N.J.B.A. Newsletter

NJBA Volume 7, Issue 2 08/01/02

Editors Soapbox

I hope this finds everyone having the summer of their dreams. Well, hopefully we are all having a healthy and productive summer. Since the last newsletter we have had successful meets at Bruce Ringiers shop in Sussex County, A Saturday meet and a weekend of demonstration at Cold Springs Village in Cape May and as I write this the meet for Monmouth County Fair will be this week. Check the up coming events below and put them on your Calendars. See you soon!
Larry Brown

Upcoming events for 2002

Remember most of our meets have a "Iron in the Hat" drawing, be sure to bring something.
August 10th , 9 am– PABA at David Fishers shop in Hamburg, Pa featuring Peter Renzetti. More details in this page.
September 7th, 10 am – Red Mill Museum, in Clinton , NJ. A hammer-in and blacksmiths tailgate sale. More details on this page.
September 14th– Peters Valley 2nd annual Pig roast, auction and Party. More details on page 3.
October—To be announced
November— Possible meet in Peters Valley, information by postcard or in next newsletter.

PABA Meet in Hamburg, Pa featuring Peter Renzetti

PABA will have a meet at David Fisher's shop in Hamburg Pa on August 10th starting at 9 am. There will be an Iron in the hat and PABA does a trade item, where smiths make an item, bring theirs to the meet and bring home a different one. The trade item for this meet is a C-Clamp.

Peter Renzetti will be demonstrating repose work along with the tools used to do this work. Peter has been a feature at many ABANA conferences and is an excellent demonstrator.

Directions;
Take I—78 to the Hamburg exit and go south to Old Route 22. Take Old Route 22 west about 2.3 miles until you see a gravel lane and a church on the left. Follow down the gravel road to the shop. There should be signs to help.
Shop phone number (610) 562-5425.

Red Mill Museum in Clinton, New Jersey

Adam Howard will be hosting a Hammer - In and tool swap or sale on 9/7/02 at the Red Mill Museum Village, 56 Main Street in Clinton NJ. This event is from 10-4 rain/shine.. Demonstrators, food/BEER, music and tools for sale or swap. If you wish to tailgate please call ahead (908)735-4573. Please bring a side dish and your families, NJBA will be BBQ'ing burgers and hot dogs. Come out and make a day of it!!

Directions;

I—78 to exit 15, go North from exit onto West Main Street. Go to ahead and onto Old Highway 22 making a left on Leigh Street and then make a left onto Main Street. (These directions are from the map on my computer LB)

Remember to send in your renewals!
If you did not get one contact
Nate Pettengill, Membership Chairman
There is a form on the last page of this newsletter

Renewal Time is Here!

If You Have Not Renewed Your Membership Send it in Soon

Rather than use room in the newsletter,
All correspondence between ABANA and NJBA is now being posted

The NJBA Web Site!

The NJBA Web Site is up and running at:

`http://njba.abana-chapter.com/`

Bruces' links to the ABANA site;

http://www.monmouth.com/~freeman/NJBA/abanawebsite.htm

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346 Rt.565 Wantage, NJ 07641
201-652-4526 wlkngb@yahoo.com

Tim Suter, June, 2002
1112 Ladner Ave., Gibbstown, NJ 08027
856-423-4417

Peters Valley Second Annual Pig Roast and Fund Raiser

On September 14th Peters Valley will hold its second annual Pig roast and fund raiser. Tom Ryan from Long Island City, NY who specializes in architectural work will be the demonstrator. Please bring or send pieces to donate to the auction. There will be sleeping quarters available at the reduced rate of $25 please call the main office at (973) 948-5200.

Directions to Peters Valley;

Directions:

Peters Valley Craft Education Center is located at 19 Kuhn Road. in Layton (Sussex Co.). NJ 07851. (Phone: 20I-948-5200).

From Interstate Route 80 West:

Take Exit 34B to NJ Route 15 North. to US Route 206 North. Left onto NJ Route 560 West. Go through the blinking light in the center of Layton. onto NJ Route 640: go about 2 miles and turn right onto NJ Route 615. Go approximately one mile.

From US Route 209 (on the west bank of the Delaware River in Pennsylvania): Take PA Route 739 South across the Dingmans Ferry Bridge. Take the first right at sign to Peters Valley. Go two miles.

