

V

February 2001



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The Florida Clinker Breaker

FLORIDA ARTIST BLACKSMITH ASSOCIATION - CHAPTER OF ABANA, INC.
Established May 18, 1985

President's Corner

By Patty Draper, President

I used to think Florida blacksmiths needed more cold weather so that working in the forge wouldn't be so uncomfortably hot. After 10 consecutive days of lows in the 20s here in Tallahassee, including frozen slack tubs, I've decided the summer heat isn't so bad after all.



The Madison conference

One of the biggest blacksmith events in our part of the country happens in a few months. And if you miss this one it won't be back for another two years. On Friday, May 18 and Saturday, May 19, 2001, the Southeastern Regional Blacksmith Conference will be held in Madison, Georgia. Also known as "Madison," the conference is a joint effort of several chapters in the southeast, including chapters in North Carolina, Georgia, Alabama and Florida. The conference happens only every other year. If you are new to blacksmithing and hungry for first-rate demonstrations and a wealth of tool sales, this is the place for you!

Plan on bringing family members who aren't blacksmiths, too. They'll enjoy the family program classes and the auction. Camping is available at the conference site, and there are plenty of motels nearby. The conference usually generates more money than it costs to put on, and the hosting chapters share in the proceeds. The 1999 conference netted FABA \$800.00. This year FABA is "in charge" of registration and tailgate tool sales. Karen Wheeler,

FABA Secretary, has volunteered to be the Registrar for the conference, and Clyde Payton, FABA's immediate past president, is heading up the tool sales. In addition, Program Chairman Jeff Mohr is organizing the blacksmith family tree. Each blacksmith may forge a leaf for the tree that will be assembled at the conference and auctioned off.

Much of the money raised at the conference is raised through the auction, so plan on donating something nice. The host chapters are coordinating the production of a toolbox, including tools, to be auctioned off. Florida has volunteered to make/donate hammers and twisting tools, but any tool will be gladly accepted. You can bring your tool box donation to Madison or send it to me.

Reaching out

I frequently hear new members say they went for years not knowing that an organization like FABA existed. Invariably, they are thrilled to finally be in touch with the resources our club offers. FABA doesn't spend any money to advertise its existence, so we have to spread the word ourselves. One of the best ways to do this is to invite people to meetings or host an event that the general public can attend. This past month, over 20 FABA members kept the fires burning in the Yesteryear Village Blacksmith Shop at the South Florida Fair in West Palm Beach. Every November, FABA members demonstrate blacksmithing at the Jamboree at the Pioneer Arts Settlement in Barberville. I really appreciate the many hours spent by these members demonstrating blacksmithing. Your participation in these events is critical to our purpose of getting the word out about the art and craft of blacksmithing.

I hope to see many of you at the statewide meeting in West Palm Beach on Saturday, February 17. And try to enjoy the weather!

Upcoming Events

The calendar includes events of interest to the blacksmithing community. Florida Artist Blacksmith Association (FABA) sponsored events are highlighted in bold typeface. The regions have no boundaries - everyone is welcome everywhere. Come to more than one if you can. We hold regular monthly meetings in each region (except that we all try to get together at one Statewide Meeting each quarter) on the following Saturdays of each month: NE-1st, NW-2nd, SE-3rd, SW-last. The actual dates may vary from month to month; check the schedule below. Our meetings are informal gatherings around the forge. Prospective members are always welcome. Come for all or any part of a meeting, bring your tools, or just watch. Most meetings run from 9AM to 4PM, and you'll need to bring a lunch if you stay all day, unless otherwise noted. If you have any questions about meetings please contact the Regional Coordinators listed below:

Northeast Region:	Bob Jacoby	(904) 260-9981	jacoby@southeast.net
Northwest Region:	Dr. Ed Crane	(850) 893-3212	ncrane8364@aol.com
Southeast Region:	Charlie Stemmann	(561) 964-8834	stemmann@aol.com
Southwest Region:	Steve Kalb	(941) 489-2396.	n/a

February, 2001

NE Feb 03 to be announced
 NW Feb 10 Ray Roberts **
 SE Feb 17 **Quarterly meeting** will be held at the Yesteryear Village, South Florida Fair Grounds, Demonstrator will be Johnny Kierbow. Johnny will be making a Rams head walking stick, a braided handle fire place tool, and a pair of tongs. The last 2 hours will be question and answer.
 SW Feb 24 to be announced

May, 2001 Hugh Muellers' shop
April, 2001 Barberville: Tools trades and Transportation-swap & auction
May, 2001 Steve Blooms" shop

** Leroi, This is a notice for the Clinker Breaker concerning the February meeting at Ray Roberts shop. No topic has stirred up more questions and opinions than the demonstrations dealing with heat treatment. To add to the fire, Dr. Scott Helzer will speak on heat treatment at the February meeting. Dr. Helzer is a specialist in metal casting, welding and heat treatment. He is a consultant to John Deere, Ertl, and the American Welding Society among others. Be sure to attend with your questions. William P. Adams

