Saltfork Craftsmen

Artist-Blacksmith Association

December 2007



Tom Nelson demonstrating a hydraulic tire shrinker.

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The Saltfork Craftsmen Artist-Blacksmith Association, a non-profit organization of amateur and professional artist and craftsmen, publishes this newsletter monthly. Our purposes are the sharing of knowledge, education and to promote a more general appreciation of the fine craftsmanship everywhere. We are a chapter of the Artist-Blacksmith Association of North America.

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Visit our Saltfork Craftsmen Website:

www.saltforkcraftsmen.org

Trading Post

For Sale:

3/4" round bar of 5160 (\$3.30 per foot plus shipping) 3/4" and 1" round bar of 52100 (\$6.00 and \$9.45 per foot plus shipping) Contact Ray Kirk, ray@rakerknives.com or 1-918-456-1519

Army surplus round nosed pliers that make good scroll pliers for small items. They are 6" long \$5.00 each plus shipping. I also tie brooms on your handle or mine. \$20.00 plus shipping. 2008 SCABA calendars featuring SCABA members, \$10.00 Contact Diana Davis, lazyassforge@tds.net or 1-580-549-6824

Due to health problems, I have decided not to rebuild any more Little Giant hammers. I have for sale :One decent used 100# hammer (\$3,500), one completely rebuilt 50# hammer (\$4,500), one good condition used #50 hammer (\$3,500), two rebuildable 50# hammers (\$2,000 each), and two rebuildable 25# hammers (\$1000 each). I have some miscellaneous parts, dies, babbit mandrels, and etc. for sale. Contact Mike George at 580-327-5235 (home), 580-829-1968 (cell) or Mikemarideth@sbcglobal.net

SketchBooks #1 and 2. Sketches are done by Diana Davis and feature ironwork done by various blacksmiths at demonstration she has attended. \$20.00 each plus shipping. Contact Diana at 580-549-6824 or Lazyassforge@tds.net

Wanted:

Advertising Coal Hammers, Contact Mike George at 1-580-327-5235or o Mike-Marideth@sbcglobal.net

Mail your ads to the editor or email them to lazvassforge@tds.net

Email from Ty Rankin..

Fellow club members, I thought you might like to hear a little bit of a story that stemmed from the most recent conference at Perry, Okla. After

meeting and talking with Tom Clark



extensively and trying his hammer several times during the conference, I had pretty much decided that the Say-Mak hammer that Tom sells would make a great addition to my shop.

Tom and I talked back and forth several times over the next couple of weeks and finally I

took the plunge and bought an 110lb Say-Mak to go along with the Big Blue that I already have.



This

my first

conference since joining the Saltfork Craftsmen about two years ago. I wanted to share this with you to show how the conference can and is useful to some people. Attached are a couple of pictures of Tom Clark in my shop helping set up the new hammer and then having a little time for some greatly appreciated coaching. It is quite an honor to get to spend some one on one time with a person like Tom.

Ty Rankin, Dodge City Kansas

Covington-douglas

The Covington-Douglas Fourth Grade class of Mrs. LeForce recently studied about the "Land Run" into the Unassigned Lands and into the Cherokee Outlet. With the upcoming celebration of Oklahoma's 100th birthday, the class had some questions about the role of the blacksmith at the time of these historic events.

On the afternoon of October 24th 2007, the eleven students of this fourth grade class visited a modern-day blacksmith shop in Douglas, Oklahoma. Tom Nelson demonstrated basic blacksmithing techniques for about an hour and a half. Safety issues were addressed and each student had safety glasses to wear. The job of the blacksmith was discussed, and the importance of this craftsman to the town and communities of early Oklahoma was stressed to them.

The names for the basic tools of the blacksmith were identified before the forging started. The first item demonstrated was a simple drive-in-hook, made from ¼ square stock. Then an "eye" was forged on the end of a round rod. No one had ever seen a leaf from a blacksmith tree...so one was picked (forged). The students enjoyed the development of the leaf. Next was the making of a "bird cage" handle—they really liked how it opened up! All during these demonstrations the questions were flying—just like the sparks from the forge.

