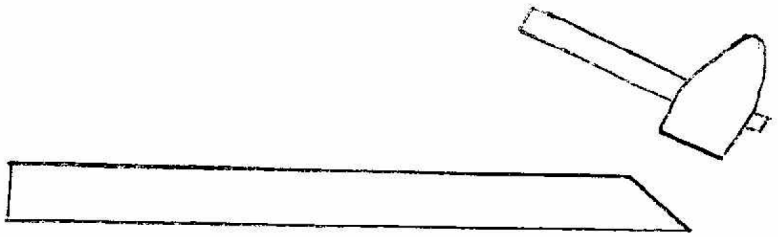
FORGING A CHOPPER

by Ty Parker

Starting stock 2" x ¼"

First you will want to forge in the point. Heat the stock to a bright yellow and with a hamme4r begin to strike the corner of the steel bar in a downward 45 degree angle to start forging the point. Try to keep the stock as level as possible when starting, but as the point starts to take shape you will have to adjust where you strike to forge a proper point. The end result is you end up with the stock having a 45 degree point on the tip.

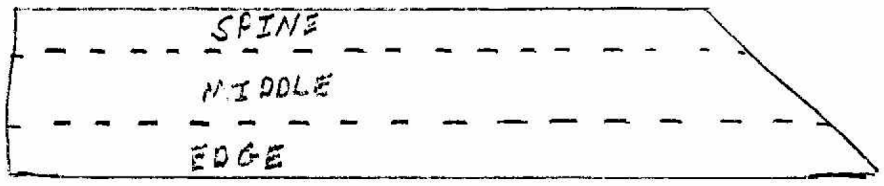


As the point is being forged it will become thicker. This is when you lay the steel flat back against the anvil and hammer it back to the thickness of the rest of the bar.

When the steel begins to turn a dull orange color, place it back in the forge to get it back hot. You do not want to hammer on cold steel, it will cause cracks. Continue forging until you reach the desired point on your steel.

After the tip is forged, you will want to mentally break down your chopper into thirds

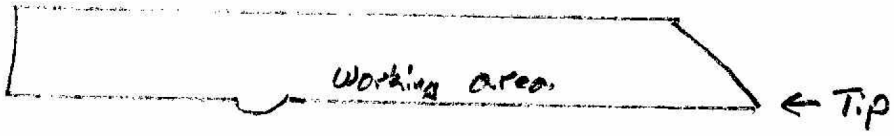
- The top third will be the spine, you will not forge on this section.
- The middle third will be the body and will be where your hammering begins
- The bottom third will be the edge and will be the final hammering of your blade



There are many methods to forge a blade, but we will stick with just one for today.

You will now need to decide the length of the blade you wish to forge. Once you have decided the length of blade you want to forge you will want to mark your stock. To mark your blade you will heat the stock and place the steel at a sharp 45 degree angle with the blade being just off the anvil face and mark the base of your blade, you will do this by hammering downward at an angle where the steel is resting

on the anvil. This will indent the steel and will mark the base of your blade and the working area for the next forging steps.



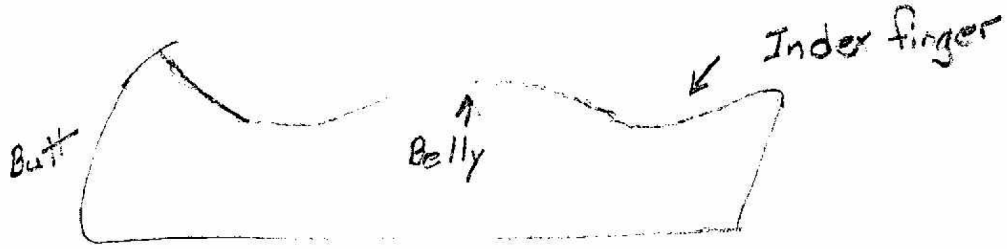
You will now begin the process of drawing out the profile of your blade. Start at the base of the blade with your steel lying flat on the anvil. You will begin hammering at the middle third of the blade and moving your hammer strikes toward the bottom third (edge) of the blade.

