

# BAM

March/April 2016



## Table of Contents

Presidential Address	5
Letter to the Editor	6
Scholarship report	8
Structural Steel Article	10
Trade Items	16
Shop Tips (Tumblers pt. 2)	18
The Tailgate Area	20
MTS Workshop	22
Coal Map	23



There was good attendance at the March meeting at Don Davies shop.



Don mans the forge during Willy's demo.

Cover: Willy Bagley demonstrates his treadle hammer skills.

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Phil Cox

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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,

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The Blacksmiths' Association of Missouri is an affiliate of the Artist Blacksmiths' Association of North America, and is devoted to the preservation and advancement of blacksmithing and to communication among blacksmiths in Missouri and surrounding areas. The Newsletter of the Blacksmiths' Association of Missouri's goal is to support these aims. Letters to the editor, tech tips, tools for sale or anything else which furthers these ends will be considered for publication.

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# From the President

By Phil Cox

Just when I thought spring was here winter checks back in. The meeting at Don Davies shop had just about any kind of weather you could want. Yep rain, wind, clouds, sunshine, and after the meeting a little snow, but that didn't stop 40 or 50 showing up to a good meeting. If the old saying that he who dies with the most stuff wins Don is definitely in the running. If you need it it is most likely there. Finding it may take a while but Don has it pretty well organized, pretty amazing that he knows about what he has and where it's at. Diane has quite a collection Raggedy Ann & Andy dolls, cookie cutters, Quilts and other Ann and Andy items. Margie said it is very impressive. The ladies that went inside are entertained by making BAM note cards. Diane went to a lot of work preparing for all the ladies crafts. I even got a bite or two of a really good chocolate bunny she sent home with Margie, Thanks Diane.

Willie Bagley Put the BAM treadle hammer thru its paces during his demo he made a very nice cheese slicer for a demo piece. I am sure it will out last at least 50 store bought ones. He used Don's unique forge which is a propane rosebud torch shooting into a fire brick box it appeared to work very well. I was surprised how quite it is.

At the business meeting we took up the old item from the Jan. meeting. Don Birdsall was unable to attend as he was teaching an MTS class so I presented his findings on replacing the MTS trailer. The current one is at least 12 years old and starting to show its age. The consensus among those present is that asking a volunteer to pull this trailer 2,000 miles or more to and from an event is asking for trouble. We also think the trailer is a great billboard and it needs to present a favorable image. A motion was made and passed that we purchase a new trailer. I was authorized to spend \$6,000.

There were several unique items in the trade items. Some of which I had never seen before.

Very handy things to use in the shop. Iron in the hat had several good items that gleaned several dollars for the BAM treasury.

I was able to purchase a new Dolittle trailer for \$4,400. I will be going to get the BAM logo on the sides and rear. Early quotes is less than \$400. The plan is to change out the contents from the old trailer to the new one at the BAM conference as we will have everything unloaded for the classes. The old trailer will be put up for sealed bids at the conference. Everyone is invited to bid. Bids will be accepted at the conference. The bid opening time will be posted at the conference. The successful bidder will need to be prepared to pay for and take possession before the end of the conference on Sunday morning.

I am looking forward to see you all at the conference. Don't forget about the pot luck on Thursday evening. If there is food and interest maybe Friday also. This is our 25th BAM conference so don't miss it.

Until next time keep your fires hot and clean and you anvil bright. Phil



## From the Editor

By Jon McCarty

Hello everyone, Let me start off with a quick forge workshop update. I currently have 13 of the 20+ reserved workshop spots paid. That leaves us with 7 spots available.

This months meeting was held at Don Davies shop in Dawn MO. It was quite the drive but was a good meeting. Willy Bagley did a very nice demonstration of treadle hammer use. Willy has made good use of his time with the BAM treadle hammer. He was last years winner of the one year use of the hammer. Willy demonstrated making a outside caliper and a cheese slicer. Willy also has made a large set of tools for the treadle hammer and will be donating them to go with the hammer. If you are a future winner you can thank Willy for his contribution.

Don shared many stories about the many curious items he has tucked away around his shop. The Burnett's came through with an amazing lunch.

After lunch we had our business meeting, one of the points of discussion was the MTS trailer replacement. It was decided that the new trailer would be purchased and brought to the conference to have everything swapped over then. At that time the old trailer will be auctioned off by sealed bid. If you are interested bring your checkbook along and you can take it home with you. I know I will be putting my bid in on it.

There was a good turn out on trade items. I saw many great ideas that I took home to make for myself. I always enjoy seeing the trade items and seeing everyone's take one what was requested. This one was a little different than the usual trade item but I really like seeing the different tools people use around their shops. Some where what you expect to see but there were several that made me think, "Why didn't I think of that?"

Jon



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# Meeting Minutes ~ March Meeting

By Don Anders, Submitted by Bob Stormer

Phil Cox thanked Don and his wife for hosting the BAM meeting, thanks to Burnett catering for a really good lunch and thanks to Willey Bagley for the DEMO.

