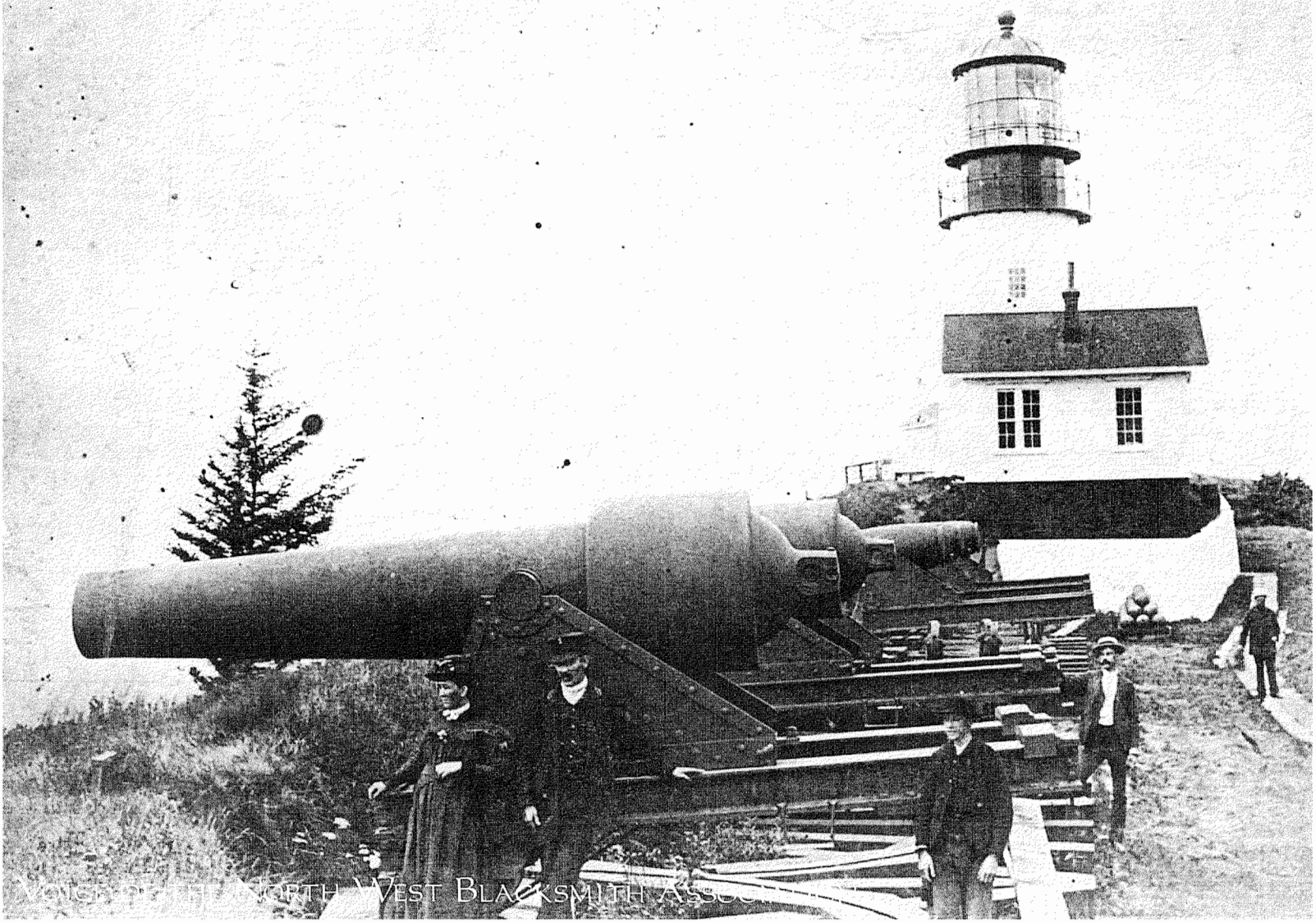
2003/3

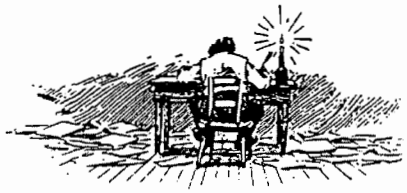
HOT IRON NEWS



Voice of the North West Blacksmith Association

Inside

Cover: Cape Disappointment Lighthouse and coastal defense battery at Fort Canby, Washington, at the mouth of the Columbia River, with Parrott Rifles (front) and Rodman Cannon (in back). Circa, prior to turn of century.



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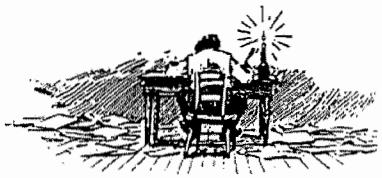


Editor's Notes!

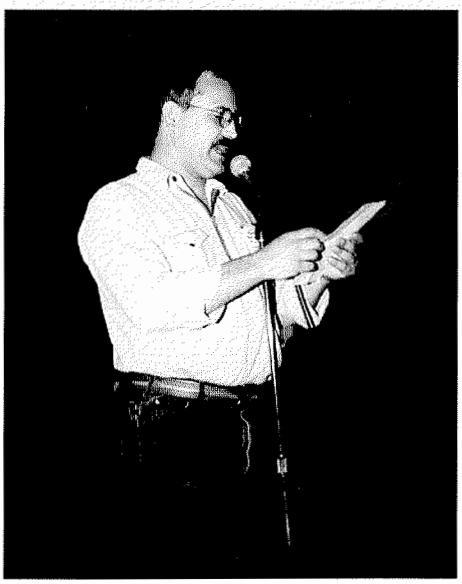
The N.W.B.A. Board, at it's meeting at Mount Vernon, decided to extend an invitation to ABANA to host the 2006 ABANA Conference in Seattle! This will be an opportunity for N.W.B.A. to surmount it's geographical isolation and showcase the amazing artistic talent and energy that exists in the organization. Terry Carson and yours truly will do the initial spade work to get the ball rolling. I have already contacted the University of Washington with the site requirements and I am awaiting their proposal. We will continue to review potential sites to see who can best support over 1000 attendees (and provide flat surfaces for the equipment!) Fortunately, we do not have to invent the wheel. ABANA has a good knowledge base of conference requirements. With the outstanding work being done by Board Member Dave Koenig on the 2004 Richmond Conference, this pool of information is being formalized and expanded. Both Terry and I were gratified by the offers of support and help which members extended at Mount Vernon. It appears that this will be a true team effort. The Board has also invited the surrounding ABANA affiliates to participate in order to make this a truly Pacific Northwest event. The process now is that the ABANA Board will make the final site selection for 2006--and then, hopefully, the prospective fun begins! If you have any ideas for conference events, please let Terry or I know. We will be looking for features such as contests, demos, seminars, projects, and other activities which will make the conference interesting and exciting. Meanwhile, start making your plans to attend the ABANA Conference in Richmond, Kentucky in June.

Thanks to Reece Whitacre, Laura Goemaat, Bob Race, Wade Wade, and Louie for this issue's contributions. Next issue will feature Louie's Amazing Journey to the Emerald Isles of Ireland in search of blacksmiths. Don't forget to take pictures of your projects and send them in. Short articles on techniques are also welcome by the readership~Bob's excellent article on chisels is a great example! I publish virtually everything that is sent to me. Sometimes I hold on to a piece to fit the theme of a planned issue. And I'm not picky about format. I edit everything so don't worry about writing style, grammar, spelling, etc. If it ain't right, I'll fix it!

Finally, a skydiver leaped out of an airplane, only to discover that his chute wouldn't open! As he continued his free-fall towards earth he looked down and saw a man flying straight up at him! As the two approached each other, the skydiver yelled out, "YOU KNOW ANYTHING ABOUT PARACHUTES!?" "NO!", yelled the man, as he went flying up past the skydiver, "YOU KNOW ANYTHING ABOUT GAS FORGES!?"

AND NOW . . .

A FEW WORDS FROM THE PRESIDENT!~



Having just returned home from the fall conference in Mt.Vernon, Washington, I thought I should thank everyone that helped make it a very successful conference. Chad Heiserman and Gary Chapman did a super job of putting the whole thing together. All of the demos and hands-on workshops were very well attended. I heard lots of good comments about both of the demonstrators during the conference. I would like to thank both Paul Thorne and Jorgen Harle, not only for taking time out of their busy schedules to demonstrate, but also for all the time and effort it took to bring so much tooling to the conference. As I have mentioned in the past, it takes a lot of work before, during, and after each conference to make it all happen.

I would like to thank all of you who step forward and put forth your efforts to see that it all gets taken care of. **THANK YOU!**

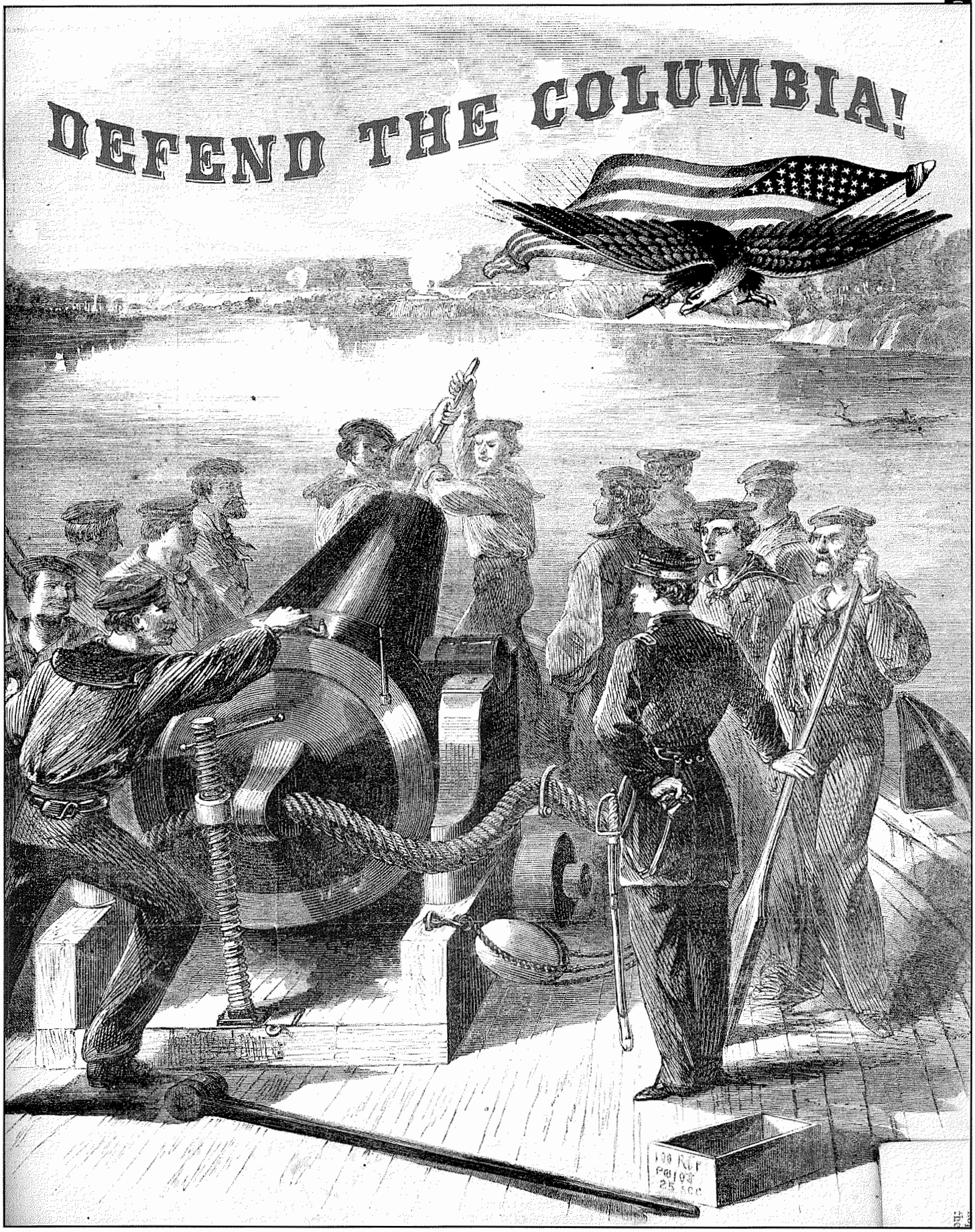
Sometime in December, you will be receiving both a board of directors election ballot, and a dues renewal notice. I ask that you take a moment of your time to take care of this business and return the ballots in a prompt manner. It will help the board of directors, and other volunteers, a great deal in keeping things moving forward.

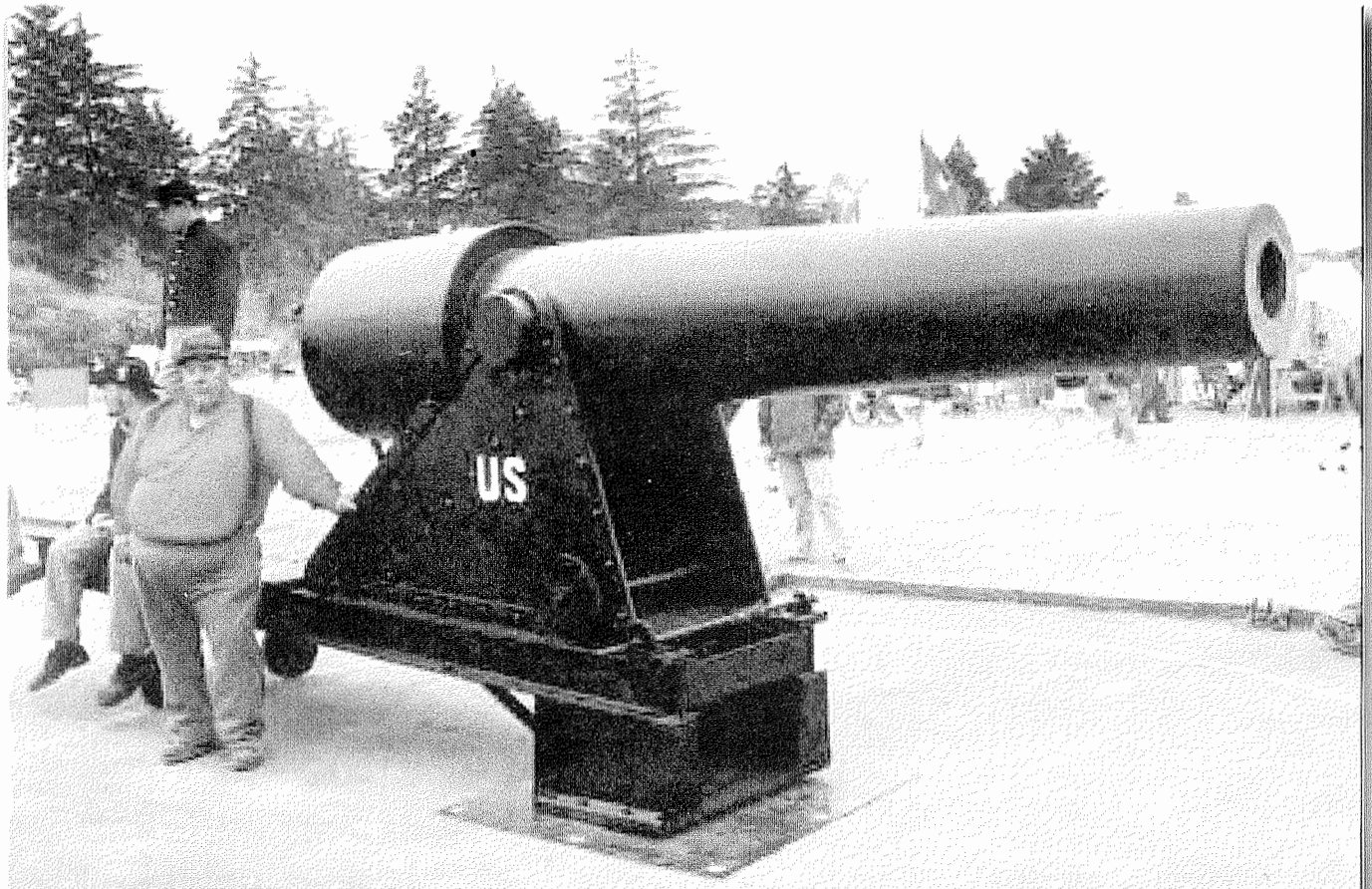
Laura Goemaat, Christa Fairbrother, and myself have decided not to run for re-election to the board of directors. I would like to thank both Christa and Laura for all their hard work and dedication to the NWBA over the years.

As Treasurer, Laura has done a super job of providing the board with very complete financial reports. Our financial records have never been more complete. **Thank you Laura.** As secretary, Christa has done an outstanding job of producing prompt and very accurate minutes of all the board meetings during her term on the board. **Thank you Christa.** I would also like to thank all of you who have supported me during my term on the board of directors of the NWBA.

As always, work safe and enjoy yourselves!

Mark Mantey

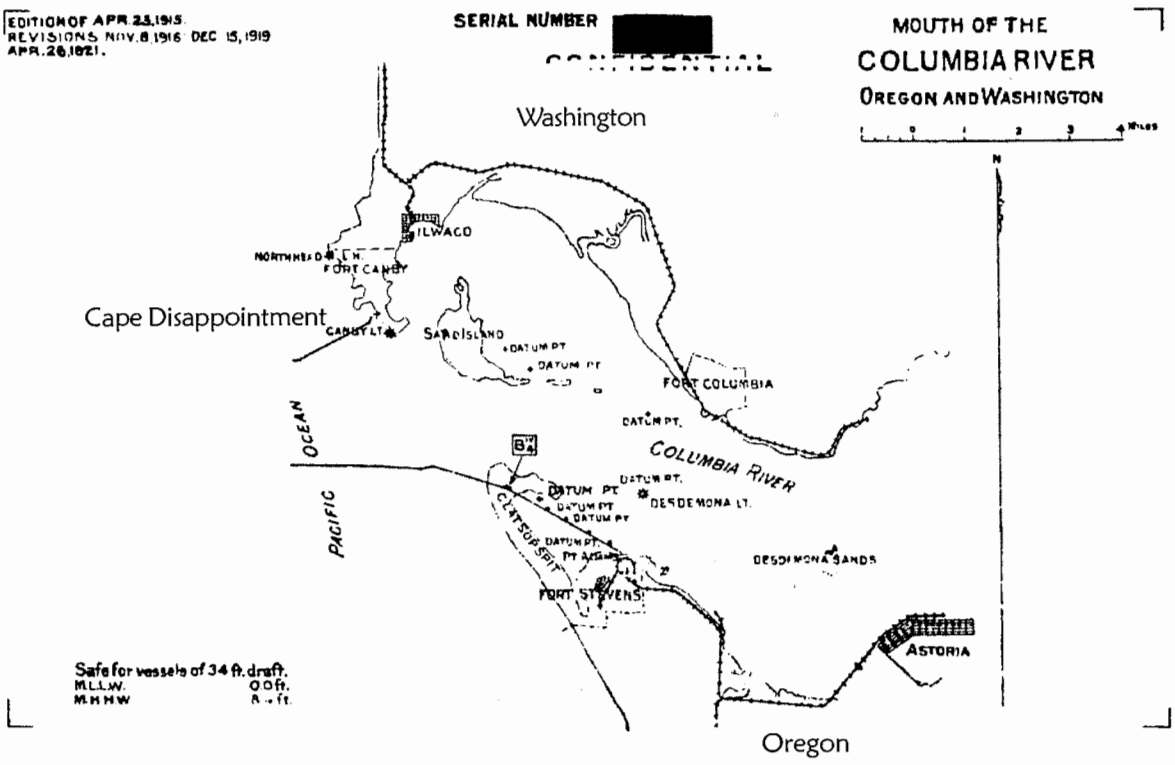

DEFEND THE COLUMBIA!

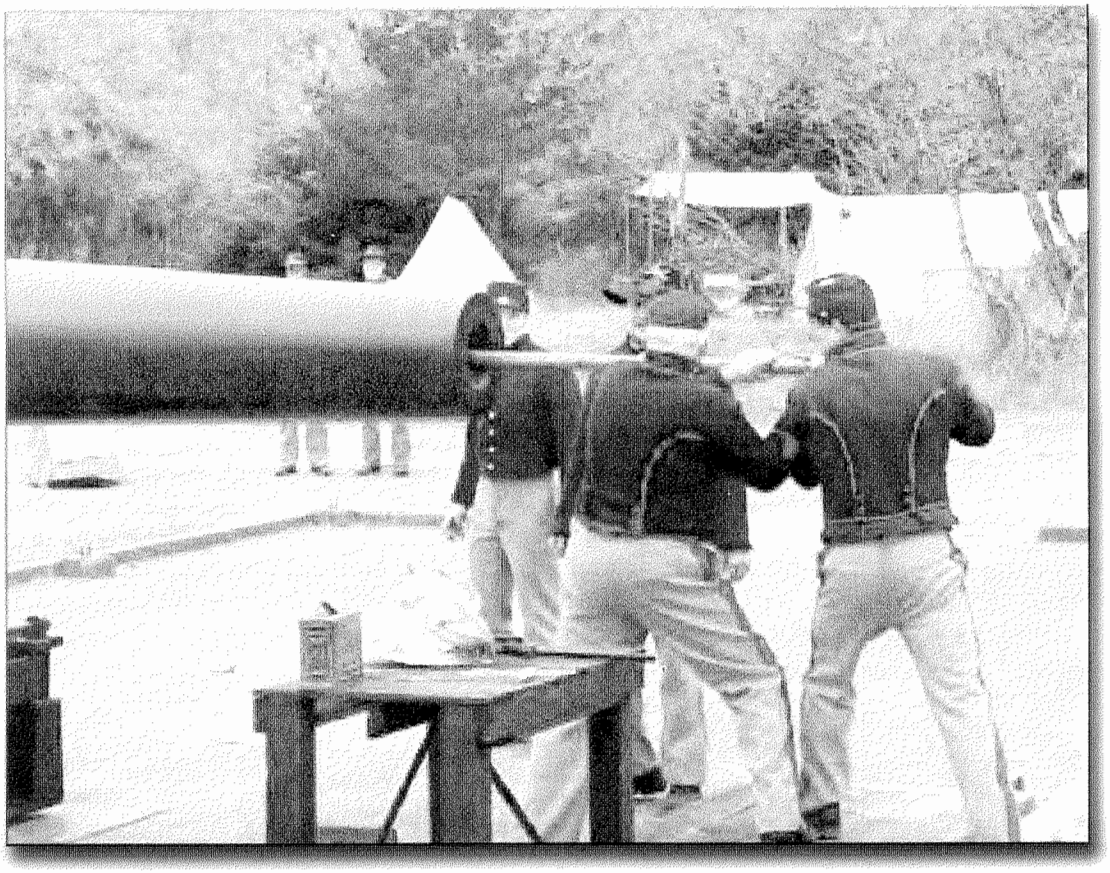


Reece Whitacre, in Civil War Artillery Uniform, with the eight-inch 200-pounder Parrott Rifle cannon that he constructed for old Fort Stevens.

