

Hot Iron News



THE VOICE OF THE NORTHWEST BLACKSMITH ASSOCIATION

Third Quarter 2014





Northwest Blacksmith Association

"To promote and preserve the Art and Craft of Blacksmithing while building friendship and good will."

Board of Directors



President
Lynn Gledhill
24760 High Pass Road
Junction City, OR 97448
541-998-2370 gledhill@bauercom.net



Vice President
Lee Cordochorea
PO Box 3940
Hillsboro, OR 97123
503-887-1697 thingmaker3@gmail.com



Secretary
Brent Christiansen
30338 SE Bluff Rd
Gresham, OR 97080
503-663-3919 metalartsman@comcast.net



Treasurer
Scott Rash
4233 SE 31st Ave
Portland, OR 97202
503-502-8409 scott_rash@hotmail.com



Director
Bill Apple
PO Box 244
Burley, WA 98322
360-876-8405 sourapple1@msn.com



Director
Anne Bujold
4546 NE Alberta St.
Portland, OR 97218
503-753-8715 annebujold@gmail.com



Director
Jay McGowan
607 Ronald Ave.
Cle Elum, WA 98922
509-674-8665 jmcg607@gmail.com



Director
Dean Mook
234 Monroe
Port Townsend, WA 98368
360-774-0553 info@deanmook.com



Director
Richard Tinder
709 North M Street
Aberdeen, WA 98520
360-612-3712

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Quick Reference for NWBA Members

Submit articles, photos, how-to's to HIN:
nwbainfo@gmail.com

NWBA Website: www.blacksmith.org

For NWBA correspondence or membership, or to change your address (must be in writing) send to:

Northwest Blacksmith Association
4742 42nd Ave SW #185
Seattle WA 98116

Annual dues beginning Jan. 1, 2014: \$60 (foreign, \$70)
Dues include quarterly subscription to Hot Iron News.
Dues may also be paid online at www.blacksmith.org

Want to be sure to keep up to date?
Sign-up to receive email announcements monthly so you don't have to miss another event!
Sign-up online:
<http://blacksmith.org/sign-up-email-announcements/>

The NWBA logo, with the hammer poised above the anvil and the accompanying NWBA acronym, is a Service Mark of the Northwest Blacksmith Association, and is reserved solely for the use of the NWBA, except that anyone may use it to advertise or promote the events, publications, or mission of the NWBA, which is Education in Blacksmithing and Related Metal crafts.

ON THE COVER

WHAT'S INSIDE



Four Hour Gate built by Terry Carson and Darryl Nelson on August 22, 2014 on Mt. Hood during Blacksmith Week. Not shown are the hinges, latch and catch which were also completed within the 4 hours.

Cover photo shows the gate being assembled, collaring a scroll to the arched frame.

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SAVE THE DATE:

Mentoring Center Monthly Events

September 27: Dave Lisch, Cable knives

October 25: Jeff Holtby, TBA

November: Unconfirmed but in the works...

Workshop with Mark Aspery

For most current info see our online events page:

<http://blacksmith.org/events/>

NWBA Elections

Every year in December there are elections held to replace outgoing board members. Those elected play a big part in the direction the NWBA takes.

You can make the difference.

Participate in the nominating process...

Maybe even step up to serve...

BE READY WHEN THE TIME COMES

STAY TUNED

The Hot Iron News is the official publication of the Northwest Blacksmith Association. Submission of articles, photos and other relevant materials is encouraged. All materials contained herein are copyrighted. Other ABANA affiliates, blacksmith associations and nonprofit educational metals-oriented groups have permission to reprint materials in the Hot Iron News as long as credit is given to the authors, the magazine, and the NWBA. The Northwest Blacksmith Association and this publication point out that blacksmithing is inherently a dangerous activity. At NWBA conferences, you are responsible for yourself and your visitor for using eye, ear, respiratory, and other protection as required. You are also responsible for using safe work methods. The NWBA, its officers, demonstrators, writers and members specifically disclaim responsibility or liability for any damages, injuries, or destruction of property as a result of the use of any information published in the Hot Iron News or demonstrated at conferences or meetings. By requesting or renewing membership, you are stating that you agree with this release.

From the Presidential Scrap Heap

Greetings All Blacksmiths:

Hope all are having a great summer. We had a blast at Blacksmith Week at Mount Hood! There were some great demos from some really talented smiths, and I learned a lot, even how to stick iron into hot rocks! Thanks to Darryl Nelson for organizing such a fun event and for demonstrating and sharing his tricks... He demonstrated 'til he nearly dropped!

I've heard from several members that they would like to go back to two conferences per year but I think Blacksmith Week fills that bill really well.

The Mentoring center demo's and open forging have been really well received. It has been a great success, in my opinion. Thanks to Bill Apple's negotiating, we didn't have to move out for the Fair! Instead we were able to move in some of the archives and share blacksmithing with all the fair attendees. Thanks so much to those who set up the archives and staffed the building during the Fair! A great organization like the NWBA wouldn't run if it weren't for you folks who generously give of your time.

We have a couple more demo's coming in September and October at the Mentoring Center as well as a *possible* workshop with Mark Aspery in November. Hope to see you at the Mentoring Center end of this month.

As an organization, I want to develop plans for outreach and education... Maybe in the form of workshops held in various locations or...

We were in Astoria, OR for the Metal Fest event in July... What if the NWBA were to sponsor Metal Fest; Portland,

Eugene, Spokane, etc.? ...Just some ideas to kick around.

Many of you may know that we lost one of our founding members, Don Kemper Sr. in July. He was held in high regard as one of the great presidents of the NWBA. He will be sorely missed.

Good forging,

Lynn



Treasurer's Report *NWBA Treasurer Scott Rash*

Mentoring Center 2nd Quarter 2014

Income:

Conference Auction	\$6,409.50
Bronze Workshop Fees	\$2,065.00
Mentoring Center Event Fees	\$936.00
Refund Income	\$61.95
Total:	\$9,472.45

Expenses:

Demonstrator Fees, Lodging	\$1,736.20
Bronze For Workshop	\$577.44
Propane	\$477.19
Handouts For Demonstrations	\$169.24
New Equipment	\$132.48
Administration	\$92.75
Supplies for Camp Hahobas	\$65.94
Total:	\$3,251.24

2014 Conference

Income:

Conference Registrations	\$14,579.69
Banquet	\$3,200.00
Merchandise Sales	\$1,543.11
Hands On Classes	\$690.00
Total:	\$20,012.80

Expenses:

Conference Site Expenses	\$5,421.00
Banquet Catering	\$2,962.64
Demonstrator Fees, Lodging	\$4,725.16
Bronze for Demonstration	\$1,824.96
Hands On Demonstrators	\$1,500.00
Fuels & Misc. Materials	\$320.14
T-shirts & Decals	\$695.31
Merchant Services	\$485.99
Buttons & Registration Supplies	\$304.45
Hammer Contest Prize	\$50.00
Total:	\$18,289.65

A Note from the Editor *Amy Mook*



Hello NWBA Members,

Another season is wrapping up here in the Northwest. Our summer has been so warm and sunny, it has been easy to forget that the darker days of winter are just around the corner. I hope that you have been able to find time to get out and enjoy our little corner of the world in all its summer splendor.

This issue is jam packed with articles covering many of the events of the past few months; the hands-on classes from our NWBA conference in May, a great demonstration by Joe Elliott at our June Mentoring Center event, Blacksmith Week demonstrations, and then a short introductory article about the treasure that is the Fort Vancouver National Historical Site.

Frankly, I was overwhelmed with the amount of information there was to sift through and to turn into meaningful articles. I tried to include a lot of specific how-to information. I am sure that not all my information is correct (even though I did try to fact check much of it), and I welcome your corrections to be published as needed.

I want to thank the people who have sent me photos, credit has been given where they were used. I appreciate all your submissions so much. There is limited room in each Hot Iron News, so not all good pictures can be used. If your photos were not used this time around, please do continue to submit them for future issues.

Here comes the broken record... I really want more of your articles for the Hot Iron News. Articles can be how-to, demo notes, historical topics, book reviews, or anything you can think of pertaining to blacksmithing.

