PHILIP SIMMONS ARTIST BLACKSMITH GUILD

On the Anvil NEWSLETTER

INSIDE THIS ISSUE

Barry Myers did the honor of demonstrating for us in the timber frame shop of Gail and Roger Marcengill, they set this meeting up every year in June. We thank you for your hard work and dedication to the Guild.

Barry made a Smokers Companion, a 17th century device gentlemen carried in their pocket to light, clean and service their pipe with. He began with the history of the smokers' companion, when it appeared, about 1750 and when it went out of fashion around 1800.

It looks like a curved pair of spring loaded pliers, one end is used to pick up and hold an ember from a fire for lighting the pipe while the other end can be used to clean the bowl or pack tobacco. It also had another use, it could be used to start a fire as it was made of hi carbon steel, with a piece of flint and char cloth you could be in business. Of course this little jewel predated matches and lighters by about 75 years.

Barry is an experienced demonstrator and brought spare parts to the demonstration in case something happened to the parts he was making, that sometimes happens while you are trying to describe what it is you are doing, answering questions and heating and beating iron. Thanks Barry for sharing your skills and performing a great demonstration.

Griz Hockwalt won the smokers companion in the iron in the hat drawing and had to wait for Barry to install another spring on it, it wasn't up to his high standards—he screwed up the second one too, but who is counting… While we were waiting Griz complemented Barry on his demonstration, how he engaged the inexperienced smiths and answered their questions. We are indeed fortunate to have experienced smiths like Barry as part of our organization to convey blacksmithing to those that have an interest in learning the craft.

Griz also said he was going to file Barry's touch mark off it when he got home. I think he was kidding about that though. I think?

Thanks to our hosts, Roger and Gail, and to Jerry and Bessie Fowler for bringing the lasagna (I think Jerry worked really hard on that) and to all you that brought the sides, and deserts the meal was delicious.

Iron in the Hat was $518. Not too bad for a small but enthusiastic crowd of about 35.

New Members: Gerald Douberly, Patrick Dryer, Sean Elledge, Jonas Flinte, John Kneece, Rich McGuire, Anthony Palacino, Mark Wilson, and Ed Young. Wow, that is nine new members! We are growing! For you new members, email Barry Myers so that he can add you to the email list.

We have been asked to bring the panel we made for Madison last year to the ABANA Conference in Salt Lake City. If you are driving out, let me or Ray know as we are working to get it out there, but haven't figured out how yet!

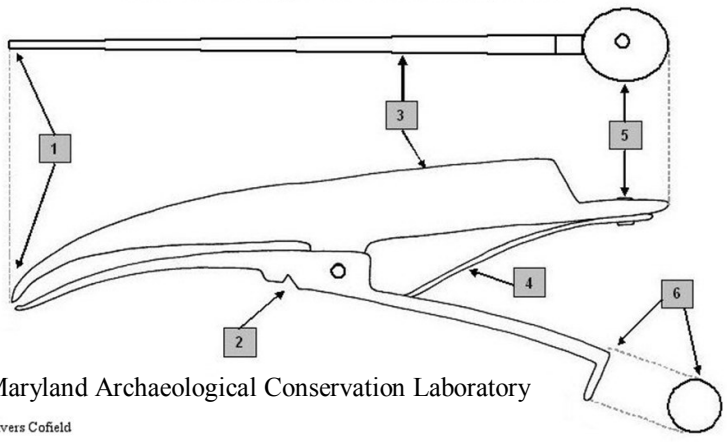
Please Keep Meck Hartfield and Bob Hill in your prayers. Meck is able to do some work and walks a lot. He has pain across this abdomen if he sits for long periods. Bob is working around his shop, but has not been released by the docs to do much. Both of them probably have some heavy duty cabin fever. Give them a call or maybe stop by.

