallery

That's James McLaughlin modeling a helmet (helmet is most likely the wrong term) he made.

Below is another view of the armor in the cover photo by Howard Noble.

Both James and Howard teach Metal Arts at the Northland Pioneer College in Show Low.



CALENDAR 2013

May 4	Open Forge	Ron Kinyon Falcon Forge	Mesa
May 4	Open Forge	Holy Hammer Ironworks	Tucson
May 11	Anniversary Mini Conference	Pieh Tool	Camp Verde
July 20	Demo	Northern AZ Historical Museum	Flagstaff
September 21 & 22	Demo Adrian Legg	Bill and Karen Morris	Camp Verde
October 26	AABA Auction	Sahuaro Ranch	Glendale
November 9	Demo Mark Aspery	Presidio	Tucson

The Anvil's Horn Editor Retires

AABA is in need of a new editor. Dan Jennings has announced his retirement effective this issue.

If you are interested in becoming the editor please contact Doug Kluender: 602-818-1230 DoungKluender@msn.com

"I would like to thank all those who have contributed to the content of the Anvil's Horn over the last ten years. I hope you will continue to support your new editor.

More importantly, I hope at least one of you will take on the task of moving the Anvil's Horn to the next level."

Dan Jennings

Deadline: June 1 July issue of the Anvil's Horn.

Mark Aspery Vol.3

From Doug Kluender

"I got to see the near final proof of Mark Aspery's 3rd book, Skills of the Blacksmith: Mastering the Fundamentals of Joinery. This one will be about 360 pages with numerous detailed photos and illustrations.

Some really cool features are the cut away photos of the process of making joints. A real eye opener is how the metal behaves when punching and drifting holes. According to Mark the book is complete except for about 6 remaining pages. It will be going to print in June and ready for distribution immediately thereafter - just in time for our members to purchase autographed copies at the November demo in Tucson."

Further note: Volume 1 is now in its' second printing. Volume 2 is not far behind.

Kinyon Vise Workshops

The vise without a base built during the workshop is around \$150. Ron is requiring a deposit to reserve a slot in a workshop. If you'd like to build a vise in a workshop, Ron's email is ronkinyon@aol.com

Welcome New Members

Michael Lowry IV
Cliff Ohlenburger
Adrian Vega
Matt Freyer
Larry Gereaux

Mike Selinsky
Kylie Hilton
Jodi Torres
Kenneth Liles

Want Coal?

Harold Hilborn is planning a bulk purchase of coal in 50# bags if there is enough interest among AABA members. Our cost will depend on the size of the order. Pre-paid purchases will be approximately AABA cost. Inventory that isn't pre-paid will be marked up a bunch.

Contact Harold 520-603-6723 or Hhiborn@aol.com

Just a Reminder!

If you are attending a open forge. You might not be aware but this, but these events are not funded by the AABA. They are hosted by our members for all of our benefit. So if you participate in forging, welding, use shop materials, or accidentally damaged something. Please offer do donate to help out or help with the cost of replacing a item. Thank you!

From all of your open forge hosts.

AABA Website: AZ-blacksmiths.org

Open Forge: Tucson

Harold Hilborn will be hosting Open Forges on the first Saturday of May.

Holy Hammer Ironworks

Tuller School 5870 E 14 St. Tucson

Questions Harold 520-603-6723 or Hhiborn@aol.com

Open Forge: Desert Rat Forge

Paul Dief will host an open forge on the second Sunday of each month from 9 am to noon, followed by lunch at the world famous Big Earls Greasy Eats in Cave Creek. Desert Rat Forge is at:

40218 N 78th St, Cave Creek

Paul: 602-509-1543 or dief@phoenixrockgym.com

Directions: From the center Cave. Creek - 4-way stop at Cave Creek Rd & School House Rd. Head north on School House 1.5 miles to Highland Rd.(if you get to the 4-way stop at Fleming Springs you gone a tad too far). Turn right (east) on Highland. After about 1 mile the pavement ends. Keep going on the gravel road until the pavement starts up again.

Turn right thru the stone walls down a paved driveway

You are there!

Open Forge at Valley Shops

Several forges in the Phoenix area have volunteered to host open forges on first Saturdays of each month. These will be in addition to the second Sunday Desert Rat Open Forges. Check the web calendar for updated info.

