

# On the Anvil NEWSLETTER

PHILIP SIMMONS ARTIST BLACKSMITH GUILD

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Barry and I made the best of some sticky situations-Barry forgot the bottom hardy tool needed for the project-while doing the demo. Part of the allure of blacksmithing to me is problem solving and we had a few to solve on this one. The demo was a box joint piers. Ambitious for even a journeyman and at a Guild 2 hour demo!!! We wound up forging the missing bottom tool on the fly. Barry ( with my excellent striking) forged out a new one from a hot cut he had brought along and it did the job! Barry always impresses me with his ability to think on his feet! Assisting him exercised a lot of muscles I haven't used in a while, Particularly my brain! I was sore for a few days after believe it or not. There are some pictures Barry may include in that will show some "ingenuity". The Iron in the hat went off the rails a bit but we reign it in and kept on track. The Guild raised \_\_\_\_\_ amount from the tickets. One way or another we got to the end at least. Barry pushed through afterwards and finished the demo piece after the raffle much to the delight of those watching and Rick Thompson, the winner of it!

Jason Jaco brought some of the tooling and pieces that will be made in the Lyle Winn , Tools to make Tools class to be held next year at his forge.

Jason has shown a lot of initiative, motivation and leadership as of late hosting hammer-ins, classes and helping new folks get a chance to try our the craft! Thanks Jason!

Jack Hurley and our own Rick Thompson came to the meeting, Jack is the resident smith at Camden and demonstrator at the August Meeting. Rick has been spending a lot of time at the Camden forge with Jack and has demonstrated solo at the forge. They brought a wonderful 3d model of the planned replacement smithy at Historic Camden. I am amazed at the project and the scope.

That's all for now, Jody

Hello fellow blacksmiths! I am writing to you on Veterans day so I just wanted to give a shout out to all those who served and also wield a hammer!

The October meeting was at the Lexington county museum and if you came I am sure you all were entertained by Barry and Myself!

The Lexington County Museum is made up of 36 historic houses and outbuildings, and showcases the Colonial and Antebellum period of Lexington County history. It also has a large collection of locally-made artifacts, including quilts, furniture, and pottery. Our buddy Heyward Haltiwanger and the Museum staff were great hosts and provided the main entre of KFC chicken! The members all provided the sides drinks and fixins'. Heyward is our liaison to the museum. If you go, mention his name and they will still probably charge you full price They are great people to work with and I really appreciate their efforts to host us! I look forward to more work in the future with them!

# Iron in the Hat

Item	Donated By	Won By	Item	Donated By	Won By
Bush Hog blade	JD Norris	John Tanner	Teacher's Pointer	Jim Looper	Clyde Umphlett's Friend Jane
RR Spikes	John Kneece	Russell Wilson (2) Jim Looper (2)	Meat Fork	Tony Etheridge	John Kneece
Candle Holder	Todd Elder	Chuck Baldwin	Mystery HC Steel	Jim Looper	Tony Etheridge
Box Jaw Tongs	Phil Rosche	Ben Secrist	Bickern	Bill Creek	Chuck Baldwin
Mild Steel Drops	Dave Bush	Pete Butler	Steel Bucket w/lid	Conal Smith	John Tanner
Square	Dave Bush	Johnny Marks	Avon Anvil/Colone	Ed Sylvester	Charles Meyers
Coal Scoop	Dave Bush	Pete Butler	Face Scrubbers	Donna Patten	Rick Thompson
Bucket o Coal	Paul Gazda	Rick Thompson	Wash Clothe	Russell Wilson	Mystery Member
Rose Blank	Jody Durham	Dillon Kneece	Welding Leathers	Ed Sylvester	Thomas Bosse
Treadmill Motor	Barry Myers	Thomas Bosse	Enamel Pins	Thomas Bosse	Clyde Umphlett's friend Jane
Demo Box Joint	Barry Myers	Rick Thompson	Farrier's Rasps	Mackie Bryant	Jody Durham John Kneece Clyde Umphlett
Ceramic Blacksmith	Barry Myers	Jim Looper	Tong Blank	Jason Jaco	Rick Thompson
Mouse Mold Swage	Heyward	Jody Durham	Coil Springs	Charlie Meyers	Rick Thompson Heyward Haltiwanger John Kneece David Young Clyde Umphlett
Leaf Hook	John Tanner	John Kneece			
Horse Head	John Tanner	Russell Wilson			
Art	John Tanner	Clyde Umphlett's			
Striker	John Tanner	ML Tanner			
Stump Anvil	Duke Baxter	David Young	Pecan Pie	Heyward Haltiwanger	
2 2x72 Sander Belts	Ben Secrist	Barry Myers	Ladle Blank	Jim Looper	Val Barrineau
			Troll Cross + Blanks	Jim Looper	Barry Myers



