



Official
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Trades Guild

THE forge & plane

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F&P Interview: A Visit with Founding Guild Member Fred Cormack

FRED Cormack, a founding member of the Fort Vancouver Trades Guild, is a regular Thursday afternoon volunteer in the shop. A native of Portland and a true son of the Pacific Northwest, Fred spent his youth in England. Upon returning to the U.S., he stayed for a while in New Jersey, then moved back to the Portland area in 1940. The family's rich oral history describes how his great-great grandfather received help in the form of potatoes, a valued staple, from John McLoughlin. Family tradition also relates that his great grandfather climbed the flagpost at the Hudson's Bay Company to remove the HBC flag when Fort Vancouver came under control of the United States.



S. Gawecki

Fred does not recall that England at the time of his youth was particularly focused on the history of trades; living history museums, as we know them today, were a thing of the future. His pleasant childhood memories of the London suburbs are interwoven with memories of family trips to London museums and historic places, and he recalls a visit to a railway engine factory as part of a youth group.

Fred grew up in the Portland area and attended Oregon State University, where he completed a doctorate in chemistry in 1953. During college he also worked in a small shop, fixing electric motors, automobile electric components, and fuel pumps. After graduation, Fred worked for Crown Zellerbach as a research chemist. At the

time, Crown Zellerbach was investigating new uses for the spent sulfite liquor generated in the papermaking process, and one of Fred's research projects was converting sugars to food yeast. He enjoyed working with the CZ millwrights and mechanical engineers to develop much of the equipment used in pilot programs derived from his research. Fred left Crown Zellerbach after 32 years. His last position there was in corporate environmental services, which, according to Fred, would have been the hot seat if CZ ever had a confrontation with the EPA.

As soon as Fred discovered the forge at Fort Vancouver through family friends, he

moved from one hot spot to another. He has been volunteering since the early 1990s. On his very first day, to his delight, he encountered Paul Hinds, banging away on a current project. He speaks with greatest respect for all of the old timers: Paul and Ralph Hinds, Bob Race, and Gordon Long.

Fred is a collector and restorer of antique cars and once took his old Rolls Royce on a tour of Oregon that included Bend and even Timberline Lodge, on Mt. Hood. Fred remembers that given the altitude and the temperature there, the Rolls was a little difficult to start in the morning.

Fred lives with his wife, Dorothy, in Camas. ♦



New Stove Pipe in, Repairs to Shop Sill Underway

THE SHOP STOVE is now outfitted with a new stovepipe, thanks to Lauren Wright, of the fort maintenance department, with a little help in the dismantling process from guild members John Prutsman and



Photo: S. Gawrecki

Left: New stovepipe

Above: NE shop wall after deconstruction

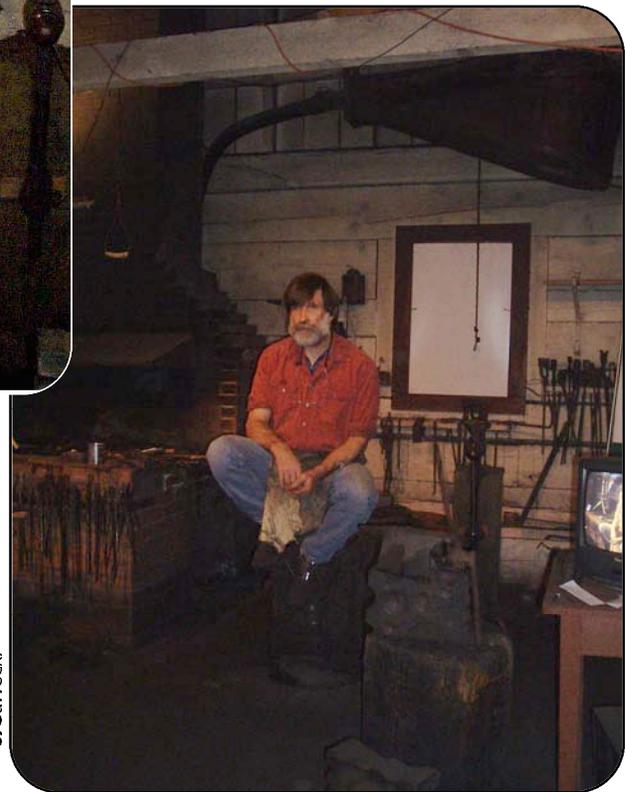
Harry Newton (VP in charge of shop maintenance). Thanks one and all. The sill is still in the deconstruction phase of renewal. It looks like a pretty ambitious project, although Lauren doesn't see it that way, given his previous work on other park structures. ♦



S. Gawecki

Left: It's not as easy as it looks . . .

