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**August 2018**

# THE FORGE FIRE

**The Newsletter of the Indiana Blacksmithing Association, Inc.****An Affiliate Of The Artists-Blacksmiths' Association of North America, Inc.**

IBA is a Not For Profit Indiana Corporation recognized by the IRS under section 501(c)(3)

9:30 AM is the regular meeting time for IBA Hammer-Ins  
with beginner training available at 9:00 AM.  
PLEASE MAKE SURE TO ASK FOR HELP!

**If you would like an IBA membership application form,  
please contact Farrel Wells, Membership Secretary  
(765) 768-6235.**

BULK LOTS ARE AVAILABLE TO DEMONSTRATORS,  
SHOPS, SHOWS AND OTHERS WILLING TO MAKE THEM AVAILABLE.  
WE APPRECIATE YOUR HELP.

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**More nearby resources and organizations for blacksmiths:**

**Rural Smiths of Mid-America:**  
Meetings are on the first Saturday of each month  
Call Ron Gill  
317-374-8323 for details

**IBA MEETING SCHEDULE**

Check the latest *Forge Fire* for monthly **IBA** revisions.

**Aug 18 2018** **TBD**

**Sept 15 2018** **TBD**

**Oct 20 2018** **TBD**

**Nov 17 2018** **TBD**

**INDEX**

PGS 3-5  
SATELLITE NEWS

PG 3  
LARGE BLACK-SMITH AUCTION

PGS 6 –9  
FORGING OPEN FACE DIES

PG 10  
DRIFTING ALONE

PG 11  
RIVET CUTOFF FIXTURE

**Dates to Remember**

Aug 3-19  
Indiana State Fair

Sept 20-23  
Quad State (SOFA)

**Editors Message**

I missed the July hammer in and tailgate event hosted by Jim Claar. Jim Watts tells me it was a good time. He shared these photos of our host and a few of his interesting creations.



I do not have any information on upcoming hammer ins, but keep a close eye on the next Forge Fire and on the IBA Facebook page. Our August hammer in has usually been replaced by the Indiana State Fair, which is in full swing. If you want to do some hammering at the shop, contact Bill Newman at 317-690-2455.

SOFA's Quad State event is coming up quickly. This is always a big event. The Brotherhood of Friendly Hammermen (BFH) will be demonstrating on Friday night. If you are interested in more details here is a link to their site: <https://sofablacksmiths.org/event/quadstate-2018/>.

The power hammer class hosted by the Jennings County satellite and instructed by Kurt Ferhenbach was a big success. Kurt has tremendous knowledge and he is an excellent instructor. If you have a chance to attend a class like this be sure to take advantage of it. A few photos of the class are listed on page 5.

Matt Burnett of the Missouri School of Blacksmithing contacted me about some up coming classes that might be of interest. I have the August, September and October classes listed on the back page. The IBA does have a scholarship fund that would help defray some of the class fees. Contact Jim Johnston if you are interested in taking advantage of a scholarship.

Jeff Reinhart recently commented that the show season is beginning to pick up. I whole heartedly agree with that assessment. There are plenty of opportunities to get out, meet people and highlight blacksmithing to the community. So go out and have some fun.

**IBA website:** [www.indianablacksmithing.org](http://www.indianablacksmithing.org) **IBA Facebook page:** [www.facebook.com/groups/IndianaBlacksmithingAssociation/](http://www.facebook.com/groups/IndianaBlacksmithingAssociation/)

IBA Satellite Groups and News

- 1) Sutton-Terock Memorial Blacksmith Shop**  
Meet: 2nd Saturday at 9 AM  
Contacts: Fred Oden (574) 223-3508  
Dennis Todd (574) 542-4886

**3) Wabash Valley Blacksmith Shop**  
Meet: 2nd Saturday at 9 AM  
Contacts: Doug Moreland (217) 284-3457  
Max Hoopengarner (812) 249-8303