Showing the colors at the State Fair: Jason Jaco, John Tanner and Conal Smith



## WIRE HANDLED HOT PUNCHES AND CHISELS

## USING ATHA-PNEU S-1 TOOL STEEL

Russ Swider introduced me to a fantastic tool steel for hot punches, hot chisels, and punch or drift combinations. Called ATHA-PNEU S1 it is manufactured by Crucible Tool Steel Co., and available from your local tool steel supplier or Crucible Tool Steel Company, Arlington, Texas. Originally designed as a drop forging die steel, it has some unusual characteristics which prove to be quite valuable for the blacksmith. First of all, it is extremely tough and durable material for hot, hammered applications. AISI classification "S-1" is a shock resistant tool steel with the following alloy analysis: 0.55% carbon; 2.15% tungsten; and 1.25% chromium. You'll know you have something tough when you first forge ATHA-PNEU.

Secondly, though by design it is an oil quenching steel, it seems to work quite well as an air hardening tool steel. In other words, forge it and use it. Perhaps the only negative aspect is the price... 3/4" round delivered is usually around \$1.00 per inch -- but once you've tried it the price doesn't seem so intolerable.

In some typical uses when punching or slitting through 1" square bar stock, the punch or chisel will come out of the bar with a visible dull red color and not have lost its cutting edge -- and that's with an air quenched tool! Also, the hot durability of this steel allows the smith to forge it to a thinner cutting edge and not sacrifice strength.

I normally use 3/4" round stock for hot tools and on my first set I split and drifted eyes for wooden handles. This used more of a fairly expensive tool steel, and wooden handled top tools always seem to be loose. By using a handle made of 1/4" round rod, typical of some of the English flatters and punches, 3" of stock is adequate to make a tool and the handle will last a lifetime.

**FORGE IT HOT!** With 2.75% tungsten if it's not yellow it just won't move. The manufacturer's recommended forging range is 1975 degrees F to 2075 degrees F. **DO NOT** forge below 1650 degrees F, so when it cools only to a good red, it's time to stop and take another heat. I forge about 1" of the end to an even octagon and then fuller two concentric 1/8" radius grooves into the stock about 3/4" from the end for handle attachment (See Figure 1).

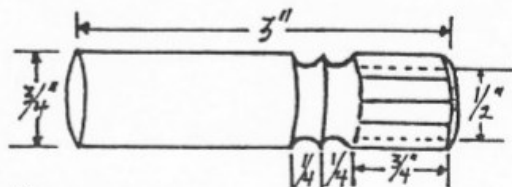


Figure #1

The 1/4" grooves can be ground into the stock or fullered hot, which requires making a double groove fullering tool. This tool can be an intricate hinged or guillotine type, but one made of 1/4" mild steel rod will get the job done (See Figure 2).

Double Groove Fullering Tool  
1/4" Round Rod skip-welded every 2"  
on the outside

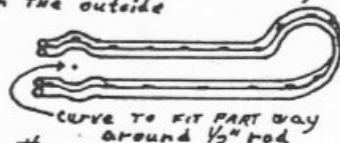


Figure #2

The remaining 1-3/4" or so of stock is plenty to draw out to whatever type of hot tool desired. For example: round, square, rectangular, oval, heart or hex punches, hot grooving or slitting chisels, hot slit and drift combinations, hammer eye punch and drift tools....No end! (See Figure 3). After forging, allow the tool to air cool.

Some suggested tool designs

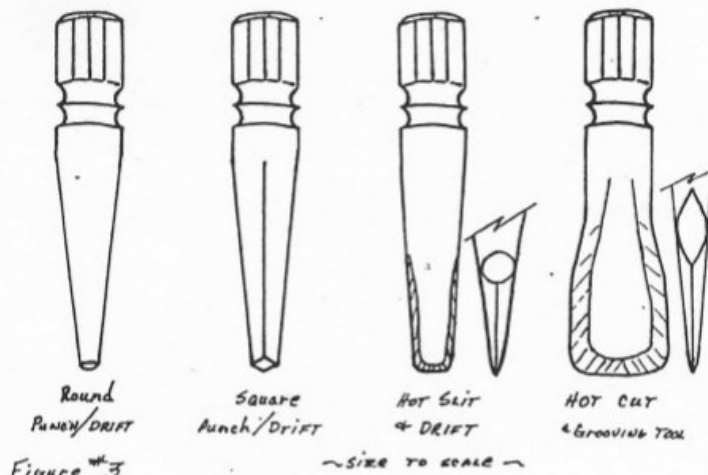


Figure #3

I recommend grinding or polishing away the scaled surfaces at least on the business end of the tool, as this allows it to slide through the hot iron with less effort. You'll notice that ATHA-PNEU scales more than some others.