Non NJBA Events in the area

Rough and Tumble Thresherman's Reunion

On August 14—17 Rough and Tumble Engineers will host the Threshermans Reunion in Kinzers, PA. This looks like a huge steam traction and antique tractor show. Call Ernie Reynolds at (717)786-3627 or Bob Reynolds at (717) 442-4539 for a flier with more information or questions about the event.

Early American Wrought Iron Conference Dover, Delaware

September 7 & 8, 2002 Saturday and Sunday, beginning at 9:AM.

Demonstrators will be:

George Martell of Seekonk, Mass. A professional blacksmith since 1984. Will demonstrate jigs and tools used in the layout and construction of circular and straight stairs and gates, also techniques used for cleaning and grinding and joint prep. The use of washes over a base coat to get different finishes on work. How to estimate and price a job.

Richard Sheppard of Bruceton Mills, West Virginia. An artist blacksmith with over 30 years experience will be demonstrating with his Sheppard "Big Lick" treadle hammer. Demonstrating techniques for hot and cold chisel work, slitting square and flat stock, how to pierce holes in square and round stock. Instruction on how to cold cut a beautiful leaf from flat stock, sharing of Repousse' techniques, chisel chased cold work. How to channel for wire in lighting projects, and how to achieve quick and easy tenons. There will be an Auction and Iron in the Hat drawing held on Saturday, don't forget to bring items for either or both. There will also be a table for your display items.

For more information, registration and pricing call

Delaware Agricultural Museum

Phone # 302-734-1618

Ray Noble

Oriole Forge

Manfred Bredhol 1944—2002

On a sad note we recognize the passing of a well know smith, Manfred Bredhol of Aachen Germany. Manfred is know to long time ABANA members as a smith who opened his shop up to many Americans who wanted to work and study in Europe and as a man who helped bring a water supply to a village of African smiths in Togo. He also initiated and organized three "World Congresses of Smiths" and the first Bridge of Friendship to encourage world cooperation.

Blacksmithing Workshops and Classes:

Peters Valley Craft Education Center
19 Kuhn Rd., Layton, NJ 07851 (973)948-5200
pv@warwick.net www.pvcrafts.org
Academy of Traditional Arts
Carrol County Farm Museum
500 South Center St. Westminster, MD 21157
(410)848-7775 (410)876-2667
Touchstone Center for Crafts
R.D.#1, Box 60, Farmington, PA 15437
(724)329-1370 Fax: (724)329-1371
John C Campbell Folk School
One Folk School Rd.
Brasstown, NC 28902
1-800-365-5724 www.folkschool.com
The Blacksmith of Trenton
Alex Parubchenko occasionally gives classes at his shop in Trenton. Please contact Alex or John Chobrda at the shop, Phone # (609) 396-9583.
Red Mill Forge
Contact Adam Howard about workshops and per diem use of the shop (908)735-4573

BLACKSMITH TOOLS FOR SALE!

John Chobrda at the
Trenton Blacksmith Shop
Has a large selection of tools for sale.
Anvils – Forges - Leg Vices
Blowers – Tongs – Hammers
Will also repair and/or resurface Anvils
Call John for prices and availability
Daytime (609) 396-9583
Evening (609) 443-3106

Wanted: Donations for the NJBA Trailer
We need hand tools, files,
Tongs (Old, new and repairable),
Safety Glasses and assorted rivets.
Look around and see what you have to donate.
Contact; Dave Macauley, Directors list, Page 2

Business Members

We would like to thank those who joined with our new Business Membership category
Please show them our support

Ginty's Welding Service, Inc
2 Lee Mack Ave.,Danbury, Conn, 06810

Timothy Miller, Artist Blacksmith,
Bayport, Long Island, NY (631)419-1185

Marshall Bienstock
663 Casino Dr., Howell, NJ 07731
(732) 938– 6577, (732) 780-0871

Lincoln Wolfe
11 Overlook Terrace, Bloomfield, NJ 7003
(973) 338-3913

John Chobrda
Pine Barrens Forge
231 Morrison Ave., Hightstown NJ 08520
609-443-3106 609-396-9583
JChob@earthlink.net

Coal

Coal is now available through Alex Parubchenko at his shop in Trenton. Please contact Alex or John Chobrda at the shop, Phone # (609) 396-9583.

