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August 2013

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)

10:00 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 Moe Handy
(317) 862-5647 for details.

IBA MEETING SCHEDULE

Check the latest *Forge Fire* for monthly IBA revisions.

Aug 17
2013

**ST JOE VALLEY FORGERS
(BILL CONYERS SHOP)**

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Dates to Remember

Aug 2-18 State Fair

Aug 17
IBA Hammer In at St Joe Valley Forgers

Sept 27-29
Quad State (SOFA)

Presidents Message

It is now the early part of August and the Indiana State Fair is in progress Bill Newman is doing a good job of leading us as we work the blacksmith shop at Pioneer Village this year. Thank you Bill.

A few weeks Ago the conference at Pontiac, Illinois was held. It was a good conference. Our 2013 Rookie Blacksmith of the Year, Jamie De Priest sold her first sculpture for around \$500. It was a horse figure much like the piece she show at out Tipton conference this year. Good Job Jamie. Keep up the good work. Our vice-president Bill Conyers was in charge of the event this year. We were the host group for the conference this year. While there Bill discovered he would also be in charge of the 2015 Pontiac conference. Thank you for “volunteering” Bill. Our group at Paoli was there to demonstrate making a Fredrick’s Cross out of 3 inch square stock.

Our August hammer-in will be held at Bill Conyers shop in South Bend on August 17. Bill always hosts a good meeting with a wonderful meal.

Sept. 27-29 will be the Quad State Conference hosted by SOFA at Troy, Ohio. If you haven’t been there you have missed one of the best blacksmith conferences in the world with tailgate sales that is second to none.

Jim “JJ” Johnson has lined up our demonstrators for our 2014 AND 2015 conferences. At a boy JJ.

Fred Oden of our group at Rochester has put together a book “Best of the Forge Fire: Tips, Tools and Projects”, a collection of articles from the Forge Fire from 1991-2013. Dominick Andrisani printed several copies in both print and cd format. We should have copies available at Quad State this year.

Let me ask a question. Who is the person most important to the success of the IBA? Answer: you. A chain is only as strong as its weakest link and a group is only as good as its individual members. Your dedication, work and involvement is what makes us a successful association. Thank you for making us such a good group.

Gary Phillips, President Indiana Blacksmithing Association.

IBA Satellite Groups and News

Sutton-Terock Memorial Blacksmith Shop

Meet: 2nd Saturday at 9 AM
Contacts: Fred Oden (574) 223-3508
Dennis Todd (574) 542-4886

Wabash Valley Blacksmith Shop

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

Maumee Valley Blacksmiths

Meet: 2nd and 4th Saturday
Contact: Clint Casey (260) 627-6270
John Schamber (260) 579-7303

Rocky Forge Blacksmith Guild

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

Whitewater Valley Blacksmiths

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

Bunkum Valley Metalsmiths

Meet: 1st Saturday
Contacts: Doug Neukam (812) 259-4430
Steve Stoll (812) 486-9668
Kathy Malone (812) 725-3310

Jennings County Historical Society Blacksmith Shop

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

Fall Creek Blacksmith Shop

Meet: 4th Saturday at 9 AM
Contacts: John Zile: (765) 533-4153
Larry Singer (765) 643-5953
Farrel Wells (765) 768-6235

St. Joe Valley Forgers

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

The Southern Indiana Meteorite Mashers

Contacts: Billy Merritt (812) 338-2876
Steve King (812) 797-0059
Jeff Reinhardt 812-949-7163

One Armed Blacksmith's Shop

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

"Doc" Ramseyer Blacksmith Shop

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

Jennings County Historical Society Blacksmith Shop

The Vernon Historical Society Blacksmith Shop was opened at 7:20am by Ray Sease. Charlie Helton and a couple of dedicated helpers cleaned and straightened the shop to make room for the restocking of our coal supply. Aaron Amos was the first to try out this new batch of coal by making another knife from a RR spike. C.J. made a cross and a RR spike knife. Bill Newman made four scroll legs for a lamp. Gerald Williams made two wood turning hook tools for his other passion. Aaron got a break in the action long enough to make a dutch oven lid lifter and a wall hook. Kevin Welsh worked on a primitive out-door table, a new concept for me. I like this design and may copy it's style myself. The iron-in-the-hat went very well (for the low caliber of goods displayed). If you are cleaning out your shop and have short pieces of steel left over, you may want to consider bringing it to the Indiana State Fair which runs from Aug 2 to Aug 18. All volunteers of IBA or Rural Smiths will certainly be appreciated. Help gets a little sparser as the fair draws on so please keep that in mind. This is just another way we can introduce the art of blacksmithing to many who have never saw a "real" blacksmith. I know it's going to be hot, so hydrate well!