**5) Maumee Valley Blacksmiths**  
Meet: 2nd Saturday  
Contacts: Clint Casey (260) 627-6270  
Mark Thomas (260) 758 2332

**7) Rocky Forge Blacksmith Guild**  
Meet: 2nd Saturday at 9 AM  
Contacts: Ted Stout (765) 572-2467

**9) Whitewater Valley Blacksmiths**  
Meet: 2nd Saturday  
Contact: Keith Hicks (765) 914-6584

**11) Bunkum Valley Metalsmiths**  
Meet: 1st Saturday  
Contacts: Jim Malone (812) 725-3311  
Terry Byers (812) 275-7150  
Carol Baker (317) 809-0314

**13) Satellite 13**  
Meet: 4th Saturday  
Contact: Bill Newman (317) 690-2455

**2) Jennings County Historical Society Blacksmith shop**  
Meet: 2nd Saturday at 9 AM  
Contact: Ray Sease (812) 522-7722

**4) Fall Creek Blacksmith Shop**  
Meet: 4th Saturday at 9 AM  
Contacts: Gary Phillips (260) 251-4670  
Dave Kline (765) 620-9351

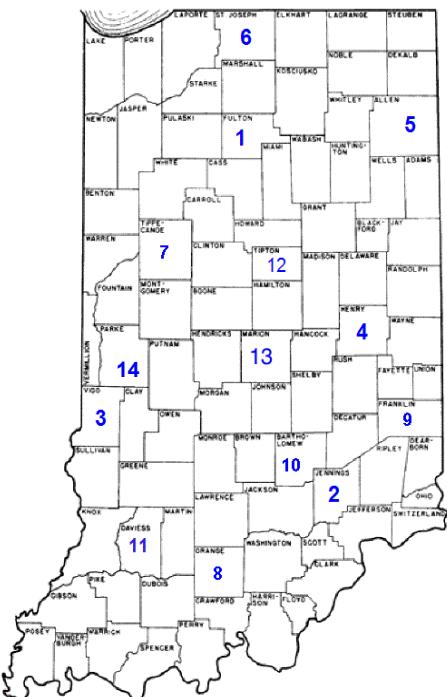
**6) St. Joe Valley Forgers**  
Meet: 4th Saturday at 9 AM  
Contacts: Bill Conyers (574) 277-8729  
John Latowski (574) 344-1730

**8) Meteorite Mashers**  
Contacts: Mike Mills (812) 633-4273  
Steve King (812) 797-0059  
Jeff Reinhardt 812-949-7163

**10) One-Armed Blacksmith Shop**  
Meet: 1st Saturday  
Contact: Tim Metz (812) 447-2606

**12) "Doc" Ramseyer Blacksmith Shop**  
Location: 6032W 550N, Sharpsville, IN 46060  
Meet: 3rd Sunday at 2 PM  
Contact: Charles Gruell (765) 513-5390

**14) Covered Bridge Blacksmith Guild**  
Meet: 1st Saturday  
Contact: John Bennett (812) 877-7274



## Meteorite Mashers

We met in conjunction with the Blacksmiths of Kentucky this month at their hammer-in in Frankfort. We had a good turnout and a very good time. We took our forge demo trailers for show and tell. Our next meeting will be at Dave Kunkler's shop in Branchville.

**Green/Mengel Blacksmith Tool Auction  
September 15, 2018 9:00 A.M.  
Leesport Farmer's Market  
312 Gernants Church Road, Leesport, PA 19533**

**Note:** lists over 40 anvils and 20 swage blocks

## IBA Satellite Groups and News (continued)

### Bunkum Valley Metalsmiths

The Bunkum Valley Metalsmiths met Saturday August 4th at Jim Ray Malones shop. There were 25-30 in attendance of all ages. It was really hot so there was more fellowship than forging. The pitch in lunch was very good as usual and the Iron in the Hat was popular with two fans up for grabs.