From the president, Patty Draper:

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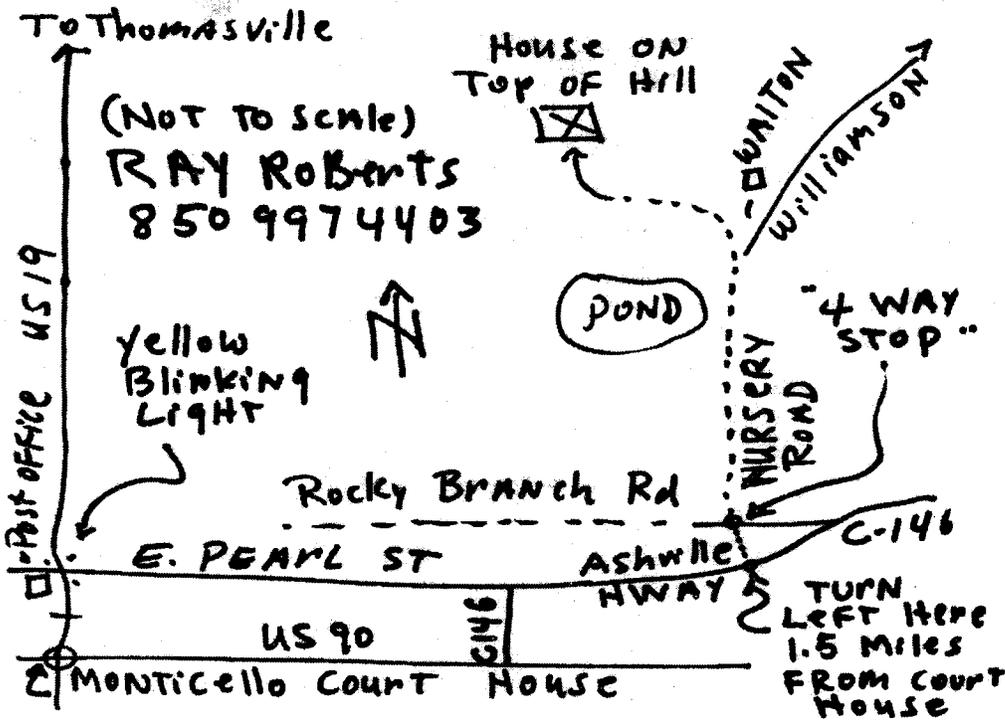
Past Presidents

The board of trustees' first meeting of 2001 will be held **February 17, 2001** in West Palm Beach at Yesteryear Village. Yesteryear Village is a component of the South Florida Fairgrounds, and easily accessed from the Florida Turnpike or I-95. The meeting will be held during the lunch break of the SE Region statewide meeting. An agenda for the board meeting is enclosed; please call me if you wish to add additional agenda items. This is an extremely important meeting because we will consider the 2001 budget, the upcoming Madison conference, bylaws revision, and involvement in a multi-state organization to promote the art and craft of blacksmithing.

