

President's Letter

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PHILIP SIMMONS ARTIST BLACKSMITH GUILD

# On the Anvil NEWSLETTER

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<http://philipsimmonsartistblacksmithguild.com>

January 2014



Well, again, I couldn't make the meeting - this time because of the flu. Ray and Barry said we had a fine meeting at Mr. Simmons' shop. They said that Carlton gave a fine demonstration, but he doesn't talk a lot while doing his smithing. He produced an elaborate hook similar to those he makes for the Gullah tours that come by the shop. The hook sported a tight fishtail scroll on the hook and a leaf. Carlton showed us that you can sit down while the iron heats. Save your legs when you can.

Rossie Coulter lead the hosts and presented a fine lunch of ribs and all the fixins.

It was really good to see Carlton working in the shop where Mr. Simmons worked for so long. All those who attended enjoyed the experience.

The next meeting is at the L.W. Paul Farm in Conway on February 8. Walter Hill and his family and the Conway Museum staff will host the meeting. They have always done a fine job in the past. For you newer members, this is the Founders' Meeting. It is hard to believe that the Guild began to meet in February 1995 after forming in the Fall of 1994. So, I guess this is the beginning of the 20<sup>th</sup> year for the Guild!

We have some tickets for the Iron-in-the-Hat for the big items at the ABANA Conference for those who can't go to the Conference. You can buy these tickets from Ray Pearre. The tickets will be entered in the drawing for a tire hammer, a BAM box or a Nimba anvil – buyer's choice. The Guild gets 50% of the money from the tickets sold.

The new members since the last newsletter are: Roger Burns; Travis Ferrell; Duane Henson; Jim Pender; Andrew Smith; Torrey Stephenson; and Bob Thomas, a former member returning from the UK. Welcome!

I am stepping back from the Presidency of the Guild. I am honored to have served you and am running on the ballot for Vice President. You can see the rest of the candidates on the ballot for which we will vote on at the meeting. If you can't come to the meeting, you can mail the ballot to Ray.

Keep Hammering, Meck Hartfield

## Iron in the Hat

Item	Donated By	Won By	Item	Donated By	Won By
Computer Software	Joe Holladay	Danny Ard	Basket Twist Fire Rake	Jesse Barfield	Al Jenkins
Forged Feather	Duke Baxter	Hunter Smith	Overboard Dog Oyster Knife	Ray Pearre	Barry Myers
Stick 'Em Tommy	Duke Baxter	Bill Hill	Leather work gloves	Johnny Marks	Hunter Smith
Rose Cut-outs	Duke Baxter	Rick Thompson	Forged Forge Rake	Ed Berry	Tim Mathais
Chote Handled Damascus Knife	Meck Hartfield	John Tanner	Handscreen Printed Tee Shirt	Hunter Smith	Jamie Stevens
Tig Welding Line	Layne Law	Duke Baxter	Handscreen Printed Tee Shirt	Hunter Smith	Jesse Barfield
Framed Unsigned Prints	Barry Myers	Tim Mathais	Lump Coal	Wolf Bueschger	Hunter Smith
Mule Head Hooks	Barry Myers	Tommy Peeples	Signed Philip Simmons Foundation Poster	Philip Simmons Foundation	Tim Mathais
Flower Hanger	Danny Ard	Harry Wiggins	House/Garden/Cemetery Signs	John Tanner	Ryan Callaway
Drill Stand	Peter Mueller	Karen Wiggins	House/Garden/Cemetery Signs	John Tanner	Danny Ard
Golf Swing Speed Trainer	Peter Mueller	Curly Lawson	Two Forged Flowers	Jamie Stevens	Teresa Smith
Hand Carved Work Boot	Angela Walker Mueller	Jonathan Lynch	Flower Blanks	Jamie Stevens	Bob Kaltenbach
Firewood Rack	Mike DuBois	Tim Mathais	Flower Blanks	Jamie Stevens	Danny Ard
Planer Blades	Clyde Umphlet	Bob Kaltenbach	MREs	Jamie Stevens	Karen Wiggins
Jack Hammer Bit	Al Jenkins	Bob Thomas	MREs	Jamie Stevens	Al Jenkins
Welding Apron	Al Jenkins	John Tanner	Box 'o Stuff	Jamie Stevens	Pam Etheridge
Hand Carved Santa Earrings	Pam Etheridge	Ryan Callaway	PSABG Plaque	Jamie Stevens	Al Jenkins
Forged Spatula	Tony Etheridge	Layne Law	Pneumatic Cylinder	Chuck Baldwin	Ray Pearre
Cable	Curly Lawson	Johnny Marks	Bamboo Planks	Chuck Baldwin	Josh Weston
Squirrel Cage Fan	Ed Sylvester	Bob Thomas	Misc Steel Stock Pins	Chuck Baldwin	Josh Weston
Oyster Knife	Tommy Peeples	Ray Pearre	Rasp and Metallurgy Book	Jason Shumpert	Curly Lawson
Peg Board Hooks	Bob Kaltenbach	Duke Baxter			
Horse Shoe Rasps	Mackie Bryant	Curly Lawson			
Horse Shoe Rasps	Mackie Bryant	Wolf Bueschger			
Woodworking Dvds	Jesse Barfield	Barry Myers			

