

August 2017

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# 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.

The Indiana Blacksmithing Association, Inc., its staff, officers, directors, members, and hosts and the *Forge Fire*, specifically disclaim any responsibility or liability for damages or injuries as a result of any construction, design, use, manufacture or other activity undertaken as a result of the use, or application of, information contained in any articles in the *Forge Fire*. The Indiana Blacksmithing Association, Inc. And the *Forge Fire* assumes no responsibility or liability for the accuracy, fitness, proper design, safety, or safe use of any information contained in the *Forge Fire*.

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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 4-20	INDIANA STATE FAIR
Aug 19 2017	RIDE 2 PROVIDE (MARKLE PARK) HUNTINGTON
Sept 16 2017	TBD
Oct 21 2017	TBD



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## Dates to Remember

Aug 4-20  
State Fair

Aug 19  
Ride 2 Provide

Sept 22-24  
Quad State SOFA

Oct 13-14  
UMRBC

## Editors Message

### David A. Kline, 1946-2017

For those who may not have heard, Dave Kline passed away on August 2. Dave was long standing IBA member and a familiar face at all IBA events. He will be missed.



As fall approaches we are seeing the annual up-swing in public events. Quad State (SOFA) and UMRBC (Pontiac) are coming up. The Indiana State Fair is underway. Here is a quick update posted by Keith Hicks.

I offer a special shout out and thank you to Bill Newman for the invite to the whitewater Valley Blacksmiths group to demonstrate on the first weekend of the Indiana State Fair.

Scheduling and coordinating this event is a year long nite mare, with all the scheduling, rescheduling and accommodating around other peoples time, Bill you make it look easy. We all had a great time with no drama at all.

I also thank the Whitewater Valley Blacksmith who participated. You all were responsible for our invite back, and to the members that weren't there, you missed a good time.

Keith Hicks

August 19 we will have the 12th annual Ride 2 Provide. Proceeds from this year's event will go to Mark Thomas as he recovers from heart and knee surgeries.



All proceeds to benefit Mark Thomas



<http://umrbc.org/>

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

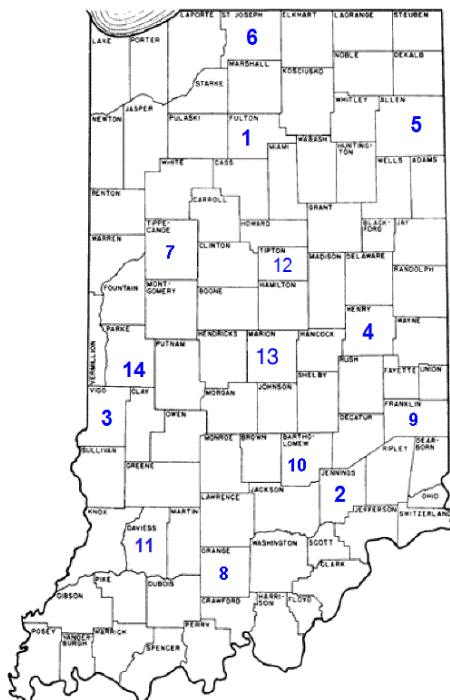
Meet: 1st Saturday  
 Contact: Tim Metz (812) 447-2606

### 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

The Meteorite Mashers met at Jeff Reinhardt's shop in Floyds Knobs this month. We had a number of our members who went to a hammer in in Frankfort Ky, but who joined us late in the afternoon. Had many young fledgling smiths getting lessons today. Jeff Reinhardt showed his almost complete new demo trailer. The new smiths made S hooks and scribes. Jeff demonstrated an camp spoon from a RR spike.

Roxane Reinhardt's spaghetti with meat sauce did not stand a chance against the onslaught of hungry smiths. Mike Mills brought fried chicken and it fell to the hungry crowd. Dave Kunkler's famous brownies were a hit and a bit later Roxane brought forth fresh from the oven pumpkin spice cookies. At the end of the day we had a large collection of smiths that did not smell quite as well as in the morning, who were not as clean as in the morning, but who were tired, well fed and everybody had a grand time.

Due to the heavy demonstration schedule the August meeting will be the three day BFH demo at the Swiss wine festival in Vevay Indiana, and the September meeting will be held near the Anvilstream camper in Troy Ohio. Hope to see you there.