An editor's job is to compile and shape the content, not

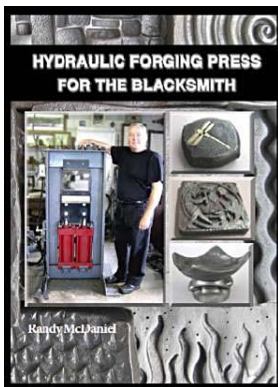
to write the articles. To have a quarterly newsletter consistently deliver great content the editor needs writers and photographers. That said, my job is not simply editor, and I think that most people may not know what it is I do. I am a paid communications director for the NWBA and the scope of my job description goes beyond editorial. I do indeed write many articles. I attend as many NWBA events as I can, taking notes and photographs for the Hot Iron News, our website and Facebook page. I maintain the website functionality. I publish NWBA and non-NWBA events to the website, and set up event registration. I make sure members get the help they need accessing the website, finding what they need there and answer their questions about how to post in the forum. I field phone calls from people asking questions about NWBA events and membership (only because my contact info is on the website). I send out monthly e-Announcements to keep subscribers up to date on upcoming events. Oh yeah... I also edit the Hot Iron News, compiling the content and checking the facts, spelling and grammar. My monthly salary covers some of my work time, and some of my work time flows over into NWBA member volunteer time.

I enjoy trying to meet the communications needs of the NWBA. It is my intention to be responsive to your collective vision for the NWBA's publications, let's keep the lines of communication open and flowing.

Thanks for your support, praise and criticisms,
be well,
Amy

Editor's In Box

This quarter a couple of announcements about new blacksmithing books came into the NWBA editor's email box. Here are the titles:



Hydraulic Forging Press for the Blacksmith by Randy McDaniel

Award-winning author and blacksmith, McDaniel has brought together an international group of collaborators to assemble *Hydraulic Forging Press for the Blacksmith*, a useful and inspirational resource for anyone forging hot metal. McDaniel addresses the comparison between a Power Hammer and a Hydraulic Forging Press, and focuses on the full potential of the Hydraulic Press.

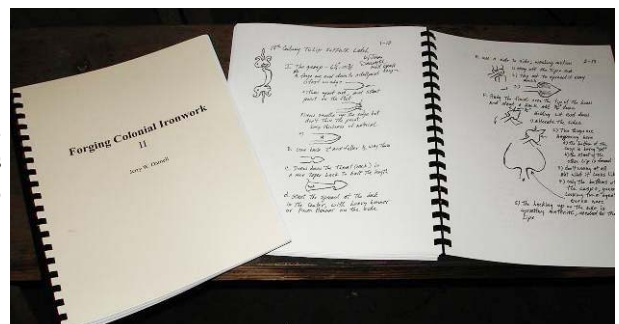
Hydraulic Forging Press for the Blacksmith documents the journey of McDaniel's passion for blacksmithing, which lead him to the Hydraulic Forging Press. McDaniel walks his readers through the history, usability and versatility of the press for the blacksmith. A contributing group of artists provided their work for a gallery that is featured within the book in full color.

More information available at: http://www.astralgalpress.com/Hydraulic_Forging_Press.htm

Forging Colonial Ironwork II by Jerry Darnell

Jerry Darnell's newest book "*Forging Colonial Ironwork II*" is now available. It is a compilation of over 22 years of teaching notes at the folk school and various conferences thru out the US. There is a mix of projects from simple to advanced. 3 or 4 more items than volume I.

Ordering information: <http://www.millcreekforge.com/book.html>



The NWBA Mentoring Center Monthly Hammer-In

June 28, 2014 Joe Elliott

Joe Elliott's demonstration consisted of 3 projects; Candlestick using channel stock, inlay work for ornamentation, and a feather made from angle iron. Joe provided handouts that describe each project in a clear stepwise fashion, easy to follow and specifying all material and tools used. Joe has a lot of tips and tricks from his many years of experience which are not spelled out in his handouts... which is why you should not miss his demonstration next time. Thank you Joe for sharing your time, expertise... and humor.

Two of the handouts are reproduced below and on the next page, and for your convenience (NWBA member access only), all three of his handouts are available online at the following address:

<http://blacksmith.org/june-2014-mentoring-center-demonstration-joe-elliott/>



Inlay Demonstration

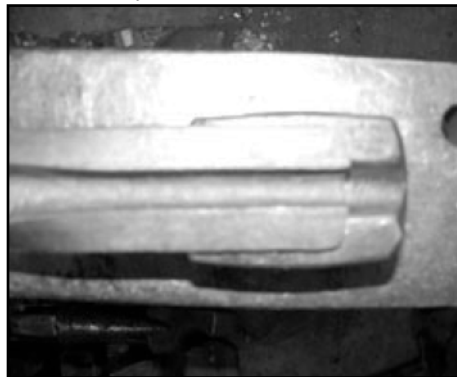
Joe Elliott © 2014

Materials: 1/2" x 1/2" x 1" channel 6" long, 1/4" x 1/2" x 6" copper

Tools: cross peen hammer, rawhide mallet, 1/2" hardy, 1/4" flat bottom chisel, narrow fuller



Step 1: Open channel with cross peen over anvil face



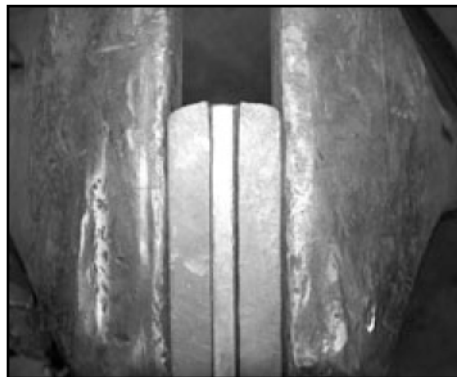
Step 2: Continue opening up channel over 1/2" hardy using rawhide mallet



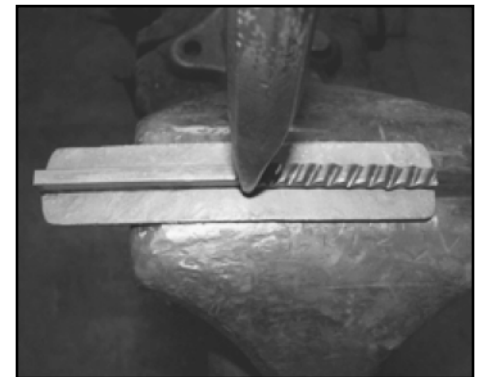
Step 3: Further narrow opening by edge hammering



Step 4: Redefine opening using 1/4" flat bottom chisel in hardy



Step 5: With steel hot and copper cold, insert copper and "pinch" tight with vise



Step 6: Heat entire piece, texture copper while saddled in vise

Note from Hardy Swage:

Joe used a raw hide mallet with great effectiveness. The cast iron head gives it weight and the raw hide gives it a tender touch.

The source is:

Garland Manufacturing Co.

PO Box 538

Saco, Maine

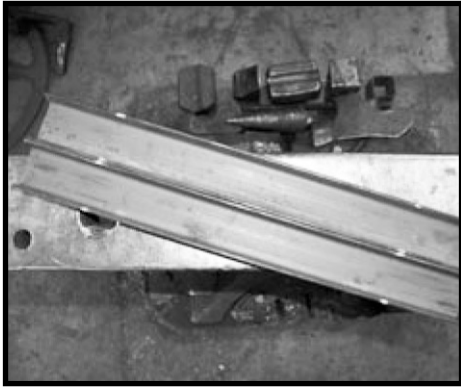
Their products are carried by other supply houses.