We had a damp Iron-in-the-hat. But, it didn't put a damper on the enthusiasm of our members! Our fine members donated stuff and money for said stuff that garnered \$816 for the scholarship fund. Our president sent even another damsacus knife from his sick bed! Again, that is dedication! Thanks to all for your generosity and your support. Consider using some of this money and apply for a scholarship! Barry

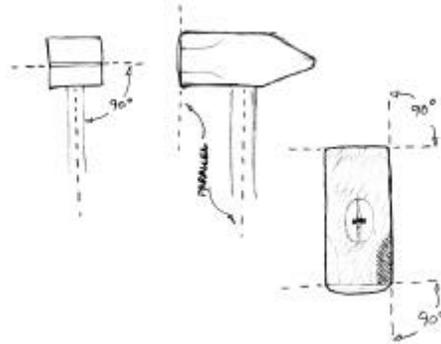
***Our friends from Duke Power and our friends from Magnolia Gardens have each given us a grant again this year of \$1000! Thank you, Duke Power. Thank you, Magnolia Gardens***

# Dressing A Hammer

By Brian Gilbert

One of the first things that every blacksmith should learn is how to dress tools. It's almost impossible to do good work without properly dressed tools, especially your hammers. The hammer is one of the most important and basic tools in the shop, and most are not ready to use as soon as they're bought. New hammers are almost always crudely ground and too sharp, and used hammers are more often abused and/or rusted.

Many blacksmiths have developed their own personal preferences for dressing their tools, and that's the way it should be... they should be dressed in a way that works best for you. I'm going to explain the way I like my tools. Use this as a starting point and develop your own style.

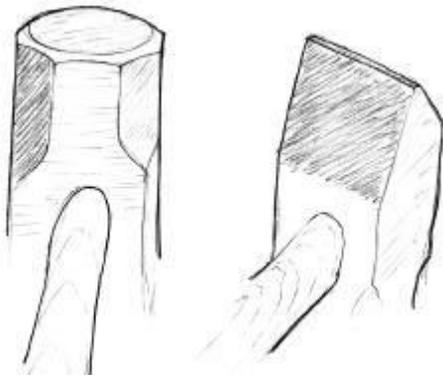


*Check the angles with the handle in before you start*

If the hammer you're planning to dress still has the handle in it, take a moment to look at the working surfaces in relation to the handle. The peen should be perpendicular to the handle, and the face should be parallel. If either of these surfaces are out, it'll be easier to correctly grind the hammer with the handle in place, but otherwise I like to remove the handle.

Okay, back to our Chinese two-pounder. First we need to decide what this tool will be used for. I usually grind hammers one of two ways, either for roughing or for finishing. A roughing hammer is more rounded... its radiused surfaces are designed to penetrate deeply into the steel and move as much metal as possible. It tends to leave a lot of hammer marks, though.

To get rid of the marks left by a roughing hammer, I'll switch to a smoothing or finishing hammer. All the edges are radiused like a roughing hammer, but the curves on the face and the peen are generally flatter.



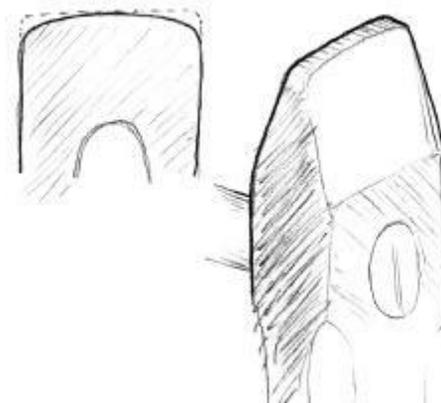
*A cross peen often starts out looking like this*

As an example, I recently dressed a two pound cross peen hammer... one of the cheap Chinese variety. Not my first choice for tools, but until I make my first million by blacksmithing, they'll do. It's a fairly low quality tool, but perfectly serviceable with a little attention. The price is right... around four bucks from Harbor Freight Tools.

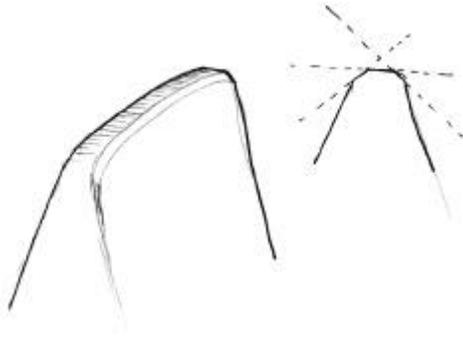
If you look carefully at a new hammer, you'll notice a couple of things. The peen end is often ground sharp and square, and the hammer face is usually flat or slightly crowned, with a sharp 45 degree bevel ground around the edge.

You may have heard me say this before, but in blacksmithing there should be NO SHARP EDGES. Except maybe on your chisels, hardies, punches, and your pocketknife, but that's about it. Everything else should have some kind of radius ground or sanded into its edge, even if only a slight one. Even a set hammer (which is not really a hammer at all, but a square block of steel punched for a handle used to set shoulders) should have a

very small radius ground into the corners.



