New Jersey Blacksmiths Association
"EAGLE"

N.J.B.A. Newsletter

Volume 4, Issue Number 4

Y2K is in the past!!

We made it! The horn didn't fall off my anvil, the handles off my hammers. Although I broke the handle to my 20# sledge, I think it had more to do with the age of the handle than the date of the year. It could be the plow frame I was straightening won this time. Well we're in a new year, a new decade, a new millennium. The anvils still work, the coal still burns, so lets get something hot and hit it!!

Upcoming events for 2000;

February: Chain link workshop (For the ABANA chain project) and T-shirt printing workshop at Marshall's shop, Sunday, Feb. 27th, 10 am. Lunch provided. IITH and tailgating. Directions on Page 3.
March; Joint meet with The Furnace Town Blacksmith Guild on March 25, 2000 with Bob Bergman. See details on page 2.
April; Doug Learn has set up a joint meet with PABA for a tour of the Mercer Museum in Doylestown, Pa. Saturday 15 April, 2000 See details below.
May; Meeting at Alex Parubchenko's Shop in Trenton on Sunday May 21, from 10 am—1 pm. See details on page 2 for directions.
June; Possible meet in Cold Spring Village
July / August; Smithing Magician Workshop
November; Possible meet in Peters Valley

April Meet At The Mercer Museum

The April meeting of NJBA will be a joint meeting with the Pennsylvania Artists Blacksmith Association, to be held on Saturday 15 April, 2000 at 10:00 AM at the Mercer Museum, 84 South Pine Street, Doylestown, PA. Admission to the Museum is $4.00. We will have a guided tour of the Museum, with emphasis on the blacksmithing display and a behind the scenes look at the woodworking collection. Also there is the Spruance Library of the Early American Industries Association, one of the best Early American technology libraries in the Unites States. After the museum tour, we will adjourn to my house (121 Pebble Hills Drive) for lunch, iron-in-the-hat, and other activities. Please make plans to attend, see one of the best and certainly the most unique collections of Americana anywhere, and meet your fellow smiths from the Keystone State. For information on the museum, go to http://www.mercermuseum.org/, or call 215-345-0210. My number is 215 489-1742, or cjfdlearn@mindspring.com. Hope to see you there.

Directions: From New Jersey, cross the Deleware to the PA Turnpike and exit at Willow Grove. Go North on 611 to Doylestown, exiting right just after the intersection with Edison-Furlong Road and immediately past a mountain of firewood onto the local route (old 611, Main Street). Proceed north approximately 1.5 miles and turn right at the first light at East Ashland Street then immediately right onto Green Street. The Museum is right in front of you when you make the turn onto East Ashland Street. The parking lot is off Scout Way (turn left just past the Museum).
Directions to my house: From the Museum parking lot, turn left onto Green Street. Pass under the 202 Bypass and turn right onto Turk Road (0.45 miles). Go approximately 0.5 miles and turn left onto Pebble Hills Drive (at the bottom of a small hill). The house is on the right about 0.25 miles from the Turk/Pebble Hills intersection.
Doug Learn

March Meeting With
Furnacetown Blacksmith Guild

Bob Bergman + KA75 air hammer will be demonstrating on 25 March 2000. We are having the lunch catered and the cost of the lunch will be included with the day's registration cost. There will be a catered supper starting at 6 pm with a similar menu as last year. Some details need to be worked out but the cost will be around $14 per person. Nana Schowalter will talk and present slides of her work after dinner. Bob will be leading a workshop on Sunday on the making and using of tools for the power hammer. At this time there may not be any openings available. We will require pre-registration this year so that we can have an accurate head count for lunch. A group of local Mennonites will be doing the lunch for us. I expect the cost of the meeting to be between $15 and $17.50 per person. Contact: Bruce Freeman, below.

May Meet at
Alex Parubchenko's Shop
In Trenton

The meet will be from 10 am—1 pm. We will most likely to meet for lunch at a local establishment for lunch after the meet.

Directions: You can get to Olden Ave., Trenton, from US Route 1 (Trenton Freeway) or from Interstate Route 295 or via Arena Drive from Interstate Route 195. From US 1, go SE about 1/2 mile to the shop. From I 295, go NW about 2 miles to the shop. From I 295 go NW about 2 miles, where Arena joins Olden, and then about 2 miles NW on Olden to the shop. The shop is at **334 N. Olden Ave.** There is a vacant lot next door where you can park. (Phone: 609-396-9583)

NJBA Board of Directors

Marshall Bienstock, Director until June, 2001
663 Casino Dr., Howell, NJ 07731
732-938-6577 732-780-0871
mbienstock@worldnet.att.net
Larry Brown. Editor, Director until June, 2001
90 William Ave., Staten Island, NY 10308
718-967-4776
lnbrown@con2.com, brownln@hotmail.com
Bruce Freeman, Director until June, 2000
222 Laurel Place, Neptune, NJ 07753
732-922-8408, 609-716-2827
freeman@monmouth.com,
freemanb@pt.cyanamid.com
Jon Folk, Director until June, 2001
P.O.Box 143, Old Bethpage, NY 11804
(516) 625-5667.
Bill Gerhauser, Director until June, 2000
415 Hutchinson St., Hamilton, NJ 08610
609-394-1817, bgahow@earthlink.net
Josh Kavett, Director until June, 2001
471 Casino Dr., Farmingdale, NJ 07727
732-431-21 52, jakavett@aol.com
Bill Ker, Director until June, 2001
Box l4, Allenwood, NJ 08720
732-223-4188, KemoKimo@aol.com

Doug Learn, Director until June, 2001
121 Pebble Woods Drive, Doylestown, PA, 18901
215-489-1742 doug.learn@Primedica.com
David Macauley, Director until June, 2000
4 Patricia Ct., Howell, NJ 07731
732-206-1568, 732-949-8422
drm@anchor.ho.att.com
Jeff Morelli, Director until June 2001
234 Rahilly Road, Wrightstown, NJ 08562
609-723-5990
Nate Pettengill, Director until June, 2001
24 Byron Rd., Short Hills, NJ 07078
npetteng@motown.lmco.com
Steven W. Rhoades, Director until June, 2001
513 Harding Highway, Vineland, NJ 08360
856-697-4144, hotiron1@juno.com
Bruce Ringier, Director until June, 2001
201-652-4526 346 Rt.565 Wantage,NJ 07641
Tim Suter, Director until June, 2000
1112 Ladner Ave., Gibbstown, NJ 08027
856-423-4417
Andy Vida-Szucs, Director until June, 2001
13 Old Monmouth **Rd., Freehold,** NJ 07728
732-308-9039, 732-957-6043 osan@netlabs.net
Greg Phillips, Director untill 2002
(914) 457-5671, Acorn Forge, 937 Route 17k,
Montgomery, NY 12549 suresign@frontiernet.net

February Meet At Marshall's

Marshall will be hosting a meet so all that desire to participate in the ABANA chain project can come and learn to make a chain link, practice forge welding. These links can be made fancy or plain, by experienced and non experienced smiths. The idea is that the group organizing this, The Saltfork Craftsmen, will assemble all the chain links and pieces sent to them for the conference and the resulting chain will be sold at auction. We will also be trying to organize printing NJBA T– shirts, If so part of the day will be spent in this endeavor.