Open Forges

We want to encourage all to join us at:

Monday Night Open Forge in N.J.

Marshall Bienstock is hosting an open forge in his shop at 7 pm almost every Monday night (Please call ahead on holidays to make sure , (732)780-0871)

Monday Night Open Forge In Orange County

Greg Phillips will be hosting an open forge in his shop in Orange Co. NY. For more information Contact: Greg Phillips, Acorn Forge, 937 Route 17k, Montgomery, NY 12549, (914) 457-5672, Suresign@frontiernet.net

Furnace Town Meet
March 16th 2002

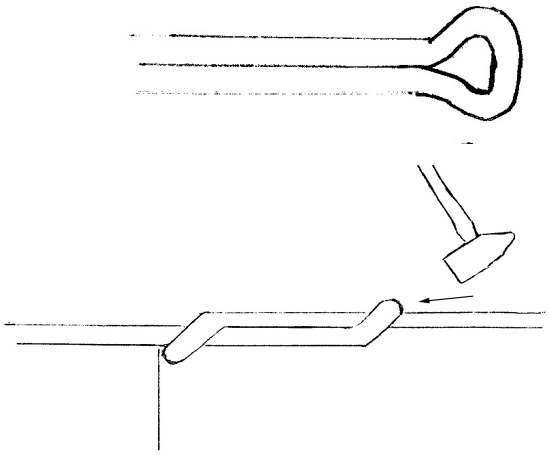
Report and notes by:
Marshall Bienstock and Anton Holstrom

9 AM– Ken Zastro–

- Ken demonstrates leafmaking
- Using a Hoffi hammer
- Talks about proper hammer technique
- Stretches and exercises to prevent injuries
- Covered hole punching and the difficulties with "Pure Iron"

Demonstration — Leaf from 3/8" round
Point over horn, set back end of leaf on step of anvil. Ken cuts using a brass hammer and states that punching a hole in "Pure Iron" is harder because of it's ductility. The punch should have a 20—30 degree taper.

Decorative detail — Square Knot
Using 1/4" round bend loop in middle of 2 rods each 24". The inside of the loops measures 3 times rod diameter. Bend the loops over the edge of the anvil. Slip the ends through the loops and pull and tap the loops toward each other. Reheat and tighten up with hammer. Ken then made a three legged candle holder from the piece.

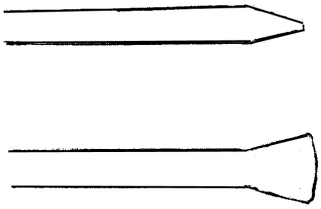


10:15 am—Mike Walker

Demonstrated leaf making and tooling

- Veining tool

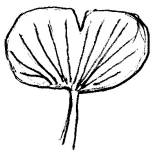
- Use proper size and shape tongs for material used



- Mike used 9" of 5/8" coil spring to make this tool
- Mike makes the handle octagonal
- Keep tool straight
- Hot rasp or grind edges to final shape for the job slightly radius corners to avoid marking work

Demonstration - Ginko leaf

- Mike often uses real leaves as patterns
- 1/8" material for leaf—cuts to shape with a plasma cutter
- Heat leaf and thin edges and sides to give life like appearance
- Vein tool with Veining tool (Above)



- Ginko leaves have veins that radiate from the stem to the outside edges
- Next roll stem into round tube using step on anvil
- Finish; Mike polishes surfaces, runs oxide colors and coats with wax
- Has sold many metal flowers at flower shows