A suggestion for polishing your tools: 3M Products makes "Scotch Brite" surface conditioning discs, in at least 4 grits, which fit (Velcro attached) on your air grinder or 4" or 7" electric grinders. You won't believe how well they work, and once you've tried them you'll probably find yourself polishing your anvil face and horn, a few hammers, and a host of other tools. The hardness of the steel matters very little to the "Scotch Brite" disc.

As indicated my initial approach to handle installation on ATHA-PNEU hot punches and chisels was to split and drift eyes in the stock for wooden handles, which was a lot of trouble and used more of the fairly expensive tool steel. The second generation had a single 1/4" groove hot fullered into the stock and one wrap of 1/4" rod from which a handle was fashioned. After some use, this handle loosened up and allowed the tool to rock.

The third time around I settled on 2 grooves and 2 concentric wraps of the 1/4" steel rod. This makes a nice looking and suitably secure handle; thus the 2 grooves discussed above.

Grind or file an 1/8" radius diagonal groove connecting the double fullered grooves in the tool (See Figure 4). This allows for the crossover of the 2 wraps of rod around the tool. The location of this crossover diagonal groove is critical to the tool orientation in the handle. It is the point where the handle will come off the tool at right angles. Tools can be made right or left-handed or straight on the handle, depending on your preference. Round punches are usually the only tool where handle orientation doesn't matter.

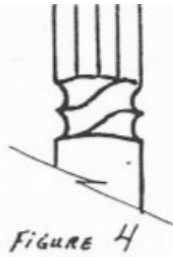


FIGURE 4

For the wrapped handle cut 29" of 1/4" mild steel rod. Mark off 9" from one end and 3" from the other end. At the 9" mark forge a tight 1/4" offset in the rod and fit this offset into the crossover diagonal groove of the tool (See Figure 5) with the tool clamped in the vice. Keep the offset in the crossover groove, heat and wrap both rod ends in opposite directions into their respective grooves keeping them as tight as possible. Bring the rod ends back around to the offset.

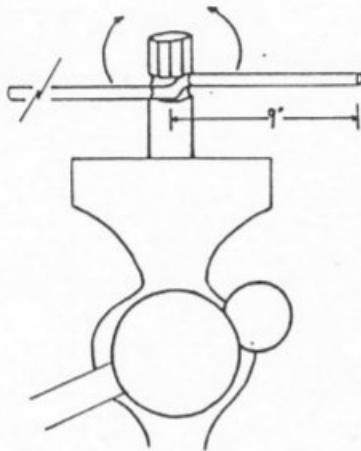


FIGURE 5

A torch to localize the heat on the 1/4" rod while wrapping and twisting is best; however, it can be done in the forge because the ATHA-PNEU works well as an air hardening tool steel, and you don't have to be concerned about losing the temper.

Carefully plan the direction of twist at this point so as to tighten across the offset. 360 degrees of twist is usually adequate; more can be done for decoration if desired. Be sure to keep both wraps around the tool tight as well as the twists, so that your tool doesn't rattle in the handle (See Figure 6).

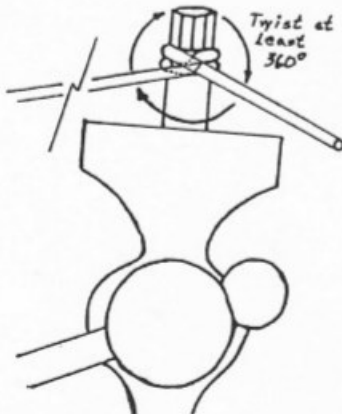


FIGURE 6

Straighten and parallel both 1/4" rods after twisting and make sure the handle is perpendicular to the tool. On the longer handle rod, forge the last 3" to a long, consistent taper and then stand this entire tapered end up at right angles to the handle. Next, bend a slight angle on this longer rod at the point where the shorter rod ends (See Figure 7).

