

# *The Anvil's Horn*

A Publication of the Arizona Artist Blacksmith Association

Issue No. 222, May 2023



*Flat bar braided by our demonstrator, Steve Williams, at our March demo.*

# President's Message

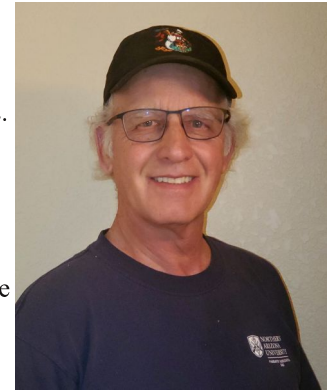
Hello Blacksmiths,

I hope you all are taking advantage of the great weather and getting out to your forge. Exception for those in Northern AZ who may be turning on their forge for extra heat!

I've been reading a book about fixed vs. growth mindedness. The fixed mindedness is more limiting to one's growth and the growth mindedness is more flexible and learns from situations encountered. Yesterday I was doing a blacksmith demo for a youth organization. An 8ish year-old boy came up to me and said he was too young to forge. Whether that was what he was told by his parent, who was there with him, or was his vision I don't know, but it sets up automatic roadblocks. Of course there is age-appropriateness to consider, but there are aspects of blacksmithing that he could certainly be introduced to. I gave him a cold-hammered mini sword (made from an 8D double-headed nail) hoping it would inspire him to follow any interest he may have in blacksmithing.

I have found myself having a fixed mind at times, and there may be times when that is the best choice. However, I keep asking myself, what would be the outcome if I used a growth mindset. One recent example is the hand I made for the Callaway Award. I've always wanted to make a forged hand, but didn't really know how. One method I've seen is from a square bar. I was short on time and only had a flat bar. I was under the gun and had to get it done in time for the award ceremony, so I decided to see what I could do. There are aspects I wanted to do differently, but the end result turned out pretty well in my opinion. So, I had to relinquish some of my fixed-mindedness to allow myself to grow. This is not to say I accept lower quality work in my forged items. I still had some fixes to do, but I accomplished more than I thought I was capable of and achieved some growth in my skills. By sharing this, I'm hoping you too can find some growth in your blacksmith skills, and if you feel so inclined, please share with your fellow smiths?

The May President's Project is inspired by my young assistant/apprentice: a simple brooch. More details on page 4.



See you around the forge,  
*Steve Miller*

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# **Demonstration: Saturday, May 20, 2023**

## **Workshop: Sunday, May 21, 2023**

Desert Metal Craft, 544 E. 24th St., Tucson, AZ

### **Demonstrators: Liz Cameron and Sam Rivera**

#### **09:00 - 12:00: Liz Cameron, Heat Treating Steel**

Smiths heat treat steel to change its microstructure and to bring out the physical and mechanical characteristics they desire in their metal. There is little that frustrates a smith more than a quench that ruins hours or weeks of forging.

Guesswork is not enough. An understanding of steel microstructures and heat treatment processes gives smiths a detailed inside look at the metal they are working, and helps them master their steel and predict how it will behave. This is truly where art meets science.

#### **1:30 - 4:00: Sam Rivera, Chile Pepper Bottle Openers**

Sam will demonstrate making his very popular chile pepper bottle openers. But this will be more than just a forging demo. Sam will talk about the metal dyes and finishes he uses on these chile peppers. He plans to have some small quantities of these dyes for sale. He will also talk about the clear coat he uses, and how he gets great results from inexpensive spray guns.



#### **Event details:**

- Registration begins at 8:00 AM, the demonstration starts at 9:00 AM.
- Registration fee: \$15 for members, \$20 for non-members,
- Tailgating is encouraged. Tailgaters, please consider donating to Iron in the Hat.
- Bring things for Iron-In-the-Hat.

NOTE: No folded tickets. Any folded tickets that are drawn will be thrown away.

- Bring things for Show-and-Tell. Don't forget to put your name on anything you bring for Show-and-Tell.
- Lunch is on your own. There are several good restaurants in the neighborhood.

### **Workshop:**

- Make your own chile pepper bottle openers including the high tech final finishes.
- Sunday, May 21, 2023, from 9:00 AM to 5:00 PM.
- The fee for the workshop is \$100.
- Contact Richard Rozinski at 602-803-7255 or [neongod52@gmail.com](mailto:neongod52@gmail.com) to register.

**Look for directions to Desert Metalcraft on page 4.**

### **Remember Iron in the Hat**

Thanks to all of you who have participated in Iron in the Hat. By purchasing tickets and donating items, you help support AABA events and projects. Items for donation can be a tool, piece of art, something you made specifically for iron in the hat, something you don't need in your shop, a great book, a t-shirt, a hat ... something an AABA member would enjoy.

### **Safety glasses are always required in the demonstration area.**

Hearing protection, closed-toe shoes, and long clothes of natural fibers are recommended.

### **Also, observe safety requirements of our host, Desert Metalcraft.**

No synthetic fibers, only clothing and footwear made from natural materials, such as cotton, canvas, wool, linen, silk, leather, hemp and so on. No open-toed shoes. Steel-toed footwear recommended but not mandatory. Please wear long sleeves for welding; short sleeves are fine for general smithing. Shorts are never OK.



