

Saltfork Craftsmen

Artist-Blacksmith Association

January 2007

Happy New Year



Poinsettia candleholder by David Seigrist

“Happy New Year”

January

NE Regional meeting (Jan 13, 2007)

South/Central meeting (Jan 20, 2007) hosted by JC Banks. Altus, Ok. Instead of a trade item for this meeting J C is holding a Poz tong workshop. He is providing all the materials for making a pair of Poz tongs. JC is also providing lunch but you might bring a side dish to help out. Lunch will probably be stew and cornbread.

NW Regional meeting (Jan 27, 2007)

February

NE Regional meeting (Feb 10, 2007) Gary and Dianne Gloden are hosting this meeting at their home south of Sapulpa. There will be a map in next months newsletter. Lunch will be provided but bring a side dish. The trade item is a decorative hook.

South/Central meeting (Feb 17, 2007) hosted by Terry Jenkins, Blanchard, Ok. Terry has chosen a boot scraper as the trade item for this meeting. Lunch is provided but bring a side dish to help out.

NW Regional meeting (Feb 24, 2007)

March

NE Regional meeting (March 10, 2007) meeting will be hosted by Dan Cowart.

South/Central meeting (March 17, 2007) hosted by Gerald Franklin. Gerald's trade items is a wall hook.

NW regional meeting (March 24, 2007) meeting will be hosted by Ron Lehenbauer at his shop is Waukomis. Ron has chosen a candleholder as the trade item. Lunch will be provided but help out with a side dish of some kind. At this meeting they will also be working to finish up some storage issues with the teaching trailer. If you want to help do any welding please bring your own helmet. The only one that Ron has is equipped with special magnifying lenses that may make is hard to see if not needed by user.

We are starting a new year and the calendar is open for both the NE and NW regions. If you have hosted a meeting in the past and want to host one this year let me know ASAP.

Editor

2007 DEMO REQUEST

➤ Pawnee Bill Ranch Museum events:

The Wild West Show dates are June 16, 23, and 30th. We have set the date for Heritage Skills on October 13. We also have a blacksmithing workshop tentatively planned for May 12. I think that Brandon can teach this class on May 12, but we would love to have an additional person as well depending on the class size. The Centennial Wild West Show is anticipated to be a pretty big event –your group's involvement with our demonstrations on the hill is so important to us! We couldn't do it without you guys.

➤ Norman Medieval Faire

Mark you calendars now for the Medieval Faire. Steven Knisely has been demonstrating at this event for several years and is again the one to contact if you would like to help. Last year Donovan's Keep came and helped out and they kept forges going throughout the day for the many visitors to observe the type of blacksmithing that would have taken place during that time period. If you have never been, it is an experience. There is something going on all around you as well as an open market area to browse through.

The dates for the Medieval Faire are March 30-April 1 2007.

➤ Tuttle tractor show

This is a centennial event so this will be a good opportunity for members to show others what blacksmithing is about a to possibly sell some of your work. Terry Jenkins is also hosting the May meeting for the S/C region at this event. When it gets closer to time, get with Terry for any information you need.

The date for this event is May 19, 2007.

➤ Sulphur tractor show

Sept. 15, 2007. Terry Jenkins is hosting a S/C regional meeting at this event. Here again is another opportunity to show the public what blacksmithing is and to sell some of your work.

“Watch for more events to come.”

If you know of any events in your community let me know ASAP so they can be published in the newsletter and put on the website

SOUTH/CENTRAL REGIONAL MEETING

Larry and Linda Morefield couldn't have asked for a prettier day in December to host a meeting for the South/Central Region of the Saltfork Craftsmen ABA. The day was supposed to be a bit breezy but there in between the peaks and hills of the Wichita Mountain the temperature turned out to be pleasant and the wind light. Just enough to keep the smoke from the coal forges moving.

About 40 members and friends showed up to man a forge or just sit around and visit. Larry set up his blacksmithing wagon and peddler's wagon in the bowl just south of his house and shop.



Everyone that brought a forge set up around the wagons. The local gun fighters cooked beans and cornbread for our lunch. There was a discussion about whether or not the cook put some road kill possum in them or not and a gunfight broke out. No one was injured but there were a few threats from the blacksmiths about gunfights too close to jumpy blacksmiths.