Paul Bray

IBA Satellite Groups and News (continued)

The Southern Indiana Meteorite Mashers

The Southern Indiana Meteorite Mashers did not have our scheduled meeting as we were pretty near all wearing our Brotherhood of Friendly Hammermen Shirts and doing the Saturday morning demo representing the IBA at Pontiac Ill. at the UMRBC on the 20th. This was big cross #8 and we again had a great time. We invited Phoebe Graham from the audience to join us, a sort of tradition with the BFH's and she stepped right up to the task. We also had the able assistance of Richard Hammer all the way from Virginia. The cross was sold at the auction that evening.

Next meeting will be the last Saturday of August at Jason Hardin's shop on Mill Creek road in Salem Indiana.



Trail of Courage Living History Festival

Sept. 21-22, 2013 at Rochester IN. Sat. 10 a.m.-6 p.m., Sun. 10 a.m. – 4 p.m.

The Sutton -Terock Memorial Blacksmith Shop, and Fred Oden's blacksmith shop in festival's wooded area. Foods available in festival area. All funds go to operate the museum and historic village.

Admission: \$7 adults, \$2 children ages 6 to 11, Free ages 5 and under. **Free Admission if you work a half day** or help set up or clean up (Friends and family members must pay admission). Check in at the museum.

www.fultoncountyhistory.org or fchs@rtcol.com 574-223-4436

IBA Satellite Groups and News (continued)

Whitewater Valley Blacksmiths

The July meeting of the White Water Valley Blacksmiths began precisely at around 4:00 in the afternoon with 2 forges going and lots of small group discussions on various subjects (all blacksmith related, of course).

Tom and Bobby chose to re-create a rose that Tom had seen demonstrated online. And since his resource was the internet, there was never any question of it being true and easy to duplicate. All went very well until it came time to actually form the rose petals, and then the internet let everyone down and the “Black Rose”



turned out to be more of a “Black Rose Stem”. Never-the-less, everyone was able to experience the “concept” of the project, even if the actual result was a little anticlimactic.

At the other forge, Mark pounded out a reasonable fork and James worked with Jim King, one of our newer members, on his first railroad spike Knife.



As usual, the food was terrific and the Iron-in-the-hat gave everyone an opportunity to part with some of their old un-needed shop items and vie for new and amazing un-needed shop items.

On the business side, Jimmy Dean has volunteered to host the next meeting so we will be taking advantage of his hospitality and his shop's facilities on the second Saturday in August. The address is 3104 Seeley Road Cedar Grove, IN 47016. Please remember, due to the highly regimented structure of our meetings, the starting time is always 4:00 PM. (Or whenever we get enough people together and someone starts banging on a piece of hot metal).

