

August 2019

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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.

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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.

No Hammer In scheduled at this time.

Contact Gary Phillips if you are interested in hosting a hammer in.



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## Dates to Remember

August 2-18  
Indiana State Fair

August 24 Sale  
Janet Lorange  
(see back page for  
details)

Sept 27-29  
SOFA QuadState

October 11-12  
UMRBC  
(Pontiac)

## Editors Message

I do not have much information to pass along this month. The Indiana State Fair is in full swing. I have seen some posts on the IBA Facebook page. It appears that everyone is having a good time.

Satellite groups please take a look at your contact information on page 3. Let me know what items need to be updated. The same information is posted on our IBA website which can be a source of information for people interested in learning blacksmithing or just connecting with blacksmiths in their area..

Some of you have noticed that we have not had an IBA hammer in recently. Contact Gary Phillips at (260) 251-4670 to schedule a hammer in.

As we get into fall season festivals and events become more frequent. Here are a few events of interest

Aug 24: Janet Lorange Sale (details on back page)

Sept 21-22: Trail of Courage Festival (details on page 4)

SOFA QuadState: <https://sofablacksmiths.org/event/quadstate-2019/>

Upper Midwest Regional Blacksmith Conference:

<http://umba.name/regional-blacksmith-conference/>

## A Hold Down That Means It! By Phil Travis

Phil Travis shares this hold-down who's originator he credits to Dan Houston. It sacrifices a few tools you may have in the shop, but they will be recycled into good use. You can use a pipe of a smaller diameter if you choose. The vise grips needs a half nut welded to each jaw to secure the bottom. Try it!



*Left: Hold down in place, ready to work!  
Center: All parts and tools you need to prepare and sacrifice for this hold-down.  
Above: Half nut welded on vise grips.*

This article reprinted from Pittsburgh Area Artist—Blacksmiths Association July 2019 newsletter.

**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

### 2) Jennings County Historical Society Blacksmith Shop

Meet: 2nd Saturday at 9 AM  
 Contact: Ray Sease (812) 522-7722

### 3) Wabash Valley Blacksmith Shop

Meet: 2nd Saturday at 9 AM  
 Contacts: Doug Moreland (217) 284-3457  
 Max Hoopengartner (812) 249-8303

### 4) Fall Creek Blacksmith Shop

Meet: 4th Saturday at 9 AM  
 Contacts: Gary Phillips (260) 251-4670

### 5) Maumee Valley Blacksmiths

Meet: 2nd Saturday  
 Contacts: Clint Casey (260) 627-6270  
 Mark Thomas (260) 758 2332

### 6) St. Joe Valley Forgers

Meet: 4th Saturday at 9 AM  
 Contacts: Bill Conyers (574) 277-8729  
 John Latowski (574) 344-1730

### 7) Rocky Forge Blacksmith Guild

Meet: 2nd Saturday at 9 AM  
 Contacts: Ted Stout (765) 572-2467

### 8) Meteorite Mashers

Meet:  
 Contacts: Mike Mills (812) 633-4273  
 Steve King (812) 797-0059  
 Jeff Reinhardt 812-949-7163

