

The Anvil's Horn

A Publication of the Arizona Artist Blacksmith Association

Issue No. 215, March 2022



Winterfest IV, Tucson, January 13-15, 2022

President's Message

Greetings Blacksmiths,

We just completed Winterfest IV, and despite the many challenges we faced, your Winterfest Staff provided an outstanding conference! Since we had no choice but to move the venue from Pima County Fairgrounds to Brandi Fenton Memorial Park due to scheduling conflicts with the county Sheriff's Department at the Fairgrounds, it was a restart in many ways to figure out all the details that go into this event. Everyone liked the new setup, and the good news is that we'll be at Sculpture Tucson for at least the next 3 years. The county Sheriff's Dept should be done with the Old West Hall at the Fairgrounds by then and we'll make an assessment at that time to stay where we are or move back.

One of the most fun events for me at Winterfest is the competition. I do have to convince myself to do it, and the reason I participate is that I learn so much from the experience. I admit, I felt a little embarrassed at my first competition, but two of the other competitors were Gordon Williams and Jaime Escobedo. So, I didn't feel too bad when they produced some outstanding items.

Working side by side with another smith in a friendly competition builds comradery that you can't get elsewhere. I was honored to share a forge with all the competitors and anvil with George Witzke.

Richard has been hard at work selecting demonstrators for our 2022 forging year. See the schedule of

demonstrators elsewhere in this edition of the Anvil's Horn. I hope you will make it to as many as possible and join in the workshops that help to reinforce your skills as an Artist Blacksmith.

See you around the forge,



Steve Miller

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Demonstration: Saturday, March 19, 2022

Grizzly Iron

1329 W. Lincoln St.
Phoenix, AZ

Workshop: Sunday, March 20, 2022

Grizzly Iron

Workshop: Monday, March 21, 2022

Mesa Community College

Demonstrator: Kurt Fehrenbach

Kurt will demonstrate power hammer tooling. He will be making tooling and discussing the processes to complete projects on the power hammer as well as power hammer safety. He will go into more depth about these things in his workshops on Sunday and Monday.

- Registration begins at 8:00 AM, the demonstration starts at 9:00 AM.
- Registration fee:
 - \$15 for members
 - \$20 for non-members
- Lunch is on your own. There are several good eating spots in the neighborhood.
- Tailgating is encouraged. Tailgaters, please consider donating to Iron in the Hat.
- Bring things for Iron-In-the-Hat and Show-and-Tell.
 - Don't forget to put your name on anything you bring for Show-and-Tell.
- Workshops on Sunday and Monday are \$100. Contact Richard Rozinski at 602-803-7255 or neongod52@gmail.com, to register.

As always, safety glasses are required in the demonstration area.

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

Directions to Grizzly Iron

1329 W. Lincoln St., Phoenix, AZ

- I-10 (via the tunnel) to 7th Ave.
- Take 7th Ave. south to Grant.
- Turn west on Grant to 13th Ave.
- Turn north on 13th Ave. to Lincoln St.
- Turn west on Lincoln St. to Grizzly Iron (on the left.)

Our March Demonstrator: Kurt Fehrenbach

I was born 1960. My grandfather owned a drop forge company in Indianapolis. My father was a metal engineer there, and, on Saturdays, he would take me to work with him. I remember all the big hammers, the fire, the flash, and the noise. It was exciting!

When I was 10 my mom took a job at the Conner Prairie Museum, the living history museum in Fishers, Indiana. The blacksmith at the museum took me under his wing, and I was hooked. That Christmas I got a forge, a hammer, and an anvil, and I started working in a shed in our back yard. I was about 14 and companies started bringing jack hammer bits to be sharpened. In a few years I was doing over five hundred a week by hand.

Along the way, I joined a new group, the Indiana Blacksmith Association. At the first IBA conference I attended, one of the demonstrators was Jim Rubley, the blacksmith I was working under, so I helped him at the conference. The first night I was sharpening jackhammer bits, and this loud, scary guy named Clifton Ralph walked up and said, "I bet I can do those faster than you." The contest was on: me with my hand hammer, and Clifton with a 100 lb. power hammer that he had brought on a trailer. Guess who won. He didn't beat me by much, but I gained a new friend and mentor.