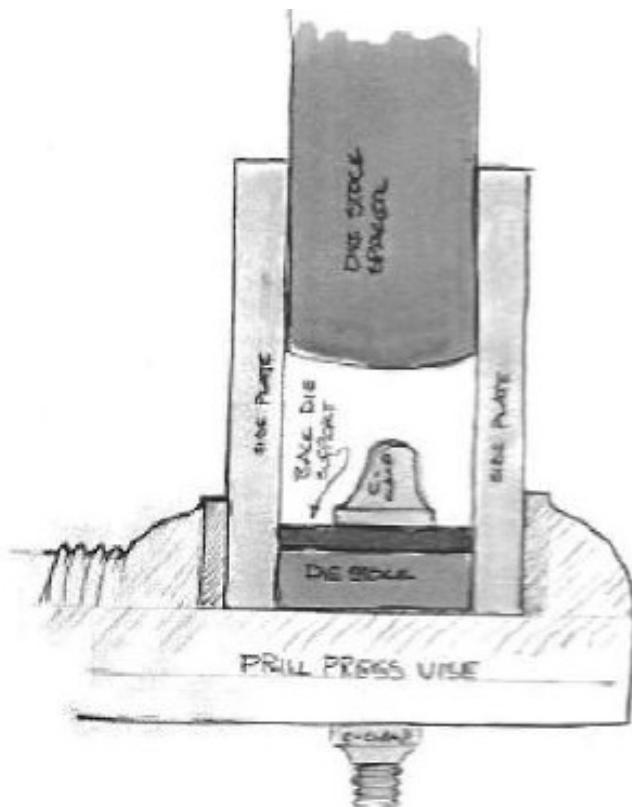
Happy Hammerin'!

Making the Guillotine Tool

The first thing to do when making the guillotine tool is to cut a seven inch length of whatever size bar stock you'll make your tools from. 1/2" x 1 1/2" mild cold rolled is a good place to start, but if in doubt, choose a small size rather than larger. Most people tend to make their tooling larger & stronger than necessary...you'll find that smaller tools can be more effective and useful. Grind a mild crown into the ends, since you'll have to beat it with a hammer to get it out of the tool.

Cut out the two sided plates. If you use an acetylene torch, you'll have a lot of cleanup grinding to do. There are four pieces of 1/4" x 1 1/2" bar stock behind and in front of the dies that are welded to the side plates. These provide a surface to hold the dies. Cut these as well.

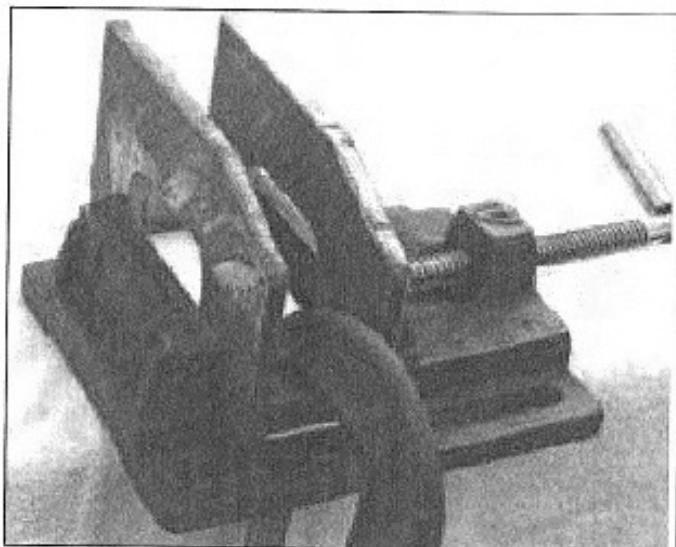
To assemble, start with the die stock. Wrap two layers of newspaper around the die stock and secure it with scotch tape or glue. This will give you the clearance you'll need for the dies to slide in and out of the holder. Take the wrapped die stock and lay it into the drill vise. Place the side plates on either side and lay two of the back die supports in position. Use a second piece of die stock as a spacer to hold the side plates parallel...as the first weld cools, the side plates pull inward with considerable force. Tighten the drill press vise, but don't weld it yet. Clamp a C-clamp on the back of the die support...this will keep it from lifting as the weld zone shrinks and cools. Double check that everything is



square and tight before you begin welding. Tack weld the four corners first, then weld the plates in place. Weld the upper one first, then weld the lower...It's a tricky weld, but try to connect the two pieces well. Be careful as you do this...the newspaper wrapping the die may catch fire. This will help when you go to get the die out, but make sure the newspaper is the only thing you burn up!

