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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.

May 21 2016	<b>JEFF REINHARDT'S SHOP FLOYD'S KNOBS</b>
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June 3-5 2016	<b>IBA CONFERENCE TIPTON FAIRGROUNDS</b>
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July 16 2016	<b>TBD</b>
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Aug 20 2016	<b>TBD</b>
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- PGS 5-7 APRIL HAMMER IN AT MARK YODER'S SHOP
- PGS 8-9 WEDGE JOINT
- PG 10 UPSETTING BOLSTER AND REBAR TWIST
- PG 11 HOSSFELD BENDER

**Dates to Remember**

- June 2 Power Hammer Class with Kurt Fehrenbach
- June 3-5 IBA Conference
- Sept 23-25 Quad State (SOFA)

## Editors Message

Mark Yoder hosted our April hammer in at his shop in Goshen. It was a beautiful day and the Mark's shop was a real treat to see. Mark is an avid collector of blacksmithing items. He has an extensive collection of anvils, many of which pre-date the horned "English" anvil. One particular anvil has been estimated to be between 800 and 1000 years old. Some other unique items included a "dentist anvil" and a hexagonal cone. Mark's shop is a unique structure combining a prefab carport with an interior of antique barn and metal siding. Zack Royer was the featured demonstrator. Zack forged out a hammer. Zack's cousin Alex Royer assisted with the striking hammer. Check out pages 5-7 for pictures.

This month we will have our hammer in at Jeff Reinhardt's shop in Floyd's Knobs. Jeff has indicated the demonstration will be unlike anything witnessed at a previous IBA hammer in; however details have not been revealed. You are encouraged to bring a chair and a dish to share at lunch.

Some of the forging tips in this issue have been circulated before, but hopefully they will spark renewed interest. The wedge joint was shown previously, but the article in this months edition includes detailed forging steps. That is an attractive joinery method. The upsetting bolster is a handy tool to have.

The 2016 IBA Conference is close at hand. Conference brochures and registration forms should have been received. If you have misplaced your registration form, check our website for a downloadable file.

- There seems to be quite a bit of interest in this years group project of a framed wall hanging. The individual project is a cooking fork. I anticipate that we will see a wide variety of artistic takes on these themes.
- We really want to promote the auction this year. Please forward pictures of items you intend to put into the auction, so we can list them (email to [bill.d.kendrick@cummins.com](mailto:bill.d.kendrick@cummins.com)). As in the past items bringing \$100 or more will be eligible for a 50/50 split, so the more bidders we get the better your chances for getting strong competitive bids.
- As in the past we have outstanding demonstrators lined up:
  - Nathan Allen
  - Wesley Hale
  - Steve King
  - Kim Thomas
- The IBA library and vendors will be on site. Be sure to check them out.

**Visit the IBA website at: [www.indianablacksmithing.org](http://www.indianablacksmithing.org)**

## 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 and 4th Saturday  
 Contact: Clint Casey (260) 627-6270  
 Bruce Teegarden (260) 226-1722

**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  
 Kathy Malone (812) 725-3310

**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) The Southern Indiana Meteorite Mashers**

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

**10) One-Armed Blacksmith Shop**

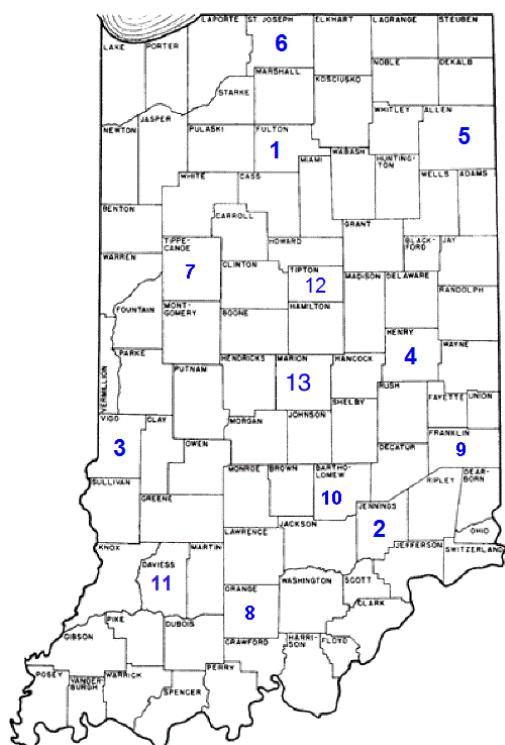
Meet: 1st Saturday  
 Contact: Tim Metz (812) 447-2606