We will meet next month as usual but will be loading up for the White River Valley Antique Show in El Dorado. This is a great event for families especially those who like history. The Blacksmith Shop will be open and working everyday of the show. It begins September 6th through the 9th. There is a flea market, consignment lots, entertainment and lots more. Check it out on Facebook:White River Valley Antique Association

Anyone is welcome to come the first Saturday of each month starting at 9am.



## IBA Satellite Groups and News (continued)

### Jennings County Historical Society Blacksmith shop

The Jennings County Historical Society Blacksmiths had a rather historic demonstration , both Saturday and Sunday, in place of the regular hammer in. Everyone attending appeared to leave with a great deal more knowledge of power hammers. Kurt Fehrenbach is to be applauded for his expert skill in teaching skills to others and his donations to the shop. This skill may be invaluable when he moves out west next year. Bill Kendrick put food in our bellies and smiles on our faces both days. Also, many thanks to the others who also supplied food.

The next meeting on the 11th will be after our allotted time (Wed.-Thurs.-and Fri. ) at The Indiana State Fair. Anyone wishing to demonstrate at the fair can call Bill Newman at 317-690-2455. Bill also is moving next year. Someone will be needed to take his place at the fair, so keep this in mind if you are interested. Bring lots of iron in the hat items and money to buy tickets. Your generosity over time is what made the demo and the building addition possible. Thanks to all of you!

Paul Bray



This 4 page article originally appeared in the (Winter 2018) issue of The Hammer's Blow, and is reprinted courtesy of ABANA. All rights reserved.

## Forging Open Face Dies Using a Pattern

by

**Tom Latané**

*HB Staff Writer*

Photos by  
Catherine Latané  
(unless otherwise noted)



In my last article ("Forging Open Face Dies", *Hammer's Blow* Vol. 25 #3, Summer 2017) I described making dies by chasing the cavity directly into the die surface. Here I will describe creating an impression by forging a pattern which will be driven into the die blank. Several sizes of tear drop shaped chasing tools were employed in chasing the dragon's foot die. I chose a design for this article that also makes use of tear drop tools, this time to forge the pattern. The details on the foot, toes, knuckles, and claws, were convex - produced by stamping into the die. The details in this element, for the termination of a bar, are concave - so are chased into a pattern.

The die blocks I described were prepared by forming a tenon on stock larger than the hardie hole and either upsetting the stock above the tenon, to shoulder nicely on the anvil surface around the hardie hole, or laying the bar down on the anvil face and upsetting a corner above the tenon. Laying the bar down can provide more length for multiple impressions. Upsetting can produce more width, and the die can be made taller for operations like forging the foot on a tripod. I save tougher pieces of A36 for dies, or use 1045. For more details about preparing the die material, see the article identified above.

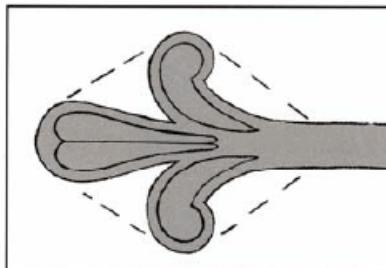
Patterns can be made of mild steel and hardened with case hardening compound or a super quench (salt water and surfactants) to resist deformation when driven into the die material.

Motivated by film clips from the documentary, "The Devil's Workshop", in which smiths reproduce elements from the impressive ironwork on the Cathedral de Notre Dame de Paris, I pulled out some dies I made a few years ago inspired by the cathedral doors. The forging of that ironwork made extensive use of dies for swaging the bars, the finials, and leaves at the junctions of the bars. It is an interesting exercise to examine the doors and identify the repeated elements.



*Image #1: Detail of cathedral door hardware at Notre Dame. Photo courtesy of Kim Thomas.*

It helps to draw a rough sketch of the design - this one is for a symmetrical finial.



*Image #2*

The stock chosen for the pattern was  $\frac{1}{4}$ " x 1". I forged a pair of shoulders a bit further back from the end than the material was wide (about 1  $\frac{3}{8}$ ") using the edge of the hammer over the far edge of the anvil.