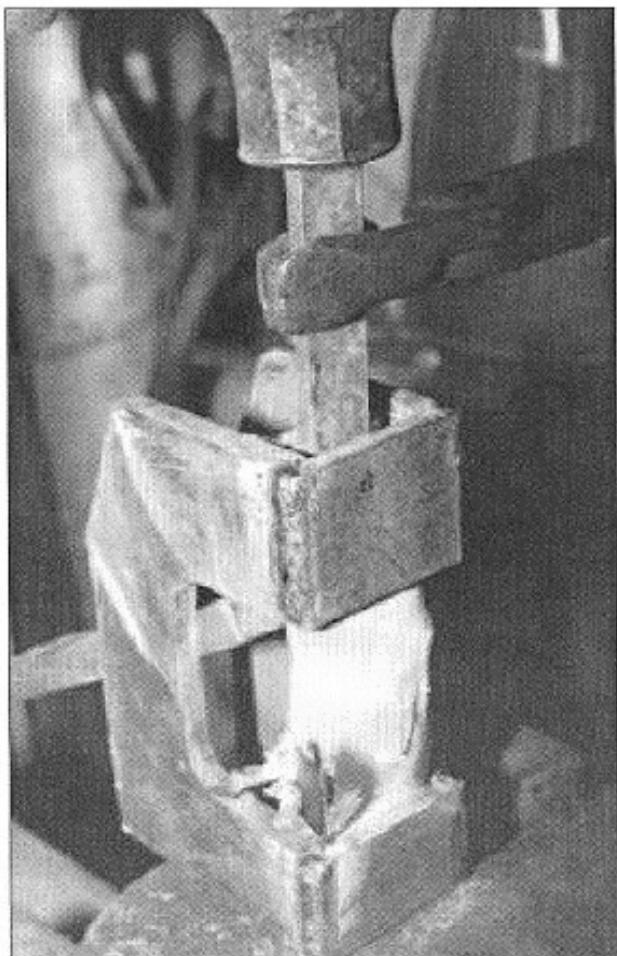
Once the back die supports are welded into place, remove the tool from the drill press vise. Position the front die supports and hold them into place with the C clamp. Weld these the same way...tack weld all four corners, then weld the rest.

At this point your die stock will be enclosed on all four sides, and hopefully will be held tightly by the plates you've welded in. The weld zones will shrink and warp a bit as they cool. To minimize the warping, use a steel boatbuilders' trick called skip-welding...that is, weld no more than one inch of bead at a time, then skip to another part of the tool. Finish the weld after the previous one has cooled completely. This keeps the weld heat from building up enough to warp the part.



From the *Hammer's Blow*
TOOLMAKING

Now you need to drive the die out of the tool. The newspaper helps a little bit, but you'll have to take a short piece of 3/8" thick bar and hammer the die out over a vise opened a bit over 1/2". If it's really tight and you can't get it out, try heating the tool. This will expand the metal just a touch, plus it'll burn out some of the newspaper and should give you enough slack to remove the die.



