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January 2020

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.

**Jan 18
2020**

**KEN DETTMER'S SHOP
COLUMBUS, IN**

**Mar 21
2020**

ANNUAL BUSINESS MEETING

**Apr 18
2020**

TBD



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CHANDLER

Editors Message

For those of you who might not have heard, Harley Chandler passed away on December 27. Harley was a coachmaker with a shop in Petersburg, Kentucky. The coach making process involved many talents, including blacksmithing. Harley had a number of IBA connections. At the Indiana State Fair, Harley operated the wheelwright shop with close interaction with the IBA members in the blacksmith shop. Harley also hosted several IBA tours of his coach shop. A few photographs of Harley and his work are shown on page 11.

Steve King is looking for IBA board of director nominations. Jeff Reinhart and Dave Kunkler are both reaching the end of their term. If you are interested in serving on the board or if you know someone who would be interested, please contact Steve King by phone at (812) 797-0059 or by email at kingstephen228@gmail.com.

Brad Weaver is looking for nominations for the Clifton Ralph IBA Blacksmith of the Year and the IBA Rookie of the Year awards. Contact Brad by phone at (812) 371-8674 or by email at bweaverhw@yahoo.com. Nomination forms and instructions are available on the IBA website (scroll down to "Awards" at <http://www.indianablacksmithing.org/membership.html>.)

The IBA annual conference is scheduled for June 5-7. The conference has been held on the first week end in June for over 20 years. This year the ABANA conference is schedule for the same week end. The schedule conflict may affect some folks. I will not be making the 800 mile drive to Saratoga, NY, so I will be attending the IBA Conference. I plan to have more details on the IBA conference demonstrators and events in the next Forge Fire.

Gary Riss from Illinois Valley Blacksmith Association sent me a photograph of piece that Doc Schertz made. The design is the IVBA logo. The piece was hammered in 1/4" copper plate. I have seen some nice repousse work in copper. I cannot recall ever seeing that level of detail in 1/4" thick stock. Gary's article and photograph of the work are on page 6.

No hammer in scheduled this month, but we will be at Ken Dettmer's shop in February. The February hammer in traditionally has been a high attendance event. I hope to quite a few people there.

Dates to Remember

March 21 Annual Business Meeting

June 5-7
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: 2nd Saturday at 9 AM
 Contacts: Doug Moreland (217) 284-3457
 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

Jennings County Historical Society Blacksmith Shop

The Jennings County Historical Society Blacksmiths met at the forge of John Cummins. Broadus Thompson put on an excellent demo of a rush lamp with his brother assisting on the hammer. There was a lot more food left than there was eaten. lots and lots of very fine food. There were 16 that signed in .

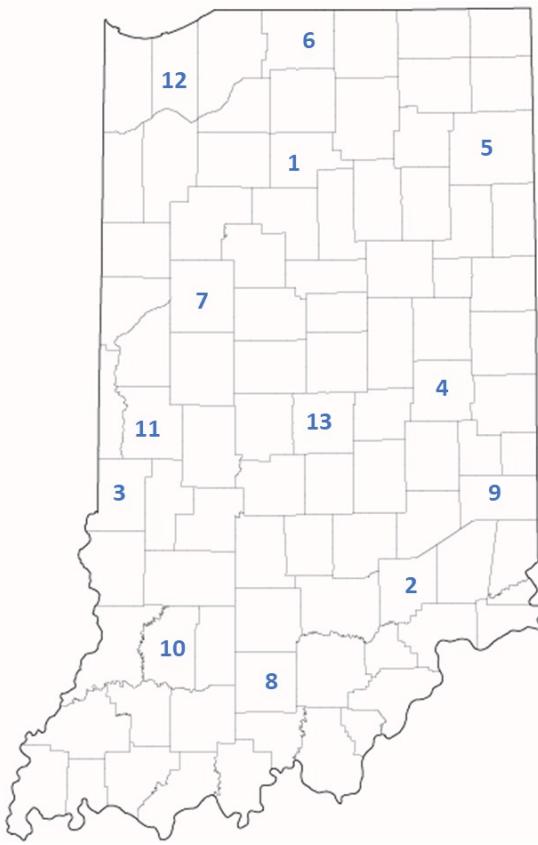
Next meeting on the 11 of January at Paul Bray's forge 139 South Park Drive, Seymour.