*Image #3*

The neck was drawn down to about  $\frac{3}{8}$ ", tapering from the full width of the bar over several inches.



*Image #4*

To begin forming a diamond shape, the bar was turned on edge and set on one corner at the near edge of the anvil to be struck on the diagonal corner.



Image #5

The two other diagonal corners were forged in the same way. One has more control alternating between the two, rather than forging one side completely before turning to the other. It was photographed this way to illustrate the goal in the fewest photos.



Image #6

When an elongated diamond shape was achieved, the corners were rounded and the edges thinned to about 3/16".



Image #7

I drew the design on the steel when it cooled and marked the areas to be chased lightly with the tools that would be used hot - a narrow tear drop tool, a more bulbous tear drop tool, and a dome ended tool. For cold chasing (and for difficult hot chasing) a heavy bar can be placed in the vise and the workpiece clamped to it.

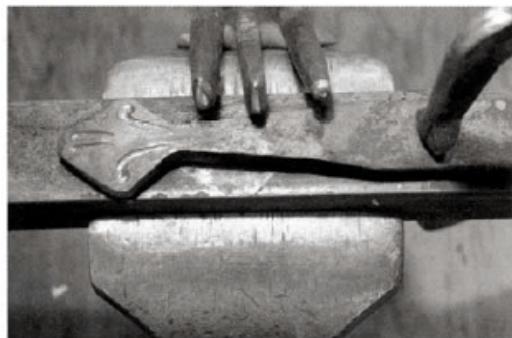


Image #8

The hot chasing began at the tip using the narrower tear drop tool. I began with the tool rocked slightly toward the wider end and moved the tool as it was struck, ending with the tool tipped toward the narrow end, to get a tapered groove longer than the footprint of the tool.



Image #9

As a right handed smith, I started with the groove on the right so I could see it when chasing the matching groove on the left.



Image #10

The ends of both grooves were widened with a more bulbous tear drop tool.



Image #11

Dimples were created at the ends of the lower grooves with a dome ended tool.



Image #12

The curves of the lower grooves were deepened and widened with the bulbous tear drop tool, moving it in an arc as it was struck.



Image #13

The roots of the two upper grooves were brought together and the single groove chased down between the lower grooves with the narrow tear drop tool.

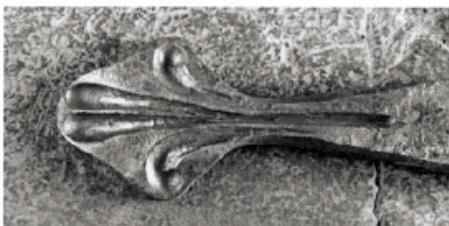


Image #14

The chasing was cleaned up cold with the same three tools plus a flat ended planishing tool, which was used to bring the surface back in wherever a groove was too wide.



Image #15

When the chasing was done, the perimeter was sawed and filed to complete the pattern.

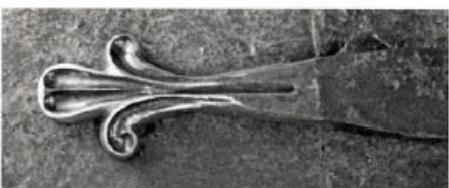


Image #16

The pattern was heated red hot and covered with case hardening compound and returned to the fire. More compound was added a couple of times before the steel was quenched in water.



Image #17

One end of a die block was heated and the pattern was driven into it.

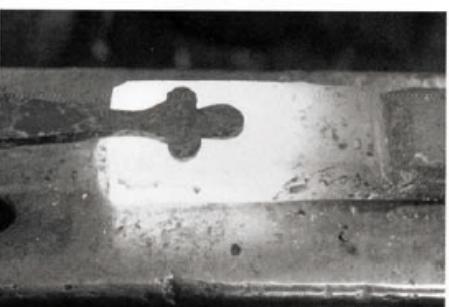


Image #18

The die was allowed to cool slowly and chased cold to improve the impression. Because the die material spreads when displaced, the resulting cavity is larger than the pattern.