Reece Whitacre Recreates the Iron Defenses of Yesteryear . . .

During the Civil War it was not at all certain that the British would not intervene on the Southern side. The English milling industry depended on Southern cotton and, in return, the South purchased manufactures from England. When the war erupted, the South relied upon English arms to make up for it's lack of arms manufacturing. Ships bound for the South had to run the Yankee blockade--itself an irritant to the British. Boundary disputes between the United States and Canada over portions of the San Juan Islands were still festering. England speculated that a Southern victory might give it leverage to resolve these disputes in it's favor. The British Army maintained observers with the Southern Armies. Officers from both sides were familiar with the Pacific Northwest. Grant served briefly near Portland. Before his ill-fated charge on July 3, 1863, at Gettysburg, George Pickett had served in the San Juan Islands. Many of the settlers who had arrived in the Oregon Territory had come from Kansas, as well as Southern states, so Southern sympathies in the area were not unknown. The United States was anxious to strengthen it's ties with the West, including the Oregon Territory. The War stimulated railroad construction across the country. Of vital importance to the United States was river commerce on the Columbia River. Seizure of the Columbia River would mean that a wedge would be driven between California and the Puget Sound. The United States was engaging all of it's warships in the Southern Blockade. The best alternative was an effective coastal defense. Eventually three forts would emerge at the mouth of the Columbia River: Fort Stevens, on the Oregon side, and Fort Canby and Fort Columbia, on the Washington side.



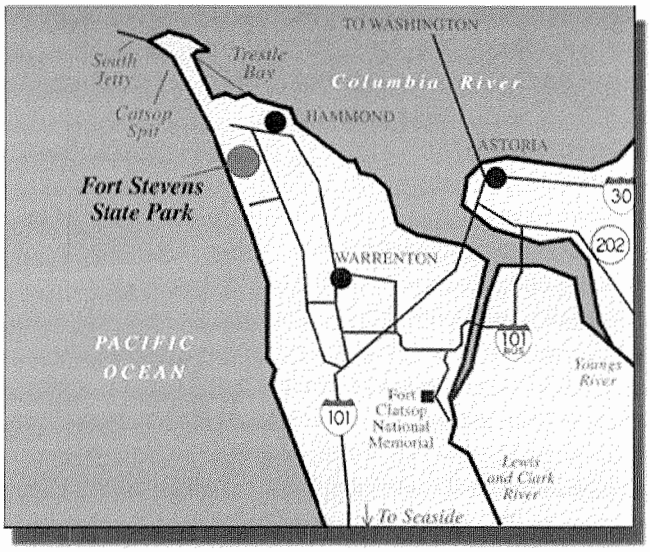


Gun crew swabs the barrel of Reece's eight-inch Parrott Rifle cannon.

Fort Stevens, named for General Isaac Stevens, a former Governor of Washington Territory, was constructed by the U.S. Army toward the end of the Civil War and remained active through World War II. In it's long history, Fort Stevens never fired it's guns in anger.

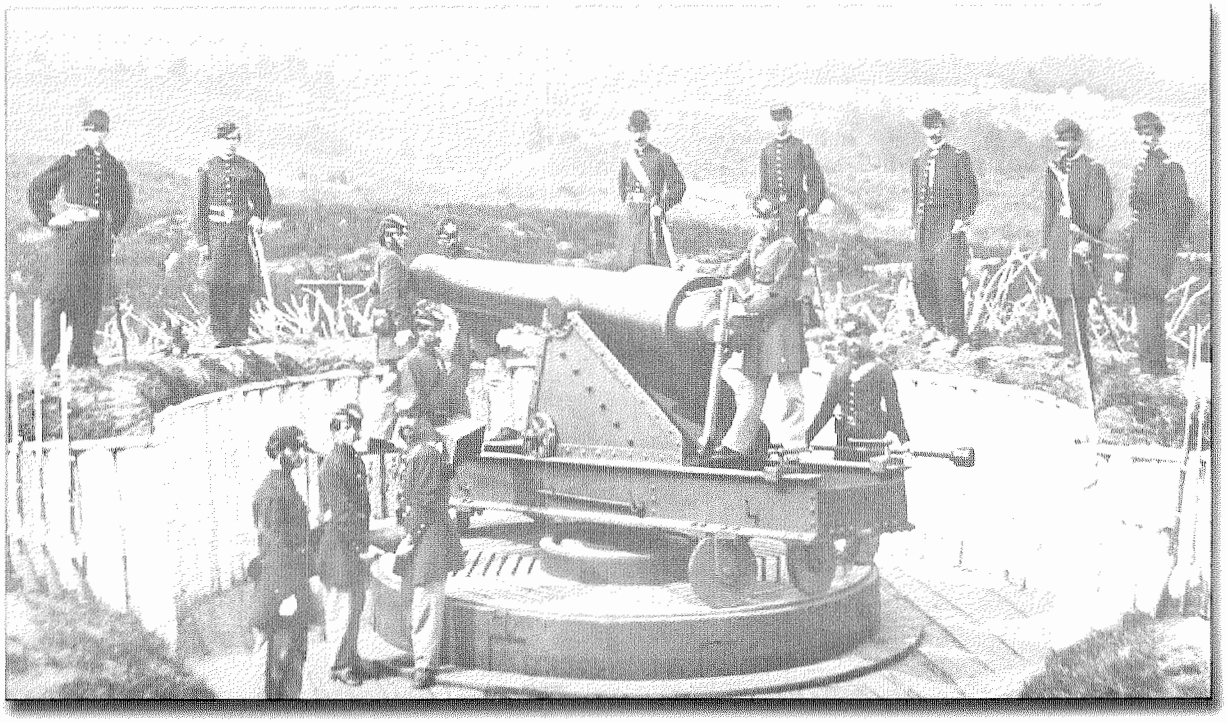
The original Fort Stevens consisted of an earthwork, a fort made mainly of dirt, and had gun emplacements and several buildings, all completed in 1865. To protect it from land attack, the fort was surrounded by a moat with a drawbridge. In 1897, as part of a nationwide program to improve coastal and harbor defenses, Fort Stevens started a massive refortification program. When the program was completed, eight concrete batteries, including mortars and long and short-range rifles, were constructed.

The principal armaments of the new Fort Stevens were 10-inch rifled cannons placed at Batteries Russell, Walker, Lewis and Mishler. Mounted on disappearing carriages, which hid the guns behind concrete and earth walls when not being fired, these guns could fire 617-pound shells at a distance of nine miles. To complement the 10-inch rifles, Fort Stevens was armed with 6-inch rifles at Battery Pratt and 12-inch mortars at Battery Clark.



Also, to protect the mine fields at the mouth of the Columbia River, there were two small caliber rapid-fire batteries: Smur and Freeman.

An 8-inch Parrott Rifle cannon barrel weighs 16,300 pounds and can fire a 175-pound shell over 8000 yards.



6.4-inch 100-pounder Parrott Rifle at Washington D.C. defenses during Civil War. Made of wrought iron. Note elevating screw.

The Columbia River forts reached their peak of activity during World War II, when there were approximately 2500 men stationed there. To house all the troops, new barracks were constructed. At Fort Stevens, Battery 245, a new gun emplacement, was armed with two 6-inch rifles that had a range of about fifteen miles, almost double the range of the 10-inch rifles. Also a 90mm AMTB battery was placed on the south jetty.

On the night of June 21, 1942, Fort Stevens saw its only action when a Japanese submarine (the I-25) fired 5.5 inch shells in the vicinity of the fort. The shelling caused no damage. The Fort Commander refused to allow return fire. The incident made Fort Stevens the only mainland installation to be attacked by an enemy since the War of 1812.

Shortly after World War II, Fort Stevens was deactivated as a military fort. The development of improved air power and guided missiles made coastal artillery forts such as Fort Stevens obsolete. By 1947, all of the guns were removed and much of the fort was turned over to the U.S. Army Corps of Engineers. The Corps used the area as their headquarters for maintenance activities at the mouth of the Columbia River. In 1975, Oregon State Parks leased the old fort area and are currently restoring and interpreting Fort Stevens.

The cover photo shows Fort Canby at the start of the Twentieth Century. Inspite of advancements in military technology, the Civil War Era Parrott Rifle cannons, along with Civil War Rodman cannons, were still in use. The lighthouse in the background is the Cape Disappointment lighthouse.

Robert Parker Parrott graduated from West Point in 1824. From 1836 to 1867 he was superintendent of the West Point Foundry, a private company. Eventually, three Parrott Rifles would become well known: the 100-pounder, the 200-pounder, and the gigantic 300-pounder. The cannon had many critics--partly because of it's tendency to explode! However, it was easy to operate by inexperienced cannoneers. It was tough: break off a piece of the muzzle, chip it back, and keep on firing. It was relatively cheap to manufacture at a time when there was an incredible demand for a rifled weapons system. If heavy rifles burst killing their crews on the platforms, far more of the enemy died on target! Even Parrott acknowledged their flaws but he stated that "they were the best practical thing that could be got at the time, and I suppose that was the reason for getting them."

A Parrott rifle is a long-tube, cast-iron piece with a wrought iron reinforcing band over the breech. The band was made by coiling a wedge-shaped bar around a mandrel, then upsetting the coil and pounding the joints together until welded solid. The wedge shape was used to permit escape of slag or dirt during the process.

In most banding, American and European, the ring of metal was heated, slipped on the tube and allowed to cool. Sometimes it was threaded and screwed on, often tube and band were tapered. But in all cases, the tube was stationary.

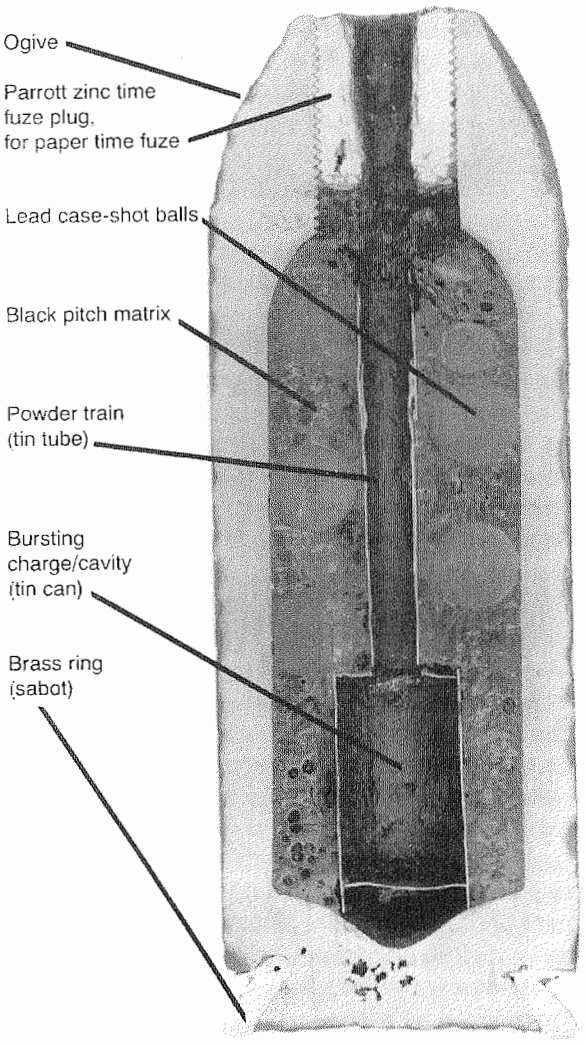
Not so in the Parrott Rifle. The tube was rotated horizontally on rollers and a stream of water played inside to keep it cool. The hot band was slipped on and because of the tube rotation, cooled and clamped itself uniformly to the breech instead of hanging from one spot and cooling there first as it would if the tube were stationary. This, Parrott felt, was the major reason for the strength of his rifles and it was on this that his patent hinged.

In 1844, Lieutenant T.J. Rodman developed a method of casting huge cannon. In those days, manufacture of cast iron cannon depended on pouring a block in the general shape of the piece, then turning off the exterior roughness in a lathe and drilling out the bore. This worked fine for small weapons, but large castings developed cracks and weak spots that made manufacture of heavy cannon difficult. Rodman, after deciding that stresses due to cooling from the exterior inward were causing the trouble, developed a way of reversing the process and thereby, theoretically, forcing the stresses of cooling to aid in holding the tube together, rather than tearing it apart, thus improving its resistance to the shock of firing.

The process consisted in casting the tube around a hollow core, or pipe, which was closed at the bottom and into which was inserted a smaller pipe to within a few inches of the base. After the molten metal was poured into the mold, water was turned into the smaller pipe. It flowed out the bottom filled the larger pipe, and ran off at the top away from the casting and not touching the hot metal. Meanwhile, coals were heaped around the exterior of the casting to ensure that cooling spread outward from the interior.

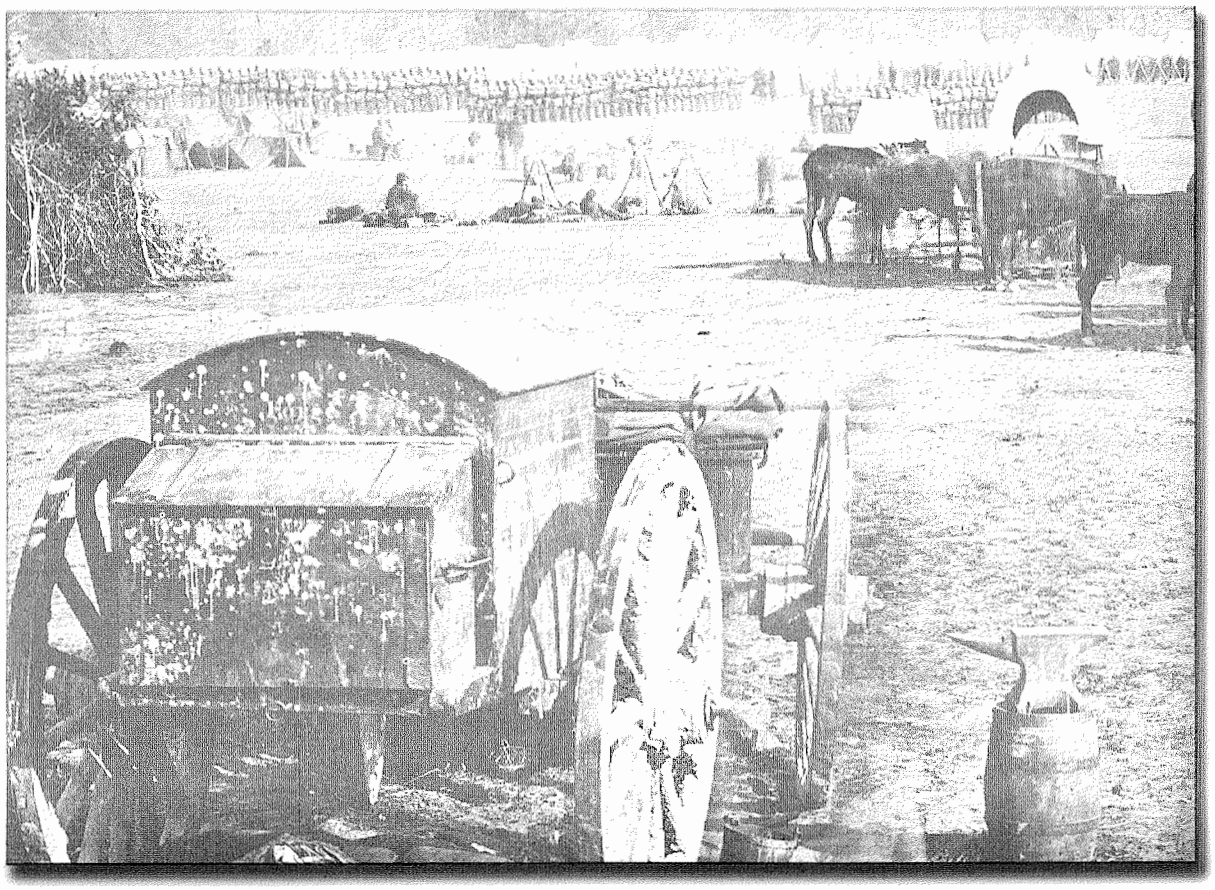
Rodmans were used for coastal defense throughout the remainder of the 1800s. The 20-inch (the size of the bore) was the largest. It's barrel was 20 feet long. It weighed 115,200 pounds and could lob a 200 pound shell over 8,000 yards! Three Rodmans can be seen on the cover photo, behind the two 300-pounder Parrot Rifles.

The Parrot Rifle 200-pounder built by Reece takes ten men to operate--two men to carry the 25 pound charge, two men to ram the shell and charge down the barrel, and several to operate!



Parrott Shell

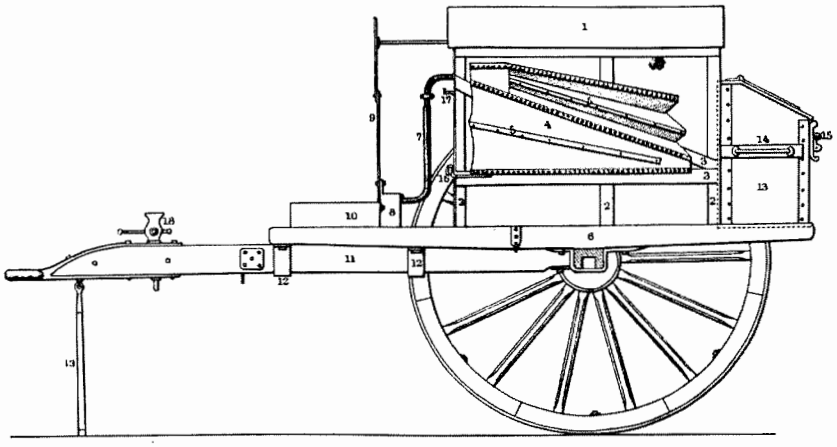
~The unsung heroes of the Civil War were the horses and mules that had to pull all this heavy weaponry around. A standard artillery battery had six guns. Each gun was attached to a limber pulled by six horses. There were caissons, which also needed six horses. There was also a battery wagon, a forge wagon and an ambulance, for an average total of about 18 wagons. Each battery needed a minimum of 125 horses. Horses were targets in battle because the guns could be immobilized. The Tenth Massachusetts Battery went through about 400 horses during the War. When they returned home, only one horse was left from the original 110.



Artillery units were accompanied by traveling forges. The side view below illustrates the Traveling Forge photo. Note the placement of the vise and fire place on the wagon tongue. The bellows was pumped by a pole (#17). Each forge was equipped with 280 horseshoes, bolts, washers, nails, assorted iron stock, and smith's tools. The rear box was for coal. The anvil traveled over the fire place. Here, the anvil is ready for use.

FIGURE: X-19 IDENTIFICATION: Traveling Forge. SOURCE: *Instruction for Field Artillery*. REMARKS:

1. Roof of Bellows House
2. Studs
3. Girders to Support Bellows
4. Bellows
5. Ribs of Bellows
6. Side Rail
7. Windpipe
8. Air Back
9. Back of Fire Place
10. Fire Place
11. Stock
12. Stock Stirrups
13. Coal Box
14. Handles
15. Turnbuckle and Hasp
16. Bellows Hook
17. Fulcrum and Support for Bellows Pole
18. Vice
19. Prop



Cannon Building by Reece Whitacre

As a blacksmith, one of the roads of ironwork I've been following is the old art of cannon building, usually of cannons that would have been made during the Civil War period. Trying to build cannons the way they did it during the Civil War is extremely challenging. I've also been redesigning and downsizing the relative sizes and weights on cannon. For example, last year I finished building a 16-foot iron cannon barrel for a cannon model known as a Parrott Rifle. Originally it weighed 50,000 lbs. The iron one I built weighs 1000 pounds.

Cannon building has exercised all of my blacksmithing skills including forging, punching, drilling, twisting, bending, welding and fabrication.

I have just finished an 1840's carriage for a six-pounder. This is a 2000-pound horse-drawn cannon. The brass barrel is an original and weights 800 pounds. The wheels are the largest I've ever made with 57" wood spoke wheels. You should have seen us assemble them! In March, six of us assembled the wheels. There were four men with sledgehammers beating the 3" iron tires on. The center beam (called the trail) is ash, tapered, 8"x8", and is eight-feet long. The cheeks on either side of the trail hold the barrel on. They are two feet by 18" and were completely encircled by several iron straps 2 3/4" by 1/2" thick. Don Kemper helped me forge the top straps with his power hammer.

Over the years I've built over 30 cannon, from five-pounders to 3000-pounders. Several of the largest ones are on display at Fort Stevens in Hammond, Oregon. Last summer I finished the Parrott Rifle cannon, both the barrel and carriage. This gun is 7 ¼' tall about 20' in length, has an 8" bore, and weighs about 3000 pounds. I designed it with a small firing chamber so it would fire black powder and make noise, but wouldn't fire a projectile.

This Parrott Rifle cannon barrel has four-feet steel cheeks or sides that recoil on two steel rails which pivot in any direction you'd want to fire. The trick was to make the gun recoil when fired. The powder charge is not great enough, like it was in the original gun, so I had to install a huge spring that stretches 12' to recoil the gun. This requires a manual firing system and a ratchet winch to retract the gun to firing position. The gun also requires a five to six man crew to operate it. I built this gun for Fort Stevens as a replica of one of the 28 cannon that they had there in 1865.