**SATURDAY, AUGUST 19, 2017**

**CHECK-IN 11am-noon (Markle Park) - FIRST BIKE OUT 12:10pm - LAST BIKE IN: 4:30pm (Markle Park)**



**All proceeds to benefit Mark Thomas**

**RAFFLE • BAKE SALE • DOOR PRIZES • 50/50 DRAWING • DUNK TANK  
KIDS RAFFLE • FACE PAINTING • COOKIES & CANVAS  
CAKE WALK • BOUNCE HOUSE • SILENT AUCTION**

**COOKIES AND CANVAS (2PM-4PM)**

**CONTACT JEN BAILEY @ 414-1066**

**BINGO (2PM-4PM)**

**CONTACT DIXIE OLDHAM @ 758-3394**

**SILENT AUCTION (4PM- LAST BID @ 6:00)**

**CONTACT ANGENETTE REED @ 438-7539**

**CORN HOLE TOURNEY (4PM-???)**

**CONTACT KAREN JEFFERS @ 224-3540**

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## **FREE WILL DONATION BENEFIT MEAL**

**CARRYOUT AVAILABLE - MEAL STARTS AT 4PM**

**PULLED PORK PREPARED BY FAT JOHN'S**

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**BRING A CANNED GOOD ITEM AND RECEIVE A FREE RAFFLE TICKET FOR A \$25 GAS CARD  
(DONATED BY MARKLE QUICK STOP) LIMIT 5 PER PERSON! ALL ITEMS DONATED TO LOCAL FOOD PANTRIES.**

**OPEN TO EVERYONE, WHETHER YOU RIDE OR NOT! RAIN OR SHINE!**

**DONATIONS MAY BE SENT TO: RIDE TO PROVIDE**

**3398 E MARKLE ROAD, HUNTINGTON, IN 46750 OR CONTACT LESA ASHER (260)758-3437**



This 6 page article reprinted from ABANA's The Hammer's Blow, Winter 2017

## Chasing Solid Material



by Tom Latané  
HB Staff Writer

Photos by Catherine Hillman Latané



*Image #1: Finished chasing*

Chasing solid material employs the same tools and is similar to chasing sheet, except that there is no downward displacement, nor embossing from the back. With solid stock the basic surface contour is forged and any major depressions are made while the material is hot. Pieces not flat on the back can be supported by a depression carved or burned in a dampened wood block to avoid deforming the forging. (Steam from the wet wood is annoying, but does not sting the eyes like smoke.) The rest of the detail is achieved with the metal cold. Because of the mass of solid stock, deformation is limited to the surface. Displaced metal is forced to either side as each tool presses into the material. As resistance builds on the sides, metal is forced out from the surface. This action adds dimension and can be used to upset material well above the original ground.

I have chosen a stylized acanthus leaf as an example because it employs many of the different types of chasing tools I use.



*Image #2: Planisher (left), and four various butchers*

### These are the terms I use for my tools:

**Planishers** are flat or slightly domed on the end and have most or all of the edges rounded. On some I leave one edge square for working up to corners. The planishers smooth and shape flat or convex surfaces.

**Butchers** are what I call any tools with offset leading edges and ends at a variety of angles. They are used to produce steps in surfaces and come in several sub-types. I will call the angled part that contacts the surface of the workpiece the "end" and the side adjacent to the leading corner the "face."

This 6 page article reprinted from ABANA's The Hammer's Blow, Winter 2017

**Straight butchers** have flat ends and flat faces meeting at various angles, in straight leading edges. They are used to create straight steps and those with convex curves.

**Curved face butchers** have flat ends at a variety of angles, and faces with a variety of curves. They are used to produce steps with concave curves and, in making this leaf, to reach into the valley to upset the center vein.

**Curved end butchers** have ends of various curves at assorted angles to flat faces. They are used to chase straight steps through concave areas. In making the leaf they will also be used to give the leaf edge curved indentations.

I have a few butchers of other configurations (concave curves and curves on both face and end), but I rarely use them. I did not use them to make this leaf.



