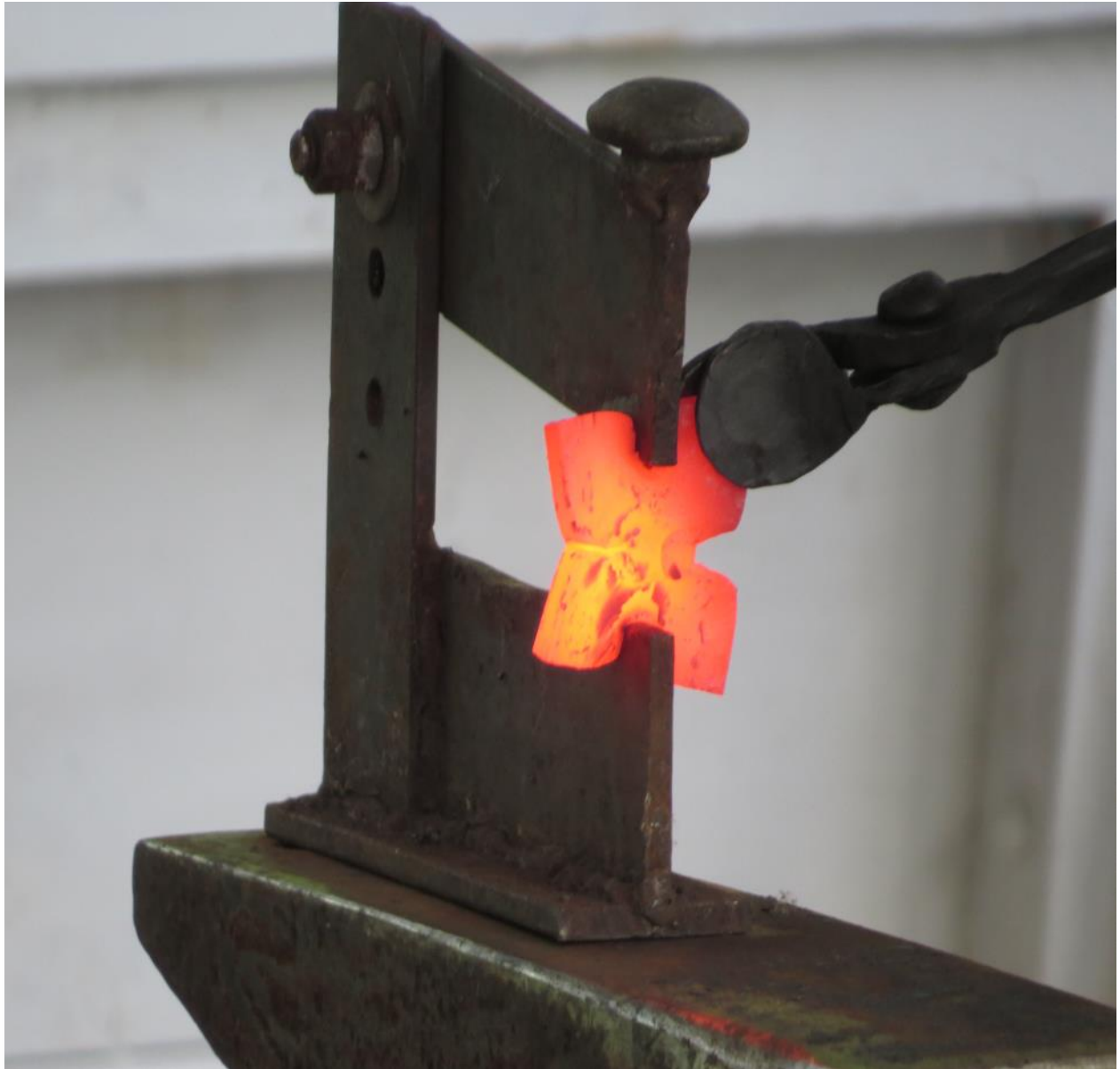


BAM

May / June 2018

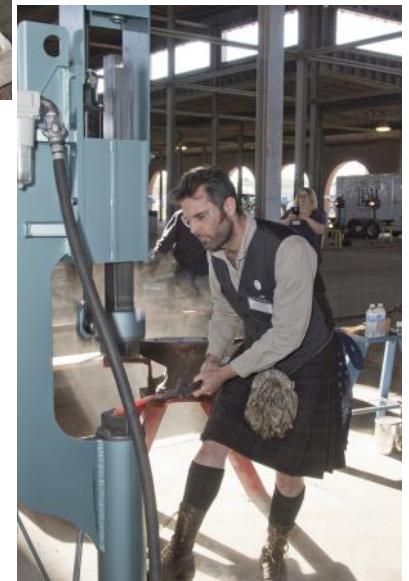


May / June 2018
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Blacksmith Association of Missouri

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Membership Application

Name: _____

Address: _____

City: _____ State: _____

Phone: () _____

Zip: _____

E-mail: _____

New Member Renewal ABANA member

Are you interested in taking a class?

How did you learn about BAM?

ABANA Membership Application

Primary ABANA Charter Affiliation: _____

Name: _____

Address: _____

City: _____ State: _____

Phone: () _____ Zip: _____

New Member Renewing Member

Includes a Subscriptions to the Anvil's Ring and The Hammers' Blow magazines

Regular Member -----\$55 yr.

Senior Citizen (Age 65+) -----\$50 yr.

Full time student -----\$45 yr.

Overseas airmail -----\$80 yr.

Overseas surface mail -----\$65 yr.

Contributory-----\$100 yr

President Report

By: Steve McCarthy

The 2018 BAM conference is over and done, and what a time we had. Great demonstrators, great fellowship, and great food. As always, none of this would be possible without our volunteers. This was Michael Gorzel's first Conference as coordinator, and I would like to say congratulations and thank you.

There is a host of other people that make this happen. Starting early Thursday morning, and throughout the day people were unpacking trailers, moving equipment and setting up demo stations. The gallery was put together wonderfully, tickets were sold nonstop and the boutique was always staffed. Classes were taught, stock was cut and delivered and the list goes on and on. There is no way I could name everyone that helped without forgetting somebody, but you all deserve a big heartfelt thank you. The potluck dinners have absolutely exploded. The food tables were full each night. It is really good to see this event grow each year. Good friends and good food are always a winning combination. This conference was also a little on the somber side with the absence of departed friends. After the forging contest Friday night, anvils were rang for Preston Williams and Phil Cox. For those who don't know, tapping the anvil is an old tradition to honor and say goodbye to blacksmiths who have passed on. Thanks to all who participated in the Phil Cox nail memorial that was presented to Margie. It was a wonderful group effort that turned out very nice.

The June meeting at NEDCO Forge was a pleasure as always. The weather was a little warm but not terrible. Ned and Ester are terrific hosts and very involved in their community. As payment for lunch, they always ask for canned food donations. This is then given to the local food pantry. I am a little embarrassed to say that I cannot remember the name of the demonstrator. I did not write it down and it has just escaped me. He did put on a good demonstration though, showing different techniques and forging a dogwood flower, ram's head, scorpion, and cube twist. What impressed me most though, is that he is also a surgeon. As I look at the cuts and mashed fingers on my own hands, I cannot imagine having blacksmithing as a hobby if my hands were that important to someone else. I am just not that careful. Good job sir.

The next meeting will be at my shop on July 21st. Lori and I are excited about hosting our first meeting. I have a lot of cleaning to get done in just a few short

weeks. I have started on it and can almost walk end to end of the shop without tripping over anything. I promise it will be in shape by demo time. Speaking of that, did I mention this will be my first public demo of any kind? Please go easy on me. There will be a local lunch truck set up or you are welcome to bring your own. I have a few chairs but if you bring a lawn chair along with you that would be good.

Until we meet again, Happy Hammering.