Thanks for your support, Jesse

IRON IN THE HAT

Item	Donated by	Won by
Candle Holder	Jody Durham	Roger Marcengill
Bird in Paradise Sculpture	Gail Marcengill	Perry Thomasson
Candle Holder	Roger Marcengill	Andy Barnett
Candle Holder	Roger Marcengill	Chris Hammett
Fine multicolored Handle Knife	Jerry Fowler	Andy Barnett
Spoon	John Tanner	Heyward Haltiwanger
Drawer Game Cabinets	Roger Marcengill	Barry Myers
Drawer Game Cabinets	Roger Marcengill	Rick Thompson
Bulldog Bottle Opener	Ray Pearre	Heyward Haltiwanger
Smoker's Companion Demo Piece	Barry Myers	Griz Hockwalt
Blacksmith Poster	Joe Marsh	Andy Barnett
Harness Hook	Jesse Barfield	Jason Anderson
Three cornered trivet	Jesse Barfield	Ray Pearre
RR Spike Tomahawk	Griz Hockwalt	Mike Hair
Art Deco Andirons	Griz Hockwalt	Ray Pearre
Canned Figs	Heyward Haltiwanger	Barry Myers
Pickle Relish	Heyward Haltiwanger	Barry Myers
RR Spikes	Perry Thomasson	Anthony Palacino
Center Scribe	Perry Thomasson	Rick Thompson
Sea Shell/Twist Cross Neclace	Anthony Palacino	Jason Anderson
Drive in hooks (not that kind of drive in)	Robert Campbell	Jody Durham
Basket weave trivet	Tony Etheridge	Roger Marcengill
Heart Hooks	Mike Hair	Anthony Palacino
RR Spike Hooks	Mike Hair	Andy Barnett
RR Spike Hooks	Mike Hair	Gail Marcengill
RR Spike Hooks	Mike Hair	Chris Hammett
A2 Drops	Jason H. Anderson	Tony Etheridge
A2 Drops	Jason H. Anderson	John Tanner
A2 Drops	Jason H. Anderson	Pam Etheridge
A2 Drops	Jason H. Anderson	Bob Kaltenbach
Tractor Trailer U Bolts	Bryan Hopper	Tony Etheridge
Tractor Trailer U Bolts	Bryan Hopper	Rick Thompson
Japanese Wooden Toolbox	Andy Barnett	Roger Marcengill
Flower	Jamie Herndon	ML Tanner
Necklace	Jamie Herndon	Barry Myers
Roller Chain Damascus Knife Kit	Jamie Herndon	Rick Thompson
Larger Excaliber Paper weight	Rick Thompson	Roger Marcengill
Smaller Excaliber Paper weight	Rick Thompson	Ray Pearre

Elements of a Typical Smoker's Companion



From the Maryland Archaeological Conservation Laboratory

Sara Rivers Cofield

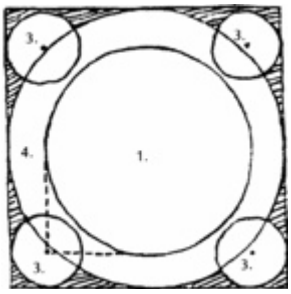
Not seeing the Content you want? Submit requests for the kind of info and articles you are interested in, or better yet, submit an article

Echo's of the 'Ring'

How to Drill a Square Hole

Originally printed in the Spring 1986 issue of *The Anvil's Ring* (Volume 13, Number 4). Contributed by Bill Gable, Damascus, VA.

1. Drill a hole 3/4 the size of the square.
2. Punch four set holes in line with edge of circle, freehand.
3. Drill out four holes using a bit 1/4 the size of the square (1" square hole–use 1/4" bit for the four holes).
4. Drill the final hole the same size as the intended square.
5. Remaining material to be filed out is only 1/10 of original



A piece of iron can only become what the blacksmith says it can become... African Proverb

If you are a blacksmith, probably the proudest day of your life is when you got your first anvil. How innocent you are, little blacksmith.

Jack Handey

Corner Mounted Brackets By Bill Kirkley

Recently, I made four brackets to mount on a 4X4 post. Most brackets are made to mount on a flat surface. I decided to mount these on the corners of the post.

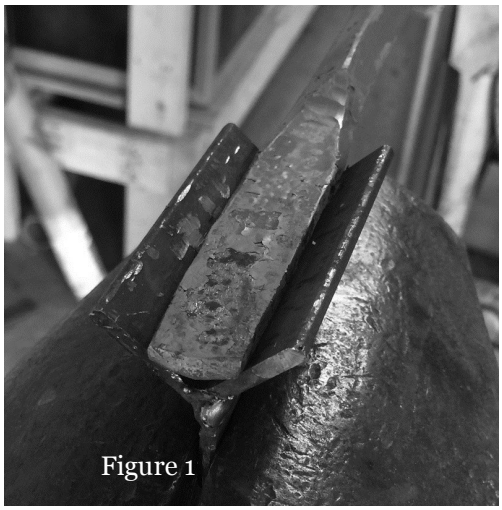


Figure 1

The brackets were made using 3/8 inch square bar. One end is flattened. The flat is bent ninety degrees so it will fit on the corner of the post. The first bracket was made by hammering the flat into a piece of angle iron using the cross peen of my hammer. (Figure 1) It was finished by hammering it on the edge of the anvil. This took time and, because of my limited skills, wasn't as good as I would have liked. If I had a striker I could have used the angle iron as a swage, and a square bar as a fuller.

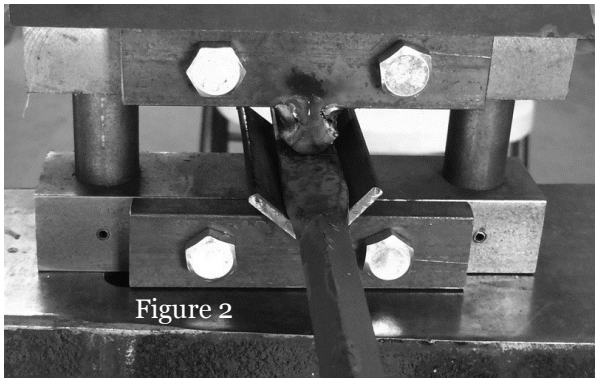


Figure 2

As an alternative I used my guillotine. I made a top die out of square bar and the bottom out of angle iron. (Figure 2) It took two heats to produce a nice result. (Figure 3)