Image #19

A blank to be swaged was prepared from 1" x 5/16" (rather than 1" x 1/4") using the same procedure as the pattern blank.

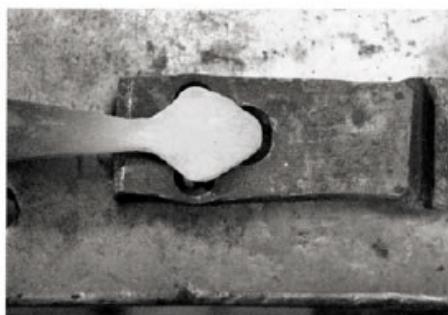


Image #20

I had better results swaging using a flatter and a sledge hammer than the hand hammer. The stem on the forging could be drawn down before swaging to avoid holding the finished leaf in tongs to do this later.



Image #21

The stem of the leaf was then swaged in a double reed die.



Image #22

Flash was sawed and filed to finish the piece. Left and right scrolls were formed with ends swaged in a matched pair of dies.



Image #23

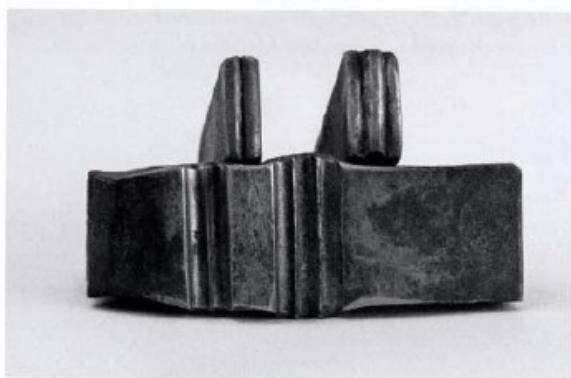


Image #24: Reed dies with patterns.

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• Open Face Die Examples •  
(Images 25a through 26b)

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Image #25a: Paired left and right finials with pattern, best kept on the same die block.



Image #25b: Paired left and right finials with pattern. Again, best kept on the same die block.



Images #26a (above) and 26b (below): Leaf finials with patterns. ■



## Drifting Alone

by David Edwards of Persimmon Forge

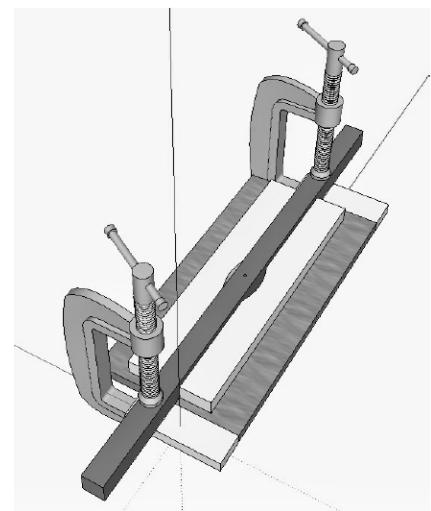
Just picking the title brought back memories of lazy days floating the Jacks Fork and Current rivers in a canoe. Those trips often included a visit to the famous Alley Mill. <http://www.nps.gov/ozar/historyculture/alley-mill.htm>

However what I actually had in mind was describing a jig to assist drifting a hole when there is no one available to assist. The actual case which prompted the construction of the jig was the need to drift a square 3/8" hole in 3/8" x 3/4" square bar four times.

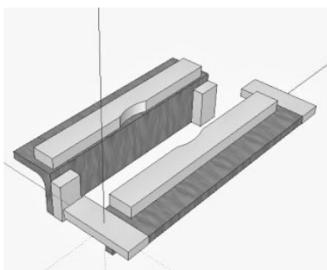
I wanted to work at the vise with torch heat so I designed to that setting. The jig needed to hold the work piece securely, prevent long-axis bending as the local spot was heated, allow the drift to pass all the way through, and allow the swell to develop on the sides.