Directions: Take any N-S route to Route I-195 , to Route 9, travel North a few miles to Casino Drive. Marshall's farm is at 663 Casino Dr. Approximately 1/4 mile east of Route 9, on the right.

November Meet At Peters Valley

Twenty members and prospective members attended the 14 November meeting at Peters Valley. In the morning, John Rais, resident blacksmith at Peters Valley, gave a demonstration of sinking steel sheet to make bowls. Starting with a 10 inch circle of 1/4" plate, he heated the plate in the coal forge and used a sinking tool made from a piece of 4" SCH 40 pipe to begin the dish. The tool has a upset and peened over lip to prevent marring the work.

John got the idea for the tool from Tom Joyce, and can be seen in the latest issue of Anvil Magazine in the interview with Tom. John held the piece with farrier's tongs, which hold well on flat stock but allow rapid manipulation of the material. By working the plate on the tool with a round faced hammer, John sank the plate by "forging on air", never hitting the same place twice and avoiding hitting the lips of the sinking tool.

He started in the center to establish the dish, working out in successive heats to establish a concentric dish and remove any uneven spots. Holding the dish up and rotating it in good light reveals any flat spots and irregularities. Once the plate was roughed out, planishing blows can be used to smooth the plate, either using the sinking tool or the face of the anvil, depending on the ultimate finish desired. The lip of the dish can be decorated by upsetting, peening or any other method. John showed several examples of this work, using several thicknesses of material and finishes. Thinner stock can almost be worked cold, but the thicker stock gives a more substantive look and feel to the piece. Either can work, depending on the desired appearance and feel for the piece.

After lunch, Iron in the Hat brought great interest from the crowd, the result being $233 in the treasury. The highlight was an apple cake, donated by the bride of Tim Suter, won by Hector. Afterward, John hosted the group in his private studio space, discussing several commissions he has for the winter and early spring. The repaired anvil and two forge hoods for Peters Valley were also delivered by David Macauley in the early afternoon.

Thanks to John for the opportunity to visit Peters Valley and to all the participants for joining in a great day of blacksmithing.

Thanks to **Doug Learn** for the report on this event.

December Holiday Party

Although short notice was given, there was a good turn out of about 10 - 12 people at the holiday party hosted by Marshall and his wife Jan. The food and fellowship were excellent and we wish to extend our heart felt gratitude and thanks to Marshall and Jan for their hospitality.

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

Open Forges continued next page;

Open Forges; continued

Tuesday Night Open Forge on L.I.

On Tuesdays, an open forge will be available at Jon Folk's shop in Central Islip. The forge is open to all N.J.B.A. members only every Tuesday from 3:00 pm to 8:00 pm. For information and directions, call (516) 625-5667

Meets And Events Outside Of NJBA

Blacksmiths guild of the Potomac,
Spring Fling, April 14-16
Arlington, Va. **/Warrenton, VA**.
There will be a special demonstrator this year, and attendance will be limited, so get your registration form returned as soon as you can after you receive it.
Contact: Fay LeCompte (540) 743-1812 or
Tom Coker (301) 937-6538

Northeast Blacksmiths Meet
At Ashokan Field Campus,
Olivebridge, NY
The dates are the 5th, 6th & 7th of May. The Spring meet is always the first weekend in May, the Fall meet is always the first weekend in October. This meet will be a casting Demo and workshop led by Lory Wedow. This should be an event not to be missed.
Contact; Tim Neu (914) 657-8333
Carl Davison <carlrd@worldnet.att.net>

Blacksmithing Workshops and Classes:

Peters Valley Craft Education Center
19 Kuhn Rd., Layton, NJ 07851 (973)948-5200
pv@warwick.net Http://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

Unclassified ad:

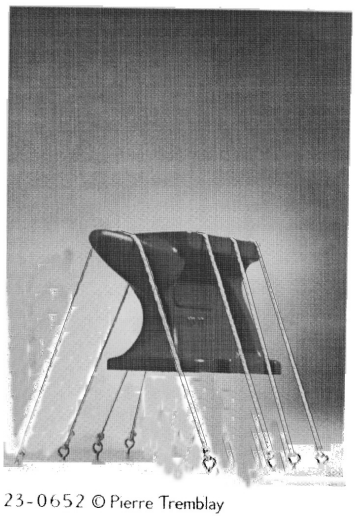
Wanted for my collection, eventually to be displayed with the Fisher & Norris archives:
Any Fisher & Norris anvils or vises.
Will buy outright or trade for post vises.
Over 20 post vises to choose from.
Contact Joshua Kavett
732-431-2152 E-mail: jakavett@aol.com

Editors corner

The schedule for publishing newsletters that I will try to keep to, is an issue in December, March, June and September. I have posted the newsletter to the web for the use of other editors. This is to try to cut down on the mailing costs to the many other chapters. I will make the newsletter available to the membership this way if anyone desires. The web site uses standard HTML fonts and formatting so it will look a little different.

Remember if you do a project and want to share it or see interesting ironwork and want to let others know where it is let me know, (718)967-4776.

Bruce, having so much free time after stepping down as editor, is working with the new ABANA web site to host a web site for us under their chapter page using our domain name, NJBlacksmiths.com. Our site will be a place to post upcoming events, show pictures of past events and gallerys of members work. Thanks to Bruce for his work in this endeavor.



Our Scrap Corner

Send something in and help keep it full

Gas Forge Modifications;
I have a NC Whisper Daddy, three burner forge. I wanted the size capacity for larger pieces but I also do a lot of smaller work. It is a given that these are gas hogs, so I modified mine for economy when doing small work. With judicial miter cuts I was able to make three single jet manifolds from the original three jet manifold. With 3/4 gas pipe I made a manifold with three 3/8 nipples that mounted to the existing manifold bolts. I bought two ball valves like the original, mounted the three to the manifold nipples and connected them to the burners with a loop of stainless tube. Now I have a one, two or three burner forge with easier to control heat and by placing fire bricks in the unneeded portion it is a very efficient one burner outfit for small work.
Tim Suter

Chinese anvils for sale;

This is not an ad for Fazzio's. (although it is my favorite candy store) It is a point of information for those still looking to buy an anvil. They have recently stocked a large number of anvils. These are cast steel from China, unfinished as cast. A few hours of judicial grinding would make them serviceable. I checked some of them with a hammer, they seemed to have adequate rebound and good ring. I don't know about the hardness of them but if I needed an anvil I would chance hardening the surface with a rose bud and quenching with a water hose (ala hammer head) if needed. At the price I think they are a good gamble if you can't find the Peter Wright, Hay Budden or Fisher you lust for.
101# $69.50, 141# $79.50, 203# $112.50,
83# $189.50, 503# $269.00
In case you are not familiar with **Fazzio's Contractor Supplies,** they are located;
East of Glassboro, NJ on Cross Keys Road halfway between Delsea Drive, (New St. at Delsea Dr.) and Cross Keys.
Phone # 856-881-3185
Found and reported by **Tim Suter**

