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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 <i>Forge Fire</i> for monthly IBA revisions.	
Mar 18 2023	ANNUAL BUSINESS MEETING CARTERBURG MASONIC LODGE
Apr 15 2023	BOB HUNLEY'S SHOP SULLIVAN, IN
May 20 2023	TBD
Jun 2-4 2023	IBA CONFERENCE TIPTON CO FAIRGROUND



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Editors Message

The IBA Conference is coming up quickly. Page 11 includes a quick overview. Be sure to save the dates, and start getting your projects together for iron in the hat and the auction.

Below are some photos from the February hammer in hosted by Ken Dettmer. Josh Sampson and Steve King demonstrated making an anvil bickern. The drawing out was done by hand with Steve striking. The vertical leg was forge welded to the body. A good demonstration with a good outcome.

In April we will be at Bob Hunley's shop with Bill Corey demonstrate making a forge welded hinge.



Dates to Remember

April 15 Hammer in at Bob Hunley's

June 2-4
IBA Conference

IBA website: www.indianablacksmithing.org IBA Facebook page: 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
 Tim Pearson (574) 298-8595

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: 3rd Saturday at 9 AM
 Contacts: Bill Cochran (812) 241-8447
 Max Hoopengarner (812) 249-8303

4) Fall Creek Blacksmith Shop

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

5) Maumee Valley Blacksmiths

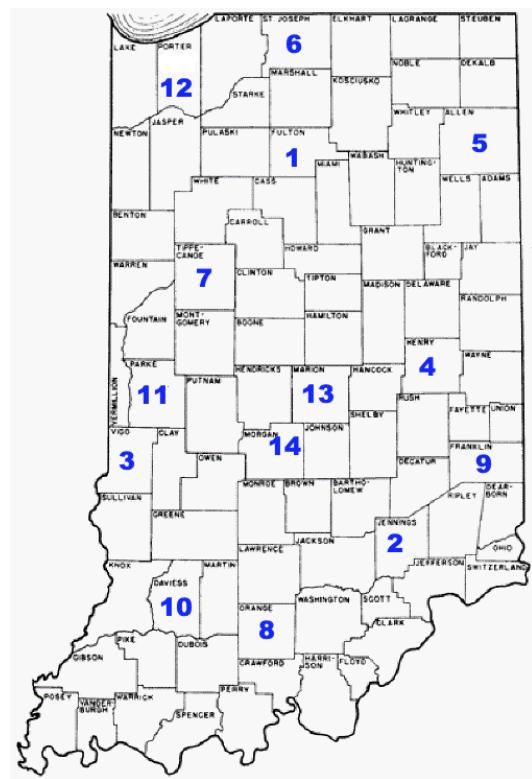
Meet: 2nd Saturday
 Contacts: Clint Casey (260) 627-6270
 Mark Thomas (260) 758 2332

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

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) Snake Road Forge

Meet: 1st Saturday
 Contact: Rod Marvel (219) 241-0628

13) Satellite 13

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

14) Old Town Waverly Blacksmiths

Meet: 2nd Saturday
 Contacts: Mike Lyvers (317-728-5771),
 Kenny Hale (765-318-3390),
 Mike Jackson (317-509-9115).

Jennings County Historical Society Blacksmith Shop

The Vernon Blacksmiths met at the forge of Kenny Dettmer who started the demo by forge welding a link for a chain. Josh Simon drew out the reins for a pair of tongs on the power hammer and formed the other end of the tongs by hand. Dave McNulty made a pair of knife tongs. Next month meeting will be at Kevin Welsh, 25619 Gill Rd., Nabb, IN Bring dish to share and plenty of iron in the hat. April will find us back at Vernon. Paul Bray

Note to Vernon Blacksmiths: We will be continuing our tradition of donating a box with blacksmith tools to IBA auction. Please bring items for the tool box to the Vernon shop in April or May.

IBA Satellite Groups and News (continued)

Snake Road Forge



Ben Ganshorn came out to Snake Road Forge for our February hammer in and an excellent job demonstrating how to make Damascus steel. It was very informative and interesting for everyone. We had about 20-25 people in attendance,



Matt made a ring.

Ed made an S-hook. It was his first time at our forge



Meteorite Mashers

The meeting this month was at Jeff Reinhardt's shop in Floyds Knobs. Had a somewhat small but decent turnout. Started a bit chilly but the shop heater kept it nice inside. Had 2 young beginners led in class by Mike Mills with assistance from Stuart Mullins. Small but fun Iron in the hat. The crock pot of bean soup disappeared as did much of the other food.

We tried out a sample of coal sold by Ember Link trucking in Palmyra Indiana and it was found to be usable and better than much we have tried. \$300/ton.

Next meeting will be at Chuck Henderson's shop in Jeffersonville In.