Feb will be at Kenny Dettmer's , 15721 S 250W Columbus In.

March is at Kevin Welsh's ,25619 Gill Rd. , Nabb In 47147.

April will be back to Vernon .

Hope to see you at my place! Paul Bray

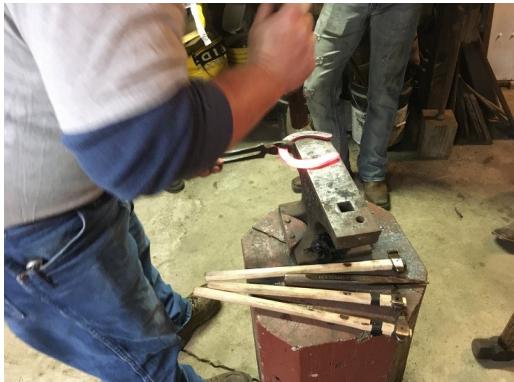


IBA Satellite Groups and News (continued)

Snake Road Forge

Had a great hammer-in yesterday at Snake Road Forge. We had twelve that showed up, two were very experienced blacksmiths Tom Willoughby and Mike Tucker. Mike made a horseshoe from scratch it was a good learning experience for all. Our next meeting is Feb 1st Saturday at 9:00 am.

I'll send you some pics hope you had a blessed Christmas and a great new year!



Meteorite Mashers

The December meeting was held at Dave Kunkler's shop in Branchville. Small attendance as many are busy with family and the holidays. Had one new visitor, Derek Krahel. He forged a chisel from some mystery metal that Aaron Baker brought. I was very hard to work and cracked a couple of time but he kept at it. Donna and Dave Kunkler were the good hosts as always. The next meeting will be at Jeff Reinhardt's shop in Floyds Knobs

IBA Satellite Groups and News (continued)

Sutton-Terock Memorial Blacksmith Shop

The members of the Sutton Terrock Blacksmith Guild started the year out right with hammer in hand and the smell of a coal fires. Zachary Royer of Royerblacksmithing.com donated a 2.5 pound cross pein hammer to be raffled off to the lucky winner . Many projects was started and some finished, and others talked about, Fred Oden still is on his game and reminds us to make things for the Iron In The Hat for the next Tipton Conference . It will be here sooner than you think he says, and he's right. We had 3 new visitors one was Mark Hohulin from South Bend, and the other two were Jimmy Kennedy an his daughter Victoria. From the looks of it they enjoyed themselves an boy can she swing a hammer! Tim Pearson who was coaching her says she can really move the material she was working on. Also there was Ben Ganshorn one of our newest an most promising Blacksmiths and hard worker and has a great attention to detail.



Illinois Valley Blacksmith Association Logo in Copper

Article and photograph provided by Gary Riss, IVBA

Doc Schertz created this plaque with her artistic skills of repoussé and chasing. It is the Illinois Valley Blacksmith Association logo that was originally designed by William Atherton 1942 – 2012. It was done in quarter inch thick copper. She graciously donated it to the Upper Midwest Regional Blacksmith Conference auction held at Pontiac in October. It was the top selling item in the auction. High bidder was Jim Ribordy. Proceeds benefited Illinois Valley Blacksmith Association, Upper Midwest Blacksmith Association, and Indiana Blacksmith Association. Thanks to Doc for sharing her talent and for her generosity.