During lunch Otis Hennesey put his shotgun away long enough to play a tune or two and took some requests.



Donavan Crawford brought a couple of his students. They are learning blacksmithing and bladesmithing from Donavan. They are Alyssa Lusk and Andrew Greb. We hope to see a lot more of their work. They both took turns working on Gerald Franklin's forge.

Gerald Franklin did a little bit of demonstrating when the students weren't using his forge. Gerald Franklin and Bill Davis are hosting a workshop with Bill Epps in March and

Gerald was showing one of the possible pieces that Bill Epps will be teaching. There were several others spending time at the forges. J C Banks was making his trade item.



J C Banks' Cross

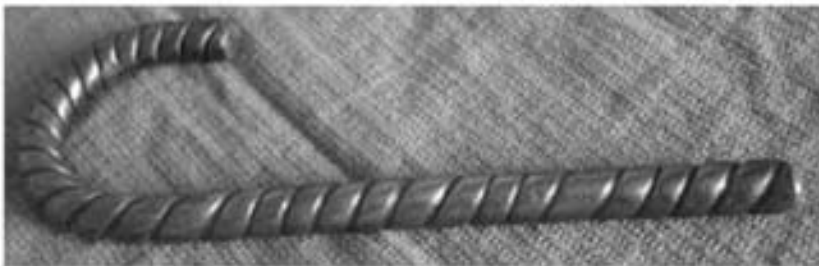


Gerald's Angle



The trade item was anything for Christmas and we had some really nice items. David Seigrist made the Poinsettia candleholder on the front cover. David is a fairly new member to the club and is just learning the blacksmithing skill. He did a really nice job on the poinsettia and it looks really nice on my table.

Here are some of the other items made and brought by the



members. I'm sorry that I don't remember who made each of the items.



Christmas nail was made by Ron Lehenbauer and he provided story or legend about the Christmas nail bring good luck to the family who had one hidden among the branches of their tree.

I made a set of four of these napkins rings out of copper. They are holly leaves and three red berries made from glass beads.

And of course Santa had to make his appearance. Bill Davis made this version of Santa from a RR Spike. He is completed with his red bag of goodies and his piece of coal for all the bad Blacksmith on his route.



Here is another candle and holder that looks good on my table. Bill got this one in the trade item swap and I got the poinsettia. Ron Lehenbauer took home the napkin rings I made (said something about wrapping them up for his wife for Christmas) I hope he bought her something to go along with them. And David' Seigrist's wife took home Santa.

It was a really enjoyable meeting and you should have been there.

BOD Minutes Dec 10, 2006

- Call to Order – The Saltfork Board of Directors met Perry OK on Dec 10, 2006. Members present were: J.C. Banks, Jim Carothers, Richard Dyer, Gerald Franklin, Mike George and Bill Kendall. Other participants were Bill and Diana Davis, Teresa Dyer, Marideth George, Aubrey Washington, Tom Nelson, Ron Lehenbauer and Jeff Kendall.
- **2006 Conference Issues**
 - >--The Board went through the list of comments from the conference questionnaire in detail.
 - >-- The Board discussed the numerical results from the questionnaire. These results were generally good, but the lowest ratings were given for the Gallery due to low participation.
- **Tool Box Raffle**
 - >-- The toolbox raffle netted the club about \$900. The Board decided to conduct a similar raffle in 2007.
 - >-- Adam Hall has already agreed to build another box for 2007.
- **2007 Conference Issues**
 - >-- The Board agreed that a Conference Flyer had to be put together soon so that we can start publicizing the event. This year we will finalize the flyer separate from the registration form so that we can get the publicity effort started earlier
 - >-- The Board discussed alternate locations for future conferences. It was decided to hold the 2007 conference at Perry again. The facilities are very good, the cost is affordable, and we have a good bit of “institutional knowledge” on how to set up there.
 - >-- The conference will be held on Oct 13-14, 2007 at the Noble County Fairgrounds in Perry, OK. Conference Co-Chairs will be J.C. Banks and Gerald Franklin. Conference Registrar will be Teresa Dyer.
 - >-- We will bring in two professional demonstrators for the conference and the sessions will run concurrently as in the past.
 - >-- The conference registration fees will be \$55 for both days and \$35 for one day. We will charge those attendees who are joining Saltfork at the conference \$10 in dues (in the past this has been \$20), which will pay their membership until Mar 30, 2008.
 - >--The demonstrator selection committee will be the two conference co-chairs. Jim Carothers has already contacted Maurice Hamburger who has agreed in principle to demonstrate. In addition to the candidates mentioned in Dave Edwards’ notes to the board, other candidates mentioned are: Lorelei Sims, Susan Hutchison, Elizabeth Brim, and Chris Marks. J.C. Banks and Gerald Franklin will contact prospective demonstrators to finalize selection.
- A Teaching Trailer Workshop will be held at Ron Lehenbauer’s shop during the NE Region’s 10 March meeting.
- Website manager. The Board accepted Jeff Kendall’s resignation as website manager and tasked J.C. Banks to coordinate the replacement process. The meeting was adjourned at 5:20 P.M.