There was not an official treasures report, but Phil said that the BAM treasury and member count are both in good shape.

Mike McLaughlin gave a conference report, forge workshop and MTS class both being coordinated. There is always room for more volunteers to help with the conference. The BAM treadle hammer won by Willey Bagley last year will be offered again this year and Willey has made some tooling that will go with the treadle hammer.

Karen has Astragal Press at the conference again this year and she has been working with Burr-king to come to the conference. BAM has ABANA IRON in the hat tickets for sale again this year for anvil, BAM box and several other things.

BAM discussed the purchase of a new trailer at the meeting with Ken Jansen making the motion and Donald Davies seconding the motion to purchase. BAM now has purchased a new trailer to replace the existing MTS trailer, the old trailer will be sold at the BAM conference this year.

Scholarship report, there are three scholarships in process.

Meeting adjourned.

## Iron in the Hat ~ March Meeting

Donated by	Won By	Item
Dale Crabb	Jon McCarty	hammer handles
Jon McCarty	Karen Cooper	S7 metal
Fred Arnhold	Mike McLaughlin	spike
Phil Cox	Steve McCarthy	golf balls
Karen Bouckaert	Don Nichols	broom corn
Mark Lawson	Dale Crabb	tubing
Mark Lawson	Willey Bagley	bearings
Don Davies	William Blansit	misc metal
Don Davies	Jim Rice	brake drum
Don Davies	Don Nichols	wheels
Don Davies	Willey Bagley	cone mandrel kit
Willey Bagley	Karen Cooper	steel stock SQ
Don Davies	Don Nichols	barrel
Karen Bouckaert	Karen Cooper	spring
Don Davies	Dale Crabb	vise
Don Nichols	Mark Lawson	misc metal
Jon McCarty	Mike Gentzsch	S7 metal

## Scholarship Report

By Esther Digh

Three BAM Scholarships were granted in 2015. The recipients were Bo McCutcheon (\$1000), Matt Cruise (\$650), and Steve O'Grady (\$750).

Bo attended a class with Brian Brazeal on "Tools to Make Tools" in February. He has submitted his article to the Newsletter and is trying to organize a group of blacksmith for his presentation. He has plans to complete a video and second article to the Newsletter.

Matt Cruise attended a class at John C. Campbell on Tomahawks and Axes in July. He has also submitted his article for publication in the Newsletter but has not presented a demonstration.

Steve O'Grady is awaiting word from the instructor of his course, who had a medical emergency, before he can complete his course in 2016.

There have been no applications submitted for scholarships or grants as of March 25, 2016. The application is available in the BAM Newsletter.

## Scholarship Recipient

By Bo McCutcheon

My name is, Bo McCutcheon, and I was blessed with a scholarship from BAM. The scholarship gave me the opportunity to attend Brian Brazeal's "Tools to Make Tools" class in Brandon, Mississippi. It was a weeklong class that was a one-on-one setting.

On the first day of class we started by forging a hot cut hardy and a rounding hammer. With Brian directing and myself striking we were able to complete the forging on both of these tools by lunch. After lunch, Brian explained the grinding of both tools and we hardend and tempered the hammer. At the end of the first day I was tired but had new tools to show for all the work that

had been done.

The rest of the week we spent many hours forging tools to make hammers. By the end of my class we had made hammer tongs, hammer eye punches, cupping tool, hump tools, hammer eye drift, top fullers, bottom fullers, and several smaller hand tools. Brian teaches how to break down material to make forging easier. He also has a forge to finish approach to forging so less time and material is wasted. It was an excellent class and I believe anyone would benefit from it.

Due to health reasons Brian no longer teaches this class but has entrusted it to Lyle Wynn. Brian has said that Lyle is the only one that knows the class as well as him.

I would like to thank BAM for the scholarship that allowed me to attend this class. I would encourage everyone to support the scholarship program and utilize it.

Bo McCutcheon

## Scholarship Recipient

By Matt Cruise

Hi, my name is Matt Cruise. I've been a member of BAM for four or five years. I was fortunate enough to receive some scholarship money that afforded me the opportunity to attend a blacksmithing course at the John C. Campbell Folk School in North Carolina. I'm writing this article to describe my experience.

First, a little about myself. I'm a beginner blacksmith and a native of the Ozarks. I live in Webster County, about fifteen miles east of Springfield. I work at a University of Missouri research farm in Mt. Vernon. I'm also a student at Ozarks



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Technical Community College in Springfield. I've always admired the art of blacksmithing and am thankful for organizations like BAM which works to keep this tradition alive. I don't have my own shop, but enjoy working at a forge and anvil when I have the opportunity. I've taken two weekend courses in blacksmithing, both at the John C. Campbell Folk School. The first was a beginners class. The second was a class on tomahawks and axes for which I received the scholarship. Ryan Johnson was the instructor. He's very knowledgeable and skilled in blacksmithing. Ryan makes tactical tomahawks and knives for the military. You can find out more on his website at [rmjtactical.com](http://rmjtactical.com). I recommend anyone to attend a class at the Folk School. It's a nice place to get away, relax and just focus on your craft. They have a nice blacksmith shop with lots of room. There are at least ten coal forges, a few gas forges, and some power hammers. On my trip, I took some time to visit Kayne & Son Blacksmith Supply and purchased my first blacksmith hammer. I also drove thru the Smokey Mountains and seen some elk. I did miss out on the white-water rafting, however. Maybe next time.