When it was time for the class to leave, each one received a leaf key chain (forged prior to their coming). I believe each student learned something about a blacksmith shop and about how things were & are made from iron.



Saltfork Craftsmen

Artist-Blacksmith Association Membership Application April 2007 thru March 2008

Please accept my application	Date:
First Name	Last Name
Married? Yes No	Spouses Name
Address	
City	State ZIP
Home Phone ()	Work Phone ()
E-Mail	ABANA Member? Yes No
I have enclosed \$20.00 for do	ues to March 30, 2008
Return to: Saltfork Crafts	smen, 1227 Fourth St. Alva, Ok 73717
Name:	Email:
Address:	
City:	
State:Zip:	
Country:	*
TYPE OF MEMBERSHIP:	CREDIT CARD INFORMATION:
□ NEW MEMBER □ REN	EWAL
	tributing-\$100.00 Card Number:Submit check, money order -U.S. Banks only, or by credit card: ary-\$45.00
Senior (65+) \$50.00	PO Box 3425 Knoxville, TN 37927-3425 Phone: 865.546.7733 Fax: 865.215.9964

Club Coal

Saltfork Craftsmen has Arkansas coal for sale. The coal is \$95/ton to members and \$145/ton to non-members.

Bring your own containers. Contact Tom Nelson at 1-580-862-7691 to make arrangements to pick up a load. **DO NOT CALL AFTER 9 P.M.** If you make arrangement well in advance, Tom can load your truck or trailer with his skid steer loader. Otherwise you will need to bring a shovel. The coal can be weighed out at the Douglas Coop Elevator scales. The coal is in large chunks; bring something to break up the coal into manageable size pieces. **S/C Region coal location:** Coal is in 1-2" size pieces. Bring your own container. The coal is at Max Scrudder's place in Mountain View. Contact Max for load out instructions.

Cost for this coal is .06/pound or \$120.00/ton. NO SALES to non-members.

Max Scrudder can be contacted at (405) 226-9951 **NE Region coal location:** Dan Cowart also has coal to sell. He can be contacted at dacowart@dishmail.net or CowartPat@gmail.com

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Saltfork Craftsmen Swage Blocks \$105.00 each plus shipping. SCABA members can purchase <u>one</u> block for a special members price of \$85.00 Contact Mike George at 1-580-327-5235 or <u>mike-marideth@sbcglobal.net</u> or Bill Kendall at 1-918-742-7836 or <u>wwkendall@aol.com</u>



Bill and Diana Davis have a few blocks available for those in the S/C region.

Library List

Title	
SCABA Conf - 2002 - Bill Bastas	
A Traditional Suite: Sword Making, Set Hammer	
A Water Powered Smithy	
ABANA Comes of Age - 1994 NOMM Exhibit	
ABANA Comes of Age - 1994 NOMM Exhibit	
Basic Blacksmithing - Hershel House (Part 1)	
Basic Blacksmithing - Hershel House (Part 2)	
Basic Blacksmithing - Hershel House (Part 3)	
Forge Welding - Bob Patrick	
SCABA Conf - 1997 - Frank Turley (Tools)	
Hammerman in Williamsburg	