I think I was 17 when I got my first power hammer. It was a 50 lb Little Giant. I was doing all my work on it. My parents were great. They let me drive to Gary, Indiana on the weekends to stay with Clifton and help him with the jobs he had. I was a helper for him at most of the demos he did, so I got to go to a lot of places around the USA and Canada. I learned a lot.

When Clifton retired, they gave the local smiths the tools and equipment in his shop. A steam hammer wound up out in a field waiting on a tractor club, but they never did anything with it. Long story short, I ended up with the steam hammer. Wow! A bigger hammer! When I got it home I said I need more experience, so I took a job at Fountaintown Forge. It was an open die shop, so I went from running a 50 lb little giant to a 3800 lb steam hammer forging hubs and shafts and rings.

In 1985 I moved my little shop to the present location in Atlanta, Indiana. When I got the hammers set up I had a place to really work. I started doing work and making tools and forgings for steel mills, forge shops, and anything that walked in the door. As I got older I've been asked to teach and show people what I know. It is quite an honor to be asked to do what I've enjoyed all my life. I was born with steel in my blood

Tooling: Design for Visibility

Erin Simmons

*From His Demonstration at
Hard Rock Hammer-In 2018*

To improve visibility of tooling for use with a power hammer, Erin described how he has re-designed the handle. It loops around the tool, so that he has full visibility of the working area of the tool.



Reprinted from The California Blacksmith, January 2022,

Winterfest IV Report

Winterfest IV was held at Sculpture Tucson, a part of the Brandi Fenton Memorial Park in Tucson, from Thursday evening, January 13 to Saturday evening, January 15, 2022.

(Photos by Bill Ganoe unless otherwise noted.)



Photo by Dean Farrington

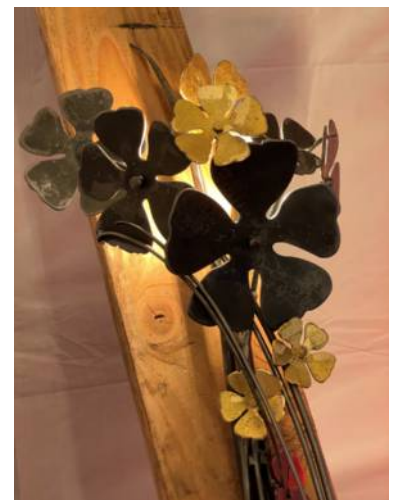


Michael Bondi, from Richmond, CA, works mostly in bronze these days. He distributed a handout covering the non-ferrous metals he works with, and he discussed the details of working with these metals. He then spent the rest of his demonstration on Friday morning creating a beautifully textured plate.

On Friday afternoon Rick Smith, Professor of Metalsmithing and Blacksmithing at Southern Illinois University, demonstrated the creation of abstract shapes using repoussé techniques.



Photo by Dean Farrington



On Saturday morning Lisa Elias, from Minneapolis, MN, created a charcuterie board and a flower lamp.

Winterfest IV Report (cont.)



Photo by Dean Farrington

Rich Greenwood, a contestant on the first season of the History Channel's "Forged in Fire" and a co-founder of the Desert Metal Craft school in Tucson, discussed some of the fine points of knife making on Saturday afternoon.



Momoko Okada, a surrealist sculptor and metalsmith in Tucson, AZ, was featured in the Little Tent Event on Friday. Momoko demonstrated Japanese Kaga-style inlay techniques and helped interested attendees to try their hand at inlaying.



Photo by Dean Farrington

On Saturday a class by Len Ledet on making grilling forks was featured in the teaching tent.



Winterfest IV Report (cont.)



Ralph McElmurry held the winning ticket in the raffel for the Alec Steele anvil.



Fred Peterson won the tools found in the Lost Dutchman's Treasure Chest



Some of the historical locks collected by Jess Hawley before his death. These locks were brought to Winterfest for informal display by David Hawkins who bought the Hawley collection.

We'd like to give a special thank you to the following people who helped put on Winterfest IV:
Sam Rivera - Sam went above and beyond to prep the new space replacing the old single barn door with double sliding doors and unloadig/ loading the Saymak power hammer, providing the forge, anvils, and tools for the demonstrators.