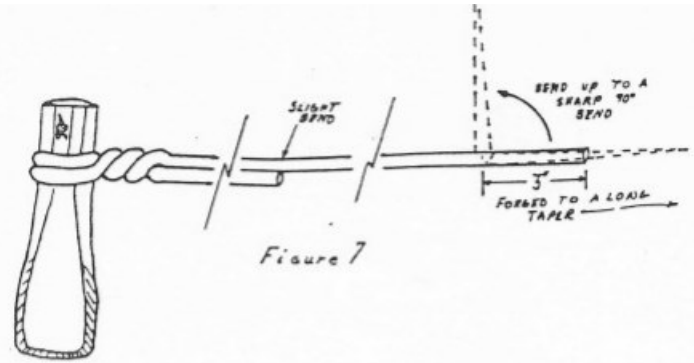


FIGURE 7

Heat the center of the longer handle rod and form to a nice tear drop shape, returning the 3" tapered end to touch the shorter handle rod (See Figure 8).

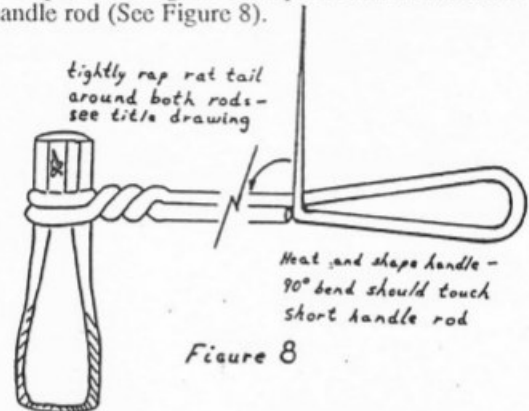


FIGURE 8

Stand the tear drop handle up in the vice and wrap the tapered end around both handle rods localizing the heat while wrapping. Reheat and thoroughly wire brush the handle. Then coat with wax or your favorite iron finish. Remember, it needs to feel nice in your hand.

One of the primary benefits of this handle design is that the 2 different length rods which make up the handle dampen and virtually eliminate any vibration traveling up the handle and into your hand -- an important consideration on a metal handled tool.

If you want to get fancy, a tear drop shaped wood insert can be installed in the wire handle as it's being formed. Also, the same handle design can be used for larger tools by changing to larger rod sizes such as 5/16" or 3/8".

(Editor's Note: In talking with Robb he indicates that instead of fullering the grooves for the handle wrap he now drills a 1/4" hole through the tool stock. The rest of the handle forming is as described above)

(Based on article by Robb Gunter, From: The Pounders Press, March/April 1988 and May/June 1988).



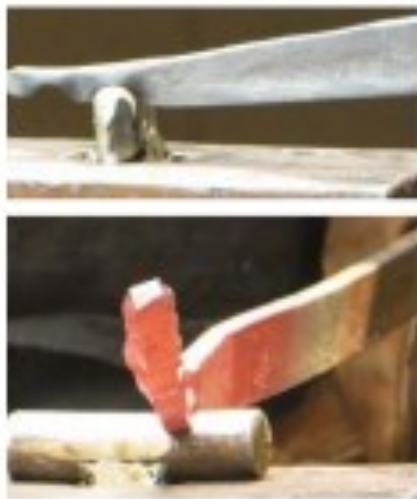
# Non-Traditional Scrolls

**GARY EAGLE**  
**2015 Blacksmith Week**  
**Demonstrator**

**Tips**  
 FOR  
 YOUR  
**Shop**

A fairly simple yet versatile scroll, one of Gary's favorites.

Draw a taper in flat stock, down to approx. 1/4" tip, about 8" taper. Using a 3/8" fuller in handy, make 2 divets in one edge of the taper, beginning at the tip.



Gary giving the 'okay wise-guy' look to a verbose heckler from Bend, Oregon.

Continue, using a 1/2" fuller, for the rest of the divets, making them gradually larger and farther apart. Straighten the full length.

To scroll over the horn, bend at 90°, then start at the tip, bending a tight curve over the horn, gently curving the length of scroll as desired.

It will want to kink at the fullers, and the resultant scroll is a series of straight lines approximating a curve.

Straighten out the scroll so it lies flat.





### A FACETED SCROLL

Knock over 1/4" of flat bar as sharp a bend as possible on edge of anvil.