Jerry Darnell - 18th Century Lighting (Part 1)
Jerry Darnell - 18th Century Lighting (Part 2)
Jerry Darnell - 18th Century Lighting (Part 3)
Jerry Darnell - 18th Century Hdw - Latches
Jerry Darnell - 18th Century Hdw - Hinges
Jerry Darnell - 18th Century Hdw - Pintles
SCABA Conf - 2001 - Jim & Kathleen Poor
Jim Hrisoulas - Damascus Pt 1
Jim Hrisoulas - Damascus Pt 2
Omey's 2002 - Kendall & Dyer - Table
SCABA Conf - 1998 - D. Steigler - Baskets
SCABA Conf - 1998 - R. Gunter - Hammers
SCABA Conf - 1998 - D. Steigler – Iris & Finishes
SCABA Conf - 1998 - R. Gunter - Hollow Forging
SCABA Conf - 1998 - D. Steigler - Repousse'
SCABA Conf - 1998 - R. Gunter - Scrolls
Samuel Yellin's Legacy
Omey's - 1997 - Ted Sawyer
Omey's - 1997
The Loveless Legend
Fom Smith at Hartdner, KS
Yellin Foundation & Manfred Bredohl
Allen Rogers - Projects
Forge & Anvil - Various Episodes
Jnknown Conference - Unknown Smiths
Broom Making for the Blacksmith
Elmer Roush: Colonial American Hdw & Fixtures
European Masters & The Woodwright's Shop
ABANA Gallery Exhibit - 1992
Doug Merkel: Misc Projects
Doug Merkel: Nail Header
Doug Merkel: Sawtooth Trammel
Doug Merkel: Tomahawk & Misc
Doug Merkel: Hammers
Blacksmith's Journal Techniques – 1
Blacksmith's Journal Techniques – 2
Bill Epps – Tongs
Bill Epps – Animal Heads
Bill Epps – Animal Heads
••
Bill Epps – Birds & Bugs
Bill Epps – Leaves & Flowers
RD1) 1990 Metal Madness
RD2) Ivan Bailey & Paul Hubler
RD9) 1992 BAM Ozark Conference
RD69) 2002 UMBA Conference
RD79) 2003 UMBA Conference
Knifemaking With William White
RD 82) Wagon Wheel, Marble Inlay, Strikers
National Museum of Horse Shoeing Tools
SCABA Conf - 2004 – Don MacKay
SCABA Conf - 2004 – Bob Patrick

SCABA Conf - 2005 – Peter Happny
SCABA Conf - 2005 – Brian Gilbert
SCABA Conf - 2006 – Tal Harris
SCABA Conf - 2006 – Ed & Brian Brazeal
SCABA South Central Meetings - 2004

Meeting schedule

November

SE. Regional meeting (Dec 1st) The SE Saltfork December meeting will be held at Bois D'Arc Forge Blacksmith Shop, 33 NE First Street, Paris, Texas NE Regional meeting (Dec 8) OPEN South/Central meeting (Dec 15th) will be hosted by Larry and Linda Morefield at his shop in Medicine Park. The trade item is a bell. Lunch will be provided (beans and cornbread) please bring a side dish or desert to go with it. Larry's place is just east of the water treatment plant. Turn at the corner and go to the top of the hill. Watch for the anvils. NW Regional meeting (Dec. 22nd) OPEN

Check out the calendar insert for future meeting information. It will be updated on the website and newsletter as dates are booked.

SE Regional meeting

SE Saltfork, November 3, 2007 meeting update. By James Allcorn

The SE chapter of Saltfork met at Bois D'Arc Forge Blacksmith Shop in Paris on Saturday, Nov. 3. A good turnout of 7 regulars with 3 visitors was a nice surprise.

As meeting host, I gave an update of the recent SCABA conference in Perry, OK. To me, the highlight of SCABA was getting to meet so many new folks and visit with them about blacksmithing. Also of interest were the demonstrators and their commentary as they went along making their wares.

The program for the day was making tongs. A DVD of Bill Epps making different kinds of tongs was watched with great interest. Then we broke for lunch at Nancy's café, about 2 blocks away from the shop. When we got back, Brazos White was duplicating a set of miniature tongs for practice. As it turned out, Brazos was about the only one to actually do any real hammering as the rest of us visited and several returned to the DVD to

watch Bill Epps again. Several commented that Bill really made tong making look simple.

As a group, we pretty well agreed that we want to concentrate our meeting programs around making tools for the next several meetings. Most of the group is still in the "gathering phase" of their blacksmithing experience and really need more and different tools to use. Since we don't have access to much in the way of tailgate sales, we will work on learning how to make various hand tools, heat-treating, etc. We will try to use DVD's for the informational part of the meeting and then work on making whatever was on the DVD.

