# The Art of Sharpening and Tempering a Pick

## by E. Daniel Burkholder, Jr.

An old worn pick can generally be made “as good as new” with a bit of work and experience. Begin the restoration process by heating and drawing out the blunt, worn end to its original shape.

Once the desired forging has been completed, the most critical, but also the most interesting, part of the procedure takes place. Heat one end of the pick blade to 1450 degrees almost up to the eye. The easiest way to determine the exact temperature is to use a magnet--if it is too hot the magnet will not stick. Once the critical temperature has been reached, submerge the outer end of the blade into the water tub, quenching it to room temperature. This will leave a red-hot section between the eye and the now cold, but very brittle, outer end.

By taking an angle grinder and polishing the top surface of the blade, the temperature colors will be visible tightly bunched together at the quench line. However, the heat reserved in the body of the blade will began to flow toward the cold, outer tip. Soon, the tight band of colors will begin to spread and move toward the tip; first light straw, then golden straw, brown, purple, and last of all, blue. When the purple color had reached the tip of the cutting edge the goal has been reached.

Sometimes, if too much heat has been left in reserve, a second quench in the water tub will be necessary to stop the process at the proper time. At other time, too little reserve will require some additional heat to be added by using a torch or briefly placing the blade back into the forge.

Ultimately, the heat reserve will be exactly the right amount and the whole tool can simply be allowed to air-cool to perfection.