*Grinding the profile of the peen*



*Soften the edge of the peen with a secondary grind*

As always there are a few exceptions. I have one cross peen that I use just for veining leaves. It has a peen that's too sharp for anything else. Another would be a hammer that's reserved just for striking chisels and other tools. Once you've put the time in polishing your hammer faces, you won't want to mark them up by bashing on a cold chisel.

Since our hammer only weighs two pounds, I'll dress this as a roughing hammer. I start with the peen end and grind the outline of the profile I want. I'm looking for a gentle curve, with nice rounded corners, perpendicular to the body of the hammer head. It's easier to grind the head if the handle is removed, but this isn't absolutely necessary. The handles that come with these handles are usually low quality and poorly fitted anyway.

Next I'll make a secondary grind to soften the peen. It helps to see this grind by changing the direction of the scratch marks. I try to make the secondary grind at about 45 degrees to the first grind. After these two grinds are made, I'll switch to a belt grinder to finish, blending the grinds together until smooth.

This is tough to do if you don't have a belt grinder. Neither do I, but you can do a passable job with a flap sanding disc on a disc grinder. Compared to a belt grinder, a flap wheel is somewhat

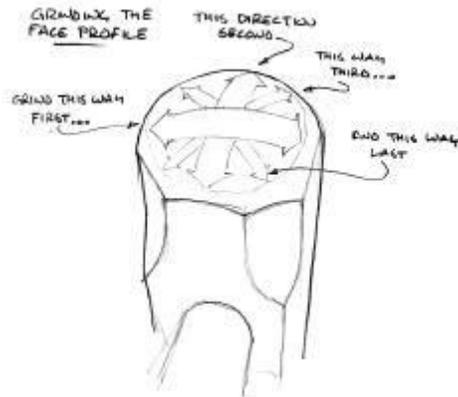


*The sanded peen before polishing*

stiff and doesn't blend the grinds as well... it tends to make new bevels. Just take it slow and lightly stroke the piece until everything looks smooth.

Now switch back to the grinding wheel to profile the face of the hammer. Look carefully at the face... most new hammers have a sharp ring near the edge, where the hammer was ground at the factory. That edge has to go. I grind the profile first on axis with

the eye, then perpendicular to the eye, and then at 45 degrees. The profile curve of the hammer's face needs to be carefully ground... it should have the same curve all around, as even as possible. After the profile looks good from all these angles, I switch to the flap wheel and blend them together.



*Grinding the face profile*

Now take one last look at the head, and examine it closely for any sharp edges or facets left over from the grinding and flap sanding. Hopefully there won't be any, but if there are blend them in. A roughing hammer is useable at this point, but I like to take the extra step of polishing the head. It doesn't take long. I use a sewn cotton buffing wheel mounted to 6" 1750 rpm grinder. Charge the wheel with a little bit of grey or red rouge buffing compound. I've found compound available in three colors, grey, red, or white. The coarsest is the grey and cuts fairly fast, the red is finer and removes the scratches from the grey, and white compound is finest of all. It works slowly and leaves a bright mirror finish. You should use a separate buffing wheel for each color. I usually buff a hammer head with a red or grey to shine it up and leave it at that.

There's a good bit more to buffing than I've described... I've got an entire book on the subject... but I don't get too crazy when buffing hammers. Just a little polishing is all you need.

Now turn your attention to the handle. They always come varnished... I imagine that this is to keep them from warping. The varnish makes the handles slippery when using gloves, and kind of sticky when I'm using bare, sweaty hands. I don't usually get blisters from varnished handles, but it seems to irritate and redden my palms. I have small hands, so almost all the handles I find are too fat. I also forge with gloves, which makes the handles seem fatter still. So for all these reasons, I take the time to dress the handles of my hammers.

The shape of your handles is a matter of personal preference. Some like handles that keep the factory oval shape. Jerry Darnell likes handles that are short, and cuts off his ends. Uri Hofi's hammer handles have two flats parallel to the head. This is to prevent the hammer from rotating in your hand, and to give you a tactile clue about the orientation of your hammer head. Donald Streeter suggested placing the thumb on top of the hammer handle for straight blows, and some folks like to put a single flat along the top of the handle for this reason.

So there are lots of variations in handle dressing for you to choose from. It's like the old joke... ask five blacksmiths the best way to dress hammer handles, and you'll come up with six different answers. Try them all, and go with what you like best.

My personal favorite is octagonal handles, cut thin for flexibility and to compensate for the gloves, finished with linseed oil. Robb Gunter says that hammer handles should fill your hand... if your fingers touch when holding the hammer, the handle is too small. Linseed oil leaves a nice, satiny finish that grips reasonably well under gloves or bare skin, and it wears well under use.