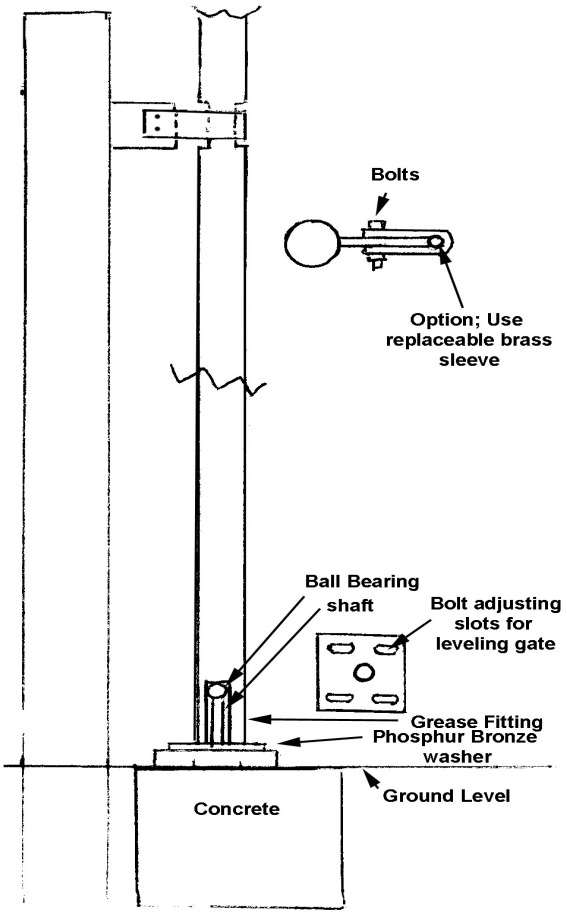
Bob Morris "Teaching Blacksmithing"

Demonstration—
Teaching students to make a Wizard Head
Teaching — Main principles

- Be prepared, a one hour class requires four hours preparation
- Motivate students to retain material taught
- Make a story board of steps in the process
- Teach how to make all the tools necessary
- Bring something to give students such as wizard heads drawings or handouts
- Bob likes two blacksmith books for basics;
  Jack Andrews - New Edge of The Anvil
  Randy McDaniels - The Blacksmiths Primer
- A fire tender takes the worry away about proper

2:30 Nol Putnam
Demonstration #1 How to Build a gate

- Has three gates at the National Cathedral in Washington
- The big jobs are generally got by the presentation.
- He gives the customer 2 blue prints -1 water color and - 1 sample section. The customer must pay for this.
- When you make this gate, make it your style. All Blacksmiths have a style and they are different.
- Always work from full size drawings.
- Go to art store for onion skin paper. The bottom sheet has the outside dimensions and the sheet above is used to sketch. The final drawing on good velum onion skin and print on mylar.
- Over design for safety and less liability



How do you hinge the gate?
Nol hinges into ground. If customer wants anything different they must sign off.
Phosphor bronze thrust washer on bottom, and ball bearing on top of pin.If the gate is going to be used a lot install zerks fitting and grease. 1 1/4" Square bar with 3/4" hole drilled.
Bending the arch, heat in thirds, one side, then the other, then the center.

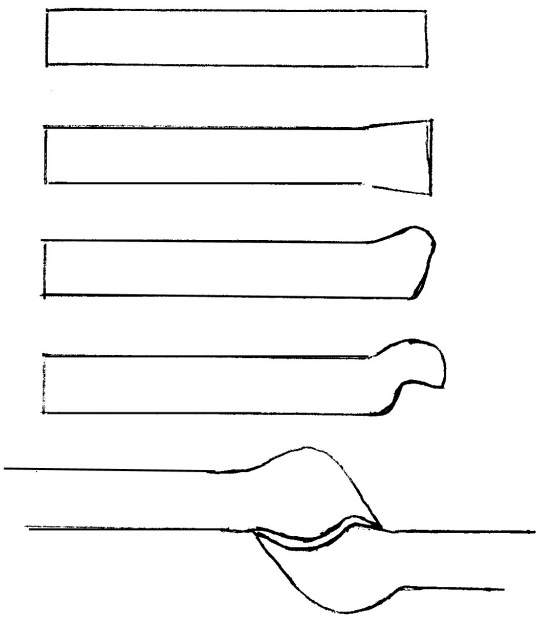
Bookkeeping and timekeeping
How do you price a job? First you need to know the shop rate
Time in shop 8-9 hours
Chargeable time 4,5,6 hours
Days per year/5 weeks off 235 days X 5 hr/ day =1175 hrs/yr
Overhead, gas heat, phone, rent, salary = $6,000/ mo or $72,000/ year
Shop rate = $60/hour
Keep track of overhead
Charge for your work, part timers undercharging kill full time smiths

Example stair railing
Need 55' cap rail, 60 pickets, 6 ballisters, 60 scroll units
Cost ___ X 20%
Keep track of every job, break job down into components keeping track of; Forging, time, materials @ 1 1/2 x's cost, assembly, finishing and installation.