### 9) Whitewater Valley Blacksmiths

Meet: 2nd Saturday  
 Contact: Keith Hicks (765) 914-6584

### 10) Bunkum Valley Metalsmiths

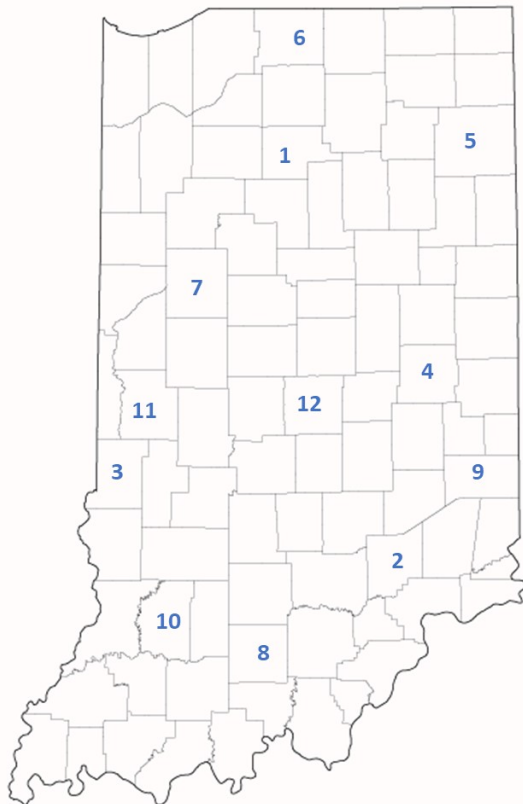
Meet: 1st Saturday  
 Contacts: Jim Malone (812) 725-3311  
 Terry Byers (812) 275-7150  
 Carol Baker (317) 809-0314

### 11) Covered Bridge Blacksmith Guild

Meet: 1st Saturday  
 Contact: John Bennett (812) 877-7274

### 12) Satellite 13

Meet: 4th Saturday  
 Contact: Darrin Burch (317) 607-3170  
 Doug Wilson (317) 439-7684



### Jennings County Historical Society Blacksmith Shop

The Jennings County Historical Society Blacksmiths met on July 13 at Vernon. Chris Gill was the first at the fire, making great efforts to straighten a railroad clip, with the assistance from Kenny Dettmer. He then proceeded to square up a railroad spike. Bill Kendrick made a chisel for the door prize, then tapered the ends of several pieces for a sign hanger for the Hayden museum. Ray Sease, Kenny and Jim worked on the key for the power hammer. The State Fair will be going on when we hold the next meeting. The Vernon blacksmiths are scheduled to be at the Pioneer Village blacksmith shop on Aug. 7-8-9, that is wed thurs and fri the first week of the fair. We need all the help possible. Anyone who can help, please call Bill Newman at 317-690-2455. Paul Bray

## IBA Satellite Groups and News (continued)

### Meteorite Mashers

The Meteorite Mashers met this month at Jason Bowman's shop in Elizabeth Indiana. This meeting was a bit smaller as our middle of summer meeting often are. There was a good beginners class run by our Forgemaster Mike Mills, and quite a bit of forging going on by regulars as several bottle openers were made. Jason fired up his 250# little giant and forged down a horn on a big hunk of steel for an anvil project for Jeff Reinhardt. Our next meeting will be August 30 and 31st at the Big Four Station Park in downtown Jeffersonville Indiana for the annual SteamBoat nights festival where The BFH group will be demonstrating



### Trail of Courage Living History Festival

**Sept. 21-22, 2019.** 10 a.m. to 5 p.m. Sat. 10 a.m. to 4 p.m. Sun.  
Admission charge \$8 adults, \$3 children, free for kids 5 and under.  
See [www.fultoncountyhistory.org](http://www.fultoncountyhistory.org) for registration forms for participants.

Free admission for volunteer workers: Firewood to cut, ticket sellers at the gate, FCHS food booth, help by demonstrating or talking on Friday for Trail school day when buses bring kids from as far as Elkhart to see the demonstrations, hear stories, etc. Please sign up ahead of time as all students are same price regardless of age: \$4. No food served, bring your own lunch.

Fulton County Historical Society, 37 E 375 N, Rochester, Ind., 46975, 574-223-4436, [fchs@rtcol.com](mailto:fchs@rtcol.com).

#### Two blacksmith shops:

- In Living History Village called Loyal, Indiana, beside the round barn, named Sutton-Terock Memorial Blacksmith Shop.
- Fred Oden blacksmith shop in the festival area in the woods at south end of the grounds.

FCHS grounds are a mile long from county road 375 N to Tippecanoe River. At the north end is the museum, round barn and living history village of 14 buildings. At the south end is the Trail of Courage festival in the woods next to the river. Attendance 12,000 to 18,000. This is a big event with foods cooked over wood fires, traditional crafts, Indian dances, 2 stages with period music & dance, canoe rides on the Tippecanoe River, muzzleloading shooting & tomahawk contests, much more. Children's activities include candle dipping, storyteller, Mountain Man tug of war, games.