Since we didn't get too far, tong-wise, at the November meeting, we agreed that the December meeting would again focus on tong making. This time, we will all be issued a piece of square or round bar and, after watching Bill Epps again, will try to make a set of tongs.

The SE Saltfork December meeting will be held at Bois D'Arc Forge Blacksmith Shop, 33 NE First Street, Paris, Texas 75460. This is in downtown Paris. Come to the downtown square and navigate around until you are going north on North Main Street. After leaving the square, go ONE BLOCK and turn right on East Houston. The shop is on the right, on the corner. Lunch will be Dutch treat at Nancy's Café. They serve a good lunch with drink and desert for about \$6.50 or so.

I will make a pot of coffee and everyone is welcome, bring your forge and probably a jacket as my shop has no heat. There will be NO trade item, but since it is almost Christmas, you are welcome to bring things you have been making. Who knows, someone may see the smoke and come in looking to buy something!

Questions or information, call James Allcorn at 903-517-1667.

Bray-Doyle Elementary Centennial Day

Gerald Franklin

Saltfork was asked to support the Bray-Doyle Elementary School's Centennial Day celebration in Bray, OK on Nov 16, 2007. For those of you who may not be familiar with Bray, it is located a few miles east of Marlow, OK. Besides its fine school system, one of Bray's main attractions is the Bray Store, which is a good place to eat. I was set up very

close to the school building to try to get out of the wind. My demo was part of a round-robin style affair where the students cycled through on about twenty minute intervals. These kids were Pre-K thru 5th graders, so I had to keep the forging demo simple and quick to fit the time period that I had. I made about a ba-zillion S-hooks and answered another ba-zillion questions. The students and teachers showed a lot of interest.

I was well received in Bray-Doyle Elementary and hope to be asked back again next year.



Gerald makes his pitch to some of the students of Bray-Dole Elementary

Marlow Middle School Demo

By Gerald Franklin

On Wednesday, November 14th, I demonstrated for



a group of students and teachers from the Marlow Middle School. I was invited to demonstrate by Orvel Robinson of Marlow and the event was held at Orvel's old West style town that he calls "Snake River Junction". The site is located east of Bray, OK. Orvel really went all out to put together a great

program for the students and teachers. There were gunfighters, frontier weddings in the church, storytellers, and of course, a blacksmith. Diana Davis was there taking pictures and helping to wave the Saltfork flag.

I was to set up in the blacksmith shop where I used the brick forge that I built for the town a couple of years ago. The forge had been moved

from the building where I had originally built it and the new building has a much taller roof so the forge doesn't draw as well as it did in



the other building. We'll have to extend the chimney higher to make it work better with the taller roof.

As with most school demos, the item of choice was a hook of some sort. I started with S-Hooks, of course, but since these students were a little older than



some groups (6th thru 8th graders), I varied it a little as the groups cycled through, and forged some drive hooks and a couple of leaves to break up the routine. I even forged a wizard head on the end of a scrap of ½" square stock just to show them how the hot metal can be shaped like clay.

There will be several opportunities to demonstrate at "Snake River Junction" throughout next year so I may be contacting you to offer you the opportunity to come help.

Snake River Junction Main Street Church





Students being taught to square dance by one of the residence of the town.



The students were divided into groups so that they could all enjoy seeing the activities up close. These students are approaching the blacksmith shop while the others are being directed to the store.



Inside the general store was a piano that some of the students and Orvel picked out a few songs on. Orvel told the students that a famous singer had played on the piano. (Sorry I can't remember whom Orvel said had picked out tunes on it but it got the kids interest).

Diana Davis

NE Regional meeting

The North East Regional meeting was held at Mike Sweany's shop in Sand Springs. Eight attended, three for their first meeting, the new guys took applications for the club home with them.

Gerald Broztek brought his ABANA ring. Forged ring with star headed rivets, 3 large and 3 small Damascus stars (wrought iron band saw blade and file), and the stars were supported on brass rods. No I didn't have a camera, sorry, it really was a nice piece. A whole lot of work went into it.