I start off by scraping the handle. I use an old knife, but a real scraper blade would work better. You'll be tempted to sand the varnish off with your flap wheel, but don't give in to temptation! The varnish will melt and hopelessly clog your flap wheel. Scrape the varnish off of eight sides, then hand sand the rest until the handle is about the shape that you want. If the handle is really thick, or you want to do some drastic thinning, you can use a spokeshave to shave things down a bit. The spokeshave will leave an irregular surface, but you can sand this out.

Finish the handle with a couple of coats of linseed oil. Thin the first coat a bit with thinner, to help the oil penetrate deeply, then finish off with a full strength coat. You'll need to give the handle a coat every six months or so, especially if you don't use the hammer much.

Take care when fitting the handle to the head... a loose hammer head is dangerous. I like to replace the handles with new ones, especially if the tool will see a lot of use. A new handle is only a couple bucks, so treat yourself. Fit the handle by coating the inside bottom of the eye with ink, then set the hammer down on the handle. Remove it, and carve away the marks left by the ink.

Repeat this until the handle goes deeply into the head, and sticks out about a half inch on the top. Leave room for the wedge... if the head compresses and closes the wedge slot, then you won't get a good fit. When you set the head for the final fit, make sure you can't see the cut for the wedge at the bottom of the hammer head... this area should be solid wood.

Drive the wood wedge in first, then follow up with one or two steel wedges across the wood. Some folks like to cap the whole thing off with epoxy to seal the handle, but I've never tried it.

If your head does become loose, an old trick is to soak your handle in water. The water swells the wood, tightening the head. It works, but the drawback is that once you do this, you need to keep the hammer in water. If it dries out, the head will be looser than before. I've heard that soaking in antifreeze swells the handle without drying out the wood, but I haven't tried it. Antifreeze does work as a wood preservative, though.

That's one way to dress a cross peen hammer. A straight peen or ball peen is dressed pretty much the same way. Even if you use different techniques than these, take the time to dress your hammers.

Your forging will be cleaner and easier with dressed tools, and folks won't think you a beginner if your toolbox is full of nicely polished, rounded hammer heads.

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### **Basic Blacksmith Class**

Bill Creek and I, assisted by Charlie Meyers and Ed Berry conducted a basic class at Magnolia Gardens on 16-17 Nov. Magnolia Gardens donated \$1000.00 last year to the Guild. The class was free to the students because of this donation. The class was very successful based on feedback from our 9 students. We will conduct another class in the future and will announce it to the membership. This class was a trial run to test the course outline and objectives. This class was in response to two new members persistent requests to find someone to get them started in our craft. Are there any new smiths in your area that might like the opportunity to learn from your experience? Let us know and we will help you put on a class in your area. We have funds available to provide coal and steel. Oh by the way...putting this class on was a lot of fun. Ray Pearre and Bill Creek

### **Another Blacksmithing Event**

Bob Kaltenbach and I are planning a blacksmithing day at the North Augusta Living History Park on March 15. As the forge trailer is in Charleston, this will be a "bring your own forge, anvil, stuff, etc" day. Bob has some coal, so we should be okay there. We can do/teach whatever the group wants to do – we don't guarantee that we will do what every smith wants, but we will shoot to make the common denominator happy. We will see how many takers we get. Send me an email or call with what you want to do if you want to come. I can't guarantee as good a time as with Ray and Bill, but we will do our best to teach you something. Barry

# Forging Curved Chisels

By Brian Gilbert

With help from Gary Scasbrick

A good selection of curved chisels is an important part of a blacksmith's toolbox. I realized just how important when I started making the back plate for the lift latch in this issue. I had a few, but I didn't have enough, especially the tightly curved chisels required for the small cuts.

You can make curved chisels either by grinding the curves or by forging the curves. A third option would be a combination of the two techniques... grinding a profile that had been upset and forged to shape. I made some chisels both ways, and each method has its advantages and disadvantages.

I made these tools out of spring steel. I know, I know... like Francis always said, spring steel is for making springs, use TOOL steel for tools. And he's right. But, I didn't have any lying around at the time, and there are several coil springs out back just begging for a good recycling. Besides, these were experiments. As soon as I get all the kinks worked out, I'll make myself some proper chisels. Really.

Gary says that for cold-cutting chisels, coil-spring steel is a good choice.

A broad-curved chisel is fairly easy to forge. Just flatten the end a bit, and then hammer in the desired curve using a swedge block. As you flatten the tool, take care to hammer equally on both sides of the tool, especially if the blade is thin. This will reduce the chance of

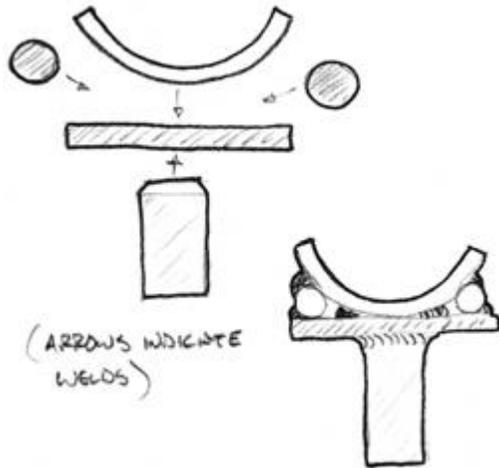


Figure 1—A built-up swage

warping when quenched. If you don't have a swedge, you can make a passable substitute by splitting a short piece of thick wall pipe, and welding up the sides for support. Leave the edge of the forged blade rather thick, and grind the bevel into place. I sometimes cheat and forge a preliminary bevel... this doesn't seem to hurt as long as you leave some thickness where the cutting edge will be