Dave Hallikanien for always offering to help from pre-setup to cleanup, and always being there.

Terry Porter for his constant attention to the registration table making sure attendees had what they needed and keeping track of ticket sales.

Dave Hawkins for helping with setup

Ira Weisenfeld, Joe Madrid, Tim Jackson, and Bill Ganoe as the construction crew to assist with rebuilding the barn doors,

Fred Borchardt for connecting us to Sculpture Tucson

Robin McArdle & Steve Kimbal of Sculpture Tucson for their sharing of resources and helpful knowledge.

Helmut and Rene for providing the Saymak power hammer for the conference

Leigh Morrell from ABANA.

Everyone for coming to Winterfest IV and having a great time.

Your Winterfest Co-Chairs,
 Steve Miller and Richard Rozlinski

Catching Up With The Botanical Blacksmiths

The Arboretum at Flagstaff, 2021

In 2021, we celebrated the 10th rendition of the Botanical Blacksmiths exhibit at The Arboretum at Flagstaff. The exhibit was originally conceived as a way to resurrect the annual ironwork display that had been sponsored by AABA. That exhibit had traditionally been an indoor display so Botanical Blacksmiths was a bit of a departure but still addressed the goals of letting the public know that blacksmiths were alive and well and creating a whole range of work plus giving AABA members a venue to display and sell their work and perhaps provide inspiration (or a gentle nudge!) to create new pieces.

Over the years, the Botanical Blacksmiths exhibit has included work by many different smiths from beginner to professional and even expanded to become “Botanical Blacksmiths and Friends” with work from glass, ceramic, and installation artists as well as metal artists. The exhibit has attracted visitors to the Gardens and commission on sales help out The Arboretum’s budget so it is a win/win event for all involved.

The 10th annual exhibit was up from May to October, 2021 and included over 30 pieces of ironwork created by 9 different smiths. 2021 was a great year in the gardens with a robust monsoon season supporting plenty of growth making a beautiful setting for our ironwork. It was also the most successful year to date in terms of sales, with 20 pieces in the garden exhibit selling as well as smaller pieces from the gift shop.

The Tubac Presidio, 2021/2022

After a successful run as part of Exuberance, a multi discipline outdoor art exhibit at The Presidio, we were invited back to stage the Botanical Blacksmiths exhibit for the 2021/2022 season. 12 smiths accepted the invitation and brought 44 pieces of ironwork to be part of the exhibit. The largest piece in the show is Southwest Rickshaw by David Flynn and the smallest is Mountain Top by Steve Miller. Rounding out the exhibit are wonderful sculptural pieces as well as a few functional ones such as a birdbath, garden bench, and large triangle bell. The smiths participating in the exhibit are Cathi Borthwick, David Bridenbaugh, Liz Carlier, Paul Diefenderfer, David Flynn, Jerry Harris, Grizz LaBrash, Steve Miller, Sam Rivera, James Schremp, Scot Sweebe, and Ira Wiensenfeld. See page 8 for photos of some of these pieces.

The Tubac Presidio is an historic site preserving remnants of the first fort and European settlement in Arizona. Visitors take a self-guided tour around the grounds as they visit several historic buildings. Our artwork is displayed along the paths through the beautiful desert gardens that lead to the various buildings so there is a lot of exposure for the work. The exhibit opened on November 15 and closes on March 31. Ira Wiesenfeld has offered to lead tours of the exhibit to bring even more attention to the artwork. Those tours are scheduled for February 19 and 26 as well as March 5.

Interest in the work was swift and 3 pieces sold before the exhibit had even officially opened! Sales slowed somewhat over the holidays but have picked up once again. The folks at The Presidio have been very excited to host the exhibit and are so taken with having the artwork on their grounds that they have offered to be a year round venue for artists to display and sell their work. We are still working on the details of that opportunity and will publish more information as it becomes available.

The Arboretum at Flagstaff, 2022

There have been changes at The Arboretum including the retirement of the previous director and the hiring of a new one who started work in early January. However, the good reputation of the Botanical Blacksmiths exhibit lives on and so they are looking forward to hosting the 11th annual rendition this year. Details are still being worked out as the new director gets settled in but the exhibit is planned to run from early May to mid September. An application is now available and the exact dates of the exhibit will be filled in once they are set.

