

## NEXT 10 PAGES FROM "THE HAMMER AND TONG" OF THE BGCMB

## Making a One Piece Colonial Fireplace Shovel

By Reb Staup



Different styles of colonial fireplace shovels and blades.

On November 3<sup>rd</sup> and 4<sup>th</sup> I had the pleasure of finally getting to take a blacksmithing class, a class on making a colonial style fireplace shovel taught my Ken Schwarz. Usually a shortage of funds would keep me away. This time I was able to do it through BGCMB's scholarship program. If there is a class you would like to take don't let funding keep you from it. As a member you can apply for one a year with the terms of a newsletter article on the class and a demo on it at a guild meeting. That being said, we can get to the good stuff.

The class I attended was on colonial one piece fireplace shovel making. It sounded a little scary to me. I pictured a single large thick piece of iron that had to be beaten into a fireplace shovel. Lucky enough, it wasn't to be that hard. This class turned out to be a great exercise in using the other side of your cross peen hammer. The peening side isn't just angled for the aerodynamics on the upswing.

The metal stock used for this class was mild steel in the following size:

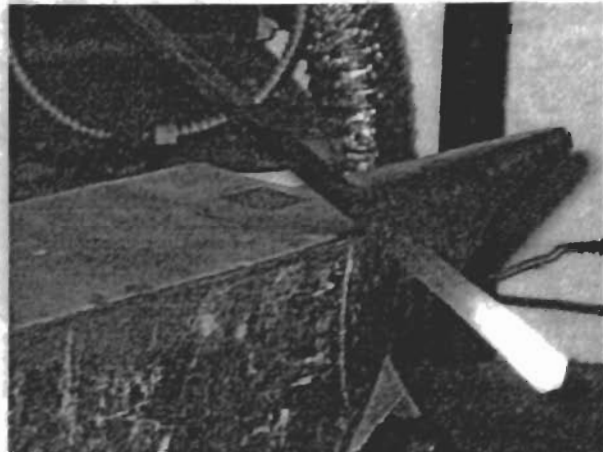
1. 6 x 2 x 1/4
2. 3/8 square bar 18" long
3. 5 1/2 x 1 1/4 x 1/4



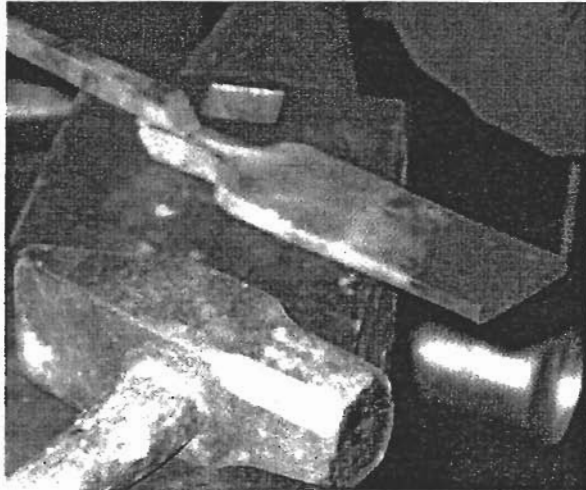
First step was to turn the 6 inches of 1/4" x 2" into the blade of the shovel. Bring to a yellow heat (most of the forging is done at a yellow heat.) Start by shouldering 3/4" of the metal on the anvil while maintaining the same thickness.