Now, back to the class. There are various styles and designs of tomahawks, or trade axes as they were once called. Mine is the basic, traditional design with straight top, curved bottom and no poll. You begin with a piece of mild steel that forms the shell for the head and a piece of tool or spring steel for the center piece. The center piece provides strength and a sharp cutting edge. The mild steel is 1/4" thick, 1-1/2" wide and can measure in length from 9 to 10 inches depending on the size and style of the axe. The tool or spring steel is 1/4" thick, 1-1/2" wide and can be 2-1/2" to 3" in length. Make sure both pieces are clean. Begin by heating and bending the mild steel in the middle, long ways, folding it over against itself while forming an eye in the middle. This is where the handle will be inserted. If you like, you can use a steel pipe to help form the eye. Leave a gap between the ends to accept the center piece. Insert the center piece and heat the blade area to welding temperature. This is the part I had some trouble with. This was

my first experience with welding using a coal forge. I never seemed to get the temperature just right. It was either too low and wouldn't stick or too hot and pieces would melt. Ryan said you know the temperature is right when sparks are flying off the piece as you lift it out of the forge. I ended up switching to the gas forge. Sometimes the center piece might move when welding. You can first tack weld it in place using an electric welder. Once the welding temperature is reached, forge weld it with light and fast strokes with the hammer. Also, make sure to use a flux, such as borax. You can repeat this process with heavier strokes if you like. After it's welded, you can forge the shape and taper of the blade. Next step is to shape the eye to accept the handle. Heat the eye and drive a drift pin in it to form the correct shape. You don't want to enlarge it, just shape it. Also, take notice that the drift pin will be hot. After this, you can normalize your piece. Heat the entire piece to a high temperature then let it air cool. This will allow the piece to be worked more easily in the cold stage. Next, draw the desired pattern on the piece with a marker or soapstone. Cut out using chop saw or band saw. Use a grinder and file to straighten and clean up the edges. You can use a sander to polish it if you wish. You can also make designs using different types of files. Lastly, fit your handle and sharpen the blade edge. Ryan quickly covered tempering and heat treating the edge and I wasn't able to make it that far with my piece. If anyone is interested, he is scheduled to teach this class again at the Folk School in May of this year.

I want to say thanks to the BAM organization and the scholarship committee for this opportunity. I hope to see you all at the conference.

Matt Cruise

## Structural Steel Sizes and Shapes

By Walt Hull

There seems to be as much confusion among blacksmiths as among the general public about the standard designations for the sizes and shapes of the material we most commonly use. Perhaps this quick reference will be helpful. Flat strip Rectangular sections thinner than 1/4" are called "strip," and are in fact sometimes strips sheared from sheets. They are designated by thickness first, then width, for example, 3/16 x 1-1/2. Bars

### Rounds

Round bars are designated by diameter, and often abbreviated by a circle with a slash through it: for example, 3/4"Φ, read, "three quarter inch round.

### Squares

Square bars are designated by the dimension across the flats, often abbreviated by a square with a slash through it. My word processor doesn't have that, but you get the idea.

### Flats

Rectangular sections 1/4" thick and up, designated by thickness first, then width, thus, 1/2 x 2 (not 2 x 1/2).

### Bar size angles

Angles smaller than 3x3 are called bar size, even though they are dimensioned and used just like the larger "structural" angles. They are dimensioned by largest dimension first, then next largest and then smallest. Thus: L1-1/2 x 1 x 1/8, L3/4 x 3/4 x 1/8. The capital "L" is used in place of the angle sign for convenience at the keyboard.

### Bar size channels

Channels 2" and smaller across the flat are called bar channels, and dimensioned by width, length of flange ("leg"), and web thickness, in that order, and commonly abbreviated MC, for "miscellaneous channel". Thus, MC 1 x 1/2 x 1/8.

## Structural shapes

### Structural angles

Structural angles are dimensioned just like bar size angles, thus: L6 x 4 x 3/8

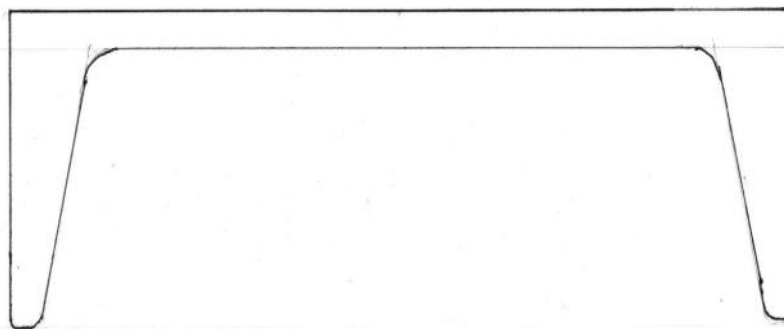


FIG 1: TYPICAL CHANNEL: C6 x 8.2

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## Channels

Structural channels are designated by their width across the web and their weight in pounds per foot. A 6" standard channel is a 6" x 8.2#, six inches wide with a web thickness of about 3/16" and a flange about 1-15/16" tall. The flange is tapered from the web out (see the figure below).