There were 4 trade items and prizes were awarded for the top three. We had a coal forge and propane powered mailbox forge going most of the day.

We covered some simple basics for the new guys, made half a pair of tongs, a Whitaker cross, a critter, (could have been a monkey...maybe) and a couple horseshoe swordfish.

We ate a bunch of bratwurst and told a few stories. The weather was nice and the company was great, glad ya'll could come out to my shop.

It was real nice to have a meeting. I got busy and cleaned up some stuff around the shop, It'd been meaning to do for a long time.

Thanks David for the sack of coal. © Sweany

Centennial demo's

I put on a demo for 1200 students at our middle school in Sand Springs, Oklahoma for the states centennial. I was told it was the hit of the day.

I was asked about 500 times "Can you made a sword". I said "Yes". "Well can you make me one?" "NO". But it was a great day for all Charlie McGee

January 2008 S/C meeting

This is advance information for the Jan. 2008 meeting of the S/C regional meeting that will be held at the OSU barn in Altus and hosted by JC Banks. It will be a scroll design and forming workshop. Everyone can bring a drawing of a scroll, or we will help design and draw one. We will get the form transferred in chalk to a piece of rusty metal, then we an make a scroll form to fit the design. The goal will be to let everyone take a scroll form home with him or her. If we have time, we can go through an exercise on tweaking a scroll to fit a specific spot in the design using scrolling wrenches

and a bending fork. All Material will be furnished, all they need to do is bring a design or idea.

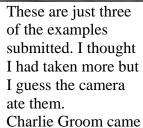
S/Central meeting

Bill and I always enjoy hosting the meetings and this one was no exception. After about of week of work getting the shop cleaned up and the other buildings ready to be used as a dinning area we were ready.

Members starting to arrive early with Charlie Groom showing up about 8:00 AM. Before long there were about 5 forges going and around 30 plus members and friends visiting or just watching the forging going on at each forge.

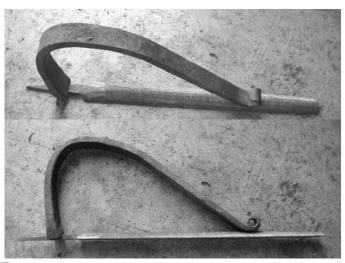
The trade item was a candleholder and there were 11 nice examples of everything from colonial candleholders to modern looking candle aubras.







newsletter. But here is a picture of one Bill made with Charlie's directions.



We had a lunch of stew and cornbread and many of the members brought side dishes to go with it. I think everyone had plenty to eat. After lunch many of the men went back to forging but some decided that they needed to let the food digest first.



While this bunch sat around visiting, Bill helps some of them make men from RR Spikes.





up with an idea for a file handle. As soon as he gets some drawings I will put them in the







The day turned out to be a very nice day for the meeting. We won't get a lot more like it before Spring so we enjoyed it to the fullest. Thanks every one who came by.

Diana and Bill

than the other machines used to shrink tires because you don't have remove the tire from the wooden wheel in order to shrink it down. Just as hammering on metal will lengthen it, the wheels running

over rocks would stretch the iron "Tire" and cause

it to loosen up on the wood





wheel,
which in
turn caused
the wheels
to break.
This was a
constant
problem
with wagons
as they
traveled
across the

country so blacksmith/wheelwrights were in constant demand. The first thing that needed to be done was to measure the tire and determine its diameter. After the shrinking process you would measure it again to see how much you had reduced it in diameter. The measuring was done using a traveler. If the first shrinking did not tighten up the tire enough then the steps were repeated. Tom had several wheels available and the members helped Tom to tighten up two of them.

Tom had chosen a traveler as a trade item and there were 4 presented for trade. Tom's wasn't finished so he will save it for another time.

Tom fixed stew for lunch and with the cold temperatures it was greatly appreciated. As the day progress it warmed up some but was still a little cool.