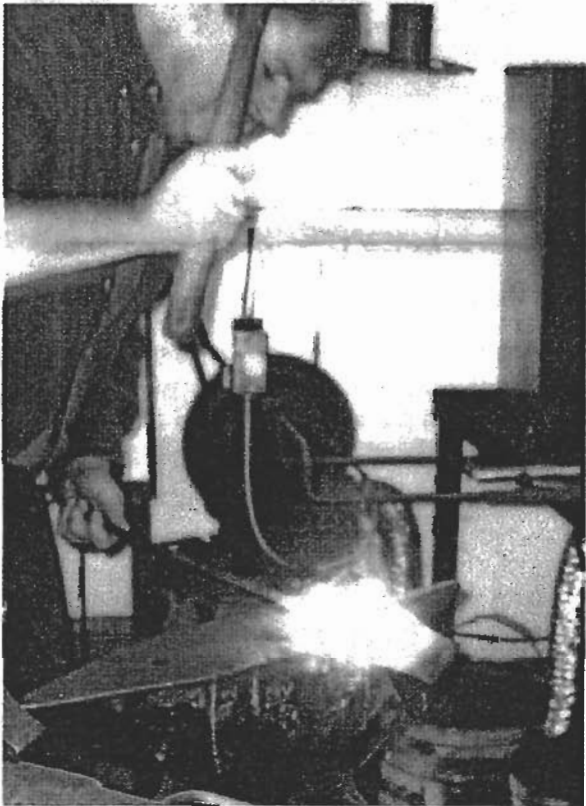
The shoulder should be about 3/4" to 1 inch wide. Heat shoulder and upset the end to thicken and then put a blunt scarf on the end.



Heat one end of the 3/8 square bar and upset the end. Put a blunt scarf on that end also.



This project will use two drop forge tongs welds to complete. When welding the handle to the blade, place the long ends of the scarfs touching in an overlapping position.

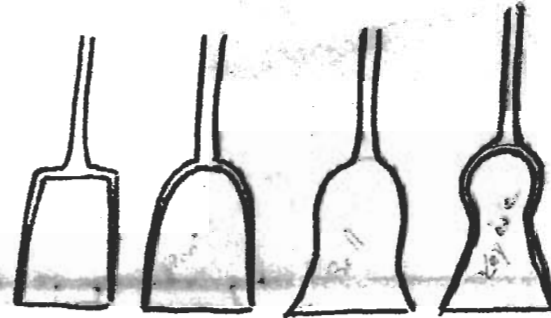


Heat the scarf ends of both pieces to a high yellow and flux with borax. Bring to a welding heat and perform a drop tong weld



If needed place back in fire and bring to weld heat to finish the weld.

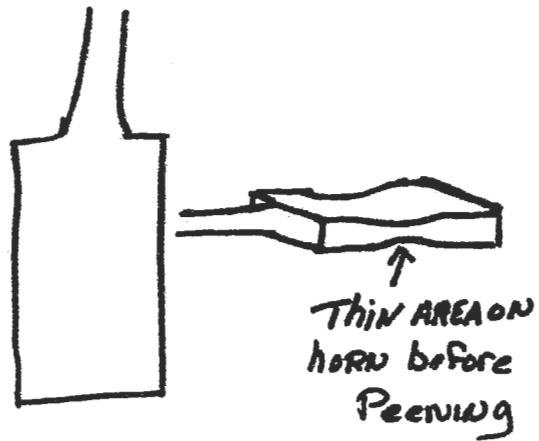
### Forming the Blade by Peening



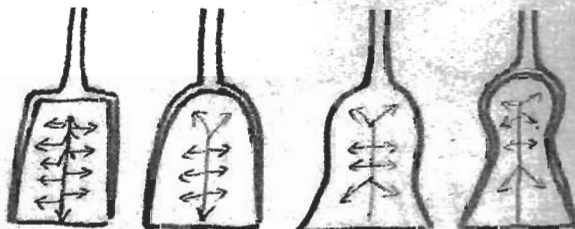
Square Round Bell Key hole

Typical Blade Shapes

Now that the handle is welded on, it's time to decide on the shape for your shovel. There are four basic shapes which are straight (square), round, bell, and keyhole.



**Peening** should be done with a cross peen hammer that has a fairly wide and flat peen in order to move a greater amount of metal. The bell and keyhole shape is attained by first thinning the metal thickness on the horn at the area you want the waist. Thinner metal will not spread as far as the thicker metal when peened.



These pictures show you the peening directions for each style blade. By using the peen, you can push the metal in the directions that you need it to go. Use the horn or anvil face to straighten or shape the edges as you go.

The following steps are for a keyhole shaped shovel. Use the peening directions above for other shapes



Get a good yellow heat and start peening the center line of the blade but not going all the way to the top splitting the blade into two sides. You will want to peen the center to roughly the finished thickness of a little less than a 1/16<sup>th</sup> of an inch, spreading at shoulders, but leaving top center thicker.



Start peening from center to outer edge, as shown on left side above.