Steve McCarthy



Editor's Ramble

By: Jon McCarty

Hello everyone, I don't have much this time around. I wanted to make sure everyone noticed my phone number changed. It is now 636-432-4468. Please contact me if necessary. Heather and I apologize for this late issue. We are working out some kinks in some new software. We will be back up in running an on schedule going forward. We apologize for any inconvenience.

2018 Conference Report

By: Bob Stormer

After a pretty busy day for those who arrived early to set up a lot of the equipment, the boutique, registration area, and the facility preparations, the 1st Phil Cox Memorial Potluck Dinner was set up Thursday night and enjoyed by a lot members and families. After the potluck dinner President Steve McCarthy opened the 2018 BAM Conference by starting the forge fire with a flint and steel to make a couple large nails. See Figure 1. Members were encouraged to put their touchmarks in the heads of the two nails that were made. Steve also introduced the three demonstrators: Jose "Pep" Gomez, Fred Crist, and Mark Hopper.

Following the Friday demonstrations, the potluck dinner was repeated and more friendships renewed. After the dinner, the traditional forging contest was conducted. Mathew Burnett explained the rules and objective. Starting with 1/2" square stock 4" long, upset the piece to form the most accurate cube in eight minutes. I think there was about 15 to 20 participants. The three winners would be announced at the Saturday dinner/auction.

To close the activities for Friday evening Steve McCarthy invited everyone to ring the anvil for Phil Cox and Preston Williams. Due to the quantity of people participating in this traditional event, two anvils were set up and each participant rang the anvil twice, once for each honoree, who we sadly lost since the last conference.

Following the Saturday demonstrations and the dinner in the FFA building, the drawing for the beautiful knife made and donated by Kan Markley as a raffle prize to benefit the Preston Williams scholarship fund was conducted. Mark Lawson won the raffle. President Steve McCarthy then conducted a short business meeting. At the meeting Steve introduced Mark Lawson as the recipient of the Bob Patrick Founders Award for 2018 and Walt Hull as the recipient of the Life Member Award for 2018. See Figures 2 & 3. Colton Kiso, who won the "promising young blacksmith" award presented by Scott Wood at the 2017 BAM Conference, chose Brock Boland for the award, and presented him with a wooden toolbox equipped with appropriate blacksmith tools.

Mathew Burnett announced the winners of the forging contest. 3rd place went to Bill Moffet, 2nd place went to Colton Kiso, and 1st place went to Matthias Penn.

(see Figure 4 not pictured Mathias Penn.)

An ABANA representative was present with 2018 ABANA Conference raffle tickets for the 50lb Little Giant that Phil Cox had repaired.

2018 BAM Conference chairman Michael Gozel thanked the volunteers and demonstrators. He also thanked Ken's Iron for providing a large hammer for the Fred Crist demo, and Tony Brooks for conducting the auction. Karen Bouckaert thanked ABANA for being a Site Sponsor, Dick Nietfeld of Shady Grove Blacksmith, John and Mickey Elliot, and Al of Astragal Press, all for being Conference Sponsors.

Walt Hull thanked everyone who submitted items for the gallery and announced Andy Martin as the winner of the "Peoples Choice" Award for the Leather Chair with ornate ironwork fittings. See Figures 5 & 6. The MTS Trailer was being taken to Kent Harbit's after the conference and a volunteer is needed to haul it to Ken Jansen's before the ABANA Conference so he can take it to their conference.

The toolbox and belt grinder raffles were conducted Sunday morning after cleanup. The toolbox winners were Brigid Woods, Mark Lawson, and Mike Gentzsch. The belt grinder winner was Bill Miller of St. Louis. Dennis Marshall won the use of the treadle hammer for a year. Congratulations to all winners and



Figure 1

many thanks to all who supported BAM by buying tickets and/or supplying time and material.

Figure 2



Figure 4



Figure 3



Figure 5



Figure 6



2018 Conference Tool Box Raffle

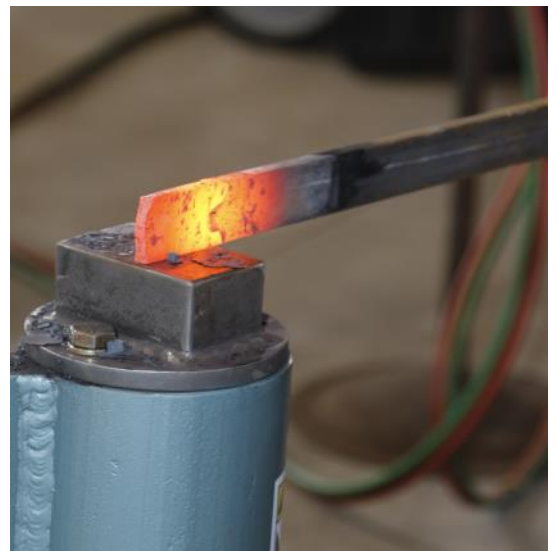
Item	Box 1	Box 2	Box 3
Tool Box	Mike Gentsch	Mike Gentsch	Mike Gentsch
3/4 inch slot punch	Ken Jansen	Ken Jansen	Ken Jansen
3/4 inch drift	Ken Jansen	Ken Jansen	Ken Jansen
Center punch			
Small cross Peen Hammer			
Large cross Peen Hammer			
Ball Peen Hammer	Mike Gentsch	Mike Gentsch	Mike Gentsch
Hot Chisel (handled)	John Sherwood	John Sherwood	John Sherwood
Cold Chisel			
Hardy (hot cut)	Mike Gentsch	Mike Gentsch	Mike Gentsch
Tape measure (sewing)	Santo Giuffrida	Santo Giuffrida	Santo Giuffrida
Steel Ruler	Santo Giuffrida	Santo Giuffrida	Santo Giuffrida
Tape Measure	Tom Patterson	Tom Patterson	Tom Patterson
Tape Measure	Scott Stager	Scott Stager	Scott Stager
Blacksmith Ruler	Richard Miles	Richard Miles	Richard Miles
Scribe	George Rousis	George Rousis	George Rousis
Soapstone & Holder	Santo Giuffrida	Santo Giuffrida	Santo Giuffrida
Twisting Wrench	Mike Gentsch	Mike Gentsch	Mike Gentsch
Bending Fork (hardy mounted)	Mike Gentsch	Mike Gentsch	Mike Gentsch
12" measuring tool w/ handle	Mike Gentsch	Mike Gentsch	Mike Gentsch
Hot rasp	Tom Patterson	Tom Patterson	Tom Patterson
Bolt tongs			
1/8 inch tongs			
1/4 inch tongs			
3/8 inch tongs	Mike McLaughlin	Mike McLaughlin	Mike McLaughlin
1/2 inch tongs	Bernie Tappel	Bernie Tappel	Bernie Tappel
5/8 inch tongs			
3/4 inch tongs			
1 inch tongs			
1/4 x 1 inch tongs			
Tong kit			
Eye nostril punches	Bob Stormer	Bob Stormer	Bob Stormer
Flux spoon			
Forge Welding Flux (borax)			
Gloves	Mark Stanley	Mark Stanley	Mark Stanley
Thickness Gauge	Don Davies	Don Davies	Don Davies
Hardware assortment	Don Davies	Don Davies	Don Davies
Cone	Don Davies	Don Davies	Don Davies
Chain	Don Davies	Don Davies	Don Davies
Apron	Don Davies	Don Davies	Don Davies
Center finder			
Vice mounted bending jig	Bob Stormer	Bob Stormer	Bob Stormer
Brass Brush	Mike Gentsch	Mike Gentsch	Mike Gentsch
Wire Brush			
Infrared Thermometer			
Gun			
36 Piece Stamp Set			