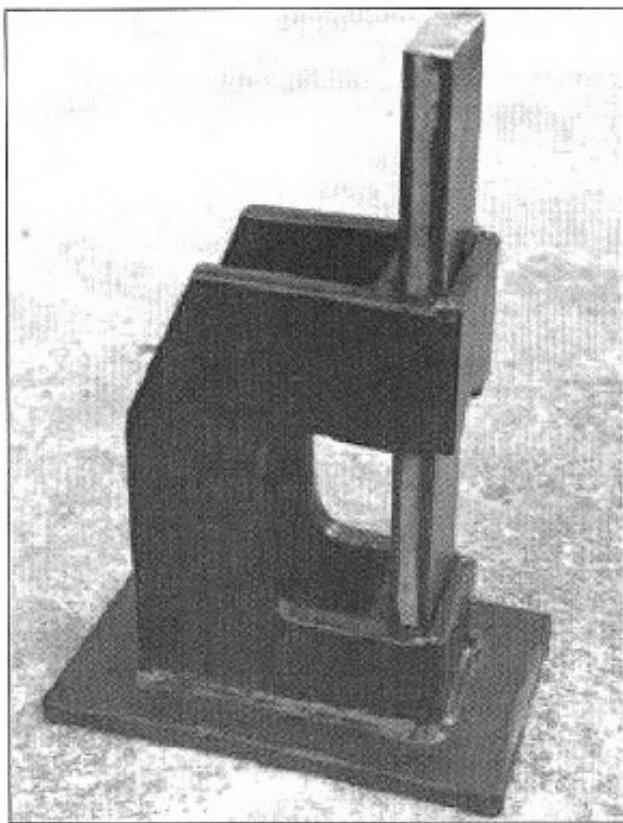
Driving out the die

Once the die is out of the tool, clean off any bits of newspaper and test the die for fit in the tool. You'll probably need to sand, file, or possibly grind off any burrs or spots that bind. When I made dies out of hot rolled, I had a lot of mill scale that was causing binding and had to grind the dies. After I was done, the fit wasn't quite as good as I'd prefer...that's why I suggest using cold rolled for the dies, and probably the front and back die support plates as well. (I used cold-rolled for this example, and the fit was much better.)

Once the base plate is welded on, all that remains is a mounting piece on the bottom, either an appropriately sized piece of square stock to fit your hardy hold, or a piece of bar stock for use in the vise. I went with the hardy stem...most of our vises are too high for this tool. You could use a piece of bar steel that fits diagonally across the hardy hole to work both as an anvil tool or a vise mounting, but I've never tried this.

When you fit the die, you're looking for a snug, sliding fit, but you don't want the die to stick. If they do, the tool will be difficult to use, although a slight sticking would probably be OK. The dies should break in as the tool is used and slide a little easier.

Once you get the dies fitted the way you like, wire brush what you've done so far. (Sandblasting would be better.) Drill a hole through the base where the bottom die will be...this way if a die gets stuck you'll have a way to push it out. Weld the tool onto the base plate. Again, it helps to clamp the tool down to keep it from shifting. Tack weld all four corners first, then chain weld the side plates onto the base plate, and the front plates. I put the die bar into place before welding, just to be sure the holder stays in alignment.



The completed guillotine tool

Dies for the Guillotine Tool

There is practically no limit to the number of dies you can make for the guillotine tool. It's basically a matter of modifying the end of a piece of bar stock to suit your purpose. You are limited in design of the top die to the width and thickness of the die, in this case 1/2" by 1 1/2". Since the bottom die is stationary, you can weld on any size of rod, plate, holders, etc. For single pattern stamping of, say, a small diamond or heart shape, it may be better to build a holder for smaller dies, about 1/2" x 1".

Since these dies are only used on hot metal, mild steel will suffice, even for cutting tool and butchers. I've used one for years with minimal wear, but that's only occasional use. I bought some case hardening compound to try on these, but it's too soon to tell if it makes a significant difference. If you plan on using these tools daily, it might pay to make dies out of your favorite flavor of tool steel. I've even arc welded tool steel face onto mild steel dies with good results.

Fullering dies are a natural for these types of tools, since the edges are always aligned and parallel.

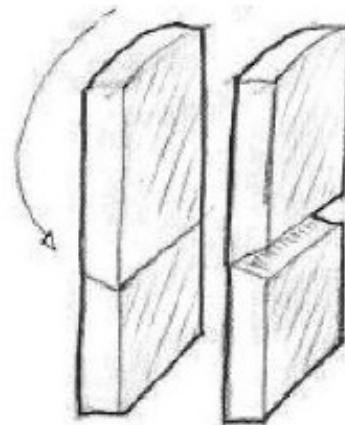
Butcher tools work well and are easily made from one shallow angled cut with a chop saw.

I haven't tried cutoff tools yet, but I hear they work as well, especially straight edged hot cuts. These would be best made from tool steel, and you'll need a guillotine tool with a minimal amount of slop in the dies.

Grooving dies have a lot of potential with a guillotine tool. They are designed to work along the length of a bar at once.

Other uses for this tool are decorative pattern stamping, tenon forming, swaging, etc. Though I've never tried it, a guillotine tool should work under a treadle hammer or hydraulic press. If you use a press, though, you may need to make some arrangement to keep the dies from overheating.