Artisans are invited to demonstrate and sell their crafts at Smithville Park, Easthampton, Burlington County This is a publicized event, photographs of crafts are required with registration. For more information and an application. Please call (609) 265-5068

ABANA Demonstrators List

If you want to be listed as a demonstrator on the new list you must have an application in before ; March 15, 2000
Rather than use up a page of the newsletter, printing the application, if you are interested contact me and I will send you the application by fax, mail or e-mail.
Editor , Larry Brown (718) 967-4776

Peters Valley;

Letter of appreciation and Reduced tuition offer

The following is the letter of appreciation from Peters Valley Craft center for the donation of two side draft forge hoods and one repaired anvil. They are offering three reduced rate tuitions (50%) to our members. If you are interested send a letter **before April 1**, with your name, address, Phone# and desired class to; **NJBA, 222 Laurel Place, Neptune, NJ 07753**. Please read the following schedule and select a class that is appropriate to your skill level before applying. For more information Contact Peters Valley. If more than three applications are received the decision will be made by Peters Valley or drawn out of a hat. This offer is open to all members.

Peters Valley Craft Education Center 2000 Blacksmith Workshops

Courses are listed in order of dates offered.

Warm-up
John Rais
May 19-21 (3 days)
Tuition: $244.00 Lab Fee: $40.00

Damascus Steel Bladesmithing
J.D. Smith
May 26-30 (5 days)
Tuition: $380.00 Lab Fee: $75.00

Mining Tools of Metal: Aids to Interior Excavation
Daniel Miller
June 2-7 (6 days)
Tuition: $420.00 Lab Fee: $60.00

Smaller than a Breadbox
Frank Turley June 9-14 (6 days)
Tuition: $420.00 Lab Fee: $50.00

Hollow Construction
Sean Calyer
June 16-20 (5 days)
Tuition: $380.00 Lab Fee: $45.00

Edged Toolmaking
Phill Baldwin
June 23-27 (5 days)
Tuition: $380.00 Lab Fee: $75.00

Metal Works!
Paige Davis
June 30 - July 4 (5 days)
Tuition: $380.00 Lab Fee: $50.00

Gil Meeker
July 7-10 (4 days)
Tuition: $312.00 Lab Fee: $40.00

Forged Metals, Forged Sculpture
John Graney
July 14-18 (5 days)
Tuition: $380.00 Lab Fee: $75.00

Iron Furniture: Forms Beyond Function
Daniel Radven
July 21-26 (6 days)
Tuition: $420.00 Lab Fee: $55.00

Romancing the Vessel: Form, Meaning and Technique
Robert Griffith
July 28-31 (4 days)
Tuition: $312.00 Lab Fee: $45.00

Direct Metalsmithing
Peter Joseph
August 4-13 (10 days)
Tuition: $600.00 Lab Fee: $95.00

Production Blacksmithing
Doug Hendrickson
August 18-27 (10 days)
Tuition: $600.00 Lab Fee: $95.00

Titanium and Iron
John Rais
September 1-5 (5 days)
Tuition: $380.00 Lab Fee: $80.00

Sheet and Plate Forming with Copper and Steel
Ed Mack
September 8-10 (3 days)
Tuition: $244.00 Lab Fee: $60.00

Please contact Peters Valley for current course catalog:

Peters Valley Craft Education Center
19 Kuhn Rd., Layton, NJ 07851 (973)948-5200
pv@warwick.net Http://www.pvcrafts.org/

PETERS VALLEY
CRAFT EDUCATION CENTER

13 January 2000

Mr. Larry Brown, Editor/Director
NJ Blacksmithing Association
90 William Avenue
Staten Island, New York 10308

Dear Mr Brown:

The NJ Blacksmithing Association has been a wonderful source of support and encouragement for all of us at Peters Valley but especially to our Blacksmithing studio. The most recent example of your Association's generosity was the gift of two side-draft forge hoods, which were very much needed and appreciated by our studio. In addition, your members also refurbished an anvil, which was in great need of repair. The nice part about both these gifts was that both the anvil and the forge hoods were built and refinished at one of the Association's workshops.

We appreciate your members thinking of us even when they are not at our site. All of us at the Valley are very fortunate to have such a wonderful working relationship with your members. We appreciate all that the Association does for the Valley. Most importantly, we look forward to continuing our long history of working together. In this vein, we would like to offer another year of tuition awards to your membership. We would like to increase our offer to three 50% off tuition awards this year to NJ Blacksnithing Association members.

As always, we look forward to seeing you and your members around the Valley. Please let us know when you come by. Also let me know when you think we might work together to promote craft, blacksmithing or our organizations.

Thank you again and sincere best wishes,

Sincerely,

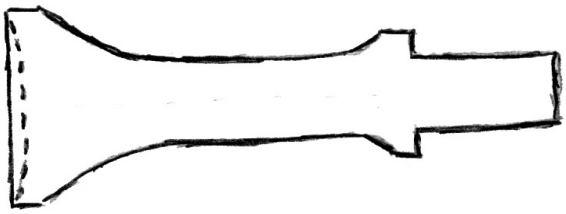
Kenneth Jones
Executive Director

cc: David Macauley, Assistant Editor

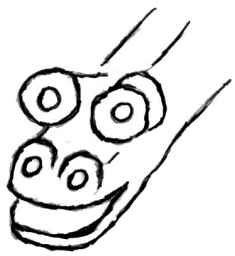
19 KUHN ROAD, LAYTON, NEW JERSEY 07851 (973)948-5200 FAX: (973)948-0011 WWW.PVCRAFTS.ORG
CONTINUING A TRADITION OF EXCELLENCE & INSPIRATION

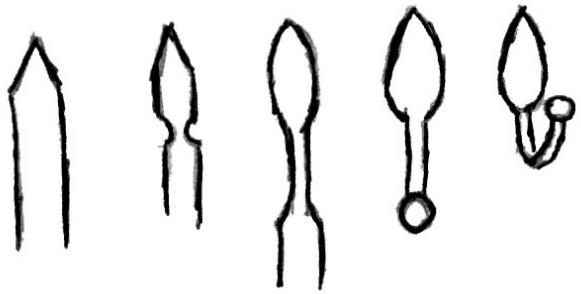
Northeast Blacksmiths Meet
Oct 1– 3 1999, at Ashokan, NY

Glen Horr of Berkley springs, W.V. was the demonstrator at the fall meet of the North east Blacksmiths at Ashokan N.Y., Oct. 1-3.
The main part of the demonstration was the technique of forging with pneumatic (air) hammers. He recommended using a large bore pneumatic chisel of good quality. He was set up to use two different hammers at once off a manifold.
One air hammer had no bit retainer and the other had a 401 Parker shank retainer which keeps the chisel from turning. He also recommended using a large diameter hose and a manifold if using more than one tool. Ear protection is a must as is eye protection.

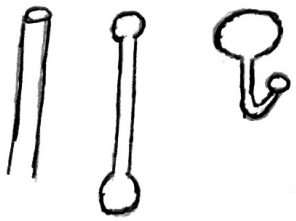


He had one chisel with a wide slightly convex face that he used for upsetting and several different ones for cutting and slitting. He also had a large collection of punches and fullers.