**12) "Doc" Ramseyer Blacksmith Shop**

Location: 6032W 550N, Sharpsville, IN 46060  
 Meet: 3rd Sunday at 2 PM  
 Contacts: Charles Gruell (765) 513-5390

**14) Covered Bridge Blacksmith Guild**

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



### The Southern Indiana Meteorite Mashers

This month's meeting was held at Jeff Reinhardt's shop in Floyd's Knobs. Had 3 visitors Kenny, Darin and Corey. All got time at the forge and all left with a finished item. A good iron in the hat was held and an extra good time was had by all. The weather was cool and rainy but the shop was dry, the forge hot and the new smiths willing. We hope to have them back for the IBA State meeting at Jeff's shop in May.

**Check out the latest IBA news on line.**

Visit our web site at: [www.indianablacksmithing.org](http://www.indianablacksmithing.org)

Visit our FaceBook page. The Facebook group name is "Indiana Blacksmithing Association (IBA)".

## IBA Satellite Groups and News (continued)

### Jennings County Historical Society Blacksmith Shop

The Jennings County Historical Society Blacksmith Shop was opened for the first time this year by Bill Kendrick. We had two surprises waiting for us. The first was two heaters supplied by Bill, which made it feel very inviting with the chill of the morning outside. The next surprise made us think we were robbed! All the odd-and -ends were sorted, everything was put in place, tool racks made, shop cleaned, all that you could have wanted done, was. We learned that Charlie Helton spent several days to get the shop looking this way. I hope we can keep it this way. Thanks Charlie! Cainen McCrory made his first "S" hook and J.C. made a leaf wall hook. Alex Spellman made a very large leaf. Garrett and Levi Davidson made some nails for us. Please overlook any misnames or spelling errors. The beginners had a chance to pick up some practice steel from the iron-in-the-hat, thanks to Charlie (again). We had a great time. Paul Bray

### One-Armed Blacksmith's Shop



**L-R:** Charlie Helton and Charles Shaw discuss the merits of the one-brick forge.



**Guest Richard Rotert** working on a pineapple twist using the one-brick forge.

The One-Armed Blacksmith Shop held its normal first-Saturday meeting on May 7th at its smithy located on the grounds of the Bartholomew County Historical Society's Henry Breeding farm. Present were Ken Dettmer, Charlie Helton, John McDaniel, Tim Metz, Charles Shaw, and guests Steve Crabb, Tony Crabb, and Richard Rotert.

The meeting's focal point was Charles Shaw's demonstration of his version of the \$50 Knife Shop one-brick forge. Following a description of the one-bricker, and after providing several helpful construction tips, Charles proceeded to forge a well-defined pineapple twist handle on a railroad spike knife.

Following extended discussion about the mini-forge, guest Richard Rotert took Charles up on his offer for others to try the unique heat source. Richard promptly forged another nice pineapple twist handle.

Everyone was impressed by the performance of the one-brick forge and by how much work could be done in a small space with such a small amount of propane.

John McDaniel reported that he and Jim Jesse have conducted three classroom and three at-the-forge mentoring sessions with two junior-high "apprentices". The apprentices will be demonstrating basic blacksmithing skills to approximately 650 younger students during the Bartholomew County Historical Society's mid-May Spring-on-the-Farm event.

Iron-in-the-Hat was lively and helped sweeten the coal kitty.

Due to calendar conflict with the IBA Conference and 4th of July, the One-Armed Blacksmith Shop will not meet in June or July.

John McDaniel  
OABS Reporter

## IBA Satellite Groups and News (continued)

### Fall Creek Blacksmith Shop

9 members showed up. We worked on the contest piece. Got things looking good. One more time we should have the piece ready for June Conference. No iron-in-the-hat held.

Reported by Dave Wells



### April Hammer-in at Mark Yoder's Shop

Most photos courtesy of John Latowski



## April Hammer-in at Mark Yoder's Shop





## How-to: Wedge Joint October meeting



Step 1) Create the tenon on the end of bar #1. I prefer to use a guillotine-type tool for this (<http://www.ontarioblacksmiths.ca/oab-forum/post/2374833>) for increased accuracy.



Step 2) Create the drift that you will use to drift out the hole you will be making in bar #2. This can be made out of mild steel, although obviously a tougher steel will require less shaping.



Step 3) Create the hole in bar #2 using the drift you made in step 2).