2018 Conference Tool Box Raffle Cont...

Item	Box 1	Box 2	Box 3
Safety Glasses	Bernie Tappel	Bernie Tappel	Bernie Tappel
Safety Glasses	Mark Stanley	Mark Stanley	Mark Stanley
Railroad Spike Twisting Tool			
Water Dipper	Mike McLaughlin	Mike McLaughlin	Mike McLaughlin
Stanley 12 inch tool bags			
Rethreading dies			
Drill bit gauge	Dennis Marshall	Dennis Marshall	Dennis Marshall
Magnet	Ned & Esther Digh	Ned & Esther Digh	Ned & Esther Digh
Cable ties	Ned & Esther Digh	Ned & Esther Digh	Ned & Esther Digh
Halogen work light	Ned & Esther Digh	Ned & Esther Digh	Ned & Esther Digh
Impact adapter set	Ned & Esther Digh	Ned & Esther Digh	Ned & Esther Digh
Folding utility knife			
C-clamps			
Screwdriver set (100 pieces)			
Combination square			
Drawing tool kit			
Digital calipers			
12 inch tool bags			
4 1/2 inch angle grinder			
Diamond sharpener			
3 piece dead blow hammer set			
Hex key set			
Brass calipers			
Railroad spikes	Tom Patterson	Tom Patterson	Tom Patterson
Mechanic's gloves			
Forge Mop			
Tiger Paw Grinding wheels	Mark Stanley	Mark Stanley	Mark Stanley
Grease cleaning wipes			
Locking clamp			

On Sunday morning the winners of the BAM grinder from the Grinder workshop, air hammer for a year's use and the three BAM toolboxes were drawn. Hammer went to Dennis Marshall, Grinder went to Bill Miller, and Mark Lawson, Brigid Wood, and Mike Gentsch won the three toolboxes.

Fred Crist Demonstration at 2018 BAM Conference Photos



Mark Hopper Demonstration at 2018 BAM Conference Photos



Forging Class at 2018 BAM Conference Photos



Pep Gomez Demonstration at 2018 BAM Conference

By: Bob Stormer

This write-up will be more like a collection of my notes from the Pep Gomez demonstration at the 2018 BAM Conference than a detailed “how-to” document. He had a lot of prepared material he brought with him to save time on the less interesting parts of his demonstration. He handed out a very useful 12 page outline of what he was planning to do, as he titled it “The Game Plan - If All Goes Well”. A copy of his document is available on the BAM website under Reference Material. It would not be practical for me to include the whole document in this article since it would take up too many pages in the newsletter. For the most part my notes will supplement his outline, so it would be a good idea, I might even say necessary, for you to have a copy of that document. Also, my notes do not address ALL aspects of his outline since I tried to spend some time watching the other demonstrators as well. For those who couldn't attend his demo my notes should help a little bit, but I strongly urge you to watch him in person if you ever have a chance.

Pep mentioned a number of times that he prefers a large trip/air hammer to a hydraulic press. The reason for this is that a press will suck the heat out of the billet faster due to constant contact versus the short term contact time of the hammer. The second reason is that the flux will build up on the dies of the hydraulic press more than on the hammer, and mar the surface of the material. That being said, he also added that the hydraulic press Chris Owen provided was one the best designed and built presses he had used.

“Preparation of a Billet” involves the selection of at least two contrasting steel colors as mentioned on his outline to provide good pattern visibility. The dark colors (higher carbon content) should be use on the outside edges of the billet since they are the more harden-able steel. The mill scale should be cleaned off to improve welding probability. There are a couple ways to clean the mill scale off of the steel. Using cup stones with an angle grinder is best mechanical method, and the use of Sodium Bisulfate (available at Walmart in the pool chemical section) is the best chemical method. You can also use muratic acid to de-scale the steel, but be very cautious about mixing it. Use ¼ acid to ¾ water and NEVER add water to acid – always add the acid to water, and don't store it in the shop. Walmart sells Super Tech (blue can) carburetor cleaner that is also good for cleaning steel.

When you are building a layered stack do not use bailing wire to hold the layers together. Tack welding is much better method. A good idea he mentioned and demonstrated here is to add a tack weld line on both sides of the billet to act a guide for where to cut and fold the billet. Obviously those weld lines should be half way between the two ends. Another tip that Pep passed on that makes a lot of sense is to weld a stub of 1/2” square stock about 3” long onto the billet instead of welding on a long handle. With the stub and the use of a good set of tongs that fit the 1/2” stock you can let the tongs cool down every time you return the billet to the forge. With the long welded handle it can be cumbersome and eventually the heat will travel up the handle.

Under his outline topic of “Welding Sequence” I added the following notes. Anhydrous Borax (borax without water) is the best flux. In one of his demonstrations he used WD-40 for the flux. Some of the popular welding fluxes contain metal particles and should be avoided because the metal particles will add little specks to your patterns. Another tip regards heating the billet to the same color as the inside of the forge, which should be at 2350°F welding heat. Rotate your billet occasionally so all sides get an even heat and you compensate for any temperature differences in your forge. Flux will destroy the floor of a forge, but one way to minimize this is to coat the forge with “Bubble Alumina” mixed with water into a slurry. The next major topic he covered was the “Hand Welding vs Power Hammer”. I didn't have many notes on this section, partly because his outline is self explanatory, and partly because I may have wondered off. You don't need to use a lot of flux. A small amount will work just as well. One thing he mentioned was that on the larger billets the outside layer has a tendency to buckle before the inside layers get to welding heat. One way to minimize this is to use thicker material on the outside layers. Of course that may change the pattern you are trying to achieve.

In the “Basic Patterning” section he addressed some of the various patterns that are popular for damascus and the two primary ways to achieve them. One method is to press the pattern in the billet and then grind off the excess material to get the thickness desired. The second method is to drill, in the case of the raindrop pattern, divots into the billet then forge it

down to the desired thickness. When drilling or grinding to achieve a pattern, the unmolested center section of the billet must be at least the thickness of your desired finished billet. For a ladder pattern you start with the welded billet being 1/2" thick and grind 1/8" wide grooves, 1/4" apart and 1/8" deep. The top edge of the grooves needs to be chamfered to avoid getting cold shuts when you finish the forging. In each case the billet width should be what you want for a final width since you cannot forge on the edge of the billet without distorting the pattern. If you are doing cable damascus you need to completely weld both ends closed so there are no loose strands. Weld your stub on one end and heat it up. Then twist the cable to unwind it so you can clean some of the junk out of the center. You can then twist it back together as tightly as desired and use a v-block to help push on three sides as you are welding it.

Under the "Developing the Pattern" topic he discussed how to develop the pattern using ferric chloride as an etchant. Pep uses 1 part ferric chloride to 3 parts water, and recommended NOT using softened water for the etchant solution. You can also get medical grade powdered ferric chloride from Amazon. This may be cheaper than using the liquid ferric chloride. After etching your pattern you need to protect it by cleaning it with something like Windex. Windex with ammonia is a good choice. After cleaning, adding a permanent layer of protection is important to keep it from rusting. WD-40 is good for the short term protection, and Kroil is good for long term protection, and is also available from Amazon. The best long term protection is Renaissance Wax, available from any knife supply company.

The next topic Pep covered was "Powdered Mosaic". As an important safety note Pep mentioned that nickel powder is very dangerous to breath, and wearing a respirator when using any powdered steel is a good idea. If you are planning to make mosaic damascus using the can method using aluminized exhaust tubing is a good idea since it will not weld to the contents of the can. Using "whiteout" to prevent the can from welding to base material is also a good idea. When filling the can with small parts surrounded by powdered metal make sure you tap the can frequently to settle the contents before putting the lid on. You can use a vibrating sander to settle the powder material. Include a small piece of paper or cardboard or a few drops of kerosene to help burn off the oxygen when heating the can. Leave a very small hole in the top of the can for the air to escape. Put the billet in the forge slowly, with the end with the hole going in last. When you see the smoke coming out of the hole you'll know

the oxygen is burning off. As mentioned in his notes, you must leave the billet in the forge long enough for the core material to reach welding heat. Another safety hazard is Phosgene gas that can be produced when burning some lubricants and freon.