Forged aluminum coat hook



Forged brass coat hook

It was surprising to see how fast he was able to move metal this way. He made several animal heads very quickly. He also demonstrated using aluminum and brass for forging, making a coat hook and a leaf. He then made a basket handle poker and demonstrated a pineapple twist.
Glen has been an instructor at the Touchstone Center for Crafts

Tips and suppliers;

Using Hand held air hammer:
.401 SHANK (won't turn)
Eye & Ear Protection
Cutting, Upsetting, Carving Metal must be hot!
Hold tool securely
Use gloves when holding chisels
Keep tool and chisel pushed tightly to work
Start tool slowly at first "to set chisel to work"
Cool chisels in water
Be careful when using tool without retainer. Chisels can fly out.
Max air pressure 90 PSI
FRL=filter, regulator, lubricator Don't use a small hose.

Power Hammer:
Safety, check hammer before use, bolts, pins, die wedges
Oil guides, arms, etc.
Keep hands away from dies
Forge hot metal
Think about what you are doing

Chisels
Alloy: AISI# 9260
Quench at 1630° in warm oil
Draw to 4000 to 800°

Supplies;
Peisteel
Box 1268
Wilmington, DE 19899

Ajax Tool Works (makes non-turn tools)
10801 Franklin Ave
Franklin Park, IL 60131

Air manifold
Manastrip Corp.
P.O. Box 210
Rexford, NY 12148 Tel: 518-399-0889 Fax: 518-399-0130

Hose couplings
Foster Mfg.
2324 West Battlefield
Springfield, MO 65807

Hansen Coupling Div.
4050 W. 1 50th St.
Cleveland, OH 44135

Stainless steel welding rod Use 312-16 to weld on handles, etc.

Metals:
non Fe Forging alloys

Aluminum alloy designation # 6061, 6151, 2014 MAX. forge temp. 840°F

Brass,bronze forging alloys:
Low fuming brazing rod
Designation alloy #s
Forging brass #337 forge ability % 100 { base line)
Naval brass #464 % 90
Silicon bronze #655 MAX. forge temp. 1300/1600° F forge ability % 40
Silicon Aluminum bronze #642 MAX. forge temp. 1400/1500° F
Aluminum bronze #954

Highland Forge
Glenn Horr
Route 2 Box 2880
Berkeley Springs, WV 25411-9614
(304) 258-4058
ridgart@intrepid.net

The dates for the next meet are the 5th, 6th & 7th of May. The Spring meet is always the first weekend in May, the Fall meet is always the first weekend in October.
This meet will be a casting Demo and workshop led by Lory Wedow.

EAGLE ANVILS

The Guaranteed Kind
Fully Warranted

First-Class Blacksmiths, Machinists, Toolmakers and craftsmen have used EAGLE Anvils in this country and abroad for more than a century; EAGLE Anvils have no peer! The superior production techniques and high-grade materials used in their manufacture have kept pace with the demands of modern industry for quality tools which give continued superior performance.

DIMENSIONS - STOCK ANVILS

Wt. Lbs.	FACE				HORN
	Length Inches	Width Inches	Hardie Hole Sq. in.	Pritchel Hole	Length Inches
50	10	3	5/8	7/16	6 1/2
80	11 1/2	3 1/4	3/4	1/2	7 1/2
100	12 3/4	3 1/2	3/4	9/16	9
120	13 1/2	3 1/2	3/4	9/16	9
150	15 3/4	4	7/8	9/16	10 1/4
160	16	4 1/4	1	9/16	10 1/4
180	16 1/2	4 1/4	1	9/16	10 1/4
200	17 1/4	4 3/4	1 1/8	5/8	11 1/2
225	18	4 3/4	1 1/8	5/8	11 1/2
250	18 1/2	5 1/4	1 1/4	5/8	12 1/2
300	19 3/4	5 1/4	1 1/4	5/8	12 1/2
350	21	6	1 3/8	3/4	13 1/4
400	22	6	1 3/8	3/4	13 1/4
450	22	6	1 3/8	3/4	13 1/4
500	23	6 1/2	1 1/2	13/16	14 1/2
600	24 1/4	6 3/4	1 1/2	13/16	14 1/2
700	25 1/2	7 1/4	1 5/8	13/16	14 1/2

SCROLLED FAN HEADBOARD

I'm going to tell you how I did this headboard for my daughter. I've been trying to make something nice and lasting for each of my offspring. There are eight, and now grand children are putting in orders for wedding presents. I like to do something that hopefully will become an heirloom and grant me a measure of immortality. The concept for this design, I saw on a transom grill over a doorway at an exclusive Mainline school.

To start, I sketched the design and determined the critical dimensions, height, width, etc. Next I made a full sized layout on my layout table. My table top is 1/2" X 3' X 4' set on a machinist cabinet with four heavy casters. This is convenient to move about to accommodate whatever work is being done and can be locked in place by dropping a horseshoe around two of the casters. I rounded the corners for safety. There is a four inch overhang all around to accommodate "C" clamps. I burned a hardy hole in two corners which are very useful to mount any hardy tool, scroll form, bending fork, etc. at the work station. Another very useful accessory is a vise that mounts in the table hardy hole with a "U" clip and wedge.

The table was only long enough for about 2/3 of the whole layout but that was ample. The arc is an ellipse. I laid out a base line for the ellipse long diameter across the table then a vertical centerline at a suitable distance from the side. To draw the ellipse I used the old looped string and pin method. With a board clamped to my table and the baseline transferred to the board I experimented with long radius pins (nail distances from center) and string lengths until I found the combination that suited the height, width and shape that pleased me. Then I drew the half ellipse. Next I laid out the top horizontal rail. The ellipse arc was divided into eight equal spaces per side and circles drawn to define the spaces to be filled by the large scroll ends, then eight equal spaces for the small scroll ends. Luckily I had scroll jigs on hand from other projects that worked well with these dimensions and I knew the length of material needed for each.

With an ample length of material for the shortest scrolls I made one large and one small end. I measured the amount of material needed for each scroll end and center punched a witness mark on the back edge of the bar, this would serve as a dimension control mark. The ends were drawn out 1 1/2 inches to a "lambs tongue" for the scroll start. I marked the side of my anvil with soap stone for a convenient reference for the draw out length. Remember the witness mark? Both scrolls were made and these used to determine the material needed for the others. I laid the large and small scroll each within it's boundary with their handles parallel, measured the distance between the witness marks and added this to the length for each scroll end. Now the material could be cut, witness marked and the lambs tongues drawn out. I now grooved the edge to enhance eye appeal. I used a grooving chisel with a guide welded to it. This guide is just a piece of 1/8 by 1/2 slightly longer than the chisel end welded to the side behind the tempered zone. It can be bent to control a groove at different dimensions. Mine has had a lot of use and owes me nothing if it should eventually break.