All the Botanical Blacksmiths exhibits are non-juried with the only constraints being that the work needs to be appropriate for an outdoor garden setting. Past participants have included beginners as well as professional smiths. The work has ranged from spinners hanging from the pine branches to birdbaths, benches, garden stakes, plant hangers and holders, as well as a whole range of sculptural pieces.

For more details, see the Call for Entries on the page 12.

Botanical Blacksmiths Exhibit at the Tubac Presidio

November 15, 2021 - March 5, 2022

A representative sample of the pieces in the exhibit.

(Photos by Cathi Borthwick)



*Paul Diefenderfer
Butterfly*



*Steve Miller
Copper Roses*



*Ira Wiesenfeld
Flamingo*



*Liz Carlier
Lithe*



*Jerry Harris
Sunflower Hawk*



*David Bridenbaugh
Fence Post Agave*



*James Schremp
Horse Weed*



*Rodger "Grizz" LaBrash
Large Triangle Bell*



*Rock Garden
Cathi Borthwick*



*David Flynn
Directional Marker*



*Scott Sweebe
Tree Dangles*

AABA Calendar 2022

March 19	Demo: Kurt Fehrenbach: Power Hammers	Grizzly Iron	Phoenix
March 20	Fehrenbach workshop: Power Hammers	Grizzly Iron	Phoenix
March 21	Fehrenbach workshop: Power Hammers	Mesa Community College	Mesa
May 21	Grinding: It's Not Just for Bladesmiths	Desert Metal Craft	Tucson
Jun-Aug	ABANA's #366 Hooks exhibit	Sculpture Tucson	Tucson
July 16	Demo: Gordon Williams	TBA	Flagstaff
September 17	Demo: Mike Riemer	TBA	Camp Verde

Thank you to everyone who has renewed, and a reminder to those that haven't that the 2022 membership is due.

Welcome New Members

Brandon Beavers	Tucson, AZ
Steve Buell	Mesa, AZ
Mike Crussell	Sahuarita, AZ
David Kazsuk	Lake Havasu City, AZ
David & Chelle Koenig	Tucson, AZ
Mary Ann LaRoche - Seeds For Autism	Phoenix, AZ
Ralph McElmurry	Las Cruces, NM
Tomas Jesus Pimienta III	Tucson, AZ
Gabriel & Rachel Roberts	Tucson, AZ
Nick Smola	Mesa, AZ
Ed Snyder	Tucson, AZ
Scott Stanley	Glendale, AZ
Debra Turner	Queen Creek, AZ
William R. Wilcox Jr.	Tucson, AZ
Randy Wilson	Chandler, AZ

Read Carlock's wife, Wanda,

passed away in Phoenix on January 20, 2022. Read was a hobbyist blacksmith and attorney who did the most to mentor our association when we started. Read and Wanda always supported AABA with legal advice, a place to have our board meetings, and most anything else we needed, at no cost to us. Read's law firm had beautiful conference room and facilities where we would hold our board meetings. He always had one of his staff present to help us and always provided free coffee and donuts. Wanda was ways helpful and attended many of our meetings. When we were getting organized and had to file paperwork to become a 501c3 non-profit, they took care of all of that for us at no cost. Thank you Read and Wanda Carlock for all you did to help AABA become successful. - Bill Callaway

After Read died in 1999, AABA established the Read Carlock Memorial Scholarship Fund in his memory. More information on the fund and eligibility for scholarships is available at <https://azblacksmiths.org/read-carlock-scholarship/>.

#366 Hook Exhibit in Tucson

AABA is planning a hammer-in or demonstration at the opening reception for the #366 Hook exhibition at Sculpture Tucson in June. ("#366 Hooks" is the result of one blacksmith's project to make a different hook each day during 2016.) Watch for exact dates and other details as they become available.

MCC Blacksmithing & Welding Class

The Mesa Community College blacksmithing program is an excellent deal - over 60 hours of instruction including material and propane! Classes are on Wednesday during the day with instructor Richard Rozinski, Monday and Wednesday evenings with instructors Richard Rozinski and Robert Ratliff, Tuesday and Thursday evenings with instructor Robert Ratliff, and on Saturdays with instructor Jaime Escobedo. Blacksmithing is listed as **WLD103** in the class schedule.