Nols new shop 30 x 35
125# Beaudry with 5x8 dies. If he wants to draw out he places a rounded dye over bottom die.
Jib crane to move heavy objects.
Skylights over anvil and forge.
He keeps a Makita with wire wheel handy.
His hammer is Swedish pattern with the face upset until flat, the cross peen is upset to a larger size
Heat to red and anneal, sand. Temper by heating both areas to red and with bucket of water quench face then peen and continue until warm to touch.
The leaves he makes by hand and uses no dyes, wants the irregularity. He works one side than the other.
Polishing with emery paper.

Grapes are generally made in dies of 3-4 different sizes and gas welded together.

Note: Some Blacksmiths use dyes which are half flat and half rounded. This means they are always forging on one side or the other and this places extra stress on the guides.
Anvil height - wrist high, hammer handle length from holding in hand to elbow.
Anvil horn to right side makes it easier to see when making leaves
Top tool should have 45 degree offset to keep hands from being over hot work or blocking view.
When passing metal always keep hot end towards floor and not up in the air where it can fall and bum someone.
Working metal fast and hard generates molecular action and generates heat.
Architects drawing — all measurements to be taken



from jobsite, do not trust the drawing!

Forming a weld scarf

NJBA Cold Spring Village Meet

Report by David Macauley
NJBA Cold Spring Meeting 6/15 - 6/16/02
NJBA once again participated in the FarmFest event sponsored by Historic Cold Spring Village in Cape May NJ. NJBA provided demonstrators on both Saturday June 15, 2002 and Sunday June 16th. David Macauley dragged the NJBA trailer down on Friday night and was able to drop it off directly next to the blacksmith shop at HCSV. Saturday started with a swarm of Mosquitoes that braved our black smoky fires. Tim Sutter brought down a forge, anvil and stand which was augmented by the NJBA forges, anvils and tools. After erecting the tarp for protection from the non existent sun (at least for Sunday) we proceeded to get two forges going. Many thinks to all those who helped set up and take down our exhibit.
In attendance on Saturday were:
David Macauley and wife
John Chobrda and wife
Tim Suter
Larry Brown
Jerry Goldman
Mike Erdie and family
Tom Eden and family
Mitch Swirsky and significant other (wife?)
Mike Mills
John and Mitch worked on making a flesh fork from stainless steel. Larry and David made some helpers for the forges (small adjustable stands for holding stock in the fires). Tim bought quite a bit of his pieces for display. John' wife sold our new NJBA hats.
On Saturday NJBA hosted lunch at the Grange in HCSV at which time a very brief business meeting was held. All directors who were up for reelection where reelected by unanimous vote. This included:
Bruce Freeman
Anton Holstrom
David Macauley
John Chobrda
Greg Phillips
Tim Suter
On Sunday we had: David, Tim, Jerry, Mike Erdie, Mike Mills and Tom in attendance.

Foundations!

A Resource for Beginners.

by Bud Oggier

the Anvil's Ring/ Winter 1987 Part **8**

"Hi, Jean, are you ready to finish up the hardie we started last week? After you left, I heated the hardie up again and put it in my ash bucket to anneal so any forging stresses would be gone. This cuts down the chances of getting any cracks during the hardening process. I left the piece in the ash bucket so you could see what it looked like when it came out. Let's fish it out and take a look. Boy, look at that, it looks like it was scaled up terribly; but be brave, that's just the wood ashes sticking to it. They come right off with the wire brush.. See how easy they come off? Notice there is very little scale on the piece.

Scale is ferrous oxide and forms only when the piece is hot and exposed to oxygen. Since the piece was only in the air for a few seconds before the ashes sealed off the oxygen, there is very little scale. One good reason for not blowing the fire any harder than it takes to the job done is that any unconsumed oxygen that reaches the piece forms scale right in the fire. Keeping a good deep fire is also necessary. Remember one of the first times you were here I told you to put the piece straight into the fire? That was so there would be a good layer of coke under the piece, and that would use up most of the oxygen so no scale would form.