WIRE INLAY INTO STEEL

By Martin Pansch

I have had the pleasure of learning a little wire inlay from two Guild members who really knew their stuff. Years ago I took a Tunnel Mill class from the late Bill Fiorini that taught, among other techniques, inlaying copper wire into a brass test plate using toothpick-sized tools. Years later in 2013 I took Tom Latané's class where he taught us to inlay copper wire into mild steel with chisels that, while still relatively small, were much easier to handle for someone with clumsy sandwich-grabbers like myself. The principles, however, were exactly the same: cut a groove, undercut it into a dovetail cross-section, and then drive in a wire that is softer than the material you are inlaying. With the assistance of Stephen Olivo we tried to pass on the basics of this skill in a Guild class in April 2018 to a handful of hardy souls that braved a blizzard to learn. What follows are largely the notes for that class. Large thanks to Tom Latané for both teaching me in 2013 and for reviewing these notes to make sure I am not leading folks too far astray.

The theory: Essentially you are trying to make the object you want to inlay hold on to the material mechanically versus chemically. The two main ways we are going to accomplish this is by either undercutting a trough to make a dovetail and by driving a "lip" up and then back down onto the wire.

You should be able to inlay any softer, malleable metal into any harder material. Only real consideration is having tools that will effectively cut the material receiving the inlay. We'll be using copper in steel as relatively cheap practice materials.

For all of this work you will be using a small hammer, maybe 4-6 ounces, that you will swing many times. Too big of a hammer will just tire you out and damage the struck tools faster. I like a chasing hammer with a big face and a polished ball peen on the back that I occasionally use for driving the wire into the groove.

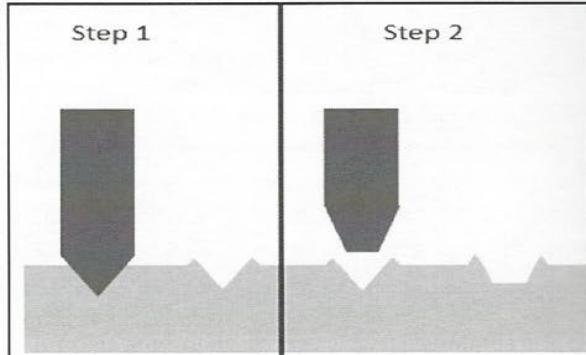
The basic straight line with chisels.

Pattern limited by shape and length of chisel. Wire gauge dictated by chisel size.

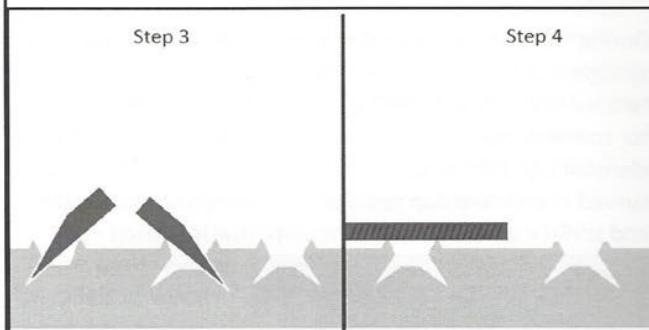
Draw out design with Sharpie, using sand paper as an eraser, or just free hand the pattern.

Step 1: Incise a line with your straight, sharp chisel. Two or more passes likely needed to get deep enough. On successive passes angle the chisel as needed to straighten your line. Depth of groove should be a little more than half the diameter of the wire being used. Using punch lube on the sharp chisel should ease a little in cutting and keep the tool sharper, longer.

Step 2: Follow the line you just made with the flat or blunted chisel. You should see the bottom of the groove flatten out as you go.