After you forge a curve, you need to make a test to see if the curve is circular. Push the hot edge into a scrap board a few times, and try to make a circle. If the burn marks don't line up after you've gone around, After you forge a curve, you need to make a test to see if the curve is



Figure 2- Gary's curved chisels

circular. Push the hot edge into a scrap board a few times, and try to make a circle. If the burn marks don't line up after you've gone around, your curve isn't an arc of a true circle, and it won't be as easy or accurate to use. Adjust if necessary, and repeat this test after you've ground the edge using a block of wax, lead, clay, etc.

There may be cases where you don't want a curve that is an arc of a circle. Gary's chisels for his holly candleholder are elliptical in shape. That's fine, but it's a good idea to try to make chisels that are elliptical because you want them that way, and not because they "just turn out elliptical." Take the time to make this right, or you'll be paying for your haste many times over as you use these tools.

I made several chisels this way, with the bevel on both the inside and the outside. I guess this makes the chisels "left handed" or "right handed" but I'm not so sure. This did allow me to cut the curves on my back plate with the bevel built in... I had a lot less filing to do because I had made the extra chisels. Gary pointed out a problem with making chisels with one-sided bevels... they're weaker, because the cutting edge isn't supported on the flat side. Since I was using the beveled side anyway, a better approach would be to make a chisel with a thick edge, beveled on both sides. Like a curved cold chisel, I suppose.

When you start making the smaller curves, things change dramatically. I discovered that the smallest curves are best made by grinding a profile down from solid stock. I figured this out

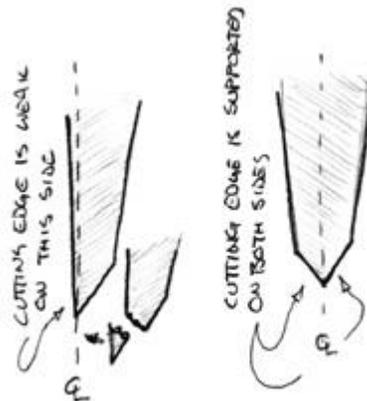


Figure 1—Forging dynamics of small curved chisels

by forging some experimental chisels that had a 3/4" radius. Some interesting things happen when you forge curves this small. The steel on the inside of the radius compresses, and the steel is forced outward toward the cutting edge. Conversely, the steel on the outside of the radius is stretched and shrinks. This pulls the steel away from the cutting edge... take a look at the illustration to see what I'm talking about.

When the bevel is on the inside, it compresses. Its angle increases... that is, it becomes steeper, more like a cold chisel. And the bevel becomes curved as well.

I also discovered something interesting about the cutting edge. If you grind or forge the cutting edge straight across, and then bend it, the corners of the chisel move forward, resulting in a cutting edge that isn't perpendicular to the body of the chisel.

You can compensate for this by grinding a slight radius into the edge before you bend it. For some reason, this doesn't seem to be the case if the bevel is on the outside of the curve. You'll also notice, if you make a chisel this way, that a small depression or hollow forms just

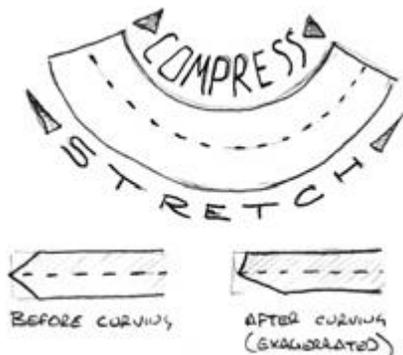


Figure 1—Forging dynamics of small curved chisels

behind the blade, where the steel transitions from a blade to the shaft. The reason this happens is that the blade is a slightly conical shape, while the shaft is a cylinder. This little depression bugged me to no end... it just didn't look right. I can minimize it by peening just behind the blade, but it's always there to some extent.

Whenever I want to figure something like this out, I get out my son's play-dough. I made a few little play-dough chisels, and it looks like it could be forged out, but a special swedge with a flared end might help. (Play-dough, plasticine, or sculptor's wax can also be used for figuring out leaf patterns as well.)

The end result of all this is that you'll have to do some grinding no matter what you do. Grinding is inevitable, because you can't harden and temper a sharp cutting edge... the carbon burns out of the very tip of the edge, which is where you need it most. Obviously, outside bevels are easier to grind than inside bevels...

especially on tiny chisels. Gary tells me that the best way to do this is with a die grinder or a small stone mounted in a drill press.

Another option would be buying a 1/2" grinding wheel and dressing the edge round, and using this to grind your inside bevels.

Start by forging the end square or slightly rectangular, depending on the size of your curve. Grind the inside curve, and remember to keep it circular. Next grind the outside curve, leaving about an eighth of an inch at the edge. Harden and temper, and then grind the bevel either on the inside or the outside, depending on your needs. I suppose you could grind a bevel on both sides if you wanted.