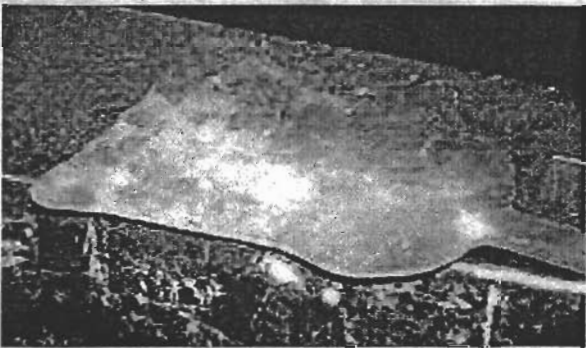
Then continue on other side.



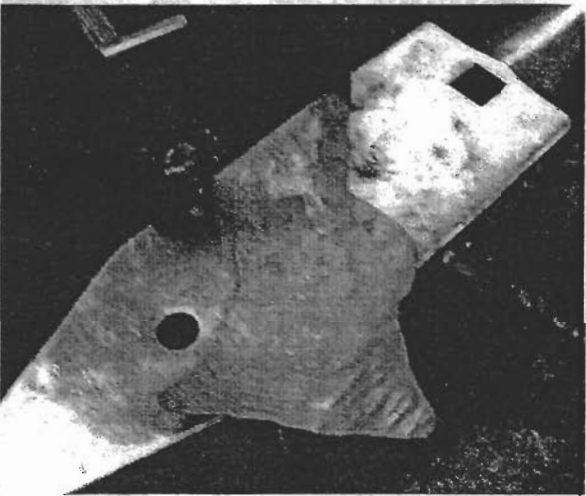
To straighten the end of the blade start working from center to bottom edge of blade.



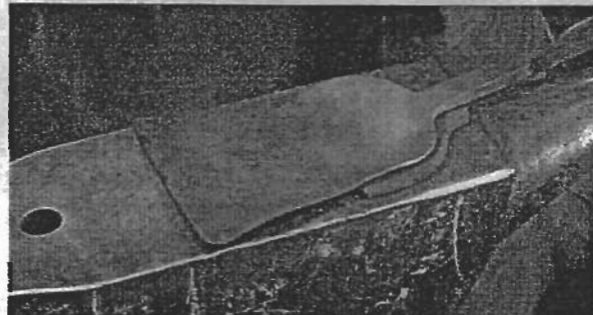
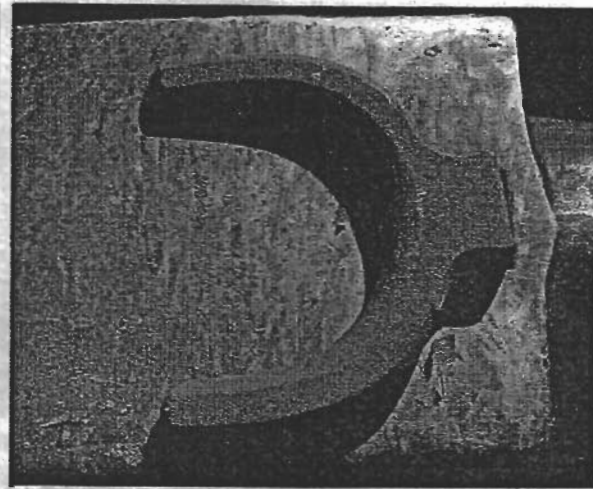
**Keep pulling metal from center of blade until the edge is straight at bottom.**



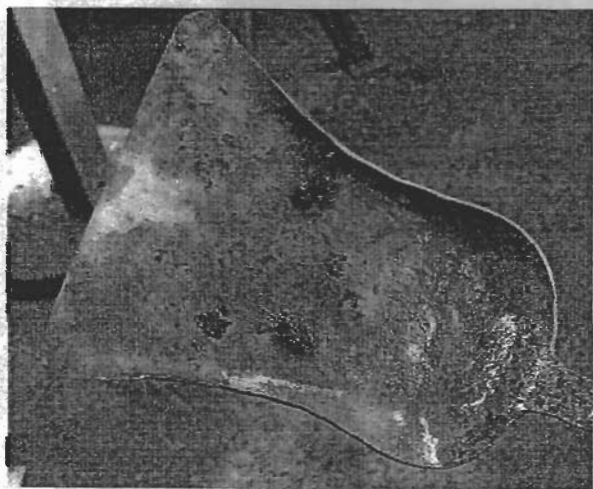
**Check for even thickness by rate of cooling of blade. If the blade cools evenly the overall thickness is the same or close to it.**



