

# BAM

Jan / Feb 2017



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**President's Message**

Phil Cox

**Mailing Labels**

Bruce Herzog

The Newsletter of the Blacksmiths Association of Missouri is published six times a year and is mailed to members of BAM. The annual fee for regular membership is \$30/year; a portion of this amount is for a subscription to this newsletter for one year. Editorial inquiries should be addressed to : Jon McCarty 815 Miller Street, New Haven, MO 63068; (636)359-1246, or send an email to: bameditor2015@gmail.com BAM membership inquiries should be addressed to: Bruce Herzog, 2212 Aileswick Dr. St. Louis, MO 63129 (314) 892-4690 or send email to bjherzog@charter.net. Occasionally some material will be copyrighted and may not be reproduced without written consent by the author. BAM welcomes the use of any other material printed in this newsletter provided the author and this organization are given credit.

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St. Louis, MO 63129

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# From the President

By Phil Cox

We always have a good meeting at Dale Kirby's place, but we don't always have good weather. After canceling the meeting a week before we had a beautiful day. We had good attendance, a great demo by Mathew and Willy. Ken Jansen was going to help Mathew but Ken had to work out of state and couldn't get back so Willy stepped up great job guys.

For those of you who have never made it to the Cooperage you are missing out. There are so many cool things to see. Dale's tool collection will rival any I have seen. So many items with quality restorations, many examples of the same tool from different makers. Hand made, factory made, home made, simply tools of every description. I knew what many were but there are many more that I had no clue about. In addition to the tools in that room, previous years trade items are on display. Last years trade items (crosses) are on display in the Cowboy Church just across the parking lot. When you go don't forget to check it out. He also has the coolest collection of corkscrews, most of which were made by BAM members. Thanks again to Dale and his gang for their hospitality.

With the days getting longer I always think of spring and all of its activities. The biggest and best being the BAM conference. As always Mike has his ducks all lined up. Karen is in high gear with her responsibilities, and me well I better get moving. This year I have promised myself I am going to have my stuff done early. We'll see how that goes. I encourage you all to get busy with auction items and be thinking about things for the gallery. Gallery items do not need to be made by you for you to display them but you will need to give proper credit to the blacksmith that made the item. The gallery is a great place to display your talents or the talents of others that some BAM members would not get to see if we just keep our treasures from other shops at home. Another advantage of the gallery is it's a wonderful place to get ideas for future projects. I would encourage you to find the smith and talk with them about the item. They may even give away a secret or two that will be very helpful.

We had a discussion about the need to update the scholarship program. One of our main missions is preservation and education of the art of Blacksmithing. With that in mind we are asking ourselves how do we get the most bang for our buck when providing education to the membership. There have been no changes made yet so the board is interested in your ideas. If

you have something to add let us know. Some of the things that have been suggested are, a hammer in with an outside demonstrator paid for by BAM to be held at a time other than the conference, possibly in the fall. I may have a suitable venue. There was also some mention of hands on classes. Let us know what you think.

I look forward to see many of you at Lou's meeting in March. Be busy and safe.

Till next time keep you anvil bright and your fires clean.

Phil

## The Editor's Ramblings

By Jon McCarty

Hello everyone, I hope this finds everyone in good health. I personally have heard enough bad news lately.

Ok that being said I just spent the day finishing up Valentines day gifts for loved ones and friends. I really need to find more time to get in the shop and pound on some steel. This hobby of ours is one of the best ways to work out some stress, while being creative and getting a good workout too.

I am still working on getting my coal forge built and I am considering building a forge bellows instead of getting a hand crank blower. So if you have any experience with bellows please feel free to send me your thoughts, idea, plans, etc.

I am looking forward to the conference this year. We have a great line up of demonstrators again this year. I hope to see everyone there.

We are also in need of a July/August meeting host. As of this time I do not have anyone down for 2017. Plenty of spots open in 2018 as well. Let Phil, Bernie or Me know.

Stay safe and pound some steel!  
Jon

# January Meeting Minutes

By Bob Stormer

Phil Cox opened the meeting by thanking Dale Kirby for hosting the meeting. He also thanked the demonstrators, Matthew Burnett and Willy Bagley. Phil then recognized the new members who were present.

In a more somber moment, Phil talked about Preston Williams' contributions to BAM and the void we'll feel without him at the blacksmith gatherings. He also introduced Tammy, Preston's wife, and John, Preston's son, and John's wife Jullia. Preston died in a tree cutting accident January 7<sup>th</sup> near his home in Moberly.

Bruce Herzog gave the treasurers report, and noted that BAM now has 620 members.

Steve McCarthy gave the conference report and stated that all the demonstrator biographies have been received. He also emphasized that we still need a coordinator for the forging contest. Display items for the gallery are requested, as are donations for the auction, the boutique, iron-in-the-hat, and the BAM toolboxes Mike Gentzsch is building for the raffle. The list of tools needed for the tool boxes is on the BAM webpage.

Esther Digh gave a brief status of the scholarship program, and said Ashley Farnsworth II received a scholarship to the ABS knife making school in Old Washington, AR.

There was a fairly lengthy discussion about the current scholarship program effectiveness. Concern was expressed that some of the scholarship recipients have not been fulfilling their requirements to do a demonstration and submit a write-up to be published in the ABM newsletter about what they learned. The alternative to the current program, presented by Phil Cox, was to instead use the scholarship funds to bring in high quality people to teach large classes outside of the annual conference demonstrators. This would benefit more BAM members, but would sacrifice the hands-on experience of taking individual classes. A recommendation to withhold scholarship payments until the post class requirements were fulfilled was suggested, but it was stated that most of the applicants likely couldn't afford to pay the class cost up front. A specific solution was not achieved during the meeting, but a show of hands agreed that we need to continue to look at alternatives.

Phil continued working on a solution to the noisy blower motors on the BAM coal forges. He thinks he has it solved and the new blowers will cost about

\$250-\$300, and should be ready for the conference.

Revisiting the topic from the last meeting about the potential to get a better way for Karen to transport the BAM library to the meetings, Phil suggested using a trailer. Karen agreed the trailer would be OK if it could be sealed so mice couldn't get in and destroy the books. It would also need to be high enough for people walk in and look around. This will continue to be considered.

Phil also continued the ongoing discussion about the conference chain project. Bernie said he had the specific information on the chain length and stock size, and will post it on the BAM webpage. A demonstration of making the links will be included at the March BAM meeting. The chain project is particularly appropriate this year, since the conference theme is "Midwest Link".

An update to Don Nichols condition was presented. He has made some progress and had some set backs, but is going to be moved to a re-hab facility at Cole Camp. After the move, contact information will be posted on the BAM webpage. Don would be happy to hear from lots of his BAM friends

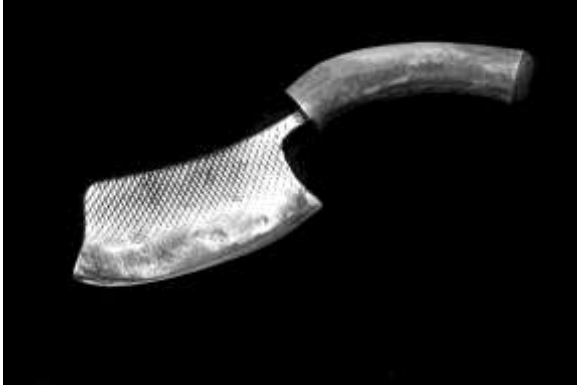
The meeting was adjourned.