## Our May Demonstrator: Liz Cameron

Liz earned her Master of Science in materials science and engineering at the University of Arizona after spending two years working in the steel industry and blacksmithing in northern Florida. She has a passion for education, science and ancient crafts, and teaches applied metallurgy at Pima Community College in Tucson, Arizona. She conducts metallurgical research at the University of Arizona to continually broaden her metallurgical understanding, which she loves to share. The formation of Desert Metal Craft is an expression of her desire to continue learning and to pass on her knowledge about ancient crafts in the metallurgical world.



## Our May Demonstrator: Sam Rivera



I have been a blacksmith and a member of AABA for over 15 years. As a young man I took classes at The American Academy of Art in Chicago, and studied briefly under a master sculptor, learning classical sculpture, clay modeling, plaster and lost wax casting, and even helping our teacher cast a bronze statue he was commissioned to do for a church. Throughout my life I have dabbled in art in many forms. When invited by Harold Hilborn to an open forge, I was immediately hooked on blacksmithing. Since then I realized, late in life, that working in metal was my passion. Many open forges have taken place at my shop, my way of giving back to the great family I've found in this blacksmith community. I enjoy seeing people get excited about learning this craft as I did when I started.

### Directions to Desert Metal Craft

544 E. 24th St., Tucson, AZ

- I-10 to the 22nd Street exit.
- East on 22nd Street to 2nd Avenue.
- South (right) on 2nd Avenue to 24th Street.
- East (left) on 24th Street.
- Desert Metal Craft is one block east at the railroad tracks.

## President's Project for May

The May President's Project is inspired by my young assistant/apprentice. We were making small items to give away while at a youth activity day. He made a leaf on  $\frac{1}{4}$ " square bar and turned in to a clothing clip that could be used to hold a shawl closed or just a piece of jewelry. His was displayed on his t-shirt. He made a few more for the youth that came by and liked the idea. So, the May project is a simple brooch. It can have a pin or be a clip style – your choice.

# March Demo Report

Bill Ganoe

*Photos by Bill Ganoe unless otherwise noted.*

Brian Brazeal had to cancel for unforeseen circumstances. Steve Williams, who runs the Cowboy Forge in Mancos, Colorado, stepped in at the last minute and provided a great demonstration and workshop focusing on forge welding.

The elevation of Mancos, Colorado, is about 7,300'. Aspirated gas forges (i.e. without blowers) just don't get hot enough for welding at that altitude, so Steve uses propane for production forging and coal for welding. We had some initial problems with forge welding using the gas forges at MCC (elevation around 1,300'), but after some tweaking of gas pressure, brick positioning at the forge openings, etc., we were soon getting consistent welds during the demo on Saturday and the workshop on Sunday.

Steve offered several tips for people trying to forge weld. Most of them were the kind that are really best presented and explained in a live demonstration.

One tip that could be quite useful involved

figuring out when the work pieces are ready to weld. That's a question many of us struggle with, or at least, guess about. Sometimes, depending on the conditions, it can be hard to tell visually when the surfaces of the work pieces are just starting to become liquid. And, when sparks start to appear, you know you've already gone beyond the ideal welding heat and your work pieces are starting to burn. Steve pointed out that, in a coal forge, when your work piece disappears (gets the same color as the coals), it is ready to weld. (Other teachers have advised students to tap the work pieces together as they heat up. If they feel a bit sticky when touching each other, they are ready to weld. But that isn't a useful test when the pieces to be welded are already held close together.)

In addition to forge welding, Steve demonstrated braiding flat bar to make handles and other useful and decorative items. A couple of people in the workshop on Sunday finished their forge welding projects early and started their own braiding projects.



*Steve Williams talking about forge welding the loop handle on a fire poker.*



*President's Project for March:  
Candle holders  
Top: Paul Diefenderfer  
Bottom: Steve Miller*



*A small portion of the AABA library which is available for members to check out.*



*Steve Williams brought some examples of pieces he learned to weld at Frank Turley's school.*

*Find Steve's weld in the shovel handle.*





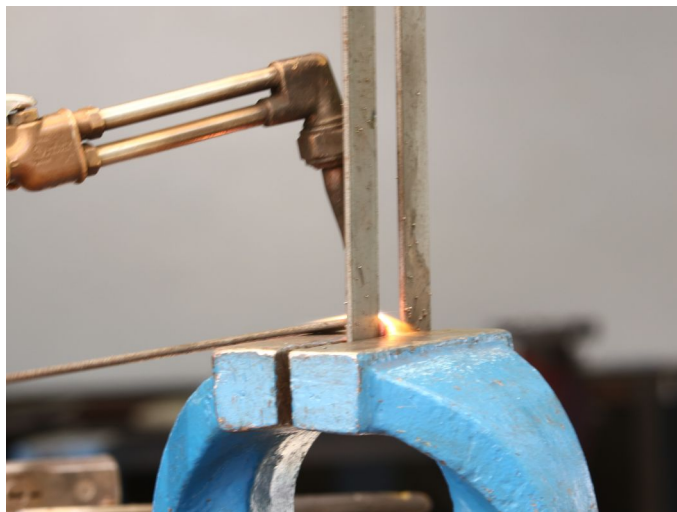
## March Demo Report (Continued)