**Finishing the metal should be done at a lower red heat to remove hammer marks. Keep a clean anvil as you do this so as not to transfer marks from left over scale on anvil face. Smooth peen marks to give it a hammered finish.**



**Use a rounding tool as shown above or the shovel form on a swedge block to round the back and sides of the shovel blade.**

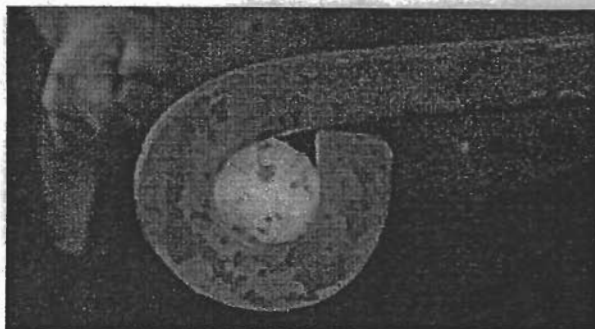


**Rough finished blade top and side views.**

## Handles

The handles are pretty much left up to what you would like to put on them. The class was shown 3 types: the button end, the faceted end and the ring end.

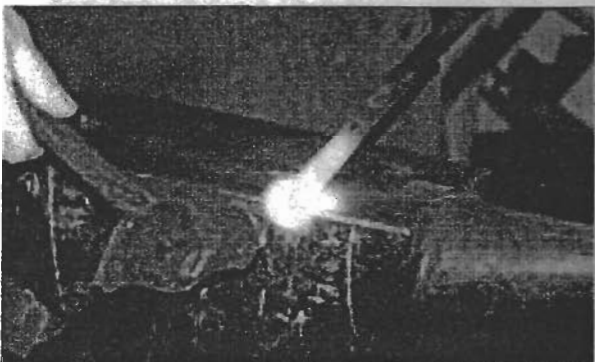
### Ball End



The button end is started by rounding the handle without thinning or tapering it. Use another piece of round stock the same thickness of your handle to create a loop that will fit snugly around your handle.



Cut the loop (not completely through) at an imaginary line extending from the inner loop.



Heat the loop end and the handle to a yellow heat and flux. Place back into the fire and reheat to melt flux then remove and place

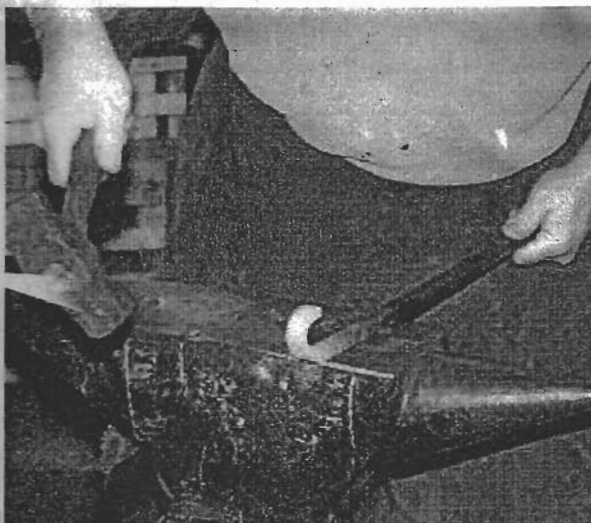
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handle into loop and break from loop from remainder of the rod. Place back into the fire and bring to a welding heat and weld.



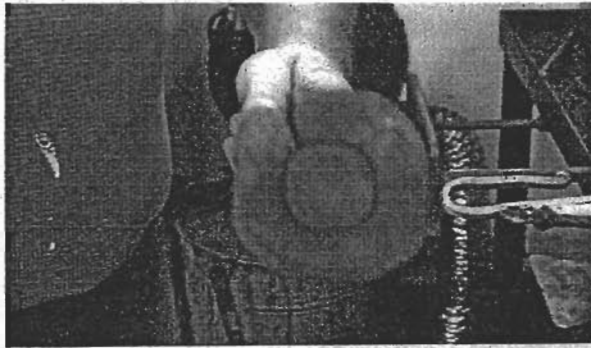
Round the edges to produce the knob or button.