Come join us and have fun and learn as this portrays true frontier history in Indiana. Many teachers give extra credit to students who attend and write a report afterward.

## Forging a 16th Century Style Vise

*By Megan Carter*

This past summer I attended a course at Touchstone Centre for Craft in Farmington Pennsylvania. The course was forging a decorative bench vise in 16th century style. The instructor was Tom Latané. There were six students in the course and with them came many examples of antique vises large and small. We were encouraged to use these vises as study pieces, so while Tom demonstrated techniques for forging one style of vise, some of the students took slightly different approaches with Tom's guidance. I was particularly taken by a very small post vise, standing about 28" tall with 3" jaws. I set out to try to replicate this vise.

This is how I went about forging the jaws in the course and again at the demonstration at Waldie's this past February.

### **Forging the jaw shape and welding the steel face:**

- Starting stock was 1" x 1 1/2".
- Mark 11" from the end of your piece and upset to 9" from mark to end of upset.
- Forging down the upset from the narrow side creating a dove tail for the width for the jaws, taking care to hammer and rasp out the birds mouth that will occur.
- Use a combination of large top fuller and horn of anvil to refine the shape of the jaws.
- Lay approximately 1/2" of the jaw over the edge of the anvil and bend it over to almost a 90 degree angle.
- Clean up the end and prep for forge welding.
- Forge a piece of tool steel to the right dimension to fit on the end of your jaw. We used a small piece of 1060. As a trick to get it to stick we used wrought iron shavings mixed with the borax.
- I will likely not bother hardening and tempering my steel face. They are likely hard enough already for the light work this vise will do.







### Creating the “lip” on the back side of the vise jaws:

- Use a set hammer about 4” from the end of the jaw on the back side to forge the 1 1/2” dimension down to 1”. Work down the remainder of the stock to 1” square.
- Using a set hammer and the step of the anvil to back up your jaw, square up the lip that was made when forging the 1 1/2” material to 1”.
- Clamp your piece in a post vise with the tool shown below, the little lip resting on the vise jaw, use a small fuller to pull the material down to create a more exaggerated lip. (This raises the question - how do you make a vise without a vise? I don’t know... this is just the way I went about it, perhaps smiths before me had another way.)
- Studying old vises I have also noticed that these lips were sometimes forge welded on. This would allow for a more prominent lip.
- Repeat the above steps for another jaw.





### **Punching the eyes, mortise etc.:**

- Slit and drift an eye about 3/4" below the lip on both jaw pieces.
- Look for a more oval shaped eye than completely round. This will allow room for the splines on your box, serving the purpose to keep the box from rotating in the eye. So make your slit a little longer than half the circumference of the drift you will be using.
- One jaw piece will have a mortise punched about 3/4" below the eye. This will accept the tenon from the mounting bracket.
- To take down the bulge created by punching the mortise, forge a mild steel drift to an appropriate size for a mounting bracket tenon. Hammer in the mild steel drift and forge down the bulge using a flatter in the end to refine the shape.
- On the piece with the punched mortise, draw down the remainder of the material to transition into the post. More material may need to be forge welded on to reach the desired post

length. The cheeks will also be added to this piece. Use a rivet or two to hold them in place for forge welding.

- The piece without the mortise will be drawn down leaving some mass on the end for the pivot point. Punch a hole on your pivot point for your pivot pin that will also go through the cheeks. I drilled the holes in my cheeks to line up with the hole I punched for my pivot point. The pivot pin will have a slot punched to accept a washer and corresponding wedge.

At this point you have the bulk of the vise completed. The mounting bracket, spring, screw and box remain.

### **Mounting Brackets:**

Can come in various shapes. Most importantly forge a tenon on the end of some mass that can be mounted to a table (make it look nice, studying older ones). The tenon should be forged long enough to reach through the vise and spring with room for slot punched through the tenon to accept a wedge that will hug everything together.

### **Spring:**

See Lloyd's article in the Spring 2016 Iron Trillium on forging, hardening and tempering springs. Look at other post vise springs and study their shape and function.