May 4: Ron Kinyon 7656 E. Hermosa Vista, Mesa

Would anyone like to volunteer for June? Contact Dief

MCC Blacksmithing & Welding

The Mesa Community College blacksmithing program is one of the best deals around - over 60 hours of instruction for just under \$450 and that includes material and propane! Saturday (Jaime Escobedo instructor) and evening classes (Dan Jennings instructor) are available. Blacksmithing is WLD103.

TIG, MIG, Arc, Gas, and Art classes are all available, as is certification in any of those welding methods at Mesa Community College, Southern and Dobson in Mesa.

You can sign up for fall 2013 classes now.. For more info go to: www.mesacc.edu

If you try to register for any Welding Department classes on line, you might find all classes are closed (full). Contact Dan at danshammer@cox.net with the class number (time and days) of the class you'd like to take—I'll get an override number so you can sign up.

Arboretum Ironwork

There's still time to sign up for the second annual Botanical Blacksmith exhibit at the Arboretum in Flagstaff.

For more info on this see page 9 in the March AH.

To sign up contact:

Cathi Borthwick,
928-779-1791
flag_forge@earthlink.net

AABA New Member and Membership Renewal Form

Name _____
Address _____
City _____ State _____ Zip _____
Phone _____ Email _____
Professional blacksmith _____ Hobbyist _____ Farrier _____ Blade smith _____
Your main blacksmithing interest _____
Occupation or skill _____
Please check one:
Regular membership (\$30) _____
Family membership (\$35) _____

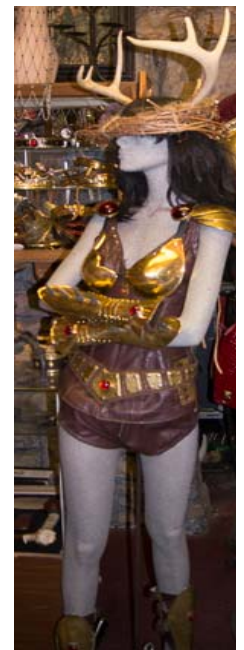
Mail to: Terry Porter
2310 E. Melrose St.
Gilbert, AZ 85297

Make Check Payable to AABA

Tony Swatton Armorer to Hollywood

El Presidente Doug stopped in to see Tony Swatton at Sword and Stone in Burbank. Tony is a California Blacksmith Association member who makes medieval movie props—swords, armor and costumes. They were preparing for the filming another segment of Men of Armor when Doug was there.

The shop is well suited for just about any kind of handcrafted metal work. There's an English wheel, a sheet metal power hammer, forging power hammer, shrinker, sheet forming stakes, forges, anvils, tons of tongs and hundreds of hammers. There is also a showroom full of their handiwork.



Business Nuggets

by Peter Sevin

Here are some guidelines I have developed over the years in dealing with customers.

On your initial visit, wear clean work clothes, preferably the ones without a lot of holes and tears. I keep a couple of clean t-shirts at the shop in case the meeting is in the middle or end of the day. If you don't have a chance to get into anything clean, warn them beforehand ("I'll be coming from my shop so I'll be really dirty"). Apologize again when you arrive. I learned this from Francis Whittaker.

Always take off your hat when you meet the customer. This is old fashioned, but it helps to show respect.

Don't bring too many pictures of your work. It sometimes confuses them. I usually ask if I can show some pictures if it will help show workmanship or solutions to problems.

Always listen carefully to what they say; let them do the talking initially. I think it was Abe Lincoln who said "it is better to keep silent and be thought a fool than open your mouth and remove all doubt". I exaggerate, but sometimes rattling off at the mouth turns them off.

There are times when you find that the potential customer is "in the wrong store", or wants you to do something that just isn't right. This can be a ticklish situation but I politely explain to them that I don't do that type of work and I don't really have any idea how much to charge for that. I am lucky; I have been around long enough that the people who contact me have a pretty good idea of what I do. It helps if you can refer them to some other appropriate shop.

Don't tell them you can do something you can't do within their schedule. My stock answer is: "I would be lying to you if I told

you I could get that done in that time" Sometimes they will wait and other times they won't. Funny thing is they usually don't get it done any faster than you said could, but that is another matter.

My philosophy is that the customer is always right. Avoiding that situation in the first place is the trick, as I mentioned, don't get into a job in the first place that you don't feel right about.

Pricing your work is of course a subject for an additional long, long article and I won't get into that here, but I do try to get that out of the way as soon as possible by giving them a "ballpark figure," whatever that is.