WORKSHOP – ACCENT PIECES WITH BILL EPPS

**** Bill will instruct forging of six or so of his favorite accent pieces (bugs, birds, leaves, & flowers). This session will include about half of the instruction that Bill presents at one of his John C. Campbell workshops at about 1/10th the cost.**

**** This will be an intensive, 2 day, intermediate level workshop that will give you the skills to forge accent pieces that add so much to your larger projects.**

**** Estimated cost will be about \$100 which will include all materials, lunch and supper on Saturday and lunch on Sunday. Coffee and donuts will be available.**

**** Workshop will be held on **March 3rd and 4th, 2007** at Bill and Diana Davis' shop near Fletcher, OK.**

Because space is limited in the shop, there will be.....

No Spectators

Things to note:

Attendees must bring their own forging equipment.

Enrollment is limited.

There will be a \$10.00 meal charge for adults bringing **"non-driving"** students to the workshop.

You may sign up now - contact the coordinator.

Enrollment fee must be paid by Feb 10th to confirm your seat in the workshop.

There will be a standby list so if you're not sure that you can attend, contact the coordinator.

**** Coordinator is:**

**Gerald Franklin
580-467-8667
franklin@gci-wireless.net**

Contact Gerald for more information

Space is Limited – Decide Today

WELDING FLUX

At Tom Nelsons meeting Ron Lehenbauer brought a bottle of welding flux and several members tried it and liked how well it worked for forge welding. I couldn't get a good picture of the bottle because of the black label but here is the information needed to find it.

Iron Mountain Forge Welding Flux
For Gas, Coke and Coal
Produced by:
Iron Mountain Blacksmith Products, Ltc.

Distributed by:
Blackwater forge, Inc.
Kolomite, Alabama, USA
205-744-9866

BROOMCORN

At the conference in October I taught a broom tying class. Many of the students voiced an interest in purchasing some broomcorn so they could tie more brooms. Below is the information on where I purchase my corn. The best deal is on the 50# box of corn but this is a lot to store. What might be a good solution is for several members go together and split the corn and shipping. I been tying out of my box for several years and have sold several pounds of it and still have enough for about 20 more brooms. If anyone wants to divide a box let me know, I might be interested in getting some more.