*Image #3: (L to R) Center punch and liners*

**Center punches** produce inverted conical depressions of various sizes.

**Liners** are chisels that produce lines of different widths depending on the angle to which they are sharpened, and the depth to which they are driven. They can be sharper than liners used on sheet because there is no danger of tearing through thick material. I make them straight and in different curves. I chamfer the corners on the sides of many of them to prevent corner nicks, but do not crown the center. I leave square corners on some for use where there is an abrupt stop. You can round the side corners of one end and always trail with that end while saving the square-edged end for working up to a step.

**Rounds** are dome-ended punches that produce rounded dimples in assorted sizes.



*Image #4: (L to R) Round tool, fullers, and teardrop tool.*

**Fullers** are like chisels with the ends ground to various radii to produce rounded grooves. I make them straight and in assorted curves. They can have one edge ground square for ending a groove at a step and the other ground rounded to planish the groove when trailing.

**Teardrop tools** produce teardrop indentations of different sizes. Those with longer teardrop shapes can be used to create tapered grooves by rocking them toward the narrow or wide end while chasing the groove.

*Note: My tools are tapered toward both ends, leaving the greatest resistance to flex in the center where it is most needed. When I started forging in the 1970's, a stone carver told me that the taper keeps the force centered down the length of the tool. I also like the way it looks.*

I harden both ends of my chasing tools and temper the struck end a bit more (business end brown, struck end blue). When struck with a soft-face hammer, the ends of the tools mushroom very slowly. I keep them in cans according to type. Storing them business end up, I survey the selection and can pull one out without lifting others by a burr on the end of the first. I dress the soft-face hammer by re-forging once a year. Not only is it safer to avoid striking hard steel with hard steel, but the soft-face hammer is less likely to send tools flying across the room (though it is not absolute insurance).

A leaf will be chased on the jaw of a 3" bench vise. After forging, any filing to be done must be completed before the chasing. I do not want to remove the material that is left standing above the original surface (by chasing) because it adds to the design.



This 6 page article reprinted from ABANA's The Hammer's Blow, Winter 2017



**Image #5:** Basic leaf design applied with a Sharpie™ marker.

I draw the basic leaf design (without any sub-lobes or edge detail) in the space it will occupy with permanent ink using a Sharpie™ Fine Point pen. In drawing and chasing this type of design, I am dividing and subdividing the spaces. I draw the pointed end of the leaf, then divide the width of the leaf in half with the center vein. On each side of the vein I draw a dot in the center of the crown of the convex curve. I then connect this with a gentle arc to the spot where the curved tip of the leaf meets the straight side of the stock. This drawing is enough to establish the leaf. I have clamped the piece to a short block of steel held in the vise, because it has no parallel sides to fit in the vise, and it is not flat across the bottom,



**Image #6:** Beginning with a curved-face butcher.

I start chasing the center vein at its base with a curved face butcher placed so the angled end will push material away from the vein.



**Image #7**

*Note: I once had a class in which half the students, perceiving that a triangular ridge was the goal, turned the butcher the wrong way and achieved a ridged vein after the first step. However, the vein did not end up taller than the surrounding surface, and they had trouble forcing the unwanted material away from either side of the vein.*



**Image #8**

The straight butcher is used over the convex surface.

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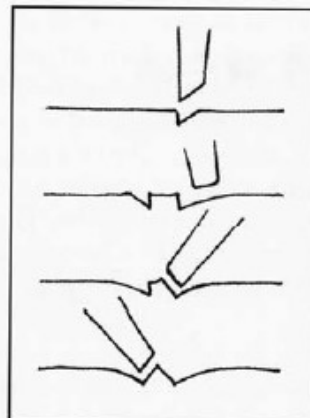
*Image #9*

The curved end butcher is used through the valley. The two sides of the vein should meet before reaching the tip of the leaf. When developing the shape, cracks are likely to form if the lines of the vein and those of the leaf edges meet in the same place.



*Image #10*

A straight butcher can be used to form the leaf tip with a slight convex curve. Before I accidentally rub away any more of the ink lines, I designate the bottom of the cleft between the major leaf lobes with a center punch. Sometimes it is necessary to remove ink lines with abrasive paper or a wire brush, so that the true shadow can be seen without the distraction of the dark ink.



*Image #11*

A pass with the butcher leaves a dramatic step and a more subtle line where the angled facet meets the surface. In many cases the more subtle angle and the dramatic edge can be pleasing. In this case, I planished away the more subtle line to create a gentle curve from the original surface to the bottom of the steps forming both sides of the vein and the leaf tip.