IBA Satellite Groups and News (continued)

Bunkum Valley Metalsmiths

The Bunkum Valley Metalsmiths gathered on Saturday February 4th. We had at 26 in attendance with several young men who enjoyed learning. Their energy lasted all day and may have surpassed that of their teachers! It is rewarding to see the craft passed down. Iron in the hat and lunch was good too. Enjoy the pictures and join us next month on the first Saturday!



SAMUEL PERAKIS

This article reprinted from Winter 2023 edition of The New England Blacksmiths Newsletter

Tips for Bending Large Rings



"It should go without saying that the basics of bending apply: make small adjustments at a time, choose good material, measure once and cut twice."

I've recently had a few jobs come through my shop that required large rings to be bent and from those jobs, I've compiled a list of tips that may be useful. I personally don't own a large bender or rolling machine, so these tips are oriented more toward small shops where bending equipment may be primitive.

However, in my experience there are a few tricks that can make bending into a much more enjoyable (or at least, a less frustrating) experience and they are as follows. There are many ways to skin this type of cat, so if I've forgotten something or another, please drop me a line and let me know!



Bending pins made for an "acorn" style platen table. Forged from 2" mild steel, two pins are often enough to create a bend

1. Phone a friend:

Possibly the easiest way to get something bent to size is to have someone else do it for you. A ring roller, slip roll, or some other form of hydraulic bender is an indispensable piece of equipment in a professional shop. Many professional metalworkers have a machine that can make your bend for you; it pays to have friends!

2. Choose whether you'll bend hot or cold:

Since we're talking about big rings here, (over 12" OD), choosing to bend hot will save you a lot of muscle strain, but will require a big heat source with plenty of space around the heat to manipulate the ring. For example, you probably won't want to be bending 36" OD rings with a coffee can forge in your 8'x8' shop! Cold bending offers more control since the material is at a uniform temperature, but requires more effort to bend. Bending flat bar "the hard way" or angle iron will often require heat, bending equipment or both and so are mostly out-of-scope of this article.

3. Get a stable bending platform:

Most of us have a stable surface in the shop for the anvil, but many anvil stands can easily be twisted. To resist movement of your work surface during bending, use a heavy bench or something bolted into the ground. Many lever-actuated benders like the Hossfelds are set up on platen tables or on pedestals bolted into the ground. Remember that when you bend something, you're pulling on a long lever against whatever is pinning the material, so there's a lot of force to resist! This can be as simple as a vise bolted to a heavy table to a stump in the ground, to a 3000lb cast iron table like the one in my shop.

4. Cut more than you need:

Bending all the way to the end of a bar is a hassle, especially if you're bending cold, on a machine, or with pins. Best practice is probably to break out the forge and

hot bend the ends to form a fair curve, but it may be more expedient to simply cut the bar long, bend your ring, and then cut off the flat ends when the ring is to dimension. This is especially helpful on very big rings since it means you don't have to handle long bars of hot material to bend the last 3-4".

5. Other tooling you may need:

Heavy pins or bending forks, wrenches, string, measuring and marking tools, a torch or other heat source (if you decide to go hot). Water and food are also good ideas if you're going to be using the Armstrong method of bending. Did I mention that having friends is a good idea? Two people pull harder than one.

6. Draw a template:

Use the old string and pencil trick to draw the diameter of the ring you want to bend. Keep in mind the dimension you actually want, since the material thickness will have to be taken into account. For example, If I want to bend a 36" OD ring from $\frac{3}{4}$ " square bar, I'll cut $C = (36 - 0.75) * 3.14 = 110 - \frac{5}{8}$ ", but I'll draw my template with a diameter of 36" since drawing the template line on the centerline of the bar will mean I can't see it! It also might be a good idea to draw two template lines, one at the OD and one at the ID of the finished ring. This will make it easier to see where you've over or under bent.

7. Make a datum or data:

Put a center punch mark at some arbitrary point on the straight bar (the center is as good a choice as any), and put a matching tick on your template. When you offer the partially formed ring up to the template, align the data marks every time. This will ensure that you're tracking your progress appropriately. It's far too easy to end up chasing your tail for hours, opening and closing the same ring a hundred times and never hitting your measurement. Ask me how I know!

8. Use tick marks to track your progress:

As the ring starts to form a complete turn, I like to make a series of tick marks on opposite ends of the

ring and measure across them with a tape measure. For a 360 degree ring, I like to make two sets of ticks at 90 degrees



A clock with a frame made from 1/4" x 1-1/4" flat bar stock. Rings were bent undersize on a friend's Hossfeld bender and opened up with a hammer and pins on the acorn table



Two 37-1/4" rings bent by hand from 3/4" square bar. All bending was done with pins and wrenches on the acorn table

to each other. And compare the measurements. This can be very helpful to use in conjunction with the template to figure out where the ring needs to be closed and where it needs to be opened up. The more sets of tick marks you make, the more quadrants of the ring are made, allowing you to isolate where a kink or flat spot may be occurring.