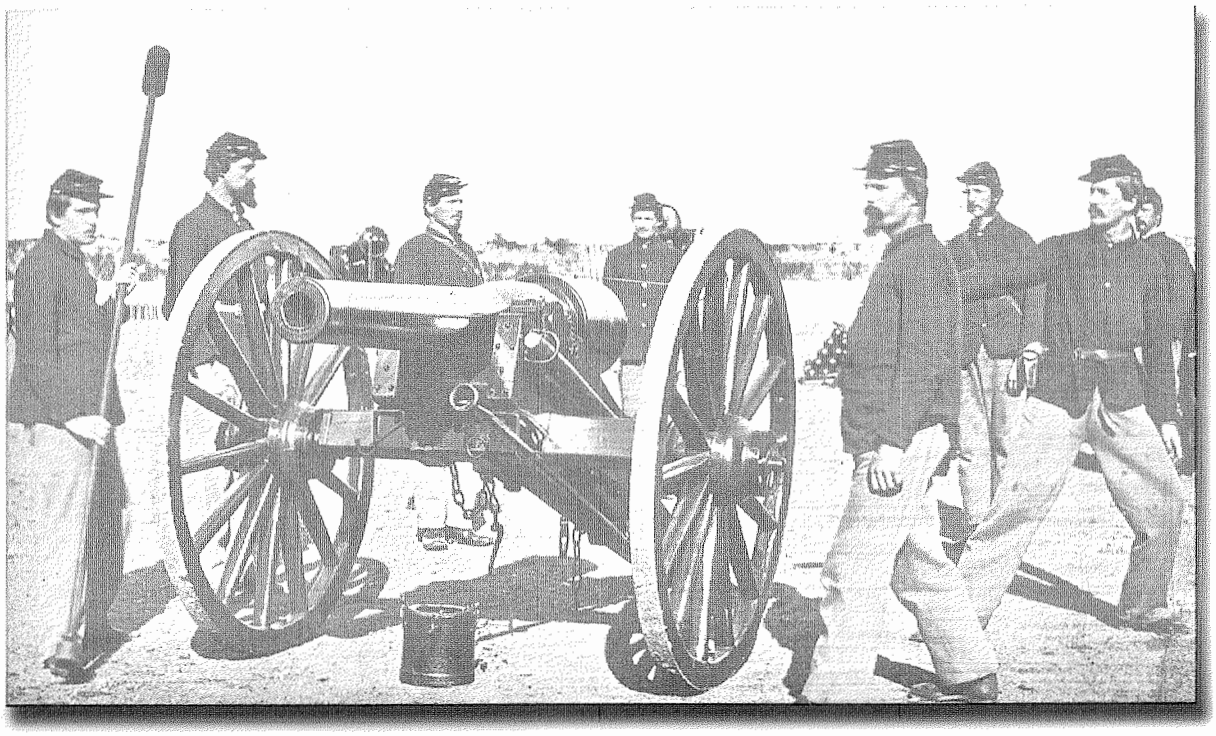
It took me two years, off and on, to construct this cannon. The original barrel was cast of iron with an iron ring around the breech end and weighted 50,000 pounds. I constructed it by taking a 16' 8" diameter pipe and fabricating a barrel around it. I rolled two 11" tapered cone halves, then welded them to a five foot long, 24" diameter pipe. Over the 24" pipe, I put a 48" pipe (band).

The end is a 24" domed end off a propane tank. All of these pieces were held in place by 1/4" plate-steel donuts, flat plates that would slide over the 8" bore like round ribs or large washers. After the barrel was made I then built the carriage. The cheeks which held the barrel were four feet high by six feet long and triangle shaped. These originally were 1 1/2" thick steel that I reduced to 1/4" plate. All parts are bolted together with large carriage bolts instead of rivets. At the rear of the gun is a 4' acme thread (1 ¼" dia.) to raise and lower the muzzle of the gun (elevation screw). The cheeks and barrel sit on a pair of 16" Eye-beam platform rails; these are elevated and sloped with a pivot pin in the front and 12" steel wheels in the back.

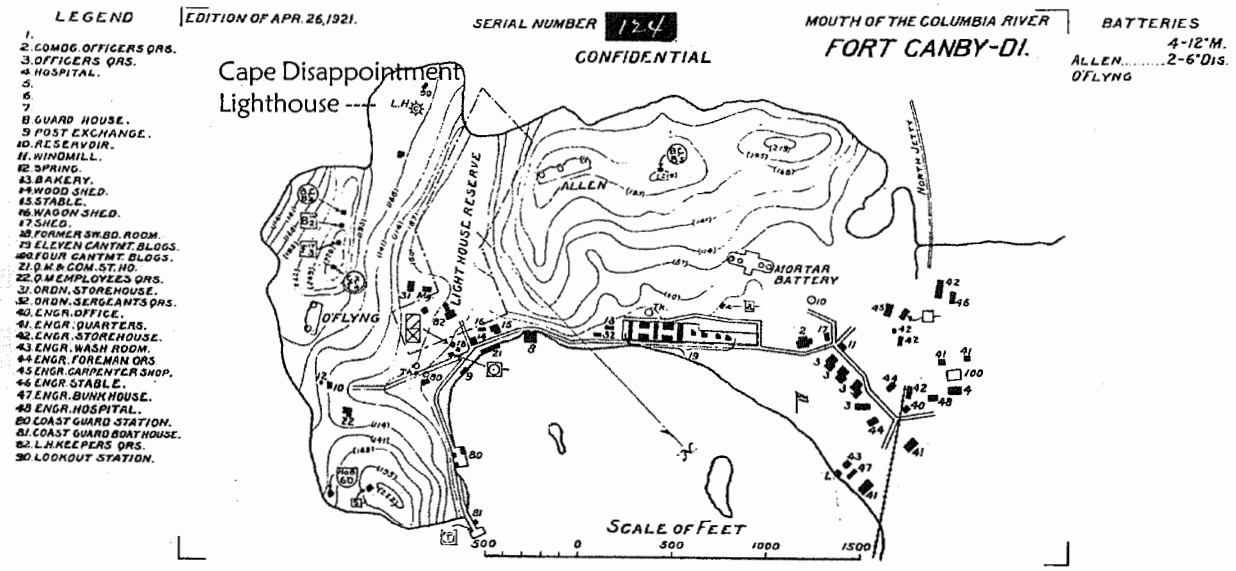
I constructed this gun in my backyard along with two other carriages for Rodman cannons.

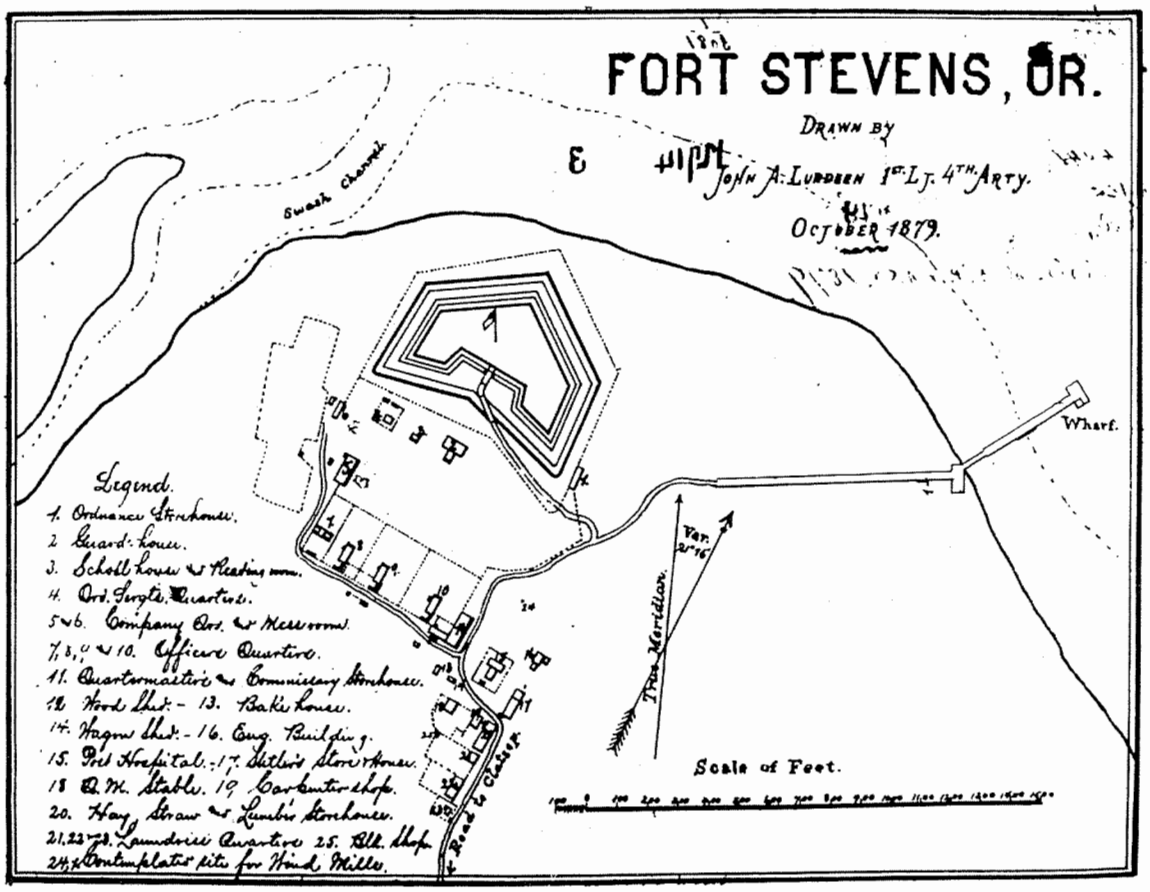
I must say I don't think I could have built all these cannons without help from many volunteers: Fellow cannoneers for the joy of firing and construction and a connection to the past. Thank you!

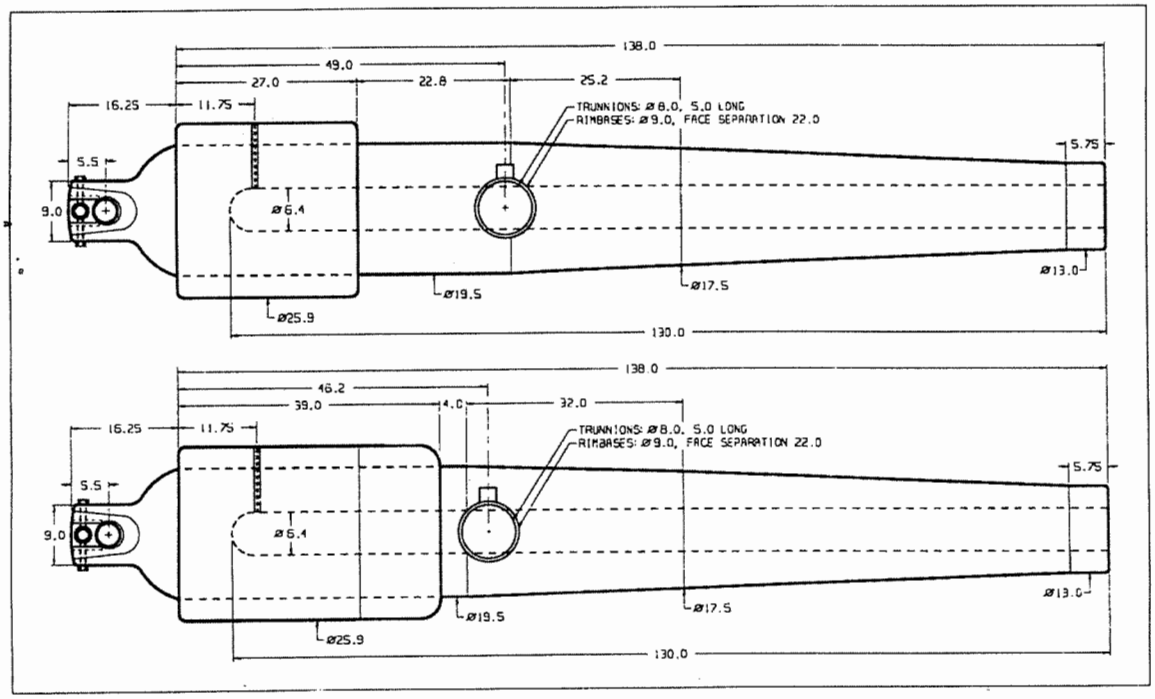
I've been asked to build an even larger cannon. This would be an 80,000 pound monster that shot a 15" 300-pound ball. But, alas, to do this I must leave my beloved iron and use fiberglass. I don't think I could forge and fabricate this bottle-shaped barrel from steel, like a large wine bottle. Plus, I don't have any large tools. You should have seen us trying to drag that Parrott Rifle barrel on a flat bed with two pickup trucks!



Parrott Field Rifle, Model 1861, of cast iron.




FORT STEVENS, OR.
Drawn by
John A. Lubbeen 1st Lt. 4th Arty.
October 1879.
Swash Channel
Wharf.
Legend.
1. Ordnance Storehouse.
2. Guard House.
3. School house & Reading room.
4. Ord. Sergts. Quarters.
5 & 6. Company Ord. & Messrooms.
7, 8, 9 & 10. Officers Quarters.
11. Quartermasters & Commissary Storehouse.
12. Wood Shed. - 13. Bake House.
14. Wagon Shed. - 16. Eng. Building.
15. Post Hospital. - 17. Sutler's Store House.
18. Q. M. Stable. 19. Carpenter Shop.
20. Hay Straw & Lumber Storehouse.
21, 22, 23. Laundress Quarters 25. Blk. Shop.
24. Contemplated site for Wind Mills.
Road to Clatsop
Var. 21°-16'
True Meridian.
Scale of Feet.


138.0
49.0
27.0
22.8
25.2
16.25
11.75
TRUNNIONS: Ø8.0, 5.0 LONG
RIMBASES: Ø9.0, FACE SEPARATION 22.0
5.5
9.0
Ø6.4
5.75
Ø19.5
Ø17.5
Ø13.0
Ø25.9
130.0
138.0
46.2
39.0
4.0
32.0
16.25
11.75
TRUNNIONS: Ø8.0, 5.0 LONG
RIMBASES: Ø9.0, FACE SEPARATION 22.0
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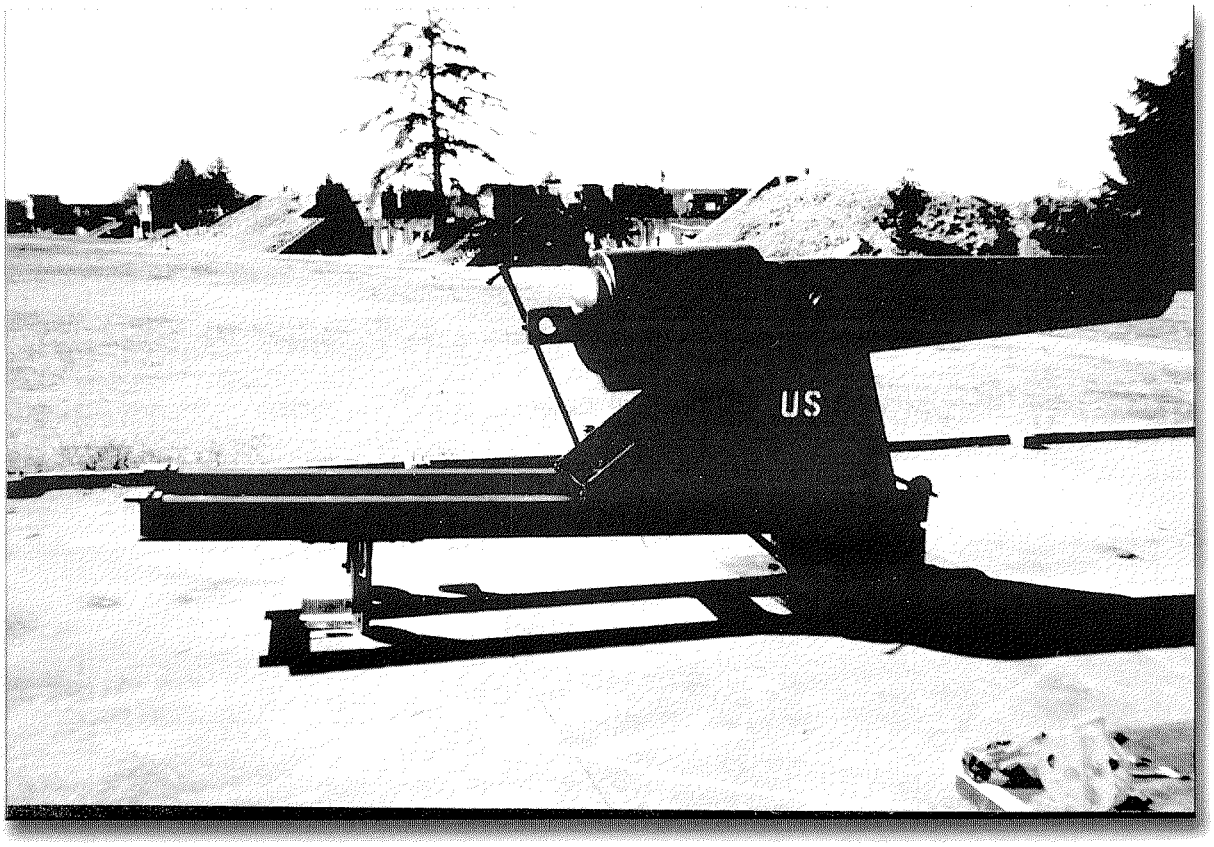
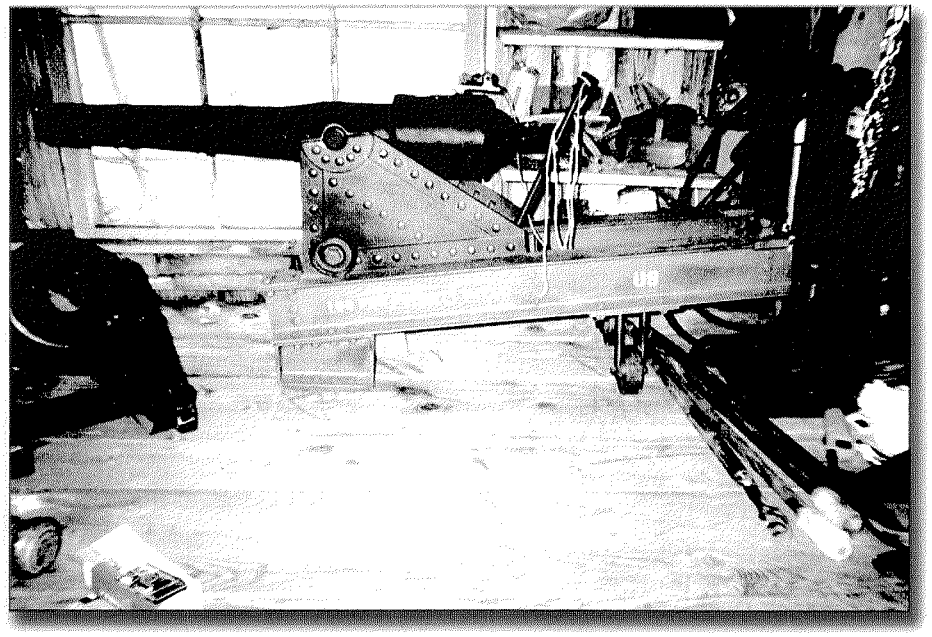
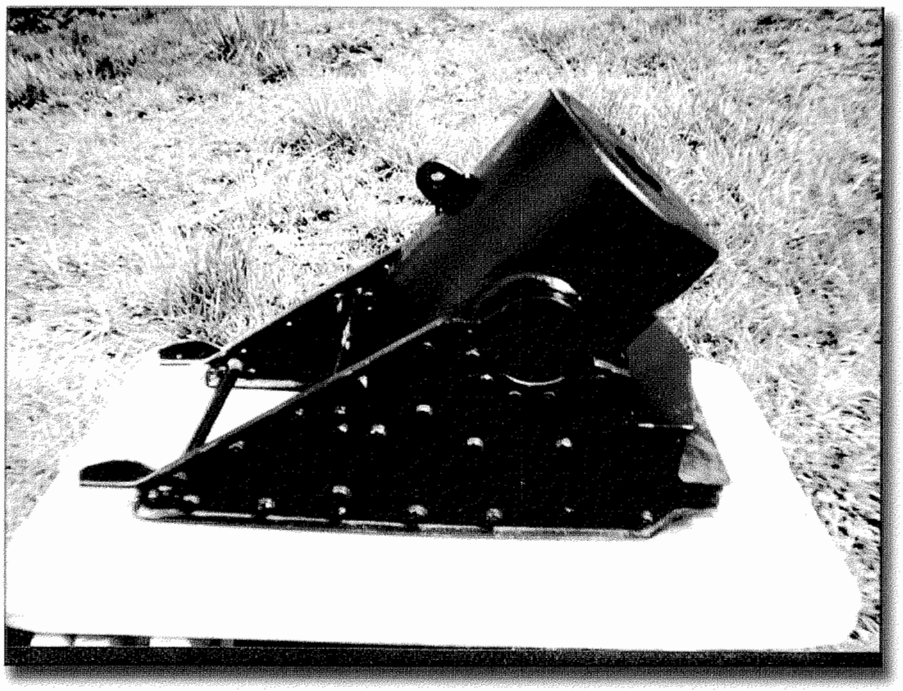


The earthwork defenses of Fort Stevens can be seen in the background. The fort has the dubious distinction of being the only mainland installation to be attacked since the War of 1812--when a Japanese submarine shelled it during World War II. The fort did not return fire.



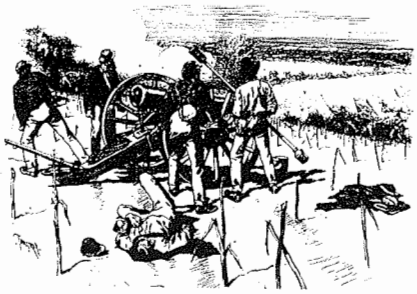
Reece also built this 1/4 scale 100-pounder Parrott Rifle. It will fire 1 1/4" steel slugs a distance of one mile!