*Photos by Bill Ganoe unless otherwise noted.*

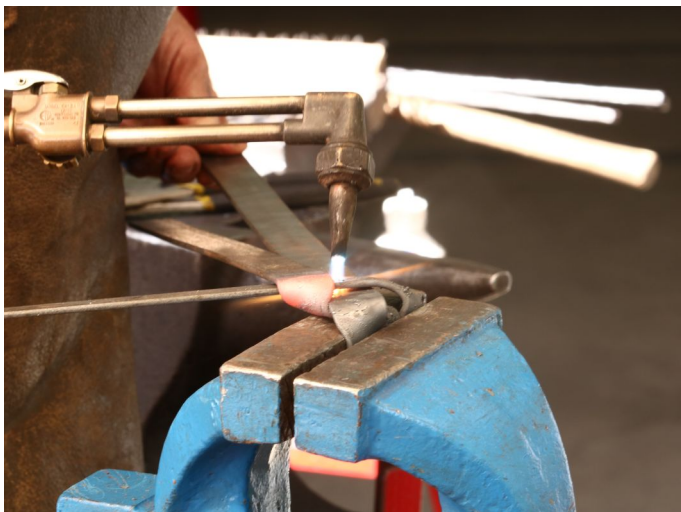
### *Braiding flat bar*



*Start with three flat bars welded at the end*



*Heat the middle bar and bend it over at an angle.*



*Heat the outside bars, one at a time and bend over.*



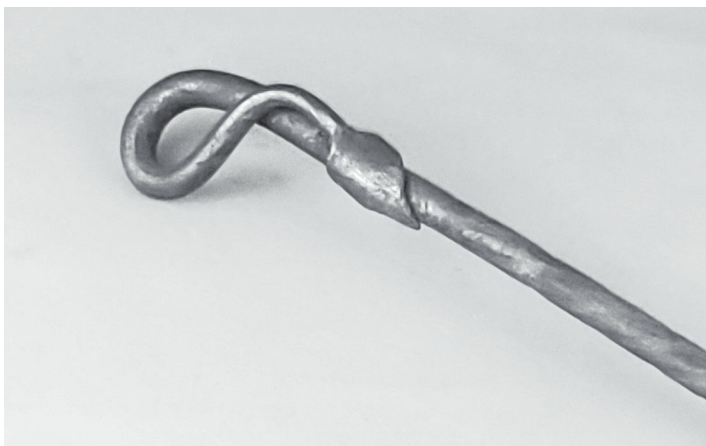
*Bend middle bar, left bar, right bar, repeat.*

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*At the workshop on Sunday*



*Joseph Chapman shows off his finished fire poker.  
(photo by Steve Williams)*



*Steve Miller created a handle with a leaf.  
(photo by Steve Miller)*



## Winterfest 2024

January 18-19, 2024  
Sculpture Tucson, Tucson, AZ

It's hard to believe next year's conference will be its 6th year. It keeps getting better and better with something new every year. In order to maintain the quality conference, you have grown to know we need your help. So, the Winterfest committee is forming now. We'll start having face to face meetings at a food venue to be determined. Bring your ideas and enthusiasm. Below is a list of managers we need to make this happen. Hoping you will join us for some fun and fellowship along with a little bit of work. Please let your Winterfest Co-chairs, Steve ([stevemiller.az@cox.net](mailto:stevemiller.az@cox.net)) or Richard ([neongod52@gmail.com](mailto:neongod52@gmail.com)), know which area you would like to manage.

- Marketing/Advertising – 1 to 2 People 9 months to 2 wks prior to conference  
Develop and manage advertising or the conference
- Buy cake, snacks, & utensils several days prior to and the day of the conference
- Printing – 1 Person prior to the conference  
Print gallery labels & Auction forms
- Refill propane tanks – 2 people several days prior to the conference
- Setup Education Tent  
Unload Education Trailer
- Pickup steel for demonstrator projects, education tent, forging contest
- Clean shop – 2 to 3 people the day before the conference
- Table setup – 4 to 6 People 1 day before the conference  
Setup tables in the tent for seating, displays, TV monitor,
- Setup bench seating in Barn – 1 to 2 People the day prior to the conference
- Setup the Projector in the tent – 2 People the day prior to the conference
- Parking lot - 2 People 1 day prior to the conference  
Setup the parking lot to keep driveway clear
- Gallery Setup – 2 to 3 people the day prior and 1st day of the conference  
Get pedestals out of storage  
Receive and set up gallery items
- Gallery Security – 3 to 4 people during conference
- Camera - 2 to 4 people the day of the conference  
Setup cameras, cables, & TV monitor  
Run cameras during conference
- Demonstrator Drivers – 2 to 3 people prior to, after, and during the conference  
Shuttle Demonstrator between their hotel and the conference
- Trash removal 1 to 2 people during conference  
Remove trash, replace trash bags
- Photographer – 1 to 2 people  
Take photos before and during the conference, submit photos to the editor
- Retail Monitor 3 to 4 people  
Manage retail sales
- Silent Auction – 2 to 4 people  
Arrange items, complete forms, provide security
- Banquet – 2 people Saturday of the conference  
Setup food tables for banquet
- Iron in the hat sales – 1 to 2 people during the conference  
Sell Iron in the Hat tickets
- Cleanup – 4 to 6 People after the conference  
Tear down Education Tent, pack up Education Trailer, remove trash, inspect entire grounds



# Product Review

David Bridenbaugh

I found this bending jig on Etsy by Yesteryearforge for \$150.