# Iron in the Hat - January Meeting

Donated by	Won By	Item
Dale Kirby Bill George Seth Lancaster	Pat McCarty Jim Holland Earl Million	10 Gal. Wood Barrel Bandsaw Blades African Mohogany & Mozambican Umbila Wood
John Sherwood Jacob Arnold BAM Jon McCarty Dale Crabb Bill George John Huff Rick Meyer	Mark Lawson Doug Clemons John Sherwood Tom Lutz Taylor Morrison Bob Eckert Daniel Morrison Dale Crabb	Wire Wheel Brush Power Hacksaw Blades BAM T-Shirt Damascus Kit Spring-Water?? 2lb Honey Bucket of Horseshoes Coal Shovel, Bandsaw Blade, Sucker Rod, Wrenches
Seth Lancaster Rick Meyer Jon McCarty Tom Patterson Doug Clemons Earl Million Terry Smith Earl Million Scott Stager Matt Dickson Doug Clemons Jacob Arnold Jacob Arnold Ken Jansen Karen Bouckaert Jacob Arnold Bill George Jacob Arnold Yuval "UV" Awozl Karen Bouckaert Don Anders Esther Digh Pat McCarty Ned Digh Matthew Burnett Willy Bagley Tom Patterson Tom Patterson Bruce Herzog Matt Dickson Rick Mathena Matt Dickson Mark Lawson Rob Cotter	Charlie Carpenter Dale Hamilton Tom Lutz Dori McCarty David Rosemann Bart Wulfmeyer Don Anders Rob Cotter John Utley Rob Cotter John Utley Bob Stormer Jim Holland Mark Lawson John Huff Daniel Morrison John Sherwood Dale Crabb Daniel Morrison Aaron McCarthy Willy Bagley Bob Stormer Dale Kirby Rick Meyer Larry Gham Michael Lancaster David Rosemann Mike Gentsch Earl Million Daniel Morrison Steve McCarthy John Sherwood Bob Stormer Mike Gentsch	Coil Spring Bits Damascus Kit Knife Handle Material Anvils Ring Magazines 3/8" Rake Tine Lard 1/2" Rake Tine Slitting Hammer Cable and Metal Rake Tines Welding Rods Welding Helmet & Face Shield Punch Little Giant T-Shirt Safety Glasses Cupping Wax/Bees Wax TIG Torch Regulator Mower Blades Anvils Ring Magazines Hoisting Strap Wire Protector Elephant Sculpture Tire Inflator Kit Cutoff Hardy Dye Punches Oil Stone Knife Handle Material Decimal Chart Lawn Mower Blades Breaker Bit Wire Brush Dial Indicator Axe Blade

# Trade Items - January Meeting



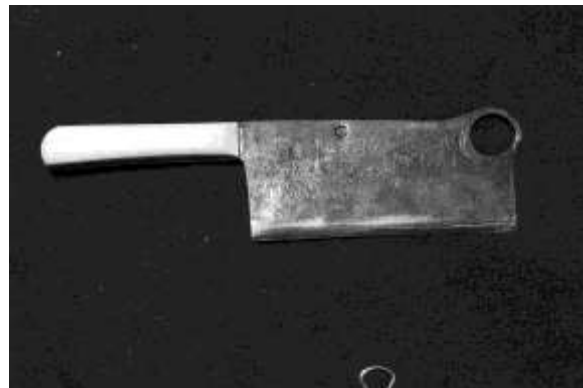
**Made By:** Terry Smith  
**Traded To:** Doug Clemons



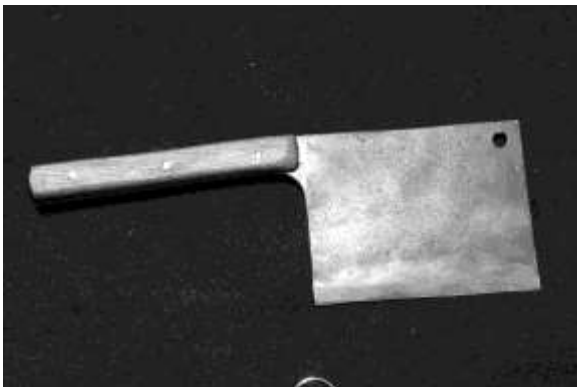
**Made By:** Doug Clemons  
**Traded To:** Mike Gentsch



**Made By:** Bob Stormer  
**Traded To:** Bernie Tappel



**Made By:** Ken Jansen  
**Traded To:** Mark Lawson

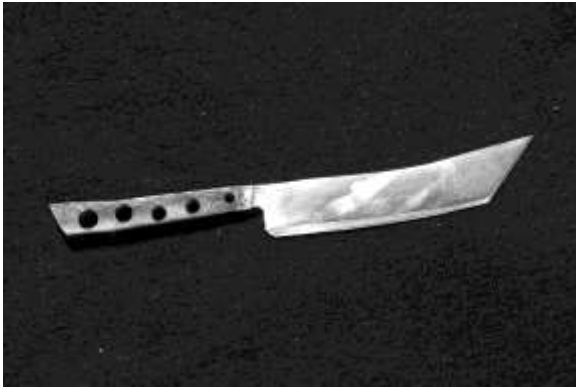


**Made By:** Matthew Burnett  
**Traded To:** John Sherwood



**Made By:** Chris Owen  
**Traded To:** Willy Bagley





**Made By:** Mark Lawson  
**Traded To:** Matthew Burnett



**Made By:** Mike Gentsch



**Made By:** Dan Wedemeyer  
**Traded To:** Ken Jansen



**Made By:** Charles Carpenter  
**Traded To:** Dale Kirby



**Made By:** Taylor Morrison  
**Traded To:** Denny Quinn



**Made By:** John Sherwood  
**Traded To:** Tom Lutz

# Trade Items Cont.— January Meeting



**Made By:** Phil Cox  
**Traded To:** Charles Carpenter



**Made By:** Dale Crabb  
**Traded To:** Bob Eckert



**Made By:** Steve McCarthy  
**Traded To:** Bob Stormer



**Made By:** Bernie Tapple  
**Traded To:** Taylor Morrison



**Made By:** Pat McCarty  
**Traded To:** Jon McCarty



**Made By:** Rick Mathena  
**Traded To:** Chris Owen



**Made By:** Denny Quinn  
**Traded To:** Dale Crabb



**Made By:** Dennis Marshall  
**Traded To:** Steve McCarthy



**Made By:** Willey Bagley  
**Traded To:** Terry Smith



**Made By:** Jon McCarty  
**Traded To:** Pat McCarty



**Made By:** Tom Lutz  
**Traded To:** Phil Cox



**Made By:** Bob Eckert  
**Traded To:** Dan Wedemeyer

**Not Pictured**  
**Made By:** Dale Kirby

## 2017 Conference Demonstrator Bio's

### Allan Kress

I started smithing in 1992 in Cullman Alabama. Started out by taking a lot of classes at John C Campbell with Clay Spencer, Francis Whittaker, Jerry Darnell, Bob Bergman, George Dixon, Uri Hoff, and many others. I have demonstrated at Alabama Forge Council, Mississippi Forge Council, UMBA, Indiana conference, New York State Designer Blacksmith, AACB Conference, SBA conference, FABA conference, and many others. My work consists of modern and traditional smithing, selling mostly at arts and crafts shows. I also sell at blacksmith conferences.