I have heard of blacksmiths charging just to come out talk to the potential customer! I can't think of anything more ridiculous. I guess if you are the world's greatest blacksmith you can do it. I have gotten several jobs because of this. I don't charge for quick sketches either; usually that is all they are going to look at anyway. If they requested something more detailed and time consuming I would charge for that, but it is rare. In 35 years of blacksmithing there have been only two occasions when my drawing ended up in the wrong hands. I was furious at the time but I got over it.

I hope this is helpful. I realize that every opportunity is different and some of these things won't apply, or there may be other ways to do all of this, but it is the nuggets of information that we learn that make us what we are.

Planishing Hammer

E.W. Ratliff



Fig 1

Fig 1. Use $\frac{1}{2}$ " Rail
Road Spike
Center Punch
For eye 1" inch
Center to Center

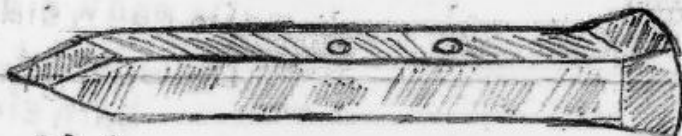


Fig 2

Fig 2 Cut and
Grind Head
To Shape
Drill Two $\frac{3}{16}$ " Holes

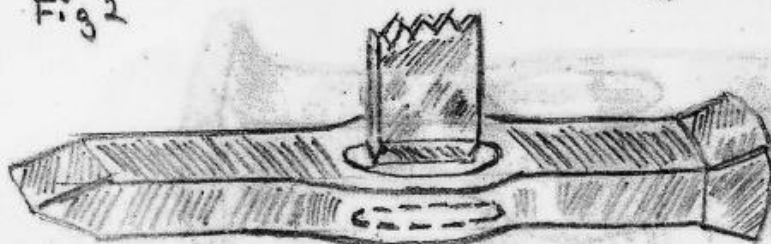


Fig 3

Fig 3 With 1" Chisel
Cut $\frac{1}{4}$ " deep into
The Bottom of
Hammer. Now
Cut from Top
all The Way
To Bottom
Cut.

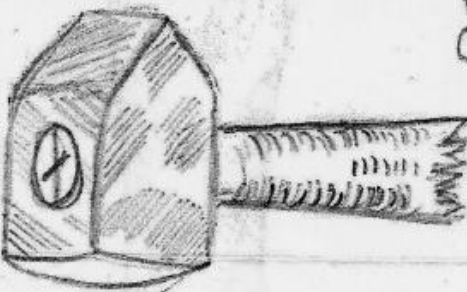


Fig 4.

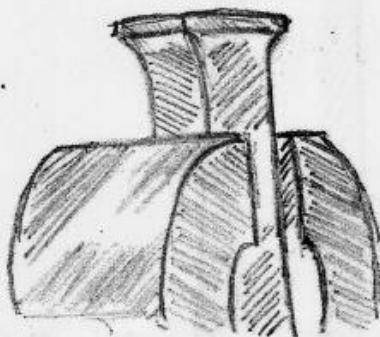


Fig 4. Up set and
Shape Hammer
Head. This will
Take Two To Three
Heats. Take your
Time.

Reprinted from the Appalachian Blacksmiths Association Newsletter

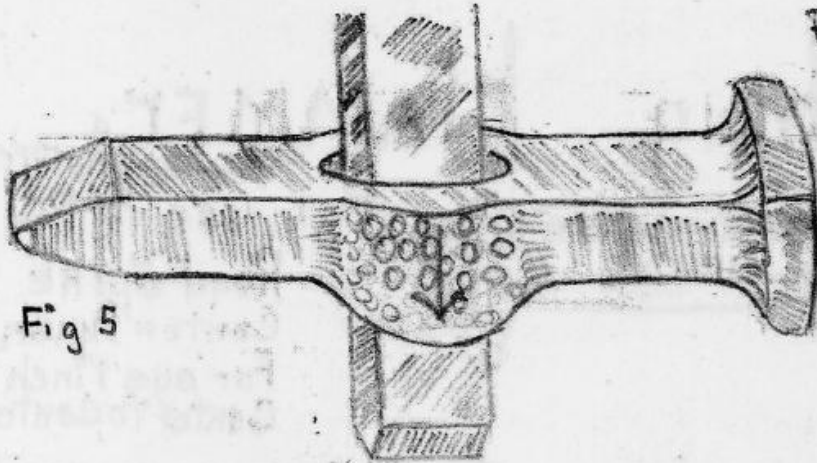


Fig 5

Fig 5. Heat eye
and drive Chisel
Through Cut.
Re Heat place
Chisel Through
and Hammer
down wards, push
Material Down,
and out for ears.
Do each side.
Draw and dress
both sides