MAKE A SHALLOW ANGLED CUT WITH CHOP SAW

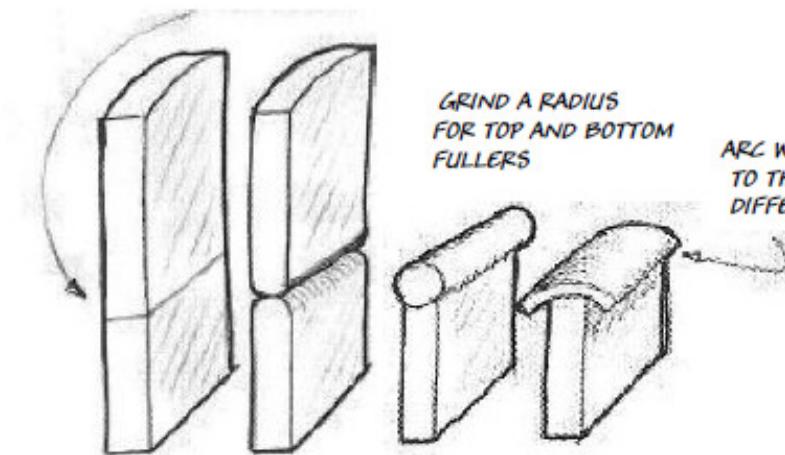


TURN THE TOP PIECE AROUND...