At this stage the bracket cannot be mounted because of the material that encroaches on the angle bend. (Figure 4) This is addressed by bending the mounting portion of the bracket away from the rest of the bracket. (Figure 5) There is still some material in the way that is removed with an abrasive .045 inch cut off wheel. (Figure 6) A file would also do the job. The screw holes are offset to make mounting the bracket on the post easier. (Figure 7)

The bar is tapered and bent to the desired shape. The brackets mounted securely to the post using two screws. (Figure 8)

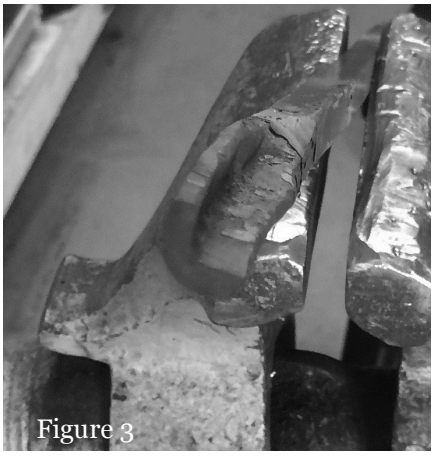


Figure 3

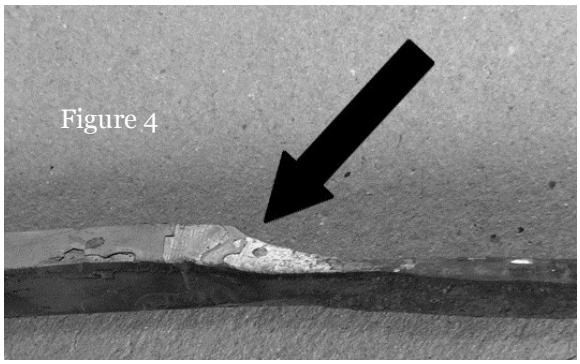


Figure 4

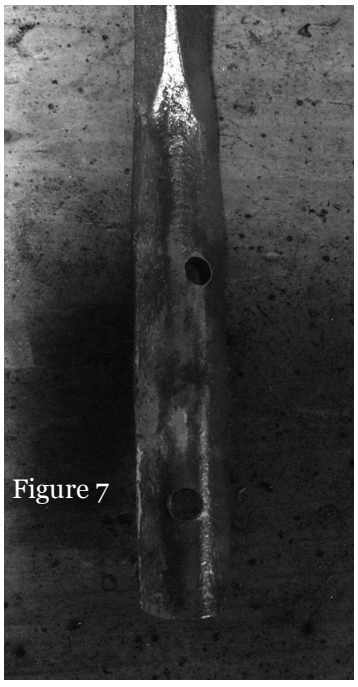


Figure 7

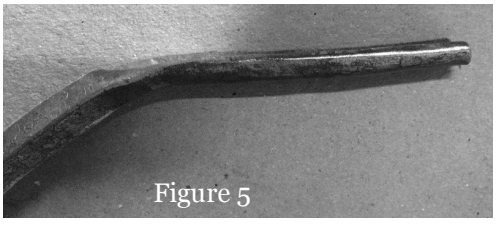


Figure 5


Figure 6


Figure 8

"Tool Steels and Heat Treating, for Blacksmiths"

Editors Note: The presentation on the following pages has been cobbled together from my notes & readings - Tony Austin

Reprinted from the Hammer Marks, The Newsletter of the Kootenay Blacksmiths

Continued from Last Month:

Heat Treating The Basics

There are six basic steps to creating a heat treated tool, if you are using carbon steel. They are Normalize and/or Anneal, Forge (shape), Re-Normalize and/or Anneal, Harden and Temper. If you are using newly purchased tool steels, they are sold in the normalized/annealed state and are ready for forging. **Note:** If you are forging **4140, A2, H13** they require a pre-heat prior to forging (see **The Heat Treating Steel - Quick Guide**).

Normalizing helps remove working stress and refines the grain structure of the steel. A rule of thumb is to repeat the process three times to reduce all working stress. To normalize: slowly heat the steel (~10 minutes) to its' Critical Temperature (where it becomes non-magnetic), hold it at that temperature (soaking) for 3~5 minutes, then set it on a fire brick and allow it to cool in still air. **Note:** for Alloy Tool Steels (A,D,H,O,S) heat 100F above the Critical Temperature.

Annealing, is slower than normalizing, and is used to redistribute the carbon content and soften the steel. To anneal, slowly heat to its Critical Temperature (+100F, for AlloyTool Steels) and slow cool in vermiculite, warm ashes or kao-wool overnight.

Forging: Forge tool steels at a good yellow heat (~1850F). Forge as close to the desired finished shape as you can. When forging is finished, the piece should be filed and/or ground to within ~ 1mm (1/32 - 1/16") of its' final shape, it's easier to file and sand before heat treating.