Material pushed to the sides of the bar when chasing the leaf tip and base of the center vein is filed away before any desired protrusions are created.

I use a butcher with very little angle (leading edge against the base of the vein) to planish the sides of the vein to a ridge, upsetting material above the original surface level. Where the edges are concave, a curved-end butcher is used. A straight butcher is used where edges are straight, and in the valley a curved-face butcher is employed.



*Image #12*



This 6 page article reprinted from ABANA's The Hammer's Blow, Winter 2017

A curved liner is used to chase a gradual arc from the center punch mark on either side of the main vein, to the junction of the leaf tip with the straight side of the bar. I use a small teardrop tool to transition the bottom of each crease into the center punch depression. The liner is tipped toward the outside and driven deeper to widen the crease at the edge of the leaf. The upper lobes formed by the crease are then sub-divided by chasing a minor crease in the middle of each. These are opened at the leaf edge by driving the liner deeply, at an angle.

The leaf tip can be set off by slightly undercutting with an acutely angled straight butcher. To give the perimeter of the leaf some vitality, the edge can be broken by driving curved-end butchers and liners with square edges in from the outside. Try to achieve an interesting form by contrasting sharp indents with rounded convex curves and pointed tips with concave indents.



*Image #13*



*Image #14*

### Variations

The smallest of the chisels in image #14 was used to chase the rope segments on the bead below the leaf in image #16. A bead can be created in a flat area by chasing a ridge like the leaf vein and rounding the top. This bead was filed across the bar. The hollow chisel must be wider than the bead to reach diagonally across it. If twisted until both points catch on the bead, the chisel will make indentations of uniform angle as long as the width of the bead is consistent. Spacing is left to the eye. I make the concave arc in the chisels flatter than the round of the bead, so the crown of the bead will be satisfactorily indented before the points of the tool dig as deeply into the recesses on either side.

As a simpler exercise, the leaf in image #15 was chased on a flat bar 3/16" thick.



*Image #15*



*Image #16*

The leaf in image #16 was created with the ground above the leaf tip stepped back to a flat plane so the leaf stands out more. During the forging stage the bar was butchered, then leveled with a flatter. The material which was pushed to the sides by this process was then cut away with a chisel.

The bolster on this hacksaw frame (Image #17) was chased in the round. The circular impressions and the spaces between the leaf tips were chased hot while a helper held the piece over a wood block. The cold chasing was done while the piece was still on the end of the bar, which could be held over the wood block by the vise. A teardrop tool was used to create the flutes in the lobes.

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*Image #17*



*Image #18*

This baluster form (Image #18) was held by wood blocks in the vise for the cold chasing. A pair of hardwood pieces, wide enough to reach the top of the jaws when resting on the tube of the screw box and as long as the baluster section, was loosely bolted at the bottom to a spacer, narrower than the forged piece. When forging was completed, the hot baluster was placed between the wood pieces so that a cavity, conforming to the curves of the metal, was burned near the top of each piece of wood. As a result, the cold baluster could be securely clamped between the wood jaws in the vise and rotated as needed. ■

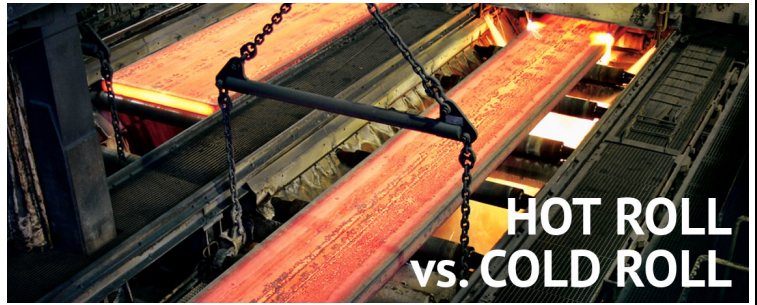


**Wanted: Power Hammer**  
Running or near running condition.  
Contact Dave McNulty (Vernon Group), 812-592-0102



## STEEL ROLLING

When we discuss the two types of rolled steel, it's best to first understand what it means to roll steel. Rolling is a metal forming process in which metal stock passes through one or more pairs of rolls to reduce the thickness and to make the thickness even throughout the material, as if rolling dough. Rolling is classified according to the temperature of the metal rolled. If the temperature of the metal is above its recrystallization temperature, then the process is known as hot rolling. If the temperature of the metal is below its recrystallization temperature, the process is known as cold rolling. In terms of usage and volume, hot rolling processes more than any other manufacturing process and cold rolling processes the most by tonnage out of all cold working processes. Roll stands holding pairs of rolls are grouped together into rolling mills that can quickly process metal into products such as structural steel I-beams, angle stock, channel stock, bar stock, and rails. Most steel mills have rolling mill divisions that can convert the casting products into finished products.