Some other mediums I've used for annealing either stuck on the piece or didn't seal out the oxygen well enough, and the piece was difficult to clean up. The only thing I do to my wood ashes is to sift them through a screen now and then to keep them nice and fluffy, then they seal up well.

Before we harden this let's look it over and be sure there are no sharp nicks, burrs or cold shuts, if there are, now is the time to correct them. this one looks O.K. let's harden it.

While this piece is heating let's talk a little about oil hardening. I've made other tools from this same axle and I know it is oil hardened. Most axles are a 3000 or 4000 series steel; that means the primary alloying element is either nickel or molybdenum. In either case it demands an oil quench; Water would be too severe and would cause cracking. I'd like to point out that my oil tank has about ten gallons of oil in it. I use "used" motor oil; it is not as good as a special quenching oil but it gets the job done for me and it sure is a lot cheaper.

The tank has a hinged lid that is held up by this steel arm. On the inside between the arm and the lid, see this little tin piece? it is called a "fusible link", commonly used in automatic sprinkler heads. Its purpose is that if the oil catches fire, and it can easily, the heat causes the link to melt and the lid bangs down and puts the fire out. When we hardened your chisel we dipped the chisel into the water so there was still some red hot metal above the water, and used that heat to draw the temper after the tip was quenched. When quenching in oil or any other flammable mixture NEVER have any metal above the surface of the oil that is over about 350° or you'll have a fire in a hurry. Get all of the hot metal submerged in the oil and keep it constantly in motion until it is cold. Remember, the reason for using oil is that it transfers heat much more slowly than water; as a result the oil can get very hot next to the metal and boil. When this happens you not only get gas pockets that cause spotty hardening, but you increase the chances of a fire, so keep it constantly in motion. Notice also there are two fire extinguishers (A-B-C) on the wall nearby.

Well, the piece should be getting hot by now, let's look, just needs a little more; I'm going to shut the blower off now and give the heat a chance to even out and soak all through the piece. Now just a touch more blower. I didn't point out that when I put the piece in I put it so the heaviest section was in the middle of the fire and the narrow end away from it. This prevented the thin section from getting too hot before the heavy part was hot enough. Remember the story about grain growth when we hardened your chisel?

O.K., the piece is ready; hold it by the shank

with these box tongs and submerge it in the oil tank. Good, keep it moving, just swing back and forth inside the tank. Hear the oil bubble, even while the piece is moving? The fact that there is very little smoke coming up is a sign that the oil is not getting too hot, and that's good. The bubbling noise has stopped now, so it won't be long before the piece is cool enough.

Once the noise has stopped and there is no more bubbling, raise the piece up out of the oil and put it right back down in. If there was smoke coming off the piece, it is still too hot. See, still a little smoke leave it in the oil another minute or so and look again. This is a good example of how much slower a quench medium the oil is than water; by now in the water tank that piece would have been stone cold.

Let's look again, Jean. See, no smoke; hold the back of your hand close to the piece and see if you feel any heat. No? O.K., let's wipe if off and temper it.

To temper this piece I'll put this bit of iron in the fire to heat while we polish up the blade end on our hardie. Well, that is shined up enough to see the colors run. Now I'm going to put the shank end in the fire long enough to get it dull red, and then lay it on the iron piece in the fire, shut off the blower, and let the heat soak from the iron piece to the hardie. While I had the shank in the fire I was watching the polished end to be sure no colors showed.

I'm going to turn this piece 90° in order to not get any one side too hot. I'll continue to do this until the color in the hardie gets blue and then quench it again in the oil tank. See, the color starts at the end of the hardie; now is the time to watch closely. Even though you keep turning it, if there is too much heat being transferred too quickly you may only get the outside hot enough to temper, but not the middle; so don't rush it; give the heat a chance to soak in. One way you can check this is when the color you want appears, take your polishing stone and shine up a spot. If the color comes back quickly, it's a good indication the heat is through the whole piece.

There, see the blue? Now, I'll shine it up quickly; there, the color came right back, so into the oil again. Now it's cold, so let's clean it up and see how good a job we did. I'll take a mill file and push it across the hardie; good, it just sticks a little; that means we're at just about the right hardness.