### Facetted End

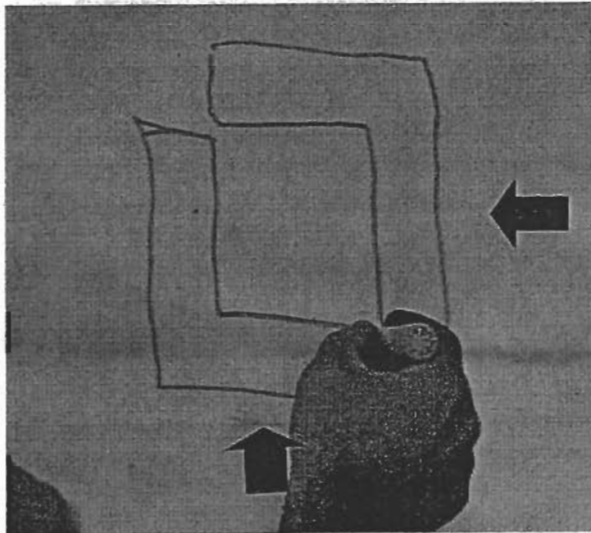


The facetted end is made by using the same thickness of square metal as the handle. Again round your handle without tapering or thinning it. Take the square rod and thin it to half the thickness of the piece to be wrapped.

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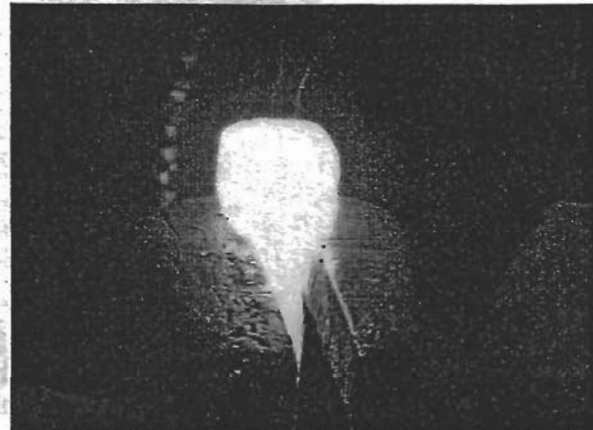
**Wrap the thinned end material around the handle as in the button end, but giving it more of a squarer shape.**



**By hitting in the direction of the arrows during the welding process will close up the open corner and it can be cleaned up in a second welding heat.**



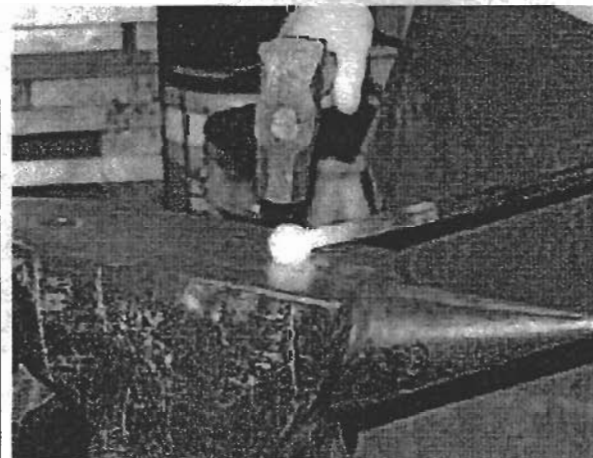
**Bring to a yellow heat and flux. Place back in fire and bring to welding temps and forge weld the parts together and square up.**



**Put back into the fire and bring back up to welding temps and flush the top end in the vise. Now you are ready to shape the end.**



**Start on the near side of the anvil and align opposite corners and hammer the corner. While you hammer the corner at the top the anvil will take of the bottom corner.**