RE Caddy & Co.
<http://www.recaddy.com>
(336) 273-3609 M-F 9-5 EST

Craft broomcorn Box 50# for \$80.00
Craft special 10# for \$30.00

FYI

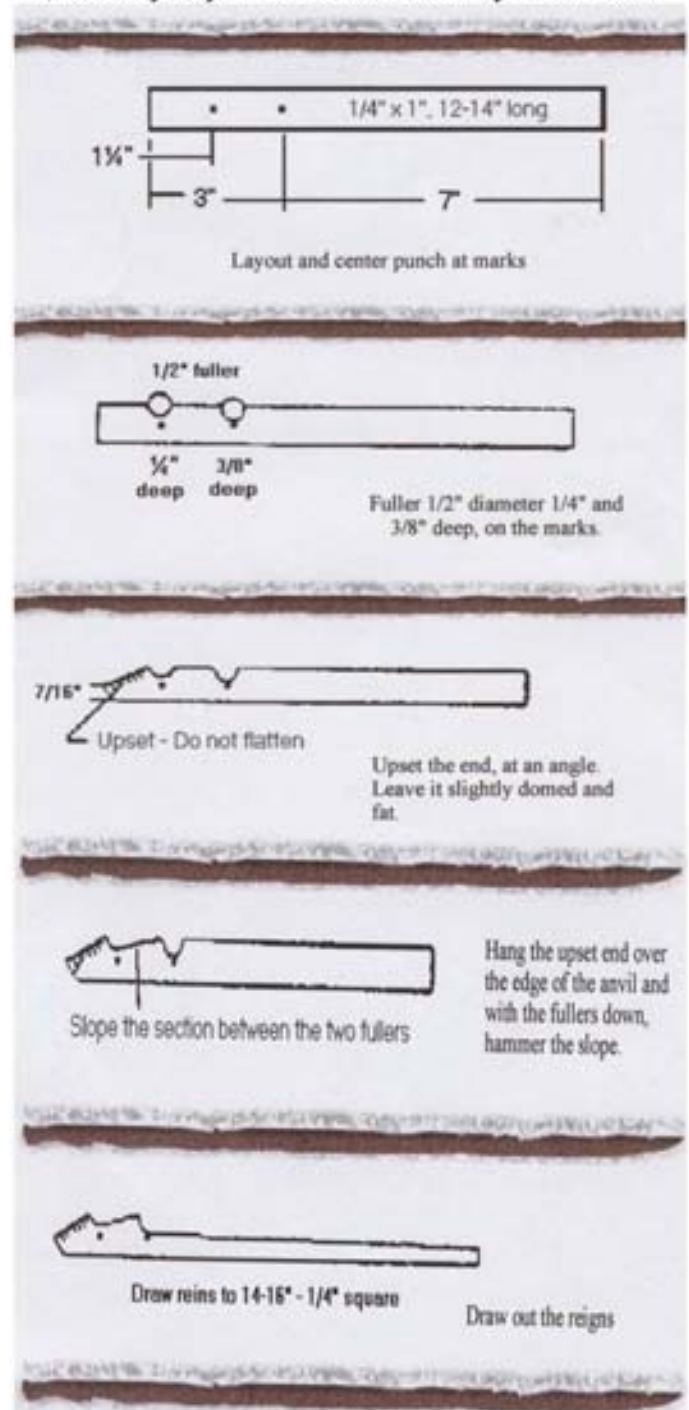
The following information has no real value just thought you would find it interesting. The 10 of Dec. the board of directors met for a meeting to discuss the upcoming year and the recent conference. The board is supposed to meet four times each year. Here is a breakdown of how far each member had to travel to attend this meeting.

Alva-Perry	114 miles
Duncan-Perry	143 miles
Tulsa-Perry	79 miles
Altus-Perry	201 miles
Wacomis-Perry	49 miles
Douglas-Perry	24 miles

DIRECTIONS FOR JC BANKS MEETING

The meeting will be held at the OSU barn located 3 miles south of highway 62 in Altus on Highway 283. The barn is enclosed out of the weather but open enough for plenty of forges inside. A part of the barn is heated and we will have our lunch there. Bring your forges and get ready to make poz tongs.

The following has been revised from an article on the Alabama forge Council's website. These drawings are from a demonstration on Feb 11, 1996 by Glynn Holmes and Jimmy Treadwell.

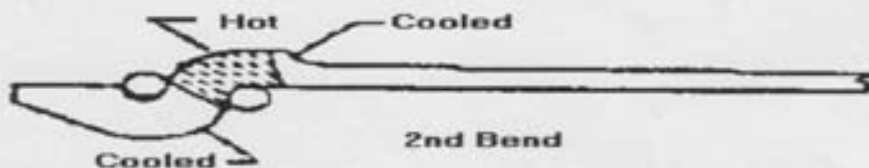




Bending fork held in vise
1/2" round, 7/8" wide

HOT 1st bend 90°

Forge a bending fork from 8" of 1/2" round steel. With fork in vise bend the 1st fuller area. The area marked must be good and hot.