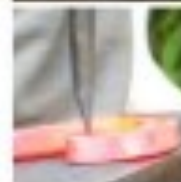
Always hitting on the flat, continue folding over, 6 turns minimum for the effect. The scroll at the left has 14 turns.

The scroll can tolerate a little bit of gap and still maintain the effect.

To open up the scroll, heat and put in vise, using channel locks to unwind from the outside. Use a fine chisel to pry open the inside.

### Variation on the Faceted Scroll

Fold over a length of bar stock and fold as with the simple Faceted Scroll to create a Double Faceted Scroll.



### EDITOR NOTE:

This article was originally published in *HN* 2015-3 but had such great information that we wanted to share with our many new members.

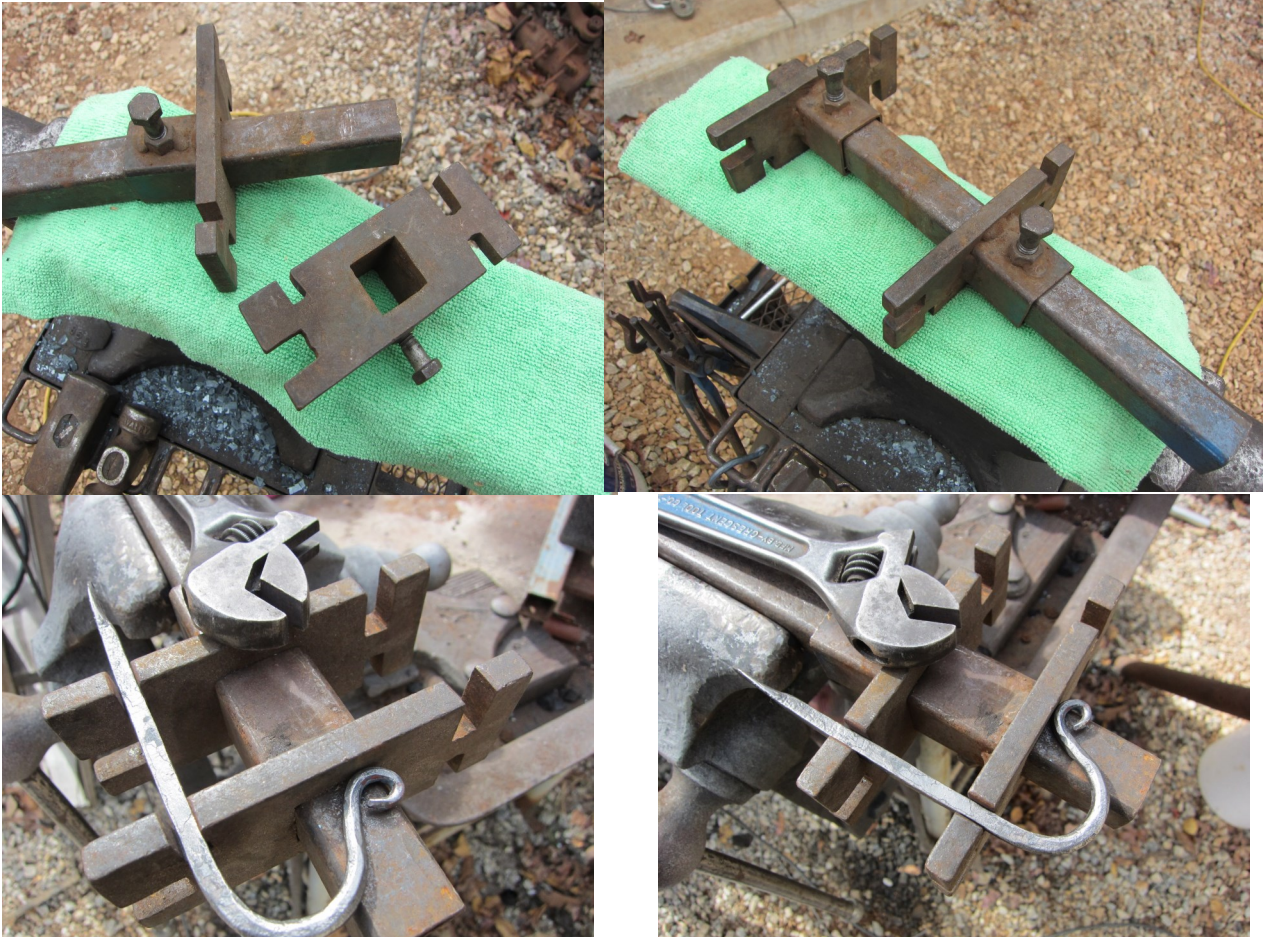


# Twisting Fixture

by Jim Carothers

My wife wanted a dozen simple wall hooks, each to have a blacksmith twist. I've had this twisting fixture a long time, but I don't think I have shared it with the community. I credit James Wolfe, Jasper, Alabama area for showing this to me many years ago.