Since the bar is clamped there is essentially no growth in length. The pieces were long and awkward so I drilled small pilot holes with a 3/16" bit.

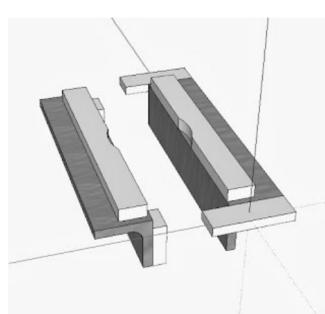
This will work but, when I have the luxury of helpers, I prefer to work at the anvil with coal forge heat and have one assistant hold the bar and another position the drift while I use the sledge.



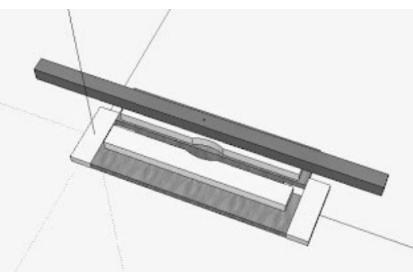
Bar to be drifted clamped in position



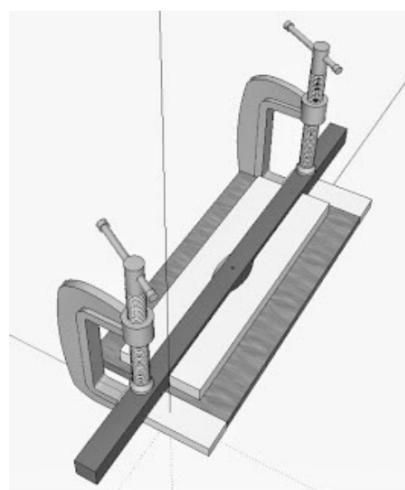
Drifting jig front



Drifting jig back



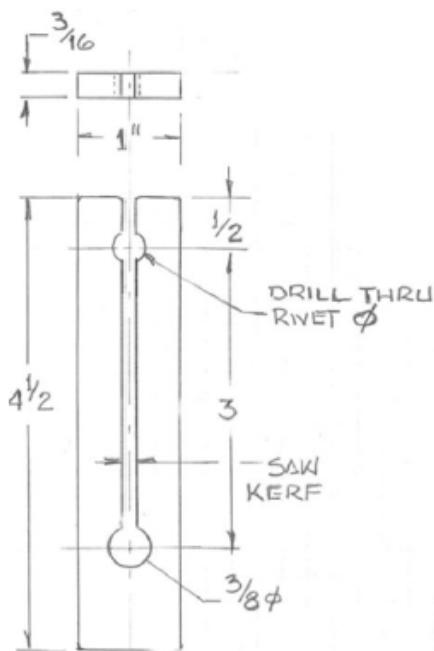
Workpiece to be drifted- with pilot hole



Overall setup of vise jig

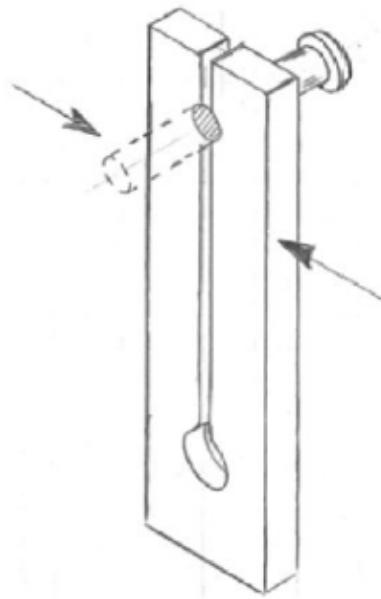
## Rivet cut-Off Tool, and a Chalkboard for your shop By Jim Carothers.

Over the years I have noticed that the length of rivets usually works out to be 1) Too long, 2) Too short, or 3) Just right. In the past I have used my bench vise to hold the end of a rivet shank for conversion from too long to just right. My success in taking a very short grip on a rivet has not been very good; especially if I only need to cut a little off the rivet. The tool shown below is similar to a rivet heading tool and holds a rivet very well for trimming even just a little off the end.