### **Screw and Box:**

There are a few different approaches to making a screw and box. I am not the best person to discuss these different approaches. I will quickly discuss how I made mine.

- I forge welded a 1 1/2" x 3/8" collar on the end of 3/4" round. I used a top and bottom fuller to begin the ball and collar shape then roughed out the ball shape using hammer and anvil. You can punch the hole hot or drill it out for the tightening arm.
- I cleaned up the ball, screw shank and cut the threads on our lathe. I cut 4 threads per inch.
- I then forged down a piece of bed spring square to fit in the thread space. Forge it to fit into the thread space but to be a little bit proud of the screw itself. Then coil this piece around the screw. Don't try to make it too long. Mine was just under 2" of wrapped coil.
- I then rolled up a piece of sheet metal the proper dimensions to create a tube around the coil. Once close to the finished tube shape I closed it up around the coil and the screw, essentially heat shrinking the tube onto the coil.
- Because the coil is a little bit proud of the screw, the tube will grip the coil and once cooled you will be able to unscrew the tube with the coil inside.
- Fire braze the coil into the tube.
- Build up the rest of your box with collars and washer, a decorative plug on the end of the tube and fire braze everything together.

At the demonstration in February Terry Sheridan demonstrated how both male and female





would have been coiled together, cut apart and brazed into their respective places, eliminating the need to machine anything.

Screw and Box assembly could be a whole other article .. I will stop here. Maybe one for the future.

I will say that for myself - having a study piece to work from was invaluable. To study dimensions, tool marks, where pieces were forge welded together, how fussy they were about shape or fitting pieces together. Find an old vise you like and have fun trying to figure out how it was made.

On a final note I want to thank the Ontario Artist Blacksmith Association for supporting my studies with the 2016 scholarship for furthering education. I would also like to say that Touchstone Centre for Craft is an amazing place to learn. They have wonderful facilities and masterful instructors - the food is good too. It should also be noted that they have an extensive scholarship program. I would highly encourage more smiths to attend their courses and to support the school.

Originally published in the Spring 2017 "The Iron Trillium," publication of the Ontario Artist Blacksmith Association. [www.ontarioblacksmiths.ca](http://www.ontarioblacksmiths.ca)

## PAABA/ABA Member Bob Elliott Knows How to Shovel It!

Talent and kind are the two words that first come to mind when speaking of Bob Elliott. Bob has been a successful blacksmith for many years and has tackled some challenging projects throughout the years. Decorative gates, many, many feet of custom railing, and just about everything in between has been in his shop. He is also an extremely talented tin smith just to add to his list of accomplishments. But, kindness and generosity are also part of Bob's make up. This past spring, Bob held the ABA Annual Business Meeting at his shop located in Fairmont, West Virginia.

There were a number of newly interested members in attendance and Bob demonstrated how to make a fireplace shovel using a minimum of tools and equipment. His purpose was to demonstrate, but also encourage those in attendance that you don't need a lot of additional tools, fancy equipment or the latest blacksmith gadget to be successful...practice and developing your "eye" can be the best "tools" you possess!



1. Start out with a shovel blank shape made from 16ga. Use a ball pein hammer to begin hammering out the back of the shovel over the hardie hole. Choose a ball-pein that is not real "pointy". The key to hammering this area in to NOT get any wrinkles. It is better to heat several times and progress slowly than to develop a wrinkle.
2. Start to "roll" the back up (curve) using the face of the anvil.
3. Change hammers to a rounding hammer and round out the back, keeping in mind symmetry. Match the left side to the right side. This is very good practice, because it helps train your "eye".
4. Change hammers to a flattening hammer to even out shape.
5. To establish the two sides use the anvil's heel to dictate the sides. (Bob's anvil was 4 1/2" wide which was the perfect size using 6 1/2" wide shovel blank. This measurement allowed one inch margin for each side. If you have a swage block, you can also shape it in the shovel indentation, but if not, this is good practice!
6. You have a general shovel, however, to add some style, move to the upper side of the shovel and develop a flare for a more attractive line. This can be done over the horn of the anvil.
7. Use the hardie hole to adjust. The trick to using the hardie hole successfully, is to make sure the hammer strikes IN the hardie hole not on the edges/margins of the hardie hole, this will disfigure the shape of your metal.