### Lyle Wynn

From Jackson MS

Started blacksmithing in 1998 because his uncle gave him all the essential tools that originally belonged to Lyles grandfather. Having the tools but not the knowledge a never ending journey began. Lyle joined the MS Forge Council in 1999 and began attending the monthly meetings. As we all know if you want to learn a craft watching someone once a month for a couple hours is not a very good way to learn. Therefore he started venturing to other states to attend other meetings and conferences, and attend as many different classes as could be achieved. In September of 2009 he started working with Brian Brazeal and began demonstrating and teaching the "tools to make tools" curriculum. They traveled all across the US and into Canada for several years. In 2011 Lyle got laid off from a company that made gas and electric lanterns from copper after being there for 12 years. He then started blacksmithing full time. Through demonstrating, teaching, and attending festivals what used to be a hobby had turned into a full time endeavor. Lyle started working with Stan Bryant in 2012 and was impressed with his determination. They combined efforts in 2016 and are now teaching and demonstrating together. They have a blacksmith shop in Mendenhall MS called Walnut Cut Forge and are hosting classes and traveling to do demonstrations as they present themselves. There are lots of photos on Lyles and Stans Facebook pages. A website is under construction, and Lyle also has a YouTube channel.

The following is just some info that might be of interest.

Forging is an exact science. The top die, (your hammer) and the bottom die (your anvil) are precise, The metal will do the same thing every time you use dies to shape it. The top die can be of many different forms, (round face, cross peen, flat face, straight peen, and any of these in multiple sizes) the bottom die can be many different surfaces as well. The near side of the anvil, whether it is a round or square edge, the far side of the anvil. The flat surface on top, the horn, large round surface and small round surface.

Forging Elements: Forging is defined as, "the shaping of metal using localized compressive forces" This can be achieved easily or it could involve lots of work to shape metal to the desired dimensions. Efficient forging is what we should all be wanting to achieve. This is done simply from, "a heat, a hold, and a hit". The heat, a proper heat will allow you to move metal easily and be able to forge it longer. The hold, a proper pair of tongs is required for holding the metal and allowing you to have the dexterity to manipulate it fluidly. The hit, represents the top and bottom dies being used together to generate the required force. The least efficiency way to move metal is to use a flat die on top and a flat die on bottom, this also causes you to lose more heat. By reducing the surface area contact of the top and bottom die it increases the energy that you are able to transfer into the hit, in addition it also reduces the area that lays on the anvil to maintain heat.

There are very effective elements of forging for drawing tapers, reverse tapers, and creating bars. All these elements of forging are to be done in such a way that you can maintain a structure to create bars, and tapers in such a way that you will learn what true efficiency in forging means. Whether you are new to blacksmithing or have been at it for years, if you don't understand how easy a one heat taper can be achieved, or if you cannot explain why you do the things you do seeing Lyle and Stan demo will definitely help you to further your knowledge in forging. Everything done to a piece of metal is done for a reason.

### Matthew Burnett

Missouri School of Blacksmithing

I am thankful to be a blacksmith. I have been blacksmithing for 14 years now. I first observed blacksmiths with the Institute for Historic and Educational Arts who were demonstrating at the Kansas City Re-

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naissance Festival in 2002. I was immediately intrigued by it. That November, at age 13, I took a beginners course from them to learn basic blacksmithing skills. I can still remember the excitement of that first class. I did not realize at the time that I had taken the first step in a long and interesting journey. I was fascinated by the whole process, and started collecting the required tools and began blacksmithing on my own shortly thereafter. I joined BAM in 2003 and have been active ever since. BAM has been very important in my development. There are many members of BAM who have generously shared their time and knowledge; Bob Patrick, Guy McConnell, Tsur Sadan, Joe Davis, Ned Digh, Don Nichols, Phil Cox, Ken Jansen, Roger Green, and the now deceased Ed Harper, Joe Wilkinson and Tom Clark. I am very thankful for their teaching and friendship. I am thankful that I can teach others now.

I work primarily in my own shop, but have demonstrated with other blacksmiths at the Missouri State Fair, the Kansas City Renaissance Festival, and at various shows at Cameron, Hamilton, Lathrop, Excelsior Springs, and Chillicothe, for the public, as well as several BAM meetings.

I opened the Missouri School of Blacksmithing in 2016, because I saw a need for it.

I try to approach my classes and teaching from the perspective of what I would like to learn as a student. I look back to how I learned, and I ask myself the question "What would be the best way to learn, and become a better blacksmith?" I try to think about what I would like to learn, or like to make.

I emphasize traditional joinery in my work, studying design and balancing form and function.

I think that the variety of my experiences and interests in blacksmithing; i.e. making tools, knives, furniture and sculptures, gives me a fairly broad perspective from which to draw from in teaching, as opposed to specializing on 1 or 2 areas. Something I learned from and discussed with Ed Harper was the value of continuing to learn more about blacksmithing to avoid a sort of stagnation of skills. I have mastered blacksmithing but also see it as a continuing process of learning and discovery. I have enjoyed the journey so far, and I look forward to continued exploration.

## Howard Clark

Howard Clark lives in Iowa with his wife and children on the farm where he grew up.

Howard has been a full time bladesmith for over 30 years. His interest in knife making harks back to adolescence when, much to his mothers dismay, he would reshape and "improve" the household's kitchen knives.

Early in his career he mastered forging, damascus, and distal taper. As Morgan Valley Forge Howard produced knives with organic flow and keen balance.

Everything he made was meant to be used, function first. The natural style of his work in straight fixed blades and folders is distinctive. As an instructor and demonstrator Howard brings a life time of bladesmith, fabricating and metal working experience with a forte in heat treating to his classes. Howard has delved into the science of metallurgy. He taught himself how to read isothermal transformation diagrams as part of the quest to create what he desired as the best blade. One that was tough; would not chip, crack or break. One that was hard enough to hold it's edge for prolonged use and still be able to be sharpened. He is grateful to Dr. John D. Verhoeven and the Department of Materials Science and Engineering at Iowa State University. With access to the research tools of the metals lab Howard was able to verify his findings through scientific method. With known steel alloys, and controlled temperatures, the test of the metal is in the heat treatment. Howard knows that besides carbon content other alloys in a steel also play roles and change the dynamics of the heat treatment for a given steel to get the desired end product. In his research it is said Howard broke more blades deliberately than many knife-makers made. Much of what is readily accepted as standard practice in knife making now came originally from Howard Clark. Howard is a long time member of ABANA and of the American Bladesmith Society. He earned ABS Journeyman in 1990 and Mastersmith in 1992. He is Omimi. Big Ear. The creator of the L6 Banite Katana which is the highest performance Japanese style sword blade in the world.

Howard enjoys teaching and demonstrating. He is grateful for the people he has met and places he has had the opportunity to experience through bladesmithing.