Shop made, length adjustable, twisting fixture for making right hand – left hand back to back twists. Like most all shop made tools, this is made from available scrap.



If you are making one, be sure to allow enough space for the wrench that you will use for the actual twisting. The end plates here are a 3/8" x 3 flat stock; were I to do this again, I'd likely use 1/2" for a better grip and would make it 4" wide. ..Slots are for 1/4 , 5/16 , 3/8 , & 1/2" bar

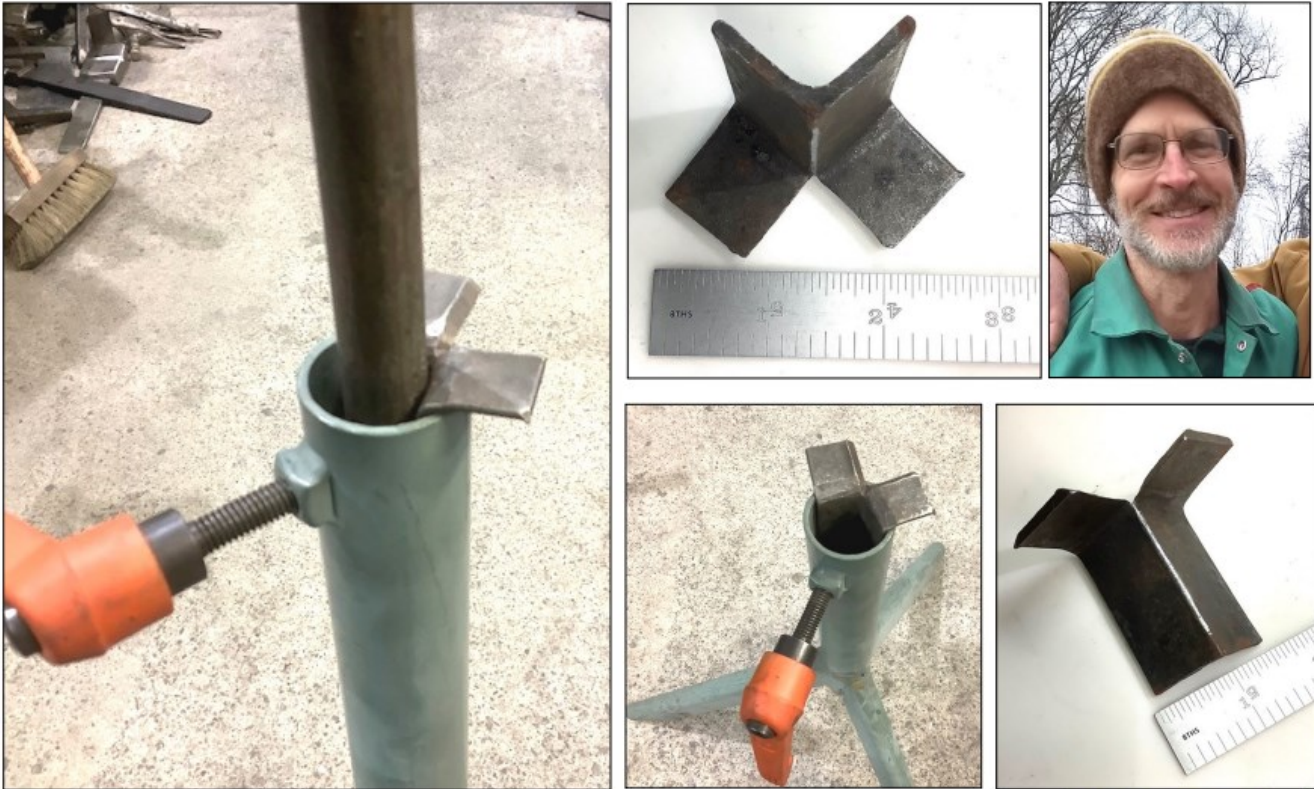




Reprinted from the Pittsburgh Area Artist Blacksmith Association

**It's a Better Fit By Glenn Horr**-A little tip for small rods in a large stand tubes. Allows a three point contact. Use what ever angle fits your stand or make an angle. Cut the angle and bend tabs so it will stay in the tube. See photos below.