Classes fill up early, but waiting lists may be available. For more information go to: www.mesacc.edu

Classes at Pieh Tool in Camp Verde

- Beginning/Intermediate blacksmithing classes with Dylan Cook
- Knifemaking class with Master Bladesmith, Ray Rybar

For full details call 928-554-0700 or go to <https://piehtoolco.com/contents/en-us/d1460.html>.

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 at ejsblacksmith@gmail.com. Interested responders will be contacted only if they have questions or as plans develop and they chose to be involved.

AABA Website: www.azblacksmiths.org

Open Forge: Tucson

Ira Wiesenfeld will host an Open Forge at his shop in Tucson from 9 to noon on Saturday, March 5, 2022.

Directions: Ira's shop is at 1801 W. Overton Road. Take La Canada to the intersection of Hardy (east)/Overton (west), turn west onto Overton, go down the hill, follow the curve at the bottom of the hill, and look to your left for the boat in the tree. Just before you get to the tree with the boat, turn south on Verch (watch for on-coming traffic), and take an immediate right into the driveway.

Open Forge: Grizzly Iron

Don't have a power hammer? Use one at Grizzly Iron, 1329 W. Lincoln St., Phoenix, Wednesdays from 5:00 PM to 8:00 PM, more or less. Pre-registration is required. There may be changes in dates, times, and restrictions, and those changes may be made on short notice during the COVID-19 pandemic. Check <http://grizzlyiron.com/open-forge> or the **Grizzly Iron Open Forge and Workshops** group on Facebook for current details.

Open Forge: Desert Rat Forge (Phoenix area)

Paul Diefenderfer will host an open forge at Desert Rat Forge on Saturday, March 5, 2022 and Saturday, April 2, 2022, 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 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.

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 700ft 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.**

Classes and Events at AABA Members' Shops

Desert Metal Craft

544 E. 24th St., Tucson, AZ

“Desert Metal Craft is the only school in the southwest dedicated to teaching blacksmithing, bladesmithing and fabrication together with the modern science behind the craft of metalworking.”

- Rich Greenwood

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: <http://grizzlyiron.com/classes-and-workshops>, or the **Grizzly Iron Open Forge and Workshops** group on Facebook.

CALL FOR ENTRIES

Botanical Blacksmiths and Friends 2022: Ironwork at the Arboretum

The Arboretum at Flagstaff
May – September, 2022

The Arboretum of Flagstaff is looking forward to hosting the 11th iteration of this outdoor ironwork exhibit in Flagstaff. There is a new director so we are still working out the details of the show but it will probably be open by Mother's Day weekend which is May 6 and close mid September. Exact dates will be passed along when finalized but the rest of the schedule is good for planning purposes.

As in the past, there are no restrictions on design or size, just that the work needs to be suitable for family viewing, be made for outdoor use, and fit in a garden setting. You can show work that has been at The Arboretum before but are encouraged to bring new pieces as people do remember! Work should not be so large that it can't be manually transported to its exhibit spot. The only change for this year is a question on the application asking if you'd be willing to handle shipping of your artwork if this became necessary. This came up a few times last year and we want to be able to advise a buyer if this

Work may be offered for sale and the Arboretum takes a 30% commission on all sales. When a piece sells, the buyer is given the opportunity to take it with them rather than waiting until the show closes to take possession of the piece. Most buyers choose to take the piece with them. If they do take one of your pieces, you are invited to bring in a replacement piece to keep the show looking robust. Participating artists are also invited to put work in the Arboretum Gift Shop. Smaller pieces priced at \$100 or less sell best there.

While this show is a non-juried exhibit, you are asked to send in the application and photos/details about your work to aid in planning the layout of the show (also, good photos of the work submitted are much appreciated for use in advertising of the show). Please have the paperwork to Cathi by April 17. The work can be delivered starting May 1 and needs to be in place by May 8. Please coordinate with The Arboretum staff to make sure they know you are coming up. It is best if you can plan on coming on a Tuesday or before 9 to not overlap when they are open to the public.