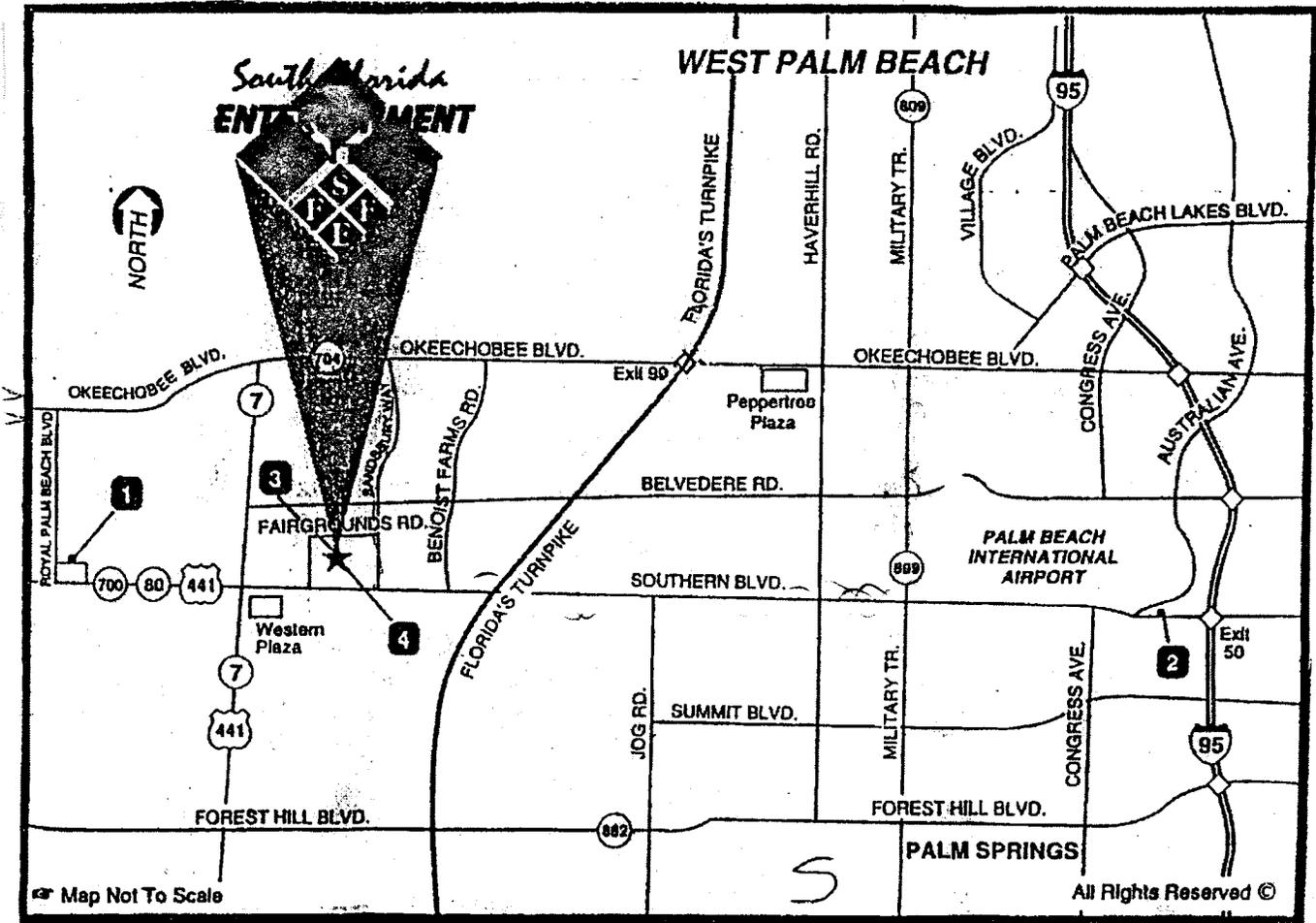
The statewide meeting will feature Johnny Kierbow. Kierbow has served as the resident blacksmith at the John C. Campbell Folk School and is a full time professional smith. His demonstration will begin at 9 am and continue to approximately 4 p.m.

I've enclosed maps of the West Palm Beach area and the fairgrounds. The meeting will be in the Church building in Yesteryear Village. You should enter the fairgrounds from the Highway 441 (Southern Blvd.) end, go up Sandsbury Way, and proceed to Gate 4A to enter the Village. There are several motels off the Turnpike at exit 99 and Okeechobee Blvd. that are convenient to the fairgrounds: The Fairfield Inn (\$84), 5981 Okeechobee Blvd. (phone 561-697-3388) and Days Inn (\$79), 6255 Okeechobee Blvd. (phone 561-686-6000).

In order to conduct any business, a quorum of the board must be present. Karen Wheeler has a preexisting commitment and cannot attend. Therefore, it is important for the remaining board members to attend the meeting. If you cannot attend let me know right away (phone 850-668-2876). I've also enclosed copies of FABA's articles of incorporation and bylaws for our new board members.



And by the way folks, for the rest of us who would like to attend that meeting at Ray Roberts place but can't would truly enjoy ya'll sharing the info. Please one or more of you give us at least the gist and highlights of heat treating. This could be a one, two, or even three part newsletter article. I'd brave the cold weather and the hot chili if I could just to be part of it. But we in the states' Mouse area and below can't always make the trek. And please put a little elbow grease into drawing your map. This sloppy map here I hastily redrew because the original was too light to scan (and was written in Polish with an eyebrow pencil) But it's ok.



Map Not To Scale

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SOUNDING BOARD

I pre-apologized in January, for the lateness of these news letters, but don't feel all alone. I am a lousy father and a rotten husband, and if you don't believe me just call up my wife and kids and ask them!! Anyhow, you folks who want stuff submitted, please try and get it in early, before the 12-15th of the month would be good. Of course, I would appreciate that everyone contributed. Did you catch President Bush's inaugural speech. I think he got inspiration from the January newsletter. All that talk about cooperation, working together for the future. He must be an editor.

My life is a fine line between humility and megalomania. It is too fine a line to be walked, therefore I am usually wandering into one area of the other or sometimes straddling in both which creates a real mental dilemma. I would like to do a good service to this news letter and polish it up as well as be a little more creative. I talked to Patty Draper about me jamming in too many of my ideas and therefore trying to set club policy. So far she doesn't think it is a problem, so, here goes again. Now, remember, your ideas are needed to, but one goal I have is for FABA to publish a book. I have never published a book. If anybody knows anything about it, please, let me know. The easiest thing may be just to take the information to a printer and let them print it up, but some publishing house might be interested. This could be a means of generating some more funding for the organization, but also it is going to be a prestige thing and the organization could always use a few more feathers in its cap. There is probably all of us in this organization who are called upon to demonstrate at one time or another. The books that are published on basic blacksmithing seem to be rather few. I would like to have us publish a book where many people can contribute individual chapters, or even just paragraphs on basic technique for blacksmithing and then discuss equipment. Particularly, mobile equipment that could be set up for demonstration. Steve Bloom certainly has already built a lot of that equipment himself and I have seen other people at the local conferences with equipment they have.