## 2017 Family Program Demonstrators

**Basket Classes****Mary Jo McCarty**

Friday class- 10x10x8 basket, 10" round, iron, handle. Choice of colors. Base will measure 10x10, as you weave the sides up the top will be round when finished. This will be start and stop weave with some triple twine. This basket will have many different uses. \$40.00

Saturday class-10x14x2, 2, iron, side handles, 9x13 wooden bottom. Choice of colors, when finished, it should measure at the top, about 10x14 and about 2" tall. This will be start and stop weave, and triple twine around the top. \$40.00

**BAM Foot Stool****Patti Bagley**

Students will weave a seat on a 12" x 16" maple footstool frame and have their choice of 2 options.

Option 1 is woven using ½" reed, is about a 4 hour class and the cost is \$40.

Option 2 is woven using 6mm cane, is about an 8 hour class and the cost is \$50. Students not completing their footstool in class will the knowledge and ample supplies to finish on their own.

**Forging Non-Ferrous Metals**

By Jim Guy

Reprinted with permission from the ABBA Hammer's Arc



*J" hook in aluminum, copper, naval brass and silicon bronze*

There are a number of beautiful examples of ironwork that uses copper or bronze as a way of adding color or contrast to traditional iron work. This is something that I feel will add another dimension to my work. The "Forging Non-Ferrous Metals" class at John C Campbell has provided a good grounding in the basics to make that happen. The instructor, Lucas House, led us through forging aluminum, silicon bronze, naval brass, copper, and stainless steel. Each day begun with a forging demonstration of one of these metals, leaving us the rest of the day to work with a metal of our choosing. Lucas also reviewed other topics which are important to completing any nonferrous work. These included silver soldering as an alternate means of joinery, finishes and patinas. What surprises me is that once you overcome some key differences with these metals, the process used to forge it is very similar to steel. As a result, the following descriptions will focus on identifying these differences such as the right forging temperature and how the metal behaves.

**Silicon Bronze**

The most common silicon bronze alloy used by blacksmiths is 655 (also known as C655 and C65500). Silicon bronze is corrosive resistant and has relatively good strength.

**Forging temperature**

Forge silicon bronze at a dull red in a light area.

**Forging tips and Observations** Silicon bronze does not generate scale. There is a great deal of blacking that must be removed before a finish is applied. Transfers heat quickly but not as quick as aluminum. Fractures when heated too hot. Works like steel when at temperature When buying silicon bronze: It is typically priced by pound regardless of shape. Round stock is always cheaper than other shapes.



*Snail (Copper and Stainless Steel)*

## Copper

The copper alloy used in class is copper 101, a low oxygen alloy with a copper content of 99.99%.

**Forging temperature** Slightly cooler than silicon bronze, a faint red.

**Forging tips and Observations** Will conduct heat instantly. It is a most forging metal that can basically forge cold. Copper blackens when forged but does not form scale.

## Naval Brass 464

Naval has many good qualities such as a pretty color, corrosion resistance.

**Forging temperature** Slightly cooler than silicon bronze, a faint red (basically the same color as copper's forging heat)

**Forging tips and Observations** Work small points cold

Butter soft at the high end of forging temperature. NOT forgivable. Will fracture if forged too hot or too cold

## Aluminum

We used 6160 aluminum in our forging. This is one of the most common alloys of aluminum for general-purpose use.

### **Forging temperature**

Aluminum at the correct forging temperature does not give any visible sign of temperature. Identify the correct temperature when: a black sharpie marker line on the metal disappears or a piece of wood chars or smokes. Aluminum may feel like it hits a sticky place on the anvil surface

### **Forging tips and Observations**

Aluminum does not generate scale. There is some blacking, but not much. Transfers heat quickly (in other words, keep your tongs handy!) Fractures when worked too hot. Aluminum can work-hardened. (bar stock comes work hardened unless ordered annealed.) Anneal by heating and let cool (may air cool or quench immediately after heating, doesn't matter) Annealed aluminum can be forged cold to some extent.

## Stainless Steel

### **Forging temperature**

Forge stainless steel at a bright yellow, almost white.

### **Forging tips and Observations**

Stainless requires more heat than steel. It is harder to move metal at forging temperature than steel. It does not transfer heat quickly and blackens when forged.

### **Joinery**

Traditional joinery techniques apply to all these metals (such as collars, rivets, mortise and tenon joints). Most can be welded via TIG and MIG.

### **Finishes**

Finishing the metals discussed above follow a similar process. First remove oxides, then apply a patina (optional step) finally apply a finish.

## Oxide removal

The only option for aluminum is to brush off the black oxides with a stainless steel brush. Use an acid bath with the other metals, it will save a lot of time.

The class used muriatic acid undiluted for its' acid bath. Take two plastic containers big enough to hold the items to be cleaned. Put muriatic acid in one and water in the other. Soak the items for an appropriate amount of time, up to a couple of minutes for naval brass, silicon bronze and copper. Then dunk them into water to remove any residual acid and stop further etching. After an acid bath, brush with a brass brush or fine steel wool to remove any remaining black oxide and to polish the surface. Stainless steel is a bit different. You will need to wire brush stainless before the acid bath to remove any loose black oxide, then let sit in the acid bath overnight. Warning: etching stainless steel after etching copper or silicon bronze in the same acid bath will copper plate the stainless steel. Aluminum will dissolve in muriatic acid if given enough time (5 to 10 minutes). However, if you just dip it in quickly, will etch a nice gray finish.

Continued on pg. 18

# Pat McCarty's Headache Hammer-In 2017

By Bob Stormer

Well, it's officially 2017. Pat McCarty's "Headache Hammer-In 2017" was a rousing success, as it has been every year I've been able to attend. There seemed to be more people attending this year, but it's hard to get an accurate count in Pat's shop. The attendance might have been due to the very nice weather, especially for January in Missouri. I also think many of the people who attend every year would be disappointed on January 2nd if they didn't start the year at Pat's, myself included. Pat did a nice job of cleaning up the shop, and he added some additional seating that was appreciated by the aging segment of BAM.

If the variety of people attending is any indication of the health of BAM as an organization, I'd say we have a very good future in store. I think the youngest that made Pat's project was 9 years old. At the risk of offending someone, I won't try to guess the age of the oldest but if you check out the pictures on the "Photos Page" of the BAM web page, you'll get the idea. Along with the dozens of perennial attendees there seemed to be a "lot" of new faces.

Bob Alexander brought an award that Tom Clark had received from ABANA in 2008. Tom's wife is moving to Florida and feels the award should stay with BAM. The award is the Alex Bealer Award, which is a fro with the award information engraved in the blade. The fro comes with a very decorative stand.

In keeping with tradition, Pat chose a Valentines theme for the project this year. See Figure 1. Pat started with a piece of stock 1/4" thick by 1/2" wide by 8-1/2" long. He had a piece of 1/4"x3/4"x8-1/2" that he also used, but recommended using the smaller stock. He forged both ends to a taper on both the 1/4" and 1/2" dimensions. The next step was to fold the piece over at the lengthwise center point on the 1/4" edge. If you folded the piece properly, you should have one end that is 1/4" thick by 1" wide, and the two tapered ends next to each other at the other end. The 1" dimension needs to be drawn to a point that remains 1/4" thick. Refer to Figure 2. Sorry for fuzziness of the picture, I think my camera stayed

out too late on New Year's Eve. The white hot part is where the fold was made, and it is in the process of being drawn to a point. As you do this, the tapered ends will start to separate and look like a "V". Figure 3 shows a little better view of the "point" as the tapered ends are being spread on the anvil horn. You now need to put a gentle outward curve on the legs of the "V". The point will now start to look like the bottom of the heart. The next step is to bend the two tapered ends around the horn of the anvil and toward each other to form the top of the heart. Figure 4 shows one side being bent to form the upper part of the heart. Both sides need to be shaped the same.