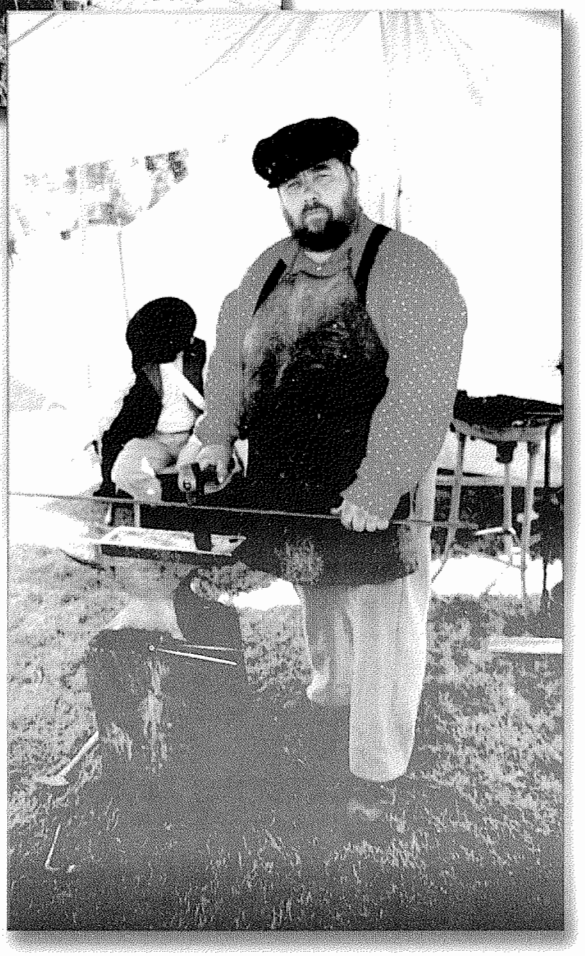
1775 Revolutionary War Coehorn Mortar. This is a full-sized gun with a 1 1/2" bore. It weighs 75 pounds. Says Reece, "This gun packs quite a punch. It's extremely loud. One year it accidentally went off. Almost took my right arm off! They found my Timex watch 30 feet away still running. This is where I got the name "Saint Bear"-- because that day I was Cannonized!"

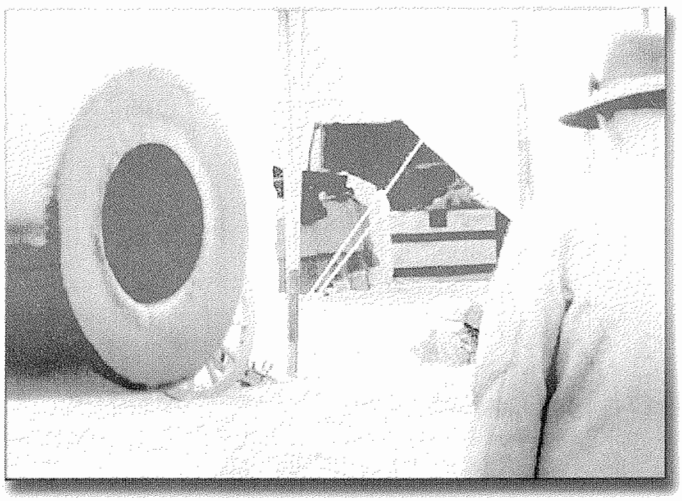


1/3-scale mortar. The original fires a 300-pound ball.

1/3-scale ordnance rifle. It's loaded with a 35mm camera cannister of black powder and fires a 1 1/4" ball.

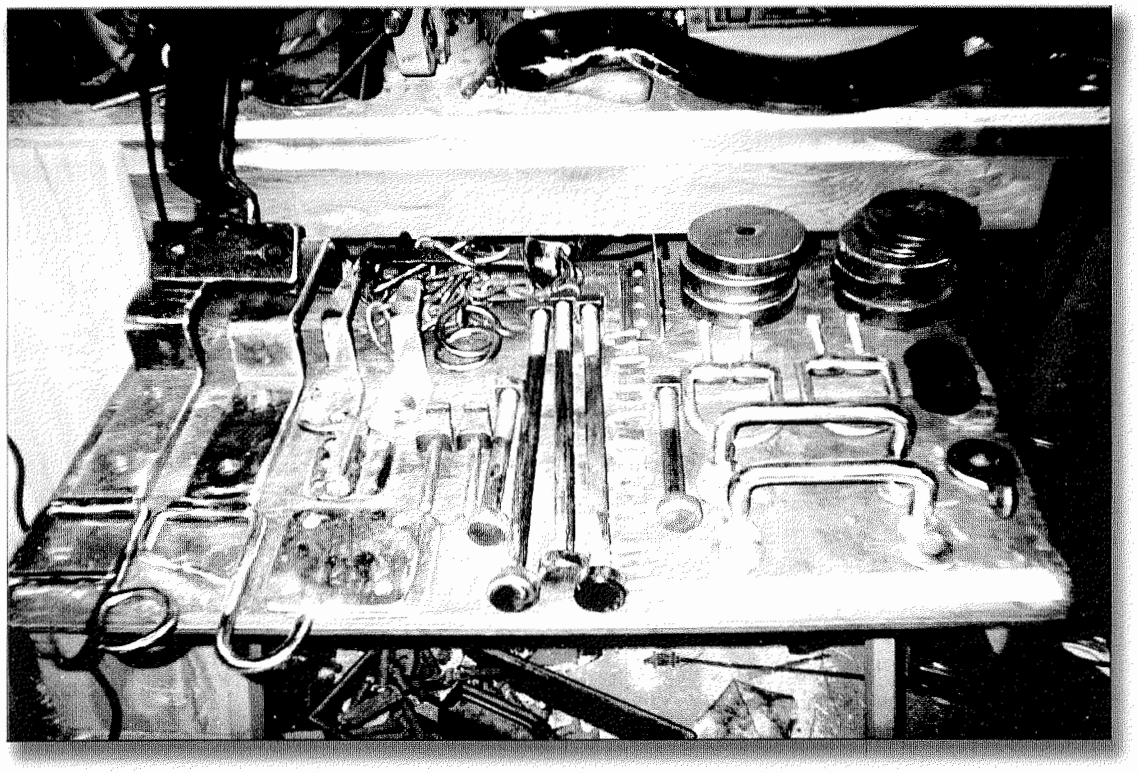




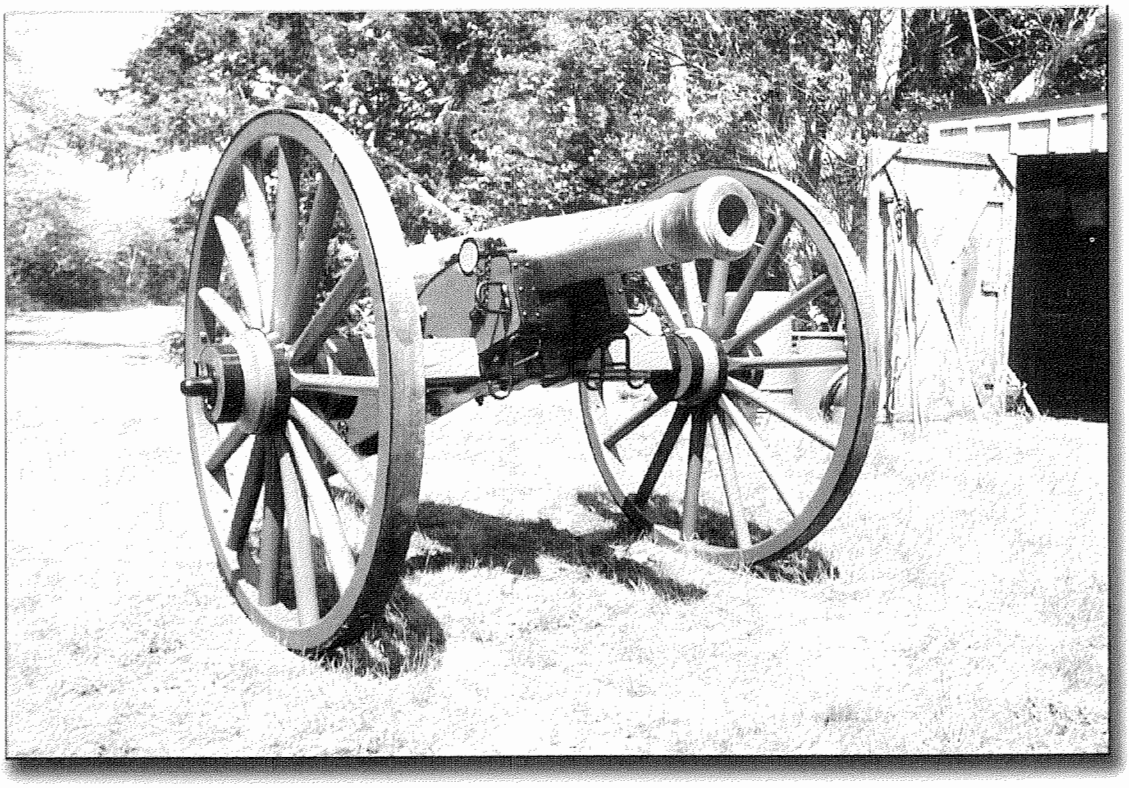


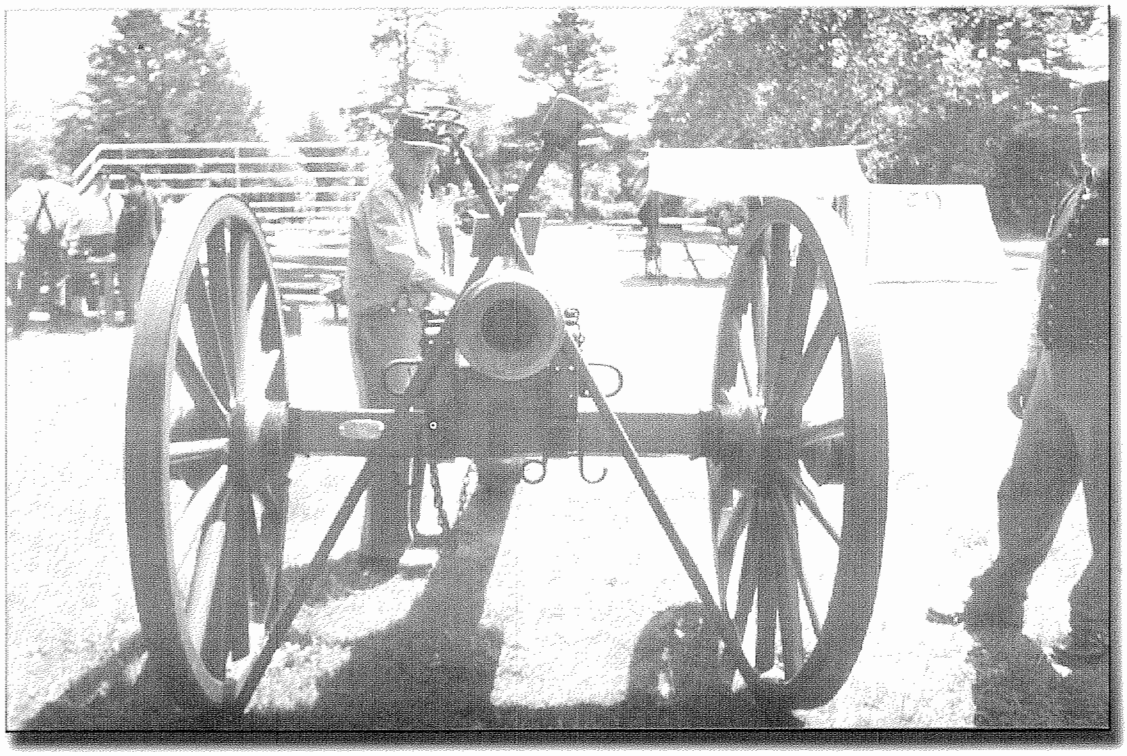
Business end of a Parrott Rifle.

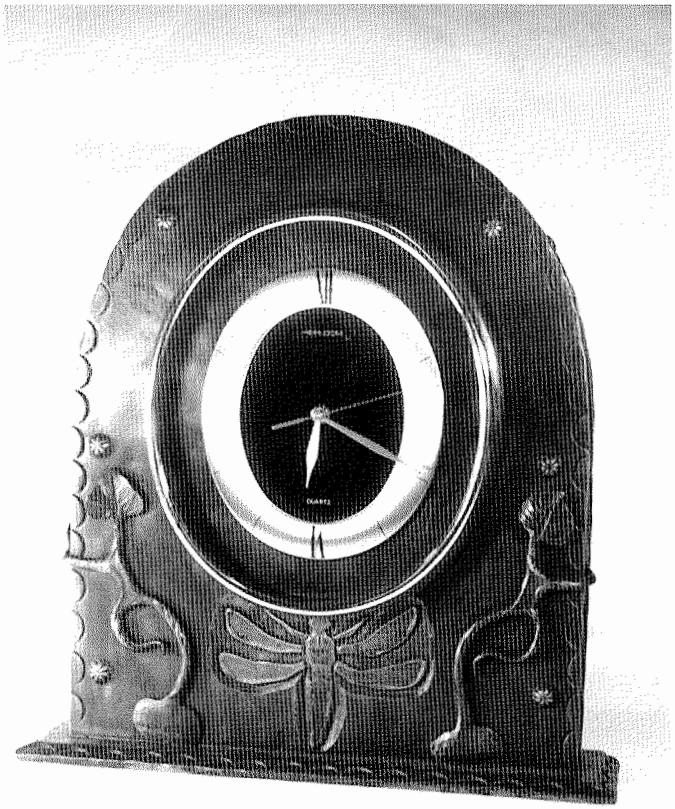
For comments or questions contact:
Reece "Bear" Whitacre
Bear's Iron Works
8106 NE 25th Avenue
Vancouver, Washington 98665
360 546-1441



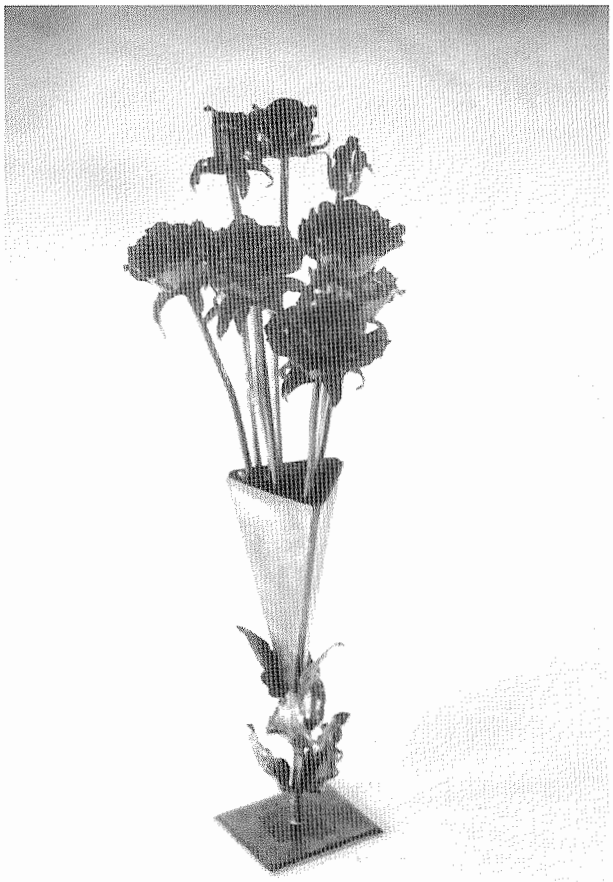
Forged parts for the carriage of the 1840 Six-Pounder, Brass-barrel cannon, weighing 800 pounds.





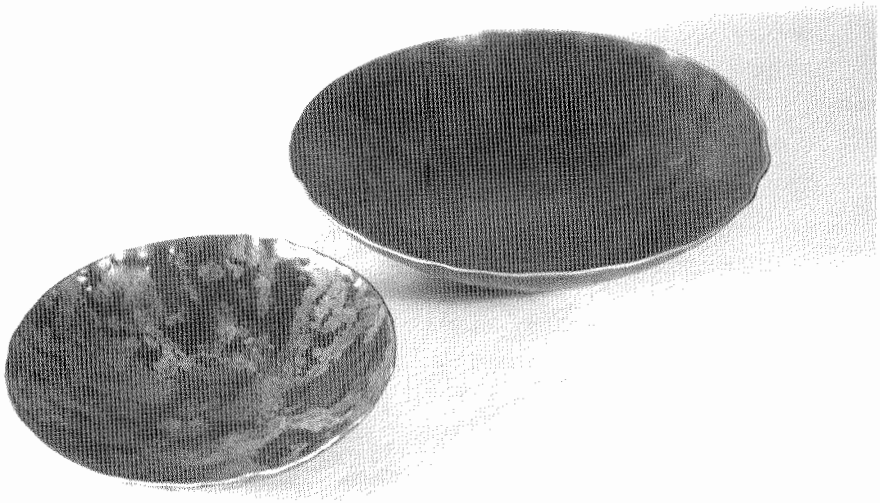


Ward Grossman & Steve Fontanini, Clock from Demo. This will be auctioned at the Northern Rockies Blacksmith Association Spring conference.