Below: Shel presents a short history of steel



S. Gawecki

Guild Sponsors Demo by Williamsburg Blacksmith Shelton Browder

SHELTON BROWDER, Colonial Williamsburg blacksmith, visited the Fort Vancouver Blacksmiths Shop November 1st, 2nd and 3rd to demonstrate period tool making. Shelton has the ability, probably the result of long practice in combination with a certain theatrical flair, to make everything look so easy that we all get steamed up and walk off the cliff, only to land smack-dab in the middle of reality. When Shelton does it, it looks easy, but that level of skill is very difficult to attain in the classroom. Shel's scheduled demo included a nail header, a strapped hammer, a socket-handled bruz and the required tools to make one, a period hacksaw (complete with fittings and wing nut), and an axe. Bonus projects were collaring a bar, both round and square.

Attendance was good all three days. The guild's decision to change the workshop schedule from Friday through Sunday to Thursday through Saturday appears to have been sound. Special thanks to guild president Gary Lewis, whose eagle eyes determined that the NWBA had failed to post Shel's demo in the *Hot Iron News*. Gary successfully negotiated to have NWBA send a special mailing to their membership, and the promo went out far and wide. ♦



Top
Bob Race has
their attention



Bottom
Local talent:
Gary Eagle (L)
and Darryl Nelson (R)

S. Gawrecki photos

NWBA Fall Conference

THE NORTHWEST Blacksmiths Association hosted their annual Fall Conference in Stevenson, Washington, in October. The theme for the event was *Forging in the Gorge: Home Grown Blacksmithing*, and conference sessions featured 16 NWBA members. With the emphasis on local, it was not surprising to find founding guild member Bob Race in the spotlight, hard at work. Bob taught a hands-on class in making a trammel hook. Guild member Jac Arnal was lucky enough to secure a place in the lottery-drawn attendance for the class. ♦

Out of the Ashes

WHERE WOULD A blacksmith be without his shop? Without the endless inventory of indispensable “junk” that saves us from making needless trips to the hardware store? Do any of us really think about what we have in the shop? Keeping an updated list of equipment and stock could make a big difference if your shop is broken into or if disaster comes your way.

Ricky J. G. Wynn, a member of the Mississippi Forge Council, made the following suggestions in the September 2007 issue of the council’s publication *The Upset*, after a very aggravating fire that was not caused by sparks, torches, or open flames, but by rodents lurching on the shop wiring.

Do you have a list of what is in your shop? You need one.

Do you know when you purchased or acquired your equipment? You need to know.

Do you know how much you paid for each of your tools or equipment? It’s important to have that. Do you have receipts?

Do you know the model and serial number of each item? Do you have pictures? Is your memory as good as it used to be? Is your insurance adequate enough to cover what might be lost?

You might think of making a digital record with your camera. Photograph your equipment and the serial/model information tag — if not the smaller items then at least the big-ticket tools that it would really take a bite out of the family budget to replace. ♦

Building a Good Coal Fire

Bob Race

RECENTLY SOMEONE left such a fire burning overnight in the northeast forge that on the following morning the whole shop was thick with smoke from smoldering coal and sunlight was visible only from the east side windows. The fire — which consisted of at least a full bag of coal spread across the hearth — was full of cool spots. It looked like the Land of a Thousand Smokes. This was the work of someone who was either new to the game or just plain careless to the point of being inexcusable.

Good coal is neither close at hand nor is it cheap. Getting coal means driving over a hundred miles each way and crossing five rivers; the coal itself costs \$900 a ton. Bill DeBerry has gone to extra effort to see that we have high quality coal in good supply, and we should be grateful for his conscientiousness. It means that we have good clean welding heat for our work in the shop. Carelessly misusing what has been provided at some trouble for our benefit is disrespectful as well as wasteful. Even seasoned smiths can benefit from thinking critically about their fire-building habits.