Please send all the application information to Cathi Borthwick at info@flagforge.com. If you have questions please contact Cathi via email or at 928-890-9609. If it's easier to mail the application, please send it to Cathi at 118 Sherwood Ln. Flagstaff, AZ 86001

Calendar

April 17 - Deadline letting Cathi know you intend to participate and submit paperwork

May 1 - May 5 – Delivery of artwork

Mid September – Exhibit closes

Mid September - Oct 31 – Pick up work

Important Information

*Artist is responsible for delivery, installation, and pick up of artwork. Don't count on help from the Arboretum staff although they have been helpful in the past.

*Artwork will be displayed in an outdoor setting. It must be able to withstand exposure to the elements and to the public.

*Artwork should be suitable for family viewing and be appropriate for a garden setting.

*Limited security is provided by The Arboretum at Flagstaff.

*Commission on artwork sold is 30%

Application for Botanical Blacksmiths 2022

Please complete and return by April 17, 2022 to:

Cathi Borthwick
118 Sherwood Ln
Flagstaff, AZ 86001
or email it to:
info@flagforge.com

Artist Name _____
Address _____
City, State, Zip _____
Daytime phone _____
Evening phone _____
Email _____
Are you willing to ship your work to the buyer if necessary? Y N

Artwork Submitted

(Images of work are not required but would be helpful if available)

1. Title _____
Dimensions _____
Weight _____
Description _____

Price OR Insurance value if NFS \$ _____
Will work be offered for sale? Y N

2. Title _____
Dimensions _____
Weight _____
Description _____

Price OR Insurance value if NFS \$ _____
Will work be offered for sale? Y N

3. Title _____
Dimensions _____
Weight _____
Description _____

Price OR Insurance value if NFS \$ _____
Will work be offered for sale? Y N

4. Title _____
Dimensions _____
Weight _____
Description _____

Price OR Insurance value if NFS \$ _____
Will work be offered for sale? Y N

Getting all the TOYS ??

Darrell Markewitz

What do you need to get started?

Over the period of varying personal isolation because of COVID, there has been an explosion of internet available information related to blacksmithing topics. With so many individuals having time available, and stuck at home, many are using this as an opportunity to concentrate on their 'hobby', even to the point of attempting to turn it into a business. Social media and YouTube contributions abound.

It would be easy to launch into a critique of the inherent problems of personal opinions, promotion over information, enthusiasm over experience. Safe to say that 'viewer beware' certainly needs to be considered.

But what I wanted to talk about was what seems to be developing, especially on Facebook 'discussion' groups, is a concept of 'You need ALL the toys, before you can start'.

Wrong!

All you actually NEED :

- a reasonably heavy, fairly flat, surface to hammer on.
- a hammer of suitable weight
- a method to heat a bar into at least red hot
- Patience!

*8th century Blacksmith's tools – grave find, Staraya Ladoga, Russia.
The hammer here is likely a jeweler's or small raising type – not for forging.*



Given my own interest in European history and the Settlement period, I often fall back to looking at what tools ancient blacksmiths had available to them. There is a lot of interest over the last decade in Viking Age objects, swords and axes especially. The smiths who made those objects (pre Christian) were most commonly buried with tools. The well known tool box find from Mastermyr (Gotland, Sweden) is a full inventory of blacksmithing and woodworking tools. Admittedly anvils themselves are uncommon as artifacts. Most typically, a single mass of iron has formed into a simple block or L shape. With the starting iron blooms in the range of 8 – 10 kg (10 – 22 lbs) the result is often hand width sized at best. The other basic tools almost always found (and the first you would make) are a straight cutting chisel, a round hole punch, and then a pair of tongs. Hammers used to forge those swords and axes? Most typically square faced cross peens, in the size range of 700 to 1000 gms (that is 25 to 35 ounces for American readers). The forges used were most often simple shallow bowls in the ground, fired with charcoal.

Having a high temperature propane forge (capable of forge welding large billets?) is nice, but not required at an entry level. Nor a high speed belt sander. Or a power hammer, or hydraulic press. Ask any of the old hands, just what they had when they started?

Interest, Will, and Perseverance

I freely admit, that having quality tools can make work significantly easier. But the real truth is that good work is based on practice. (I worked on a piece of rail track for an anvil for at least the first three years when I started, a coal forge cobbled together from cast off parts with a vacuum cleaner as blower).

So my best advice? Just get started !