Normalize and/or Anneal, Again: Some do, some don't, depends on the amount of heavy forging/ grinding stress imposed on the piece. If you put your touch-mark on cold, do it now.

Heat Treating: This is a 2 step process, Hardening and Tempering.

Hardening: Slowly heat the area to be hardened evenly to it's Critical Temperature (above 1450F) and quickly quench it in the recommended quench (Water, Saline, Oil or Air). The quenching process produces an extremely hard and very brittle martensite steel, which needs to be tempered as soon as the piece cools to 100F-175F, depending on the material.

Tempering: Sacrifice a little hardness to make the tool tough. For Alloy Tool Steels, it is best done in an oven or toaster oven where you have good temperature control. Preheat the oven at least 30 minutes ahead of time. Minimum time for temper, at least 1 hour, 2 is better. Minimum temperature for temper is 300F.

(see **The Heat Treating Steel - Quick Guide,** below/next page)

Shady Grove Blacksmith Shop - Dick Nietfeld - www.blksmth.com 4/11/2007

HEAT TREATING STEEL - QUICK GUIDE

Temperatures in degrees Fahrenheit

Type of Steel	1045	1095	4140	5160	52100	L6	O1	A2	H13	S1	S7
Quenching Medium	Water	Water	W&Oil	Oil	Oil	Oil	Oil	Air	Air	Air/Oil	Air/Oil
Forging:											
Preheat	None	None	1250	None	None	None	None	1250	1400	None	None
Not Over	2275	2100	2250	2200	2100	2000	1950	2000	2100	2050	2050
Not Under	1600	1500	1600	1600	1700	1550	1550	1700	1650	1600	1700
Normalizing (Air)	1650	1575	1600	1600	1625	1600	1600	Do Not	Do Not	Do Not	Do Not
Annealing:	1550	1475	1550	1450	1450	1400	1400	1800	1600	1475	1500
Down To	1200	1200	1200	1200	1275	1000	1275	1000	1000	1000	950
Max. Drop/Hour	50	50	25	Air Cool	10	40	40	20	50	40	25
Preheat soak -	None	None	None	None	None	None	1200	1200	1175	1200	1250
Hardening Temp.	1550	1475	1575	1525	1550	1550	1475	1750	1700	1700	1725
Low temperature required before tempering:	100	150	150	150	125	125	175	150	125	150	150
Tempering: after quenching, temper all to at least 300 degrees F											
45RC	600	800	750	425	800	1000	Not Rec	1200	1100	1100	1150
50RC	400	700	600	350	650	900	Not Rec	900	1050	800	875
55RC	as quenched	600	as quenched	300	500	700	600	550	as quenched	450	600
60RC		400		as quenched	350	400	475	400		as quenched	300
62RC or higher		as quenched			as quenched	as quenched	as quenched	as quenched		as quenched	as quenched

Industrial heat treating practices such as soak times, variations for steel thickness, alternate hardening temperatures, alternate quenching mediums and temperatures, various annealing practices, and more accurate tempering temperatures will be found in each companies Data Sheets. This quick guide is developed with the blacksmith and his typical equipment in mind.

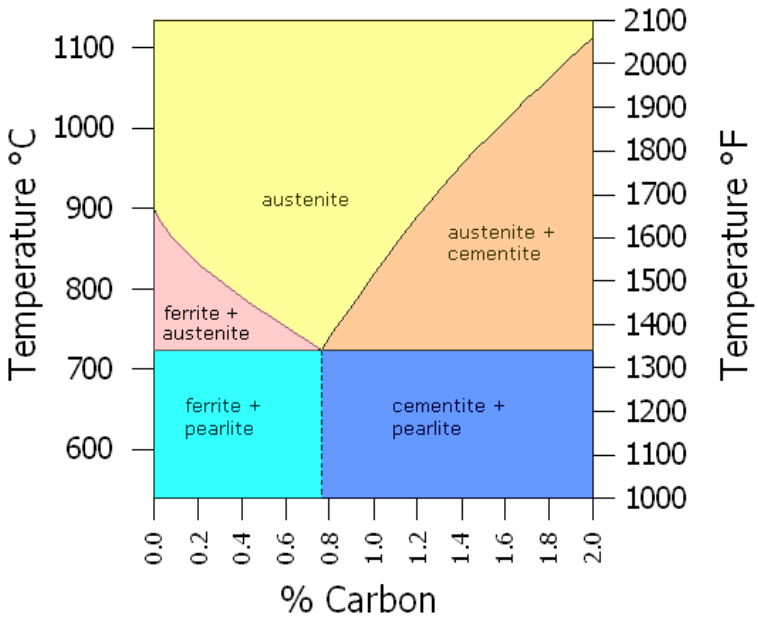
Flame Tempering for Blacksmiths

When working with carbon steels, making blacksmithing hand tools such as chisels, punches, drifts, hammers and edged tools, tempering may be accomplished in the forge or with a torch. as described below. For small hand tools hardening and tempering can be one continuous process. Using a cold chisel, as an example, the section that needs to be hardened is only about 2" from the working end. Heat the first 3 inches from working end up to the Critical Temperature, where the steel becomes non-magnetic, then immediately quench only the first 2 inches, file the quenched section to clean steel so you can see the temper colors as they run towards the tip. The heat remaining in the unquenched area will migrate down to the end through the temper colors as seen below, starting with faint straw and getting darker, when you see the dark purple just reaching the tip quench the whole tool stirring as you quench to prevent a steam barrier. If you allow the steel to cool below 100F after the hardening quench, you can use a torch to reheat at the 3 inch point and temper as above.