Then, as you all know, after you get done demonstrating a few basic blacksmithing techniques, it is time to talk and what this book could consist of is an anthology of the history of blacksmithing in the world and perhaps, particularly, in Florida. Also, all the numerous stories and vignettes of the economic importance of blacksmithing, its development, what blacksmithing meant to a small town and many of the traditions and customs, which are quite interesting and give a lot of color and enthusiasm to any blacksmithing demonstration. I think it would be a really fun project and well received and if anybody wants to contribute or even head it up, lets discuss it. Lets hear any of your crazy ideas on anything.

There are some other articles coming to the **clinicalbreaker**. I convinced Ray Roberts to do an article on his poor mans Damascus using banding type steel, but the club needs much much more. The author of the **Batson** conference article mentions how he used a guillotine fuller. I have asked that he submit us a drawing and an article encompassing how to make a guillotine fuller since he was enamored with the utility of this device.

I love the story of the city slicker walking in the mountains and WOOP, faced a gun barrel! The hillbilly said "Take a big drink o' this here jug!" The city boy drank and suddenly went blind and froze for 30 seconds. "Wow, that's some powerful stuff", he said. "Yea aye know", said the hill billy, "Now hold the gun on me". Which leads me to the story of my life. I really enjoyed the folding knife maker demonstration at the last conference, but if the truth be know, in many ways I was disappointed. Let me explain this one. Usually when they have a guy demonstrating Bowie knife construction, I get a little disinterested and wander over and watch the general blacksmithing demonstrations and boy, I find those fascinating. I end up getting a whole new prospective on the conference and so much needed information while visiting the other camp. The only reason I made a folding knife in the past two years was because I was forced to by the letter I published. I think I would like to tackle something like a courting candle which is something I have never made, but would love to do, but likely not unless I am in some situation where I am spoon fed all the way through on how to do it or I am forced. I would like to see someone submit an article on one or more types of courting candles that we can publish here. Then, perhaps we all can make one for the next conference and do something like show them off or have a contest with several different categories of judging. Then maybe we could have a silent auction and generate some more funds for FABA. I think we need one category for courting candle for first time maker and the prize will be a coke.

WELCOME NEW MEMBERS!

Jim Waits Interested In Procuring: Coal, Hand tools 242 Rooks Bluff Rd. Bruce, FL 32455-4216
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Mike Luck Interested in Procuring: Coal, Hand tools 4921 S.W. 198 Terr. Fort Lauderdale, FL 33332
Ph. 954-434-0798 e-mail: colsmith@BellSouth.Net

James B. Cloud (Jim) Interested in Procuring: Anvil, Coal, Hand tools 1921 Pecan Dr. Orange City, FL 32763
Ph. 904-775-2686

George Artis Interested in Procuring: Coal, Hand tools 126 Circuit Rd.
Nokomis, FL 34275 Ph. 941-488-1918 e-mail: MAGA2@GTE.NET

Richard W. Lanni Interested in Procuring: Blower POB 4174 DeLand, FL 32724 Ph. 904-734-4653

Forging a 3lb Diagonal Hammer

Step by Step Instructions By Jeffery Funk



Jeffery Funk demonstrates at Flagstaff

Editor's Note: I saw Jeffrey demonstrate his diagonal peen hammer at the Flagstaff conference. Although I wrote an article about this demonstration for the Hammer's Blow, These are his notes that he prepared for that demonstration.

I've made a couple of hammers using his and Robb Gunters techniques, and it really works. Try it!- BG

1 Begin with 5" of 1 1/2" square stock, or forge 3 5/8" of 2" round stock to 1 1/2" square. I frequently use old truck axles for this, or if you have it, 4140 or W-1 will work well.

2. Forge to a slight hourglass shape as viewed from the top, so that the center of the blank is 1 1/2" x 1 1/4" and the piece tapers back to the ends which remain 1 1/2", square. The blank grows in length to about 5 1/4". This forging prevents the eye punching from swelling the center too much.