During Pep's demo he mentioned that he welcomed "glitches" in his demo so he could talk about it and show us how to address it. One "glitch" occurred as the outside layer of a multilayer billet had a bubble in it. If you look at Pep Figure 1 you can see the dark spot in center of the billet. That's the part that's not welded. To fix it I believe he separated that layer along the edge added a little flux and re-welded it. I included a couple of pictures of items he worked on during the demo. In Pep Figure 2a you see the powdered mosaic can he made before coming to the conference and 2b is the finished piece he donated to BAM. Pep Figure 3 shows the difference between each method of making a raindrop pattern. The top piece was made by pressing balls into the billet using Chris Owen's press and the grinding the excess off to get to the pattern. The bottom piece was made by drilling into the billet and then forging it to the final thickness.

In addition to the topics in Pep's outline that I referenced above there is a lot of reference material on the last five pages of his outline/handout. Once again, if you don't have a copy, get it from the BAM website under reference material, or if you don't have computer access ask someone to download it for you.

Figure 1



See page 19 for a additional photos

Pep Gomez Demo. Article cont. from page 13 / 14



Figure 2



Figure 2b



Figure 3

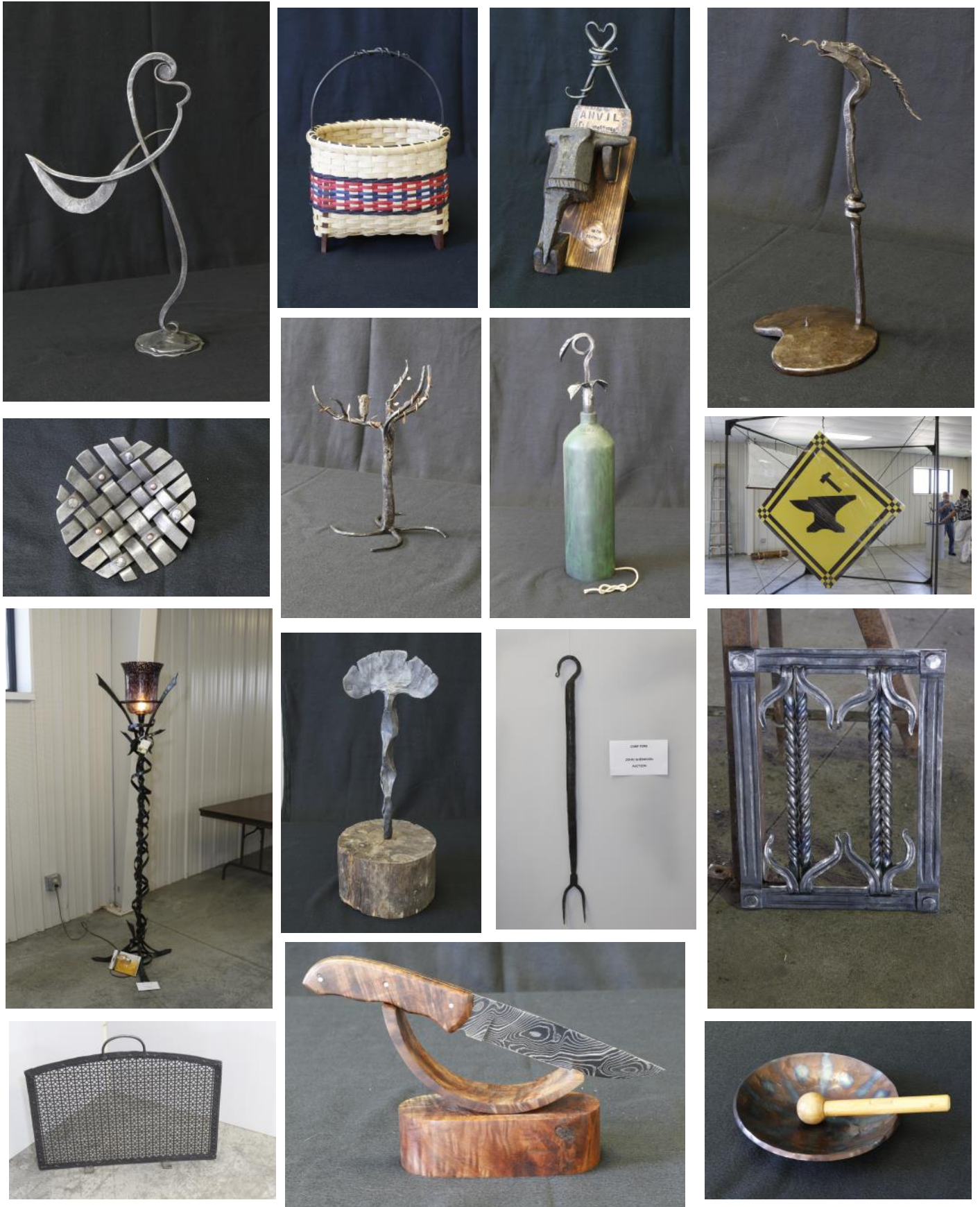
Pep Gomez Demonstration at 2018 BAM Conference Photos





Dr. Iron's Slackwater Gallery





There were so many great entries into the gallery, due to limitations, we were not able to input all of them into the newsletter. All of them were amazing pieces.

Trade Items ~ June Meeting



Made By: Jon McCarty
Traded To: Don Anders



Made By: Steve McCarthy
Traded To: Dennis Marshall



Made By: Bob Stormer
Traded To: Chris Miller



Made By: Don Anders
Traded To: Willy Bagley



Made By: Chris Miller
Traded To: Steve McCarthy



Made By: Ken Jansen
Traded To: Jon McCarty



Made By: Santo Giuffrida
Traded To: Pat McCarty



Made By: Bob Eckert
Traded To: Tom Patterson



Made By: Pat McCarty
Traded To: Terry Smith



Made By: Tom Patterson
Traded To: Bob Eckert



Made By: Willy Bagley
Traded To: John Sherwood



Made By: Terry Smith
Traded To: Ken Jansen



Made By: Dennis Marshall
Traded To: Santo Giuffrida



Made By: John Sherwood
Traded To: Bob Stormer

To My BAM Family:

It is very difficult but very necessary to write this letter to all of you. The outpouring of love and support during the time of Phil's passing was tremendous for myself and my family. I was overwhelmed at how many of you came to his funeral. I know most of you traveled a long distance to support me and my family which was so much appreciated. To have Phil's niece give the eulogy for him and the subject was blacksmithing, whose hand was in all of this? We know who it was. Leslie said she could spot the blacksmith group at how they looked at her, smiled and sometimes nodded your heads. She told me she knew nothing about blacksmithing except that it pertained to a fire. She went to work to find out all she could as she knew how much Phil loved the blacksmith work.

I knew it would be difficult to attend the annual conference in Sedalia this year but I also knew I would receive love and support from all of you. I had no idea the length of love and work you all went to in the memorial of Phil. There is no way I can thank you enough for everything that was done in his honor. From the Phil Cox Memorial Potluck banner to the gallery display of items that people had bought from him, won in a trade item or gifts he had given. Then the conference t-shirt was truly a surprise to me. When I wear the shirt, Phil has my back as he has always done all of our time together. Then there is the Phil Cox Memorial block with the 77+ nails in it. To my knowledge there are 4 ladies that made a nail also. From ages 12 to 70+ years old, blacksmiths made nails to put into the block. It has a special place in my living room along with the nail made at the Thursday night opening ceremonies. The stories about Phil that I heard from Patti and Bernie; Karen B, Heather Mc Carty and Ken J. helped to fill the void in my heart. I knew I could not attend the Friday night "ringing of the anvil" ceremony but to receive the hammer used for that is so special. Thank you, Steve, for the story of initiating your new anvil for this. I had no idea what would happen at the auction when the two hammers were held up and money raised for BAM. The support this group gives to any of us who have had any kind of loss is outstanding.