Pat used 9 copper rivets spaced as shown in Figure 1. The rivets were either 1/8" or 5/32", but the rivet and hole must match. For 1/4" stock rivet is 3/8" long. You can also use brass or steel rivets. The copper sheet was 16 gauge (approx. 1/16"), very much like standard copper flashing. Cut the copper sheet a little bigger than the outline of the heart so you can trim it after the holes are located properly. The holes were drilled in the heart and then a transfer punch was used to locate the holes on the copper sheet. Figure 5 shows the finished steel part on the copper sheet, ready for marking the holes in the copper. You can use a set of small clamps to hold the copper sheet in place while marking the holes. A Whitney punch is an excellent tool for punching the holes in the copper sheet. Drilling the thin copper could result in tearing it and possibly cutting your hand. Annealing the copper sheet at this point will help prevent tearing with texturing later. Pat didn't anneal his and it worked OK. After setting two or three rivets you can drill any misaligned holes to allow the remaining rivets to be set. Use of a rivet set will keep from distorting the rivet head when flattening the back side of the rivet against the copper.

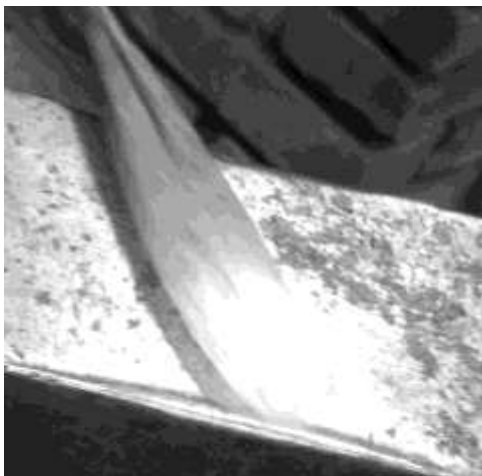
I believe Pat laid the heart face down on a rubber mat to avoid damaging the rivet heads while hammering the copper from the back. A ball peen hammer works well for texturing the copper. If you need to anneal the copper, you can use a propane torch to heat it, then quench it to soften it so it won't tear. I think Pat



completed his in about 30 minutes, but most people took considerably longer.

Pat rang the dinner bell and Denny Quinn led the invocation that included a special prayer for Don Nichols and Wayne Rice, both of whom are having health issues. The line for Mary Jo's delicious posole, and potato soup formed quickly. I only get posole and potato soup once a year so I make the most of it. As in past years, Bob Mephram brought his top notch jumbo peel-n-eat shrimp and sauce. They were almost gone by the time lunch started. I think most people were too full to do much hammering after lunch, but the visiting continued. Many thanks to Mary Jo and her helpers for another perfect lunch.

There are a lot of pictures of the 2017 headache hammer-in posted on the BAM website "bamsite.org" on the "BAM Photos Page". Be sure to look for the group picture that Pat's sister Karen took from the shop loft.



Continued from pg. 15

## Patinas

Copper, naval brass and silicon bronze do not really need patinas and will naturally develop a pleasant patina over time (silicon bronze will turn a nice dark brown). In class, we used patinas from Sculpt Nouveau. Traditional Black Magic for copper, naval brass and silicon bronze. And Birchwood Casey Alumina Black A-14 for aluminum. When using patina's, don't just use it out of the bottle. Put it in a cup to minimize contamination. From there, just wipe it on and then wash it off. With steel: wash off immediately. With silicon bronze, wipe off after a few seconds and then rub with steel wool. Naval brass turns black instantly! We used liver of sulfur in our recent copper class. This seems to behave similar to the Sculpt Nouveau patinas. Directions for all of these patinas recommend using them hot. We didn't in class and had good controlled results.

## Finish

Most finishes used on ironwork can be applied with these metals: clear lacquer, min-wax wipe-on poly, beeswax and Johnson's paste wax are all good. Consider using no finish to allow natural weathering.

## Sources

### Metal:

Online metals (<https://www.onlinemetals.com/>)

Atlas metals supply (<http://www.atlasmetal.com/>)

### Finishes and Patinas:

Sculpt Nouveau (<http://www.sculptnouveau.com/>)

Source for: Traditional Black Magic: used in class on naval brass and silicon bronze  
 Birchwood Casey Alumina Black A-14: used on aluminum

Rio Grande (<https://www.riogrande.com/>) Source for: Silver solder and supplies and patinas

## Upcoming Events

March 11 2017 - Meeting, Lou Mueller, Arnold MO

March 19 2017 - deadline for Newsletter submissions

May 4-7 2017 - Ozark Conference, Sedalia, MO

June 10th 2017 - Meeting, Ned Digh, Fulton MO

September 16th 2017 - Meeting, Don Birdsall, Rolla MO

November 2017 - Meeting, Doniphan MO

Muriatic acid is available from Home Depot and Lowes. Look for the product used for cleaning floors or adjusting swimming pool ph levels.



As forged



After acid



After brushing

**LEARN HOW TO MAKE YOUR LITTLE GIANT POWER HAMMER WORK HARDER THAN EVER!**

Please join us March 10-11, 2017 for our annual Little Giant Rebuilding Seminar!

This class was first taught by our good friend Fred Caylor of Zionsville, Indiana. We carry on his tradition of teaching how to make Little Giants run well and hit hard.

This 2 day class is a hands-on format. You will help transform a 25 LB Little Giant hammer from functional but sloppy condition into a well tuned, quiet, hard working hammer. Sid Suedmeier, owner of Little Giant, will share all his knowledge and experience gained from working with Fred and from 25 years of repairing and rebuilding Little Giants.

An old style 25 LB Little Giant will be rebuilt during the class, and a new style machine will be on hand to demonstrate proper assembly and adjustment of both styles.

The class is held in our shop in historical Nebraska City, Nebraska. The city has a wide variety of cafes, outlets (including Pendleton Woolen Mills), antique and gift shops, orchards, wineries and museums.

**IF YOU HAVE A LITTLE GIANT, THIS CLASS IS FOR YOU!**

No experience is required to attend this class. Past students have ranged from age 15 to 90, and from all walks of life. Anyone who wants to learn will benefit from this class. We approach the rebuilding process using tools that can be found in the average home workshop.

If you are in the market to buy a power hammer, this class will make you an educated shopper. If you already own a Little Giant, or any other brand of power hammer, this class will teach you how to get the best performance possible.

The class costs \$95, refundable up to 7 days prior to the class; advance registration is required. We limit the class to 25 participants. The class starts at 9 AM

sharp on Friday, and usually ends by Saturday evening. We will be available on Sunday until noon in case we encounter any exceptional problems in rebuilding, and to answer remaining questions.

