

# THE forge

Official Newsletter of the Fort Vancouver Trades  
Guild

# & plane

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FALL 2008

## Guild Sponsors Shelton Browder Demonstration

**S**helton Browder conducted his third guild-sponsored demonstration in November. It's always inspiring to watch Shel work and to benefit from his knowledge. One of the most amazing aspects of his demonstrations is how he decides on the size of the parent stock to use in forging a particular item. Shel is also very knowledgeable on details regarding the history of tooling, methods of standardization and early methods of production. We would like to thank Kathy and Ike Bay for graciously hosting Shel during his visit here by opening their home to him.

We would like to remind guild members that the reproductions of the period pieces created by master craftsmen at the guild-sponsored demonstrations are available for study, and we encourage their use as templates by guild members. The reproductions are available for hands-on examination. Please ask Ranger Bill DeBerry for assistance.



Axe Pole Butt with Rivet



Axe Eye Drift



Top and Bottom Dies for Handle  
Finial

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## Founding Guild Member Honored at NWBA Fall Conference

Founding guild member Bob Race was honored by the Northwest Blacksmith Association at their Fall Conference in Stevenson, where he received the NWBA Outstanding Service Award. Over the years Bob has made many contributions to the association. He has regularly conducted hands on classes and has always been present at the conferences to lend a helping hand. The award was presented by Mike Neely in a special Neely created iron frame.



## Introducing Craig Webster

Craig Webster is a familiar face to those of us who work Mondays at the shop, so it's about time that we introduced him to the rest of the guild. Craig came to the shop about a year ago and has made remarkable progress in that time. His favorite project so far is a fireplace set he made last spring. Currently he is practicing welding by making chain. When not at the shop Craig enjoys sailing and curling.

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## Gallery of Guild Work

**G**uild member Garron Guest has an affinity for making wood carving tools. The wood he chooses for handles and sheaths varies. Some of his favorite woods are Iron Wood (far left handle) and Lignum Vitae (center handle). He also sometimes laminates woods. Garron is particular in that his tool steel is recycled. Sources for metal include an old band saw blade and old buck rake tines. The tools are made to be comfortable to the hand and are not intended to be hit with a mallet. One of the most appealing details of the tools is the color they develop on tempering.



Ranger Bill DeBerry has also made some interesting pieces lately. Works include a handsome coat rack with welded collars mounted on birds eye maple, for a Rotary Club auction, as well as several tasting spoons for silent auctions. (Please refer to *News From the Fort*, Ranger Bill's input on the next page.)



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## New Gnomon for the Garden Sundial

Our new garden sundial gnomon is the result of some hard work on the part of Carpenter Shop volunteer Jerry Armstrong. The gnomon (the vertical triangle that casts the shadow on the time indicator disc) recently went missing, undoubtedly becoming a souvenir for one of the fort visitors. Jerry chose sand casting as his method of reproduction. He has a tremendous respect for the sand casting methods of the ancient Chinese, who perfected the method over 4000 years ago. Jerry used a modern clay, sand, petroleum mixture, called Petrobond, for his mold. Luckily for Jerry there was an exact duplicate of the gnomon on the sundial on the staircase in front of the Chief Factor's House, so he had an idea of what design to follow. The parent metal chosen for the pour was silicon bronze, as Jerry had plenty of that on hand from one of his wife's projects at Washington State University/Salmon Creek.



Above: Removing the crucible from the furnace.

Far left: The finished replica.

Near left: Two pours and the Overspill.

## Notes from the Fort

Visitation at the fort has slowed down somewhat with the coming of winter, however we are continuing to see school groups a couple of times a week, even during the holiday season. The forge has produced some special items recently: A coat/hat rack based on one at the blacksmiths' office at Williamsburg, for the Rotary Club auction; a several tasting spoons for park administrators to take to conferences for silent auctions; and finally a beaver trap for a new exhibit at Champoeg State Heritage area. Thanks to John Christianson who donated the beaver trap he had previously made to help fulfill this order. The new lights for the shop are in the park; we are waiting for a contractor to come in and install them. I don't have an exact timeline for the installation as the maintenance crew is very busy with other projects throughout the park and down at McLoughlin House.  
*Bill DeBerry, Historic Programs Coordinator*

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## The Upset Square Corner Bend

*Mark Aspery School of Blacksmithing*

*Springfield, CA*

A square corner bend like this is often used as a decorative element to embellish scrollwork and frames.

There are more than a couple of ways to make a square corner bend. The following method is taught at the school for a first square corner. The example below uses 8 inches of  $\frac{1}{2}$  inch square bar.

I like to use a pre-determined length of bar so that it can be measured again to see what happened to the stock after the corner has been made. Center punch the middle of the bar and heat about an inch or more on either side of the mark. Clamp the bar in the vise with at least  $\frac{1}{2}$  inch between the side of the vise and the center mark. The vises at the school have the edges rounded. Position a dog wrench on the other side of the mark with an equal distance away from the center mark as shown in Figure 1.



*Figure 1*

Bend the bar away from you. The direction is important and will be mentioned later. Also do not bend to 90 degrees yet. Bending to 90 degrees will cause cracking in the inside of the corner later during the upsetting process. Figures 2 and 3 show the bend and the angle.



*Figure 2*



*Figure 3*

Grasp the free end of the bar with a pair of tongs and reach for a light hammer. A light hammer is used for light rapid blows. Certainly the process can be done with a heavy hammer, but the upset will be further into the bar than just at the corner, something that you will have to rectify later. Start to straighten the curve of the bar on one side of the center-punch mark shown in Figure 4.



*Figure 4*

Do not let the centerline of your hammer migrate to the corner, in fact keep it above the inside edge of the other leg of the bar. Due to the natural arc of your hammer, material is pulled into the corner area. If you had bent the bar towards you initially, the arc of your hammer would have pulled the material away from the corner. Notice that the corner is not held tight up against the vise, as this would cause a galling of the material. Take another heat and clamp the other end in the vise to work on the second side.

Unfortunately, you cannot see the center-punch mark as it is on the underside of the bar. However you do have the flat side that you just forged to serve as a guide. (See Figure 5)



*Figure 5*

At this stage you should see a thickening of the stock at the corner. Go to the anvil and flatten the excess stock as shown in Figure 6.



*Figure 6*

Return to the vise and continue to work up the corner as before, until the corner is sharp. Only when the corner is nearly finished do you allow the corner to come to a right angle. (Figures 7 and 8)



*Figure 7*



*Figure 8*

The inside of the corner should be free from cracking as shown below.



Figure 9

## Events to Remember

### Events for Blacksmiths

**NWBA Spring  
Conference 2009**

**Ponderosa Forge  
Sisters, OR  
May 1-3**

### Events at Fort Vancouver NHS

#### Lantern Tours

**January 10 and 24  
February 7 and 21**

Tour the Chief Factor's House,  
Counting House and Fur Store with a  
Ranger by Lantern.

Admission Fee Required



#### Spinning at the McLoughlin House

**February 14 12 PM to 4 PM**



#### Abraham Lincoln's Pacific Northwest Birthday Bicentennial

**February 21 1PM to 4 PM  
Pearson Air Museum**

For more information on any events  
360-816-6230

[www.nps.gov/fova/home/htm](http://www.nps.gov/fova/home/htm)

### PHOTO CREDITS

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- p. 2 Top – NWBA with permission  
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- p. 4 Jerry Armstrong
- p. 5 Mark Aspery
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- p. 7 Mark Aspery

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