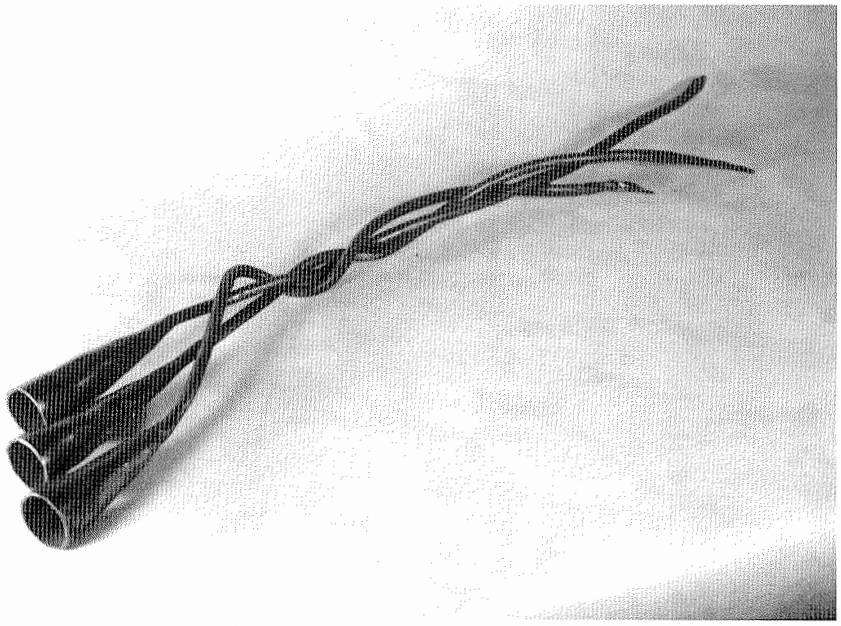


Mike Newton Vase & Roses

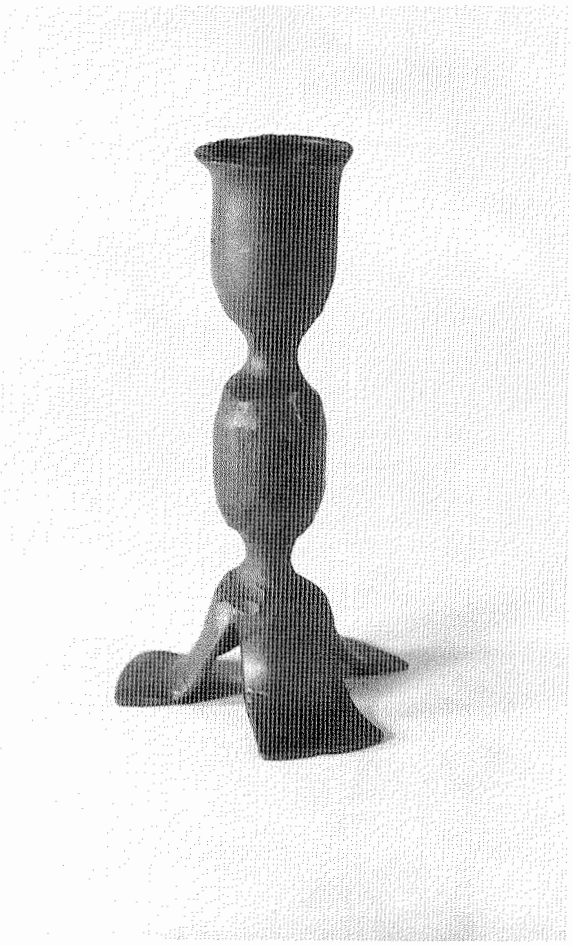
Gallery

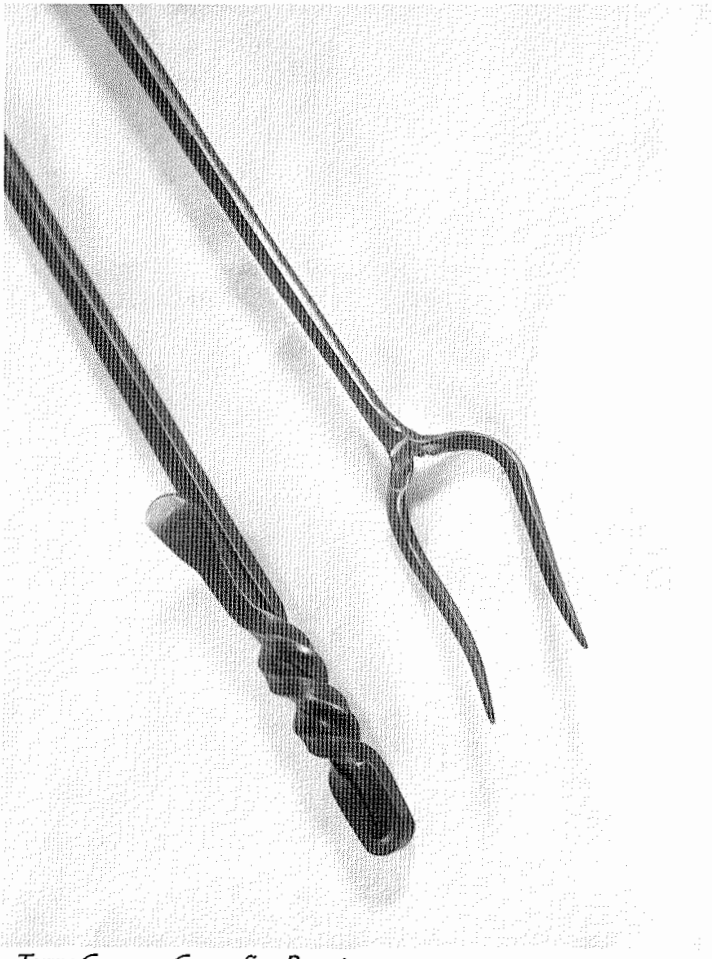


John Kimball Bowls

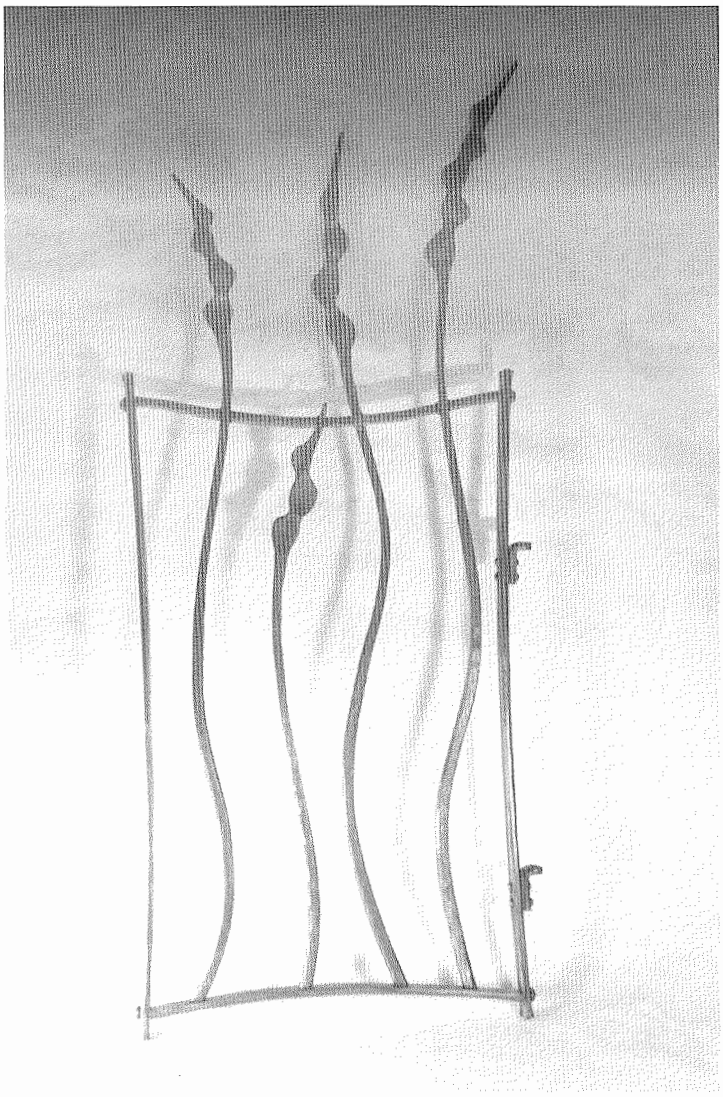


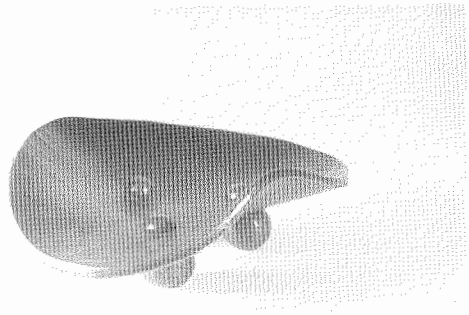
Hayes Zirnhelt Two Candleholders

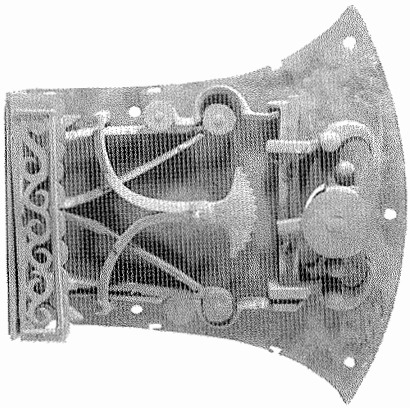


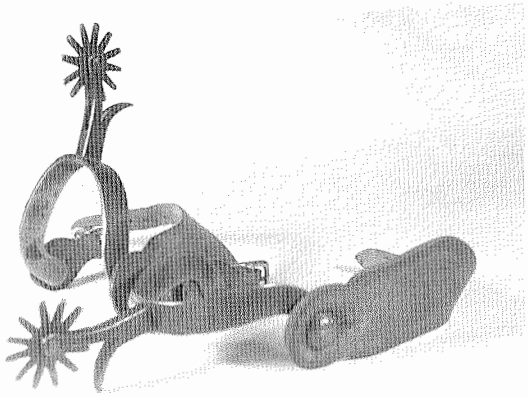


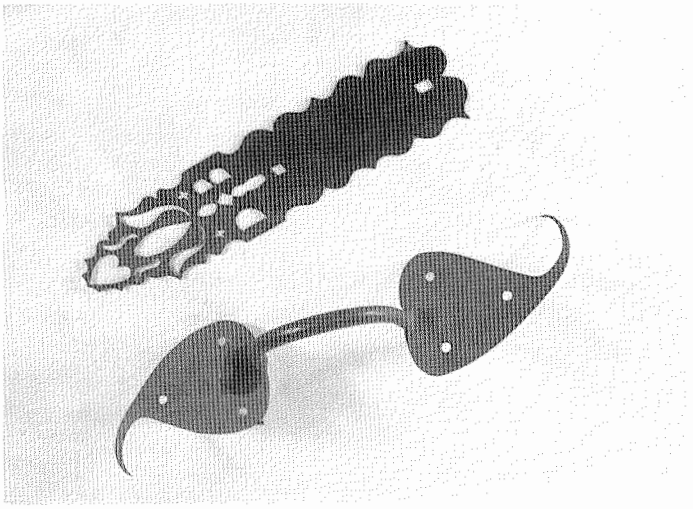
Terry Carson Campfire Roasters











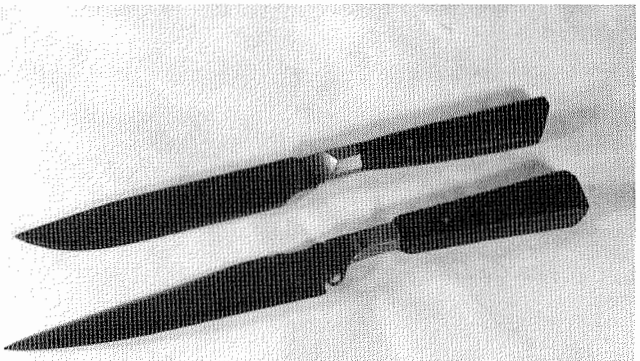
Jeff Johnston Artwork, Antique Lock, and Latch set and door handles, dated 1777, found in his grandparent's barn in New York.