Insert the rivet to be cut off; set the new length (either side of the tool); clamp the rivet and tool in your vise; saw cut flush with the face of the tool

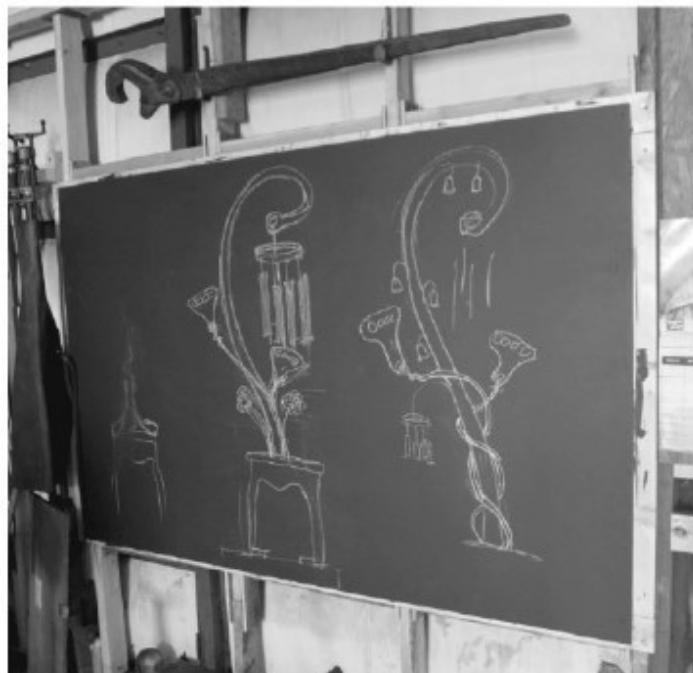
Jim is a member of the Saltfork Craftsmen ABA (Oklahoma). He passed this write-up onto us to share in our newsletter. The idea of a large chalk board in the blacksmith shop is not new; an old school, black slate, chalk board is a good tool for layout work and for note taking. Keep a digital



camera handy to record and preserve the work on the chalk board.

However, school chalk boards are hard to find in useable condition, expensive, and are very heavy. Enter "Chalk Board" paint. Chalk board paint is erasable, washable, and durable; it can be applied to many different surfaces. Two major manufacturers are Benjamin Moore and Rust-Oleum. The products are available at home centers, hardware stores, and on line.

These photos show the "chalk board" in Lisa & Dustin Sypher's shop near Ottawa, KS (<https://www.facebook.com/>



[pages/Tall-Grass-Forge/260269257701](#). The board is plywood that has been painted to look and function like an old school chalk board. Follow the manufacturer's recommendations for surface preparation and paint application.

If you need to make full dimensional layouts, consider making the chalk board frame spot square; mount it so that it is moved out from the wall an inch or so. By doing that, you can use a sheet rock square along any edge as you would a T-square for drafting. Consider also the use of "good both sides" plywood. If something happens to one side or you need to save the work on the primary side for later, you can turn the board over to use the second side.

**Reprinted from Hammer's Arc December and September 2014 issues**



**The FORGE FIRE**  
Newsletter of the  
Indiana Blacksmithing Association, Inc.

**Farrel Wells** *Membership Secretary*  
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## Missouri School of Blacksmithing Class Calendar 2018

August 16-18: Introduction to Knifemaking with Ken Jansen

August 30-September 1: Blacksmithing 1- An Introduction

September 27-29: Blacksmithing 2-Introduction to Toolmaking

October 4-6: Forge-Welding

October 18-20: Colonial American Hardware with Bernie Tappel

October 25-27: Blacksmithing 1- An Introduction

Call to receive our Course Catalog.

**Missouri School of Blacksmithing**  
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3100 NW Winchester Road  
Cameron, MO 64429  
816-575-2798