(Also available at <https://yesteryear-forge.myshopify.com/> under the VERSA Jig tab)

It has been really handy for making small items like the candy cane and heart shown in the picture. The quality is very good. The parts fit together well without any slop or wiggle at all. It comes with a 1" hardy stem screwed from the top. It can be replaced with another size. I usually use it in the vise. The small pin will hold the end of the stock while bending. Sometimes it is easier to hold the end with Channellocks or Vise-Grips.

The candy canes are made with 6" of 1/4" square stock. Twist them, be sure to get a uniform twist along the whole length. Round the ends off then bend the hook. The hearts were made with 6" of 1/4" round stock. Draw out both ends for a total length of 8". Put a dent in the middle with a fuller chisel to get a sharp bend. Form the loops then close them together. I made a bunch and put them in the break room at the animal shelter I work at with a sign "free to good home". People really liked them.



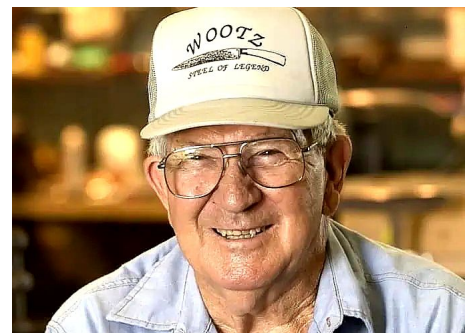
## Interesting Web Links

### The Wootz Hunter

An article in the *Craftsmanship Quarterly*

<https://tinyurl.com/yfybkbp5>

Sometime in the 1800s, long after the Persians had beaten back the Crusaders, the technique for making the mighty swords that won those battles was mysteriously lost. Then, in the 1980s, a lone horseshoer in Florida named Al Pendray started tinkering with steel recipes, determined to recreate the recipe for wootz.





## Members Gallery

### Brian Hughes

I was commissioned to make four large snakes by a welding contractor in the Verde Valley for part of a set of lighting fixtures he is making for a client. Ultimately, the snakes will sit atop the penthouse patios of the original Jerome Clubhouse on Hill Street in Jerome.

The snakes were forged from two inch square bars and are roughly 13" in diameter, 18"-20" tall, and weigh around 25-30 pounds. They are about 7' long when laid out straight.

The heads are forged first and the rest is drawn out under the power hammer. I made a scaling die for texturing. I ran the die back and forth on the snakes' backs under the hammer until I got enough texture. Of course to get the tongue in there you have to cut off the bottom of the mouth, which comes in handy

when you need a flat spot to so some twisting as you coil up the body. Putting the tongue in and welding the bottom of the mouth back together is the very last operation. To achieve the coil and bends I use a alternating combination of a C-frame forging press and a come-a-long chained to the platen table. I set up the come-a-long and used a heating nozzle on the torch to spot heat different areas to get the bends I needed. It is grueling, tedious, and heavy work ... oh yeah, it's blacksmithing!

Once the lighting fixtures are assembled, they will be powder coated and installed.

The original Jerome Clubhouse is the building on the right before you get to the Grand Hotel and Asylum Restaurant.



## AABA Calendar 2023

May 20 & 21	Demo: Liz Cameron, Heat Treating Sam Rivera, Bottle Opener & Finishes	Desert Metalcraft	Tucson
July 16 & 17	Demo: Dylan Cook	NAU	Flagstaff
September 16 & 17	Demo: TBA	Dead Horse Ranch	Cottonwood
November 18 & 19	Demo: Mark Ling	Grizzly Iron	Phoenix
December 3	Annual Banquet, Meeting, and Auction	TBA	TBA
January 18 - 19	Winterfest VI	Sculpture Tucson	Tucson

**Your dues for 2023 are due!**  
**Renew now!**  
**Don't let us drop you from our mailing lists.**

### Classes at Pieh Tool in Camp Verde

- Beginning/Intermediate blacksmithing classes taught by Dylan Cook

April 14-16, 2023

Registration is \$585.

Students will make several simple projects to take home.

- Knifemaking class taught by Master Bladesmith,

Ray Rybar

April 28-30

May 5-7

Registration is \$585.

Students will make one knife.

For full details or to register call 928-554-0700 or go to <https://piehtoolco.com>

### Xerocraft Makerspace in Tucson

Xerocraft, a Makerspace in Tucson at 6th St. and 9th Ave., is moving ahead to create a new blacksmith shop. It will be designed for teaching, doing, and developing blacksmith skills. AABA member Ed Snyder would appreciate your assistance in spreading the word, by any means, to anyone you think might be interested in getting started in blacksmithing or in building on their current skill set. Ed also needs help getting things set up and operational at Xerocraft in Tucson.

Anyone who thinks they might be interested should contact Ed Snyder at [ejblacksmith@gmail.com](mailto:ejblacksmith@gmail.com). Interested responders will be contacted only if they have questions or as plans develop and they chose to be involved.

### Deadline for the July 2023 issue

June 1, 2023 is the deadline submitting photos and articles for the July 2023 issue of *The Anvil's Horn*.

Send articles, pictures, etc. by email to:

[editor@azblacksmiths.org](mailto:editor@azblacksmiths.org)

or by regular mail to:

Bill Ganoe, PO Box 40233, Tucson, AZ 85717

### MCC Blacksmithing & Welding Class

The Mesa Community College blacksmithing program is an excellent deal - over 60 hours of instruction including material and propane! Spring classes started in mid-January 2023. Richard Rozinski and Michael Johnson are teaching various sections of the class during the week. Jaime Escobedo is teaching a section on Saturdays. Blacksmithing is listed as **WLD103** in the class schedule. Check the Mesa CC website for Summer and Fall classes. Classes fill up early, but waiting lists may be available.