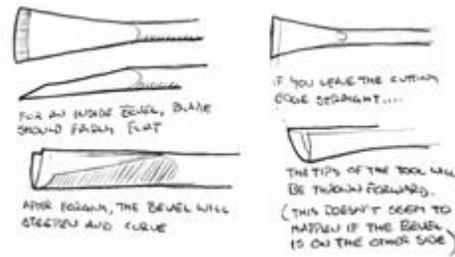


Figure 1—Forging dynamics of small curved chisels

As far as hardening and tempering goes, I'm still experimenting to find the best practical combination. A friend, Gary Scasbrick, has done a bit of work in this area. He tells me that for cold-cutting chisels, 5160 works great. Scrap coil springs are a good source for this.

If you make tools from coil springs, you need to watch out for cracks in the steel. These usually don't show up until you've gone to the trouble of straightening a length of spring, but if you find cracks, throw the

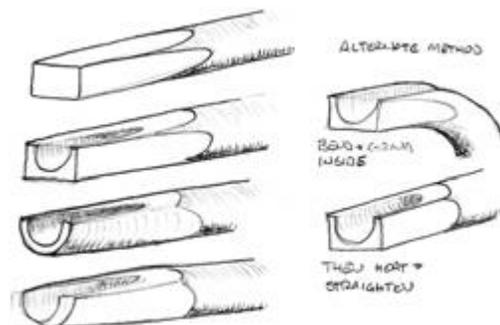


Figure 1—Grinding chisels

whole spring away. The cracks are a result of the steel work-hardening over the years, and are a clear indicator of steel that is about to fail completely. Even if you did find a section where you didn't see any cracks, a tool made from that section would likely break in use, possibly hurting someone in the process. Don't take chances in the shop!

The good news is that springs are often replaced due to sagging and bending rather than breaking. These springs aren't any good for holding up a car, but they'll still make passable tools.

The way Gary hardens and tempers these is by heating to nonmagnetic, hardening in oil. Gary says that tempering heat should be applied slowly to soak all the way through or the surface of the tool will show the proper tempering color while the core is still too hard. He got into too much trouble tempering tools in his kitchen, so he has an old oven in his shop. The entire tool is heated until a deep straw/bronze color is showing, then he turns the oven off and lets the tool cool down slowly. The thermostats on ovens are notoriously inaccurate. To help judge the temperature, Gary drilled a hole through the side and installed a dial-type cooking thermometer, but as he says, don't try this at home.

If you are using an oven to temper, try soaking the tool at 50 degrees cooler than you want, and then slowly increase the temperature until the color you're looking for arrives on the tool.

Often, you won't have to increase the temperature very much. A tool tempered this way seems to get the proper color at a lower temperature

than it should. Remember to temper by the color on the tool, not the number on a thermometer.

I've seen Gary's chisels that he's made using this method, and he's gotten excellent results. Gary's curved chisels were used to make three holly candleholders, and they are still VERY sharp, with no cracking evident at the cutting edge. By contrast, one of the chisels I made (before I spoke with Gary) I tempered in the fire to a light straw. It cut well, but a missed hit on the last cut destroyed the chisel. The entire cutting edge broke off, showing large crystalline- grain growth.

For hot cutting tools, Gary tells me that he's been really pleased with tools made from a red-heat tolerant steel, like H-13. "I've made a lot of tools and seen a lot of tools made from regular carbon steel. They all work OK, but they can't hold a candle to a tool made from one of these air-hardening steels. I've been using H-13 lately... it is trickier to forge, but when you're done, you've got a tool that works a lot better. If the old smiths had access to red-heat tolerant steels, they would have used it." Frank Turley agrees with Gary. He likes S-7, and gave a demonstration at the 1999 Madison conference on forging it. A curved

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chisel made by grinding might be fairly straightforward to make, but I haven't tried this yet. Forging tools from H-13 or S-7 is an article in itself... I'll see if I can't get my hands on some and give it a try for a future issue.

Don't forget the other end of the chisel. It should be ground to a dome shape so that any strike with the hammer is directed at the very center of the tool. The corners of the head should be ground off at 45 degrees to minimize spalling or "mushrooming" of the head.

The hammered end of a chisel should never be hardened. Weygers says in "The Making of Tools" (Van Nostrand, 1973) that this is an option "to keep the steel from 'cauliflowering' after long use" but I disagree. *Hardened steel should never strike hardened steel.* If you do, something is eventually going to crack and fly off. If it's harder than you hammer, then you'll ding up the face, which will in turn ding up your work. In fact, it's not a bad idea to keep a cheap hammer handy to strike tools with, and save your favorite hammer for working hot steel.