Temper Color	°F	Tool
	660	
Steel Grey	**650**	
Greenish	**640**	
Blue	**630**	Light Springs
	620	
Light Blue	**610**	Screw Drivers
	600	Wood Saws, Punches
Dark Blue	**590**	Springs
	580	Picks
Blue	**570**	Cold Chisels, Light Work
	560	Knives
Dark Purple	**550**	Cold Chisels, Steel
Purple	**540**	Axes, Center Punches
Light Purple	**530**	Hammers, Sledges
Brown w/Purple Spots	**520**	Surgical Instruments
Dark Brown	**510**	Twist Drills
Bronze	**500**	Rock Drills, Hot Chisels
Dark Straw	**490**	Wood Chisel
Golden Straw	**480**	Drifts, Leather Dies
Straw	**470**	Pen Knives
Straw Yellow	**460**	Thread Cutting Tools
Yellow	**450**	Planer Tools
Light Yellow	**440**	Drills for Stone
	430	Paper Cutters, Lathe Tools
Pale Yellow	**420**	Razors
	410	Burnishers
	400	Scrapers

Reprinted from 'New Edge of the Anvil', Jack Andrews, 1944

I eliminated the color chart for heated steel that John included in the original article as our black and white newsletter won't show it. Barry



Simplified Fe-C Phase Diagram (Steel Portion)

Steel Metallurgy

What Happens During The Heat Treating of Steel?

Carbon and Iron exist together in several different phases, depending on Carbon percentage and temperature. The Fe-C phase diagram (*on the previous page—Ed)* shows these relationships. Four phases are important for our discussion: **ferrite**, **cementite**, **austenite**, **martensite**

Note that the diagram shown is only for the steel portion of the system. For carbon contents of 2 - 6.67%, the alloy is cast iron. Above 6.67% carbon, the alloy consists of cementite and graphite.

An alloy consisting of exactly 0.76% Carbon and 99.24% Fe has the lowest temperature at which the conversion from ferrite and cementite to **austentite** is complete. This is known as a *eutectoid* steel. Increasing Carbon above this amount, as well as the addition of other alloying elements, also increases the temperature of complete phase transformation (i.e., hardening).

Fully annealed carbon steel consists, in addition to impurities and other alloyed elements, of a mechanical mixture of iron and iron carbide. The iron takes the crystalline form ferrite, and the iron carbide takes the crystalline form cementite. The overall structure consists of bands of these two components and is known as **pearlite**. In this state the steel is soft and workable.

As the steel is heated above the critical temperature, about 1335°F (724°C), it undergoes a phase change, recrystallizing as austenite. Continued heating to the hardening temperature, 1450-1500°F (788-843°C) ensures complete conversion to austenite. At this point the steel is no longer magnetic, and its color is cherry-red.

If the austenitic steel is cooled slowly (the process known as annealing), it will return to the pearlite structure. If, however, it is cooled suddenly by quenching in a bath of oil, a new crystal structure, martensite, is formed. Martensite is characterized by an angular needle-like structure and very high hardness.

While martensitic steel is extremely hard, it is also extremely brittle and will break, chip, and crumble with the slightest shock. Furthermore, internal stresses remain in the tool from the sudden quenching; these will also facilitate breakage of the tool. Tempering relieves these stresses and causes partial decomposition of the martensite into ferrite and cementite. The amount of this partial phase change is controlled by the tempering temperature. The tempered steel is not as hard as pure martensite, but is much tougher.

Reprinted from ‘A Woodworker’s Guide to Tool Steel and Heat Treating’ www.threeplanes.net/toolsteel.html. Entire article reprinted fron the **The Hammer Marks, Newsletter of the Kootenay Blacksmiths**

The shoemaker's wife and the blacksmith's horse often go unshod.