Phil and I have always talked about what a wonderful group this BAM organization is. It is a family oriented group. The blacksmith's have their connections, but the women have become very close and feel like we are a part of the group. You seem to find common ground whatever meeting you are at and enjoy the company of one another.

The surprises just kept coming as I saw the March-April newsletter on line the other day. It was hard to look at and read as the tears just kept coming as I know how much each of you love this guy. I will not be a stranger to this organization. I want to come to meetings as I can. Your love and support is such a blessing to me. I am so thankful to be a part of this group.

Margie Cox



Meeting Minutes ~ June Meeting

By: Bob Stormer

President Steve McCarthy opened the meeting by thanking Ned and Esther Digh for hosting the meeting. He also thanked the demonstrator, Drew Johnson. Bruce Herzog, the BAM Treasurer couldn't attend the meeting so Steve gave the treasurer's report. We now have 649 members. The conference did well financially and had attendance slightly under last years. The auction set a new record.

Michael Gorzel, the conference chairman for 2018 and 2019 gave a brief conference report and said one demonstrator, Jim Hoffman was signed up for the 2019 conference, and Michael is still looking for a knife maker and another traditional blacksmith. If you have any favorites, please contact him at 636-447-4309 or email at o.blacksmithconference@gmail.com. He is specifically looking for an instructor for the advanced blacksmith class and someone to organize the forging contest. He is also asking if there are any family events that you would like added to the conference. Remember, the conference is the big money maker for BAM and this is your chance to contribute your talents to help make the 2019 conference a success.

Matthew Burnett is beginning to organize a spare tire hammer workshop. Early estimates suggest the cost will be between \$1500 and \$2000. Depending on the response he expects it will begin this coming winter or spring of 2019. If you are interested in building a hammer or helping with the workshop please contact Matthew at 816-575-2798 or braidedcrossforge@yahoo.com.

Steve McCarthy continued the discussion about spending money on additional conference equipment and replacing the current BAM equipment trailer. We have already added another gas forge donated by Ken Jansen. If we add anything else we'll need to upgrade the trailer, and Steve had a price of \$4700 for one like the library trailer with double 3500 lb axles and ramp out the back. A motion was made to buy the new trailer, seconded and passed with a popular vote. Steve will be coordinating the purchase. Ken Jansen suggested making a list of required equipment to supplement what we already have. Pat McCarty reminded us that BAM has a 600lb anvil as part of the group anvil buy about ten years ago, and BAM could possibly sell it to help pay for some of the new equipment. If we plan on getting trip hammers they would need to be

100lb hammers. Tom Patterson also suggested a hydraulic press.

Ken Jansen mentioned that he is now providing the Little Giant brake re-linings that Phil Cox used to provide. Ken will donate any profit to one of Phil's favorite charities. If you need Little Giant brake help contact Ken at 636-295-8490 or kjjansen@msn.com.

Jon and Heather McCarty gave an Editor's report. Jon said they had switched publishers, something he suggested at other meetings, and BAM is saving about 70 cents per copy for 600+ copies per issue. He also talked about trying to add some color to the newsletter. To have the front and back covers and a center fold in color would add about \$1000 per issue, which would be about \$6000/year. A motion was made, seconded and passed to allow Jon and Heather to try the color additions through the end of 2018 publications. In January 2019 the idea will be re-visited. Jon and Heather also made a good point that the publishing software they received when they took over the job is getting very outdated. They are looking at Adobe Suites which would be \$600/year. Adobe, like so many of the software makers is going to "subscription" based pricing rather than one time purchases. A motion was made, seconded and passed to allow them to upgrade to the Adobe Suites software. Heather also brought up that they were no longer using the older Apple computer they inherited and would like to get rid of it. They were told it was OK to recycle it. They are also be inundated with multiple copies of old newsletters and would like to reduce the volume. The library contains copies of all issues and therefore there is no need to keep multiple copies, so their requested house cleaning was approved.

Ken Jensen mentioned he thought the conference attendance had been dropping off lately and talked about sending out a questionnaire about why people don't come. Only about 1/3 of members come to the conference. Another suggestion was to make sure our conference information is distributed to other ABA-NA chapters.

Kent Harbit reminded everyone about the BAM presence at the Missouri State Fair. It's an excellent time get a lot of coverage for BAM. You can come for one day or multiple days and get help with projects as well as sell whatever you make. You'll get free admit-

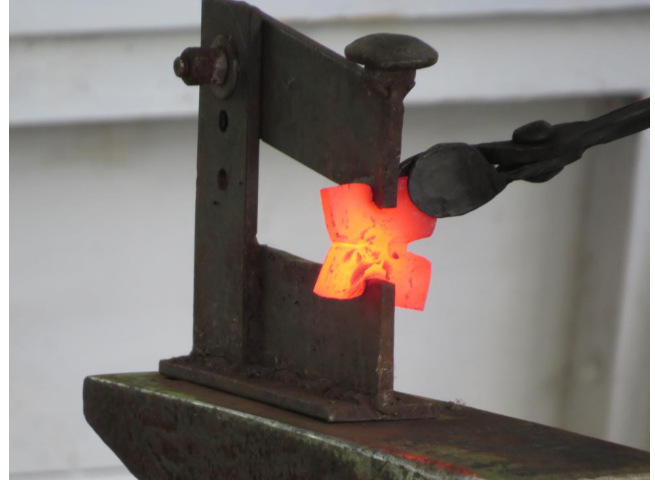
tance, free close-up parking, and meet a lot of people interested in blacksmithing. Contact Kent at 660-647-2349.

Margie Cox provided a paper layout of the location of all the nails that were made for Phil's memorial nail project and asked everyone to sign the spot that represents the location of the nail they made. Since we don't have a registry of touchmarks this is the only way she will know who made nails for the project. Jon McCarty is going to try to put a picture of the layout and a picture looking down on the nails in the newsletter to help you locate your nail.

Pat McCarty was selling raffle tickets for his BAM Box that will be raffled at the ABANA conference as well as tickets for the 50lb Little Giant that Phil Cox rebuilt for their conference. He sold out of the BAM Box tickets but may be able to get more. The ABANA Conference is the last weekend in June, so by the time you read this the raffles will be over.

The meeting was adjourned.

Photo Gallery ~ June Meeting





Iron In the Hat - March Meeting

Donated by	Won By	Item
John Sherwood	Mike Gentzsch	2x48 Sanding Belts
Drew Johnson	Hollis Harbit	Welded Twist Demo Piece
Drew Johnson	Larry Cottam	Scorpion Demo Piece
Karen Bouckaert	Larry Cottam	BAM Doo Rag
Jerry Hoffman	DR Jacobs	Blacksmith Journal Demo Pieces
Drew Johnson	Hollis Harbit	Ram's Head Demo Piece
John Huff	Alex Tappel	Bucket of Horseshoes
BAM Library	James Brown	Blacksmithing & Metalworking Book
Terry Smith	Larry Cottam	Grinding Wheels
BAM Library	David Rosemann	Kitchen Cabinets/Sod and Stubble Books
Ned Digh	Bob Eckert	Oil Can
Bob Eckert	Chris Miller	Hot Cut
Tom Patterson	Fred Arnhold	Auger Cutting Edges
Bob Eckert	James Brown	Punch
ABANA	Wyatt Brooks	ABANA Conf. T-Shirt
ABANA	Charlie Carpenter	ABANA Conf. T-Shirt
Willy Bagley	David Rosemann	Punch Dies
ABANA	Bob Eckert	ABANA Conf. Hat
Wily Bagley	Dale Hamilton	Disc Blade
Larry Cottam	Charlie Carpenter	2 Copper Bars
Dale Hamilton	Chris Miller	2 Pcs A36 CR bars
Dennis Marshall	Fred Arnhold	2 Plow Shears
Terry Smith	John Huff	Grinding Wheels
Hollis Harbit	John Huff	Anchor Bolts
Tom Patterson	John Huff	Springs
Esther Digh	John Huff	110v Security Light
John Thomas	John Huff	Spring Steel

Dear Blacksmiths,

Thank you so much for your donation of canned meat and your monetary donations. This will go a long way in helping our community in need.