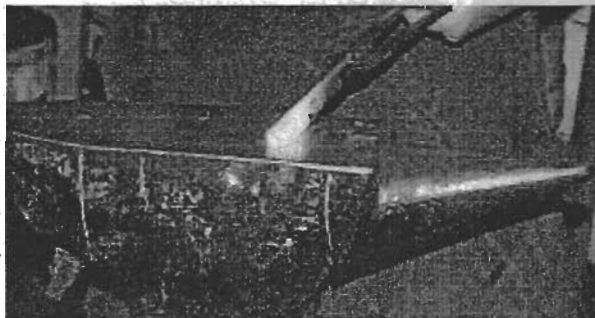
**Continue hammering all corners until the faceted ball takes on the appearance that you like.**



By continuing to hammer on the points of the facets, the faceted end can also be turned into a round ball

## Ring Handle

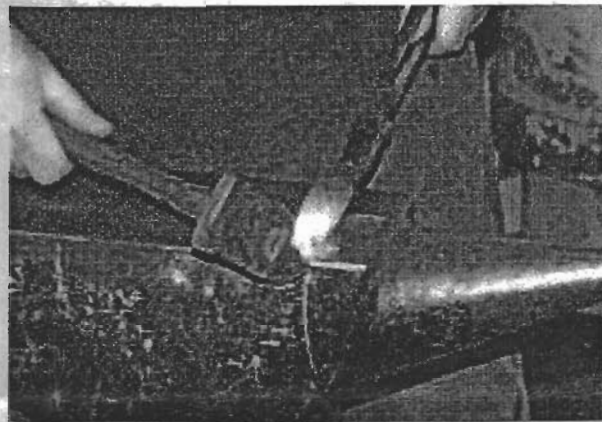
The stock for making the ring handle is:  
5 1/2 Inches of 1 1/4 x 1/4



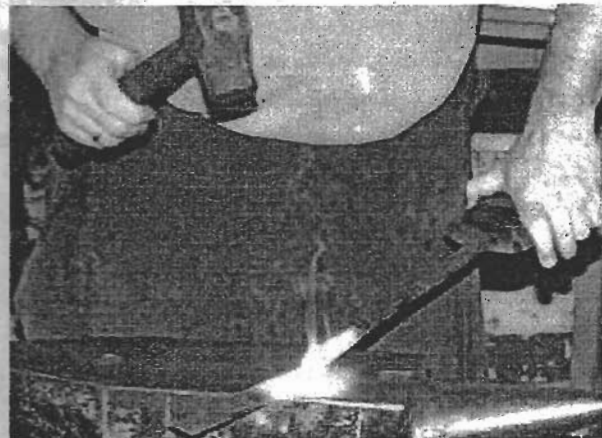
Heat one end to a high yellow. Start by hammering a light taper to the sides of the metal about 2 1/2 to 3" into length of the piece. Try to keep both sides as close to symmetrical as possible.



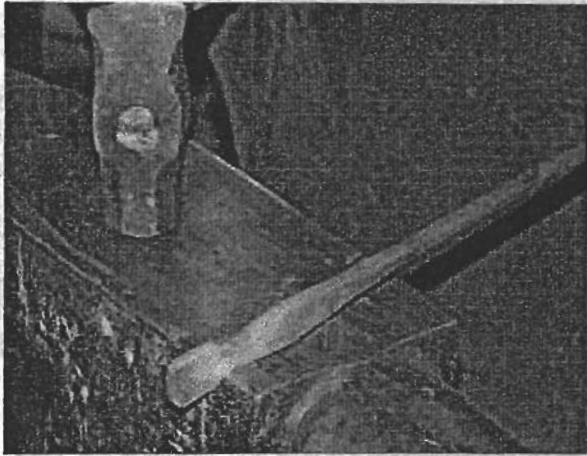
By tapering the edge you will be thickening the bottom getting it ready to forge weld on to the shaft.



Scarf both handle end and shaft end to prepare for welding.