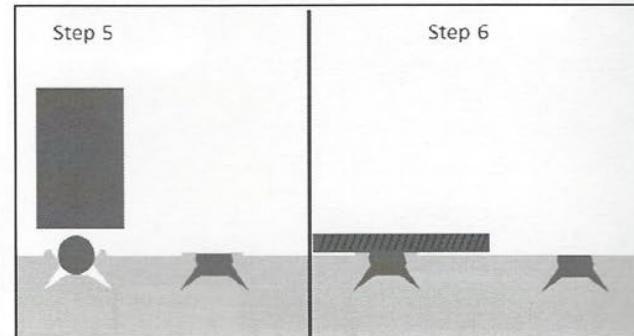
Step 3: Undercut dovetail on either side of groove with dovetailing chisel. As you progress you should see the burr pop up a little more in the areas you have undercut. Note you will likely need to pause for resharpening fairly frequently. Using punch lube on the sharp chisel should ease a little in cutting and keep the tool sharper, longer.



Step 4: With a fine file take off the high points of the burr. You are just trying to even up the burr on both sides of the groove.

Step 5: Set wire in groove and drive it into the groove, and dovetails, with a flatter tool.

The wire will stretch as you drive it into place. If you



jump around setting different parts of the wire you risk loosening what you already set. If you cut your groove too deep you may still be able to set the wire in place with a narrow, rounded chasing or repoussé tool. Or you can try a larger size wire.

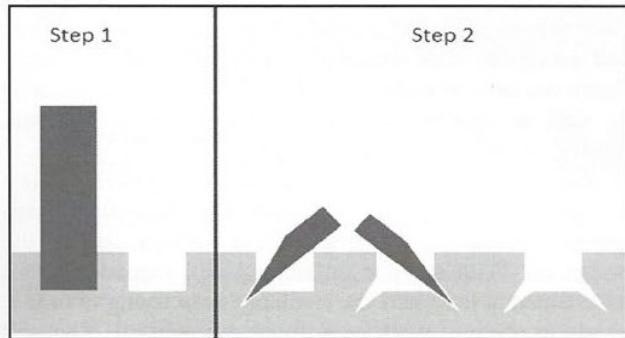
Step 6: File remaining protruding wire and burr flush with the surface. Options for alternative finished exist and will be discussed.

The basic straight line with hacksaw.

Limited to where you can make a cut with a hacksaw. Limited to straight lines. Wire size is dictated by hacksaw blade width. A typical hacksaw blade makes a good groove for 18 gauge wire. This is essentially the same process as above but combines the cutting and flattening steps.

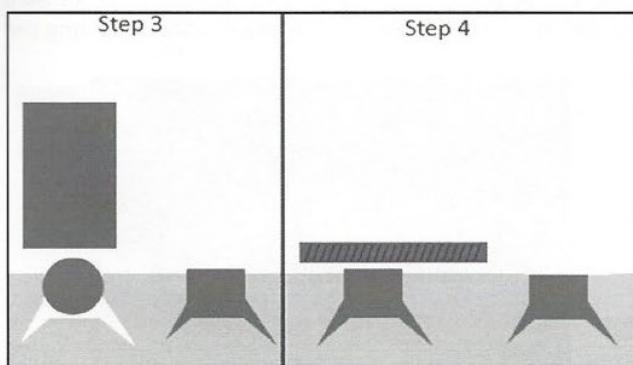
Step 1: Cut groove with hacksaw. Be careful, it is very easy to cut too deep. Shoot for a little past half the diameter of your wire.

Step 2: Undercut dovetail on either side of groove with dovetailing chisel. As you progress you should see the burr pop up a little more in the areas you have undercut. Note you will likely need to pause for resharpening fairly frequently.



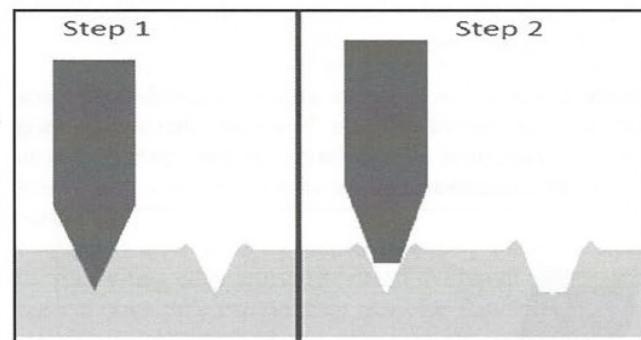
Step 3: Set wire in groove and drive it into the groove, and dovetails, with a flatter tool.