In commercial heat-treating they use an instrument to measure the hardness. Two common brands are Brinnel and Rockwell. Both use the same principle, by pressing a precisely shaped piece under a fixed load into the surface being checked, then measuring the depth it penetrates; the harder the piece, the less penetration. The tempering, or drawing, is done in a furnace with a controlled temperature, and the piece is left in the furnace long enough to reach furnace temperature throughout its entire section. We don't have any of that fancy equipment so we have to do it this way. If you're careful and don't rush things the results are about the same.

Here's another way you can heat a piece for tempering: If you have an acetylene torch, use it to heat the shank only, and let the color run up into the blade. You can do this on any tool that fits into the hardie hole since you don't really care if the shank is hard or not. Yet another way: If you have an understanding family, put it in the kitchen oven at 450° for about one hour!!

Well, let's clean this up on the wire wheel, and grind it, then we can see how good a job we did. Jean, I like to grind a hardie so that one side is flat and all the taper is on the other side. This lets me cut off a piece that leaves a straight face. If it has an angle on both sides, then the piece has a tapered face. I have both kinds, but mostly I use the one for straight cut-off faces. I also have one that is almost twice as thick as this one to use on heavy bars, 1 1/2" 0 or larger. The reason it is thicker is so it doesn't heat up quite as quickly and I can usually cut a piece off before I have to cool the hardie.

Don't forget that each time you use the hardie it gets some heat, so be careful not to burn your fingers when you take it out of the anvil.

Well, Jean, heat up a piece from the scrap pile and try out your new tool. Hey, it looks like the hardie worked fine. It cut the piece off in good shape and the edge held up fine. As you use this it may get softer because you constantly heat it up; if it starts to deform on the edge or curl, you may have to re-harden and temper it. When you do, it pays to anneal it before rehardening. I grind a groove across the end of the shank on all my tools that are made from a water-hardening material, and two grooves on oil hardening. That way I never have to wonder what heat treatment it takes; a glance tells me.

Jean, I don't like to spend more money than I need to, so most of my tools are made from pieces from the junk yard. The kinds of scrap I look for are car or truck axles, steering link parts, coil springs, tines from old horse-drawn hay rakes, torsion bars, etc.

To determine what heat treatment the piece requires, first heat up the end and quench it in oil; if it gets hard and a file just slides over it, then you know it is oil-hardening. If it doesn't get hard, reheat it and quench it in water; then if it gets hard it is also a steel you can make tools from. If it still doesn't get hard it is probably mild steel and can be used for almost anything that doesn't require hardening. As soon as I know what heat treatment a bar takes, I grind the proper groove or grooves in the end; then I'll always know how to heat treat it.

Before I use a piece of scrap for a job that will require much bending, I'll make a sharp trial bend and check to see if any cracks form in the outside edge. This is a condition known as "hot short" and is usually caused by sulphur in the steel (sometimes added in the steel mill to enhance its machinability). If it does show hot shortness I usually throw it away.

Jean, to make a cold-cut hardie (one for cutting cold steel) use the same procedure we did to make this one except make the blade thicker and grind the edge differently. Hotcuts should have about 60-65° included in the edge, cold-cuts 75-80°.

To make a fuller, use the same method; then, depending on the size fuller you want, make the end a suitable width. Finish off the radius with a top swedge, or rough-forge the radius and finish-grind or file it to size. A swedge is the opposite of a fuller, it has a radius sunk in it.

One thing I didn't mention is something called "decarburization". This happens when a piece of steel is heated and some of the carbon leaves the surface. This happens mostly when your fire has too much unconsumed oxygen when it reaches your piece. It can remove enough carbon so that the surface of the piece will not harden, but the center will. It is rarely more than 1/32" deep, most times less.

Well, Jean, you've made your first anvil tool and it looks like a good one. Next time we'll make a handled tool. How about a hammer? See you next time!"

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LAMA. (Louisiana Metalsmiths' Assoc.) Raffle

Is raffling off a beautiful hand made wooden tool box filled with beautiful hand made (mostly) blacksmith tools as a fund raiser for this year. This is a good set of tools. We welcome all LAMA / ARF members to donate a handmade tool to the cause and please support the group by buying some raffle tickets.
http://lametalsmiths.org/news/raffl.htm
Visit the link above to see some pictures of some of the goodies.
25 tickets for $20 or $1.00 each
Where to send for your raffle tickets:
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