Step 4) Chisel a hole in bar #1. The hole should be wider at the top than the bottom - the easiest way to accomplish this is to use a larger chisel on the top.



Step 5) Using a piece of flat stock with a hole the same size as your drift, upset the shoulder on bar #1.

This Article reprinted from the Winter 2015 edition of The Iron Trillium, Ontario Artist Blacksmith Association newsletter



Step 7) Create the wedge. This can be done in a single heat using a piece of round or square stock.

Step 8) Heat up bar #1 and insert its tenon through the hole in bar #2, remembering to have the side with the wider cut in it facing up. Supporting the tenon in the vice as best you can, drive the wedge through the hole.

Step 9) Allow it to cool naturally. Unlike the wood version of this joint, you won't be able to disassemble this joint. The heat shrinkage should actually give you a pretty secure joint. If you do want to be able to disassemble it afterwards, punch out a wider hole and use a narrower wedge instead of simply slitting a hole. This will make your tenon weaker, as the side will be thinner. Speaking of which, make sure your tenon is pretty beefy, trying to do this with a narrow tenon is an exercise in frustration, even with a torch.

- David Brandow



This 1/2 page article reprinted from The Prairie Blacksmith Association December 2000

## Upsetting Bolster

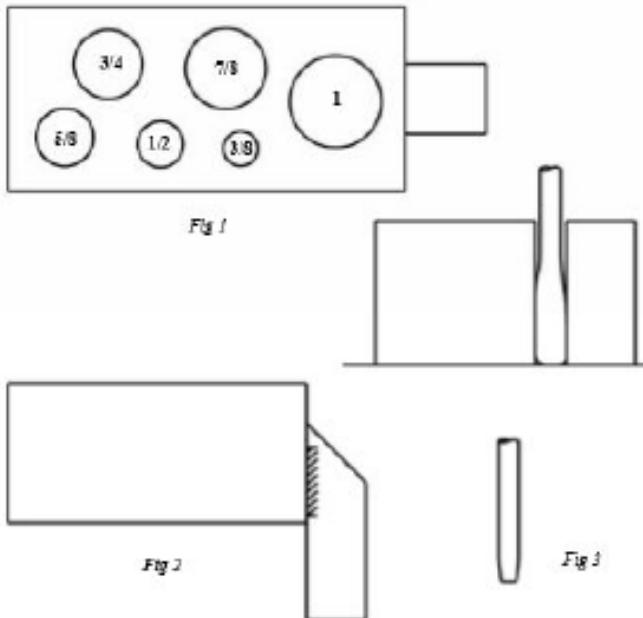
by Jr. Strasil

*Upsetting can be a time consuming and frustrating task to perform. With a simple bolster or upsetting bar it can be quick and easy.*

Start with a piece of 2" square hot rolled bar about 5" long and drill 6 holes in it as per drawing in figure 1. Hole sizes are 1" - 7/8" - 3/4" - 5/8" - 1/2" - 3/8". All holes should be 1/64 to 1/32" oversize and very lightly chamfered on both sides. Remove burrs from the cut ends and weld on a square shank to fit your hardy hole at the end with the hole, see figure 2.

To use, take a yellow heat on 1-1/2 to 2" of the end of the piece to be upset and taper slightly as in figure 3. Stick the end in the upsetting bar, using a hole about 1/8" larger than the material. Hammer the end of the material. Remove from the block and realign the upset end of the rod with light blows, so you don't undo the upsetting. If a longer or larger upset is needed, taper the end before heating and repeat the procedure.

Upset only 1/8" at a time to control cold shuts and bending of the end. If it sticks in the hole, wait a little while and it will cool and shrink and then slip out easily.



This 1/2 page article reprinted from the Blacksmiths of Missouri, September- October 1999

## Do the Rebar Twist-

by Jim McCarty

Hardly a meeting goes by that Doug Hendrickson doesn't come up with something new. His latest was this nifty rebar twist that looks, well, sort of like you put a lot of effort into doing it when all you really do is flatten the ends, heat and twist. I tried this technique on the fork, which

was made at the state fair. It was a lot of fun putting the finished piece out on the table and asking those watching to try and guess how it was done. No one caught on. I also tried other types of rebar but they just didn't look as good. Other uses might include candlesticks, railing pickets, handles for drawers and whatever.