Thank you again,
Serve Team

\$226 cash
75 canned meat items were collected at Ned and Ester Dighs

Missouri School of Blacksmithing

Class Calendar 2018

July 26-28
Blacksmithing 1- An Introduction

August 2-4
Blacksmithing 4-Forging Blacksmith Tongs

August 16-18
Introduction to Knifemaking with Ken Jansen

August 30-September 1
Blacksmithing 1- An Introduction

September 27-29
Blacksmithing 2-Introduction to Toolmaking

October 4-6
Forge-Welding

October 18-20
Colonial American Hardware with Bernie Tappel

October 25-27
Blacksmithing 1- An Introduction

Call to receive our Course Catalog.

Matthew Burnett
3100 NW Winchester Road
Cameron, MO 64429
816-575-2798

American Bladesmith Society's Introduction to Blade Forging

By: Ashley Farnsworth

I would like to start by thanking the Scholarship committee for awarding me the scholarship to attend the American Bladesmith Society's class on blade forging. I would then like to thank the members of BAM. It is through their generosity that the scholarship was available.

In April of 2017 I traveled to Washington, Arkansas to the Bill Moran School of Bladesmithing to attend the two-week course in basic blade forging. The instructors for the course were Jim Crowell for the first week and J.R. Cook for the second week. Both are Master bladesmiths with the ABS. Mr. Crowell has been a Master smith since 1986 and has been a demonstrator at previous BAM conferences. Mr. Cook has been a Master smith since 1991. Both men are extremely knowledgeable in the realm of knife making.

Day one started in the classroom with a discussion of the various steels that are available for knifemaking. As this was an introductory class we focused on one steel so that we could learn and try to master the manipulation and heat treating of it. The steel used for class was 5160. This is a carbon steel with chromium that makes a tough durable knife that holds an edge well and is impact resistant. It forges and is heat treated easily, and quenches in oil. The discussion continued with the nomenclature of a knife.

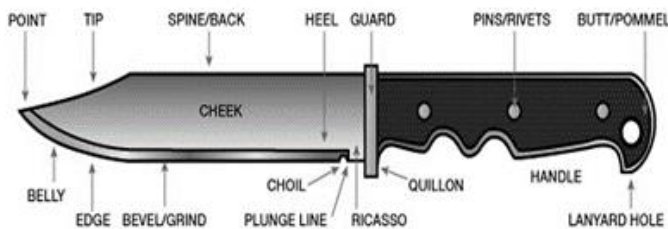


Photo (<https://survivalist101.com/tutorials/survival-knives-101/parts-of-a-knife/>)

We also went over the names of the parts of an anvil. After this discussion we headed to the forge. From this point forward, class was conducted at the forge with a great deal of one-on-one instruction.

The forges are located in a separate building consisting of six propane forges and six coal forges. For this class we used the gas forges as they are easier to con-

trol the heat than with a coal forge. There were also ten 2 x 72 belt grinders of various makes, the majority of those were Burr King. We started by using a bar of 5160 that was 1.5" x .25" which we shaped to a point on the side of the anvil (fig. 2).

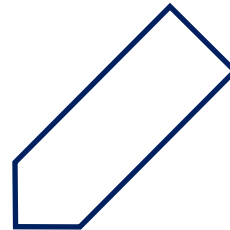


Fig 2

Approximately 9.5" from the tip we forged a pinch point on the bar. The pinch point forms the choil of the knife and it established the front of the ricasso (fig. 3). Once we had established the pinch point we started forging out the bevels of the blade. We were careful to stay off the spine and the ricasso as hammer marks in these areas are very difficult to remove. As the bevels of the knife are being forged, the metal is being compressed and pushed outward. This caused the spine to curve up on itself so we had to straighten as

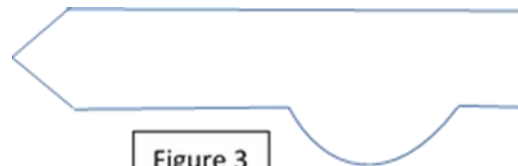


Figure 3

we forged. We checked the blade often to make sure it was straight on each side. Now that we had the bevels forged and the blade straight we forged the tang. If the knife was to be a full tang we just needed to forge to the rough shape. As this knife was to be a hidden tang we established the start of the tang using either the side of the anvil or with a fuller. It is more efficient and saves the sanity to use a fuller to do this. We did not want square shoulders on the tang as this can lead to stress risers in the blade. Instead the shoulders should be rounded. (fig.4)

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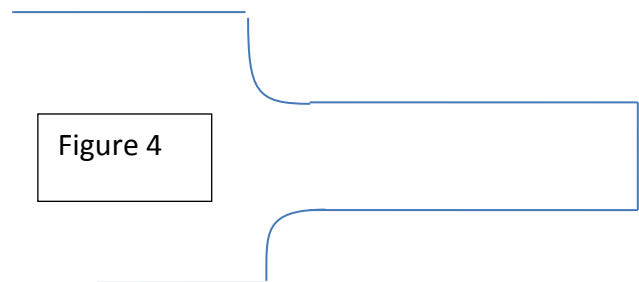


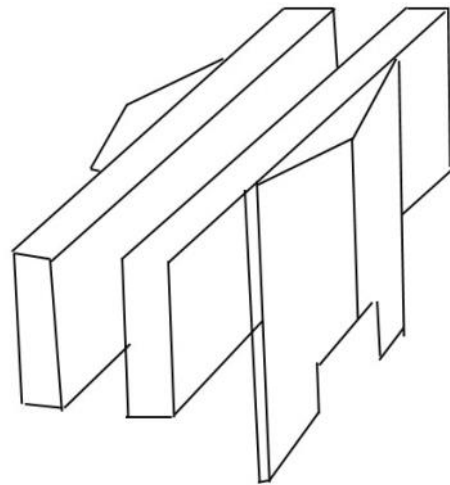
Figure 4

Now that we had forged the shape of the knife we needed to thermocycle the knife. We placed the knife in the forge to heat it up to critical temperature, which is the point at which the steel is no longer magnetic. We made sure to not over heat the knife. We took the knife out and set it aside so that it could cool in still air. The knife needed to cool until it was barely red in color when held in a deep shadow. We placed the knife back in the forge and heated it until it was just below the critical temp. We took it out and let it air cool again. We placed the knife in again and this time heated it till it was a deep red and took it out and let it cool again. That was one thermocycle we repeated this until we had 3 cycles done. We used a magnet to judge critical temperature. You can use color also, but I found out that this color can vary from person to person, and by the amount of ambient light that is present. I found that for me the color is a deep dull orange. You should experiment with your setup and type of steel that you are using to determine where the critical temperature is. We did thermocycling to reduce the stresses that we introduced to the steel by forging. When we heat and beat the steel the grain in the steel grows. By thermocycling we reduce those stresses and shrink the grain size. As a demonstration we took a bar of 5160 steel and heated it to critical temperature, quenched it in water and then bent it till it snapped in two. Then we took another bar of 5160 and thermocycled it, quenched and snapped it. We could see that the grain structure was very different in the two pieces. The piece that was not thermocycled had a very large grain pattern to it and the one that was thermocycled had a very fine grain structure resembling powdered sugar.