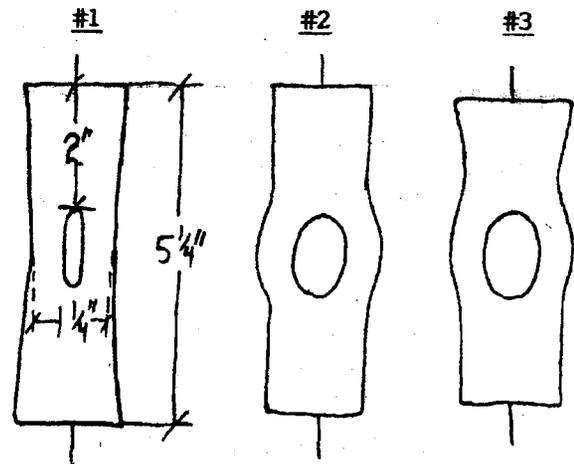
(see figure #1)

3. Make a single center punch mark on the blank top and bottom at 2" from the end of the blank which will become the face, and centered side to side.

(see figure #1)

4. At an orange heat, carefully drive a 1/4" x 1 1/8" slitting punch into both top and bottom about 1/8" deep, using the center punch mark to locate the distance from the face, and

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Figures 1, 2, and 3

your eye to find center side to side. The punch must be adequately tapered to allow for easy removal when driven deep.

5. Now, at a bright orange heat, drive the punch about 1" into the piece from the top, taking care to remove and cool the punch every four sledge blows, and using coal dust to prevent it from sticking in the hole.

6. Take another heat and drive the punch from the bottom through to remove plug. If punching alignment was good, then the plug should come out easily. If it sticks, it may need to be sheared out of the hole with the slitting punch. This is best done at a red heat.

7. At a good orange heat, open the hole with a drift, driving from both top and bottom to keep the hole symmetrical.

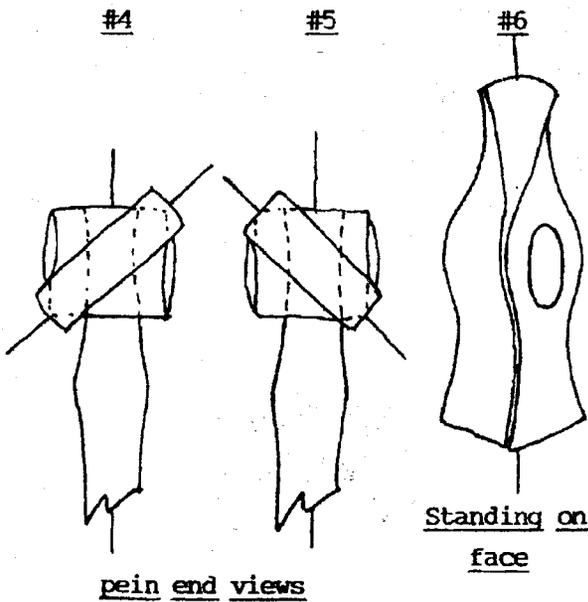
8. Also at an orange heat, drive in the final eye drift to nearly the depth required for the final handle fit, from both top and bottom, as with the original drift. If the head is better aligned from either top or bottom, with the drift in it, then mark the head with a center punch near the eye to identify that side for later. (see figure #2)

9. Now, heating only the face, either in a coal forge or after some preheat, with a heating tip, upset to about 1 5/8" square. The center of the face is now about 1 3/4" from the front edge of the eye. (see figure #3)

10. Now one determines the orientation of the peen. If you want a standard cross or straight peen, the orientation is clear. But a diagonal peen which works as a cross peen for a right handed smith will work as a straight peen for one who is left handed, and vice-versa, so you must be careful to mark the head prior to forging to make sure that you forge the diagonal the right way for your purposes. With the face down on the anvil, a right handed cross peen hammer looks like figure #A - A left handed cross peen looks like figure #5.

11. Now, at a bright orange heat, draw out the peen on the

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Figures 4, 5, and 6

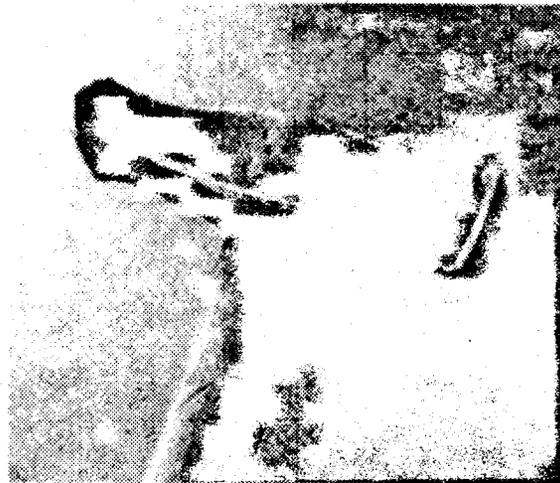
diagonal with a gently curved cross pein sledge over the horn of the anvil, or between two drawing dies under the power hammer. I generally forge it so as to come out to be about 3/4" x 2", with the distance from the eye about 2 1/8", and the overall length of the head about 5 1/8". Frequently some trimming is necessary, and I grind it to insure that there are no cold shuts.