To hold the bar on edge I cobbled up a simple jig from scrap; two pieces of 1/2 square welded to a piece of heavy flat bar that the 3/8 scroll bar nests between and a hardy stake. The bar tends to roll up as you crease it. The jig was made leaving about 1/3 of the anvil face exposed, to straighten the bar as I progressed. I find that an adjustable jack stand is almost a necessity when working a long piece alone. The scrolls were made in matching pairs and placed on the layout as I finished them. If any errors were detected they could be corrected then and not compounded. After all the

scrolls were made they were laid aside while the frame was worked on.

The one inch square stock was cut to length with one inch extra for each leg, to be cut accurately as a last step, this for insurance in case of material creep. Steel, in small amounts, is cheaper than time. I wanted a hammered chamfer on the facing corners and started to do this hot but soon realized the time bother and fuel needed, so I turned to doing it cold with a heavier hammer which worked well and helped to pop off mill scale.

To bend the frame ellipse I tack welded stops about every two inches along the layout line on the table. I punch marked the center of the bar and secured it on the layout center. Then I welded a stop at the outside of the bend about one foot to the left of center. Now I was ready to bend.

Using a burning torch with a large tip I started to heat at the center and carefully progressed the bend, taking care to keep the bar touching all stops without flat spots or bulges. Where needed I welded on stops and used a wedge to keep the shape tight. When the first side was done I returned to the center and completed the bend on the rest of the layout. The bend, thus far, was held in position until it cooled. When cool the piece was turned over centers matched and secured together and the rest of the bend completed and held until cool.

Next came the laying out and making of the mortise and tenons. Three 11/32 holes were drilled close together, chiseled out and filed to make the mortise, a slight countersink was made on the inside and outside. A proper tenon should have a slight fillet at it's base. The counter sink accommodates this. I find that tenons and rivets tighten up better with some countersink inside and outside. I used 3/4 inch of stock for the tenon and when drawn out I had nearly two inches of tenon which I cut off to one and 5/8, better to long than to short. Rather than make a monkey tool I trued the tenons up with a file.

FITTING

Next the stops were broken off the table and weld burrs ground off. The frame was spread open about 1 & 3/4 inches and the tenons of the top rail inserted, the frame placed accurately on the layout and secured. Now all the scrolls were put in place, this required considerable tweaking and adjusting to get them nested correctly and the proper length. A bending fork in the hardy hole on the table was handy. No matter how many scrolls you make the same, no two will be identical. The scrolls were set with about 1/16 space separating them.

HOLE LAYOUT

When I was satisfied with the whole assembly I laid out the rivet holes. Because of the curve of the ellipse and rotation of the scrolls each hole was at a different angle. This was eye balled and a line struck clear across the scroll as a drill course reference. When all the scrolls were marked the line was carried around the scrolls and frame to the drilling.

DRILLING

I have a bench mounted drill press and the frame was just under four feet high, I could drill, at best, three holes with this set up. The answer, put the drill press on the floor. I have an "H" beam and trolley with a chain fall. The piece was hung "U" up and adjusted with chokers for each hole, a drill vice held the piece secure on the drill table. Each scroll presented it's own problem to position and hold to drill at the proper angle. The holes on the under side of the bottom bar were deeply countersunk so the rivets could be upset flush.

RIVETING

With the drilling completed just the top horizontal bar was put back in and all the scrolls bolted up tight. This to assure fit up and resist any distortion from rivet heat. If holes didn't quite line

up a drill was run through them. Apiece of 3/8 X 1 was welded to the long edge of the table with about three inches protruding and another, to be adjustable, was "C" clamped in like manner about three feet away. The head board could then be hung up side down on the horizontal bar with the welded lug being the rivet back up. Now the problem, how to get a 1 3/4 rivet into a hole with only 3/4 clearance. Easy, pick the most advantageous spot, heat a narrow band across the scroll to red and with a bending wrench bend it out of the way, insert the rivet and bend back to where it was, one heat. Unbolt and make one rivet at a time. With all the rivets done on the horizontal bar the bottom six bolts on each side of the arc were removed, the frame expanded the other horizontal inserted and the frame re-bolted.

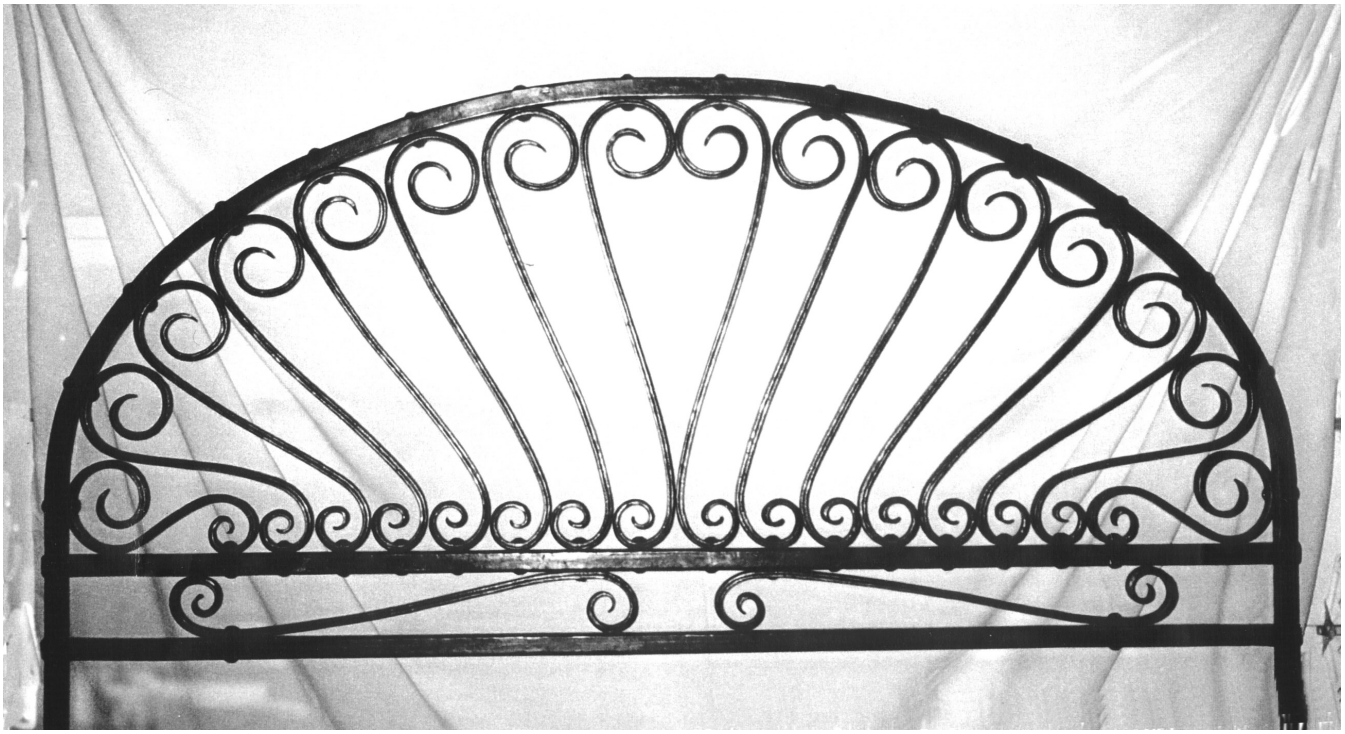
Now the tenons were upset with a ball peen to near done and the flat facets finished with a handled drift, so as to avoid hammer marks on the frame. To do the rivets around the arc I made a simple back up jig that bolted in place. All the rivet heads were finished with a decorative five facet header, which I made.