Now we took our forged knife to the grinder. Standing in front of the grinder we held our elbows into our body, arms stiff, and moved side to side with our hips for grinding. We started with the profile of the knife all the way around. We then ground the ricasso and the sides of the tang with the knife held vertically against the platen. Next, we established the plunge line for the bevels and ground them out. It helps when grinding bevels to hold the tang in one hand and use a small block of wood with a notch in it in the other hand to put pressure on the blade instead of using your fingers. Using the wood block, we could run the bevel all the way out to the point of the knife in one pass so that we had even bevels. We started with 36 grit and worked our way up to 120. When we finished with 120 grit we were ready to quench.

We used Parks 50 for a quenchant. I have heard of people using canola oil, used animal oil, peanut oil

etc. It was common for used motor oil with diesel fuel to be used as a quenchant. While this worked, it is now known to release some nasty fumes that can cause health issues. We preheated our quenchant to approximately 130 to 150 Fahrenheit. We placed our knives in the forge and brought them up to critical temperature. After removing the blade from the forge, we checked that a magnet would not stick to it and plunged the knife into the quenchant. In class we used vertical tanks and plunged our knives in point first and moved them forward and back in the quenchant so that we did not have any steam bubbles around the blades interfering with the quench. Parks 50 is a seven second quench so we plunged our knife and counted to seven and took them out. Another way to quench is to use a flat pan with oil in it. To do this place blocks in the pan so that when you hold the edge of the knife in the quenchant and on the blocks, it comes up the side of the knife to your desired height. Heat the knife to critical temperature and quench in the pan starting at the point and rocking the knife forward and back so that all the edge is quenched. When the knife is first pulled out of the quench the steel can actually be bent by hand for a few seconds as the steel is in a state of transition. If the blade has warped in the quench it can be straightened by bending, BUT you only have a few seconds to do this or the blade can break. J.R. showed us a neat little clamp to keep blades from warping.



I made one at home with parts I ordered. The triangular pieces are aluminum from Midwest supply. The long pieces are 3/4" by 3" by 12" aluminum. You place these in a vise and wrap a rubber band around the bottom to hold it open. You quench your knife and then place in the middle and tighten the vise. The bars hold the knife nice and straight and the triangular parts allow the clamp to hold the distal taper of the knife.

After our blades had cooled down so that we could hold them, we took them to the sander and lightly sanded to clean the scale off so that we had a clean surface. This was done so that we could see the colors on the steel when we tempered the knife. To temper the knife, we placed them in an oven for two hours at 375° F. When we removed the knives from the oven. The color that we were looking for was a golden straw color. We let the blades cool then cleaned the color off on the belt sander and placed them in the oven again for another two hours at 375° F. We used both a computer-controlled heat treat oven and a toaster oven from goodwill, they both did the same thing. If you use a toaster oven be sure and get a couple of oven thermometers so that the temperature is more accurately monitored. Both types were used while we were there. The purpose of tempering the blade is to relieve stresses that were introduced to the steel when the blade was quenched. Whatever steel is used be sure and look up the heat treat schedule for it. Different steels have different heat treatments.

After tempering we drew the temper on our knives. To do this we took a shallow pan of water with bricks in the bottom to hold the knife so that about ¼” inch of the edge was in the water. A couple more bricks to hold the tang so the knife stays upright. And some wet towel in the front to protect the edge where the belly turns up. We used an Oxy/acetylene setup with a rosebud. MAPP or propane can be used but they will just take longer. Using the torch, we warmed the spine of the knife being careful to not get it red hot Red is way too hot and it will harden the spine instead of softening it. We slowly heated the spine. As the spine is heated the temper line moves away from the heat. Moving the torch back and forth along the spine “pushes” the line down toward the edge of the knife. The line will be a blue line with the straw color from the temper oven below it and a dull grey color above it. We heated and pushed this line down toward the edge until the heat was dissipated in the water. The line will go no further when the water at the knife edge starts to boil. We then let the knife cool down. All of the area that became dull grey was now dead soft and will flex and not break. The edge was now hardened and tempered. We were now ready to finish grinding the bevel on our knife and clean them up. For sharpening we used the slack part of our belt grinders, a medium Norton stone, and a leather strop. With this we were able to produce an edge that could easily shave hair. Once we had finished sharpening our blades it was time to test all our hard work. To test our blades, we used the ABS standards: 1. We

chopped a 2x4 in two, twice. The blade edge was then inspected to see if it rolled, cracked or chipped. 2. We next cut a free hanging 1” manila rope in two with one swing. 3. We used the knife to shave hair off of our arm. 4. We placed the knife in a vice and bent it 90°. ABS standards allow for the hardened edge to crack 1/3 the width, but no more. I am happy to say that mine bent 90° without any cracks.

I would like to say that this is the process that we learned, but it is by no means the only way or superior way to forge and heat treat a knife. There are many different processes that will produce excellent knives. Find one that works for you.

Upcoming Events...

August 2019 State Fair, Sedalia, MO

September 2018 Meeting, Matthew Burnett,
Cameron, MO

November 3, 2018 Meeting, John Murry,
Foristell, MO

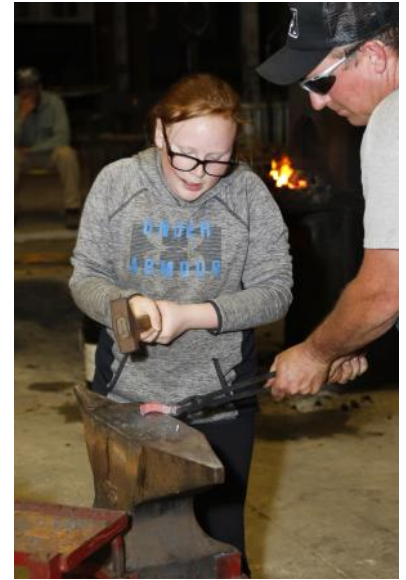
January 2019 Meeting, Dale Kirby, Higbee, MO

May 2019 Conference, Sedalia, MO

August 2019 State Fair, Sedalia, MO

If there is an event that is not listed or a meeting that you are interested in hosting please contact us at BAMeditor2015@gmail.com.

Additional 2018 BAM Conference Photos





BAM Tailgate

Buy, Sell, Trade

Individual Classified ads:

For Sale: Anvil's Ring Magazine collection Sept '73 thru Present. \$350 Bob Woodard Edwardsville, IL 618-692-6508

The Jefferson County Bicentennial Expo

October 6th 2018, 9:00am—5:00pm
At the Hillsboro Civic Club, Hillsboro MO 63050
Looking for 2 demonstrators. Contact Wayne Wiley @ 636-725-5370

Commercial / Resource ads:

Beverly Shear Blades Sharpened. Remove blades from shear and ship to Clay Spencer, 73 Penniston Pvt. Drive, Somerville, AL 35670 \$41 includes return postage, additional cost for deep notches or blades previously sharpened at angle.

Little Giant-- We can do repairs on any or all components of your Little Giant front assembly. Contact Roger Rice, Midwest Machine, 6414 King Road, Nebraska City, Nebraska 68410. (402) 873-6603

Roller Blade Treadle Hammers (Clay Spencer design) for Sale or Workshops led to build hammers. Bob Alexander, e-mail to scruboak4@netzero.com, or call 636-586-5350.

Information / Education:

Missouri School of Blacksmithing

Cameron, MO
Instruction by Matthew Burnett
Group and Individual classes offered.
816-575-2798

Tong Making Class--Weekend Course, 4 people per class - \$125 per person. Contact: Charles Comstock, Rt.1 Box 20, Deerfield, MO. 64741 (417) 927-3499, or (417)-321-2286 cell

Back issues of Jerry Hoffmann's Blacksmith's Journal, Call 1-800-944-6134 for more information.

Classes offered, The Ornamental Iron Shop
Contact the instructor to register and customize your class.