Candlestick Demonstration

Joe Elliott © 2014

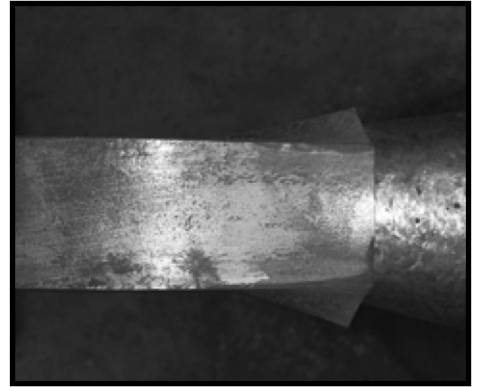
Materials: 1 1/2" x 3/4" x 3/4" channel, 5/16" rivets, 3/16" rivets



Step 1: cut 2 pieces of channel 14" long, mark 2 1/2" from end



Step 2: Fuller in at the 2 1/2" mark



Step 3: Open webs over anvil horn



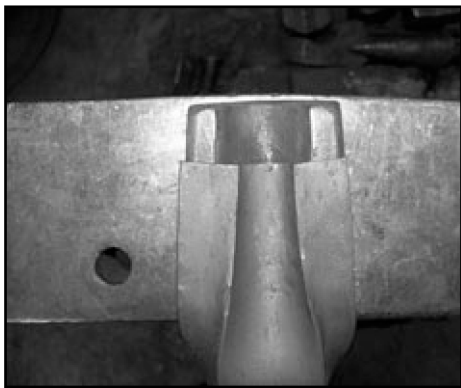
Step 4: Further spread webs over anvil face



Step 5: Bend foot over anvil edge and true to 90 degrees



Step 6: Flip channel and fuller back approximately 2 1/2"



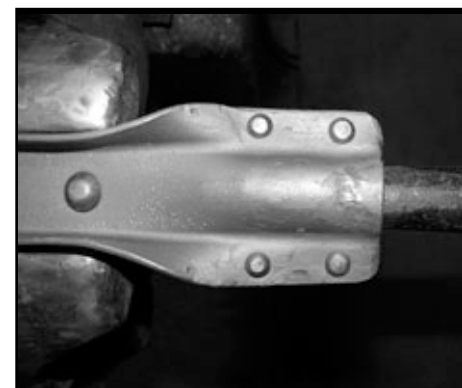
Step 7: Refine fullering over swage



Step 8: drill holes and set 5/16" rivets to secure body portion



Step 9: drill holes and set 3/16" rivets to upper section



Step 10: drift fullering to accommodate 1" candle



Step 11: wire brush and wax

Hands-on classes are a big draw at our conferences, and a great bargain for personalized instruction in a small class setting. During Spring Conference 2014 we had six hands-on classes, teaching a variety of techniques and projects. Hands-on classes are one of the premier benefits of your NWBA membership, and a great way to gain experience with instruction.

A fully detailed description of Lisa Geertsen's Italian Leaf class is included in these pages, followed by few pictures from each of the other classes. Detail notes and photos will be included when they are available. Also, when available, provided printed notes will be posted to our How-To Article section or Demonstrator Handouts section of the website (under RESOURCES).

These were the six hands-on class offerings:

- Martin Brandt - Fancy Twists
- Tri Ficker - Forging Tongs
- Richard Tinder - Steak Turner
- Andy Blakney - Feather Hook
- Lisa Geertsen - Italian Leaf
- Jim Von Mosche - BBQ Set

Thanks to all these instructors.

Editor's note: Seeking articles with detailed how-to notes and pictures. Members want to read about specific methods and materials and your input is necessary. The job of the editor is to compile articles, photographs and announcements, not to write all the articles.

Blacksmith Conference Spring 2014 Hands-On Class with Lisa Geertsen



Lisa Geertsen's Hands-On class, forging an Italian Leaf, was well attended. Lisa provided detailed handouts (reproduced on the previous pages), and demonstrated in a very clear step by step fashion. Consequently, the students were able to forge some very nice looking leaves.




Blacksmiths in Lisa's class demonstrate the smith's definition of 'Lean In'.

ITALIAN LEAF

BY: LISA GEERTSEN

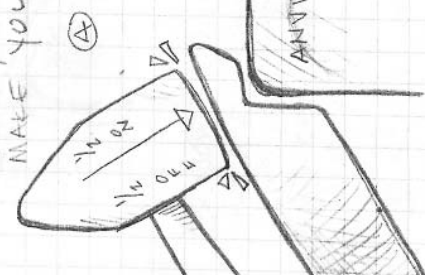
MATERIALS:
 1/4 x 3/4 FLAT BAR - FOR EASE OF USE, CUT A 24" LONG PIECE FULLER (1/8" ROUND MORE OR LESS)

① LAY OUT BAR W/CENTER PUNCH MARKS NEAR THE EDGE OF THE BAR.

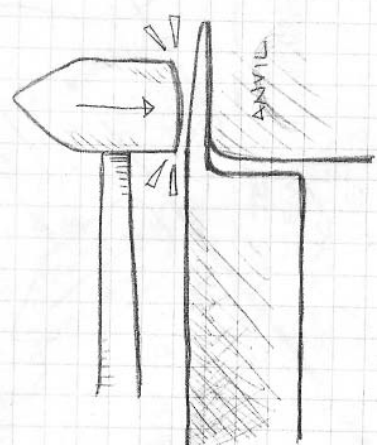


1" - 3/4"

② AT THESE MARKS, FOR THE FIRST TWO, USE THE ROUNDED EDGE OF THE ANVIL CLOSEST TO YOU TO "PRE-SHAPE" USING 1/2 FACE BLOWS.
 (A) START AT THE 1/4" MARK, HOLDING YOUR BAR AT AN ANGLE TO START THE FIRST INDENT IF YOU LIKE, BUT LEVELLING OUT TO PARALLEL TO MAKE YOUR TAPER, USING NORMAL BLOWS



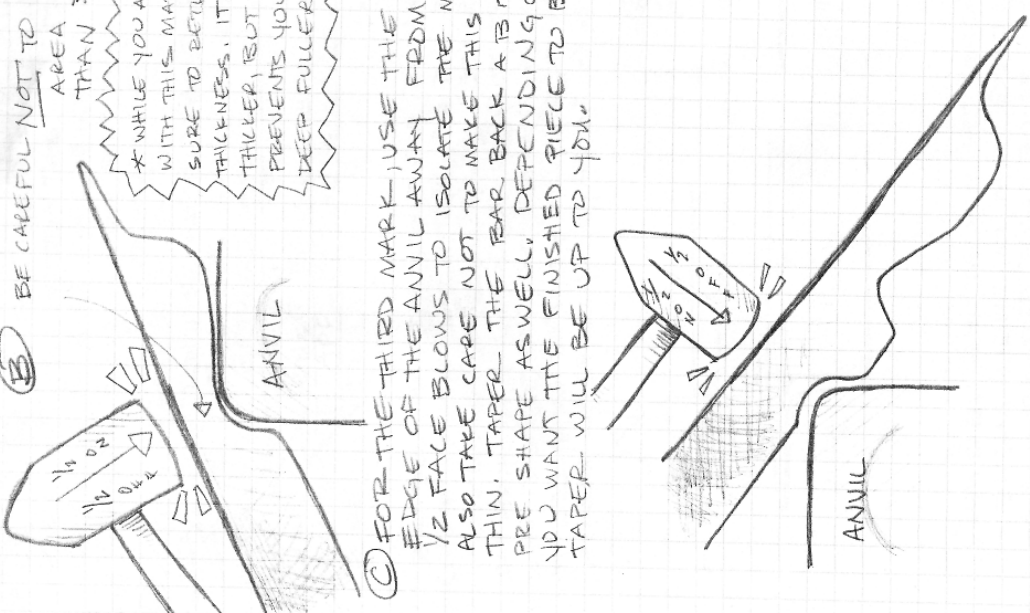
(B) NEXT SHAPE THE BAR AT THE NEXT MARK BY HOLDING IT AT AN ANGLE ON THE ROUNDED EDGE CLOSEST TO YOU. USE 1/2 FACE BLOWS AGAIN. BE CAREFUL NOT TO NECK IT DOWN MORE THAN 3/8"



(B) BE CAREFUL NOT TO MAKE THIS AREA THINNER THAN 3/8"

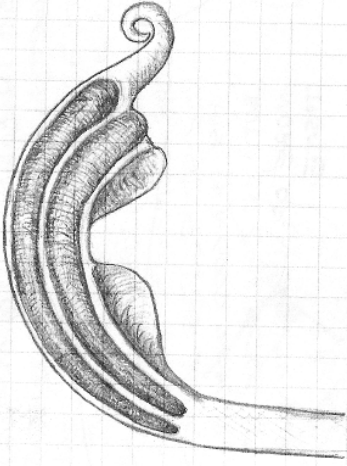
* WHILE YOU ARE WORKING WITH THIS MATERIAL, BE SURE TO RETURN IT TO 1/4" THICKNESS. IT CAN BE A BIT THICKER, BUT TOO THIN PREVENTS YOU FROM MAKING DEEP FULLER MARKS *

(C) FOR THE THIRD MARK USE THE ROUNDED EDGE OF THE ANVIL AWAY FROM YOU. USE 1/2 FACE BLOWS TO ISOLATE THE MASS AGAIN, ALSO TAKE CARE NOT TO MAKE THIS SPOT TOO THIN. TAPER THE BAR BACK A BIT FROM YOUR PRE SHAPE AS WELL, DEPENDING ON WHAT YOU WANT THE FINISHED PIECE TO BE THE TAPER WILL BE UP TO YOU.