- Skill will come with time.
- Expect to work up to better tools, and more specialized equipment, as your accumulated experience suggests.
- There is no 'absolute perfect' hammer (despite what people selling hammers say, this is a highly personal choice, based primarily on body type and working style).
- Time spent developing hand technique will most definitely pay back, even if later you invest in power assisted forging machines.

Some related commentaries from my own blog at <https://warehamforgeblog.blogspot.com> :

Basic Tools for Blacksmithing:

‘What do I need?? Part 1, Forging’ - April 2020

<https://warehamforgeblog.blogspot.com/2020/04/what-do-i-need.html>

‘the Big Box...’ (student tool set) - March 2018 :

<https://warehamforgeblog.blogspot.com/2018/03/big-box-jay-has-on-stage.html>

On Hammers :

‘Getting Hammered’ (part 1, shapes) - February 2018 :

<https://warehamforgeblog.blogspot.com/2018/02/getting-hammered.html>

‘Getting Hammered 2 – Dynamics’ - March 2018

<https://warehamforgeblog.blogspot.com/2018/03/getting-hammered-2-dynamics.html>

‘Getting Hammered 3 – Setting Up’ - March 2018

<https://warehamforgeblog.blogspot.com/2018/03/getting-hammered-3-setting-up.html>

(A general search of the over 1000 commentaries on the blog is sure to find other segments of interest!)

Author’s Note : This is an expanded version from the original that appeared in the Ontario Artisan Blacksmiths Association (OABA) newsletter, *The Iron Trillium*, Fall 2021, prepared at the request of Bill Gano of the Arizona Artist Blacksmith Association (AABA)

Note: © 2022, Darrell Markewitz (please contact the author before re-printing)

Darrell Markewitz lives in Central Ontario, Canada and first started blacksmithing as an art student in the late 1970’s. He went on to work as an interpreter / demonstrator at a number of living history museums (and time periods). He established the Wareham Forge in 1992 as a full time operation, specializing in ‘Historic Reproductions in Metals’, as well as commissioned work with a stress on design. Over the last three decades he has offered regular weekend workshops and taught blacksmithing at a college level. He has a lifetime of study of the Viking Age, including experimental research into bloomery iron smelting. The Wareham Forge website is at: www.warehamforge.ca



AABA President, Steve Miller (right), and AABA 1st Vice President, Richard Rozinski (left), at the ABANA Iron to Art Festival in Johnstown, PA, in October 2021. They were touring the blacksmith shop of the historic Cambria Iron Co. (later part of the Bethlehem Steel Corp.) in Johnstown.

Book Review: Knife Engineering

By Albin Drzewianowski

Title: *Knife Engineering: Steel, Heat Treating, and Geometry*

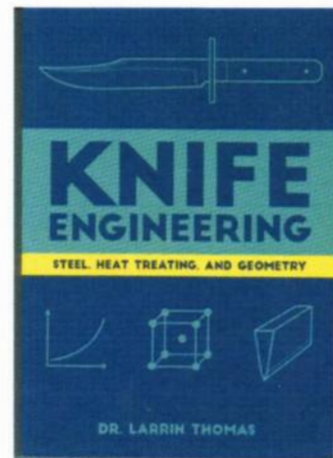
Author: Dr. Larrin Thomas

Publisher: Self-published 2020

ISBN: 979 8 621 84887 3

442 pages including hundreds of graphs, micrographs and drawings; References; Appendices: *Heat Treat Recommendations*, *Steel Designations Comparison Chart*, and *Knife Steel Suppliers*.

After the *Introduction*, there are four major sections: *Steel and Knife Properties*; *Knife Steels and Their Metallurgy*; *Processing and Heat Treating Steel*; and *Knife Making*. Each chapter concludes with a summary of what was presented in the chapter. The author has a PhD in *Metallurgical and Materials Engineering*. He works in Pittsburgh developing new steel grades for cars.



I am not into knife making per se, but I do make tools from hard steels sometimes with sharp edges that need to be heat treated. I have found in the past that reading and studying "knife making" books to be helpful in understanding and perfecting my tool making.

If you just flip through the book, all of the tables, graphs and micrographs make the book look intimidating. However, a stated goal of the author is to break down the individual elements one at a time and thereby simplify things. His goal is to make things as simple as possible, even when they can appear complicated on the surface.