For more information go to: [www.mesacc.edu](http://www.mesacc.edu)

### Welcome New Members

J. William Baker	Benson, AZ
David Anderson	Cashion, AZ
Steve Williams	Mancos, CO
Jacob Fordtner	Mesa, AZ
Eli Blest	Phoenix, AZ
Krysti Jackson	Phoenix, AZ
Michael Merillo	Phoenix, AZ
Kerry Conway	Scottsdale, AZ
Laurence Royse	Scottsdale, AZ

### We Need Your Help

Is there a project, tool, ornament you would like to see at an AABA demonstration? Is there a particular demonstrator you would like to see? Send your request(s) to the AABA 1st Vice President, Richard Rozinski, 602-803-7255 or [neongod52@gmail.com](mailto:neongod52@gmail.com)

Is there a particular project or technique you would like to see in The Anvil's Horn? Is there a general topic you would like to see covered? Send your request(s) to the editor, Bill Ganoe, by email to:

[editor@azblacksmiths.org](mailto:editor@azblacksmiths.org)

or by regular mail to:

Bill Ganoe

PO Box 40233

Tucson, AZ 85717



# AABA Website: [www.azblacksmiths.org](http://www.azblacksmiths.org)

## Open Forge: Tucson

Tucson is still working on plans for an open forge on May 6, 2023. If you are on the email list for southern Arizona, you will get a notice about the January open forge if the plans get worked out. If you aren't on that email list, send a request to [editor@azblacksmiths.org](mailto:editor@azblacksmiths.org)

## Open Forge: Grizzly Iron

Don't have a power hammer? Use one at Grizzly Iron, 1329 W. Lincoln St., Phoenix, every other Wednesday from 5:00 PM to 8:00 PM, more or less. Check <http://grizzlyiron.com/open-forge> or the **Grizzly Iron Open Forge and Workshops** group on Facebook for current details.

## Open Forge: Iron Rhino Forge

Open forges every Tuesday evening, 6 PM - 10 PM at 2051 E. Cedar St. Suite 6, Tempe  
Free to watch or \$30 to participate. Details at <https://www.arizonablacksmith.wtf/open-forge>.

## Open Forge: Desert Rat Forge (Phoenix area)

Paul Diefenderfer will host an open forge at Desert Rat Forge on Saturday, May 6, 2023 and Saturday, June 3, 2023, from 9 AM to noon followed by lunch (You gotta' buy your own.) at the world famous Big Earl's Greasy Eats in Cave Creek. Have fun with a propane or coal forge, flypress, powerhammer, widgets and gadgets.

Desert Rat Forge is at: 7645 E. Highland Rd., Cave Creek. 602-509-1543 or [dief@phoenixrockgym.com](mailto:dief@phoenixrockgym.com).

Directions: From the center of Cave Creek – 4-way stop at Cave Creek Rd & School House Rd. Head north on School House 1.2 miles to Highland Rd (if you get to the 4-way stop at Fleming Springs you've gone a tad too far) . Turn right (east) on Highland After about 1 mile the pavement ends. Please drive slow to avoid kicking up dust. As the gravel road makes a turn to the left there will be a single lane gravel road on the right with a sign for 7645. Drive down this road for bit until you see the big anvil. You are there! Park in the pullout if there is room – please do not park on top of any vegetation! If no room, return to main dirt road, park along the north edge, and walk the 700 feet back to property.

## If You Are Attending An Open Forge...

These open forges are part of AABA educational activities, but AABA does not provide funds for these events. 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 put something in the donation box to help our hosts with their expenses. Thank you! From all of your open forge hosts.

**You will need to wear safety glasses. Hearing protection is recommended. Also, observe the safety requirements of open forge hosts.**

## Classes and Events at AABA Members' Shops

### Desert Metal Craft

544 E. 24th St., Tucson, AZ

The schedule at Desert Metal Craft features a wide range of classes and workshops. Check the DMC website, <https://desert-metal-craft-108715.square.site>, for on-line events, details of specific events, and to register for each class or workshop

### Grizzly Iron

1329 W. Lincoln St., Phoenix, AZ

The schedule at Grizzly Iron features a wide range of classes, open forges, and workshops. For the current schedule, prices, and registration check the website: <https://grizzlyiron.com/core-classes/> or <https://grizzlyiron.com/master-classes/>, or go to the **Grizzly Iron Open Forge and Workshops** group on Facebook.

### Iron Rhino Forge

2051 E. Cedar St. Suite 6, Tempe AZ

The Iron Rhino Forge has a wide range of special blacksmithing and knifemaking classes, demos, and workshops with local instructors and master-level guests from around the country and the world! Details at <https://www.arizonablacksmith.wtf/>

## Tips (on Tongs)

Nicholas Downing  
Downing Arts

Below are a gaggle of tips in no particular order about the making and selecting of tongs for a variety of blacksmithing work. Anvils and hammers get all the glory, but put simply, tongs are your hands in the fire. You will probably own more of them than any other piece of basic blacksmithing equipment. Good tongs that provide a sure grip in the fire are a tremendous asset to the smith. Poor fitting tongs ill-suited to the workpiece are a dangerous liability.