* BE SURE TO FACE YOUR FULLER MARKS DOWN INTO THE WOOD * THIS WILL PROTECT ALL OF YOUR HARD WORK, & NOT MARR THE METAL *

② LIGHTLY HAMMER THE OUTER EDGE OF THE LEAF TO SIT ON THE ANVIL FACE, WHILE LEAVING THE LOBES RAISED. KEEP ALTERNATING BETWEEN STUMP & ANVIL UNTIL YOU LIKE YOUR LEAF. FINISH TO YOUR LIKING, BRONZE BRUSH ALWAYS LOOKS NICE IN THIS APPLICATION W/SOME WAY TO SEAL IT.




Lisa Geertsen
Pg 4



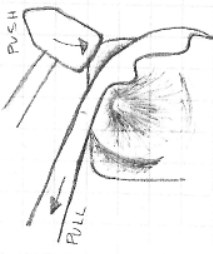
Lisa's sample Italian Leaf in steel, left end is complete, right end a leaf in progress.

PRESHAPE SHOULD LOOK LIKE THIS



③ NOW YOU CAN SCROLL THE PRE SHAPE. * SCROLLING MUST HAPPEN BEFORE FULLER LINES ARE ADDED. *

USE THE HORN OF THE ANVIL TO SCROLL THE LEAF. THIS WILL BE A PUSH & PULL ACTION, ONCE YOU GET IT STARTED. IT IS DIFFICULT TO DESCRIBE IN A DRAWING OR WRITEN, BUT YOU WILL GET A FEEL FOR IT ONCE YOU BEGIN.



THIS IS A GOOD SHAPE → BUT YOU CAN SCROLL IT MORE OR LESS TO YOUR TASTE.

④ NOW YOU MAY BEGIN TO FULLER. I LIKE TO USE A FULLER THAT IS ABOUT 1/8 WIDE OR SMALLER. (THIS IS THE RADIUS)

④ BEGIN AT THE BASE OF THE TENDRIL AND WORK BACK TOWARD STEM. I LIKE TO DO A TOTAL OF THREE PASSES EACH LINE.

⑤ START THE SECOND LINE JUST BELOW THE FIRST, AND FINISH IN THE LEFTOVER SPACES FOR THE THIRD.

⑥ SCROLL THE TENDRIL, HOWEVER YOU LIKE. USE THE BALL PISEN TO DISH OUT THE LEAF INTO THE WOOD STUMP OR BLOCK.

Pg 3

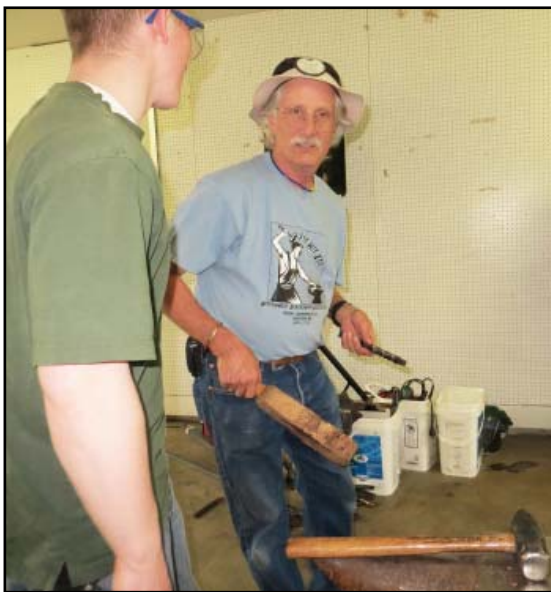
Blacksmith Conference Spring 2014 Hands-On Classes

Andy Blakney: Feather Hooks



Andy Blakney, in far left picture at the anvil, demonstrating a great beginning blacksmith project. The feather hook is a simple decorative wall mounted hook.

Martin Brandt: Fancy Twists



Martin Brandt, left facing forward, demonstrated lots of twist techniques, from the simplest to quite fancy. Practicing twists is a great way to learn about how hot steel moves, it doesn't always turn out as expected, but the results are informative



Blacksmith Conference Spring 2014 Hands-On Classes

Richard Tinder: Steak Turners



Richard Tinder, far left, demonstrated a great beginner project, steak turners with a graceful twist and loop end. Participants of this class completed some nice looking steak turners, Ben Lindsey shows his below.



Jim Von Mosch: BBQ Set



Jim Von Mosch, at left, demonstrated a simple, solid and well designed barbecue set.

Tri Ficker: Tongs

Tri Ficker, farthest left in picture, looks on as Doug McGuire works at the anvil. A little more challenging of a project, tongs require one to make 2 pieces exactly the same. Tri makes it look easy... He is definitely an expert tong forger.



.....
 Pictures of these classes are really only a reminder of the fun had at our conference, and hopefully encouragement to members to try to make it to our next event.
 And, your notes from the demonstrations can be used to make a great how-to article. If you are concerned about your grammar and spelling, fear not, we will work together to make your articles great!!
 Hoping to hear from you, Thanks from Amy, NWBA website and Hot Iron News Editor

Many thanks to all the instructors of these hands on classes.

MEMBERS! These classes are some of the premier benefits of your NWBA membership, hands on with instruction by experienced smiths is the best way to improve your skills... *and* practice, practice, practice...

9th Annual Blacksmith Week on Mount Hood, August 2014

sponsored by Cascadia Center for Arts and Crafts www.cascadiaart.org

The Blacksmith Shop at Summit Camp on Mt. Hood, has been transformed by Cascadia Center for Arts and Crafts (CCAC) in collaboration with the Mound Hood National Forest (owners of the property). It went from being a dilapidated building filled with junk into a fully equipped blacksmith shop. It is the site of the new Blacksmith Shop and Artists Residences / Studios, expanding the CCAC Campus. Darryl Nelson, foundational member of the CCAC and a founding and very involved member of NWBA, heads up their quality blacksmith program, so we know lots of great blacksmith teaching and learning will be happening and hopefully even expand at the CCAC. Blacksmith Week 2014 was the inaugural event for the new blacksmith shop, and we filled up and spilled over in our eagerness to take it all in. A special thanks goes out to Darryl Nelson who has spent years of hard work to keep the Mt. Hood CCAC blacksmith program alive. He made Blacksmith Week 2014 happen, with so many demonstrations and hands-on opportunities it was like a fall conference. Many of us camped on-site and also enjoyed getting to know one another, sharing a few meals and stories around the fire. To help this tradition continue, let's show the program our support whenever and wherever we can.



Photo by John Graham

A great gathering place every evening...
Firepit made by Orion Forge, Bend, Or



Shared meals with friends, another wonderful benefit of spending time together doing what we love... blacksmithing and enjoying life.



Cascadia Center
for Arts and Crafts
www.cascadiaart.org

Blacksmith Week Demonstration: Tri Ficker, candle wall sconce

Materials: 1" schedule 80 for flower cup, 1/2" round x 12" for stem.

Approximately 2" from end, fuller in pipe with rounding hammer. Fuller both directions evenly, square to octagonal to round, creating 2 cups (for 2 sconces). Schedule 80 pipe forges like solid bar.