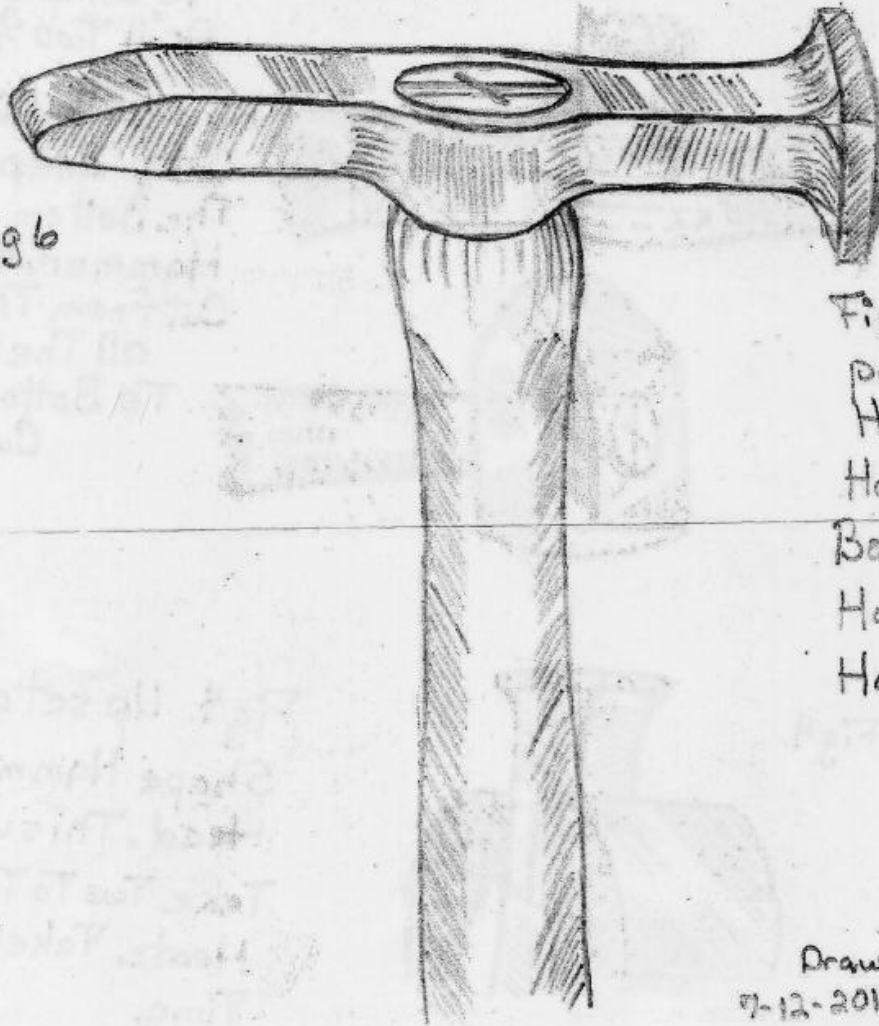


Fig 6

Fig 6. Grind and
polish and File
Hammer eye.
How Temper
Both Ends.
Handle The
Hammer

Drawing By
7-12-2012 Eugene W Ratliff



A *fire steel* is a metal piece that you can strike with a piece of flint in order to start a fire. This design is based on historical research and learning done by Beth while living in Denmark.

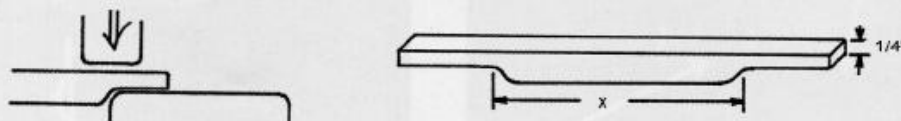
To make a good fire steel, you need a high-carbon steel, at least 1% carbon. For this demonstration, W-1 was used. 1095 will work, as will old files, but, it is important to grind off the teeth from any old file to avoid folding them into cold shuts, which will just break off. The idea is to forge the high-carbon steel and then rapidly quench it in water to form large carbon crystals. It is these rough crystals that will engage the flint to make the necessary sparks. Beware of highly alloyed high-carbon steels. They seem to make poor fire steels. You want high-carbon. It is the carbon that makes the sparks.