Ken Williams
Orchid Candleholder, and
Double Candleholders

John Doherty Dog Latch

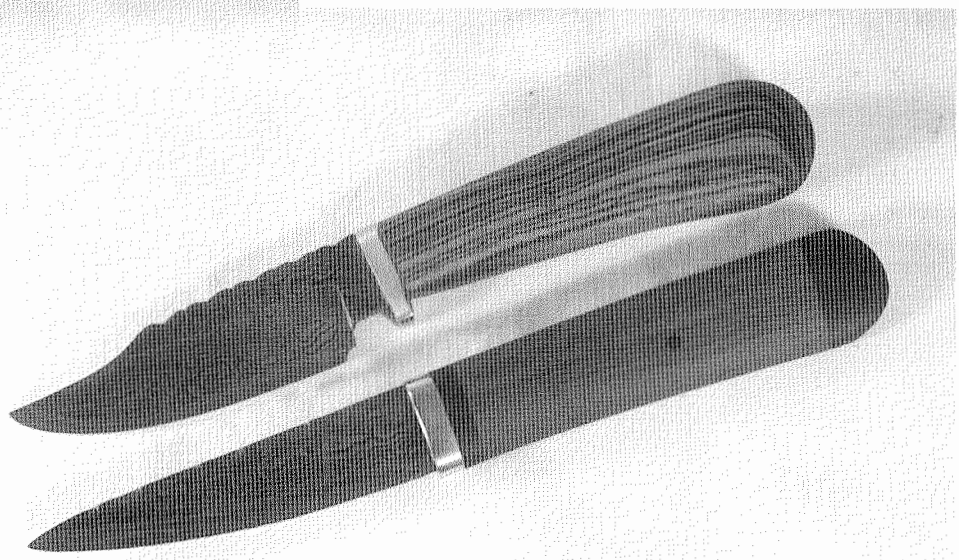
Rifle Knife

Geoff Keyes

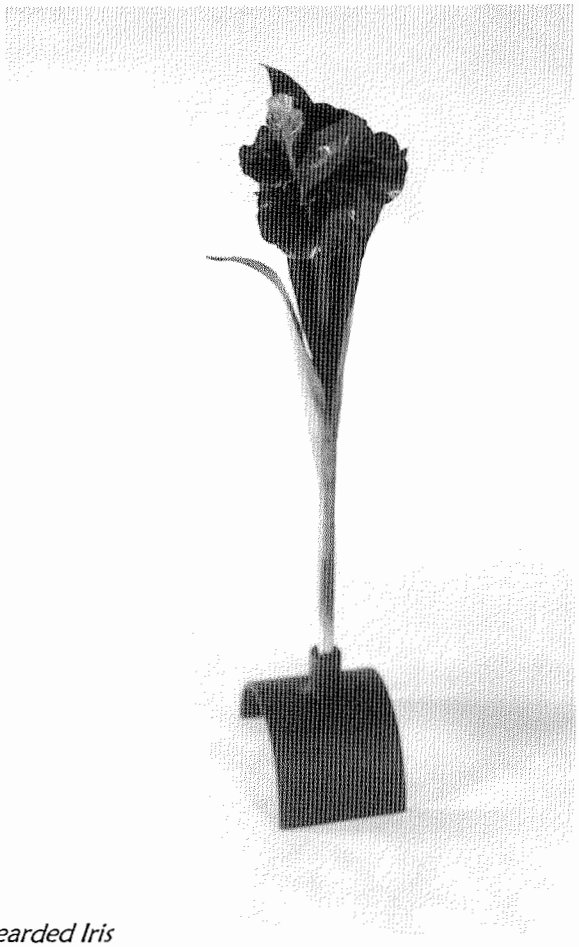


Integral Bolster Knives

Damascus



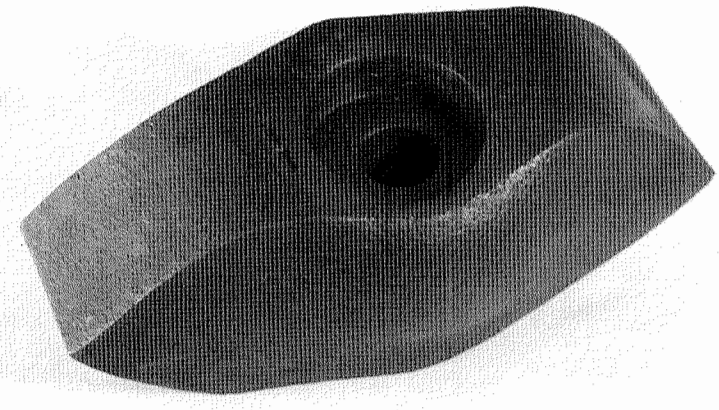
Roses



Bearded Iris

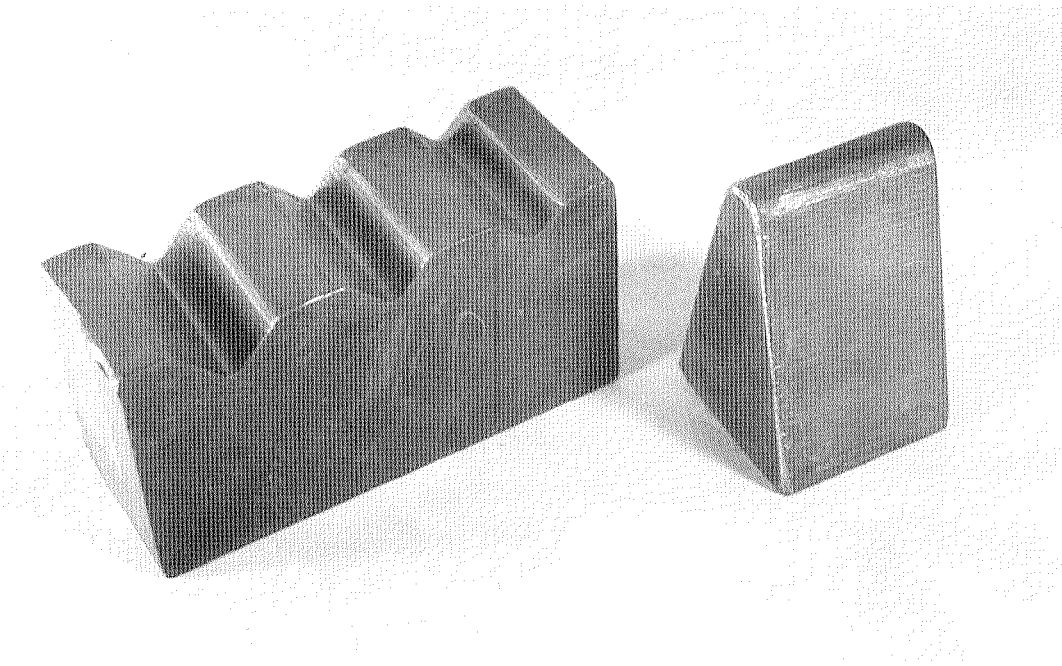
Bert Romans

Chinese Urn

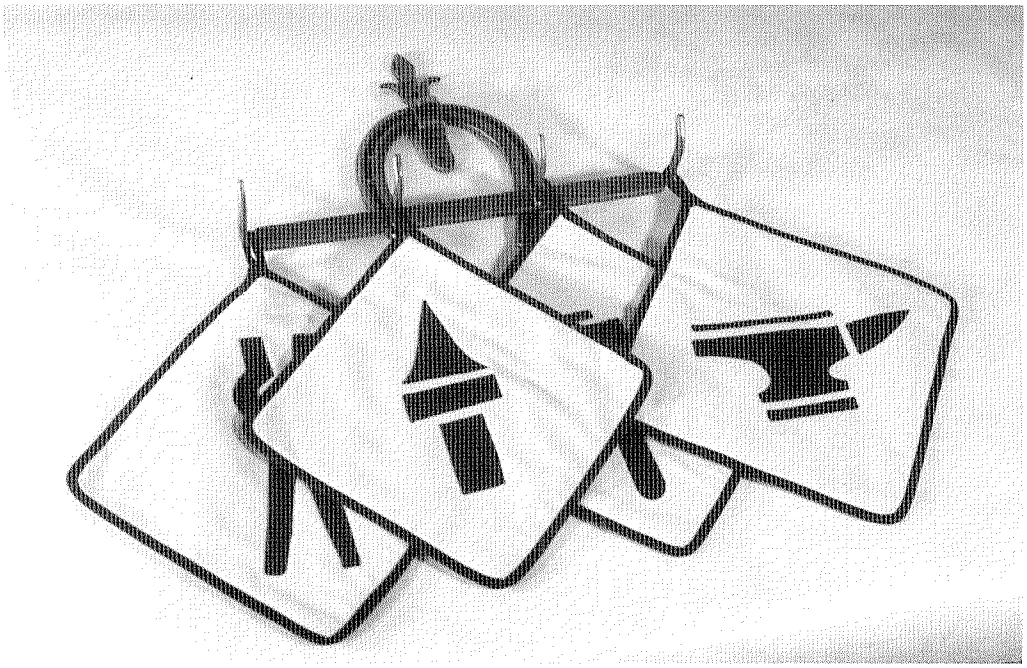


Jerry Culberson Menorah & Candleholder

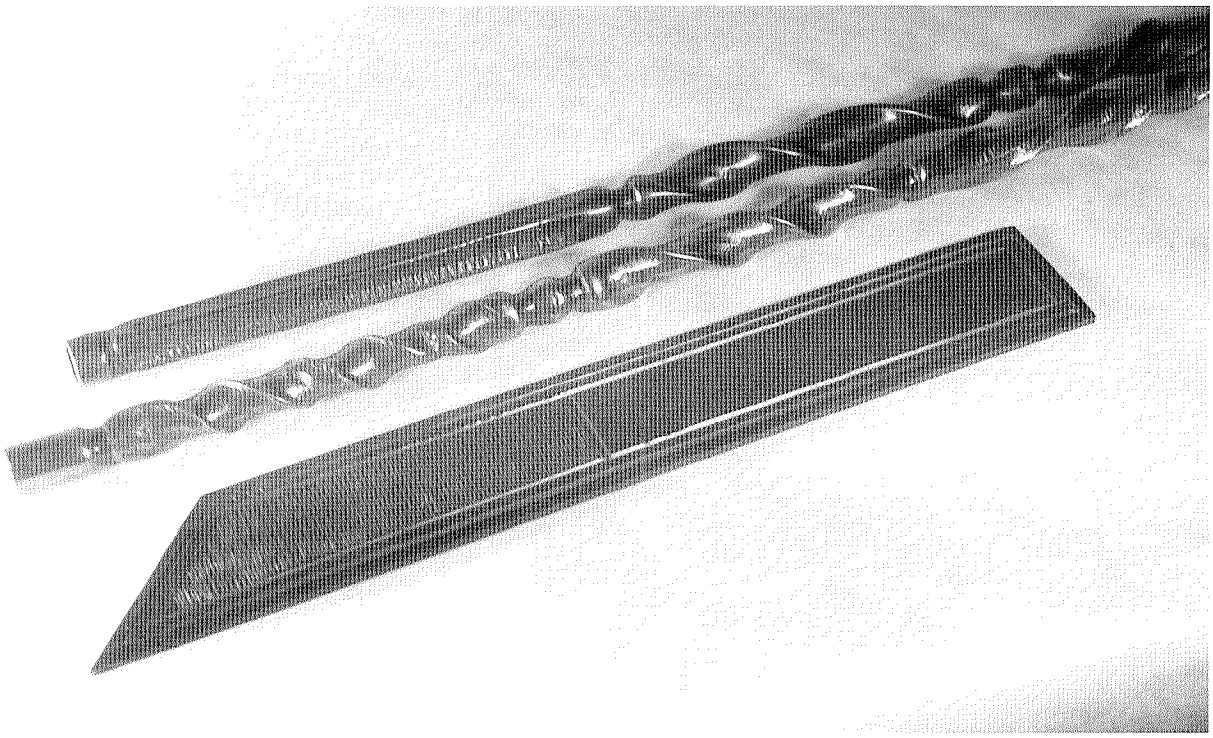
John Adolph Candleholder



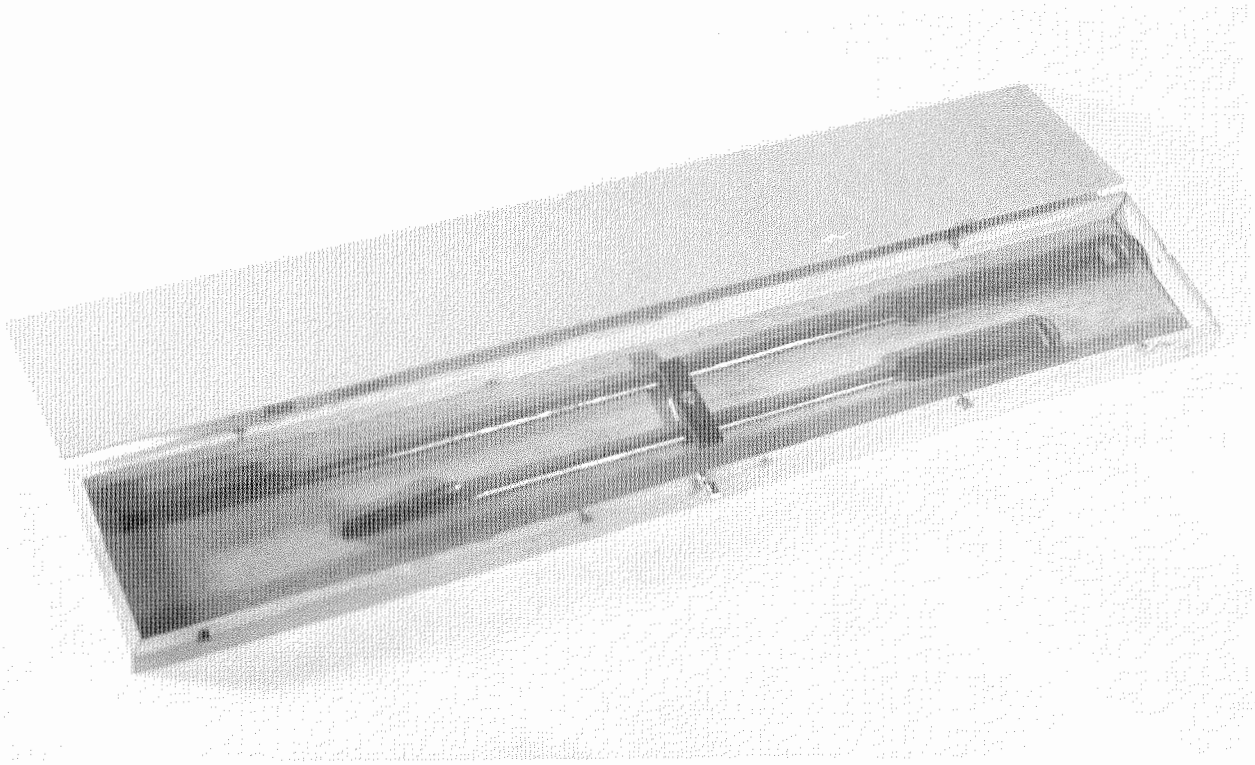
Bill Apple Fuller & Swage



Betty King Potholders

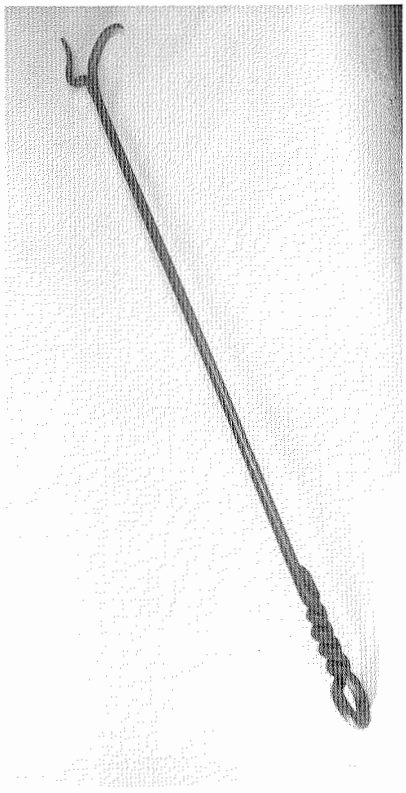


Renato Muskovic Pulmax Demo

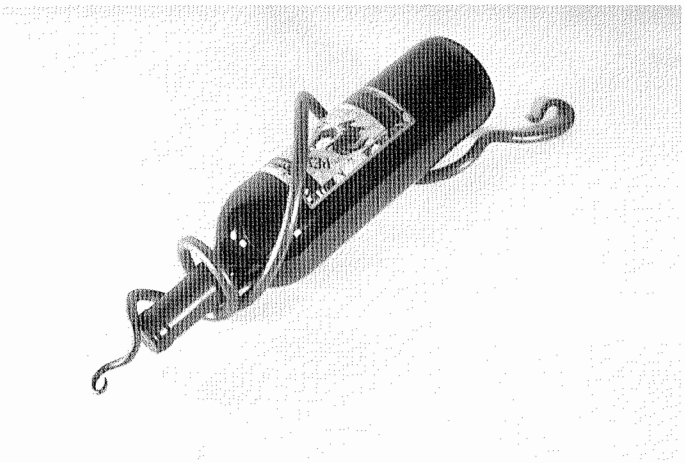


Bob Race Fluxing Spoons

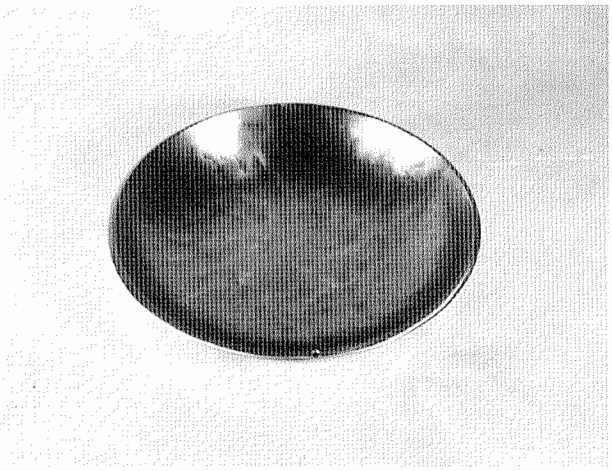
John Adolph Candleholder



Skip Kennedy Poker

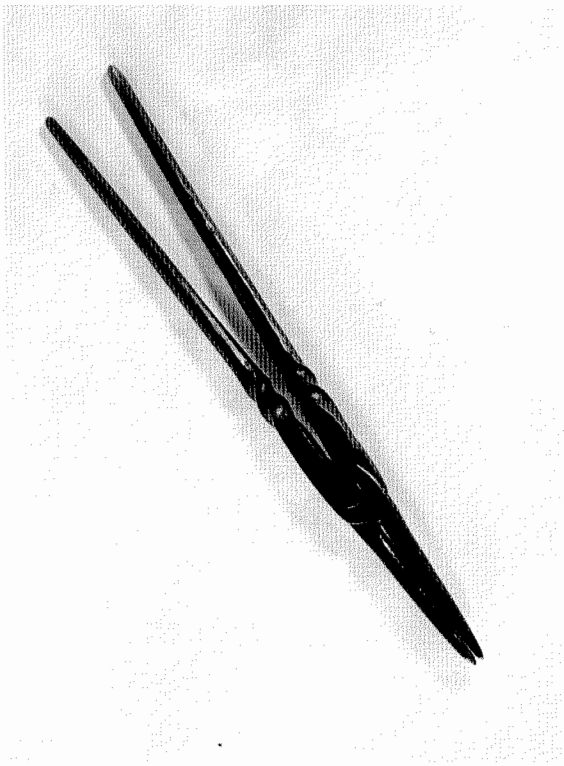


David & Andrea Lisch



John Kimball Silver Bowl

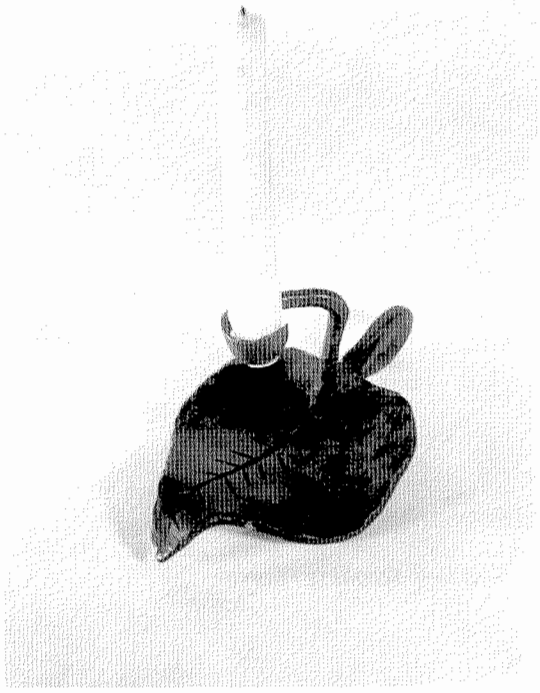
Tom Richards



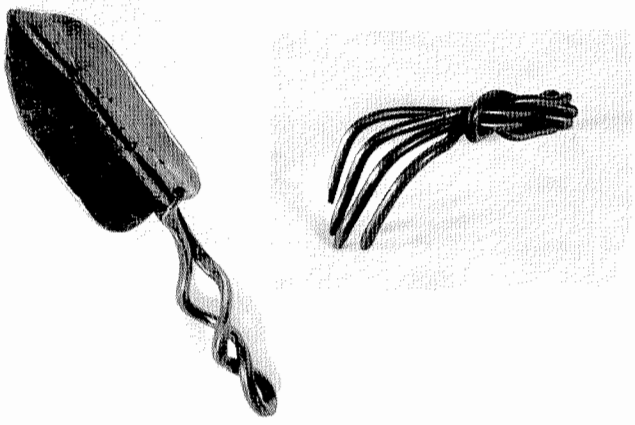
Tim Bell Scrolling Pliers

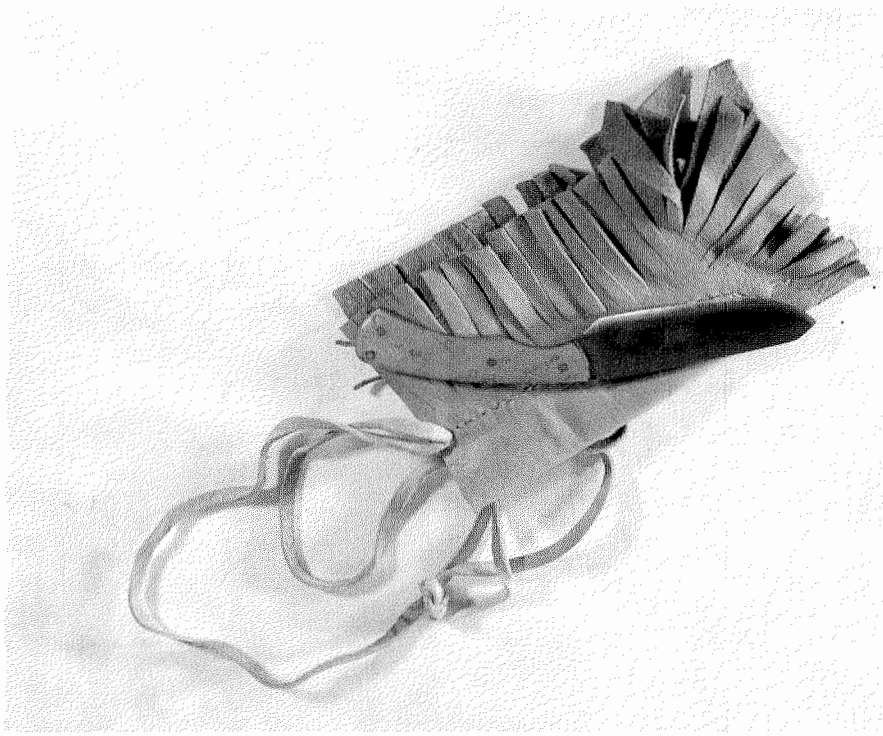
Pete Jones Kite Key Ring

Mike Newton Steel Rose



Michael Bilksky



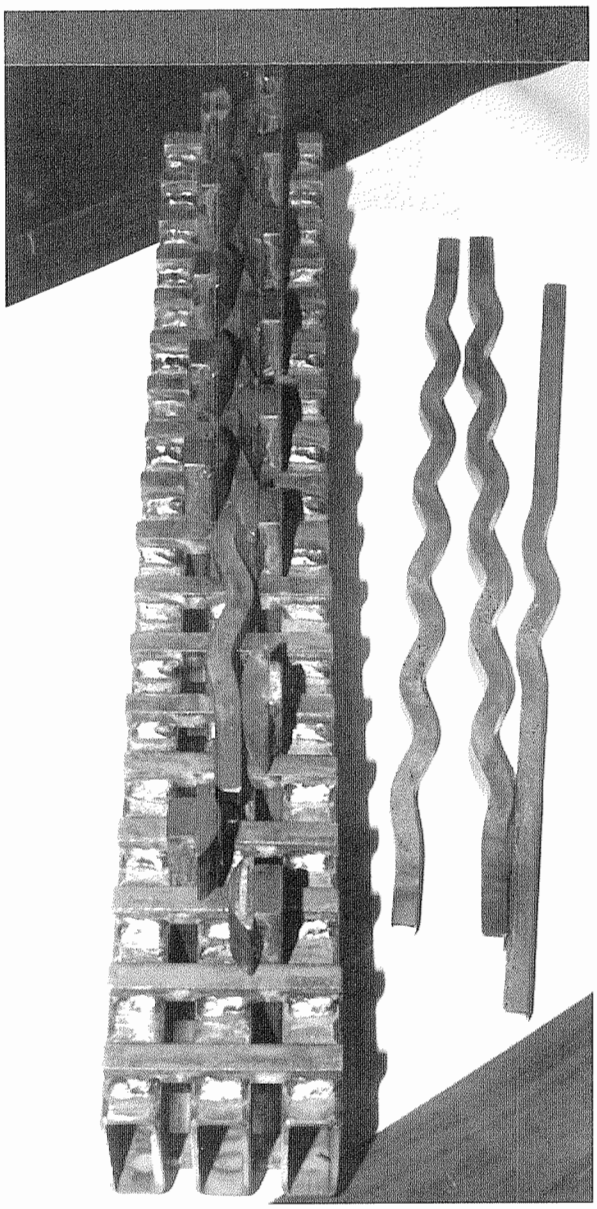


Geoff Keyes Neck Knife

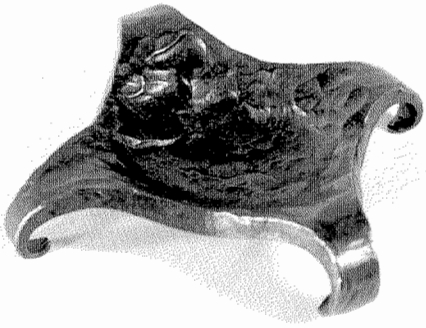
Martin Brandt Wrist Thingy

Rick Leeson Punch

Jeff Holtby Ink Well & Quill

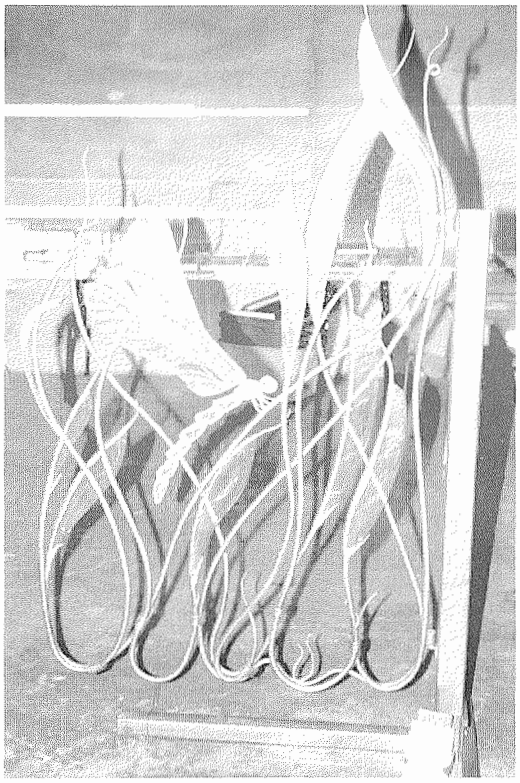


Dick Naven Jig

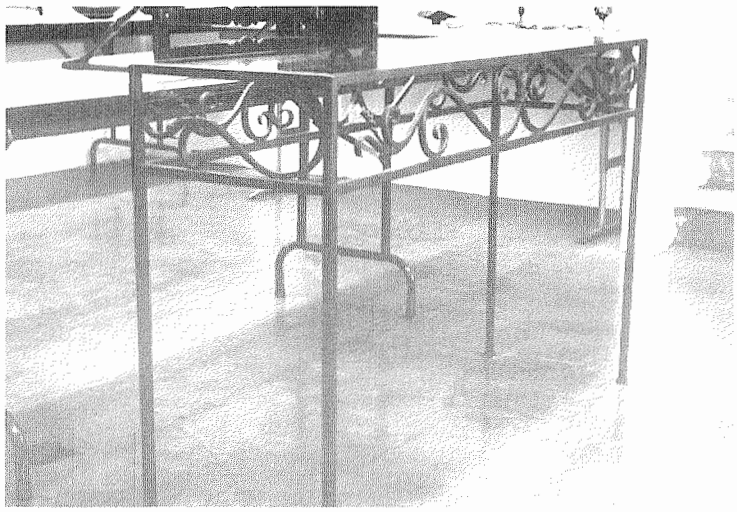


D.J. Stull Trinket

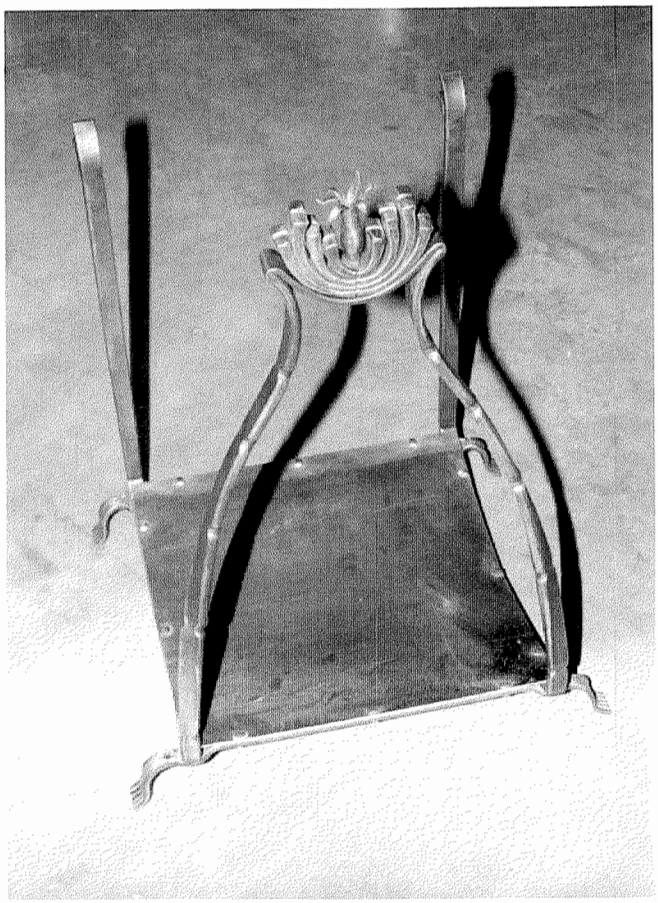
Jim Hatmaker Copper Keyring Hanger



Bart Turner Libellale Gate

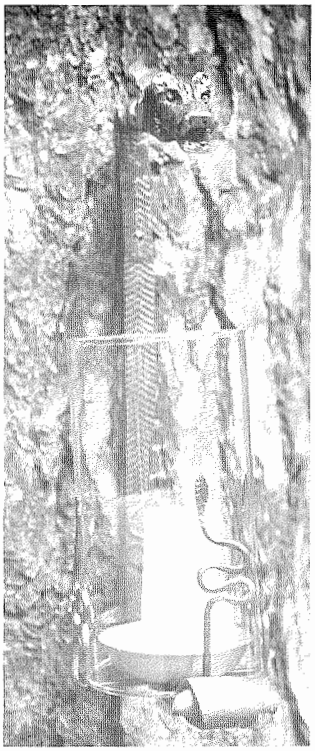


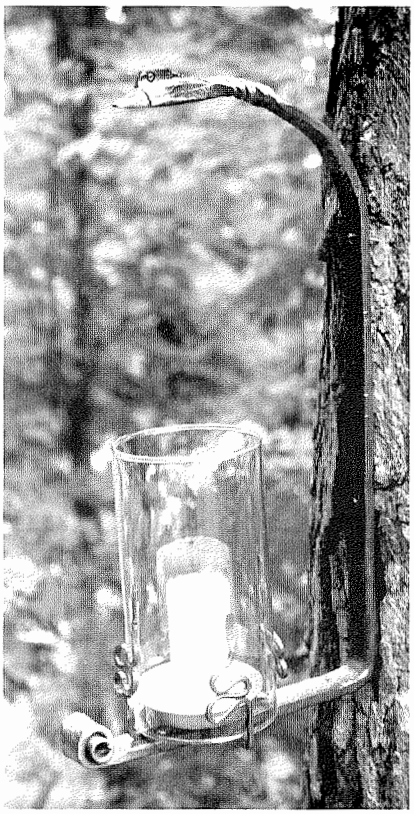
John Emmerling Console Table

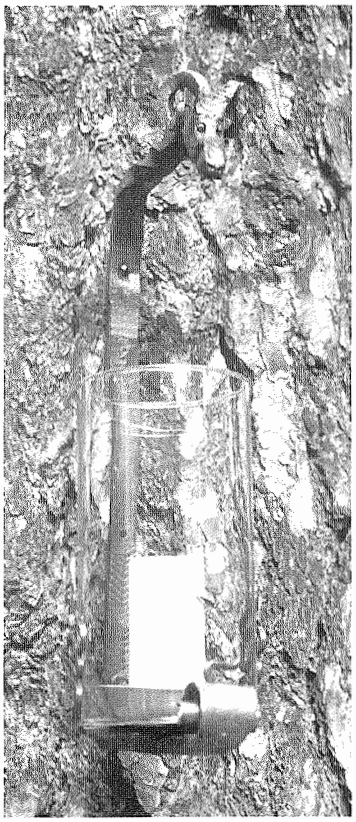


Laura Goemaat Wood Holder

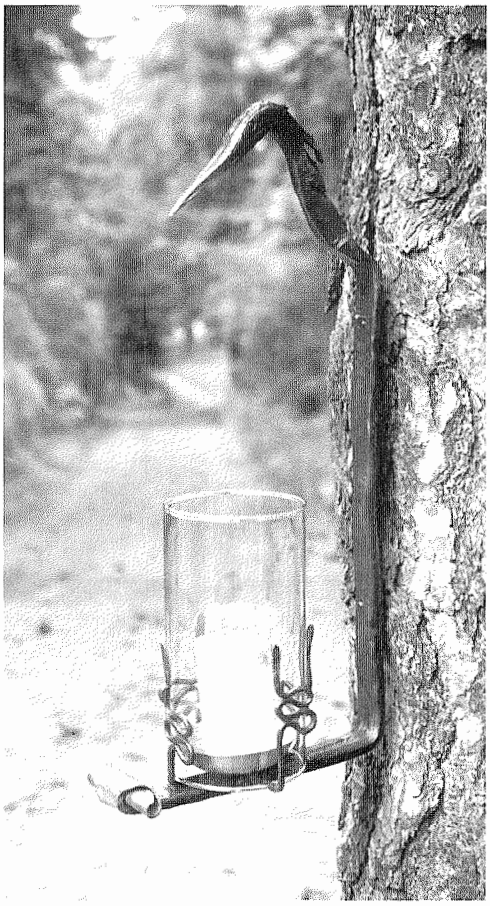
Larry Rose Side Table







Cabin Sconces
Jerry Kagele



Gallery Focus ~ Kaewyn Gallery, Bothell

~by Laura Goematt

ONE OF THE MOST IMPORTANT, yet challenging, aspects of modern blacksmithing is gaining exposure to the public, and potential clients. We are fortunate in the Seattle area to have a gallery owner who is enthusiastic about promoting forge work.

The Kaewyn Gallery in Bothell, Washington has been hosting an interesting and high-quality metal-work show in January for the past seven years. January of 2004 will be the eighth consecutive year for this gem of a show. Bothell is perhaps an unexpected locale for such a show, but Lynn Asmann, the owner and director of the Kaewyn Gallery, is an adventurous curator, and is open to unusual ideas.

Lynn's business is a combination of picture-framing, and fine-arts gallery. The picture-framing business is named FrameWright, and the fine-arts business is named the Kaewyn Gallery. The focus of the gallery is to promote art and to showcase local artists. Lynn is personally committed to providing a venue for quality artwork at reasonable prices. The business has recently relocated to a highly visible space along Bothell's lovely old main street. The Kaewyn Gallery portion of the space has doubled in size, and can now accommodate a larger show. This will be a wonderful location for future exhibitions.

The initial metal-work show was the result of a suggestion by Jamie Ross. Lynn needed a show in January that would be interesting and irresistible enough to bring patrons to the gallery after the Christmas holidays. Her gamble has been quite successful, and she says that gallery patrons look forward to the metal-work show with great anticipation each year.

The "Living with Iron" show has evolved in nature over the years. The majority of the work exhibited in the first few shows was functional. While functional pieces still hold a slight majority, nonfunctional work has steadily increased, and now comprises close to half the entries. The emphasis, however, has consistently been on the artistic treatment of metal. Lynn considers the metal-work to be art, functional as well as nonfunctional. Lynn particularly likes to feature work that puts metal to creative and imaginative, even unexpected, uses. Manipulation of the material in terms of decorativeness, texture, and balance all contribute to making a unique piece that will intrigue a gallery visitor.