When we receive your registration, we will send you a city map, along with travel and hotel information.

Airports are located in Omaha (45 miles north), Lincoln (50 miles west) and Kansas City (125 miles south).

**2017 REGISTRATION**

Name: \_\_\_\_\_

Business name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email address: \_\_\_\_\_

**PAYMENT**

Check enclosed

Visa

MasterCard

Discover

American Express

Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

3 or 4 Digit Code on Back: \_\_\_\_\_

**POWER HAMMER INFO**

Brand: \_\_\_\_\_

Size: \_\_\_\_\_

Serial Number: \_\_\_\_\_

*Please call or email if you have any questions, or prefer to register by phone. You can reach us at 402.873.6605 or Sidsshop@windstream.net.*

*Little Giant is located at 420 4<sup>th</sup> Corso, Nebraska City, NE 68410.*

# Headache Hammer In Photo Gallery





# January Meeting Photo Gallery





### **BAM Scholarship/Grant Program**

- I. Scholarships and Grants will be awarded by the Scholarship/Grant Committee to BAM members in good standing and have been an active member of BAM for two years. Decisions of the Committee will be final.
- II. Scholarships up to the amount of \$1000 will be granted by the Scholarship/Grant Committee to an individual (1) to attend a recognized educational program or (2) to train under a recognized blacksmith craftsman (see notation on page 2) for the purpose of learning new and/or advanced blacksmithing skills. The submission of an appropriate application is required.
- III. Grants of \$250 or \$500 can be made by the Scholarship/Grant Committee to (1) fund a workshop in a member's own shop (2) train and/or share skills with fellow blacksmiths or (3) to complete a one on one mentorship with a skilled blacksmith craftsman for skill enhancement. The submission of an appropriate application is required.
- IV. The Committee is to consist of 3 members who serve rotating 2 year terms appointed by the BAM President. The President will appoint one of these members chairman of the committee.
- V. The Committee will be responsible for publicizing the Scholarship/Grant Program and for suggesting changes to these guidelines as may seem appropriate. Changes are to be approved by the Board of Directors of BAM.
- VI. The Committee will determine the number and amounts of scholarships/grants based on the amount of funding approved by the Board of Directors.
- VII. The Committee Chairman will have the responsibility of requesting funds from the Board of Directors for the calendar year.
- VIII. Eligibility: Only members in good standing in BAM may receive scholarships and grants and the scholarship committee members are not eligible to receive a scholarship/grant while serving on the committee. No member may apply for a scholarship within one year after receiving a previous scholarship. Applicants who have not received a scholarship within three years prior to their application will be given priority.
- IX. Applications must be received 30 days before the date of the award unless waived by the Committee Chairman and/or President of BAM
- X. **Scholarship Recipient:** Every Scholarship recipient, within three months after completing the event for which the scholarship is granted must submit a written description of the event to the BAM Newsletter (appropriate pictures and diagrams may be included). Within one year, the recipient must also demonstrate what was learned as a consequence of the scholarship either at a BAM meeting or on a video tape to be placed in the BAM Library.
- XI. **Grant Recipient:** One of the following four options can be selected: (1) chose to write an article for the BAM Newsletter describing the workshop they conducted or the skills taught to fellow members; (2) write an article describing the mentorship experience; (3) provide diagrams and directions of the items made during a sponsored workshop; (4) present a demonstration at a BAM meeting.
- XII. The Scholarship/Grant Committee will prepare an appropriate application forms for both the Scholarship and Grant Program. In addition, the forms will be published in the BAM Newsletter
- XIII. Scholarship and Grant applications must be submitted to the Scholarship Chairman, Esther Digh, 6792 CR 424, Fulton, MO. They will be shared with the other committee members and a decision will be made. The recipient will be notified in writing of his/her selection.
- XIV. Questions about Scholarships or Grants can be addressed to the Scholarship/Grant Chairman.

**Please note:** Members of the Scholarship Committee may contact applicant for additional information on the individual(s) teaching the selected event.



---

## SCHOLARSHIP APPLICATION

Name:

Address:

Phone Number:

E-Mail Address:

The education program/workshop do you wish to attend:

The location of the event:

Individual responsible for the event and/or teacher for the event:

Identify the costs to attend the event:

Tuition

Travel

Lodging/meals

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 learning during this learning experience.

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 years of the event, I will present a demonstration of the newly learned skills at a BAM meeting or complete a video tape to be place in the BAM Library.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Mail to Esther Digh, 6792 CR 424, Fulton, MO 65251

## GRANT APPLICATION

Name:

Address:

Phone:

E-Mail Address:

Identify one of the two options for Grants you wish to complete:

Identify the objective(s) of the workshop to be conducted or the objective of the mentorship:

Identify the instructor of the workshop or the mentor selected for the educational experience:

Identify the expected outcomes or skills to be learned from this experience:

Identify the costs of this educational experience (materials, fuel, travel, handouts, propane, etc:

Select one of the following to complete after the educational experience:

- \_\_\_\_\_ (1) Write an article for the BAM Newsletter about the workshop conducted and the skills taught;
- \_\_\_\_\_ (2) Write an article describing the mentorship experience;
- \_\_\_\_\_ (3) Submit diagrams and directions for making the items made during the workshop;
- \_\_\_\_\_ (4) Present a demonstration at a BAM meeting.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Mail to Esther Digh, 6792 CR 424, Fulton, MO 65251

# Welcome Our New Members

Jerry Bierman  
8030 Pontiac Road  
St Louis,, MO 63123  
jerry@bierberryfarms.com  
314-973-0680

Raymond Delaney  
3501 Teakwood Court  
Columbia,, MO 65203  
raymond.delaney@gmail.com  
314-323-9733

Steve Hausner  
12535 State Route CC  
Rolla,, MO 65401  
hausners@yahoo.com  
573-368-8325

Dennis Marshall  
13410 A Highway  
Liberty,, MO 64068  
busyman512@outlook.com  
816-645-7237

James Neitzel  
311 West Phyllis Ave  
Columbia,, MO 65202  
jamesjneitzel@gmail.com  
517-930-6281

Abram Schisler  
7 Trevor Lane  
St James,, MO 65559  
jschisler@rolla.k12.mo.usa  
573-265-6025

Elvyn Volker  
6 Falling Leaf Drive  
Lake St Louis,, MO 63367  
elvynyoyo@yahoo.com  
636-639-1384

Steve Bierman  
5325 Blow Street  
St. Louis,, MO 63109  
sbierman99@gmail.com  
314-283-9746

Bill Gates  
12673 East Oliver Pass  
Nevada,, MO 64772  
bgates80@gmail.com  
907-252-4477

Ryan Klemp  
10464 Center Way  
Overland,, MO 63114  
ryan71k@gmail.com  
314-620-7913

Joshua Miller  
5557 Red Tailed Hawk Drive  
Hillsboro,, MO 63050  
ethanschool2013@gmail.com  
217-971-6792

John Newman  
29513 315th Street  
Barry,, IL 62312  
217-335-2693

Dan Stryker  
2322 Neier Road  
Union,, MO 63084  
danstryker72@aol.com  
636-744-2872