Forge pipe down until the pipe is closed all the way. Taper both cups evenly, leaving about an inch of straight pipe at the end. Cut the end cup off with a hardy tool, beginning the scarf for the forge weld ahead. Draw out the end of the remaining cup, preparing a scarf for welding on the stem. Cut the remaining cup off with a band saw, leaving about 1" straight pipe on the cup.



Blacksmith Week Demonstration: Tri Ficker, candle wall sconce continued...

Forge the stem and wall hanger tab.

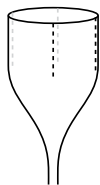
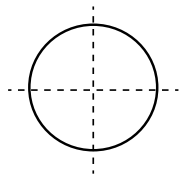
1/2" - 5/8" from the end fuller down the rod, working both sides. Flat the rod leaving the mass at the end. Place flat vertical on the anvil for the half face blows on the isolation, flattening the tab (fastening end, to be punched later). Complete the tab by rounding edge for aesthetics. Straighten rod in vice if necessary. Smooth the transition from flat to round so it has a pleasing shape. Again, straighten as necessary. Make the second stem to match.



Forge weld cup to stem.

Heat ends of stem and cup to be welded to forging heat. Douse scarfed ends with borax flux and heat until the flux in the fire appears to have tiny bubbles. Remove from fire, align ends and tap together. More flux and heat again, complete weld. Use a smaller hammer for forge welding, a larger hammer causes too much mass loss at the weld. Smooth the weld into the stem.

Shape the flower cup.

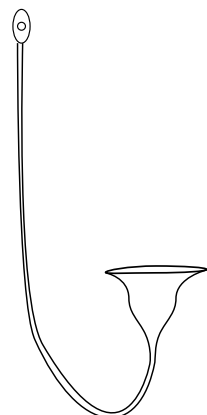


Cut petals into cup on bandsaw, first 1/2 then 1/2 again. spreading on the horn.

Set in vice, and using a fullering swage chisel (fullering edge shaped as in picture) to drift out the slits. Spread the petals on the bick more with each heat. For radius petal corners cut petal corners off with band saw. Rasp hot to smooth cuts to round.



Decorate the flower cup using a radiused butcher to make 2 decorative cuts on the outside of each petal. Turning over the horn and evening up the petals around the center of the cup. Texture up each petal with a small fuller hammer. Splay petals back as you work them.



Gracefully curve the stem of the flower cup wall sconce. Make sure that the curve of the stem is going in the right direction so the fastening tab and top of stem lays flat against the wall.

Clean up the sconce with a wire brush and finish it with wax rubbed on the warm piece.



Tri Ficker's demo kicked off this year's Blacksmith Week. Thank you Tri for a great demo. Here is Tri relaxing at his table full of tongs for sale.

Blacksmith Week Demonstration: Darryl Nelson, Forging a whelk shell

by Darryl Nelson ©2014



1. Using 3/8" sq. place 1" on face holding the steel at a slight angle to anvil face and apply half face hammer blows on two sides reducing to 3/16" at anvil edge.



2. Advance steel onto anvil face another 1" and repeat process.



3. Shows beginning pre-shape.



4. Draw first section to 4 1/2"+, round if desired.



5. Hold the second section diagonally and flatten to 3/16".



6. Clamp flattened section in vice and bend tang away from mass to 90°.



7. Using either the radius edge of anvil or hammer peen, begin to spread body of shell.



8. Concentrate on spreading body perpendicular to stock.



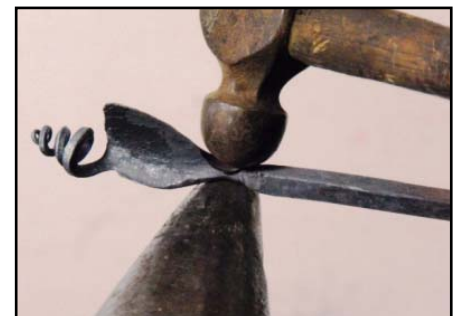
9. Spread as wide as possible, 1 3/4"+ at top, reducing material to paper thin.



10. Begin to spiral top.



11. Leave spiral at about 90% finish.



12. Begin to roll body by pinching at base using tip of horn and small ball peen.



13. Shows "pinch" at base.



14. Roll inside edge.



15 Roll and flair outside edge.



Darryl Nelson, Whelk shell continued...



Forgable rocks preheating atop the forge.

Pressing the Whelk into a rock

When finished making the whelk shell, cut off and taper the end to go into the rock, leaving the stock as long as desired for finished sculpture. Putting spurs on the part of the taper penetrating the rock will help bond the metal to the rock. A spur could just be a wider spot on the taper. Many times glue is necessary since the shrinkage of materials when cooled is inevitable.

Pre-drill the rock with a masonry bit. Place the rock on top of forge to preheat. Set a piece of stainless steel in the forge to heat up. This is to set the rock on in the forge, to make sure the rock does not stick to brick. When preheated and ready, place rock into forge. Turn the rock 180° occasionally to heat it evenly, establishing the bottom and encouraging a flat base. Heat a little steel plate to put the hot rock on when removing from the forge, so the rock does not cool too fast. The rock is ready when it looks glossy, but it needs to heat long enough to be that hot all the way through, give it more time to heat while you work on the whelk shell.

Good gripping tongs are needed for holding the piece when pressing it into the rock. The rock is often placed close to the ground to get a better purchase on it. Though molten, the rock is still very resistant. Allow the pierced rock to cool slowly, it is delicate at this stage, like glass, and can shatter.

Certain kinds of rocks from Mt. Hood are great for forging. Once you are shown the kind of rock that works well, it is fairly easy to identify and find your own. These vary in color from greenish grey to reddish, tones which show through in the dark glossy finish of the cooled forged rocks.



Blacksmith Week Demonstration: Darryl Nelson, Ram's Head Cheese Slicer



Step by Step Ram's Head display by Darryl Nelson



Darryl knocking back the head of the ram.



Darryl generously provided step-by-step instructional handouts and had great models of the forging process for the ram's head.

Materials: 8" of 1/2" square stock.

Darryl first forged the ram's head on one end. Full instructions for this can be found online at: <http://blacksmith.org/darryl-nelsons-rams-head/> (available for NWBA members only, and registered online as a web user).

The rest of the demo was building the cheese slicer; putting in the twist, drawing out the harp, creating holes for the wire, forming the harp, putting on the wire... if you were there you saw and heard many worthwhile tips, facts and some interesting blacksmith stories... Thank you Darryl.



Above: Drawing out the harp, using the fully radiused edge of the anvil.
 Left: Bee Hive Frame Wire for the slicing wire. One roll is cheap and will last a lifetime.
 Right: punching the hole for the slicing wire.

Blacksmith Week Demonstration: Kellen Bateham, Origami in Copper



Starting simply and with steel, Kellen demonstrated the basics with a 'paper' airplane. Then, adding to the methods and techniques he showed in the first project, Kellen showed how to make a simple folded vessel in copper. Finally he showed us how to form a complex Waterbomb Tessellation (Design by Eric Gjerde, google it!). In the pictorial essay below are brief instructions for each of these projects; the techniques and skill level builds with the complexity of the project, apply instruction about techniques from one project to the others.



'Paper' Airplane in Steel

Material: $\sim 1/16$ " (~ 14 gauge) steel sheet, slightly smaller than notebook size.

Reduce the number of layers when designing origami in metal, to reduce bulk and maintain crisp lines. The material holds the form so the extra layers for stiffness are not needed.

Layout as per drawing at right. Wing fold lines (A) are slightly to the outside of the wing, so that when the wings are folded in there is a slight gap at the centerline to accommodate the material folding.

Score fold lines, on the valley side of the material, using a somewhat blunt cold chisel, rounded edges so it can 'walk'. Make lines deep enough to be seen on the back side but NOT CUT THROUGH. Do not run the lines to the edge, especially on lighter gauge material, so it doesn't tear when folding.

Sheer away grey area with hand sheers. Soften corners for play friendliness.

First fold each wing toward the center line, scored line inside the fold. Fold part way, making sure the line is established as a solid and straight line. Place piece in vice for a crisp crease.

Fold along center line, work both sides to maintain straight line and flat plane.