**Tong tip #1: Use ‘em.** This tip is less about the tongs themselves and more of a rationalized plea to use your tongs often and well. While many blacksmithing manuals will instruct beginners to cut stock long enough that it will serve as its own handle, for the more seasoned smiths this practice is not efficient. The extra material will act as a heatsink and will lead to more heats, more scale and shorter times at the anvil.

“Well, what if I don't have a pair of tongs that fits the work properly?”, I hear you asking. What a golden opportunity to make a pair!

“Ugh, but they take so long, and they don't come out that good anyway.”, I hear you complain. Well, what a golden opportunity to improve your skills! Tong making is an exercise that, generally speaking, has the smith forge two identical components. There are tapers, there are offsets and shoulders, there are upsets, accurately punched holes and maybe even forge-welds. What great practice! What's more, the proof is in pudding. Those two components must come together and function, if they don't, you've learned something- If at first you don't succeed...

*This article was reprinted from the newsletter of  
The New England Blacksmiths, Spring 2022.*



“Can I just buy tongs?”, you whine. Sure, you can buy tongs. The internet is full of reasonably priced tongs, many of which are remarkably good quality. If you have the money, you can outfit yourself out quite nicely... (There's a 'but' coming). I am not saying that you should never buy tongs, BUT, if you do, you'll miss out on all that opportunity to improve your skills. What's more, some projects simply necessitate the making of a pair of tongs. Plus, it is one of the simple pleasures of blacksmithing to use tools that you have made, and even better when another smith admires them.

**Tong Tip #2: Seize the rivet.** When making tongs, this simple step can save you a lot of consternation down the road. It boils down to this: By making a few nicks with a chisel (or the blunt-tapered square punch like the one shown) around the perimeter of **one** of the rivet holes, and then setting the head of the rivet such that the hot rivethead is forced to key into those nicks, it fixes (prevents from pivoting) the rivet on one side. The purpose of this is perhaps more easily explained by looking at what happens when this is not done. I'm sure we've all used an old pair of tongs that got hung up in the open or closed position (or somewhere inbetween). It is extra frustrating when we've gone through the effort of re-



## Tips (on Tongs) (Cont.)

heating the boss and working the reins open and closed, thinking we'd solved the problem only to have it start again ten minutes later. These 'hang-ups' are caused by the rivet holes not being perfectly round, or the rivet being bent, or the bosses of the tongs being of inconsistent thickness, or some combination of the three. As the rivet spins in the rivet holes it pinches inconsistently. Seize the rivet on one side = no hang ups.



Note: The nicks go on the **outside of only one-half** of the tongs. The rivet, with one head already formed, should be inserted hot, from the side **without** the nicks and the second head should be formed as quickly and with as few hammer blows (ideally only four or five) as possible.

**Tip #3: Flat bottom bows.** Bolt jaw tongs should have bows that form a flat above the boss. I first heard this tip on an episode of 'The Blacksmith's Pub' Podcast from Jesse Savage, but he alleged it came from Haley Woodward. The thinking goes thus: When a piece of stock is in the bits of the tongs, its back end will tend to get pushed back towards the boss with heavy hammer blows. If this area is not flat, the back end of the stock will wedge into the angle and force the bits open. Now, if you're working with  $\frac{3}{8}$ " stock and a hand hammer, it's unlikely that the forces generated will be enough to compromise your grip, but the larger the stock and the larger the (power) hammer, the more of an issue this has the potential to become.



## Tips (on Tongs) (Cont.)

**Tip #4: Hollow bits= better grip.** You may have noticed the detent in the bits of farrier tongs. You may also have noticed that most flat-jaw and wolf-jaw tongs have a groove running down the middle of each bit. In the flat/wolf-jaw example, the function of said groove is two fold: It makes a pair of tongs able to hold small stock or a long taper, but the other function is prophylactic. As tongs wear, they take the bulk of the abuse we meet out on them on the edges of the bit. If the bits were indeed dead flat as the name would suggest, this would eventually cause the inner surface of each bit to crown slightly, making them pinch the workpiece at only two points. This results in poor grip, spinning, flopping and potentially a very dangerous situation. Putting a groove or hollow in tong bits is like tapering the struck end of a chisel. It's a little bit of extra work at the beginning but saves a lot of cursing later on.



**Tip #5: Add a notch at the transition of the bits and boss.** Similar to putting a hollow in bits like we did in the last tip, a small notch at the juncture of the bit and boss creates, when the tongs are assembled, a hollow that can grab onto points or corners of the work. After all, you can't (or at least shouldn't) hit what you can't hold. I remember this tip came to me from an old issue of The Anvil's Ring but I wasn't able to find the author in my stack of back issues.



**Tip #6: Closer to the rivet = more torque.**

This may be intuitive for most smiths but it bears repeating: The closer the workpiece is to the pivot point, the more gripping force the smith can apply by squeezing the reins. I have a pair of tongs I made specifically for gripping the poll of axes. By keeping the bits under an inch I am able to get a good secure grip while planishing cheeks and edges.