Joey Woods  
8915 N Farm Road 183  
Fai Grove,, MO 65648  
417-576-3730

Wayne Deardeuff  
31036 Maries Road 220  
Meta,, MO 65058  
deadcrow57@gmail.com  
573-694-1608

Phil Harber  
35 Darlene Lane  
Dittmer,, MO 63023  
314-795-3350

Al Krysan  
9700 161st S+W  
Lakeville,, MN 55044

Gregory Miller  
34782 State Hwy PP  
Macon,, MO 63552  
g.miller@brenoaklabs.com  
660-385-3987

Randy Preston  
5308 Waukomis Drive  
Kansas City,, MO 64151  
sumpterconstruction@gmail.com  
816-870-7742

Cody Swopes  
13319 East Hwy Z  
Stockton,, MO 65785  
rmswopes@gmail.com  
417-955-2652

# 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

**Real slate chalkboards** for your shop various sizes and prices call Matthew Burnett for details (816) 575-2798

## Commercial / Resource ads:

### Services:

**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.

John D. Thompson – Metalsmith  
3923 Hwy 25; Hodges, SC 29653 864-374-3933

**Classes** at Pieh Tool Company, Inc. - Camp Verde, AZ

The Bill Pieh Resource for Metalwork.  
Call now for more information and to enroll:  
(928) 554-0700 or (888) 743-4866.  
www.piehtoolco.com.

**Mathias Penn** is offering introductory & beginning blacksmith classes. 417-543-2148  
Tytheblacksmith@yahoo.com

**oldschoolcrafts** Blacksmith School, Joe Davis  
12625 Lawrence 1175, Mt Vernon, MO 65712 phone 417-461-0387 on the web www.oldschoolcrafts.org E-Mail oldschoocrafts@hotmail.com

**David Norrie blacksmithing school** in Colorado  
David Norrie 303-859-0770 http://  
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.

### Blacksmithing E-books on CD

Now eight titles are available on CD, \$4/each, or all eight books, \$24 postpaid. More books are in production and will be available soon- order on-line at www.blacksmithingebooks.com, or check/MO to Brian Gilbert, 3404 Hartford Dr., Chattanooga, TN 37415.

**Ray Clontz Tire Hammer Plans** by Clay Spencer  
Send check/money order for \$30 to Clay Spencer, 73 Penniston Pvt. Drive, Somerville, AL 35670-7013. Includes postage to US and Canadian addresses. Other countries e-mail clay@otelco.net for price. 256-558-3658. Tire Hammers for sale contact me for current price

## 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](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](http://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](http://www.Forge-Aprons.com)

**Heavy-Duty Fry Pan Blanks** 9" diameter, tapered sides 12

Or 13 gauge steel (approx.2 pounds) no predrilled holes for the handle \$12.00 each..1-4, \$10.00 each.5-9, \$9.00 each...10+. Shipping: \$5.00 plus\$1.00 each frypan Bob Tuftee 563-332-4800 6 Hollows Court LeClaire, IA 52753

**L Brand Forge Coke** now packaged in 50 pound bags on pallets. Send your zip code for a quote on price including delivery.1-678-360-3521 or [LBrandForgeCoke@aol.com](mailto:LBrandForgeCoke@aol.com).

**Chile Forge-** Next generation gas forges [www.chileforge.com](http://www.chileforge.com) David Starr 520/360-2141

**Kayne and Son** Custom Hardware, 100 Daniel Ridge Road, Candler, NC 28715. (828) 667-8868 fax (828) 665-8303, e-mail: [kaynehdwe@charter.net](mailto:kaynehdwe@charter.net), web site: [www.blacksmithsdepot.com](http://www.blacksmithsdepot.com).

Offering a full line of blacksmithing equipment. We ship and accept Visa and Mastercard.

**D.L. Schwartz Co.** Blacksmith and Farrier supplies. 2188 S. US 27, Berne, IN. 46711, 1-800-955-3064

**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](http://www.creativeironforge.com) or [www.sofablacksmiths.com](http://www.sofablacksmiths.com)

**USA Dealer** for REFFLINGHAUS ANVILS, 77 to 1250 lb.

European 2 horn with or without upsetting block & side shelf.

Over 100 sizes and styles available. Guaranteed face @ HRC59

Dick Nietfeld [www.blksmith.com](http://www.blksmith.com) Phone (308) 384 1088

## 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](mailto: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](http://bamsite.org) or send an E-Mail to Bernie Tappel at [bamweb@embarqmail.com](mailto:bamweb@embarqmail.com) and he will get you signed up.

Check out back issues of BAM newsletter on [www.bamsite.org](http://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](mailto:BAMeditor2015@gmail.com), or call 636-359-1246

**Number 1 beginner workshop Saturday April 8th 2017**

**Number 2-beginner workshop Saturday April 15<sup>th</sup> 2017**

Location:

Ray Scott:

20588 State Route V

Eminence, MO. 65466

No daytime phone number

Evening telephone number 573-226-5541

- Start time 8:00 am. Sharp. Students should be there and ready to go at 8:00 am. both days.
- Students must wear safety glasses while instruction and workshops are being run.
- Students need to bring a lunch both days.
- Water will be available.
- Students should wear cotton or wool clothing, no synthetic type of clothes.
- Gloves and aprons are not provided.
- Must be a BAM Member (Insurance requirement) \$30.00 dollars for a one year membership.
- Cost of each workshop is: \$30.00 dollars per student per day.

Instructors are:

Ray Scott

Don Birdsall

573-364-7223

Directions to Ray Scott's Shop:

At Eminence, MO. Go east on highway 106 five miles to highway V go north two miles. Look for a white fence on right side of the highway, turn at the gate and drive down to the shop.

If not a member sends membership dues

(\$30.00 dollars) to:

Bruce Herzog

212 Aileswick Drive

St. Louis, MO.

Send payment for workshops to Ray Scott at the above address.

Any questions call:

Ray Scott or Don Birdsall

Thank you and hope to see you at the workshops.

**Master blacksmith Jerry Darnell  
has completed his third book!**

***Forging Colonial Ironwork III***

It is in the same format as Book I and Book II,  
with some very challenging and unique projects.

**Contact Information:**

Jerry Darnell  
Mill Creek Forge  
4512 Busbee Road  
Seagrove, NC 27341

Email: [forge\\_on@rtmc.net](mailto:forge_on@rtmc.net)

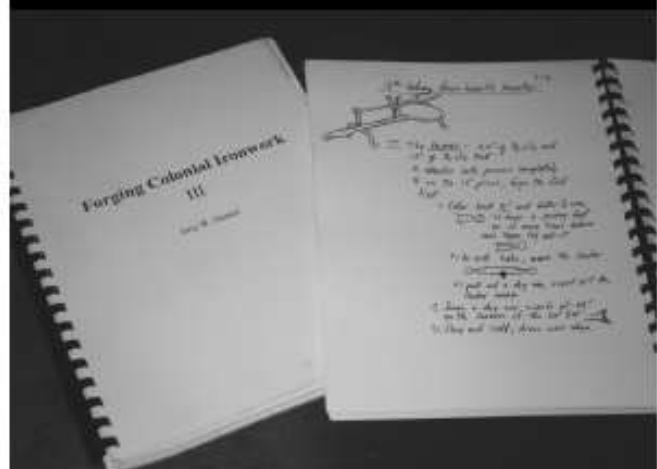
Website: [www.millcreekforge.com](http://www.millcreekforge.com)