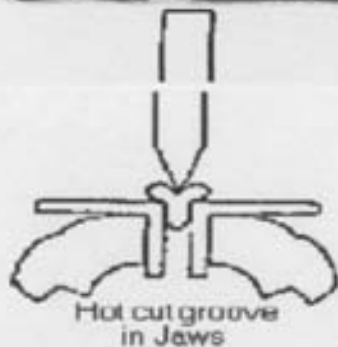


2nd Bend

back



Offset the jaw from the centerline of the reins. A piece 1/2" X 1" bent over in the hardie will work fine.



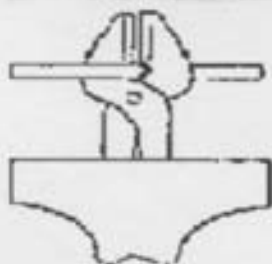
Hot cut groove in Jaws

Split the jaws with a hot cut.

Spread the split with set hammer or block of steel.



Spread cut to 90° with set hammer or square block



Twist to align reins and jaws

Align tongs, mark, drill and rivet.

Using a piece of 1/2" round, heat and align the jaws and reins.

For tongs to hold 1/2" iron or larger, start with 5/16 or 3/8" stock.

Making Wooden Wheels: A Primer

Gary Lewis

RECENTLY I HAD THE opportunity to attend a class on wooden wheel making at the Oregon College of Art and Craft, thanks to generous help from a scholarship provided by the Fort Vancouver Trades Guild. Two other guild members, Hugh Eddy and Susan Gawecki, also participated in the workshop. I hope that this article will familiarize you with the general process we went through, with some of the tools we used, and with some wheel-making basics. As with any other craft, wheel-making expertise doesn't come in a weekend. About the most you can hope to gain in a weekend is a basic familiarity with the concepts and techniques.

The class was held over two weekends.

We started with a Friday-night lecture, followed

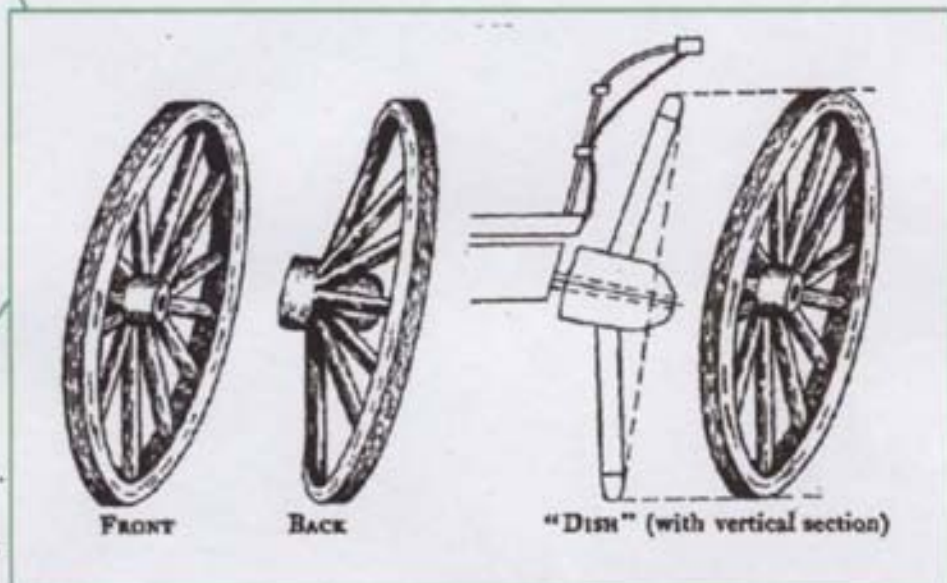


by two days of hands-on instruction in making a wheel. On Sunday of the following weekend, we fitted our wheels with the iron rims known as *tires* (or *tyres*). It was an excellent learning experience. The instructor, Rob Lewis, was very knowledgeable, with over twenty years' experience building horse-drawn vehicles. He has been a professional woodworker for most of his life and also does limited black-smithing.