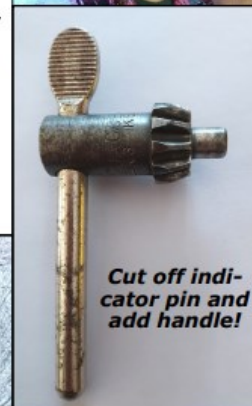
FYI: If you are using square tubing, weld your threaded nut on the corner so you get the same three point contact. I find it holds better.



**It's All About How You look at It! By Don Pfaff**



If you have an extra chuck key laying around the shop, think of it as a floral punch and use it accordingly. Don Pfaff changed one of his into this handy tool with a daisy of an impact! Add a handle and cut off the indicator pin to about 1/32" or not quite flush. The key is made from a high carbon steel which will likely mushroom. Do not use your favorite hammer to avoid "dings" from the chuck key material. You are ready to use this botanical punch to add a vine or floral display detail in your work. Who knew!! It all the way Don sees the world through his safety glasses!





# Multi-Position Bending Fork

by Jim Carothers

For quite some time I've been noticing that many farriers are also really good blacksmiths and that some of their tools are special or different for their work. In particular, some of the farriers' anvils have two really handy bending pins (like a bending fork on its side) sticking out from a side of the anvil.

At the 2005 Saltfork Craftsmen ABA Annual Conference (<http://www.saltforkcraftsmen.org>), I also noticed that professional demonstrator Peter Happny repeatedly used a heavy bending fork mounted in the anvil hardie hole. However, Peter's bending tool was not pinned solidly to the borrowed demo anvil; each time he hit or pulled on a piece of metal the bending fork would move.



**Photo 01:** From these observations came the idea for the Multi-Fork you see presented here in these notes. This is simply a combination of the farriers' horizontal bending pins and traditional anvil mounted vertical bending fork. I turned the legs of the vertical fork 45 degrees to the anvil center line; it seems to be handy for me in that orientation. My cut-off hardie is also rotated the same way as this bender.

As old as the blacksmith's craft is and as new as I am at this craft, I expect that I am not the first person to think of making a bending tool like this. The pins are spring steel; the inside spacing between the legs of both forks is 1". The pins are not heat treated – only annealed after forging to shape. The parts were preheated before welding.

Notice also in **Photo 01** the tapered pin lying on the anvil. This was made from 1/2 of a horseshoe (my favorite piece of scrap steel).

**Photo 02** shows the Multi-Fork firmly pinned to the anvil. With only a light hammer tap on the tapered pin the tool is locked in the hardie hole. You can turn the anvil stand over before moving the tool.



**Photo 03** shows how the pin is used with a hardie stem or peg made from U-bending basic flat bar stock. For my tools that I want firmly mounted to the anvil (anvil cone for example), I have been making the hardie stems in this manner. A second benefit is that the tools are lighter than if the hardie stem was solid bar.

**Photo 04** shows the end of the U-shaped hardie stem and the tapered pin as seen from the underneath side of the anvil heel. I really like this old Trenton anvil, but the factory did not do any finishing work to the under sides of the heel or the horn.





## For Sale

**Fire Bricks** – Brand New, Industrial Grade. \$1 ea. Ed Sylvester 803.414.2487

Beverly Shear blades sharpened , \$50+\$10 shipping. Send to Scott Kretschmer, 196 Mule Deer Drive, Loveland, Colorado 80537 Call 970 567 2609, email [scott@kretschmershops.com](mailto:scott@kretschmershops.com).

**Anvils for power hammer build (2) Ea 285#, 6”square x 36”tall. \$175 ea pick up at JC Campbell Folk School.**  
Mike Lamarre 706-374-2983

**Todd Elder is offering Beginning Blacksmithing and Knifemaking Classes. Contact him at (864-978-7232)**

**Guild Coal (in Sumter):** 3 buckets, \$30; 6 buckets or 30 gal barrel—\$45.00; 11 buckets - 55 gal barrel - \$ 60.00; 15 buckets - 1/4 ton - \$70.00; 30 buckets - 1/2 ton - \$140.00; 60 buckets - 1 ton - \$280.00. Contact **Walt Beard 803-464-8483 in Sumter.**

**Forkruck tine sections for striking anvils. \$30. Jody Durham, 864-985-3919 [ironsmith@gmail.com](mailto:ironsmith@gmail.com)**

**Clay Spenser’s Tire Hammer Plans \$30. [clay@tirehammer.com](mailto:clay@tirehammer.com) or check/mo to 73 Penniston, AL 35670.**

## Upcoming events:

**SBA Conference! May 18, 19, 20. Madison Ga.** The demonstrators from the outside are Liam Hoffman and Matt Jenkins and one demonstrator from each of the participating ABANA Affiliates.