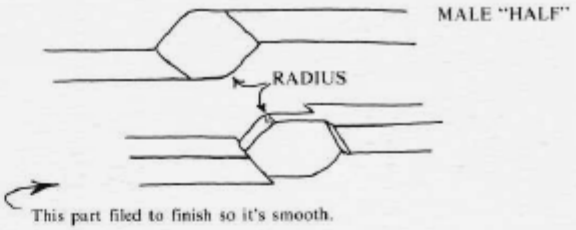
TIPS AND TECHNIQUES

THE BOX-JOINT Submitted by Tom Bredlow

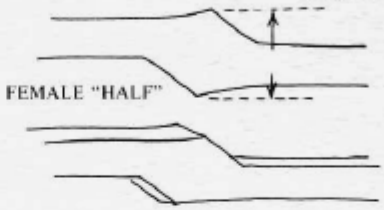
A couple years ago, at the conference at Carbondale, Ill., (Iron: Solid Wrought) there was a good deal of excitement over a hinge that showed up in the fireplace set made by Daniel Boone. While I was looking at it I heard a number of comments speculating as to how it was made, suggestions of forge-welding and lots of other mystique, and when I got back home, I tried one, but not without doing some thinking, not about its mechanics so much, which were evident, but about the work-attitude that surrounded it. The box joint is the hinge that appears in most of the jewelers' pliers and surgeons' forceps, and gobs of other applications that have come up over the centuries; its handiest reference being the pliers and what-not of the last century and more, right up to the present. It occurred to me that while Mr. Boone's use of it as part of the whole package in his fire set was a fine judgement as an element of decoration in an elaborate but nevertheless very nice fire set, (it was the hinge for the firetongs, a slender pair decorated to fit the set, which included acanthus and delightful little scrolls supurbly welded in — a crossover hinge and rivet would have detracted) it was not done as a trick used to impress. It seemed to me that it should come from the same attitude as the tons of them that are around — that is — learn how to do one in an afternoon and have a bucket full of them by the end of the week. They are, except for Mr. Boone's delightful application, a hardware store item. Smiths have been filling bins in hardware stores for over a hundred years, anyway, with the sugar cutters, pliers, and so on, which employ the thing as strength and allignment, and while it takes some care, there are too many blacksmiths, Mr. Boone included, who have done them too well to fall for them as mystique or trickery. They're real. Here's what I think they are about:

The center piece is shaped to its final shape, but for some filing or grinding, (notice in nearby examples how the parting lines, while usually parallel to *each other* are less often parallel to the *outside edges?* Stock removal on the outside after the fit is right) and the outside "half" is forged, split, and opened up so the male "half" will slip through the opening with not much clearance to spare, then, with the center (finished part) cold, and the surrounding, opened part at a good forging heat, it is hammered shut, using the captive center part as the forging core, opening and closing the thing as it is being worked, probably a single heat operation, once they are set up (had to keep filling that bin, you know). Mr. Boone's box joint if I remember correctly, may not have dressed completely flush all around with all the voids filled, like the round nosed pliers and surgical forceps, but it was just fine, couldn't be improved upon for the application, and works without benefit of rivet. Top grade for that one, I say, as it was not pliers or forceps he was thinking of when he skillfully included it in his *nice* fireset. But you can fill out the corners of the thing, with a little work learning the shapes.

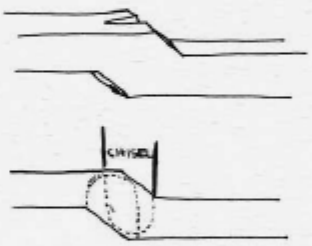
Box-joint blank, ready to be made into something. Ends can be made up before closing the joint, if they are complex, but this is the basic idea:



Slightly oversize, since slitting and opening will reduce height of female blank.

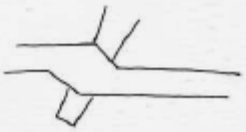


Begin slitting:



Open end of chisel cut with flat bottom rectangular punch as thick as male is at reduced section.

Then, with a tapered square punch, open the slit from both sides to size of "handle" dimensions. Carefully enlarging the opening so as not to distort *too* much (Backed up by open jaws of the vise, gradually opened further with knee, to accommodate widening punch taper.



When opening proves to be sufficient to receive male half (it'll do it, no kidding) then . . .

take a good forging heat on the female half, insert the cold male half, and forge the female down around it, working the parts as you go so it doesn't forge gorge steps inside, remove any excess so all surfaces are flush, and there you have it. It took me several tries to fill the thing up, but you catch on as you go.

Just a word about application of the thing. There have been a lot of very good looking tools made this way, and some good looking decorative items, as well, but the good ones all have the look in silhouette, from a distance, of something that *should* have the box-joint as a hinge. They weren't thrown in as mystique — there's certain *shapes* of things they go with and enhance, both for looks and for alignment and strength. So don't stop at the magic of a box joint — make a package of it, and the fellows who did thousands of the things will thank you for taking part in a real thing.

Basket handle formula, by Francis Whitaker

Courtesy, California Blacksmith Association Newsletter

'My favorite basket handle is the one made of four pieces of ¼" square, corners knocked off slightly, then twisted, two right, two left. Stock is cut 7½" to 8" long, depending on desired size. I find the clockwise final twist fits the human hand best. In order to have the individual pieces come out with about the same number of twists, here is the procedure:

Since the clockwise twists will tighten in the final twist before opening the basket, they must be twisted (I count by quarter turns, it is easier to count the corners as one does the twist then to count full 180 degree turns) six quarter turns. The counter clockwise twists will untighten, so they are twisted fourteen quarter turns. Mathematically, the final result will be six plus four equals ten, and fourteen minus four equals ten. Upset the end to be welded to the tool shank, offset the pairs (they must be one counter and one clockwise in pairs) ¼" to make the offset scarf I showed you at the Spring Conference.