First, the theory . . .

OUR FRIDAY NIGHT lecture began with a slide show that used many types of horse-drawn vehicles to illustrate various wheels. Rob explained the mechanics of the different wheels and how a wheel's purpose is reflected in its size and form. He also introduced the important concept of *dish*, which is the angle that the spokes hold the rim away from aligning on the same plane with the hub. How much dish, or offset, varies from wheel to wheel, depending on its use. The heavier a wheel and the load it carries, the more dish must be built into it. The wagon's load pushes the center of the hub outward, and without sufficient dish, the wheel could break down. A more precise definition of dish is the convexity of a wheel.

We then learned about the different types of hubs, metal and wood. Wood hubs are gen-



erally made of elm, madrone, or yew — homogenous hardwoods that don't split easily. The hub is banded front and back by iron collars that are put on cold, so they are not bound as tight as the outer wheel rim, which is put on hot. The drying time for hub rounds is generally one year per inch of thickness. Hubs can

require as long as ten years to dry properly. A hole about an inch in diameter drilled through the hub center can speed up the process, but it still takes years for a wooden wheel hub to dry correctly. Once the dried hub has been turned to shape, it is mortised to accept the spoke.

Spokes are best made from oak, hickory, or ash. They are teardrop-shaped, and the narrow end, or neck, fits into the hub, where it helps absorb shock, much like a hammer handle.

The *felloe* is the exterior wood arch that is supported by the spokes and belted by the tyre. Felloes were traditionally made from locally available hardwood. They can be either cut or bent. Usually a cut felloe holds just two spokes. If a felloe is bent, its arch can encompass half the entire wheel rim. The felloes are hammered on to the spokes. Everything is made to fit tight.

The final piece is the iron rim, or tyre. Once the felloes are attached and everything is as snug as possible, it is necessary to measure the outside circumference of the wheel. The tool used, a traveler, is a hand-held wheel, usually 24 inches in circumference. The tyre is actually made a bit smaller than the exterior circumference of the wheel, forge-welded to size, then heated so it expands enough to slip over the wheel. Upon cooling, it shrinks and so draws the whole wheel tight together.

Then, the practice . . .

THE HANDS-ON PART OF the workshop started the next morning. Almost everyone wanted to make a large (30-inch) wagon wheel rather than a smaller wheel suitable for a wheelbarrow. Rob introduced some hand tools traditionally used in wheel making, including a spoke pointer and a tenon cutter. A spoke pointer is like a large pencil sharpener. It puts a blunt point on the outside end of the spoke to help center the tenon cutter. The tenon cutter is adjustable to the desired diameter. It leaves a strong flat shoulder on the spoke to help absorb shock. My only disappointment with the class came when I realized there was

no way we could do all the work with hand tools in the time allotted. We were forced to use power tools — band saw, lathe, sander, router, and planer.

Rob laid out the pattern for the wheel on a piece of hardboard. By drawing a portion of the wheel to scale, he was able to extrapolate the critical measurements for its components: the diameter of the hub, the length and diameter of the spokes, and the size and curve of the felloes. From this plan, we made patterns and started cutting wood. (I won't try to go into any of the math involved, mainly because Rob didn't and I want to keep this as simple as possible for my own benefit. All the measurements and ratios have explanations. People who are really interested might consider a more advanced class.)

It was a good group of students, mostly older— I know, that's a relative term — who had nearly all worked with power equipment before. It only took some minimal instruction before we really turned into a production shop. One person marked the 2-inch thick boards with our felloe pattern and others cut them out on the band saw. The spokes were trimmed to the correct length, then routed to shape. (We learned that ready-made spokes are available from several sources; among the best are Amish suppliers in Pennsylvania.)

While some of us were cutting and sawing, others were turning hubs on the lathe. Hubs started out as two 4 x 6-inch pieces of poplar, glued together. Once the corners were knocked off with the band saw, we were ready to turn. This was my first experience with a lathe. After a rough start I did get the hang of it, but unfortunately, by that time my hub was slightly smaller in diameter than the others. Not a problem in itself except that a smaller diameter hub meant that all other measurements were out the window. My spokes had to be slightly shorter and my felloes had to be adjusted down to size with a large disc sander. I ended up with a custom instead of a "production" wheel!