You will continue forging in this manner from the middle to edge all the way to the tip. Flip the steel often to keep the forging equal on both sides, you will begin to see the blade start taking shape.

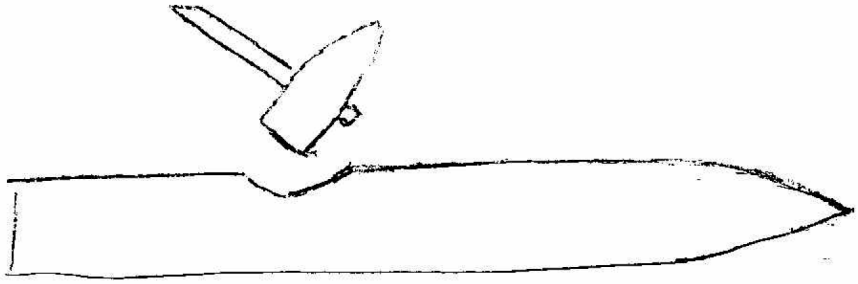
Remember that as you forge out to the edge, it will get thinner, which will cool down faster. So keep in mind your heat and don't hammer on cold steel.

You will now want to start forging on your handle. Start by measuring how long you wish your handle to be. Mark you anvil or have a reference close to keep a check as you forge.

This handle style will have a inward curved index finger slope, a protruded belly portion and a inward curved slope for the butt section of the handle.



Place your heated blade edge up and spine flat against the anvil. Hammer straight downward on the handle section right behind the base of your blade.



You will notice the steel begins to indent significantly. As the steel forges inward you will keep the same principle as forging in the tip of the blade, in that you will hammer down, then lay flat and hammer to keep the steel the same thickness.

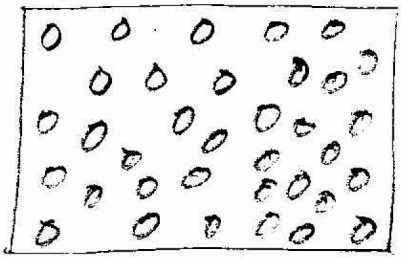
After forging the inward curve for the index finger, move on to the belly with lighter hammer strikes. Then move on to the next inward curve at the butt. It will be forged in the same manner as forging the index finger curve. Remembering to keep the steel the same thickness.

Next you let your blade cool. Once cooled you will mark and drill the holes for the handle pins. It is completely up to you but most people use at least 3 pins equally spaced out on the handle.

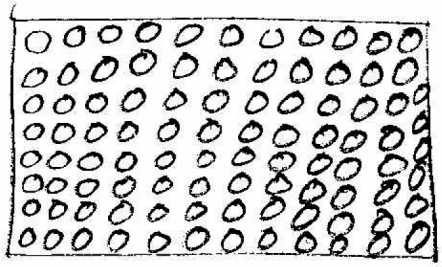
Now you want to normalize your blade. Normalizing your blade will make it stronger and refine the grain structure of your steel that was upset during forging.

Grain Structure

After forging



after normalizing



Heat your blade to just past the magnetic state of your steel. Keep a magnet handy and when it no longer sticks you are good. Remember the color of your steel at this point. Remove blade from forge and allow to cool back to black.

Now place back in forge and allow to come up to temperature just short of what it was the first normalize cycle. Remove from forge and allow to cool back to black.

Your will repent the step once more to complete the third normalizing cycle. Again allowing blade to reach a temperature just short of the second normalize cycle.

Once you blade has been heated and cooled through 3 normalizing cycles it is time to quench your blade.

Bring the temperature of your blade back to non-magnetic. Once it is at that temperature, quickly remove blade and place it into quenching medium. Most of the time this is oil. Do not move your blade from side to side, due to it may cause a warp in your blade. Instead move it up and down to speed up the cooling process.

It is now time to temper your blade in an oven. For best tempering instructions a simple internet search of the steel you used will give you the best instructions for you to get the best results.