A double peen hammer by Jeffrey Funk

12. Using a coal forge or a torch, I slightly upset the pein to refine the form. (see figure #6)
13. Now, drift the eye to its final dimension, top and bottom, brush, and allow to cool slowly. A full anneal at this stage is a good idea, but not essential for all steels.
14. Grind the face and pein to the desired form.
15. Preheat the entire head to about 800 degrees (no color showing) and then heat the face only to slightly above the non-magnetic temperature (light cherry red, or about 1600 degrees) and quench only the face half of the hammer. Then immediately heat the pein and then quench the entire hammer. I try to do all my quenching of hammers in water. Oil hardening steels can sometimes be quenched in water if heated to substantially less than the critical temperature that would be required for oil quenching, with satisfactory results.
16. After sanding the pein and face with scotch brite or emery paper backed by rubber, preheat the entire head to about 300 degrees (boils water instantly but does not show temper colors) and temper the edges of the face to a light purple with a touch of straw going into the face, and the pein purple an the ends and straw elsewhere. Exact heat treating depends on steel used and personal experiment.

17. Wire brush, mount onto handle, and enjoy! Useful Data for Making Hammers



Jeffrey's cross peen hammer

Weight in Pounds per Lineal Inch for Round and square steel Bars

Useful Data for Making Hammers

by Jeffrey Funk

Weight in Pounds per Lineal Inch for Round and Square steel Bars

Bar diameter	Round	Square
<i>frac. dec.</i>		
1" (1.000")	.223	.283
1 1/8" (1.125")	.262	.358
1 1/4" (1.250")	.348	.443
1 3/8" (1.375")	.420	.536
1 1/2" (1.500")	.500	.638
1 5/8" (1.625")	.588	.749
1 3/4" (1.750")	.681	.868
1 7/8" (1.875")	.783	.997
2" (2.000")	.890	1.134
2 1/8" (2.125")	1.005	1.280
2 1/4" (2.250")	1.127	1.436
2 3/8" (2.375")	1.255	1.599
2 1/2" (2.500")	1.391	1.773
2 3/4" (2.750")	1.683	2.145
3" (3.000")	2.003	2.553

To figure the length of stock required for a particular hammer weight, simply divide the intended hammer weight by the pounds per lineal inch, as listed in the chart for the diameter stock to be used.

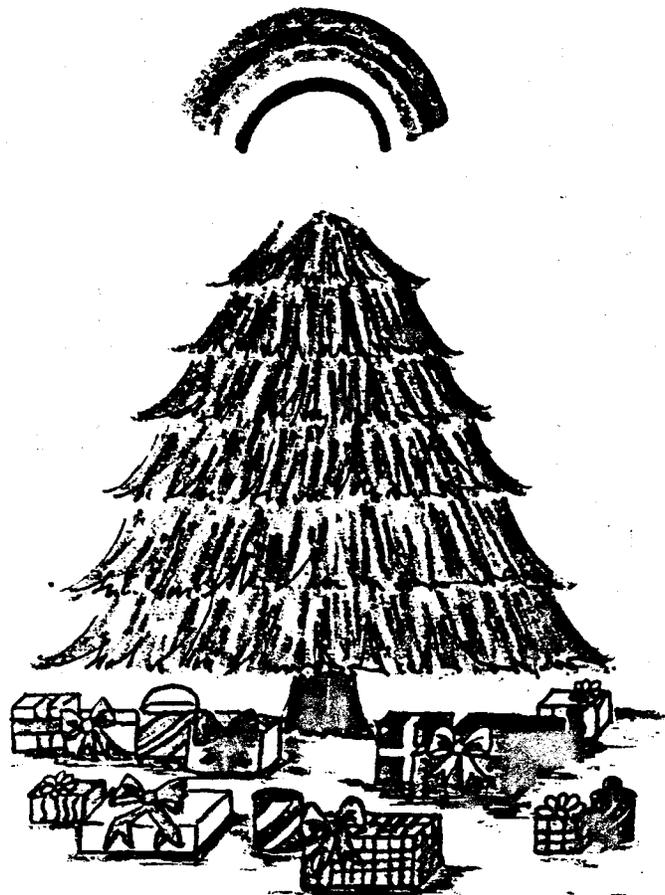
Example: To make a 3 lb. hammer from 1 1/2", stock 3 lb, divided by .638 lb./inch = 4.7 inches

Choice of Steel and Heat Treating

In practice I generally use truck axles, cat track pins, old coil springs and the like to make hammers and anvil tools. Also useful are 4140, 4142, S-1, and W-1. Whether you are certain or not of the steel type, it is useful to test it for hardenability in different quenching mediums. It is also important to do all forging in as few heats as possible to avoid excessive grain growth and decarburization. Heat treating need not be as precise as in edge tools, but care must be taken to get the center of the face suitably hard, and the edges safely tempered.