**Tip #7: When forging tongs, roll counterclockwise (or clockwise if you're a lefty)** Somewhat counterintuitively, right-handed smiths use left-hand tongs and left-handed smiths use right-hand tongs. Since the majority of the western world is right-handed, I'm going to describe the process for a right-handed smith. If you happen to be a southpaw, just reverse these instructions. How can you tell at a glance if a pair of tongs is right or left-handed? Look at the tongs tips-up, if the top half of the tongs jogges (dog-legs) to the left they are left hand tongs (for a right handed smith)

One brief note before we begin: In my personal opinion there is a touch of the dogmatic when it comes to the handedness of tongs. If the tongs are well made, the handedness of either the tongs or the smith shouldn't matter (much). one will however, on occasion, encounter a pedant who insists on the importance of using tongs of the appropriate handedness. To this individual I would say "well what about scrolling pliers which are almost always held in the dominant hand?" Or "What about adz-eye tongs which are used with the jaws vertical as often as not?" The point is, if it works for you and it doesn't cause long-term/repetitive-use injury, then it is a valid approach. Having said that, here's how to do it "properly."

I first heard this approach laid out by Ed Lutgents, who studied with Doug Wilson prior to founding Portland Barrell Co. This 'rolling' technique applies to tongs that start in the flat-jaw style. These include, but are not limited to, box-jaw, wolf-jaw, pickup, adze-eye, and scrolling tongs. They are characterized by three shoulders and three setdowns.

The first shoulder and setdown is done at the near side of the anvil, and forms the bit, the second and third shoulder(s)/ setdown(s) is/are done at the far edge of the anvil, and form the transition from bit to



## Tips (on Tongs) (Cont.)

boss and boss to rein respectively. Once the bit is roughed out (nearside) roll the tong blank 90 degrees counterclockwise and slide it to the far edge of the anvil so that the bit is hanging over the edge. Now pivot the stock away from your core until it is lying about 45 degrees to the far edge of the anvil, and start your second shoulder. The shoulder will tend to drift a little bit so start it just to the far side of your first shoulder and index it firmly against the edge of the anvil as you begin forging it. Dig in with the heel of the hammer to really flatten this area out, but beware of going too far. I make most of my tong bits out of  $\frac{3}{4}$ " square stock and I try to keep both the root of the bit and the boss a little over  $\frac{3}{8}$ " thick in their narrow dimension (over 50% the original thickness).

Once the boss area of the tong is roughed out, rotate the stock another  $\frac{1}{4}$  turn (90 degrees) counterclockwise and determine the length of your boss (I try to keep my boss roughly square- (i.e. If my stock has squished down to a little over  $\frac{3}{8}$ " in its narrow dimension it is probably approaching 1" in its wide dimension, ergo I hang about 1" of this flattened section over the anvil in preparation for forming my final shoulder and setdown). Again, it is important not to go too thin. In this style of tong, everything should taper from the boss. I like to keep everything on the thick side as it's easy enough to go back and refine once the reigns are forged or forge-welded to the tong blank.

Mark Aspery has a great description of forging and shaping tong bits & bosses in his book *The Skills of a Blacksmith, Volume 1*.



## Tips (on Tongs) (Cont.)

### Tip #8: Make your Box-jaws more versatile.

When making box-jaw tongs, make the width of the box the same as the distance from the boss to the 'wings'. This allows stock to be held in line as well as perpendicular to the tongs. On some very wide box jaw tongs this is impractical, so it's a guideline, not a hard and fast rule.

I hope these tips help you in the making and selection of tongs. If you have any questions I'm always happy to try and answer them. I can be reached at [downingarts@gmail.com](mailto:downingarts@gmail.com). Now get out there and make something.



*This article was reprinted from the newsletter of **The New England Blacksmiths**, Spring 2022.*

## Interesting Web Links

### Steel Stamps to Identify Metal Stock

A tip from ABANA:

A Tip from Kelly Kring with the North Texas Blacksmith Association, CE Blacksmithing Instructor at Brookhaven College, and proprietor of Hot Off The Anvil LLP: "The best purchase I've made for my students, and myself, was a set of 24 stamps of the most common steels types (including one for wrought iron) to help us identify what we have after any labels or sharpie ink is long gone!

When students bring in their stock and we hot stamp them with the correct identification stamp on one end. The students know they need to cut off what's needed from the "unstamped" end. No more rubbed off ink, peeled off or burnt labels!

For more, check out ABANA's public (you don't have to log in) post on Facebook, <https://tinyurl.com/bdf3sbmt>







# **Artist-Blacksmith Association of North America**

ABANA is widely recognized as the preeminent organization of blacksmithing in the world. Visit us online at **[www.abana.org](http://www.abana.org)** and like us on Facebook and Twitter. Join or renew your membership at: **[www.abana.org/membership](http://www.abana.org/membership)**

Blacksmithing, the cornerstone of all crafts for centuries, has come back to life. Once rendered nearly obsolete by the Industrial Revolution and 20th Century technology, this ancient craft has undergone a contemporary renaissance. A new appreciation of the honest, enduring qualities of forged metal has developed.

At the heart of this revival has been the Artist-Blacksmith's Association of North America, Inc., a non-profit educational association dedicated to the dissemination of knowledge about the art and craft. Started by a handful of isolated blacksmiths in Georgia in 1973, ABANA now serves nearly 4,000 members.

As part of your Membership Benefits you will receive 4 issues of the Anvil's Ring and 4 issues of the Hammer's Blow Magazine each year you are a member. These magazines can not be subscribed separately but are only received by our members. We have recently added a youth membership at a reduced rate, this membership available to those 18 or under includes a subscription to only the Hammer's Blow magazine.

## **ABANA National Conference**

June 6-9, 2024  
Johnstown, PA

Watch the ABANA website (**[www.abana.org](http://www.abana.org)**) for details as they become available.