Step 4: File remaining protruding wire flush with the surface.



Dots

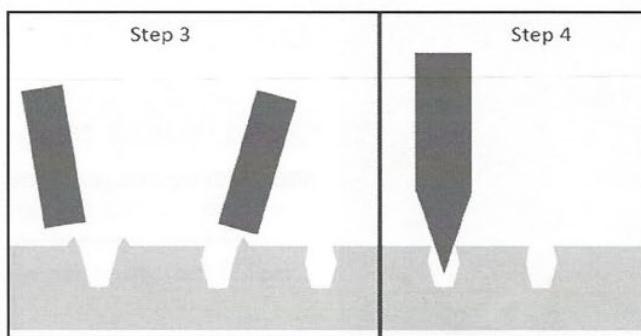
These can be nice little accents added wherever. Due to their size contrasting metals/finishes are needed to make them stick out.



Step 1: Center punch a hole.

Step 2: Flat punch bottom of hole.

Step 3: Drive upset back into hole to make a little sac in the metal

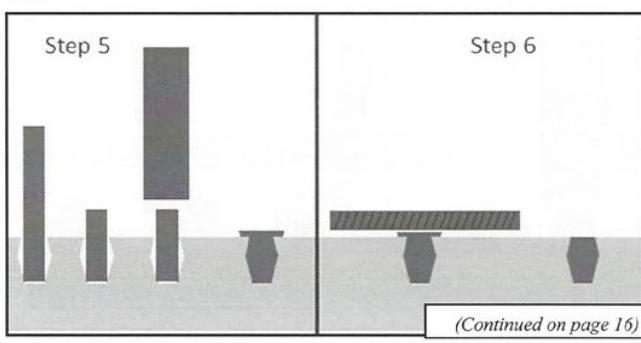


Step 4: Run the punch back into the hole lightly, turning it around to re-round the hole.

Step 5: Flatten the end of your wire with a fine file. Stick the flat end into the hole. Cut off about $1/16"$ proud of the surface, or about the amount left by the bevel of a wire cutter. Planish the wire home upsetting it into the sac.

Step 6: File any protruding wire or burr flush to the surface.

There are other techniques for cutting dovetails in the bottom of dots for inlay but don't work the best in steel. We can discuss these if anyone plans on inlaying into brass, etc.



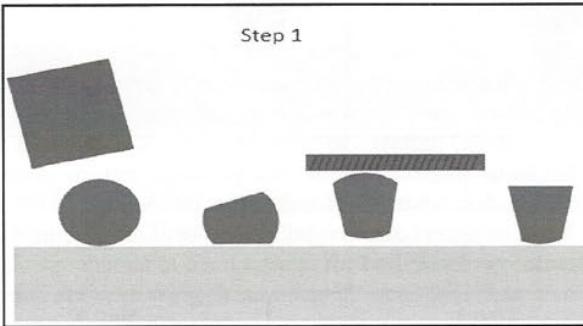
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Raised Bead

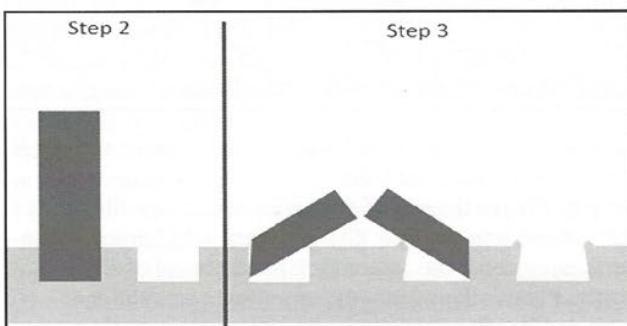
Step 1: Prepare your wire. It needs flat sides and bottom. You can flatten the sides with a hammer on a smooth surface or file. The bottom needs to be flared wide and filed flat. Essentially you are aiming for a dovetail shape.

