

## Shadow Box Pendant

By Jeff Fulkerson

I wanted to make a pendant for some copper beads I had made and I wanted something a little out of the ordinary. This shadow box technique fills the bill. This is an intermediate level project which should stretch you a little bit, but the effort is well worth it.

Because the beads I made were big, I wanted a big pendant. This stone measures 1½" x 2¼" so when you add ½" of shadow box all around it, it becomes a very large piece, which adds its own challenges. I would suggest you start with a stone that isn't so big. You can also make this project out of sterling silver, which will make it a little easier to execute. I haven't included any quantity on the metal in the materials list because that will be dictated by the size of your cabochon.



### Materials List

- 18 gauge copper sheet for back plate
- 22 gauge copper sheet for bezel and shadow box
- Cabochon

### Tool List – Don't forget Safety Glasses!

- Jeweler's saw
- Soldering setup
- Anvil horn or stakes
- Prip's flux
- Bezel pusher
- 600 grit sandpaper
- Flex shaft with drill bits
- Texturing hammer
- Bench block
- Safety glasses
- Liver of sulfur
- Ball peen hammer
- Wubbers Large Square Mandrel Pliers
- Files
- Third hand tweezers
- Dividers
- Sharpie® marker

## Project Steps

**Step 1.** Cut a 3/16" x 6" strip of 22 gauge copper sheet. This will become your bezel wire. Anneal the strip and allow to cool. Pickle, rinse, and dry.



**Step 2.** Wrap your bezel wire around your cabochon, mark the joint, cut and file the ends square.



**Step 3.** Once your ends are filed square, you want to make sure your joint lines up on 3 planes. First, side to side, then make sure there is no twist in the joint, and finally, up and down.

A little trick I use is once I have the joint fitted sided to side and up and down, I put the joint in my Wubbers Square Mandrel Pliers and, squeezing tight, gently push the other side of the bezel up and then down to take any twist out of the joint.



**Step 4.** Solder your joint using Prip's flux, which works much better for copper, and hard solder. Pickle, rinse and dry.



**Step 5.** Lay your cab on the 22 gauge sheet and mark around it about 1/2" outside the cab. Then trace the cab. This will become your shadow box.



**Step 6.** Drill a starter hole in the sheet and cut out the line you marked around your stone. If you cut the outside of the line, you will give yourself a little gap between your shadow box and the set cab.

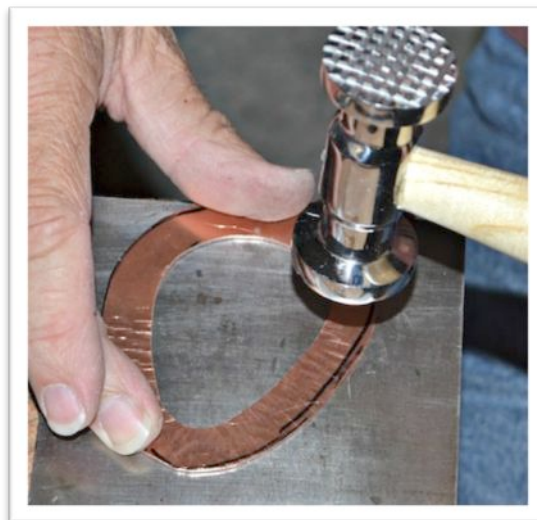




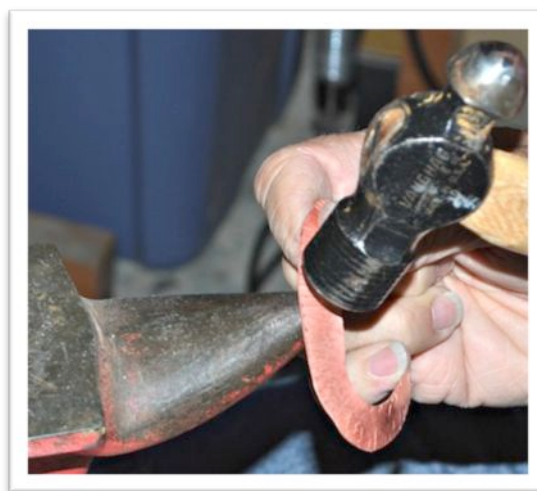
**Step 7.** Once the inside is cut out, take a pair of dividers and scribe a line  $\frac{1}{2}$ " out from the cutout, and then cut to your line and file it smooth.