## **New feature on the website: Smiths to Remember** at **<https://abana.org/smiths-to-remember>**

This is a page of memorial tributes to smiths who have passed on recently, such as Joe Koches, who opened and operated The Blacksmith Shop in Ferndale, CA, and Frank Turley, who taught many contemporary blacksmiths, well-known and not-so-well-known.

## **A Win-Win for You and for AABA**

Now through October 31, 2023, when you join ABANA or renew an existing membership, be sure to list your local ABANA Affiliate Organization (Arizona Artist Blacksmith Association). By doing so, both YOU and the AFFILIATE (AABA) will be automatically entered into a drawing!

Four times throughout the year, we'll do a random drawing. The individual drawn will win a 1-year membership to their local ABANA Affiliate (AABA), compliments of ABANA. The organization drawn will win \$100 to help with operational expenses, courtesy of ABANA.

Just remember to list the name of your local ABANA Affiliate (AABA) when you join or renew and we'll do the rest. It's that easy!

# Classifieds

Classified ads are free to members and can be submitted by email to: [editor@azblacksmiths.org](mailto:editor@azblacksmiths.org). Ads will run for 3 issues. You can renew your ad if you need to run it after the third issue. Please let the editor know when you no longer need to run the ad. I am including photos, but, if space runs short, photos will be dropped as needed beginning with the oldest..

**Will buy your unwanted blacksmith or horseshoeing tools and supplies.**

Barry Denton, **928-442-3290** any day before 7:00 pm.

## For Sale

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Call for photo and additional info. Len Ledet, **480-221-7411**

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- 3 sm Bench Grinders \$25 each
- Sm Gas Welding outfit on cart \$300
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## Gas Forge Building Workshop

Richard Rozinski is offering gas forge building workshops in his shop in Gilbert. Two person minimum. Call Rich for scheduling and prices.

**602-803-7255**



## For Sale

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Bernhard Heer, **715-205-8786**



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Ira Wiesenfeld, **520 780-9076** or [circleofiron74@gmail.com](mailto:circleofiron74@gmail.com).

## Basic blacksmithing and metal forming workshops

Richard Rozinski is offering basic Blacksmithing and metal shaping workshops in his studio in Gilbert Arizona. Class sizes and complexity vary. Class topics range from basic blacksmithing, copper vessel raising, pewter construction and abstract sculpture fabrication.

For details text or call  
**602-803-7255**



## Sources

### AZ Tool Steel

520 S. 52nd Street #201  
Tempe, Arizona 85281  
Phone: 480-784-1600  
Toll Free: 877-795-1600

### 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  
[www.barubar.com](http://www.barubar.com)

### IMS

Full service supplier of steel, stainless, brass, aluminum, copper. Discounts for AABA members. (See details on pg. 18.) 5150 S. 48th St., Phoenix 602-454-1500 3757 E. Columbia St., Tucson 520-441-5900

### Interstate Steel and Salvage

Specializing in Steel, Aluminum, Stainless Steel, Brass, Copper and some alloyed metals of all types, sizes and shapes. Cutting, Shearing and advanced Flow water jet cutting for all your project needs. Valley wide delivery. Let us quote your next large or small job! 12129 W Peoria Ave, El Mirage 602-944-2000

### Pieh Tool Company, Inc.

Blacksmith supplies, blacksmith classes by Dylan Cook, knifemaking and damascus classes taught by Ray Rybar, Milwaukee, Wilton & JET tools, air hammers, hand hammers, tongs, books, coal and coke. 661 Howards Road, Suite J, Camp Verde, AZ, 928-554-0700 and 28255 N Tatum Blvd. Suite 134 Cave Creek, AZ, 480-626-0924  
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### Say-Mak Power Hammers

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### Vern Lewis Welding Supply

Discount pricing for AABA members. Various locations in the Phoenix area. 602-252-0341 Dan, 602-316-4140, for tech support.

### Superior Steel Stamp Co.

Precision engraved, industrial grade stamping and marking products for any application. Brass dies for Hot Stamping Wood or Leather. Hardened Tool Steel Stamps made for marking stainless steel, forged knives/blades much more. 3200 Lakeside Ave E, Cleveland, OH 44114 216-431-6460 Industrial marking  
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Makers  
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For either, contact  
[Sales@superiorsteelstamp.com](mailto:Sales@superiorsteelstamp.com)

### Tire Hammer Plans by Clay Spencer.

Send \$30US (PayPal) to [clay@tirehammer.com](mailto:clay@tirehammer.com). Or send check/money to Clay Spencer 73 Penniston Pvt. Dr., Somerville, AL 35670. I can mail a copy or email PDFs.

### Tucson Iron and Metal

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

## AABA Membership

Benefits for members include:

Member discounts at vendors around the state: See page 18 of this issue for more details.

Reduced registration fees at demonstrations and workshops

A one year subscription to the bi-monthly newsletter, *The Anvil's Horn*

Connection to members throughout the state who can answer questions and give advice

Free classified ads in the *Anvil's Horn* and on the AABA web site.

eMail notices when event details change or new events are scheduled on short notice.

### AABA Membership Form: New Member ☐ or Renewal ☐

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2310 E. Melrose St.  
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For membership information or address change, contact:  
Terry Porter, 2310 E. Melrose St., Gilbert, AZ 85297, 480-313-7942, [trp555@prodigy.net](mailto:trp555@prodigy.net)



*Steve Williams forge welding workshop at Mesa Community College, March 19, 2023*