Clockwise, from top left
Gary making adjustments for
smaller hub
Carrying the tyre
Cooling a small wheel immedi-
ately after rimming, to prevent
burning
Tying the wheel
Photos: S. Gawecki, D. Vorwaller

When all the parts were made, we began putting our wheels together. We mortised out the hub with a router, then used a chisel to square the holes for the spokes, to get a tight fit. We pounded the spokes into the hub, then fitted the felloes onto the ends of the spokes. Some adjustments were necessary (especially on mine) to get the felloes to mate up well. Traditionally, a hand plane would be used to even up the edges; we used a power disc sander.



The felloes are fastened together using either dowels, more traditional, or "biscuits," more modern. When everything was snug, we joined the felloes with biscuits, then wrapped a ratchet strap around the wheel, to ensure that all was as tight as possible. Rob used a traveler to measure the circumference of the tightened wheel, then transferred this measurement to the strip of flat steel that would become the tyre, taking care to mark the side of the steel with the transferred measurements as the inside of the tyre.

Then, the baptism by fire!

ON THE FOLLOWING SUNDAY, we returned to rim our wheels. It was a pretty interesting day. The tyre is actually forge-welded a bit smaller than the wheel, then heated to expand to the size of the wheel. The heated tyre is slipped over the wheel. When it shrinks upon cooling, it brings the whole wheel together tight. For me, this was the most interesting part of the class: heating the steel rim in fire to expand it enough to slip over the wheel, then dousing it with water to shrink it on sounded like real smithing! Fitting the rims was the most fun part of the whole class, especially for students with black-smithing experience.

First we built a large fire on the ground. When it was going well we spread it out so the entire rim could be heated as evenly as possible. (Rob had already welded the rims together for us, so no forge welding was necessary, although I hope to do that in the future). Three bricks were placed in the fire to support the rim. When the rim was in position, we added more wood, enough to cover it, in order to bring it to an even heat. To check whether a rim is ready, you touch it with a hickory stick. If the steel still feels rough, it ain't soup yet. If the stick slides smoothly, the steel is at the right temperature and has expanded.

To attach the rim, the wheel is positioned on a piece of plywood over a garbage can. The plywood has a hole in the middle to accommodate the hub, and the wheel rests

level, outside facing down, so any burn marks will be on its back side. The wheel is also hosed down to protect it from burning when the hot rim is applied.

When the "soup" is ready and the steel rim has reached the desired temperature, it is removed from the fire with a pair of long-handled tongs. (The longer the better, I discovered, after singeing the hair off the back of my hand!) The rim is set on the wheel and immediately, before heat is lost, pounded down onto the wheel. (We had to reheat two rims because the fit was too tight.) We pressed Rob to give us a formula or ratio for how much smaller the rim should be, allowing for heat expansion. The closest we got was one and a half times the tyre thickness — and also allow for any gaps between felloes, spoke ends, and hubs . . . a somewhat subjective formula. Like most things, experience, trial, and error are the keys to success.

The wheel-making class was a totally enjoyable and informative experience, made even more so by a knowledgeable and humorous instructor. I heartily recommend it to anyone interested in smithing, woodworking, or just in gaining some historical perspective. Rob also hopes to teach a future class on making horse-drawn vehicles. Once again, I would like to express my thanks to the guild for providing this opportunity to add to my period-appropriate knowledge. ♦

Editor's note: Gary Lewis was recently the recipient of a Merlyn Troška Scholarship sponsored by the Fort Vancouver Trades Guild. He used it for this wheel-making class.

References

- *The Wheelwright's Shop*, by George Stuart (Cambridge University Press: 1993, originally published in 1923)
- *Making a Wheel*, by John Wright and Robert Huford, a manual available on line at http://www.countryside.gov.uk/Publications/articles/Publication_tcm2-7488.asp

Sources for Illustrations, page 8
Left: Merriam Webster's Collegiate Dictionary, 10th Ed.
Right: *The Wheelwright's Shop*, by George Stuart