Step 2: Cut a notch in your receiving metal not quite as wide as the base of the wire. You can either make two or more overlapping hacksaw cuts or have two blades on your saw and make one cut.



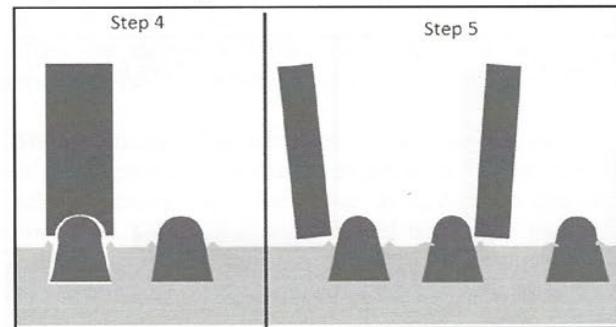
Step 3: Use the butcher tool to open the walls and lift a lip of steel. Your wire should sit relatively flat on the bottom.

Step 4: Lightly tap wire into place with top swage on one end



Step 5: Drive down the raised lips of steel with flatter or deeper swage.

Step 6: Continue process with rest of the wire.



Trimming copper that “squirts out” might be necessary when completed.

Various effects can be applied to the wire bead.

Twisted Wire

The steps for cutting, undercutting and setting the twisted wire is the same described above for plain wire. The variations you make depend on the size of the wires you twist and the effect you are looking for.

You have to figure out the combined cross section of the twisted wires versus the cross section of the single strand wire you are used to working with. For instance two strands of 21 gauge wire have the same cross section of one strand of 18 gauge. From there you can figure how deep or wide of a groove you have to cut.

The other factor to the width and depth of the groove for twisted wire is what effect you are going for. If you make a loose groove small gaps and curves will remain after setting it giving you a rope-like effect. If you make the groove tight setting the wire will get rid of all the gaps and, after filing, give you a sort of dash or “lightning bolt” pattern.

If one of the wires in your twist is the same material as the piece you are inlaying it into and you set it into a tight groove the similar metals will blend after filing.

Once you have played around a little and got straight lines and dots pretty well mastered you should be able to easily figure out how to make curved lines (hint: curved chisels) as well as tackling inlaying surfaces that are curved, twisted, or other challenging shapes.

If you are planning to inlay much smaller pieces, like on the scale of jewelry, you will likely want to explore using gravers for cutting the grooves and perhaps making the undercuts. With smaller, softer and odd shaped pieces I have found at least half the challenge is in trying to hold it firmly in place to work on without damaging it. You will have to explore various vise jaw inserts, pitch pots, and other clever solutions.

If you are going to be inlaying a lot of lines into a complex design pause and think about what parts to do in what order. I have found it generally advantageous to all of Step 1 to the whole design, then all of Step 2, etc, continuing until



til the end versus doing all the steps for one line, then moving on to the next line but your mileage might vary. Make sure to let us know what you figure out beyond the notes here so the group can be smarter for it.

Tools for wire inlay class

From 3-inch long pieces of 3/8" round stock of W1, 1095, or 52100 forge the struck end to a taper about half to 3/4 the length of the blank. Aim for about 3/16" square on the struck end. They'll end up about 3 3/4" to 4 1/4" long depending on the business end. The business end should be:

1 Flatter. As big of a square as you can make out of the starting stock without crazy upsetting. Finished tool should have slight radius on edges.