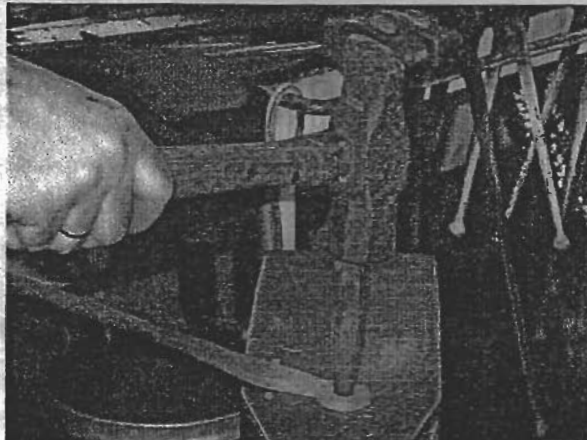
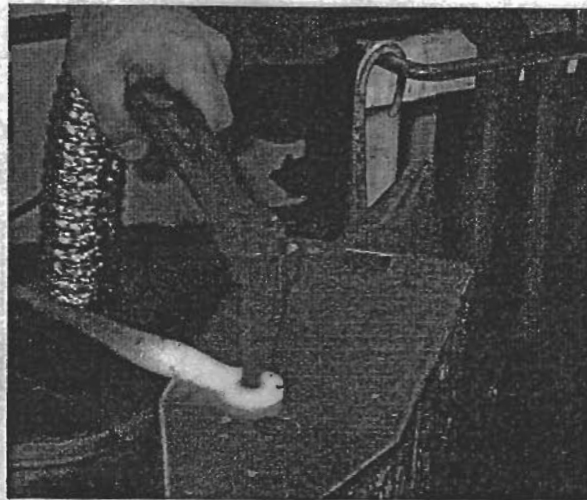
Bring to a high yellow heat, flux the handle and shaft and perform a drop tongs weld.



**Bring** to a high yellow heat and hang the end of the handle about 1" over the far side of the anvil and hammer creating a taper widening to the center. This is created by raising the handle shaft at a slight angle.



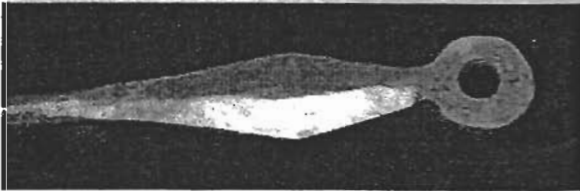
**Use** the far and near side of the anvil to round the end of the handle into a circle.



**Find** the center of the disc and using a 1/2" to 3/4" punch, hammer the punch almost all the way through. Get another heat and flip handle over and place across pritchel hole and finish the punch all the way through.



**Continue** adjusting taper so that it peaks at same place on each to be symmetrical.

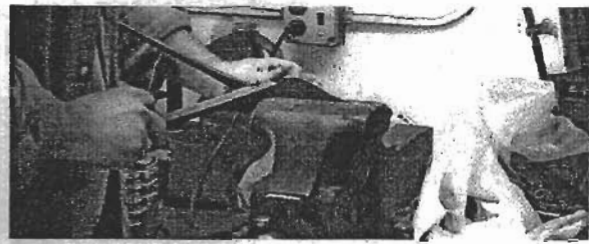


**B**egin tapering from the center of the handle toward the outer edge creating a center ridgeline. Bringing the edges of the handle flush with the near side of the anvil and using angled blows will create this quickly. As you taper the sides from the center out, make sure you keep the angles straight and sharp on the sides. Remember that 5 minutes of hammering will save much more filing time to get to the same result.

### Filing and Clean-up



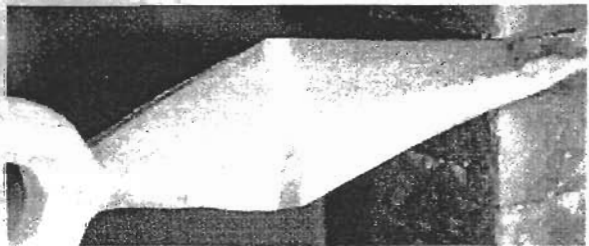
**U**se the file to clean-up the handle and define center ridge as well taking out any high or low spots along the tapered edges.