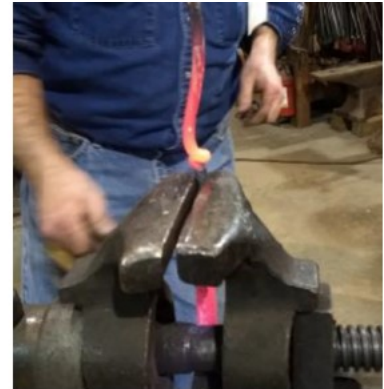
*Photo Left—Using the hardie hole to shape the back of the shovel, make sure your hammer strikes in the hardie hole to avoid dents or undesired markings. Middle Photo—Define your sides of the shovel by using the heel of your anvil. Bob's anvil measures 4 1/2" wide, the perfect size for a 6 1/2" shovel blank. To make yours work, you may have to make adjustments. Photo Right— Add a flare to each side to make the shovel more graceful, use the horn of the anvil to add flare. Keep in mind symmetry, match one side to the other the best you can!*

This article reprinted from Pittsburgh Area Artist—Blacksmiths Association July 2019 newsletter.

## Hard to Handle?....Not!

Adding a handle on a shovel may seem to be straight forward, and it is... in theory, but there are a few tips Bob Elliott offered to make your project more successful.

1. Bob uses 3/8" round material for a handle, but you can use square. If you do use square, make sure you "think" in terms of what is up and what is turned down. Working with round material is a bit easier because to adjust round material is just a matter of a slight twist for correction.
2. When designing a handle, keep in mind, it can have multiple purposes for other projects such as a plant hanger, stand, or handle for other tools.
3. Bob made a leaf as his handle termination. Each person has their own style of leaf "making". Bob uses a rounding hammer to draw out the left and right side of his leaves leaving a ridge in the mid-dle for added detail and strength. If you do make a leaf termination on a handle, make sure you have smooth edges and not knife-like perimeters. You do not want to grab a sharp metal edge. You can use a jig to round out the shape on your handle, but you do not need one. Shape your handle on the horn of the anvil.
4. If you would like to add a "knot" in the handle length, it is a quick procedure. Have your vise ready to size so you can capture metal length quickly. Set vise grips to get extra leverage and control of the metal length. Remove from forge, quickly set perpendicular to vise, bend 90 degrees AND turn /twist metal to form knot. Straighten horizontally in vise and adjust.



*Photo Left- When making a leaf, consider leaving a ridge in the center for a "vein" and to add strength. Photo Middle - Use the horn of the anvil to shape handle grip. If you make a leaf termination use caution while shaping the grip. Photo Right: Making a "knot" use a vise and quickly bend material 90 degrees then twist AND turn material to form a knot*

## Bob's New "Fit Bit"!

To fit the handle onto the shovel, takes a bit of a finesse. An extra set of hands can be helpful but not imperative. You will need two rivets to hold shovel in place because using one will eventually turn.

1. Make a short point. Create a boss (ridge) on the anvil, flatten out to tear drop shape. Repeat, for a second rivet and hammer flat.
2. You will need to have the flat side against the shovel to fit. If you make a slight "peak" in the center of the back of the shovel, the handle will rest more comfortably.

*Left- Two tear drops for rivets. Middle- Center indentation to set handle. Right- Completed shovel w/ fitted handle ready for rivets*



Articles reprinted from  
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## **The *FORGE FIRE***

Newsletter of the  
Indiana Blacksmithing Association, Inc.

**Farrel Wells** *Membership Secretary*  
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sender

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### **August 24 Sale**

Janet Lorange is having a tag sale on some of Rogers surplus equipment. Items will be marked and you can take home what ever you want. Roger had a tremendous amount of surplus equipment stored at his home it should be quite a day.

Janet's address is: 6091 North 3850 East  
Bellflower Illinois 61724.  
Ph: 309 475 9012.