The abbreviation for this section is C6 x 8.2#

## I Beams

Like the channel, the I beam has a tapered flange (the top item in fig. 2). They are not much seen except as hoist beams, where the taper of the flange keeps the trolley centered. Like the channels, they are dimensioned by depth from flange to flange and by weight. The abbreviation is S (for Standard I). An eight inch standard I would be written S8 x 18.4. The vertical dimension, like the width dimension of a channel, is a true dimension.

## Wide Flange Beams

Wide flange beams come in many more sizes than S sections and have flanges which are not tapered. This makes them better for structural work since a bolt head or nut will bear on the flange without the need for a bevel washer (see the bottom illustration in fig. 2). They are sized by height and weight per foot. Thus a W8 x 24 is a wide flange section 8" tall and weighing 24 pounds per foot. Note that the height dimension is nominal. As the sections get heavier the actual height exceeds nominal. A W8 x 24 is 7-15/16" tall, but a W8 x 67 is 9" tall. You may see shapes stamped with metric dimensions. So our W8 x 24 would be something like 200 (mm) x 36 (kg/meter). The abbreviation "W" is common today, but in older specs you may see a symbol made of a W and F written as one, so the arms of the F come out of the right leg of the W. My word processor doesn't have that one, either.

## Structural tubing

Structural tube, abbreviated TS, comes in square, rectangular, and round. Rectangular and square tubing are designated by outside dimension, largest first, and wall thickness, thus:

TS 6 x 2 x .188 (6 by 2 by 3/16 wall) TS 4 x 4 x .250 (4 inch square by 1/4) TS 1 x 1 x 15ga. (One inch square by 15 gauge)

Round tubing likewise dimensioned by outside diameter and wall thickness:

TS 6" Ø x .375

Tubing dimensions are true outside dimensions, and the wall thickness are also as given.

## Pipe

In structural work pipe is generally used rather than round tubing. Pipe dimensions are nominal inside dimensions, and, particularly in the smaller sizes, may vary substantially from true dimensions. A 1" standard pipe, for example, is just over 1-5/16" outside and not quite 1-1/16" inside. 3-1/2" standard pipe is 4" OD and 3.548 ID. By "standard" is meant schedule 40. Schedules 5 through 160 exist. Outside dimension stays the same but wall thickness increases with schedule.

There are other rolled shapes, T's and Z's and H sections, "ship and car" channels, and I haven't even mentioned sheet, plate, grate, expanded metal, rebar...., but these are the ones we most commonly deal with.

Fig 2 on Page 15

### **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.

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## 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:

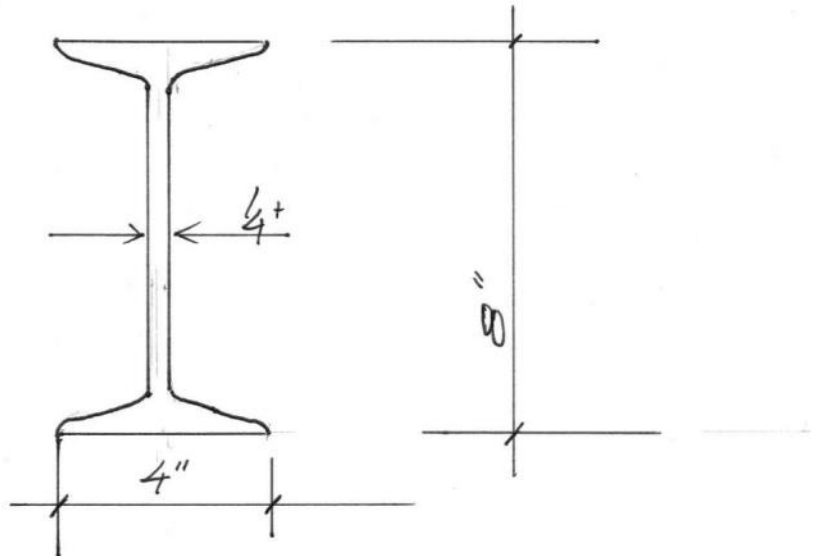
Identify the costs of this educational experience (materials, fuel, travel, handouts, propane, etc:

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

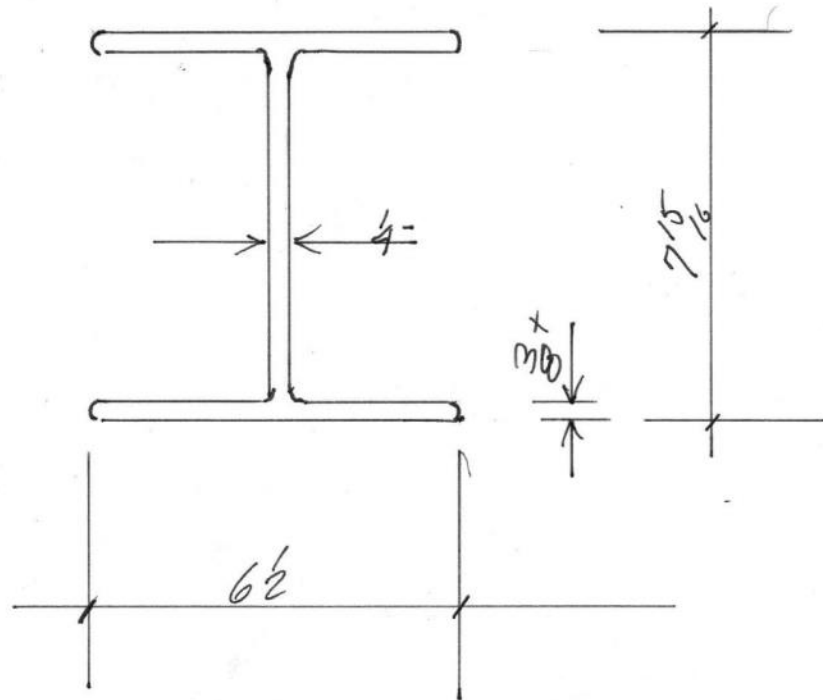
- (1) Write an article for the BAM Newsletter about the workshop conducted and the skills taught;
- (2) Write an article describing the mentorship experience;
- (3) Submit diagrams and directions for making the items made during the workshop;
- (4) Present a demonstration at a BAM meeting.

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

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



TYPICAL I BEAM: 58 x 18.4



TYPICAL WIDE FLANGE BEAM: W8 x 24

FIG 2: BEAMS



**Made By:** Matthew Burnett  
**Traded To:** Don Anders

**Made By:** Ken Jansen    **Made By:** Matthew Burnett  
**Traded To:** Donald Davies    **Traded To:** Don Anders



**Made By:** Donald Davies



**Made By:** Mike McLaughlin  
**Traded To:** Willey Bagley



**Made By:** William Bagley



**Made By:** Don Anders  
**Traded To:** Dylan Branson



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# Trade Items from March Meeting



**Made By:** Mark Lawson  
**Traded To:** Don Nichols



**Made By:** Fred Arnhold  
**Traded To:** Phil Cox



**Made By:** Bernie Tappel  
**Traded To:** Willey Bagley



**Made By:** Phil Cox  
**Traded To:** Fred Arnhold



**Made By:** Jon McCarty  
**Traded To:** Ken Jansen



**Made By:** Don Nichols  
**Traded To:** Jon McCarty



**Made By:** Dylan Branson  
**Traded To:** Matthew Burnett

## Shop Tips ~ Part Two Tumblers

By Don Birdsall

In this article I will try and cover the other two types of tumblers, drum types and vibration types.

In choosing a cylinder or drum for a tumbler, keep in mind that heavy metal objects rotating and falling inside can do damage to the drum. In turn this can lead to a problem with keeping the drum running correctly.

The drum should be 24 to 36 inches in diameter for the best results, though a smaller size drum will work but just not as efficient. It is the falling action of the pieces that provide the deburring and polishing effects. The further the pieces fall the greater the force the piece reaches when reentering the polishing medium, thus the results are better and faster. Ideally the drum should be lined with some type of rubber that helps to absorb the shock of the falling pieces and helps to prolong the life of the drum. To build such a tumbler is not as easy as it might seem. The drive mechanism is hard to get right and keep running.

To start you need a frame that is wide enough and long enough to hold the drum. You need two shafts, one a drive shaft and another an idler shaft. The shafts are mounted at 120 degrees apart. The drum sets on these two shafts. Both shafts have rubber tires mounted on the shafts to carry the drum. The drive mechanism can be either one that drives the shaft and friction moves the drum, or one that the drive belt wraps around the outside of the drum. The later is the best way to drive the drum. I think it has the least amount of problems in keeping the drum running true. A flat belt will give the best results, cause of the greater surface area in contact with the drum. Still it has a lot of problems, the drum will want to run off to the side as the weight changes inside also if the rpms get to high the drum might want to jump completely off the tires. You can install guide rollers at both end of the drum to keep the drum on the rollers. This is a lot harder to do than it might seem. A spring loaded guide pin also works to help keep the tank centered. The pin is located to ride on the center of the tank, one on each end of the tank.

This type of tumbler is better if your parts are long, the rubber tire type explained in the last issues of the BAM News Letter is fine for small pieces, but will not handle pieces that are longer than the tire is wide on the inside.

For the opening to put your pieces and medium into the drum cut a hole in one or both ends of the drum. Make the cover water tight so that the inside remains moist at all times while running. If the drum starts to get out of round due to dents from the pieces tumbling around inside, you are going to have continuous problems in keeping this type running. Make sure you have strong enough shafts to carry the weight and heavy-duty bearings. The tires should be solid so as to help keep the drum running smooth and in alignment.