Building a Proper Fire

There is a correct procedure for building a good fire. One of the things I have observed over the years is that the size of the fire

seldom varies in relation to the piece of iron that is being worked. Too many people have six shovelfull of coal heaped up high for working on an *S* hook or a *J* hook. Please bear this in mind when you decide how much coal to use for a project. One or two shovels is enough for working small items. You don't need a bushel of coal in the pot for a nail-making demonstration. Sure, it's fun to show off to visitors who are clueless about blacksmithing, but does the size of the fire match the demo project? If not, it's taking an unnecessary toll on our coal supply.

For a suitable fire, first analyze the current condition of the hearth, firepot, and tools you will need to maintain a decent fire for the project you are planning. If someone from the



S. Gawrecki

previous session has left everything neat, clean, and orderly, then give quiet thanks, but still check the ash dump and don't forget to unhook the bellows. If someone has left an ugly mess, let Bill know so he can remind that person about the necessity of keeping our hearths clean. Experience is undoubtedly the best teacher, but it doesn't hurt to have a few practice sessions if you are new to the program. Even seasoned smiths might learn a new trick or two in a refresher course. Forge fires are frequently finicky: coals from different areas of the country, with their high pitch and sulfur content, can be a source of unexpected trouble.

Finding the hot spot

The most efficient fire is one that is easy to maintain — that is, a fire that is just a bit bigger than the piece of metal you are working. Keep in mind that the bottom of the firepot is the coolest place in the system. If your fire is clean and has no clinkers (things that will not burn) down near the base, you should be able to work on a piece positioned horizontally across the top of the pot. In this area, temperature will be the highest because gasses from the coke collect there, not lower. When you look down into the fire, remember you are at an angle that makes the fire appear deeper than it really is, so the hot spot is actually very close to the level of the top of the firepot.

Sizing the fire

Basically, there are two justifications for a larger fire. Most obvious is the size of the

When you look down into the fire, remember you are at an angle that makes the fire appear deeper than it really is, so the hot spot is actually very close to the level of the top of the firepot.

material. If you are making an axe, or a hammer, or something else bigger than a half-inch square, put on more coal. Just try to be a bit conservative: add a little at a time. The other reason for a larger fire is welding, but the size of this fire also varies with the size of the piece. (Back in the mid-1980s, I watched a blacksmith make throwing axes for a Rendezvous reanactment. Using a coal fire less than a foot in diameter and not very high, he was welding axe heads with as much ease as stirring coffee.) Neophyte smiths are hard on the coal supply. It's not their fault — they see others making various items, and hurry to try everything, from making *J* hooks to welding

axes. But their fire technique leans toward running before they can walk.

Maintaining the fire

Once the fire is working well enough so heating a piece of iron does not take half the morning, try to maintain it at that level. The center always burns out first, so when it looks hungry for more fuel, just put the shovel in with the flat side against either the right or the left wall of the pot. From there, twist the handle so the top edge of the shovel pushes the partially burning coke toward the center, on top of the fire. Perform this maneuver on both sides leaving a small valley between the coal and each pot wall. Fill both valleys with wet coal and also add some on the top center. Now pump the bellows until your fire is back to its happy self again. That simple technique is all it takes to maintain a hot, clean, efficient working fire, provided that you also pay attention to what you are doing and try to use less coal on smaller pieces.

Remember, we can't all be a Peter Ross or a Jay Close when it comes to shoveling coal to the fire. Where they work, bituminous coal deposits are plentiful, practically in the back yard. So, for them to throw a bushel of coal on the fire is not out of the ordinary. In addition, Fort Vancouver blacksmiths are not expected to produce items for our sales shop at the Colonial Williamsburg level of technical perfection. Finally, since the majority of us do not put in 40 hours a week, or more, forging with efficiency, much of our coal supply literally goes up in smoke.