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3923 Hwy 25; Hodges, SC 29653 864-374-3933

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417-461-0387 on the web www.oldschoolcrafts.org E
-Mail oldschoolcrafts@hotmail.com

David Norrie blacksmithing school in Colorado

David Norrie 303-859-0770 [http://](http://www.forgewithintention.com)

www.forgewithintention.com

or <http://www.davidnorrie.com>

The Upper Midwest Blacksmiths Assoc (UMBA)

video library. An index list can be viewed at

www.umbaonline.org

They are VHS or DVD-R Cost is \$5 each with \$2 per order shipping there is no return date, you keep the video for this price. All videos are made at group demos, no commercial titles.

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Includes postage to US and Canadian addresses.

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New England School of Metalwork

www.newenglandschoolofmetalwork.com 1-888-753-7502

Power Hammer page

I've taken some time to collect and post old info, catalogs and brochures on power hammers. The link of our NEB web page to this information is: http://www.newenglandblacksmiths.org/power_hammer_info.htm Ralph Sproul

Rochester Arc & Flame Center! Featuring Blacksmithing, Welding & Glass Blowing, over 30 classes available for all levels of interest, rocafc.com 585-349-7110

For Sale: Power Hammer instruction DVDs. \$125 per set. Clifton Ralph, 4041 W 47st, Gary, Indiana, 46408 (219)980-4437

Products:

Forge-Aprons offers seven different styles of leather blacksmith aprons; the Original bib, the Short bib, the Full-Cut bib which offers greater chest coverage, the Lap apron, two sizes of Kid's aprons, a Budget apron and our brand new, limited edition Flame apron which features flame imprinted buckles and an anvil engulfed in flames on the logo pocket. www.Forge-Aprons.com

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Or 13 gauge steel (approx.2 pounds) no predrilled holes for the handle \$14.00 each..1-4, \$12.00 each.5-9, \$10.00 each...10+. Shipping: \$5.00 plus\$1.00 each frypan Bob Tuftee 563-332-4800 6 Hollows Court LeClaire, IA 52753

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SOFA fire pots are once again available. For information contact Bob Cruishank, 1495 W. Possum Rd., Springfield, OH. 45506 Phone: (937) 323-1300 or www.creativeironforge.com or www.sofablacksmiths.com

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Wanted:

Blacksmith business cards. I would like to put together a collage of Blacksmith business cards. Bring them to a meeting or mail them to me with your dues.

Bruce Herzog
2212 Aileswick
St. Louis, MO 63129

Demonstrator List

Fred Weisenborn has started a list of members available for demonstrations, fairs, historic events, and festivals, etc. 417-589-2497 e-mail: jweisenb@llion.org

Around the Anvil BAM has its very own E-Mail news group. If you would like to participate there is a sign up link on the bamsite.org or send an E-Mail to Terry Humphries at thumphr@south40.org and he will get you signed up.

Check out back issues of BAM newsletter on www.bamsite.org. It now has a search feature to help you find old articles.

Ad Policy: Blacksmith related ads are free to BAM members. Personal ads will run for two issues. Resource ads are ongoing at my discretion. Send to BAMeditor2015@gmail.com, or call 636-432-4468

Scholarship Application

Name:

Address:

Phone & Email:

What class or event do you wish to attend?

Where:

What is the cost?

Tuition:

Travel:

Lodging:

Other:

Briefly, describe how attending the particular class/event will advance your blacksmithing skills and be helpful in promoting the craft of blacksmithing. Identify the specific skills you expect to learn during this learning experience. (Additional pages if necessary)

I understand that as a requirement of receiving this scholarship, I will be required to submit an article about the education experience attended with appropriate notes and diagrams to the BAM newsletter no later than 3 months after attending the event AND within 1 year of the event, I will present a demonstration of the newly learned skills at a BAM meeting or complete a video to be placed on the BAM library. One third of the total scholarship amount will be awarded before the event, one third on submission of the article to the newsletter editor, and one third after presenting the demonstration at a BAM event.

Signed _____ Date _____

Send Scholarship applications to:
Mike McLaughlin, 122 Milwaukee, Lawson, MO 64062
cowpie42@hotmail.com 816-296-3935

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BAM Coal Stations

Price per bag:

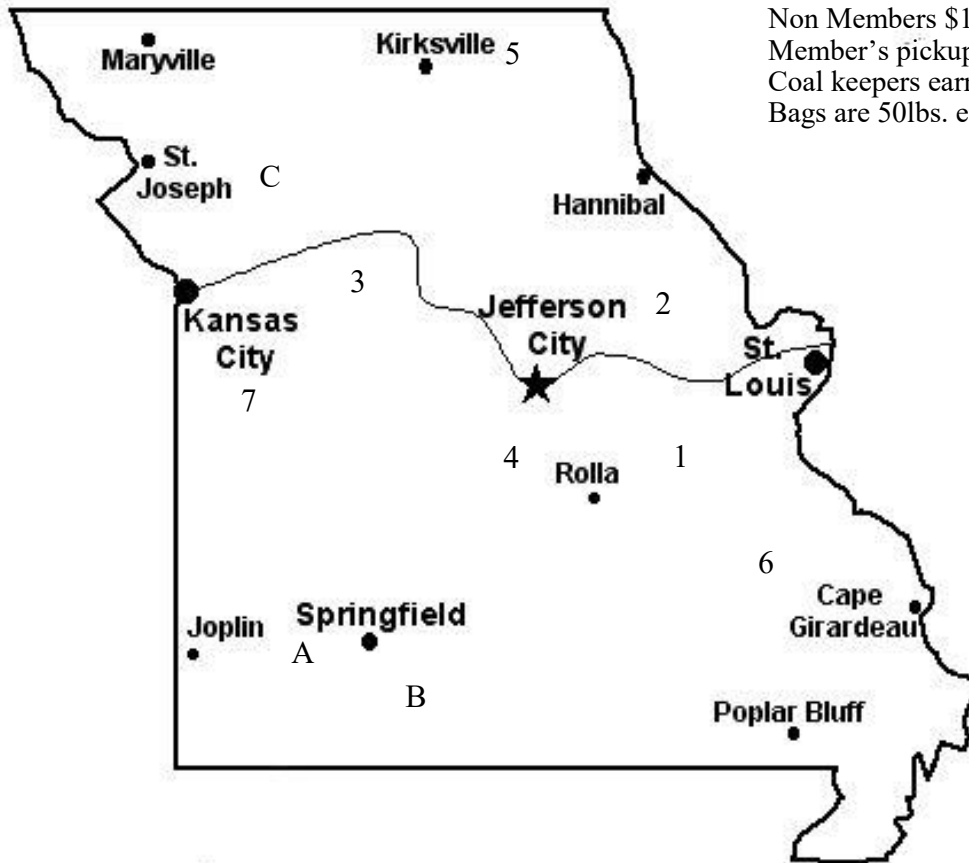
BAM Members \$14.00

Non Members \$19.00

Member's pickup at Bob Alexander's - \$12.00

Coal keepers earn \$3.00 per bag

Bags are 50lbs. each



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4. Jerry Rehagen (573) 744-5454
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Freeburg, MO 65035

5. Joe Hurley (660) 988-8872
or (660) 626-7824
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Downing, MO 63536

6. Bob Maes (573) 866-3811
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Millersville, MO 63766

7. Bryan Lillibridge (660) 638-4536
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Or e-mail tytheblacksmith@yahoo.com.
- C. Coal for sale \$14 per 50 lb. Bag Missouri School of Blacksmithing
Matthew Burnett 816-575-2798, 3100 NW Winchester Rd Cameron, MO 64649

BAM
2212 AILESWICK DR.
ST. LOUIS MO 63129

Please send changes to Bruce Herzog, 2212 Aileswick Dr., St. Louis MO 63129 or e-mail to bjherzog@charter.net

Next Meeting: September 15, 2018

Hosted By: Matthew Burnett 3100 NW Winchester Road Cameron, MO 64649



Food will be available

Trade item: Anything made using 6 of the 7 basic forging operations: drawing down, upsetting, twisting, punching, cutting, bending, and forge-welding.

Matthew Burnett will be demonstrating.