Again a variable speed drive unit will make keeping this unit running easier.

Now for the vibration type tumbler, I think for the back yard blacksmith this is probably the easiest and the best tumbler to build and use.

To start you will a metal lined box that will hold water wider, than the longest piece that you will polish, for the length 4 feet is long enough; depth 18 inches deep is good. This type tumbler will move back and forth on the length not the width of the tank. So the width can be longer than the length.

A steel frame slightly larger than the box with four compression type coil springs mounted securely to the frame in the corners. You want lightweight springs from a sub compact type car or similar, these springs do not go up and down but must allow the drum to move side ways. They need to be able to carry the weight and remain in a horizontal position at all times or the drive mechanism will fail. The tank is mounted on the top of the springs very securely. The drive unit must operate at a very high rate of oscillation, but with a very short stroke. Two inches of travel is more than enough. This is accomplished

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with a pitman arm type drive, with one inch of offset.

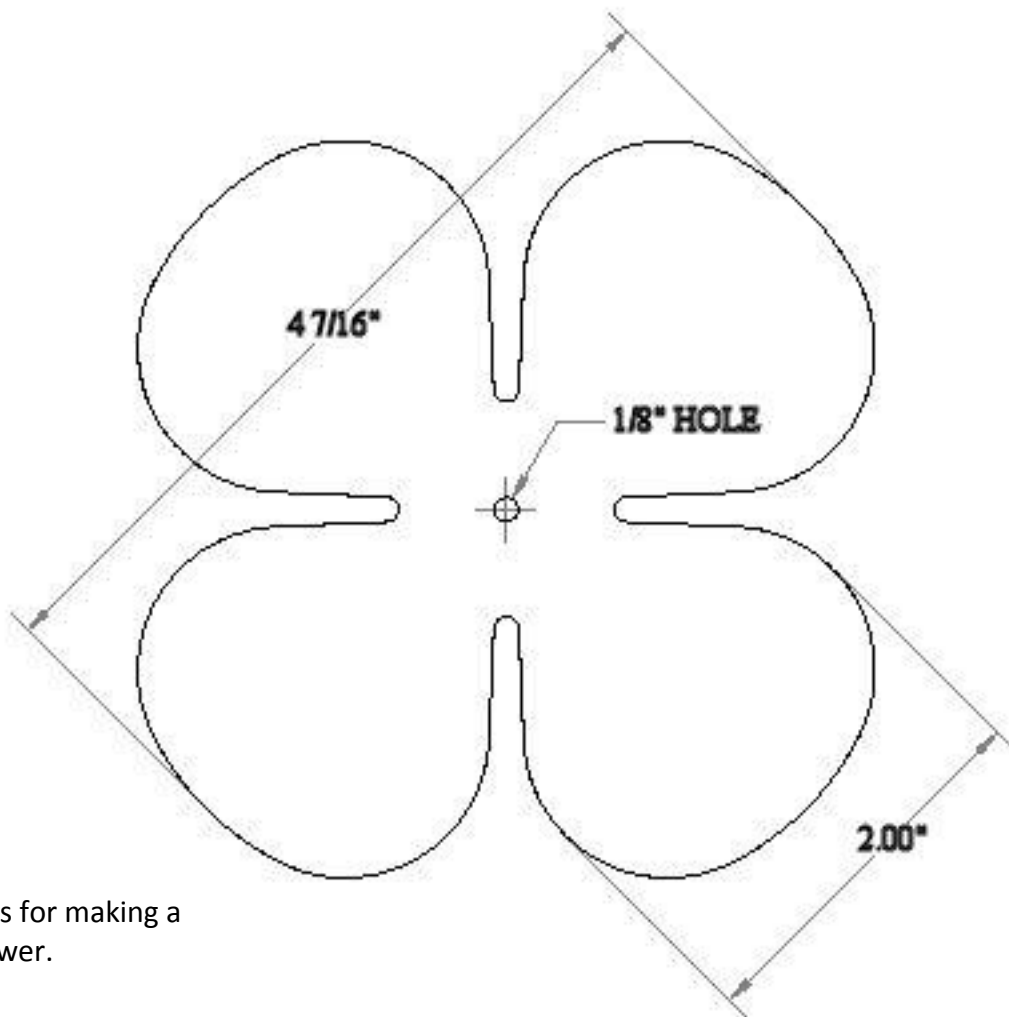
Guide rollers along the sides of the tank will help keep the unit in alignment. These rollers can be ball bearing or rubber tire type, put a wear strip for the guide rollers to run against to protect the tank from undue wear.

The way this type works is by vibrating the medium and parts at a very high rate of oscillation. The parts and medium will move in a circular motion across the top, down the end of the tank across the bottom back up the other end and continue in this circular motion, till it is stopped.