Phone  
(910) 464-3888 (Shop) (910) 464-2636 (House)

Mail a check or call to order by Visa/MC

These three books are all the same price

**\$20. plus 6.75% tax  
and \$10.00 for shipping and handling.**



# BAM Coal Stations

## Price per bag:

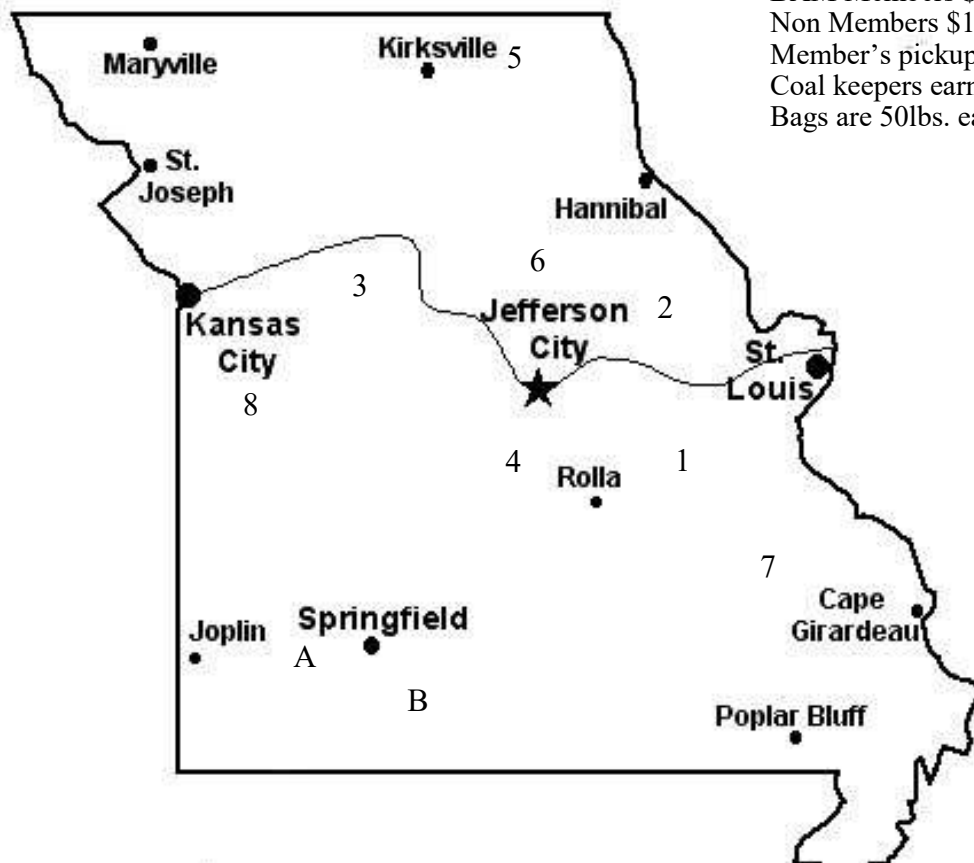
BAM Members \$14.00

Non Members \$19.00

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

Coal keepers earn \$3.00 per bag

Bags are 50lbs. each



1. Bob Alexander (636) 586-5350  
14009 Hardin Rd.  
DeSoto, MO 63020

4. Jerry Rehagen (573) 744-5454  
390 Bozina Valley Trail  
Freeburg, MO 65035

7. Bob Maes (573) 866-3811  
Route 1 Box 106 K  
Millersville, MO 63766

2. Ken Jansen (636) 295-5844  
2257 Carter Rd.  
Moscow Mills, MO 63362

5. Joe Hurley (660) 379-2365  
or (660) 626-7824  
Route 1 Box 50  
Downing, MO 63536

8. Bryan Lillibridge (660) 638-4536  
1545 NW 300  
Urich, MO 64788

3. Doug Clemons (660) 595-2257  
29377 Durango Ave.  
Malta Bend, MO 65339

6. Paul Lankford (573) 473-7082  
25849 Audrain County Road 820  
Mexico, MO 65265

## Non BAM Coal

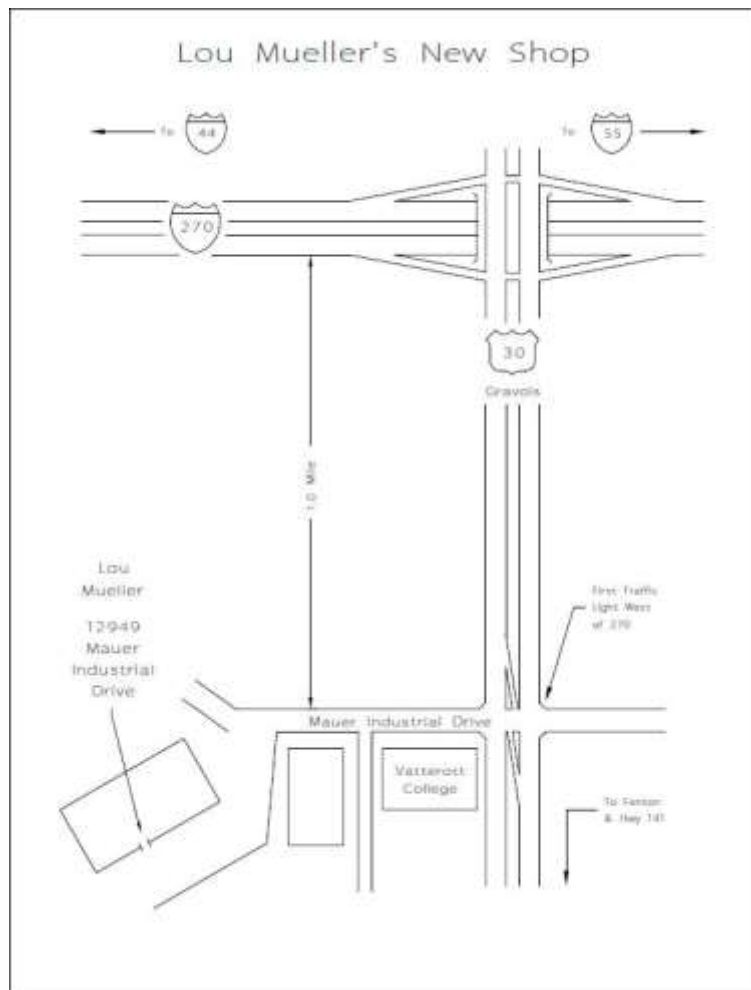
- A. Tim Johnson, Springfield, MO 417-886-8032 - \$.40/lb. check, \$.35/lb. cash. Bring your own containers.  
B. Good blacksmithing coal for sale \$12 per 50# bag with bulk delivery available.  
Matthias Penn Rt. 1 box 479-S Ava, Mo. 65608. (417)-543-2148.  
Or e-mail tytheblacksmith@yahoo.com.

**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](mailto:bjherzog@charter.net)

## Next Meeting: March 11, 2017

Lou Mueller, Mueller Industries Inc, 12949 Mauer Industrial Dr, St. Louis, MO 63127



**Trade item:** A flower with stem and leaf.