Tom's wheelwrights' tools are very interesting and we look forward to his meeting next November. He may choose a traveler again so everyone should try to get one made.

Diana Davis

NorthWest Regional meeting

Tom Nelson hosted the meeting for the NW Region at his shop in Douglas. It had reportedly snowed a couple of inches the day before the meeting but when we arrived it had all but melted away. We met Gerald Franklin at the Flashing lights at Rush Springs and he rode with Bill and myself to the meeting. This is a great way to attend meeting around the state and save money on the gas. Next time Gerald may drive or we both may catch a ride with someone else from our area that is going to attend a meeting. *Try it you'll like it.*

We were the first to arrive and Tom was still trying to get the shop warmed up. He was also warming up the oil in the hydraulic tire shrinker so he could do a demo later on when everyone got there.

I think there were about 8 or 9 show up for the meeting. That's not bad considering the weather.

Before long the oil in the shrinker was warm enough for Tom to get a demo on how the hydraulic shrinker worked. It is a lot less work in some ways

Saltfork Craftsmen Board of Director's Meeting 2:00 PM Nov 11, 2007

The Saltfork Board of Directors met on November 11, 2007 at the home of Byron and Carol Doner in Norman, OK. The meeting was called to order by President Jim Carothers at 2:15 PM. Directors present were J.C Banks, Jim Carothers Byron Doner, Gerald Franklin, and Mike George. Other SCABA members present were Bill and Diana Davis, Terry Jenkins, George Oldham, and David Seigrist.

<u>Saltfork Website</u>: J.C. Banks reported that our bandwidth and monthly hits continue to increase indicating an increase in interest in Saltfork. J.C. will add a section to the website soliciting more entries in next year's conference gallery.

<u>Financial Report</u>: Mike George gave a financial report. The club is generally solvent.

<u>Douglas Coal</u>: Jim Carothers briefly discussed the pending coal buy for the Douglas stock. There is still coal in the stockpile so no new coal has been purchased and will not be purchased until the current stockpile has been drawn down lower.

<u>Cone Mandrel Project</u>: Jim Carothers also reported on this project. He said that he had changed the design to add a tong groove and remove the feet. He also indicated the possibility of adding a 1" wide ring cast on the bottom O.D. of the mandrel. Mike George has requested a quote from B&L Foundry in Tonkawa but has not heard back from them yet.

<u>Video/Audio Equipment</u>: Jim Carothers is looking into buying a new microphone to replace the one that outputs static. He also expressed the need to have a pair of speaker boxes built for two of the speakers. George Oldham volunteered to build these boxes.

Conference Items (Conference Co-Chairs):

- Demonstrators for 2008 J.C. Banks, Gerald Franklin and Bill Davis will comprise the Demonstrator Selection Committee and will begin the selection process immediately.
- Dates for 2008 The 12th Annual Conference will be held on 18-19 October 2008. This weekend coincides with the OSU Homecoming game in Stillwater, so conference attendees will need to make their hotel reservations early.
- Final OAC grant report (2007) The Final Report for the Oklahoma Arts Council Grant is complete.
- Conference Finances We posted a loss of \$2590 for the 2007 conference. Of this deficit, the OAC grant will make up \$1950 of the total for a net loss of \$640.
- Tool Box Raffle and Auction The Tool Box Raffle netted \$1075 and the Auction produced \$5370. Neither of these figures is included in the conference income as these are separate money making entities for the club.
- Jim Carothers noted that Adam Hall has agreed to build another tool box for next year but wants to know if he should build a chest type box as he did for 2007, or an open type box similar to the one he built for 2006. The BOD agreed that the open style would be preferable. Jim Carothers will provide the lumber for the 2008 box.

<u>Workshops</u>: Jim Carothers asked for suggestions for workshop subjects to be conducted in the future. The subjects discussed are: Hossfeld Bender, Power Hammer Operation and Tooling, Fly Press Operation and Tooling, Animal Heads, Hinges/Handles, Basic Smithing, Dick Nietfeld on Tooling, and Project Design. David Seigrist volunteered to act as the workshop coordinator

<u>Statewide Picnic/Hammer-In</u>: The statewide Picnic/Hammer-In will be held at the Cleveland County Fairgrounds in Norman, OK on May 10, 2008. More information will be published in the newsletter.