How fast to run this depends on how much every thing weighs. The tank, the medium, the parts, the friction of the tank against the guide rollers, etc. If a high rpm motor does not move the unit fast enough, you will have to build an increaser type drive unit using belts and shafts and experiment until the right speed is found.

At the beginning of the last article I said that building a tumbler would not be an easy under taking, I hope these two articles help you in building one any way. Please let me know if you do, how it works out. If you run into a problem contact me and I will try and help you solve the problem.

Don Birdsall



This pattern is for making a Dogwood flower.

# 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

**Wanted** Tire bender contact Roy Johnston 636-662-2126

## 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:

**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](http://www.oldschoolcrafts.org) E-Mail [oldschoolcrafts@hotmail.com](mailto:oldschoolcrafts@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](http://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](http://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@tirehammer.com](mailto:clay@tirehammer.com) for price. 256-558-3658. Tire Hammers for sale contact me for current price

### New England School of Metalwork

[www.newenglandschoolofmetalwork.com](http://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)

**Scrub Oak Forge:** We still have the Ozark Pattern anvils, and hand hammers. For more info on the tools, contact Bob Alexander at 636-586-5350 or [scruboak4@netzero.net](mailto:scruboak4@netzero.net)

**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 [LBrandForge-Coke@aol.com](mailto:LBrandForge-Coke@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)

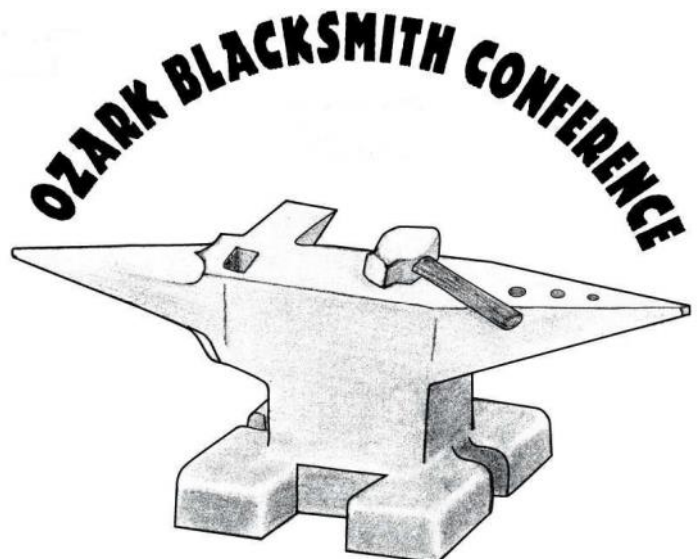
**Around the Anvil** BAM has its very own E-Mail news group. If you would like to participate there is a sign up link on the [bamsite.org](http://bamsite.org) or send an E-Mail to Bernie Tappel at [bamweb@embarqmail.com](mailto:bamweb@embarqmail.com) and he will get you signed up.

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

# BAM

25th annual  
April 28th—May 1st 2016  
State Fair Grounds  
Sedalia, MO



## MTS Workshop

On Saturday, April 2nd and April 9th the following BAM members took and completed the Number one and Number two MTS Basic blacksmith Workshops at Ray Scott's in Eminence, Mo.

List of Blacksmiths who attended the classes were as follows:

Michael J. Andert  
1833 Hollow Tree CT.  
Chesterfield, MO

Mark Destefane  
15574 Cedarmill DR.  
Chesterfield, MO

Fran R. Agorvina  
14611 Lake Trails CT.  
Chesterfield, MO

Adam B. Ensor  
8750 Kriete Creek RD.  
Gerald, MO

Tony Bland  
P.O. Box 421  
Eminence, MO

Ed Hackworth  
RT 1 Box 175 C  
Birch Tree, MO

Orrin Phillips  
1811 Soest RD.  
Rolla, MO

David Grant  
P. O. Box 176  
Willow Springs, MO

Dave Turley  
RT 1 Box 1210  
Fremount, MO

Thank you to all who attended the class.

Special thanks to Ray Scott for hosting the class. This was his 15th year hosting the class. His dedication to the BAM and the MTS program is much appreciated. Thank you Ray for your inspiration to beginner blacksmiths.



New Trailer ready to be put into service.

## Upcoming Events

April 28<sup>th</sup>-May 1<sup>st</sup> 2016 Ozark Conference, Sedalia MO  
June 11th Meeting Don Nichols, Booneville MO.