Now mark for the wingfold, a parallel line to the bottom fold. Mark the exact same line on the other side. Score, and bend. Use the chisel as a pry and hammer wings flat, again using the vise for sharper, paper-like fold.

Display with pride, play with caution!

Transferring a pattern to your metal sheet

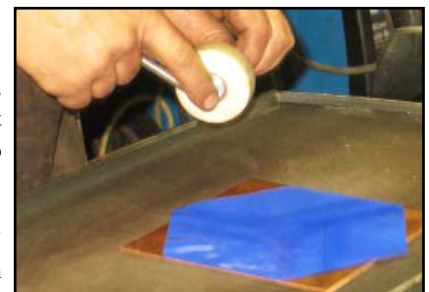
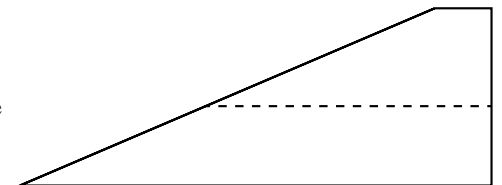
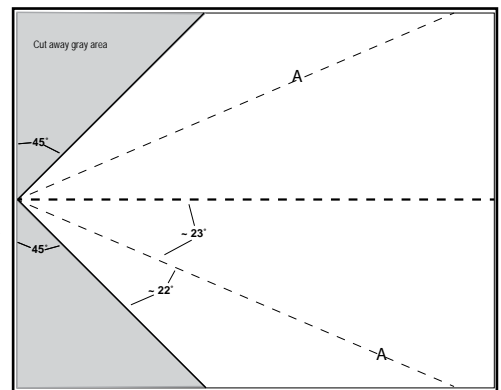
If you are creating an easy pattern, on square, drawing it on by hand may be easier than using a transfer method. However, for a more complex pattern, and patterns on an angle, designing on a computer, printing on special transfer paper, and transferring that to your piece may be the preferred method.

Kellen used PNP paper, Press and Peel transfer paper. There are many sources for this on the internet, search for 'PNP transfer paper'. The fold pattern design must be printed onto the transfer paper in the right kind of printer (for the kind of ink it uses), and he has found that a copier machine printer is the way to go. The PNP paper does not harm the machine, but commercial copy places may need to be convinced...

Print the design onto the PNP paper via the photocopy function of the machine, or from a digital file.

Clean your metal sheet very thoroughly, removing all dust. Place PNP paper design side down on your metal, aligning it as desired. Carefully place the metal with the PNP paper on top of a heat source, copper side down, an electric griddle works nicely. Heat to high temp, transfer occurs at $\sim 400^\circ$ F.

Rub the design lines to assure design transfer is complete. A hard rubber skateboard wheel works great for this. Be careful not to allow shifting of the paper. Quenching cools the plastic and the ink remains on the metal, the plastic paper should come right off.



Kellen Bateham, Origami in Copper



Design for square bottomed copper vessel transferred onto copper. Lines of the square and lines coming off its diagonals are inside folds.

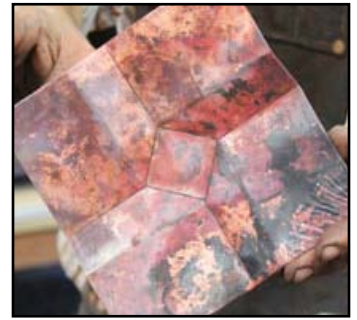


Score the inside of the folds (valleys), deep enough to see on the backside, not cutting through, and not all the way to the edge.

Copper Origami Vessel



Break radial lines first, cuts on inside. Begin forming folds, work from outer edges, toward the middle, evenly all around.



Work the inner square over a die of the same size. **Anneal frequently**, keep the copper from getting brittle.



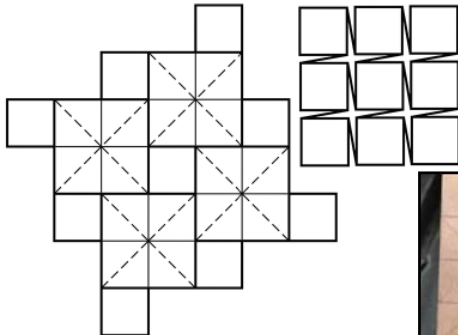
Work vessel sides to 90° with hammer, form past that by hand. As before, take care to keep lines crisp, frequent annealing, work evenly all around.



After radial lines are broken to ~ 45Degrees the 'Vessel' is inverted on flat plate and compressed with set hammer placed on flat of the central square. You can compress to flat or leave as a 'Vessel' form. The final closing may be coaxed by hand, correcting with hammer as needed.

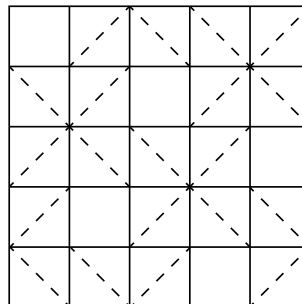


Waterbomb Tessellation in Copper



Waterbomb Tessellation Designed by Eric Gjerde).

Drawing on the left above is the repeated tessellation and as folded (dotted lines fold to valleys, solid lines to peaks), as transferred to copper sheet, and tessellation fit to 5 x 5 grid, X's are the valley lines. Use lighter material, 20 gauge, when making a complex pattern with many folds.



Tessellation

"A tessellation of a flat surface is the tiling of a plane using one or more geometric shapes, called tiles, with no overlaps and no gaps. In mathematics, tessellations can be generalized to higher dimensions. A periodic tiling has a repeat pattern." from Wikipedia



Design transferred to one side, use cold chisel on valley side only. Cut up to but not onto the intersections of the valley lines, and keep away from all edges



Photo by John Graham



Photo by John Graham

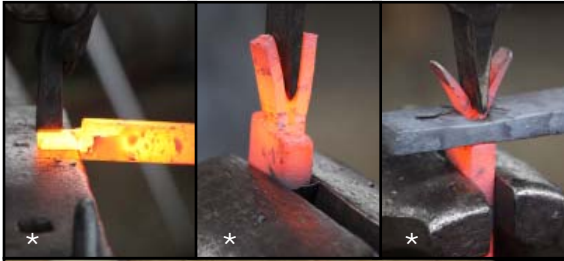
Begin folding using various specialized stake tools made for tight corners and crisp edges. Work over entire piece evenly, bit by bit. Continue to tighten folds by hand and with pliers. Completed folded copper waterbomb tessellation can be seen in the picture at top of page 17.

Blacksmith Week Demonstration: Joe Elliott, Joinery Techniques

Joe Elliott, a blacksmith with decades of blacksmithing experience and designing for clients' budgets, favors the use of traditional joinery. When designing, for economy purposes he may drop some design elements to stay within budget while using the traditional forged joinery. He came to his demonstration equipped with many very creative tips and techniques. While executed a bit hastily during the demonstration, to fit in all he wanted to show us, he knows how to use these techniques flawlessly. His professional work shows this, and he and his team showed us by winning the Blacksmith Wars Table contest at Western States Conference 2013. A few of the joinery techniques he shared are pictured here, the descriptions for each are very brief and not intended to be a step-by-step how-to.



Above and Right: Pulling a tab out by cutting with a 1/2 round gauging chisel, setting with flat faced top tool, keeping the edge of the tab heavy at first. Many uses and styles were shown, flat bar and square stock. Joe shows how angling the tabs in opposite direction on square stock can be used as an integrated solution for table leg fastening.



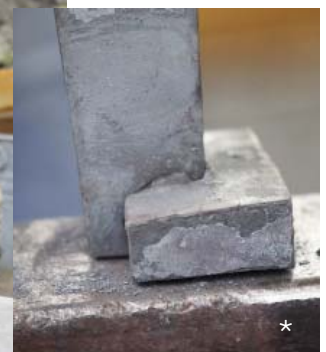
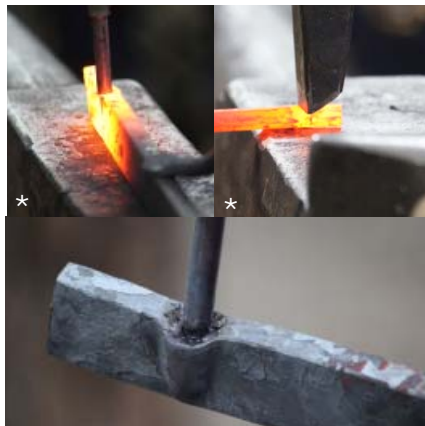
Left and above: Decorative tenon fastening. Draw out the tenon, split it in two, pass it through the pierced bar, and pry it open to snug up the joint, and scroll ends decoratively.