**Hammer-in at North Augusta:** January 21 at the Living History Park. Bob Kaltebach and Barry Myers will host. Project will be a scrolled three legged trivet. Let Barry know via email if you want to come. This will be a bring your own stuff –forge, anvil, hammer, etc, event.

**Lyle Wynn’s "Tools to Make Tools" class, March 2023.** . The class size will be limited to 10-12 participants. Cost: TBD . Jason Jaco is the contact. Jason will show the tools to be made at the October meeting. These are hammer making tools. **This will be a 5-7 day class—Plan your vacation time now!**

## 2022 Meeting Schedule:

**February Meeting: J.W. Paul Farm**



## Philip Simmons Artist Blacksmith Guild

<http://philipsimmonsartistblacksmithguild.com/>

### President: Jody Durham

207 Ridgewood St, Easley, SC 29642  
864 985 3919/[ironsmith@gmail.com](mailto:ironsmith@gmail.com)

### Vice President: Todd Elder

505 Old Orangeburg Rd., Lexington, SC 29073  
[864-978-7232/elderusc13@gmail.com](mailto:864-978-7232/elderusc13@gmail.com)

### Secretary/Treasurer: Ray Pearre

4605 Durant Ave.,  
N. Charleston, SC 29405  
843-860-0532/[pearrecr@gmail.com](mailto:pearrecr@gmail.com)  
**Librarians: Tony and Pam Etheridge**  
420 Prestige Ct, Orangeburg, SC 29115  
803-682-5529  
[auntpam1957@gmail.com](mailto:auntpam1957@gmail.com)

### Newsletter Editor: Barry Myers

1847 Pigsaw Rd, N. Augusta, SC 29841  
803-640-5504/[blmyers647@gmail.com](mailto:blmyers647@gmail.com)

### Board Members

#### Rusty Osborne

162 Ole Simpson Place  
Catawba, SC 29704  
803-374-7987

[rusty\\_osborne@yahoo.com](mailto:rusty_osborne@yahoo.com)

TexasStreetWorks  
931 1/2 Texas Street  
Columbia, SC 29201

803-799-1865/[texasstreetworks@gmail.com](mailto:texasstreetworks@gmail.com)

#### Ben Secrist

PO Box 223

Saint George, SC 29477

843-457-2755/[ben@fieryice.us](mailto:ben@fieryice.us)

#### Bob Stukes

3125 Old Hwy 52, Moncks Corner, SC 29461  
843-708-3500/[restukes@yahoo.com](mailto:restukes@yahoo.com)

## Membership Application

\_\_\_ New Member \_\_\_ Renewal

Name: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

email: \_\_\_\_\_ Sponsor \_\_\_\_\_

Dues are \$15.00 per person/family, per year. **Make checks out to PSABG** Please remit to:

C. Ray Pearre, Jr., 4605 Durant Ave., North Charleston, SC 29405

### ACKNOWLEDGEMENT AND ASSUMPTION OF RISK

I acknowledge that blacksmithing and related activities are inherently dangerous and involve risks and dangers to participants and spectators that may result in serious injury or death. I have considered these risks and I knowingly assume them. I agree that I am responsible for my own safety during Guild events, including wearing appropriate clothing and protective gear and remaining a safe distance from all dangerous activities. I agree to hold Philip Simmons Artist Blacksmith Guild and guest demonstrators of our craft harmless from liability and expenses arising from of my actions and/or omissions.

## When was the last time you paid dues?

There is a note below your address on the last page of our newsletters. It will say something like...

**"Dues Last Paid 2021, Dues for 2022 are Due, or Dues Paid for 2022"**

This note is updated for each newsletter. We appreciate your prompt payments.

## **COME Artistry in Greenville!**

December 10, at 12 Andrews St., Greenville, SC.

Hosted by Ryan Calloway and Artistry,

**Demo beginning at 10AM**

**backslapping and glad handing will start somewhat earlier**

**Bring a side, dessert, or drinks and something for the iron-in-the-hat you  
might want to take home and give your spouse**