Working with High-carbon Steel

- It is tough, hard to forge even when hot.
- It has a low melting temperature, so don't get it too hot.
- Don't burn it! If it burns, you lose the carbon that you need.
- If you hit it too cold, it will crack.
- So go slow and watch your temperatures!

Stock. W-1 tool steel $\frac{3}{8}$ " round x 4" long.

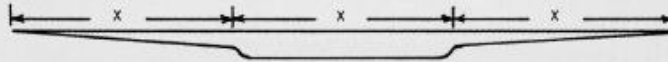
1. Flatten the $\frac{3}{8}$ " round to about $\frac{1}{4}$ " thick, all the way down. Leave the cross dimension at whatever it naturally becomes. In other words, don't forge down the width.
2. Make a tongue on each end by using half-face blows on the rounded edge of the anvil, starting a scant 1" from the end. Make the tongue $\frac{1}{4}$ " x $\frac{1}{4}$ ".



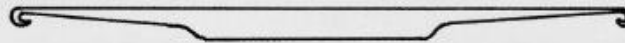
Reprinted from the California Blacksmith Association Newsletter

Ildstaal

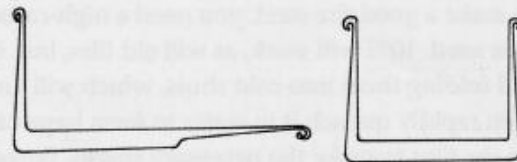
3. Measure the length x above. In the demonstration it was about $2\frac{1}{2}$ ". Use the $x=x=x$ method to scale this to your desired final size. **Note:** If you miss the length – if it's short – you can move the shoulder by using the rounded corners. If you use a sharp corner, you would most likely get a crack there.



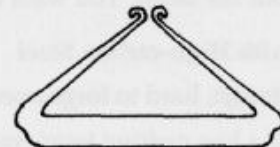
4. Draw out each end to a nice taper of length x . The end is sort of a ribbon, tapering to a flat point. For hand comfort, you can soften the corners of the taper a little bit.
5. Scroll the tips into tiny tapers, curling *toward the bulge side*. Be careful to keep the tips hot. *It is easy to snap the tip off if it gets cool.*



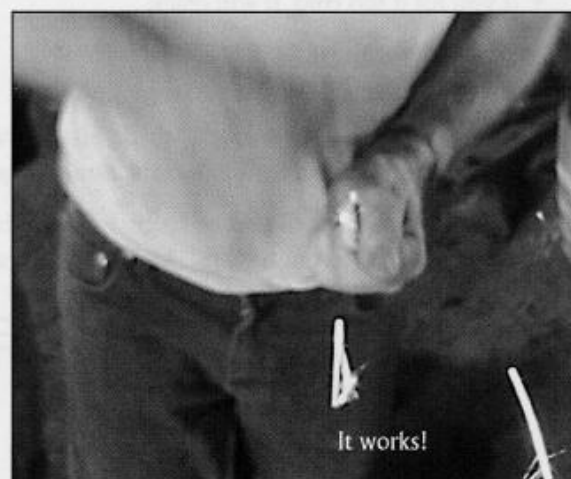
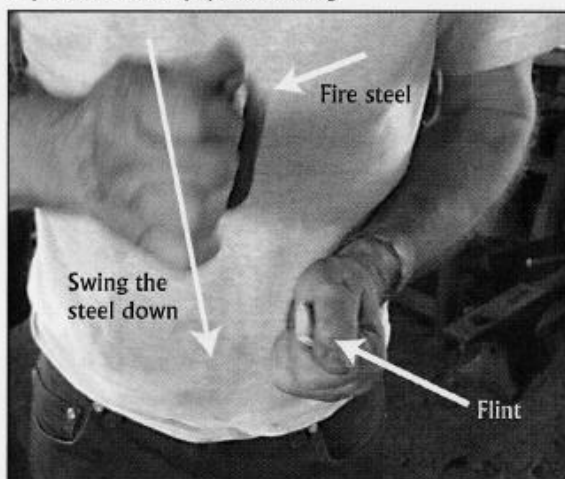
6. Heat at the transition from bulge to taper, and then bend the tapers away from the bulge until the two scrolls just meet. Bend one side half way, then the other, and then bring each side to center alternately. Keep the bends close to the bulge – you want the arms straight. Work from both sides to keep things symmetrical.
7. Adjust it to make it nice and flat.
8. Harden the steel: heat to a bright medium orange, and then agitate in water until cool.