Each "Living with Iron" has been a group show. Setting up a group show is always a challenge, albeit to Lynn a fun challenge. Each piece needs to be individually highlighted, while at the same time creating a cohesive flow among many disparate pieces. Lynn also tries to set up the intended environment of each piece to recreate how it might look in a client's home. It is important that work be delivered several days in advance of the opening so that Lynn can plan how to show each piece to it's fullest advantage.

Adequate lighting is essential to bring out the textures and detail work on predominately dark objects. Three-dimensional pieces need to be situated so they are visible from multiple angles, do not invade their neighbors' space, and allow ample room for traffic flow. Since the majority of entries in the "Living with Iron" show are three-dimensional, Lynn needs to put art on the wall space not utilized by two-dimensional metal-work. It needs to provide visual interest while also complimenting the metal in some way, but without detracting from it. Lynn has used colorful photographs, collage pieces, and fiber-work at different times.

Lynn Asmann, owner of Kaewyn Gallery

Lynn had requested artist statements to accompany the art work in the first few shows. She would like to include them again. Lynn's experience has shown that personalizing the work is an excellent way to promote it and can help to sell it. Potential clients become much more enthused about a particular piece, or artist, if they can gain an understanding of the passion behind the work.

Participating artists can help the gallery by providing an adequate number of pieces for a show, delivering in a timely manner, distributing show announcement postcards, and appearing at the official opening reception. Lynn points out that the gallery/artist relationship is a symbiotic one. The "Living with Iron" show has established a reputation as a quality art show. Maintaining that reputation builds a clientele, and results in more sales and repeat customers who come to expect the level of quality presented.

Lynn has some practical advice to artists who would like to approach their own local gallery about showcasing metal-work. She recommends doing research by visiting the gallery to see the space, and to get a feel for the quality of work the gallery features. Most galleries have a reputation for particular styles of work, or particular mediums. Some directors are open to new ideas or media; the only way to find out is to shop around and talk to them. If the gallery has an interest, the artist needs to supply slides or photographs of their work, submit a letter of interest, and a resume. Show schedules are usually prepared far in advance, so an artist needs to be both patient and persistent. Lynn says she would be happy to talk to gallery directors about metal-work shows, and can probably convince them of the viability of hosting one in their locale.

The January, 2004, "Living with Iron" show will, for the first time, include a theme as part of the show. The theme will be small tables; end tables, side tables, or patio tables. This will enable clients to see a fascinating range of styles within a particular context. Lynn is hoping to present a wide variety in the treatment of this theme. It has been Lynn's experience that the artistically functional work tends to be more marketable, and increased sales benefits both artist and gallery. Metal pieces not related to this theme will also be encouraged and included in the show; the Kaewyn Gallery now has enough space to feature both. Lynn hopes that artists will use the show as an opportunity to present work that is experimental and personal. Anyone interested in participating in the upcoming show is encouraged to contact Lynn, or visit the gallery.

Lynn thoroughly enjoys the metal-work show, and considers it a privilege to showcase work by area blacksmiths. She finds it an easy show to promote because she believes in the work and its' quality. She likes the way this show transforms her gallery, which primarily features two-dimensional art. She has found metalworkers to be an interesting and energetic group of people, who are devoted to their medium.

The blacksmithing community is grateful for Lynn's continued commitment to the presentation and promotion of the art and craft of metal work in its many guises.

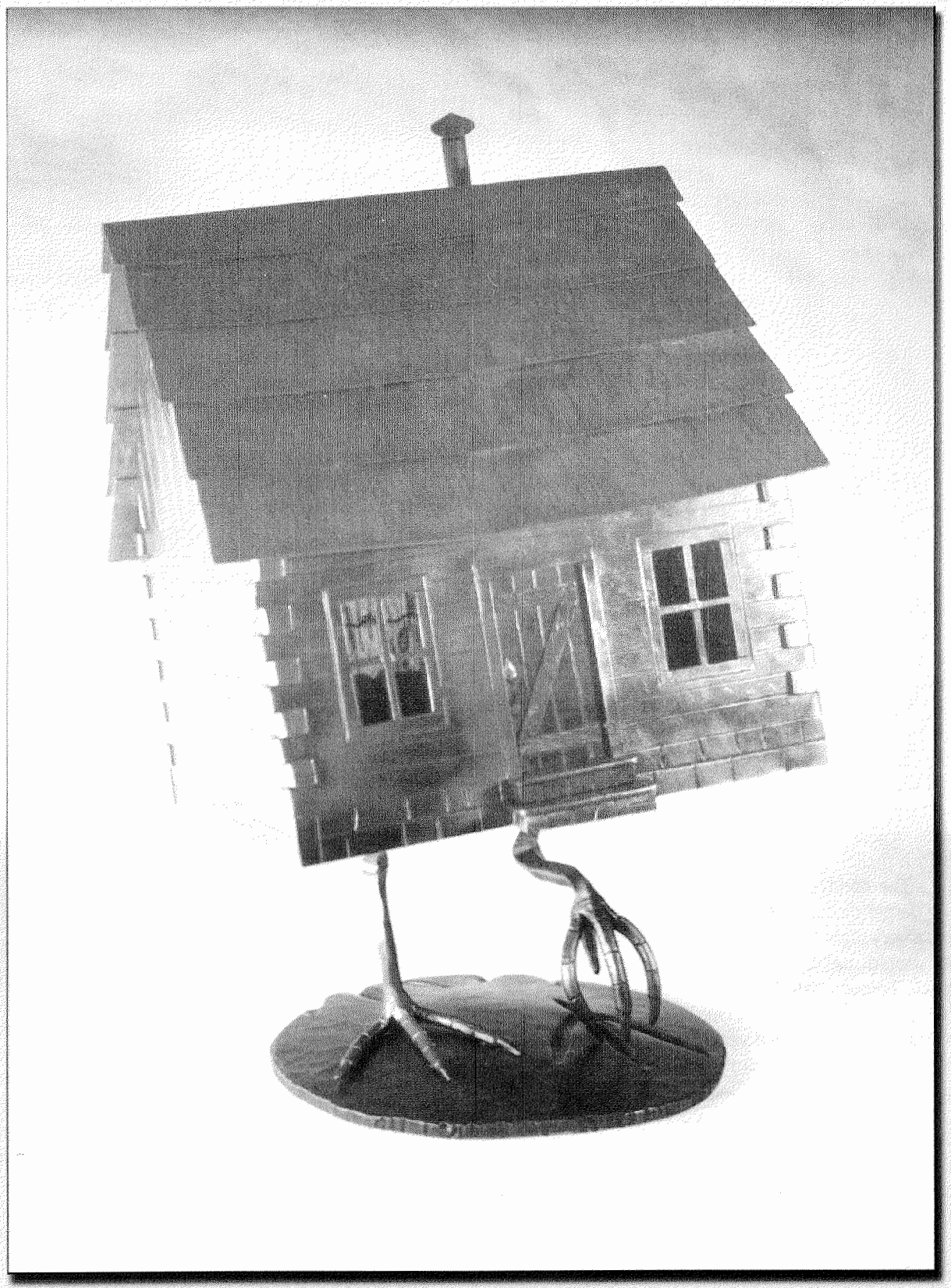
Kaewyn Gallery is located at 10101 Main Street, Bothell, Washington. 425 485-7385. The Gallery features revolving exhibitions of artwork.

The Curse of Baba Yaga's House

Few realized the mortal risk when Jeff Holtby brought ***Baba Yaga's House*** to the Fall Conference! Baba Yaga is the evil witch in Russian Folklore. She eats people, with her iron teeth, and decorates her fence with their skulls--which would not have been a pretty sight at the Skagit County Fairgrounds!
Her hut stands on chicken legs, and must be commanded to turn around so that one may enter. She flies through the air in a mortar, rowing with a pestle, and her house can run after it's victims! (Imagine Jerry Culberson claiming that he was chased by a house with chicken legs!) Again, not a pretty sight. Baba Yaga can also order the cycles of nature by using her birchwood broom. Vasalisa and Ivanushka, the Russian counterparts of Hansel and Gretel, have to outsmart Baba Yaga to prevent being hors d'oerves. Vasalisa is sent to Baba Yaga's hut by her wicked step-mother ostensibly to borrow a needle and thread. Baba Yaga tells her to weave on the loom while Baba Yaga goes to the kitchen to prepare to eat her. But Vasalisa manages to escape with the aid of Baba Yaga's cat, who runs the loom while Vasalisa splits. Likewise, when Ivanushka is told to get into the frying pan by Baba Yaga, he claims ignorance as to how to sit in a frying pan. When Baba Yaga shows him, he pushes her and the pan into the oven. For the next conference, Jeff is busy forging a voodoo doll.

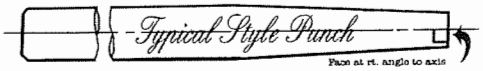
Избушка, Избушка
на Курьих ножках
Повернись к лесу задом
и ко-мне передом

Old Hut, Old Hut, On Chicken Legs,
Turn your Back to the Forest,
And your Front towards Me!



Baba Yaga's House by Jeff Holtby

Blacksmith--Be Thy Own Tool-Maker



~ Bob Race

Along with hammers and tongs, punches will be one of the most necessary (and most numerable) tools you will need to satisfy your needs in the shop. They will be the most harmoniously confused instruments needed for working hot or cold steel as they will allow one to punch holes of an enormous variety of shapes and sizes through thick or thin material. No matter how many you have made there will be another hole needed that is just not the same configuration as all the punches presently collected in your tool box.

Although this article is directed toward beginners with a small shop it may also give a different insight to those of you who have found that punching is tedious and boring and would rather drill before going through the excruciation of placing a steel dowel over a mark and forging a hole into a piece of iron.

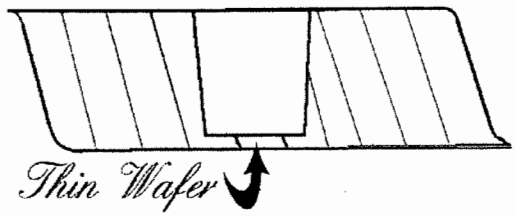
Punches are available through catalogs or used tool stores, but they are also easy to make, so there is no time like the present to use one as your first project. Looking at the prices in today's catalogs should be incentive enough to take a piece of coil spring, cut off a few inches, straighten it out and taper one end down to the size hole you need. Like with tongs, chisels, and slitters, **encourage yourself** to make every punch you need and use decent material for ones that you will use repeatedly; for those made of low-quality steel will cause frustration should you want to punch a series of holes in a project you promised yesterday.

The construction of a simple punch is that the face is perpendicular to the axis of the shaft and that there is a very slight taper from the face to body. The face edges should be sharp and crisp; not rounded or chipped. Thicker material (four times or more than the diameter of the hole) would need to have the punches' sides above the face with a very slight taper to allow for faster penetration but still push the material aside as *not to have it stick* in the hole. (Two things happen here that one must be aware of - first the punch itself will absorb the heat from the material, allowing it to soften and swell with each blow; then there is the material itself which will cool, shrinking itself around your punch creating a self-made rivet.)

The best material for making punches is that which is still tough and hard when at a red heat. This would be of the 'H' series, but remember that it is expensive and its temperature range when being forged is between 1650 and 2000E. It then must be stress relieved by heating it to 1200E and held at that temperature for at least one hour. My best success has been with car coil springs or jack hammer bits, but I also treat them just as I would a piece of A-36 by not letting them get over-heated while punching.

Hot-punching is just what it means and you want to get that piece just as hot as you can without burning it. If you need to locate the hole in an exact spot, take your time and mark it with a prick punch when it is cold. Hammer eyes are critical because you need to have it aligned with the two axis of the head, so pin-prick top and bottom of your piece as close as possible where the eye is to be located.

One word of caution, (and also a good habit to acquire while punching or chiseling) is to use an old hammer that is already seen better days. The striking end

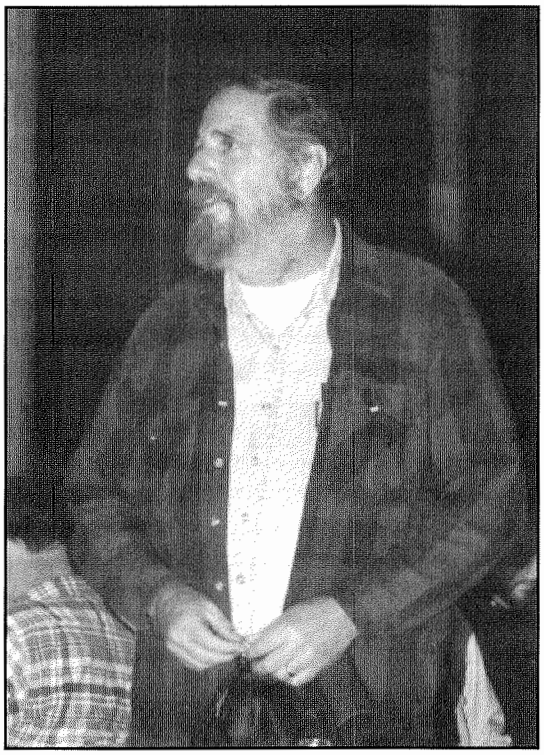


may be harder than your favorite hammer's face and will leave thousands of unwanted pockmarks that will transfer tell-tale blemishes to your finished work. I have an old 3# mason's hammer that gives a little added momentum when driving a punch into hot metal.

One thing I found helpful is to give a firm tap on the first blow and check to see if your punch is centered on the pin prick, if it is okay, put the piece back in the fire, bring it up to a bright yellow heat and then punch with heavy blows until the punch feels and sounds like it is hitting the face of the anvil. Take the punch out and cool it in water while you are turning the hot piece over. You will see a bright shiny black disk where the punch has crushed the material to form a cold thin wafer. Let this area around the hole cool a little if you like, and try to place your punch exactly over the center of the cold disk and give it a smart blow. The cooled down material should act like a bolster and let you shear that disk back down through

the hole you just created. With practice that cold section will fall out of the hole you started from the top.

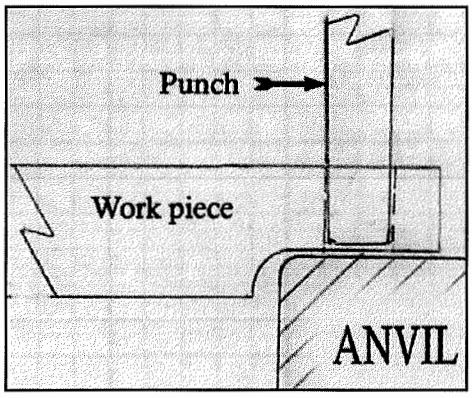
There will be times when you will want to plan ahead. If you have a piece that has a shoulder close to where the hole is to be located, set the shoulder against the edge of the anvil and punch from that side first, then turn it over so that the flat side will be on the face when finishing the hole.
There will also be times that you will have several holes in the same area that can heated all at once. Don't be



Bob Race

bashful; with a little practice you can pull the piece from the fire, place it on the anvil, punch down the first hole, then without turning the piece over, go to the second and punch it, then if there is enough heat, go to the third, etc. When you run out of heat turn the piece over and shear your thin wafers. One day I really lucked out and managed to do five holes in a piece of 1/4x1x10. As Roy Underhill says, "If I can do it, you can do it."

Going through heavy material is not any more difficult than thinner stock except that one might be tempted to accomplish the punching all in one heat. This will increase the risk of peening the end of the punch into the hole. The are stories about the old timers putting coal dust in the deep holes once they got them started that helped to keep the punch from



sticking. This does work, but if one likes working with gas and you don't want to have to run down to the neighbor's to see if they have any coal dust - they'll just wonder what you had for breakfast - try something else. Out of curiosity I tried some sawdust, which worked fine, and another time I just put a few drops of oil in the hole; that also worked. I guess it creates sufficient gas to pop the punch enough to keep it from sticking - or at least that is what an experienced blacksmith once said in a class I was attending.

If you have an iron worker; take that route, as it is more accurate and you will eliminate the time that it takes to heat up a piece of material. There are at least two drawbacks to an iron worker; one is that you cannot punch a hole that is larger than the piece, the other is that slight bulge created around the hole that is being hot punched (or slitting and drifting) which adds that extra aesthetic to make your piece look more period - for that is what blacksmithing is all about.

Have Fun Pounding~

Bob Race

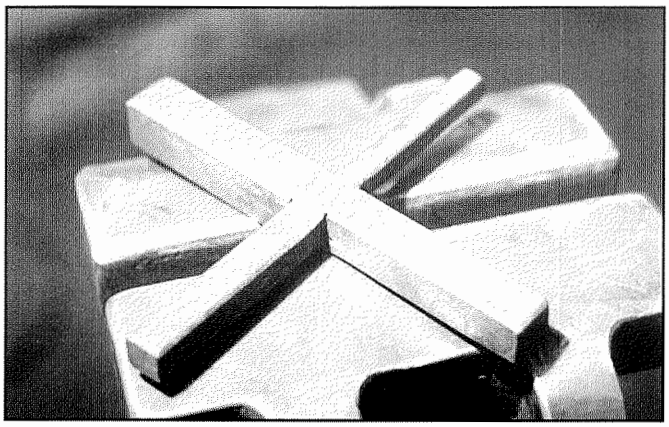
Any comments or questions call 503 253-7334 or email: bobrace@portland.quick.com
2223 1/2 SE 139th, Portland, Oregon 97223

Louies's Hot Tip No. 1- The Clever Cross!

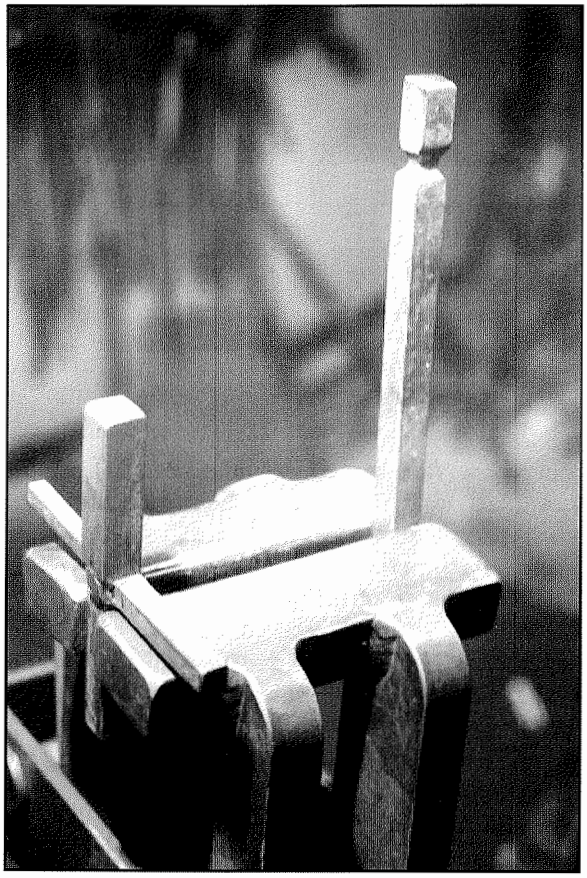
I'm sure most of us have noticed that when you put a piece of let's say ½" square stock all the way to the extreme off-center of the vise and tighten down really hard, the other side of the jaws close much further down than ½". Besides permanently damaging the jaw alignment of the vise, the grip on the work is compromised by the lack of jaw alignment.

We've probably all figured out that putting a piece of similar-sized stock in the opposite side of the vise helps keep the force more evenly distributed. I've kept bits of small stock near the vise to deal with this, but tired of losing and re-cutting slugs to use.

I decided to make this tool. I don't think it really requires much explanation. This photo shows a simple cross made of 3/8", ½", 5/8" and 3/4" square stock. The likelihood that I'll lose this tool is much less than if I had several small tools. Also, it is at the ready for changing stock sizes for changing requirements i.e. different thicknesses of a long taper that you may be doing a run of reverse twists on.



Louie Raffloer of Black Dog Forge uses this cross, of four different stock dimensions, as a vise spacer.



Louie's Hot Tip No. 2 Lasers!

Last year I had a job making an awning system for a building in my neighborhood. The client wanted an *art noveau* feel to the design which included a centerpiece that was inspired by a brooch designed in that era. The brooch had two faces gazing at one another and was probably cast in silver. Repousse' seemed to be the best choice for doing these faces.

It's my habit to try new techniques on as many new jobs as possible (the education usually makes up for the underbid). So, having never done repousse', I was anxious (terrified) to start.

That summer Black Dog Forge was very fortunate to have had Willem Yonkers III visit and give an evening demonstration. Knowing that having advice from such a world-class smith would help me in my attempts, I requested a short lesson in repousse'. He happily obliged and, as you would guess, made it effortless.

Using a variety of blunt chisels in the vise he showed us how to hammer 16-gauge sheet over their edges and produce a variety of results.

The purpose of this Hot Tip is not to teach repousse'. Much better information is available elsewhere. I only want to share a little cheater method I developed to alleviate a beginner problem. The biggest problem that I was having was locating the chisel tip through the steel sheet that I was trying to hammer over it. No doubt, after much practice, this would become intuitive, but I needed a crutch to speed up the process. When the light bulb above my head lit up, it was a laser light!

(At this point the Editor would like to interupt this Hot Tip with the following Public Service Notice:

The North West Blacksmith Association and this publication disclaim any responsibility or liability for damages or injuries as a result of any construction, design, use, manufacture or other activity undertaken as a result of the use or application of information contained herein. The projects and processes described herein are potentially dangerous and their application or use is strictly and solely at the user's own risk. Neither NWBA nor this publication make any representations nor assume any responsibility or liability for the accuracy, fitness, proper design, safety or safe use of any information, technique, materials, tool design, use, etc., contained herein.)

I went to the hardware store and bought a cheap keyring laser pointer. I later upgraded to a more durable $25 one. With many frustrations in the beginning of this crackpot scheme, I was finally able to focus the pointer on the working edge of the vise-mounted chisel. Now, when I put the sheet steel over the chisel, I could easily find the chisel edge. Brilliant!! No, not quite yet. Several challenges still existed and I'll list some remedies here:

1. If the chisel moves all bets are off. It is important that the laser light stays put since the slightest movement will be deceiving. Adapting the chisel to be movement-free is an important alternative to using one of Jeff Wester's Wedge Vises. I was very happy to have one in this endeavor.