FINISHING

I did a lot of power brushing to remove scale, from all parts before and after assembly. The finish was my idea and the simplest I have come across yet, for inside work. Black scuff coat shoe polish, well buffed, then Butchers paste wax liberally applied and melted into nooks and crannies with a heat gun and then buffed. It has a pleasant sheen and a color nuance from jet black to steel gray depending upon the texture of the surface in any given area.

Tim Suter
1999

Many thanks to Tim for an excellent write up of this project, Editor



FORGING A SHEET METAL ROSE

Traditionally, roses have been forged by master smiths from a single piece of heavy iron. This was a show of their mastery of smithing. Alex Bealer shows one method for making a rose in this manner an his book 'The Art of Blacksmithing." A simpler method using sheet steel can give very realistic results without requiring great skill.

Obtain 18ga. maleable sheet steel from a steel supplier or use auto body panels. Use a scratch awl to lay out the rose petal blank on the sheet metal. Use compound action aviation snips to cut out the blank. 18 ga. Steel is heavier than aviation snips are designed to cut. Use caution so as to not spring the jaws of the snips. Aviation snips come in both "rights" and "lefts". It is easier to use both for curved cuts.

Cut out a large set of five outer petals, three smaller sets of four petals each, and a bud of three petals. A five—leaved sepal is made for the bottom of the rose.

To forge these blanks, tie your oxyacetylene torch to your anvil's waist with wire. Adjust the torch for a small neutral flame. Hold the blank with ordinary pliers. Heat a petal and hammer with short rapid blows at a rate of 3~4 per second using the ball peen of a 1 lb. hammer. Hammer from the inner part of the petal outwards, making the outer edges thinner than the center. As the petals thin and enlarge, they should overlap.

Thin the leaves of the sepal and trim the edges to the correct shape. To shape the bulbous part of the sepal , a punch and die is required. A 1/2" rod, ground to shape, makes the punch. A piston pin from a *Chevy* engine makes a perfect die for the sepal or use 1/2" ID pipe.

The rose stem can be made heavy wire or 3/16 round that is forged thinner. A hole is drilled in the center of each petal section the size of the stem.

Before assembling the sections on the stem, heat the edges of each petal and tap with a hammer to roll the edges over. Examine an opened rose to match appearances. The two inner sets of petals should not be rolled.

Assemble each section on the stem. Peen the end of the stem. Force the sections tight against the enlarged stem end and clamp. Then braze the sepal to the stem and file smooth. An alternate method is to form a tenon on the end of the stem. Compress the petals against the shoulder and rivet by peening the tenon.

At this point the petals should be in a flattened state, with edges curled, and each petal staggered in relation to those above and below. They should be compressed tightly together.

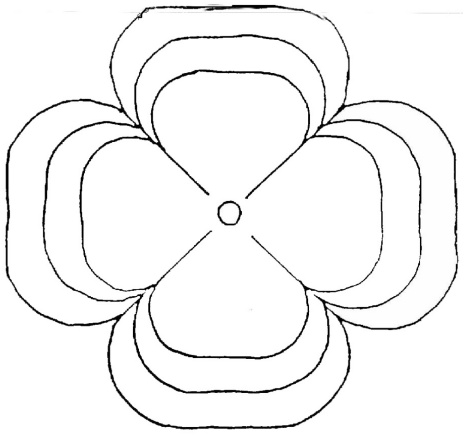
To fold up the petals, heat the small petals and shape with needle nose pliers to form a tight bud. Heat and fold up each succeeding section until you have what looks like a rose. It is easier to do this if the stem is clamped in the vise, and you hold the torch in one hand and shape the petals with the pliers using your other hand. After you shape the petals, fold down the sepal leaves around the stem.

Bend the stem to a natural shape. Cut out leaf blanks from sheet metal. Rose leaves are usually grouped in sets of 3,5 or 7. They should all vary in size according to their place on the stem. You only need to forge the leaf edges thinner. This can be done cold.

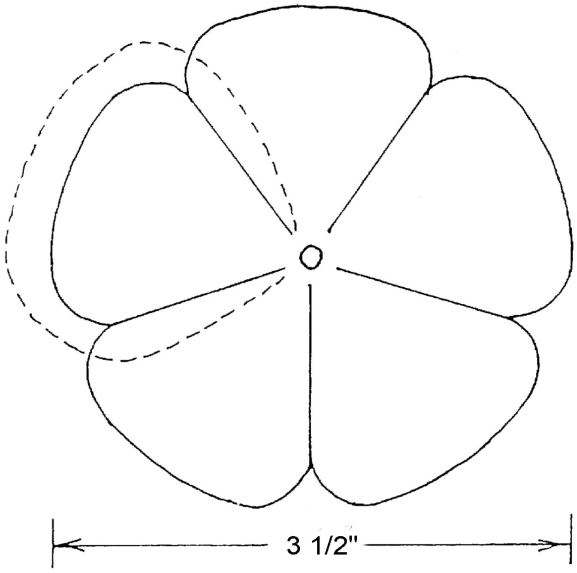
File serrations in the leaf edges using a triangular file. The veining is done cold on a wood or lead block using a rounded chisel edge. Lightly hammer each leaf to impart a natural shape. Weld or braze each leaf to a wire stem. Braze the set of leaves to the main stem. Three sets of leaves on the stem will give a natural appearance.

Cut off the oxygen on your torch and blacken the rose with acetylene soot. Melted parafin wax will hide defects and protect the metal. Your rose is finished except for the thorns. If you can put those on the stem, you have more patience than I do!

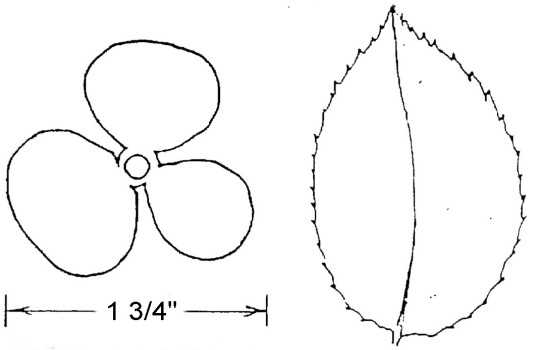
Ned Edelen



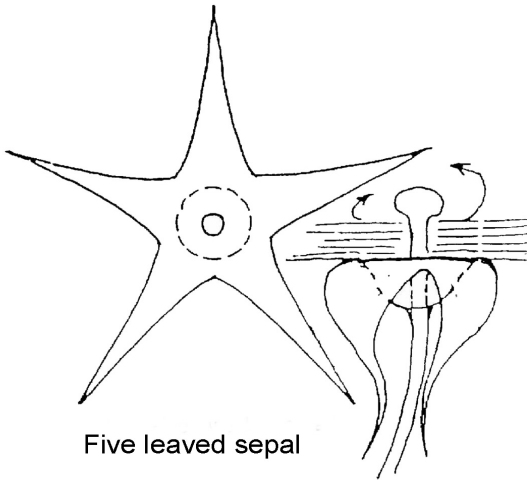
Three sets of inner petals



Outer Petals
Forge each petal blank untill it overlaps adjacent petals, and its edges are thinned. Curl petal edges before final assembly of rose.