The next BOD meeting is scheduled for Mar 15, 2008 at the S/C meeting hosted by Byron Doner.

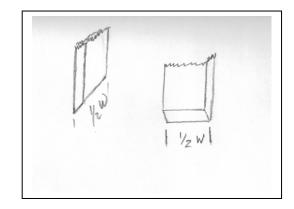
Adjournment by President Jim Carothers at 4:50 PM

The Dove Tail Square Corner

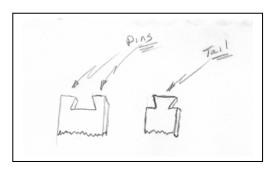
Gerald Franklin (Scholarship Fulfillment)

The square corner is desired for many grille applications. Mortise and tenon joinery, forge welding and upset corners are joinery methods that will result in a square corner if done properly. The dove tail corner can also be used. I first read about this technique in George Dixon's *The Artist-Blacksmith Quarterly* (Vol 7, No.2, 2006) and decided to try it for a SCABA scholarship sponsored grille project. This article is intended to document some things that I learned while following Dixon's process. *Note: All bevels shown in the diagrams in this article are exaggerated.*

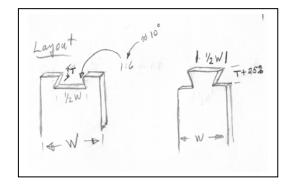
The first step is to forge/grind a suitable hot cut chisel for the job. The best shape for the chisel is a one-sided bevel cut edge. One side is left straight. The finished chisel looks like a sharp butcher. The cutting edge is best left square instead of the usual "canoe shape" of a hot cut. The chisel is shaped to be one half the material width.



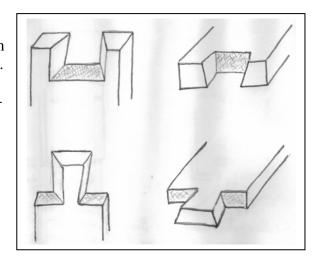
The dove tail joint consists of the male part, called the "Tail" and the female part, called the "Pins". The sides of the pins and tail are cut at about a tendegree angle with the long axis of the stock.



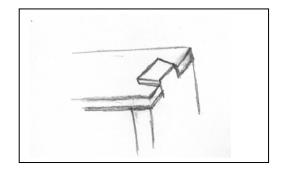
As with most joinery, layout of the dove tail joint is critical. The pins are laid out with a depth of "T" on the drawings, which corresponds with the thickness of the material. The tail is cut a little longer than "T" (about 25% more) so that it sticks out of the joint a little proud. This gives you some metal to upset back into the joint to tighten things up. Do the layout cold so that you can be precise. Mark all cuts with a cold chisel.



Take your time and bring the marked ends of your stock to a good orange heat. Use your flat-sided hot cut to trim out the pins and the tails for your joints. This will take several heats for each joint. Even though you are using a flatsided chisel the resulting cuts will tend to slope from the vertical. Don't worry about this, as the slopes will be taken care of when you assemble the joint. Clean up the joints with a file. The diagram at the right shows an exaggerated view of the sloped edges on the pins and tails. File the shaded areas square but leave the un-shaded areas sloped.



Assembly: Fit the tail section into the pins and tap gently to seat the two pieces against each other. Take a good heat and tighten the pins against the sides of the tail. Then you can take another heat and upset the excess tail material back into the joint to fill any cracks. Be careful with this upset. If you left it too proud, you will force the pins apart and loosen the joint. Keep the corner square as you work it.



Let the joints cool so they will shrink and tighten and then clean them up by filing. This makes a good-looking square corner. It is not as structurally sound by itself as some other joints, but when other grille elements are in place and their joinery is set, the dovetails will be more than sound enough to hold.