9. Bend tight, then open to size:

Generally, I find that un-bending a piece of material is easier than putting the initial bend into it. Because of this, I tend to over-bend my rings so that they're round, but slightly under my target dimension. This allows me to slowly bump the ring open either with a wrench or by setting a piece of the ring over two pins in my acorn table and tapping it with a hammer to open it. This is an especially helpful trick if bending cold, as the homogeneous temperature and work-hardened state of the material will allow it to open evenly as long as your too-tight ring was even to start.



Use the hammer and a set of pins to open a bend

10. Dealing with twist:

The devil in all bending operations is in managing twist. It's very easy to get into a rush and allow the material to wiggle out of plane while bending. Doing this is a sure-fire way to get twist in the bar, making a spiral rather than a flat ring. This is where bending machines like a Hossfeld or a ring/slip roll machine excel: they can capture the bar and restrain the bend to only occur in the intended plane. When working with a bending jig or with forks or pins, the careful blacksmith ensures that the bar is level before and during the bend. This is another place where having a large platen able is helpful as the bar can simply rest on the flat surface to establish a flat plane. However, the surface of the anvil may also be used this way if using bending forks in the hardy hole. You're limited only by your imagination and willingness to measure when it comes to designing a bending jig that ensures your rings stay flat.

11. The eye doesn't lie:

Take frequent breaks, walk away, and come back to inspect the ring with fresh eyes. Your eyes can see kinks and flat spots, but only if you take the time to let them see. For very large rings, it helps to stand back several feet and look at the whole ring as it develops. Additionally, frequent comparisons to the template (using your datum, of course!) can help reveal a kink or flat spot. Take turns looking at the ring from far away as well as up close. You can scan your eyes along the curvature of the ring in a smooth motion and deviations will often reveal themselves. It can be mentally fatiguing to stare at a ring for hours as you painstakingly bend it to size, so give your brain and eyes some rest and some different stimuli to allow them to see where the work needs to be done. Finally, if you're bending two rings, it can help to compare them to each other as well as the template to reveal problems. Turning one ring 90 degrees with respect to the other or flipping it over can reveal problems that were previously hidden due to asymmetry between two "identical" rings.



A log holder with two 36" OD rings bent "the easy way" from 1/4" x 1.5" flat stock (or something in that neighborhood, this job was a while ago).
Bends were accomplished with pins on the acorn table and by using the measurement techniques detailed in points 6, 7 and 8.

Watch ABANA on YouTube

We're adding our Level II tutorials to our YouTube channel - the most recent was Victoria Ritter teaching the **Basket Handle Fire Poker**.

Like and subscribe to be alerted when the next video drops!



Time to Start the ABANA National Curriculum

Registration is open for our Level I National Curriculum Zoom course. The course will consist of **five 2-hour Zoom sessions** plus **small group coaching** sessions in between. Zoom sessions will be held the 2nd Tuesday of each month from April through August of 2023. All Zoom sessions will be recorded and made available to participants (typically within a week) to review or to catch up if you cannot attend a session.

Participants will be broken into small groups and assigned to one of the instructors to receive coaching in between the Zoom sessions.

 **National Curriculum**

TAKE YOUR SKILLS
TO THE NEXT LEVEL

**LEVEL I TUTORIALS
+ COACHING**



IBA Annual Conference June 2-4, Tipton County 4-H Fairgrounds

Featured Demonstrators:

Ellen Durkan:

Artistic works in fashion, jewelry and interior pieces.



Andrew Larson:

Blacksmith and toolmaker.



Auction & Iron in the Hat



Gallery



Tailgating

Beginners Classes

Camping

Food



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Newsletter of the
Indiana Blacksmithing Association, Inc.

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

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**March 19 Annual Business Meeting
Belleville Masonic Lodge**

4252 Cartersburg Rd, Plainfield, IN

From Indianapolis: take I-465 exit #12 (Washington St/US-40 West). Follow US-40 about 10 miles through Plainfield. Turn right Cartersburg Rd. Masonic Lodge is about 1 mile on left.

Pitch in lunch

**April 16 Hammer In
Bob Hunley's Shop**

258 N CR 800 E, Sullivan, IN 47882

Driving Directions: The best way to come is to go to Dugger first. Then turn North off highway 54 on 800 E. near the train tressel and the liquor store. (at the juncture of 54 and 159). Go North through 2 stop signs and we are out in the country on the right. We are 1.2 miles from highway 54. It's a newer tan house with a tan and black pole barn. The Blacksmith shop is in the pole barn.

Chili, beans & corn bread. Please bring a side dish or dessert