2. You can refine the pinpoint of the laser by putting a piece of masking tape or foil over the tip of the pointer and using a pin to prick a hole and form an aperature of your needed size.

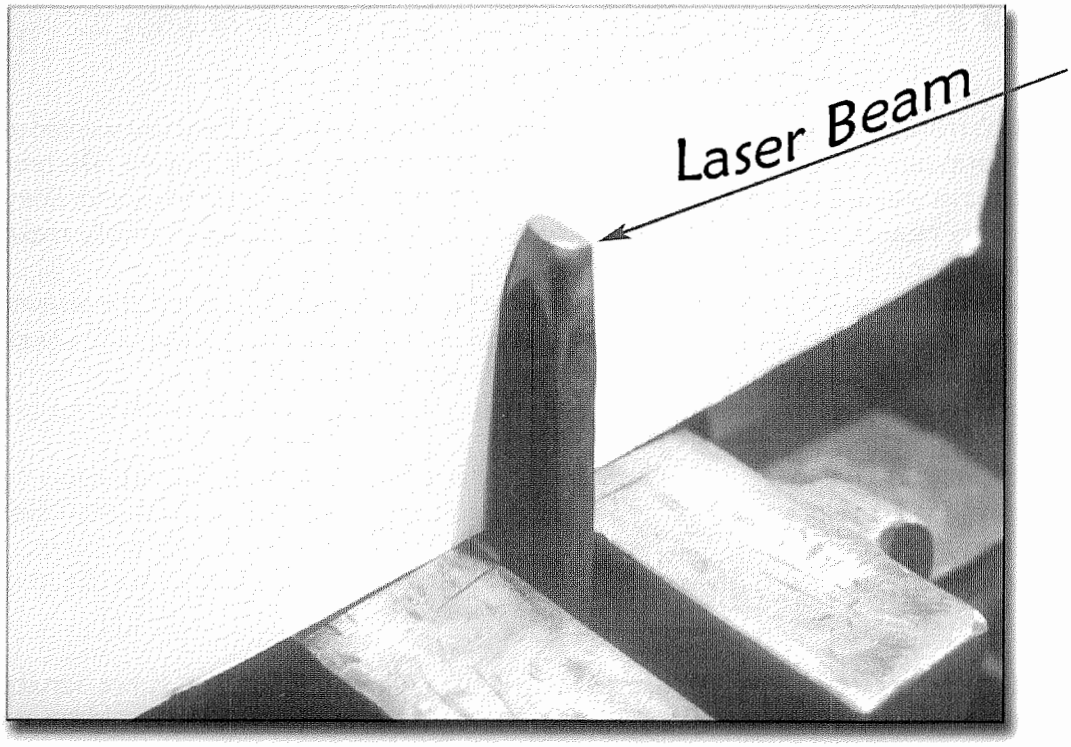
3. Mounting the laser overhead about ten feet away at approximately a 45-degree angle minimizes shadowing it with your body or hammer. Adding a second laser helps with the shadow problem. This is something you'll have to work out with your own shop layout.

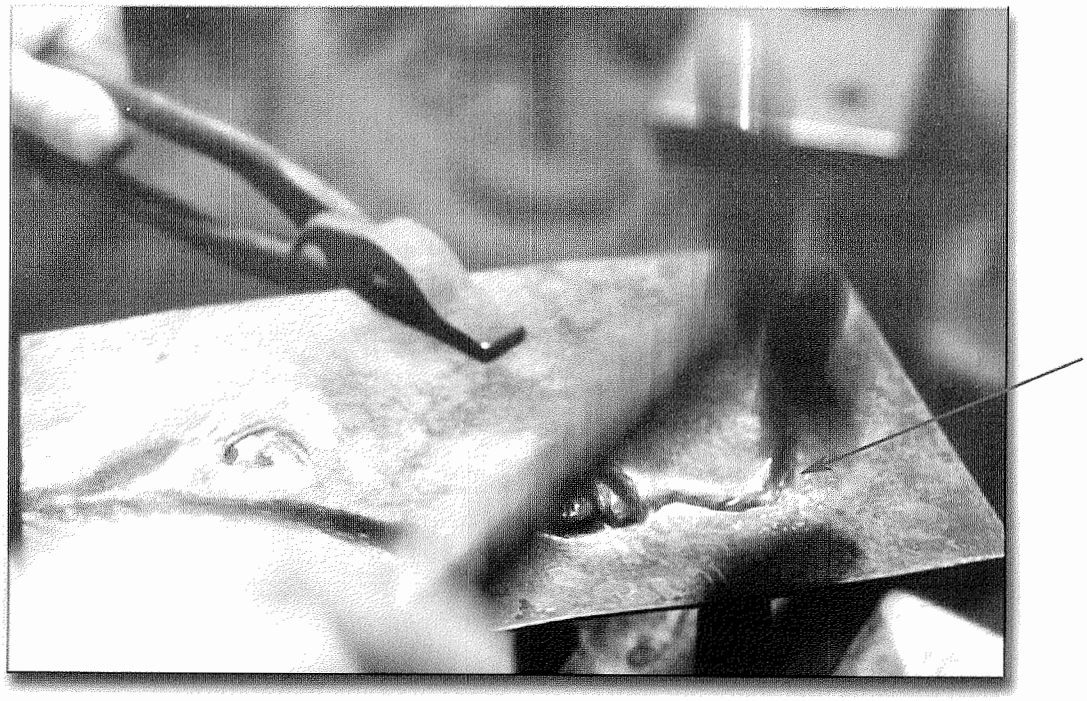
4. Creating a mounting system for your laser pointer that allows you to dial in it's point in a more controlled manner will solve lots of frustration, especially if you're changing chisel shapes often. Also, leaning a piece of sheet metal or cardboard against the mounted chisel helps you see where your light is before it's in the perfect location.

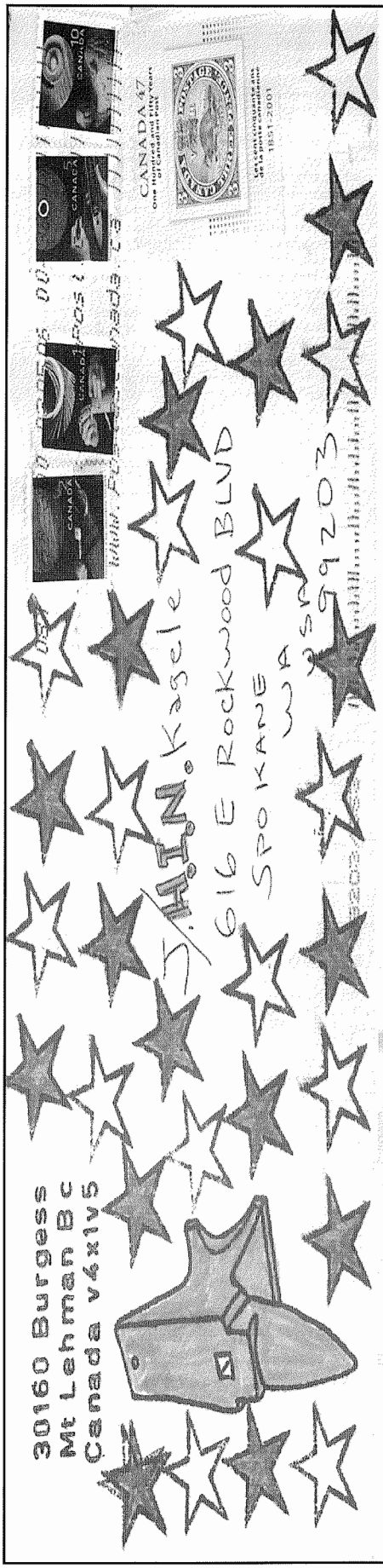
Several participants at Midnight Madness at the Enumclaw Conference got a chance to try this idea and it was met with enthusiasm. Using this idea helped me a lot with my project, but I still cannot claim to know the most fundamental aspect of repousse' by using it.

If I didn't preach to students that there are fifty correct ways of doing many things in blacksmithing, I might say that this is even wrong. But I also preach that you learn more from mistakes than successes, so please try everything you think of. In any case, there's the idea–give it a try!

Oh . . . one more thing! I'm not sure of what dangers exist in staring at a dot of light created by a laser, but the labels warn against looking directly into the pointer. This is probably true with the one point at which it is directly reflected (same angle, opposite side).


Laser Beam



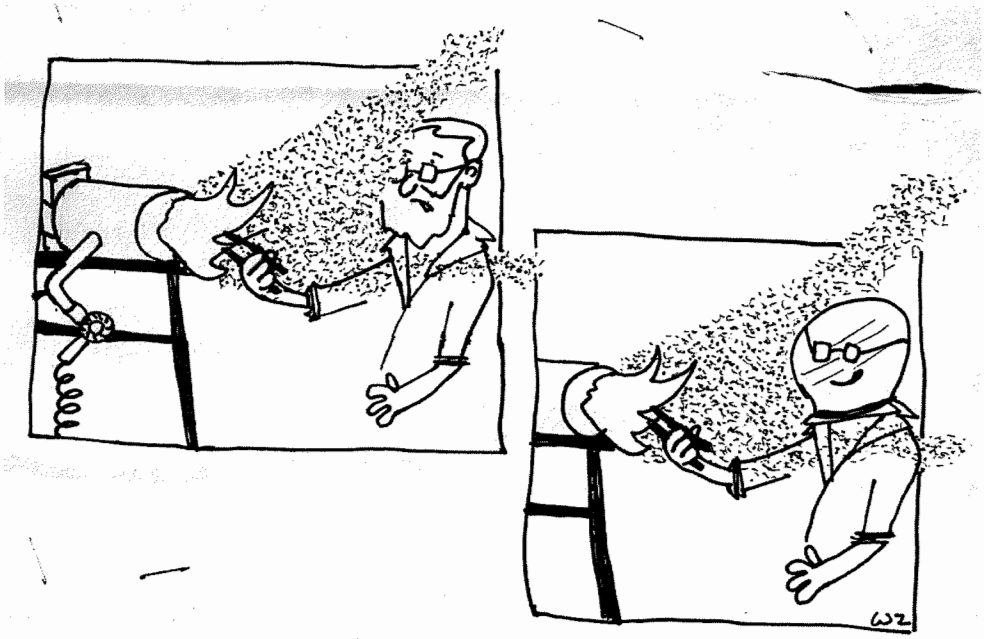


Medical News from Our Foreign Correspondent Wade Wade . . .

MEDIC ALERT

① — YOUR "NORTHWEST RACER"/SNAKE-BELLY/ LOW-TECH/FORGE MAY BE DOING MORE FOR YOU THAN JUST HEATING YOUR METAL. KAOWOOL/ceramic fibre WAS NOT DESIGNED TO HAVE HOT FLAMES COME IN DIRECT CONTACT WITH IT. AT HIGH TEMPERATURES IT TURNS INTO A WHITE POWDER (CRISTOBACITE) THAT IS NOT GOOD TO BREATH.

② A SIMPLE WAY TO AVOID BREATHING THIS POWDER IS TO PUT A LARGE CLEAR PLASTIC BAG OVER YOUR HEAD AND ~~TIE~~ TIE IT TIGHTLY AT THE NECK. — YOU WILL FIND THIS SPEEDS UP YOUR FORGING TOO!



Olde Cedar Forge

Christmas Open House

Saturday December 13 from 10 a.m. until Santa Wears Out!
N.W.B.A. is Invited!

ABANA

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Farmington, GA 30638 USA
706-310-1030 tel. 706-769-7147 fax
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President's Letter October, 2003

Dear ABANA Presidents and Editors,

I hope this letter finds you all well, busy and productive as we move into the fall months. I wanted to take this opportunity to thank Bob Fredell for his hard work over the past three years, both as an ABANA Board member and Membership Services Chairman / Affiliate Liaison. Bob was excellent in all these roles, always on time, full of great ideas and the drive to carry the projects through. Way to go Bob! He will be missed! Thanks!

The annual ABANA Board of Directors meeting will take place next month in Memphis, Tennessee, November 13-15. The board will be working hard during these three days on many issues, including the 2004 projected budget, the 2004 ABANA Conference and ABANA Affiliate programs. During this meeting the Board will select a new Membership Services Chairman / Affiliate Liaison, so if you have any ideas of who you would like to see appointed to this position, please let me know before the meeting.

Speaking of the 2004 ABANA Conference, which will be held in Richmond, Kentucky, July 7-11, we have a special offer that we hope all the ABANA Affiliates will find worthy of participation. If your affiliate signs up ten new ABANA members before March 1, 2004, we will give your affiliate one free registration to the 2004 ABANA Conference in Richmond, Kentucky. You can use the registration as an award for a worthy member, auction it off as a fund raiser for your affiliate, or use it as an "Iron-in-the-Hat' item. Your choice! Please note that the offer does not include lodging and meals. The definition for 'new' member with this offer is someone who has never belonged to ABANA, or a former member who has lapsed longer than two years.

Presidents, you will find in the box twenty-five ABANA membership applications, marked with a black dot. Please have the person signing up use this form for Central Office processing, and also have them write their affiliate name somewhere on the form. Once your affiliate has ten new members signed up, please send a list to the Central Office so that we can verify the memberships and mail you the certificate. In the box you will also find fifty 2004 ABANA Conference brochures and five copies of the latest *Hammer's Blow* for your use.

The 2004 Conference in Richmond will be an exciting time for us to all get together, and we hope this incentive program will help more people attend. Sometimes people ask me what ABANA does for them, why join? For me, it has always been about the magazines and the way they connect us to the larger community of smithing. I love the way people from all parts of the country, and the world, accept our differences and concentrate on sharing what we hold in common; our passion for smithing. The conferences are so great for education, networking, tool trading, and camaraderie. One often-missed benefit to membership is the scholarship program. I don't know of too many other organizations that you can join for $45 and then get a $450 scholarship to get an education. Not a bad return if you ask me. So, good luck, and I hope to see you in Bluegrass Country!

Scott Lankton, ABANA President 8065 Jackson Rd.-R11 Ann Arbor, MI 48103-9569 W: 734-426-3735 FAX: 734-426-0565 plankton@abana.org


Maker of Druck's Wedges and Sledges. Model Making.

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To WM. DRUCK, Dr.

Machinist, Ship and House Smith.

Edge Tools Made to Order. Oak Street Wharf.

Repairs on Cold Chisel 25

ABANA Conference, July 7-11, 2004, Richmond, Kentucky on the beautiful Bluegrass campus of Eastern Kentucky University! Mark your vacation planner now! Plan on spending time near Richmond to visit Daniel Boone's fort, historic homes, Civil War tours, Kentucky Artisan Center, Bybee Pottery, historic homes, the Shaker Village of Pleasant Hills, Mammoth Cave, Abraham Lincoln's Birthplace, Getz Museum of Whiskey History, lots of whiskey distilleries, and MORE! We'll be publishing names of all the great regional places to visit and restaurants (Hall's on the River at Boonesboro, has been a Kentucky tradition for 200 years. Start off with a Kentucky River Breeze, then order a Kentucky River Hot Brown--a blend of country ham, turkey and Hall's Kentucky cream gravy!) You might even have time to squeeze in some of the world-class forging events at the conference!

NWBA Spring 25th Anniversary Conference May 28-30 at the Enumclaw Fairgrounds.

Northern Rockies Blacksmith Spring Conference, Bozeman, Montana. May 14-16, 2004, at Anvil Art Shop.

NWBA Fall Conference will be at Flashing Forge at Oakland, Oregon.

Olde Cedar Forge Christmas Blow-Out and Open Forge/House December 13. Sit on Jerry's lap and tell him what you want for Christmas! Contact Elf Ina for details. Festivities start at 10 a.m. until . . .

Mt. Hood Design Contest

The Mt. Hood Cultural Center and Museum will conduct a design contest for hand-forged metal building accessories. The Cultural Center and Museum building is undergoing extensive remodeling featuring Cascadian architecture. The design contest is open to all blacksmiths and artists. Designs are needed for lighting fixtures, fireplace accessories, signs, door hardware, and other building accessories. Entries will be due in February 2004. To receive a complete description of the contest and entry details send a request to Design Contest, Mt. Hood Cultural Center and Museum, PO Box 55, Government Camp, Oregon 97231, or email a request to mthood@oregontrail.net.

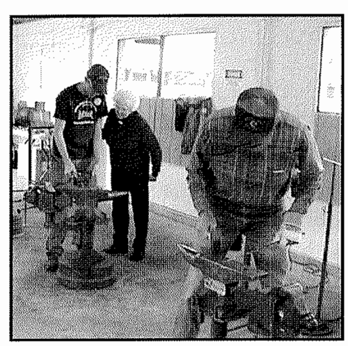
Bill Apple Has Tools! Anvils, post vises, steel swage blocks, anvil tools, toolsteel, new and used equipment, and high-quality anvil repair. POB 244, Burley, WA 98322 360 876-8405.

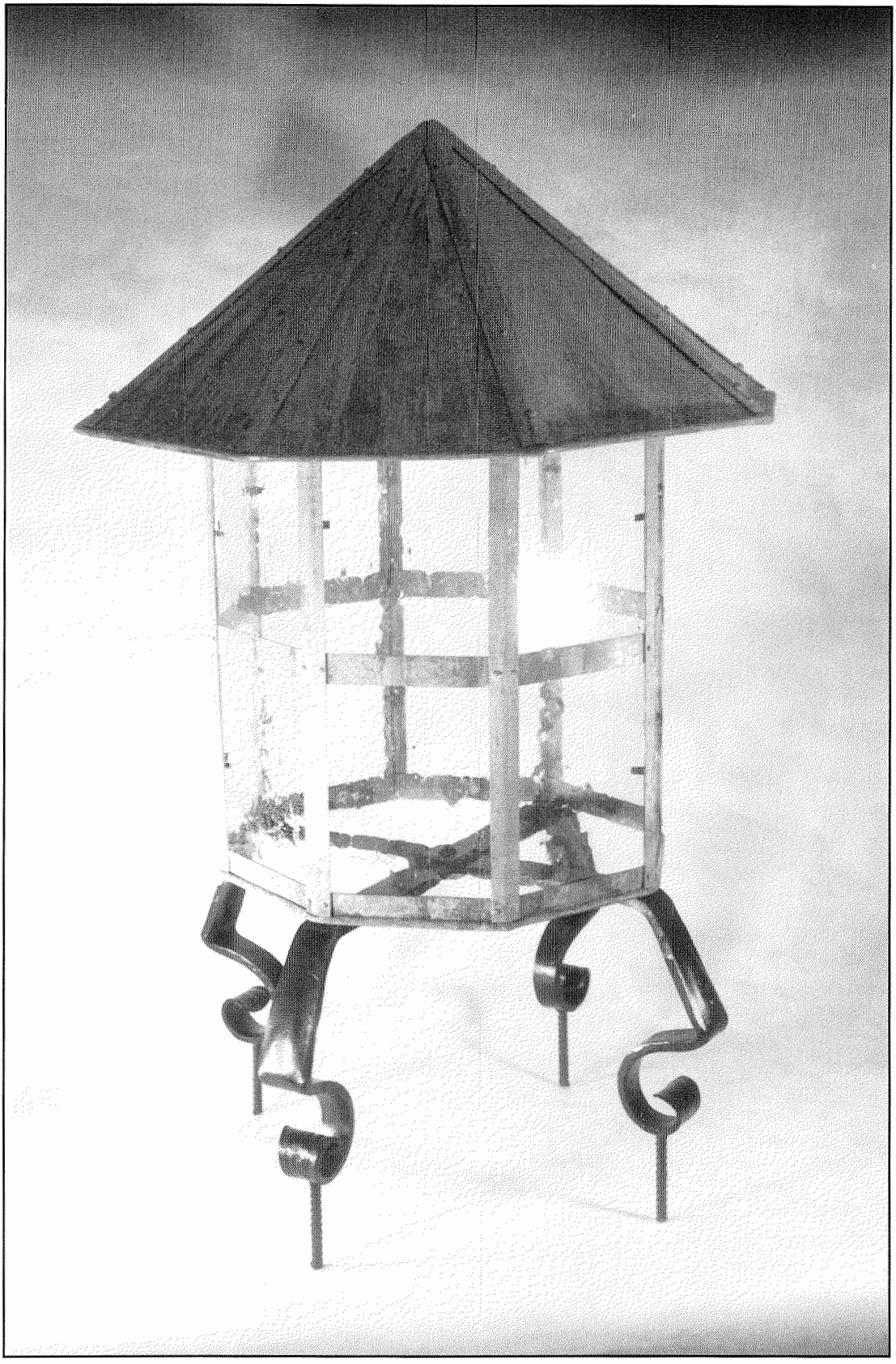
2004 Blacksmith Calendars, only $12.50 postpaid, from Gill Fahrenwald, POB 2323, Olympia, WA 98507. Also, sets of 25 Blacksmith Postcards. These were produced with 60-100-year-old photos. One shows a 62-year-old blacksmith lifting a 155 lb. anvil with his ears (probably taken at an old NWBA Conference!) One shows a railroad blacksmith shop. These are great for the shop, home or mother-in-law. Bulk rates. You can pay via Paypal to anvilman@orcalink.com or send a check to Gill Fahrenwald, POB 2323, Olympia, WA 98507.

Wayne Goddard's New DVD "The Wire Damascus Hunting Knife." This two-hour knifemaking adventure video is now on DVD. Five major segments: 1. Anvils, forge tools and hammer techniques. 2. Welding the damascus billet. 3. Forging to shape and heat treating. 4. Grinding the blade, hand rubbing and etching the blade. 5. Inletting, affixing and finishing the handle. $25 plus $5 shipping. Contact: Goddard's, 473 Durham Ave., Eugene, OR 97404 541 689-8098, email: wgoddard44@earthlink.net. Also available are "The Wonder of Knifemaking" $20, and "Wayne Goddard's $50 Knife Shop" $20.

25# Novelty Iron Works Mechanical Hammer! Needs some work but is in decent shape according to Tim Kaufman, Clarkston, WA, 509 751-1891, $550. e-mail: falcon@aol.com

Henrobs Make The Perfect Stocking Stuffer! 530 926-4418.


Ryan Wilson assists Betty King in forging her first piece, a flint and steel striker, at the Hands-On Workshop at Mount Vernon .



Gary Gloyne Copper Lamp

Douglas Hilty Sandals

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