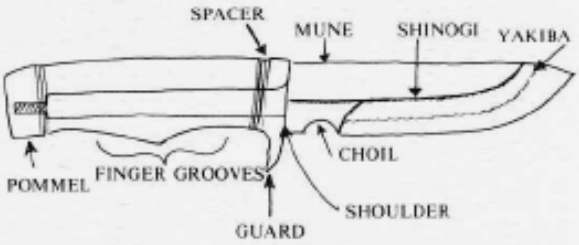
The final operation is to twist the welded pieces six quarter turns clockwise, then back off two quarter turns while opening the basket, upsetting and opening with a small pin punch to make a symmetrical basket handle.

This is much easier to demonstrate than describe, I'll be glad to show you again some time.'

Excerpted from a letter by Dan Maragni . . .

To Make a Knife Hilt — Dan Maragni suggests the use of the following materials and procedures: "It consists of one piece of brass guard sheet (¼" thick), one piece of brass spacers sheet, two pieces of fiber spacer (one black & one white), one piece of heavy brass pommel stock. All that is missing for a finished hilt is epoxy and about 20 hours of work.

Here is a rough sketch of how I make my hilts with proper hilt and blade nomenclature:



If I might make some recommendations: 1) Most important fit is guard to shoulder of the blade; I spend 60% of my time on that. It must be tight and absolutely "gapless." Do not silver solder the guard on, you will draw the temper of the blade and ruin it. 2) Give yourself plenty of material to work with, figure on removing 25% of the metal parts and 75% of the wood after the hilt is assembled. 3) Do not scrimp on epoxy; epoxy is relatively cheap — mistakes are dear. Good Luck!

Submitted by Dick Sargent . . .

To drill hard cast iron — place iron on forge and heat to bright red-orange with small piece of soapstone over spot to be drilled and allow to cool to black heat over fire . . .

To temper small but heavy springs, such as those in pocket knives, wrap spring with coil of iron wire, dip in oil and flash off three times. The wire has enough surface area to hold the oil required to draw the heavier spring . . .

Also, to remove a broken tap from a blind hole, you can burn it out easily with a torch. Since the tap is high carbon steel, it will burn out at a lower temperature, leaving the mild steel threads intact. (Be sure to stand a safe distance so as not to be hit by the splatter.)

Rather than marking up the table of the anvil by chiselling on it, I prefer to use a plate on the face of the anvil for that purpose. The table can then be given a slightly convex surface and be used to great advantage such as: when bevelling the edge of a bar, that piece will stay straight rather than bend to the side as it would if this were done on the face. (this tidbit was presented by Francis Whitaker to a gathering of New England blacksmiths last October; other notes were taken and will appear in this column in issues to come. Ed.)

Reprinted from the December 1978 Anvil's Ring

For Sale:

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

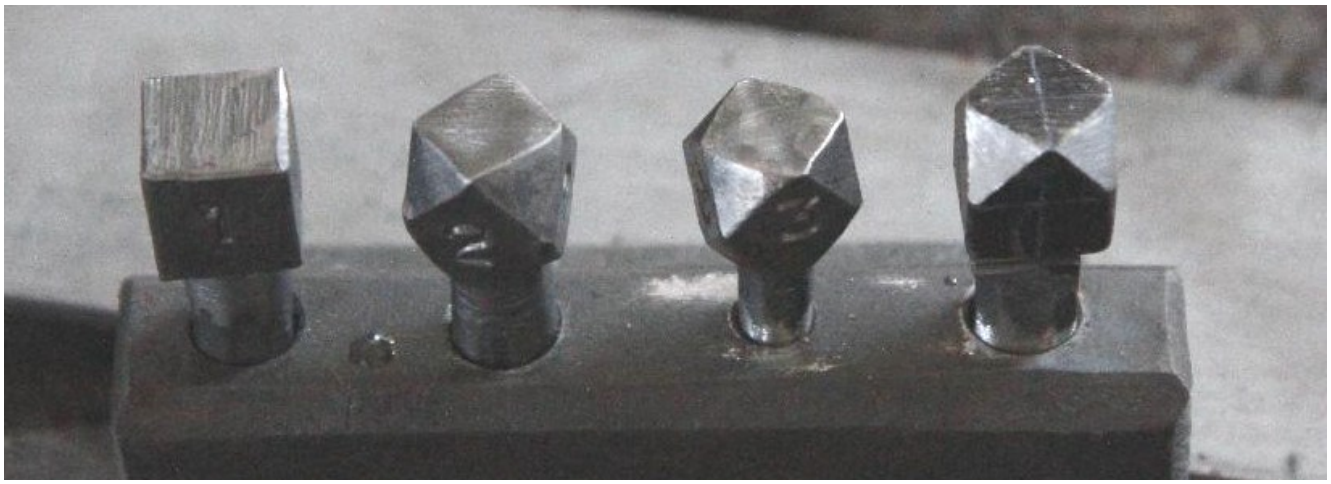
Tire Hammer Plans: Send a check or money order for $30US or send $32US to Paypal.Me/ClaySpencer. clay@otelco.net. PDFs will be e-mailed outside US.
Beverly shear blades sharpened. Remove your blades and send in USPS small flat rate box with check for $41US Clay Spencer 73 Penniston Pvt. Drive, Somerville, AL 35670-7103.
Blacksmith Classes: Beginner to Advanced. Glenn Owen, Hemmingway. Contact Glenn at forgeontheridge@yahoo.com or www.forgeontheridge.com.
Forklift tine sections for striking anvils, $30. Jody Durham, 864-985-3919 ironsmith@gmail.com