Experiment is required to find what is best for a given steel and hammer size. As a general rule, I preheat the entire head

to about 800 degrees, and then bring the face to the desired temperature quickly using either the coal forge or the torch. Then I quench only the half of the head just heated and immediately heat the opposite end and quench the entire head. I temper only the edges of the face to a light purple, allowing a bit of straw color to go into the face. The tempering of the pein end depends on the shape.



Scroll Templates

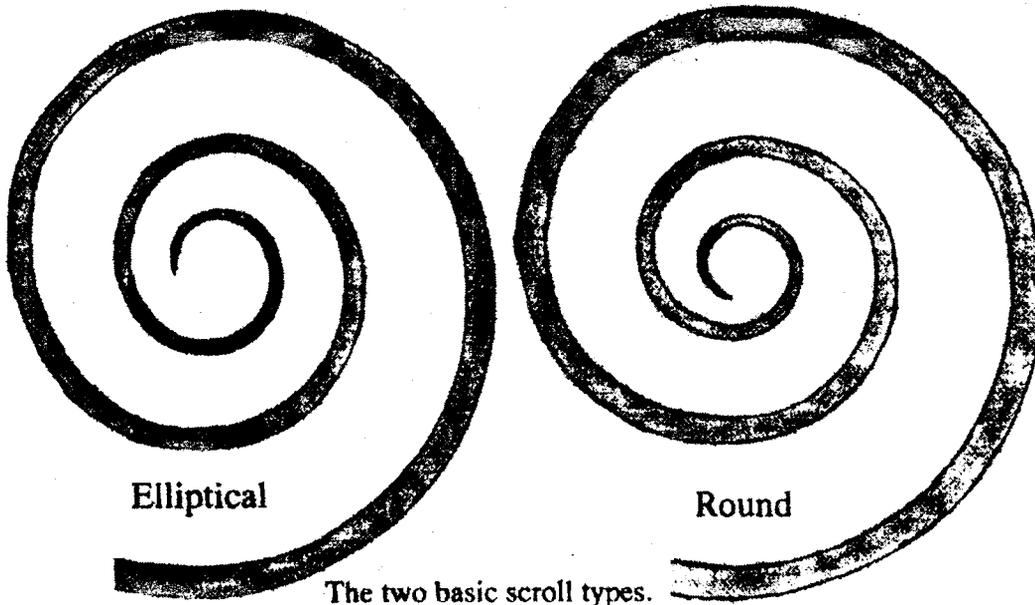
George Dixon, Metalsmith
www.traditionalmetalsmith.com

These scroll templates can be traced or photocopied and sized to fit your design requirements. They can also be used to compare a master scroll forging against before it is welded to a plate in making a scroll jig.

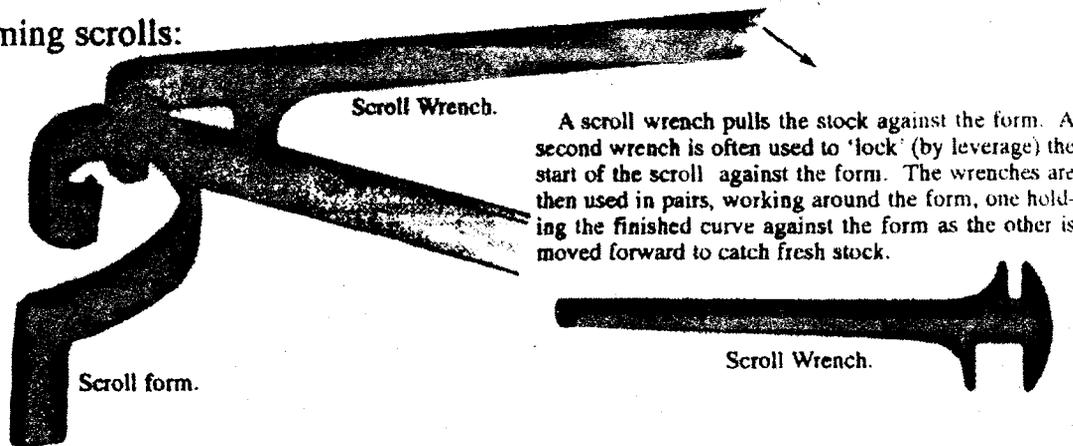
To transfer these patterns onto a sheet of steel, first copy and size. Then rub soft chalk powder onto the back of the scroll pattern paper and lay it face up - chalk side down onto a sheet of steel. If the steel version is to be just a comparative 'chalk jig plate', one that is used to check free-hand scrolls against during the forging process, 1/8" to 1/4" thick steel is sufficient. However, if the steel plate is to form the base of a hot-work scroll jig then it should be a minimum of 3/8" thick. This type of scroll jig has the master scroll form welded to it.

Never quench your jig plates or scroll jigs, let them air cool. If they are quenched hot, they will soon warp and become useless.