# BAM Coal Stations

## Price per bag:

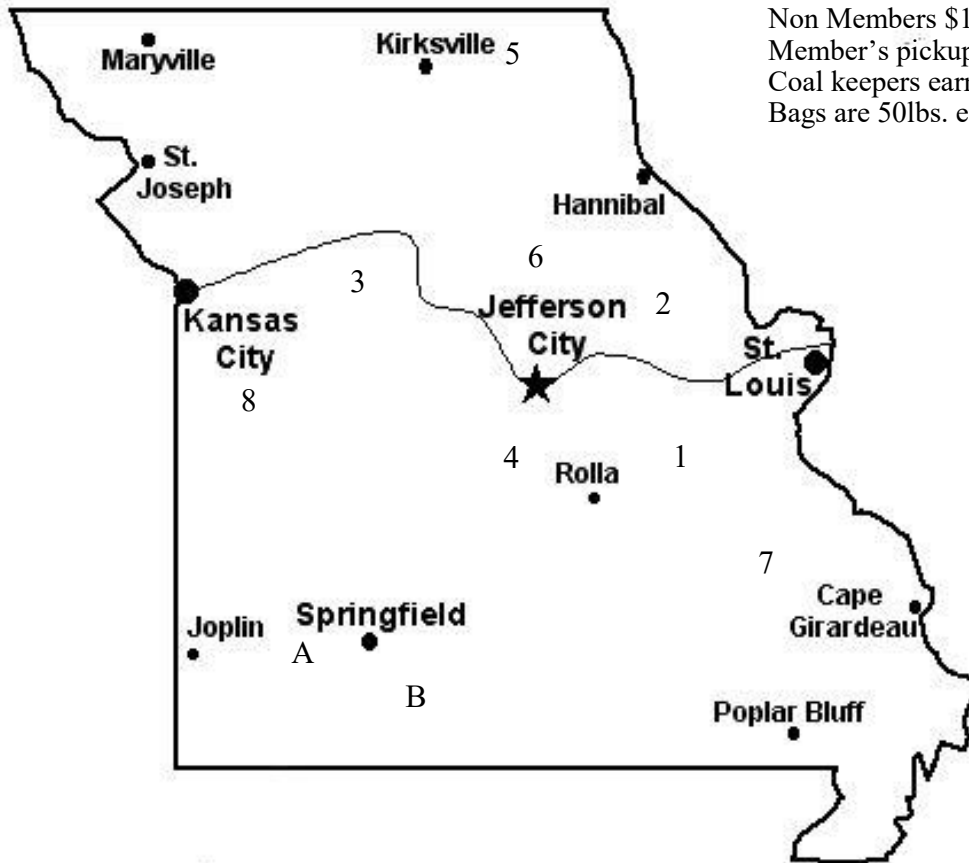
BAM Members \$14.00

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) 586-6938  
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

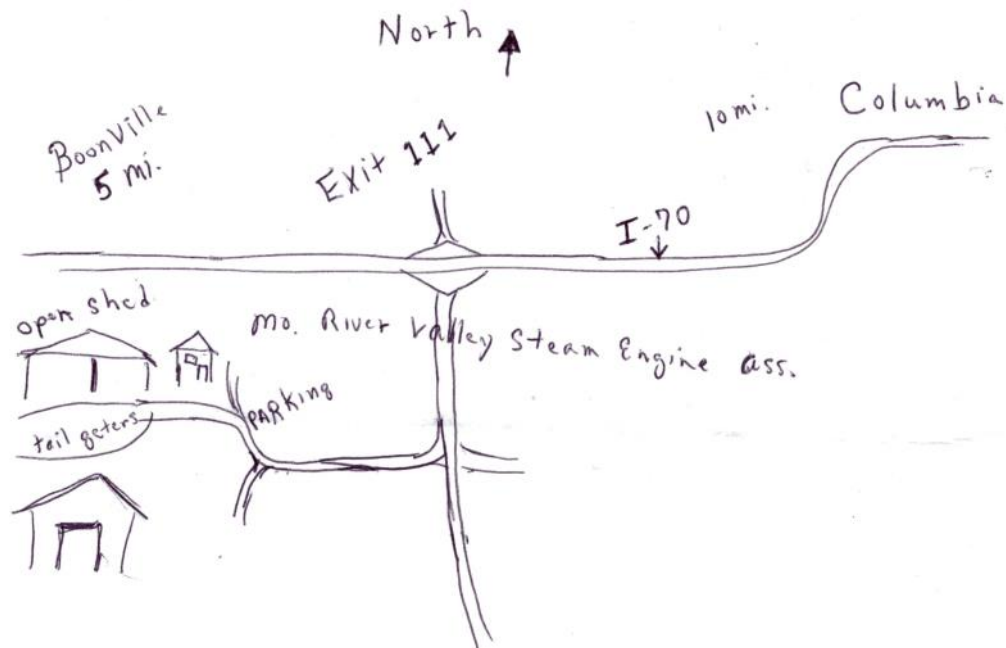
- A. Tim Johnson, Springfield, MO 417-886-8032 - \$.40/lb. check, \$.35/lb. cash. Bring your own containers.  
B. Good blacksmithing coal for sale \$12 per 50# bag with bulk delivery available.  
Matthias Penn Rt. 1 box 479-S Ava, Mo. 65608. (417)-543-2148.  
Or e-mail [tytheblacksmith@yahoo.com](mailto:tytheblacksmith@yahoo.com).

**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: June 11, 2016

Don Nichols at Brady Showgrounds, 24249 State Highway 179, Boonville, MO 65233.



**Trade item:** Fancy handle, this can be attached to something or ready to attach.  
Food will not be provided, please bring your own lunch and chairs.