Above: decorative inlay made at the Blacksmith Week Demo, step by step on page 6

Left: Working with tubing. With striker flare out opposite corners of square tubing, drive second piece of round tubing into the flared opening. Do it in one heat, hitting straight down on tubing. Tap the fold over, securing the joint.

Below: Create a blind hole on the edge side of flat bar, isolate an upset end on a round bar to create a ball, around which the flat bar will cinch when the round bar is pushed into the hole and the flat bar while hot is packed around the hole with a beveled chisel.



Above: Stylized candlestick. Tapered flat stock bowled on a swage at the wide end, creating the candle cup. Heavy base cut to a depth of approximately 2/3 the width of the flat stock. Pierce the flat stock where it fits the base, 2 perpendicular holes will help lock the joint when the cold flat bar is slid into place in the hot base and the base is hammered closed. This is the joint named The Joe Joint.

*Photos by John Graham

Blacksmith Week Demonstration: Four Hour Gate by Terry Carson and Darryl Nelson

photos by John Graham



Terry Carson, photo taken at the start of the demo

Back in the day, they were poor struggling artists wanting to go to every blacksmith conference they could. In their pursuit of the means and the way they found inspiration from something Russ Swider, of the Southwest Blacksmith Association told them. "If you can come up with a good demo we will pay for your travel expenses."

Foolishly, with the hubris of strong minded, extremely confident young men, they came up with the three hour garden gate using all traditional joinery. Undaunted by the discouraging words of master smith Francis Whitaker (to paraphrase, "not possible"), they set about designing the project. New Mexico was the first demonstration, and within four years they had done seven gate demos. A 1984 gate was put into the National Ornamentation Metal Museum collection.



Darryl Nelson, photo taken near the end of the demo.

It has been many years since Terry and Darryl have done this demonstration. With the wisdom and calm of experience, the three hour gate has become a four hour gate. Seeing them build it in four hours, it is clear that even with the added time it is quite a feat to get it done. The tasks were divided between them, and each worked steadily and intently building the pieces of the gate, appearing as a beautiful choreography. Assembly of the gate was coordinated perfectly, all the parts necessary and properly fit. A feat of skill to be witnessed, the Four Hour Gate is real, Blacksmith Week 2014... we were there.





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* photos by editor

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Fort Vancouver National Historic Site, Vancouver WA

Fort Vancouver National Historic Site has a rich and exciting history. My tour guides Mike Twist and Tom Dwyer brought the history to life with their deep knowledge and enthusiasm.

Mike is a National Park Ranger, though he did not begin his job at the fort as a ranger. Archeologist and historian first and foremost, Mike is clearly impassioned with the history and archeology of the fort, telling vividly detailed stories of the establishment, growth and demise of the original fort, and its ongoing restoration. Mike Twist is a treasure and hope for the ongoing success of Fort Vancouver as an historic site.

Tom Dwyer is a volunteer extraordinaire; very knowledgeable about the history of the fort, working in the blacksmith *and* carpenter shops, interfacing with the public and involved with promoting workshops that are held at the fort. There are many opportunities to get involved and give to the programs offered there, and also many opportunities to learn there, working in the shops and researching in their library and collections. Already among the volunteers at the Fort Vancouver blacksmith shop are a number of NWBA members, there is room for you to join them. Information about the fort programs and opportunities will be included in future Hot Iron News issues and online.



Fort Vancouver was the grand emporium of the west. Owned and operated by the Hudson Bay Company. The fort was a major supplier and buyer of goods in the area: it was huge in the fur trade, with significant trade in useful goods such as traps, hardware, clothing, blankets, knives axes, and tobacco. There was so much trade in fact that a short list of some of what was left over after a busy season (low levels of supplies) included: Cloth-41,015.5 Yards, Tobacco-52,020 lbs, Blankets-28,549, Rum-4,057 Gallons, Tea- 3,350 lbs, Coffee-3,341 lbs, Sugar-27,524 lbs.... meaning a lot of goods moved through the fort gates. This interesting history will be explored further in future Hot Iron News articles.

The fully restored blacksmith shop is open year round. Many volunteers demonstrate during school tours, exposing thousands of kids to the art of blacksmithing and a love of living history. There are also historic research opportunities, ongoing archeological digs, and studying of found artifacts.

The blacksmith shop was rebuilt exactly on the site of the original shop, and is equipped in much the same manner as it was in the mid 1800's.



Left: Mike Twist from FV photo album, Christmas at the Fort. photo by a Fort Vancouver volunteer Steve Young

Below: Panorama photomontage of one half the Fort interior

Right: Rashelle Hamms, NWBA member and FV volunteer working at the Fort Vancouver Blacksmith Shop

Photo Credit: Brian Christopher of Christopher Communications, found at flickr.com, Fort Vancouver National Historic Site



Right: a tableful of little items made at the blacksmith shop.

Below: One of the main products of the FV blacksmith shop, beaver traps.



Above left: Mike Twist showing the store's display of goods typical of the original fort's offerings.

Above: a sampling of goods available - pipes, tobacco, hooks, buttons, metal file, gun powder flask, ax head, thimble.

Left: a sampling of animal traps that would have been for sale lined one wall of the store.



Drawers and drawers of archeological artifacts are in Fort Vancouver's collections, including: forged ironwork, ceramics, accounting records, personal and commercial items, and more. There is a large collection of forged ironwork, the blacksmith shop within the fort was an industrial factory providing many items for the store and fort needs (hinges, axes, beaver traps, hooks, nails, etc). Shel Broder, a current colonial Williamsburg blacksmith, who has visited the fort and has taught workshops there, determined that many of the forged finds were actually from a scrap heap. A scrap heap like the one found there is very unusual, in general, iron was expensive and took a long time to be delivered, so it was more commonly recycled many times. The tossed scraps of forged mistakes reveal many details about how items were made in the blacksmith shop, information that would otherwise have been lost, or merely speculated.

The fort has many resources that are open to the public. Mike Twist emphasized many times that the fort is a publicly owned entity and anyone wanting to learn more from its history and treasures uncovered and as yet undiscovered are welcome. Please make an appointment for your research visit.

The three hour tour of the fort gave me more than I can fit in the available pages in this issue. In the coming months look for more information about activities at the fort, and a series of articles covering the very interesting history, and examining up close some of the fascinating artifacts from the collections.

If you are interested in finding out more or getting involved, please contact one of the following (please make an appointment for your archival research visit or special tour):

Volunteer Ike Bay dasbayhaus@comcast.net, Volunteer Tom Dwyer tdwyer55@comcast.net, Park Ranger Mike Twist mike_twist@nps.gov,





Northwest Blacksmith Association

"To promote and preserve the Art and Craft of Blacksmithing while building friendship and good will."

2014 MEMBERSHIP REGISTRATION FORM

The NorthWest Blacksmith Association is a Washington corporation and a 501 (c) 3 non-profit charitable organization founded in 1979. Now over 500 strong and growing. We have something to offer to anyone with an interest in blacksmithing, from the beginner to the serious professional.

Members of the N.W.B.A. receive our award-winning newsletter The Hot Iron News, the opportunity to attend N.W.B.A. semi-annual conferences, frequent hands on workshops and events, and the camaraderie and support of hundreds of blacksmith enthusiasts.

RELEASE OF LIABILITY

I hereby acknowledge that I have voluntarily applied to become a member of the NorthWest Blacksmith Association, NWBA.

I understand that blacksmithing is an inherently dangerous activity that involves certain risks and dangers. I acknowledge and understand that those risks include the potential for bodily injury.