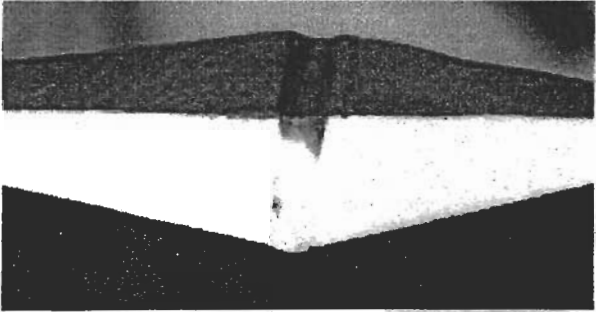
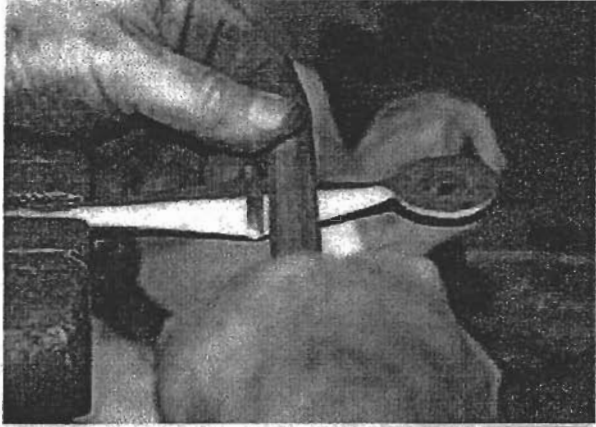
**N**ow is also a good time to clean-up the edges of the shovel blade. Using a half-round bastard file works to get into the curves.



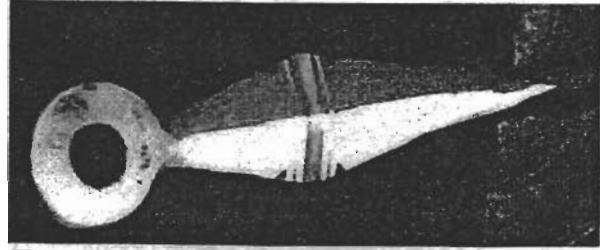
**S**tarting with a rat-tailed file, align the file with the point on the side of the handle and slowly pull back starting the groove. Continue filing until the groove is about 1/16 inch deep. Line the file up with the opposite to make it symmetrical.



**F**inished groove.



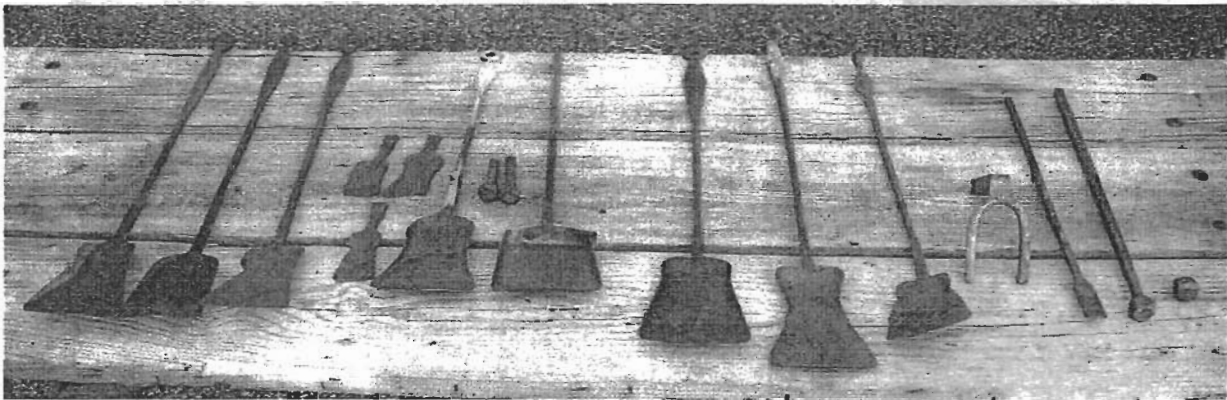
**Creating two smaller grooves bordering the larger main groove is done by holding a half-round bastard file on edge in order to cut the groove in.**



**Finished handle. The small cuts on the edges are also done by holding the half-round bastard file on edge and drawing it back to you cutting into the metal. Your shovel is now complete.**



**Instructor Ken Schwarz**



**These are some of the completed shovels from the class. I would like to thank Ray Neubauer and Dick Smith for compiling their pictures of the class with mine to bring a better look at how to make one of these shovels.**