If, for your own pleasure, you want to enjoy a really nice, old-style blacksmith's fire, go to the local hardware store and order a couple of bags of hardwood lump charcoal. It burns extremely clean, without clinkers, and welding is much easier. The only trouble is that it also burns really fast. Remember that Lewis and Clark assigned some men in their party to make charcoal for the only blacksmith. I have no idea how they managed that out in the field. If anyone comes across their methods, please let me know. Meanwhile, conserve coal! ♦

Notes from the President

OUR FALL WORKSHOP went well. I hope all who wanted to were able to attend. It's always a pleasure to watch, listen to, and talk with Shel Browder. The switch from Friday – Sunday to Thursday – Saturday seemed to make a small positive difference. If anyone has any input for the board, get in touch with any of us and share your thoughts. We're working for you! I will be out of the shop until after the first of the year due to a schedule change at work. With winter coming on, it's a good idea to call on days of extremely inclement weather to make sure the fort is open. The number suggested is 360-816-6230.

I wish everyone and their families a safe and festive holiday season and a happy New Year! ♦ — Gary

Gary Lewis, Guild President

Notes from the Fort

WE CERTAINLY HAD a very successful "Williamsburg Weekend" workshop with Shelton Browder again visiting the shop for three days. If you weren't able to attend you missed a great demo. I would like to personally thank all of those that helped to set the shop up prior to the event and then hung around afterwards to get it back in order. We will be planning a cleaning day in the shop sometime after Christmas, and I will keep you posted on that. Anyone interested in reviewing the training manual please let me know. Our president, Gary Lewis, and I would like to get it updated this winter. Christmas at the Fort special event will be Saturday, December 8. Please mark your calendars to come in and help out. Have a good holiday season and I look forward to seeing you at the fort. ♦ — Bill

Bill DeBerry, Historic Programs Coordinator

FORT CALENDAR December

Lantern Tours

Saturday, December 1
Saturday, December 15
7:00 PM

A wonderful opportunity to tour Fort Vancouver at night. Each adult carries a lantern to accompany the park ranger on a one-hour tour of the fur store, the kitchen, the chief factor's house, and the counting house.

Fees: \$10 adults, \$7 children under 15
Reservations required
360-816-6230

Christmas at the McLoughlin House

Oregon City
Saturday, December 1
4:00 – 7:00

Visitors step back in time to learn what it might have been like to celebrate Christmas with the McLoughlins in the 1850s.
Free to the public

Christmas at Fort Vancouver

Saturday, December 8
10:00 AM – 3:00 PM

Visitors share sights, smells, and sounds of a typical holiday season enjoyed by employees of the Hudson's Bay Company.

Fort entrance fees apply:
Family \$5, adults \$3, children 15 and under free

EVENTS FOR BLACKSMITHS

NWBA Spring Conference 2008

Mount Vernon, Washington
Friday, April 25 – Sunday, April 27

Lead Demonstrators
Mark Asprey & Ray Rantanen

Information
Dave Davelaar (360-293-7214)
davelin1@verizon.net
Clyde Caldwell (253-569-4353)
clydesea@hotmail.com

Some Common Household Items Useful in the Shop

Aluminum foil – Melts at about 1220° F. The thickness of household brands is around .0007” or less. In addition to its obvious insulating and reflective properties, aluminum foil can be used in mechanical work as shim stock or for adjusting the clearance of bearings or mating surfaces.

Ammonia – This general household cleaner can also be mixed with various other materials to alter the color of copper and steel.

Baking soda – (Sodium bicarbonate) can be used to neutralize acids. Mix with water to form a paste or add to water to make a dilute solution.

Beer – Useful both inside and outside the shop to improve or alter the disposition of the metalworker. Most any brand can be effective.

Beeswax – Used as a “finish” on iron work. Usually rubbed onto the metal while hot. Also makes a good dry lubricant for drill bits and saw blades.

Borax – “Twenty Mule Team” brand borax is widely used as a flux for forge welding.

Camphor – When placed in tool chests the vapors emitted by camphor blocks help to prevent rusting of fine tools. This is usually available from a pharmacy.

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Reprinted from The Upset, September 2007, published by the Mississippi Forge Council. The MFC and author Tommy Ward urge readers to inform themselves about the chemicals and use them responsibly and safely. Watch for more of this fascinating list in future issues of The Forge & Plane, and thanks to Tommy and the Council for sharing it. — Editor



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The Forge & Plane is the official newsletter of the Fort Vancouver Trades Guild. Please send your comments, submissions, and suggestions to

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