This Article from OnlineMetals.com  
<http://blog.onlinemetals.com/hot-rolled-vs-cold-rolled-steel/>

## HOT ROLL STEEL

Hot rolling is a process involving rolling the steel at a high temperature (around or over 1700 degrees F) which is above the steel's recrystallization temperature. When steel is above the recrystallization temperature, it can be shaped and formed easily and the steel can be made in much larger sizes. Hot rolled steel is typically cheaper than cold rolled steel due to the fact that it is often manufactured without any delays in the process, and therefore the reheating of the steel is not required (as it is with cold rolled). When the steel cools off it will shrink slightly thus giving less control on the size and shape of the finished product when compared to cold rolled. Hot rolled products like hot rolled steel bars are used in the welding and construction trades to make railroad tracks and I-beams and are used in situations where precise shapes and tolerances are not required.

## COLD ROLL STEEL

Cold rolled steel is essentially hot rolled steel that has had further processing. By processing further in cold reduction mills, where the material is cooled (at room temperature) followed by annealing and/or tempers rolling. This process will produce steel with closer dimensional tolerances and a wider range of surface finishes. The term Cold Rolled is mistakenly used on all products, when actually the product name refers to the rolling of flat rolled sheet and coil products.

When referring to bar products, the term used is "cold finishing", which usually consists of cold drawing and/or turning, grinding and polishing. This process results in higher yield points and has four main advantages:

- Cold drawing increases the yield and tensile strengths, often eliminating further costly thermal treatments.
- Turning gets rid of surface imperfections.
- Grinding narrows the original size tolerance range.
- Polishing improves the surface finish.
- All cold products provide a superior surface finish, and are superior in tolerance, concentricity, and straightness when compared to hot rolled.

Cold finished bars are typically harder to work with than hot rolled due to the increased carbon content. However, this cannot be said about cold rolled sheet and hot rolled sheet. With these two products, the cold rolled product has low carbon content and it is typically annealed, making it softer than hot rolled sheet. Usage should include any project where tolerances, surface condition and straightness are the major issues.

## BUYING HOT ROLL AND COLD ROLL STEEL

If you're looking for an online metal provider, let our experience, service and quality be a deciding factor for your next project. Check out our selection of Hot Rolled and Cold Rolled Steel and see how easy it is to shop and save with us. We offer worldwide delivery and are always a phone call away at (800) 704-2157.





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

**Farrel Wells** *Membership Secretary*  
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Dunkirk, IN 47336-8807

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**SOUTHERN OHIO  
FORGE & ANVIL**

# QUADSTATE 2017

SEPTEMBER 22-24, 2017

This year as we celebrate the 40th anniversary of the Quad State Round Up, we focus on our founder Emmert Studebaker's legacy of friendship and learning. Emmert was the spark that started the gathering 40 years ago and through his legacy, the sparks are still flying today.

**Michael Bendele**

Repose  
Delphos, Ohio

**Joe Bonifas**

Contemporary  
Spencerville, Ohio

*Emmert Studebaker  
Commemorative Project*

**Richard Sullivan**

Forged Rifle Barrel  
Colonial Williamsburg  
Columbiana, Ohio

**Kevin Cashn**

Blade Smithing,  
Metallurgical Bladesmithing  
Hubbardston, Michigan

**Nathan Allan**

Traditional  
Conner Prairie, Indiana

**Benjamin Lockhart  
& Danielle Russell**

Basic Blacksmithing  
Logan, Ohio

Friday Night Forging Demonstration by Pete Braspeninx

DEMONSTRATIONS • AUCTION • TAILGATE SALES • FORGING COMPETITION

Gallery Judged Category "Lighting Fixtures"

Information at: <https://sofablacksmiths.org/event/quadstate-2017/>