### For Sale:

- **Fire Bricks – Brand New, Industrial Grade. \$1 ea. Ed Sylvester 803.414.2487.** These same bricks were as much as \$8 at Madison!
- **Hosfield.Bender**, with extension bender and 20 attachments on a nice stand \$900.00. Sewell coal for sale. 135# for \$50, Layne Law 843-333-9964
- **Blacksmith Classes:** John Boyd Smith is offering an instructional blacksmithing program at his smithy near Spartanburg. John is internationally known for his realism in forged steel. Call 912-655-9448, email [flemingsmith@aol.com](mailto:flemingsmith@aol.com), or website [JohnBoydSmith.com](http://JohnBoydSmith.com).
- **Tire Hammer Plans:** Send check/money order for \$30 to Clay Spencer, 73 Penniston Pvt. Drive, Somerville, AL 35670-7013. Includes postage to US and Canadian addresses. Other countries e-mail [clay@tirehammer.com](mailto:clay@tirehammer.com) for price. 256-558-3658. Tire Hammers for sale contact me for current price. Also, **Beverly Shear Blades Sharpened**, \$41 includes return shipping in US. Remove blades and ship to address above. Extra cost for deep nicks or blades sharpened at wrong angles.
- **Coal:** Available in Blairsville, Ga. 50# bags @ \$12 each. If you purchase a ton or more, the price is \$11/bag (\$440/ton). Contact Daniel at 706-400-8329
- **Anvil**, 100# Vaughn. Repaired with good edges and flat face, \$250. Barry Myers, 803-640-5504

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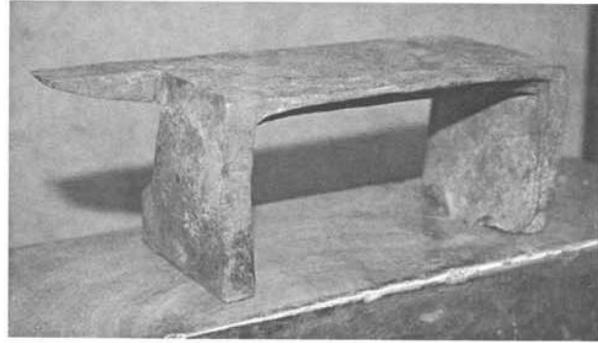
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- .....
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# Anvil Bridge

by Tom Latané

With the help of Louie Fisher, who works in my shop one afternoon a week, I recently made a tool for which I have felt a need for some time.

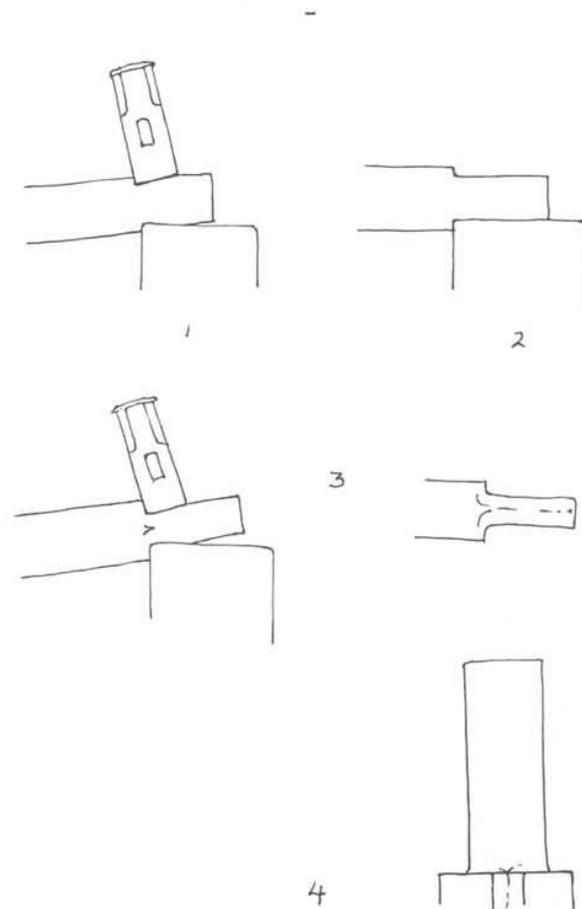
The forging of hinges and other scrollwork with chisel-split branches has always been difficult. Using the edge of the anvil has meant spreading the split members ninety degrees apart for dressing, then working them back together at the desired angle. Working over a tinsmith's hatcher stake held horizontally in the vise always involved a lot of repositioning the stake after hammering.