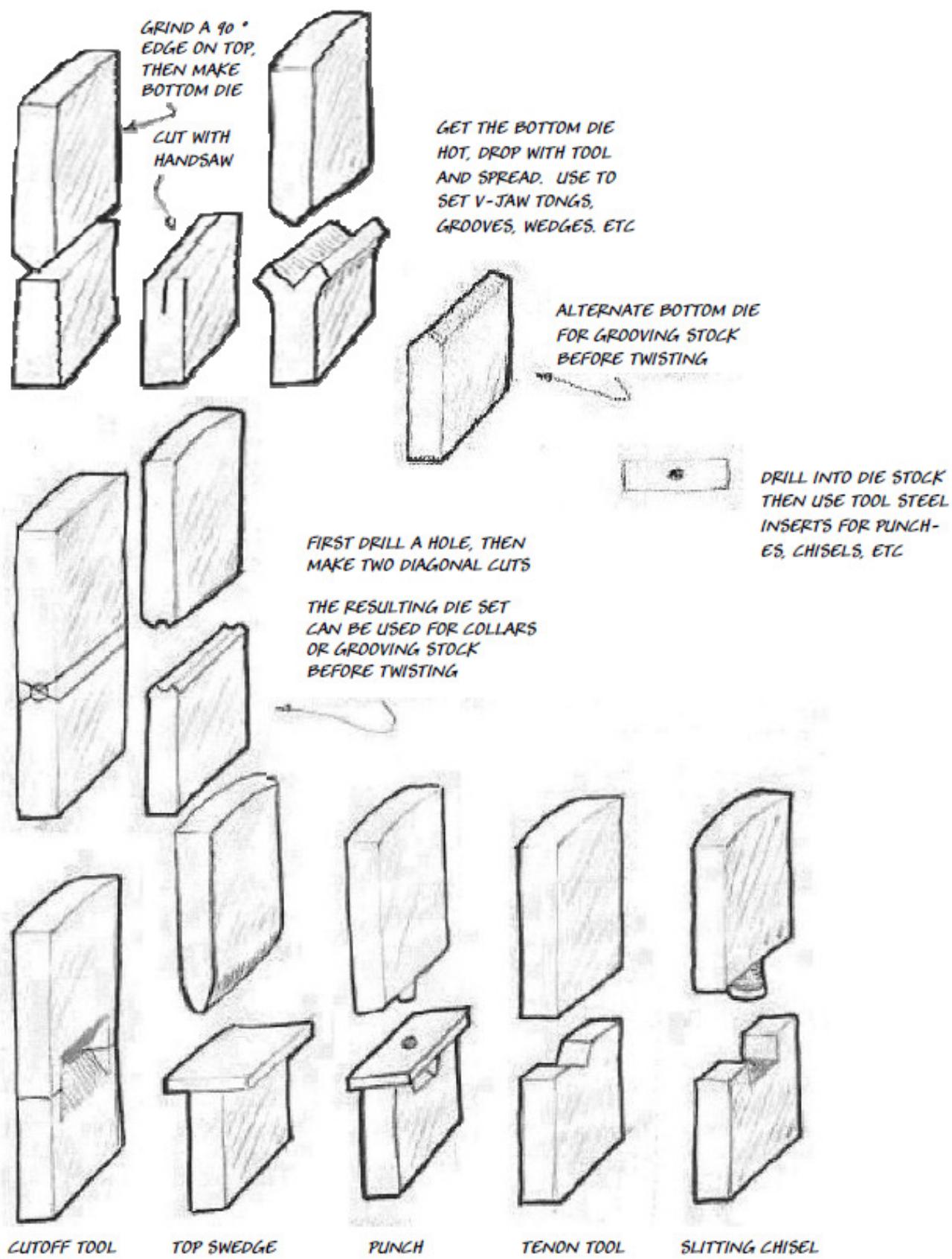
A BUTCHER TOOL FOR STARTING TENDONS

CUT STRAIGHT ACROSS



GRIND A RADIUS FOR TOP AND BOTTOM FULLERS

ARC WELD DIFFERENT SHAPES TO THE BOTTOM DIES FOR DIFFERENT EFFECTS



Photos from Pontiac

Courtesy of Jim Johnston



Upcoming Classes at Conner Prairie

For registration, please call Guest Services at (317) 776-6000

Oct. 5-6th 8 a.m. - 5 p.m.

Join Nathan Allen as you learn the **basics of blacksmithing**. Students will learn skills such as using a forge, drawing, punching, hardening and tempering steel and forge welding. Projects such as s-hooks, fireplace poker, chain links and a fork will be made. \$260/\$250 member

Oct. 7-9th 8 a.m. - 5 p.m.

Students will work with blacksmith Nathan Allen to discover the process of forging and finishing a **skelp-welded gun barrel**. Through a combination of demonstration and hands-on, the class will work through the steps of welding a barrel, making reaming and rifling tools and finishing the inside and outside of the barrel. \$285/275 member

Oct. 9 - 11th 8 a.m. - 5 p.m.

Under the tutelage of Dwight Gallian, students will learn about the history and manufacture of a **traditional hand-forged knife**. Class will include materials selection, forging and finishing a functional knife. \$280/\$270 member (tools required)

Oct. 9 - 11th 8 a.m. - 5 p.m.

Learn **traditional forging techniques** from blacksmith Nathan Allen. Students will examine stylistic differences and construction techniques used on historic axes and will then forge and finish an axe of their own. \$295/\$285 member

Nov 2 9:30 a.m. - 4 p.m.

\$95 (\$90 C.P. members)

Min. 6, Max 10

Instructor: Dwight Gallian

Be a blacksmith for a day. Learn to heat metal in a coal forge and shape it on an anvil. You will have the opportunity to complete several simple projects such as barbecue skewers, a flint and steel firestarter (with instructions on how to use it) and a dinner bell. All tools and materials will be provided. Ages 14+

Nov 9 8:30a - 5 p.m.

\$130 (\$120 C.P. members)

Min. 6, Max 10

Forge your own set of essential blacksmith tools, a cross-pein hammer and tongs. In this class we'll cover basic forging processes for making tongs. We'll also discover the secrets of properly selecting good tool steel for forging hammers, punches and drifts. Finally, students will finish the hammer and develop basic heat-treating skills through hardening and tempering the hammer.



The **FORGE FIRE**

Newsletter of the
Indiana Blacksmithing Association,
Inc.

Bill Kendrick *Newsletter Editor*
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Seymour, IN 47274

First Class Mail

Address Correction Requested
If Undeliverable return to sender
With original address legible

August 17 Hammer In St Joe Valley Forgers

Bill Conyer's Shop: 50964 Lilac Rd, South Bend, IN

From the south: Go through South Bend on US 933 to Auten Rd. Turn left or west, cross the river, the first road is Lilac turn right (north), look for yellow house on right

From the toll road: Get off at exit # 77 this will put you on US 933. Go north to Auten Rd. Turn left or west, cross the river, the first road is Lilac turn right (north), look for yellow house on right

September 21 Hammer In TBD