## HOSSFELD BENDER Friend or Foe? by Loren Tollefson

So you've gotten into this blacksmithing thing, huh? Went around to yard sales and auctions until you have enough equipment to set up a genuine shop? Your spouse's gardening shed is going to have a new look with a chimney coming out of it, and all sorts of strange noises, too. The car is now in the driveway since it's place is taken up by peat moss, sphagnum moss, and a few other mosses you never heard of.

Let's see now. You've got a forge, coal, and anvil, hammers, fullers, tongs, swage block, punches, and some new bar stock. You've read up on how to start and stoke a fire, how to draw out a rod, how to start a scroll, how to make a chisel, and on and on... But nowhere does it say or show anything about that horsefield bender that you picked up at auction after the auctioneer and others assured you that it was the neatest thing since sliced bread and would make your life infinitely easier. Worse yet, nobody you talk to knows anything about it!!!

Hossfeld Benders, manufactured by Hossfeld Mfg., Mankato, MN are also called Pacific Benders. They are made in two sizes, No. 1 and No. 2, No. 2 being the larger one. Basically they are made up of two U-shaped frames, one stationary and the other moveable around a pivot pin that connects the two together at the open end of the "U". A series of holes in both frames accepts pins and dies made to exert pressure on

mild steel and bend it in specific ways. All die changes are made by simply removing loose pins, not bolts, thereby making changes rapid and easy. The underlying principle behind the machine is that you are able to exert a tremendous amount of force by leverage and therefore don't have to heat the material before bending it.

I went to work in an ornamental iron shop in September, 1969 while going to college. I knew how to do a rudimentary job of welding, but that was about all. I soon learned to cut, deburr, clean, layout, and paint. But the most daunting task was learning to set up the Hossfeld. I just knew I would never pick it up. It wasn't long until I began to see the different applications, and common sense was all it took to expand my horizons. That and a boss who had used one since 1955.

Throughout My career in structural and miscellaneous, I have hired and fired a lot of people. I would at first ask a prospective welder to set up the Hossfeld to see if they were really as experienced as they claimed. Very few had even heard of one. They are more at home in small shops where fancy automatic equipment is seldom available, and expecting most welders to know how to use one was faulty on my part. I quit asking for experience in the use of one and concentrated on teaching new employees how to use one, one setup at a time. I have visited numerous other steel shops where they have a beautiful setup, complete with hydraulic power, collecting dust in the back corner. When I asked about it, invariably I was told that it wasn't worth the powder to blow it to hell or some

other variation on that saying. It always boiled down to not knowing how to use it.

When I set up my shop in Pine in 1989, one of the first investments I made was a No. 2 Hossfeld, with standard dies. With these, I am able to bend up to 3/8" by 4" flat bar to a right angle, cold. I can roll perfectly round rings of material such as 1/2 round, flat bar, square bar, or angle iron. I can make perfect eyes of any diameter using round or square bar. I can roll angle iron lip out or in to an infinite number of radii. With the standard dies I can roll tubing or standard pipe up to 2 inch without deformation.

Hossfeld Benders are available through authorized dealers. The local one is ACC Machinery, at 7th Ave. and Grand in Phoenix. In addition to standard dies, literally dozens of specialty dies are available to do such things as bending moulded railing cap sideways. It's been my experience that once you learn the basics, you can make up your own dies for very little expense. If you have a production job, or limited run production, a die purchase can be amortized very easily and with a new set, you will foresee other uses for it.

If you get one, or already have one rusting in the corner, Hossfeld has videos available to show how to set it up. These are also available through Centaur Forge. Instruction booklets are also available from Hossfeld, but it's been my experience that seeing a demonstration in person is far more desirable. Once you have seen it done, the booklets become more understandable.



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**Farrel Wells** *Membership Secretary*  
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First Class Mail

Address Correction Requested  
If Undeliverable return to  
sender

**MAY 21 HAMMER IN**

**JEFF REINHARDT SHOP**

2810 W. RILEY, FLOYD'S KNOBS, INDIANA

Driving directions: From I-64 take exit # 119. Take first right onto Old Vincennes Road. About 0.7 mile turn left onto W. Riley. Go about 0.7 mile on W. Riley. Shop is on the right.

Bring chairs. Pitch in lunch

**Library Table at IBA Conference**

Be sure to stop by the library table at the IBA Annual Conference in Tipton next month, June 3-5. The IBA has an extensive collection of books and videos for loan to IBA members. The IBA no longer requires a deposit for borrowing items but expects borrowed materials to be returned in good condition within a reasonable time. New items are frequently being added both thru direct purchases and donations. Check out your library.

Larry Rosentrader