Nevertheless, in full knowledge and understanding of the above risks, hazards, or dangers, I freely, voluntarily and knowingly agree to assume those risks. By my signature below, I hereby agree to assume all responsibility for myself and my property and hereby release and discharge Northwest Blacksmith Association, NWBA; it's members, employees, representatives, associates, independent contractors, and board from any and all claims, demands, damages, expenses, and any other liability for injuries or damages of any description which may occur as a result of my participation in this organization as a member. This Release shall be legally binding on heirs, my assigns, successors, estate, legal guardians, executors and me.

If I am signing this agreement on behalf of another person, I certify that all representations are true with respect to the participant and that I am the participant's legal guardian or custodial parent with full authority to bind the participant and myself to the terms of the Release.

I have carefully read this Release and fully understand its contents. I am aware that in signing this Release I am releasing and waiving certain rights that I may have and enter into this contract on behalf of myself and/or my family of my own free will.

THIS IS A RELEASE OF LIABILITY DO NOT SIGN THIS REGISTRATION FORM AND RELEASE IF YOU DO NOT UNDERSTAND IT OR DO NOT AGREE WITH ITS TERMS.

Signature: _____ Date: _____

Print Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

*E-mail: _____

*(if you are already registered as a user at www.blacksmith.org your website user account will be updated to allow member privileges only if you use the same email address as the one used to register on the website)

Mail to: Northwest Blacksmith Association
4742 42nd Ave. S.W. #185
Seattle, WA 98116

To apply online and pay by credit/debit card go to: www.blacksmith.org

Dues are:

\$60 in U.S.A.

\$70 outside U.S.A.

New Member

Renewing Member

NWBA membership is valid for one year from the date of signup. Renewals are sent out on a quarterly basis, look for your renewal letter sometime in the 3 month period around the anniversary of your registering for membership.

Blacksmithing Schools Around the Northwest

Backwoods Blacksmith

Between Sutherlin and Elkton Oregon on Hwy 138.
Instructor and owner is Gene Bland
Beginning blacksmithing, tool making, organic and garden art.
541 459 2879
bland2879@yahoo.com

Clackamas Community College

19600 Molalla Avenue
Oregon City, Oregon 97045
Phone: 503-594-6000
Website: <http://www.clackamas.edu/>
Offering blacksmithing classes under the Welding Technology program.

Clatsop Community College

1651 Lexington Avenue
Astoria, OR 97103
Phone: 503-325-0910
Toll Free 1-855-252-8767;
website: <http://www.clatsopcc.edu/>
Blacksmithing classes are taught through the Historic Preservation Program

Incandescent Ironworks Ltd.

Spokane, WA
509-456-8321
At Incandescent Ironworks I teach introductory and intermediate blacksmithing, introductory and intermediate knife making, and tailored instruction on selected smithing topics.
Contact: Steve McGrew:
stevem@incandescent-iron.com
www.incandescent-iron.com/blcl.html

Meridian Forge LLC

37010 Meridian East
Eatonville, WA 98328
360-832-6280
Contact: Darryl Nelson: meridianforge@hotmail.com

Old West Forge

PO BOX 2105
White Salmon, WA 98672
(509) 493-4418
For additional details contact Tim Middaugh:
tim@oldwestforge.com.
Current classes are listed at www.oldwestforge.com

Pratt Fine Arts Center

1902 South Main Street
Seattle, WA 98144
<http://www.pratt.org/>
Phone: 206.328.2200
Fax: 206.328.1260
Email: info@pratt.org

Studio 4 Forging Facility LLC

A state of the art Knife Making and Blacksmith school in Seattle.
3600 E Marginal Way S. #4
Seattle WA 98134
email David Lisch: studio4@davidlisch.com
Current class schedule is at DavidLisch.com - Learn More at Studio 4

Thorne Metals Studio

13751 Daybreak Ln
Anacortes, WA 98221
(360) 293 8257
Current classes are listed at:
<http://learnblacksmithing.com>

If you would like to list your blacksmith school here, please send your information to nwbainfo@gmail.com.

Editor's note: As a 501(c)3 non-profit organization there are limitations to how we are allowed promote our members' businesses. The listings will now include contact information and one descriptive sentence for your school, a policy subject to change.

To publicize your class you may send your event listing to the editor for inclusion in our online calendar. A short paragraph about the class and time, location, and fee information only please.

Please send information about your events, school and class listings to nwbainfo@gmail.com

CURRENT EVENTS: As listed online (<http://blacksmith.org/events/>)

September 27	NWBA Mentoring Center, Longview WA, Dave Lisch, Cable Knives
October 18	2014 Annual Northwest Jewelry and Metals Symposium Washington State History Museum, Tacoma, WA
October 25	NWBA Mentoring Center, Longview WA, Jeff Holtby, demonstration TBD
November 22	NWBA Mentoring Center, Longview WA Demonstrator TBD, possible workshop to be announced

Long Range Events:

April 23-26 2015	Forging on the Faultline, Western States Blacksmith Conf., San Benito County Fairgrounds, Tres Pinos, CA
May 14-17 2015	NWBA Annual Blacksmith Conference, Longview, WA
July 2-5 2015	CanIronX, Cape Breton Island, Baddick Nova Scotia, Canada

This list does not include many workshops offered by other organizations, you can see the class listings included in the events list online at <http://blacksmith.org/events>.

Take advantage of your membership benefits and SEND IN YOUR ANNOUNCEMENTS FOR THE WEBSITE CALENDAR AND THE HOT IRON NEWS to nwbainfo@gmail.com or submit it online: <http://blacksmith.org/submit-event/>

Announcements

Classes Currently listed as Workshops and Classes at www.blacksmith.org/events

Classes offered by Pratt

Beginning Blacksmithing 10/05/2014 - 1:30 pm - 5:30 pm
 Teen Welding & Blacksmithing 10/08/2014 - 3:30 pm - 5:30 pm
 Forging Night 10/10/2014 - 6:00 pm - 10:00 pm

Classes offered by Bill Pieh Resource for Metalwork

Fold Forming Fun with April Bower - 10/11/2014 - 9:00 am
 Repoussé and Chasing with Heather McLarty - 11/01/2014 - 11/02/2014 - 10:00 am - 5:00 pm
 Copper Christmas Ornaments - 11/16/2014 - 9:00 am - 6:00 pm
 Beginning to Intermediate Blacksmithing - 11/21/2014 - 11/23/2014 - 7:00 am - 6:00 pm

Do you have a blacksmith class that you would like to see listed on our events pages or in the Hot Iron News? Send the information to nwbainfo@gmail.com.

NWBA's Mentoring Center is a great place to learn blacksmithing from fellow smiths. Beginners and experts alike are welcome. Look for announcements of upcoming events...

not yet receiving our informative monthly email announcements? Sign up online: <http://blacksmith.org/sign-up-email-announcements/>

Tell your friends to join today, so they can start enjoying the benefits that are available right now to you as an NWBA member.

Announcements that are of general interest to blacksmiths and not specifically in the business interest of an individual will be printed free of charge in the Hot Iron News, at the discrepancy of the editor and within the guidelines of the NWBA Board of Directors. Submit your announcements for publication in the NWBA Hot Iron News and our website.

Mail to: Northwest Blacksmith Assoc.
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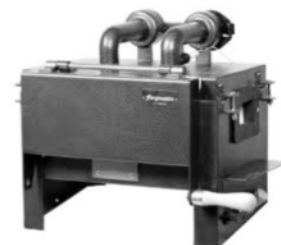


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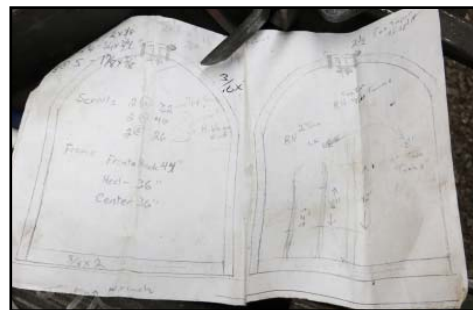
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Notes for the 4 hour gate built by Terry Carson and Darryl Nelson. see page 20

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email to: NWBAinfo@gmail.com
or submit online: <http://blacksmith.org/hot-iron-news-advertisement-submission-form/>

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If you have any questions do not hesitate to contact editor
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Hot Iron News



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