1 Butcher, fairly blunt

2 3/16" to 1/4" wide chisels. These chisels should be the same profile, width and bevel. Bevel should be a little sharper than a cold chisel. The only difference between the two is one will be blunted to maybe 1/64".

2 Undercut chisels. These should be a slimmer profile than the chisels above, sharper, and only beveled on one side. These will get duller, faster than anything else so the more of them you have the less frequently you'll have to pause for resharpening.

2 Center punches. Fairly sharp profile. Like the matched chisels above they should have a matching

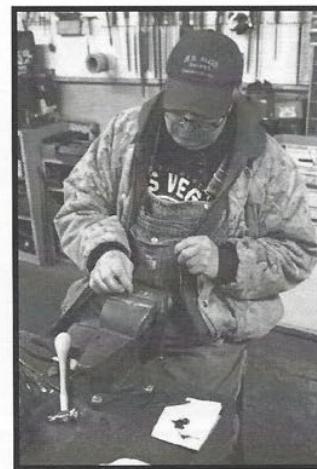
profile but one is blunted to about 1/32" or so.

1 Top swage/raised bead tool. The grove should match 14 gauge wire but be not quite 1/2 as deep as the wire. The finished tool should have the ends and the edges of the groove relaxed.

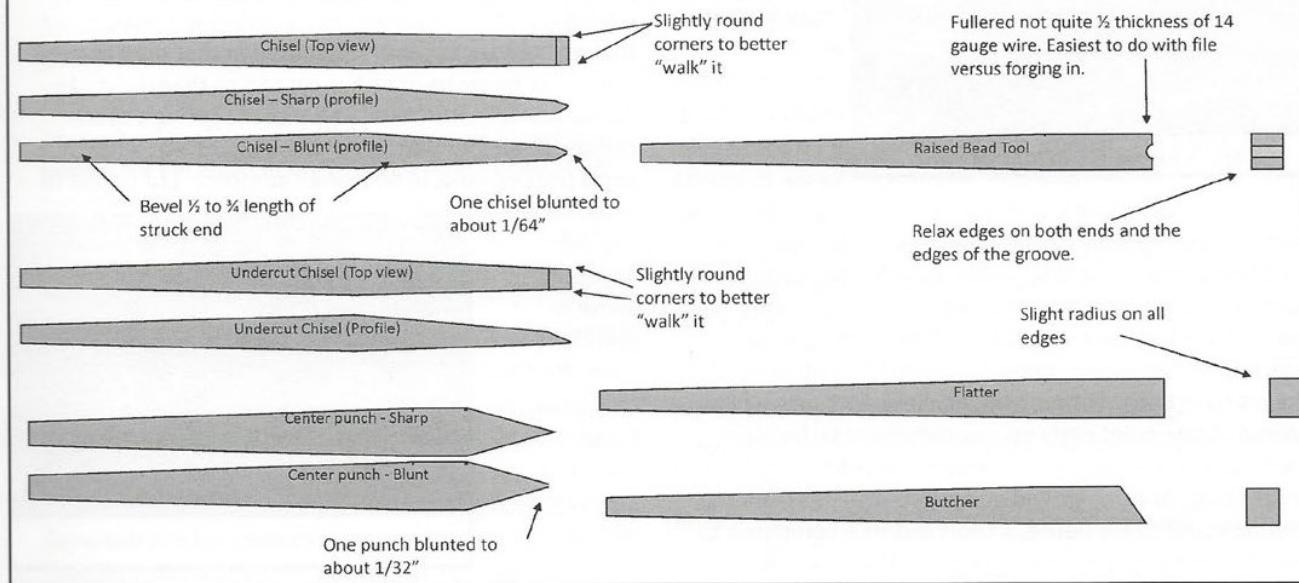
For heat treating you are looking for a temper that will let you cut steel without edges chipping or getting dull too quickly. For W1 by eye I usually temper to a bronze brown. The struck ends should either be tempered softer than that or you should have a softer hammer to strike the harder tool.