Try it out!

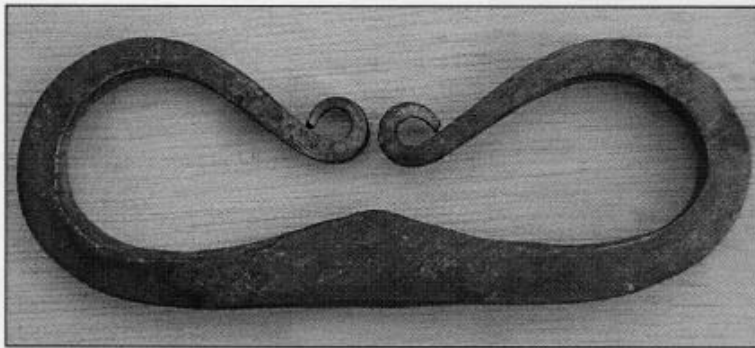


all photos for this story by Beth Holmberg

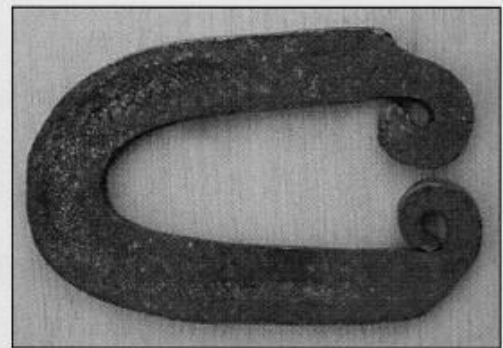


One of the students at Hammerfest made sparks with the fire steel that he just made.

Other Fire Steel Designs



Viking C



Spanish Colonial

The fire steel, or flint and steel combination, was a common method of making fire for 2500 to 3000 years before matches came along. In the manifest records of an 1840s California trading ship, there were both fire steels and *lucifers*, i.e., matches.

In the Iron Age, people had both pocket-size and larger, kitchen-size fire steels. Kitchen-size or home-size fire steels were used from the Iron Age up through the 19th century, which saw the end of the fire steel era.

For the fire-starting demonstration, Beth had a bit of char cloth and a small pile of jute from an old rope. To start the fire, she started the piece of char cloth with sparks from the fire steel, then quickly dropped that into the ball of jute pieces. Gently blown upon, the jute quickly caught up. Then it had to be quickly dropped to start the larger fire.

Char cloth is a piece of cotton cloth heated in a small Altoids tin – closed off from the air – until it chars. The Altoids tin should have a small nail-hole in the lid to allow the vapors to escape – otherwise you can end up with incomplete char, or with tar stuff on the cloth.

The Spanish Colonial design came from pages 120-122 of *Southwestern Colonial Ironwork: the Spanish Blacksmithing Tradition*, by Marc Simmons and Frank Turley, Sante Fe, 2007. Available from Frank Turley. There are photos of maybe a dozen steels from archeological finds. ♣

Classifieds

Classified ads are free to members and can be submitted by email to: danshammer@cox.net

David Norrie Blacksmithing School offers several different classes that focus on forging with intention, to beginners, novices, and professionals. We have a dedicated classroom space as well as 3000 sq. ft. of shop area. Most classes are 2 1/2 day weekend workshops, and the intensive custom-designed classes are 1 week long.

We also offer simple accommodations on my property for people traveling to take the classes.
David Norrie 303-859-0770
<http://www.forgewithintention.com>

Post Vise (antique) 6" wide jaws
Mounted on a heavy flywheel stand.
\$350
T shape, blade anvil blank. 3" wide
14" high, 24" long. AR500 (50 Rockwell). w/stand \$250.
Dan Jennings 480-510-3569

Little Giant - 25# hammer for sale. I bought this hammer several years ago from Brent Bailey, and I have used it very little. This is a newer model and I believe it's from around 1947. 220v single phase. \$3000 (which is just a little less than I paid). Mike Perry, Tucson 520-750-0420, or mperry57@cox.net.