There are enough situations that require short runs or require scroll-like endings, on leaves for example, that it is important to learn to scroll metal freehand and by eye before you become dependent on jigs. A freehand scroll can also become the comparative 'visual jig' for a subsequent short run just by doing each of the run in sequential stages that are held against the first, or master scroll as they are formed and adjusted. This skill will save a lot of time when a large number of parts is not required and thus a jig would not be cost efficient.



Forming scrolls:



The Scroll

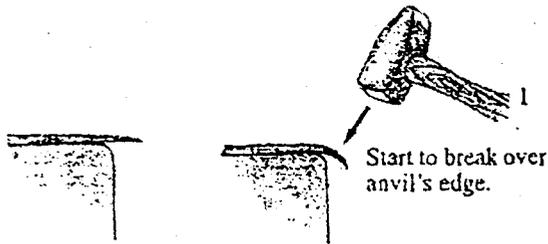
George Dixon, Metalsmith
www.traditionalmetalsmith.com

The first step in forming a scroll is to forge the end of the stock into whatever prep shape you want to use. In most cases this includes forging a taper on the bar. The length of the taper has a big impact on how graceful the scroll will appear. The taper and the ever-smaller inward turn of the scroll relate visually. Too little taper and the scroll will appear awkward. So start far enough back to give the taper a long transition.



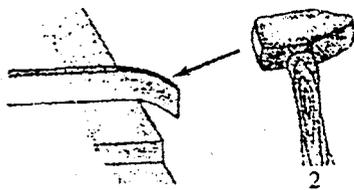
Too little taper.

Gradual taper.

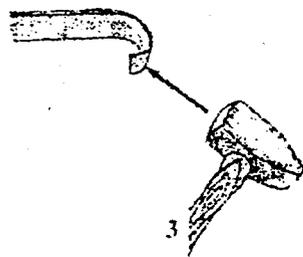


Start to break over anvil's edge.

Once the stock is tapered take a forging heat and extend the taper out into space over the anvil's edge by about 1/4". Begin to break the tapered bar in short increments as it is progressively extended past the anvil's edge. Keep the hammer blows light. As the curve of the scroll develops increase the length of each increment to create the ever increasing diameter of the scroll. If the bar kinks or the progression seems awkward, either flatten it slightly or open the kinked area with a bending fork and/or wrench.

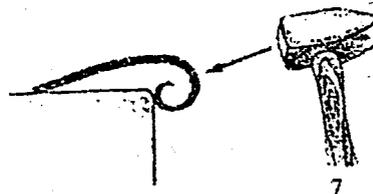
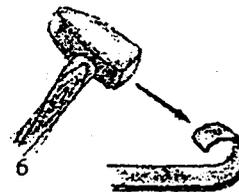
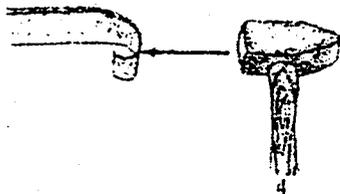
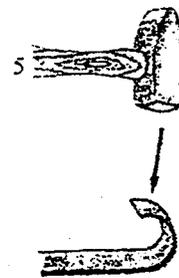


The arrows indicate the direction to strike the scroll in order to develop the effect gradually. Whether the scroll is on its side or back, the direction to strike from is the same.



The angle of the hammer blow controls the curvature and progression of the scroll. No matter how detailed the written explanation, there is no substitute for trial and error and correction when learning a process. Using scroll templates to visually compare the progressing scroll to helps.

Working with light, repetitive hammer strokes cannot be over-emphasized. Like drawing a curve with a series of dots, each hammer stroke breaks the flat plane of the bar locally into a continuous curve. To few hammer strokes will give a faceted scroll with each bend appearing as a kink. The same error can be caused by hammer strokes that are too hard.



To tighten or adjust a part of a scroll that is too difficult to reach with a hammer it works well to back-up the part to be adjusted with the anvil while striking the opposite side of the scroll.

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FABA MEMBERSHIP APPLICATION

Florida Artist Blacksmith Association, Inc.
Chapter of ABANA, Inc.

Date _____ New Renewal

Name _____

Address _____

City _____ State _____ Zip _____

Phone: Home _____ Work: _____

E-Mail _____

Spouse's Name: _____

If you do not wish to be listed me in the printed FABA

directory, please check the box to the right

Send this application and a membership fee of \$20.00 to

Lydia Burns, FABA Treasurer
66 Summerwind Circle
Crawfordville, FL 32327

Make check out to FABA. Your FABA membership begins when we receive your payment and lasts one year. Membership is for a family. You don't have to be an ABANA member to join FABA, but many FABA members are, and we encourage membership in both organizations. See our web site

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<http://www.blacksmithing.org>

February 2001



Clyde & Vi Payton [4/2001]
RF3, Box 124D; Payton Road
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Check your membership expiration date, get your dues in on time please !

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