Upcoming Events

Aug. 13, PSABG Meeting, Camden, SC . This is the same day as the Battle of Camden Remembrance Day.
Oct. 8th and 9th Autumn on the Ashley Craft Fair at Magnolia Gardens, contact Ray Pearre
Oct. 22nd, NOTE THE CHANGE! PSABG Meeting, College of the Building Arts, Meeting St. Charleston,
Dec. 10, PSABG Meeting, Jeff Hatfield's shop in Woodruff, SC.
2nd Saturdays Blacksmith demonstrations at Roper Mountain Science Center, Greenville, SC
3rd Saturdays Blacksmith demonstrations at Hagood Mill, Pickens, SC

Cuboctahedron By Steve Alford, Athens Forge

At the March meeting Al Stevens demonstrated making tongs. The reins on Al's tongs have these 14-sided finials on the ends. These figures have six square sides and eight triangular sides. Al said this is called a cuboctahedron. He showed us a set of samples with the steps to making them. Starting with a cube on the end of a bar, the corners are forged down to make the triangular surfaces. The forging will move the material so that the finished solid is longer than the starting cube. If I read my notes right, the cube should be made 3/32" shorter than the desired finished size in 1/2" stock. The flats can just be filed, too, as shown in the last sample piece on the right.



Reprinted from the Bituminous Bits, Journal of the Alabama Forge Council.

I liked the tip due to the tip about forging the cube shorter than the other dimensions. Mine always turned out longer. I never felt bad, but now I know! Barry

Philip Simmons Artist Blacksmith Guild

http://philipsimmonsartistblacksmithguild.com/

President: Jesse Barfield
2423 Stribling Circle, Lancaster, SC29720
803-287-0929
jesstersforge@gmail.com
Vice President: Jody Durham
767 Lynnhaven Dr., Seneca, SC29678
864-985-3919 ironsmith@gmail.com
Librarian: Meck Hartfield
623 Poston Rd., Johnsonville, SC29555
843-625-9118
thartfield@me.com
Secretary/Treasurer: Ray Pearre
4605 Durant Ave.,
N. Charleston, SC29405
843-860-0532/pearrecr@att.net
Newsletter Editor: Barry Myers
1847 Pisgah Rd, N. Augusta, SC29841
803-640-5504/ blmyers647@gmail.com
Webmistress: Jamie Herndon
414 Henry Stabler Rd, Swansea, SC 29160
803-665-7083 herndonblacksmith@gmail.com

Board Members

John Tanner
208 Copeland Rd., Swansea, SC 29160
803-568-5534
blacksmith@comporium.net

Ryan Calloway
12 Andrews St. Greenville, SC 29601
864-386-5546
Ryan@creativeironworks.net

Jason Jaco
29 Woodpine Ct
Columbia, SC 29212
803-799-1865/texasstreet@hotmail.com

Josh Weston
6925 Tanner Hall Blvd.
Hanahan, SC 29410
734-709-9677/josh.a.weston@gmail.com

Membership Application

___ New Member___ Renewal

Name: _____Address: _____

City: _____ State: _____ Zip: _____Phone: _____

email: _____ Sponsor_____

Dues are $15.00 per person/family, per year. Please remit to: C. Ray Pearre, Jr.
4605 Durant Ave.
North Charleston, SC 29405

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…
"Dues Last Paid – 2015"or"Dues for 2016 are due"
This note is updated for each newsletter. We appreciate your prompt payments.

August 13, 10 AM

The August Meeting will be at Historic Camden. This is the same day as the Battle of Camden Remembrance Day, you can wear your 18th Century clothes!

Our own Jesse Barfield will host the meeting. The Vice-President, no not that one, our VP, Jody Durham, will be our demonstrator at Camden. He will be demonstrating animal head sculpting.

Bring a side or dessert and maybe something nicely forged for Iron-in-the-Hat. Don't forget, Ray gives you 5 free tickets if you bring something you have forged for iron in the hat!
Take I-20 to Exit 98, then North on 521 about 2-3 miles on Right

The October meeting Oct. 22nd, NOTE THE CHANGE! PSABG Meeting, College of the Building Arts, Meeting St. Charleston,