Three petaled bud



Five leaved sepal

Reprinted from the Blacksmiths Guild Of the Potomac

Buying for Beauty

A general guide to purchasing ironwork of the Blacksmiths craft

By Dick Green

(See page two, "Beautiful Iron" for sample illustrations)

'Wrought Iron' is a type of metal that is no longer generally available. The products you buy are NOT made of it! The term came to imply a product of strength and quality, commonly used to describe ironwork fences or 'Railings'. Nowdays the term is frequently used to mislead you into falsely thinking you are buying something of strength or quality - anything metal and generally black, from junk to gem is now called 'wrought iron' ! So YOU have to be able to judge for yourself. Armed with a few simple guidelines you will be able to shun the worst of it and identify the better ironwork for yourself.

You buy ironwork for one of 3 reasons:

- for its beauty such as a piece of art work
- to serve a functional purpose such as railings
- a combination of both such as a set of fireplace tools or a bed.

There are 3 ways to make ironwork:

- machine made
- hand made
- a combination of both.

Hand made items are generally much more attractive than machine made so handmade is therefore desirable when buying something for its beauty.

Handmade is generally more expensive.

Machine made items can be produced more economically than handmade, but machine made items are less attractive and are therefore generally used for things such as railings.

Most things that you buy for beauty will be a combination of both - but the more you can afford, the more handwork, quality and beauty you

This educational information is provided to the public and is an opinion expressed by the North Texas Blacksmith's Association. It is our belief that what is expressed here is generally accepted in Metal Art circles. As with any opinion that attempts to be broad in nature, there will be specific situations or products where this opinion may not apply.

This page was created by David W. Wilson Illustration/Design URL for this site is: http://www.flash.net/~dwwilson/beautifuliron/

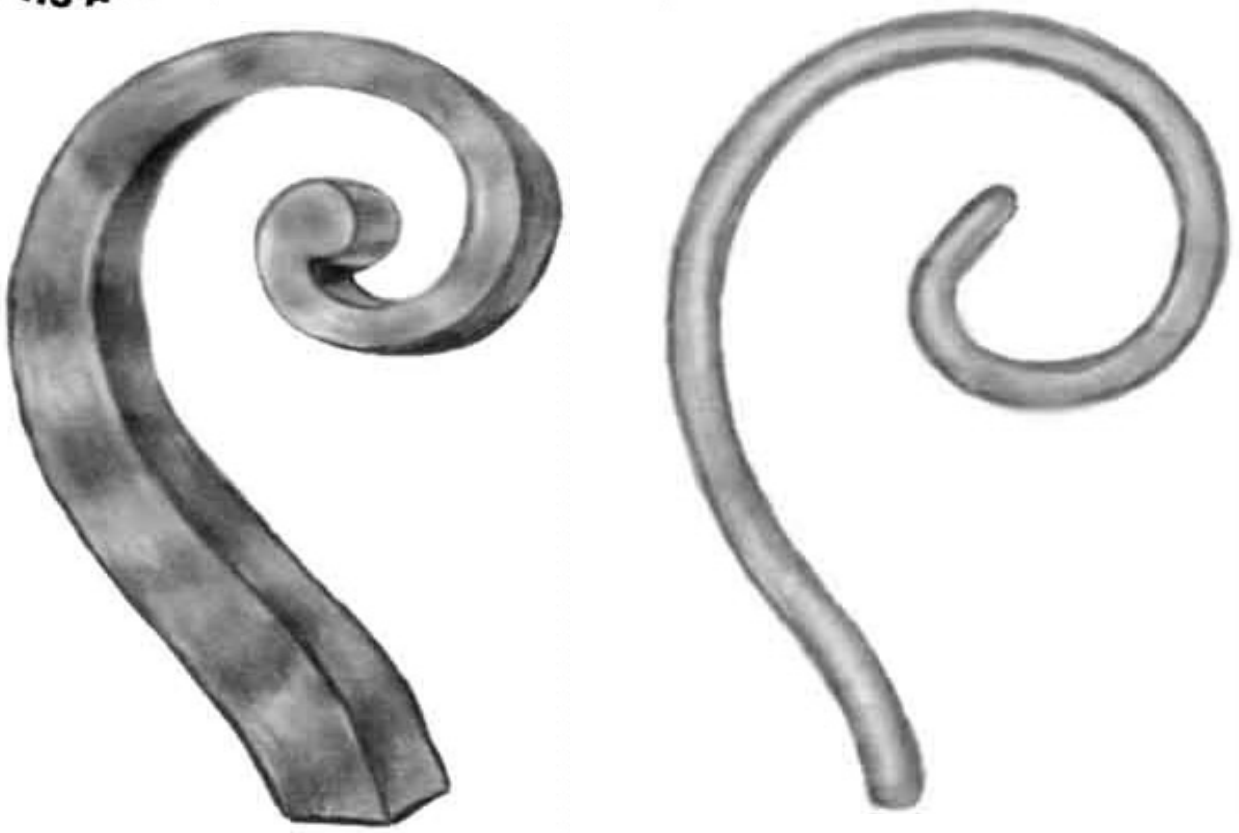
A few of the distinguishing characteristics of handmade versus machine made:

- Variations in texture, color, shape and pattern generally enhance.
- Generally iron work should feel heavy and solid for its size. Flimsy, tinny sounding items are less desirable.
- If its made of tubing (not desirable) it probably should not be called iron!
- If its made of wire (not desirable) it probably should not be called iron!
- The fewer 'weld beads' you see, the better the work.
- Is the surface smooth and uninteresting (less desirable) or does it have an interesting texture (desirable).
- Are the ends of the metal blunt (not desirable) or are they tapered and shaped (desirable) - see illustration of scroll.
- Are there burrs or ugly damage marks (not desirable).
- Is it painted, clear varnish/lacquered or wax finished. Nice textured metal work will be finished to enhance, not hide the metal surface.
- Are repeating shapes or patterns exactly the same (less desirable) or are they subtly different adding interest (desirable).

Beautiful Iron

A general guide to identification
of ironwork of the Blacksmiths craft

Scrolls-Blacksmith made versus machine made



BLACKSMITH SCROLL

- Hammered texture surface.
- Scroll has appealing mass with changes in thickness.
- Gradual decrease of the space enclosed by the scroll.
- One of a kind creation, with each hand crafted piece having unique characteristics.

MACHINE SCROLL

- Smooth, non-textured surface.
- One continuous thickness, frequently made with round rod or flat bar on edge.
- Similar or uneven space enclosed by the scroll.
- Mass production identical look, typically with straight section on end of the shape

This page was created by David W. Wilson, Illustration/Design

URL for this site is: http://www.flash.net/~dwwilson/beautifuliron/bi.html

Anonymous Basket.