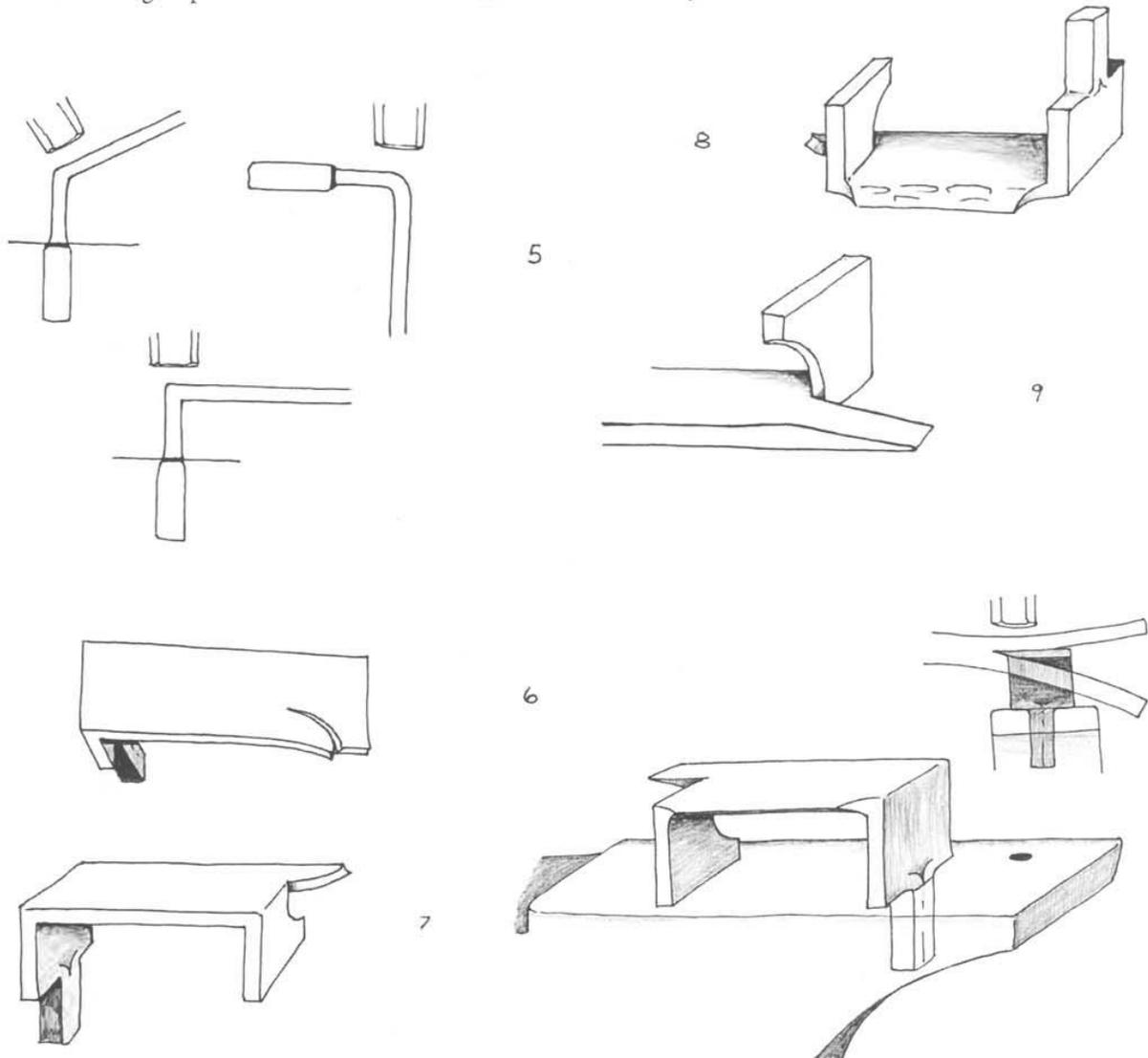
An anvil bridge provides the acutely angled edge backed up by the mass of the anvil. I designed mine to have one edge beveled like the hatcher stake, one square edge, and a small spur with a longer taper. I considered making the spur a small square horn but thought that the thinner edge might be handier when this tool was in use.

We began with a piece of leaf spring three inches wide and a half-inch thick.

1. Using a set hammer over the edge of the anvil, we created shoulders establishing the top of the tenon.
2. The remainder of the tenon was forged to the depth of the shoulder.
3. This was repeated several times until the width of the tenon had decreased to an inch and the thickness increased to an inch. Some upsetting can be done if the thickness does not increase enough. Longitudinal folds do not compromise the strength of the tenon.
4. With the tenon fit to the hardy hole, the material was cut to a convenient length and the shoulders upset to seat well on the anvil face.



5. The next step was to forge a right angle bend, toward the horn, about 2/12" above the anvil surface.
6. I marked a spot 2 1/2" from the far end and chisel cut the spur away from the side which would not be beveled. The spur was short leaving a full width at the end for the foot.
7. A second right angle bend was then formed leaving the spur material in the same plane as the bridge top. The foot was then upset or drawn out to create a level bridge top and solid contact for the foot.
8. A cross pein hammer was used to draw out the edge of the bridge with as little gain as possible in length. A curve in the bridge top resulting from stretching of the beveled edge can be corrected by upsetting the beveled edge from the ends or drawing out the opposite edge.
9. When the heavier forging was all done and the bridge was adjusted to sit solidly once again on the anvil face, the curved end of the spur was cut and it was forged to the desired taper. The bridge was not hardened or tempered.



This tool is great for forging in tight places, like the tines of a fork. Barry

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**ACKNOWLEDGEMENT AND ASSMPUMPTION 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...**

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## Come to Conway on February 8, 10 AM Walter Hill will demonstrate at the Farm!

The Conway Museum's L. W. Paul Living History Farm is located at 2279 Harris Shortcut Ln, north of Conway on US 701.

Bring a side or dessert and something nice for iron-in-the-hat - maybe something you've forged!