Will buy your unwanted blacksmith or horseshoeing tools and supplies. Call Barry Denton 928-442-3290 any day before 7:00 pm.

80 pound Kinyon Mark 11 power hammer. Contact Ron for info.
Ron Kinyon 602-568-8276

Wanted:

Hydraulic forging press.
Tumbler, about the size of a 50 gallon drum.

Ira 520-742-5274
treetira@hotmail.com

Picture Rock

Arizona Sierra Banded

Sandstone makes the perfect base for all your forged iron pieces. Awards, plaques memorials, water features, furniture or anything you can imagine. Mined in North Eastern Arizona, cut and shaped to your specifications.

Contact AABA member:

Terry Horne
602-672-7085
www.arrowzonastoneworks.com
500 E. 38th Ave.
Apache Junction 85119

Sources

Tucson Iron and Metal

Steel, aluminum, stainless, copper and brass for sale by the pound.
Open Monday-Friday 8-4:30
and 1st and 3rd Saturdays 6:30 to 8 am
690 E 36th St, Tucson 85713
phone 520-884-1554

Bar U Bar Supply

Several 65 lb. & 85 lb. swage blocks for sale. Your source for anvils, post vises, and other new & used blacksmith tools.
Barry Denton ph 928-442-3290
email: barubarranch@gmail.com
website: www.barubar.com

A Copper Rose Metal Art has Chasing / Repousse Pitch
<http://www.chasers-pitch.com>
Debra Montgomery

Pieh Tool Company Inc.

Blacksmith Supplies, Blacksmith Classes with Gordon Williams, Milwaukee, Wilton & JET Tools, Coal, Coke, Air Hammers, Hand Hammers, Tongs and Books.
661 Howards Road Suite J
928-554-0700, www.piehtoolco.com

Scottsdale Farrier Supply

Mostly farrier supplies, but has hammers, tongs and other blacksmith goodies. Ph. 480-838-4455 NW corner of Power and Williamsfield Rd. Mesa

MSC Industrial Supply Co. is a mail-order supplier of all kinds of industrial & metalworking supplies. You can get a 4500+ page catalog by calling 1-800-645-7270.

IMS Full service supplier of Steel, Stainless, Brass, Aluminum, Copper.
5150 S. 48 ST. PHX. 602-454-1500

Brent Bailey. A blacksmith in California specializing in custom tools and ornamental forgings for artisans.
www.brentbaileyforge.com

Pacific Insulation Company

Supplier of high temp insulating materials. Bricks, Kaowool and other refractories. 215 S. 14 St. Phoenix. 602-276-1361

Blue Moon Press, Ltd.

Metalwork books, some of which are only available through them. Bluemoonpress.org
Toll free ph. 866-627-6922.

Vern Lewis Welding Supply,

Discount pricing for AABA members. Just tell them you're an AABA member
Various Valley locations
602-252-0341 or for tech support:
Dan 602-316-4140

Arizona Artist Blacksmith Association
Attn: Dan Jennings
2522 W. Loughlin Dr.
Chandler, AZ 85224
Address Service Requested

NONPROFIT ORGANIZA-
TION
U.S. POSTAGE PAID
PHOENIX, AZ
PERMIT NO. 5531

The Anvil's Horn is the official newsletter of the Arizona Artist Blacksmith Association. Published every other month preceding the bimonthly meetings of the Association, the newsletter is oriented toward anyone interested in blacksmithing and related forms of metal work. Membership is available at the rate of \$30 for individuals; \$35 for families and includes a subscription to the *The Anvil's Horn* for one year. Every attempt has been made to ensure the accuracy of information appearing here, but no liability is assumed by the Association, its officers or editor for errors, damages, or injuries resulting from any design, use, construction or application of said information. Uncopyrighted material may be used freely by other similar organizations provided proper credit is given. Any copyrighted articles appearing herein should not be reproduced without permission of the author. Matters relating to newsletter submissions, corrections, etc. should be addressed to the editor: Dan Jennings 2522 W. Loughlin Dr., Chandler, AZ 85224 Tel: 480-510-3569 Fax: 480-839-6339 Danshammer@cox.net

For membership info or address change, contact: Terry Porter 2310 E Melrose Street, Gilbert 85297 480-988-2070 trp555@prodigy.net



Mr. Frog
A demo piece by Richard Bent



Photos by:
Doug Kluender