I wouldn't suggest using untested mystery junkyard steel for the cutting edge tools. They tend to chip in my experience, though they can hold up okay for flatters, butchers, etc.

For sharpening I like to use a medium grit diamond lap plate as it is fairly aggressive (i.e. takes less time). I have a little hand-crank grinder that I'll use when a tool gets so beat up it needs re-shaping before sharpening. If grinding on tools, whether with a hand-crank or belt grinder, make sure to frequently cool the tools or risk losing their temper.

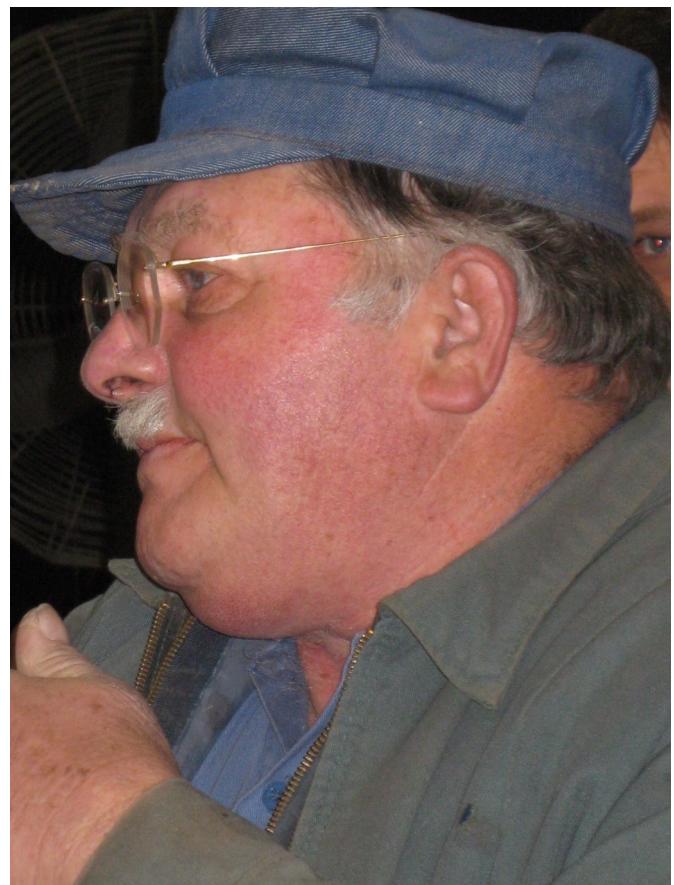


Start with 3 inches of 3/8" round W1, 1095, or 52100. Finished tools will be a square cross section and between 3 3/4"- 4 1/4" long though that is not a vital spec. Temper to 425 degrees F or a bronze color if tempering by eye.



Passing of Harley Chandler

The IBA is saddened to announce that our good friend Harley Chandler passed away on December 27, 2019. He was a master coach maker, blacksmith, and woodworker. He taught many of us from a deep wealth of knowledge and an ever present contagious humor. His skills were admired across the world. He is irreplaceable. He will be missed





The **FORGE FIRE**

Newsletter of the
Indiana Blacksmithing Association, Inc.

Farrel Wells *Membership Secretary*
8235 E 499 S
Dunkirk, IN 47336-8807

First Class Mail

Address Correction Requested
If Undeliverable return to
sender

February 15 Hammer In Kenny Dettmer's Shop

15721 S 250W Columbus, IN

From the North: take I 65 S to Ogilville / Walesboro (exit 64) turn. right. Go to the 1st cross-roads (300 W). Turn left. Approx 1 mile to the "T" . Turn left (600s). Go to 250W. Approx. 4 miles to a brick house on your left.

From the South: I 65N to Jonesville exit 55 turn. right, go to road 950 (in Jonesville). Turn left. Go to 250W turn. right. Kenny's house is approx 1/2 mile on your right .

Please bring a dish to share.