Each year the Cambell folk school has a blacksmith work week. In exchange for room and board, smiths from various parts of the country volunteer a weeks labor up-grading the school's blacksmith shop and doing whatever smithing project the school may need.

This past year Dick Geier and John Rousch represented NYSDB. Clay Spencer organized the event and this year under the direction of Bert Smith the ten volunteers constructed five, eight foot sections of handrail to go with a like amount done last year. The rails run from dining hall entrance, down the hill to the gift shop. All wood posts supporting the post vices in the shop we replaced with steel tubing and a number of hand tools were made for the shop.

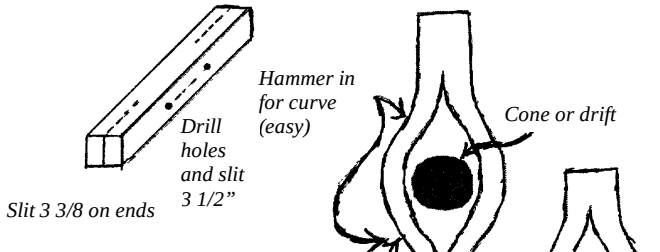
One evening several of us were looking at a collection of photographs taken by Don Neuenschwander of European iron work he had seen during the ABANA tour. One photo was of a unique basket that we all ventured guesses on how it was done. The next morning at breakfast, Allan Kress, an excellent smith from Alabama, announced that he had been in the shop early and using a piece of clay had figured out how it was done.

Following are Allans's notes on how the basket is made.

Don was not aware of who had done this work so if anyone recognizes it let me know so credit can be given,

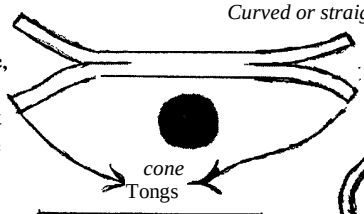
John Rausch

Use stock 5/8" sq x 7" long, slit 3 3/8" on each end, slit 3 1/2" in the middle with 2 small drill holes on each end of the slit.. Slit ends first on band saw, then drill holes for the slit in the middle, use the slitter. If you have trouble with the inside slit, bandsaw the ends last or hot slit the ends.

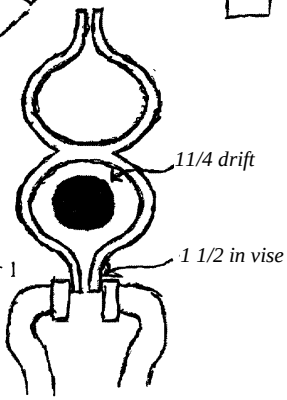


Open the center slit first on cone mandrel, if you can drift 1 1/4" rd pin here to open up the split..

Get a good heat in the middle, pull equally on each end with tongs, next to the cone or drift in vise to open up, then do the other side.

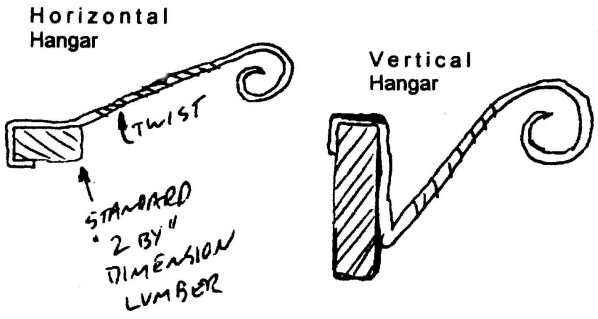


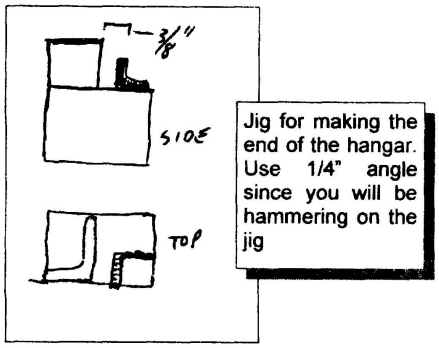
With the ends pulled together put 1 1/2" in the vise then use your 1 1/4" drift to open up evenly.



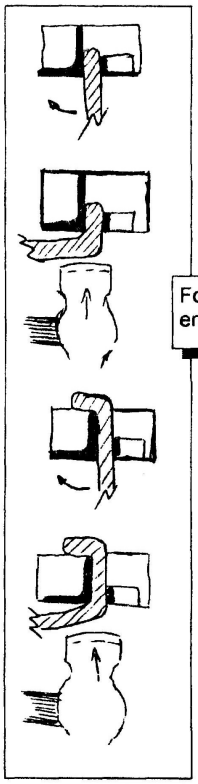
Not to scale

There is no wrong way to do this, since it is all guess work! Bill asked what to call this and since Don had the picture we can call it the Neuenschwander Basket! Don't forget and file any burrs or saw marks off.

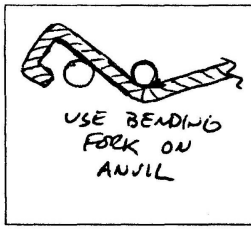




Jig for making the end of the hangar. Use 1/4" angle since you will be hammering on the jig



Forming the 'J' hook end using the jig.



Finishing the end on a bending fork.

Deck Rail Plant Hangers

Matt Balent

I have made quite a few of these over the past three years for sale at craft shows and demonstrations. They are quite popular, especially in the spring. The basic premise is a 3/8" bar which fits over any standard "2 by" dimension lumber (1 & 1/2" thick) with a hook or a loop in the other end to hold a hanging flower basket.

Begin this project by making a jig which will be used for the end which fits over the 2x4. The jig consists of a 1.5" piece of 1.5" x 1.5" x .25" angle iron, a .5" piece of 1.5" x 1.5" x .25", angle iron, and a 4 to 6" piece of 2" x 2" x .5" angle iron.

Weld the 1.5" piece on the center of the 2" angle with one leg flush with the face of the larger piece. Space the .5" piece slightly over 3/8" (slightly more to allow for heat expansion) with one leg up. The diagrams show the construction much clearer than this description.

To make a hangar, take a 30" piece of 3/8" square and taper one end. Make a loop or nice scroll in the tapered end. This is the portion with holds the flower basket Put the end jig in your vice. Heat the opposite end and insert it 3/4" to 1" into the jig and bend a 90 degree angle. True up the corner with a few hammer blows.

Heat the end again and insert it again into the jig, this time with the end angle over the outer leg of the jig. Bend a 90 degree angle and true up with a few hammer blows. You should end up with a J' shaped hook on the end of the piece.
From this point you can decorate the center portion of the hangar in whatever fashion you choose. I put a double twist in mine (half twisted clockwise and half twisted counter clockwise).

Finally bend the hooked end to whatever angle you choose. I use a small angle for horizontal holders and a rather large one for the ones used on vertical rails.

These can be used on any deck, fence, or structure which uses standard dimension lumber. Normally I coat them with exterior grade, rust resistant paint.