Discussions that were of particular interest to me as a non-knifemaker:

Chapter 2: The Structure of Steel is an especially good discussion of the structure of steel at the atomic level.

As a person who uses knives, *Chapter 7: Sharpness and Cutting Ability* was particularly interesting.

Chapter 25: Heat Treating Process and Equipment.

Chapter 27: Laminated Steel and Damascus Steel. Especially his statement: "*Claimed improvements to edge retention of wootz or pattern-welded Damascus steel (relative to conventional steel) have not been confirmed experimentally*".

I cannot say that I read the entire book cover to cover, but I did read most of the chapter summaries and gained a lot of insight from those summaries. I believe that future heat treating of tools I make will be improved for having read parts of this book. I am pleased with this purchase and can recommend it to blacksmiths, even if you do not have a burning passion for making knives.

At the time of this printing, the book is available from AMAZON for \$33.61.

Reprinted from Hammer Notes, newsletter of the Mid-Atlantic Smith's Association, Fall 2021.

This book is also available directly from the publisher, usaknifemaker.com [Ed]



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 and like us on Facebook and Twitter. Join or renew your membership at: www.abana.org/membership.

The Arizona Artist Blacksmith Association is an affiliate of ABANA.



ABANA 2022

May 11 - 14

North Texas State Fairgrounds

Denton, TX

Details and registration at: https://www.eventsquid.com/event.cfm?preview&event_id=12981

ABANA Education Grants

"Since its founding in 1973, ABANA has been committed to the education of its members. The purpose of the ABANA Scholarship Fund is to provide financial assistance to our Affiliates and members to assist them in the development of blacksmithing skills and abilities."

Available to:

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Individuals (who are individual members of ABANA)

<https://abana.org/education/scholarship-grants-and-scholarship-reports/>

Classifieds

Classified ads are free to members and can be submitted by email to: 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

- 1 **Nazel 2b Forging hammer** with 3-phase motor, dies, and oiler, \$13,000.
 - 1 **Little Giant 25 lb. power hammer**, single-phase. \$2,500.
 - 1 **Little Giant** (not the one above) 25 lb. power hammer, single phase. \$3,000.
 - 2 **5'x5' Acorn type platens**, \$2,500 each or \$4,000 for both.
 - 4 **Post Vises**. Jaw widths: 4" for \$150, 4 1/2" for \$150, and two 6" for \$350 each..
- Note: these are rusty and will need to be cleaned and lubed.
- 1 **P&H 300 amp Stick/TIG welding machine**, single-phase w/ foot pedal, no leads, torch, flow meter, or bottle. \$300.
 - 1 **Cincinnati/Greeves** Vertical/Horizontal milling machine, w/ 10"x54" power feed table and tooling, 3-phase. \$1,500.
 - 1 **3-ton air-powered crane hoist**. \$450

All items are located in Buckeye, Arizona. These prices include loading onto your trailer/truck. I can offer curb-side delivery for an additional fee.

Contact: jaegermax@msn.com
Please put "AABA Equipment" in the subject line so I don't delete it as junk.

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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

Titanium Tongs - All sizes and shapes, 50 pairs. Get them while they last. \$100 per pair.
Bernhard Heer, **715-205-8786**

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
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Wrought Iron. 1 1/4" x 5" x 48".
I have a few. \$100 ea.
Coal Forge, comes with some coal. I can text photos. Price is negotiable.
Dan Jennings, **480-510-3569**

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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

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Tire Hammer Plans by Clay Spencer.

Send \$30US (PayPal) to 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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Address _____

City _____

State _____

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Your main blacksmithing interest _____

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Please check one:

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Mail to: Terry Porter
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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 \$35 for individuals; \$40 for families and includes a subscription to the *The Anvil's Horn* for one year. Every attempt has been made to ensure 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 organization 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: Bill Ganoe, P.O. Box 40233, Tucson, AZ 85717, Tel: 520-326-5478, or editor@azblacksmiths.org.

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

Thank you to everyone who has renewed, and a reminder to those that haven't that the 2022 membership is due.



People who came out for the Open Forge at Paul Diefenderfer's shop on January 1, 2022.