**Step 8.** Texture your shadow box. I used a texturing hammer, but you could use stamps, a rock, or a rolling mill. (If you use a rolling mill, texture the sheet before you cut it out.) After texturing, anneal your metal to make it workable again.



**Step 9.** Here's where it gets tricky. Take your hammer and start working the metal over on your anvil horn. This is more art than science. Go slowly and constantly check how you're doing by setting your piece on your flat bench block. You are trying to raise the inside and keep the outside flat; not easy to do. Once you have the inside raised, slowly work around the outside to flatten it. You can do this by gently striking the high spot(s) over the edge of the bench block so you isolate the area you are lowering. Once you have it pretty close, move on to filing.



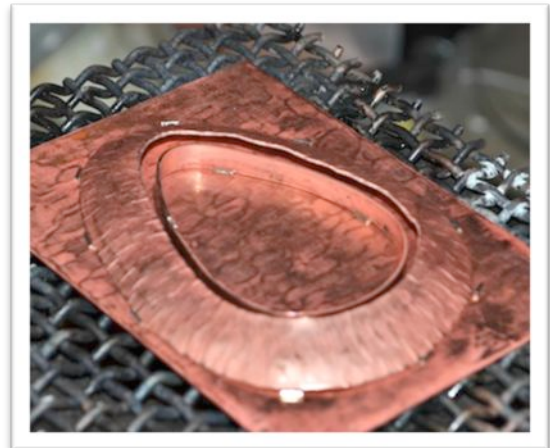
**Step 10.** Take a large, flat mill file and file across your piece, hitting both sides at once to maintain your flat surface. After you have removed any edge and it all lays flat on your block, you can make any final adjustments.



**Step 11.** Cut out a piece of 18 gauge sheet that is large enough to solder your shadow box onto. Texture the back. I used the same texturing hammer on mine. After texturing, anneal and flatten.



**Step 12.** Time to solder. You should probably make the soldering a two-step process on your first one by soldering the bezel down first and then soldering the shadow box down around it. If you do, be sure to line up your bezel before you solder it down so you know your shadow box will fit. Pickle, rinse, and dry. Now solder the shadow box down. Line it up so that the opening is evenly dispersed around the bezel. It won't be perfect, but it should be close. After soldering, check your seams to make sure everything is soldered. Re-solder if needed.



**Step 13.** Here's the piece all soldered before pickling. I know this doesn't really help, but it was so pretty I just had to include a picture of it. NOW you can pickle it.



**Step 14.** Use your jeweler's saw to cut out around your shadow box, then file the edge smooth and finish with a little sandpaper.

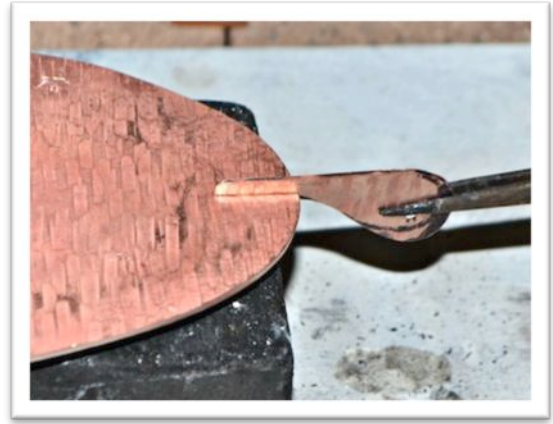


**Step 15.** Using a piece of the 18 gauge that you cut off the backing plate, cut out a bail to hang your pendant with. Since I am using large beads, my bail is long and high. Make yours according to your needs.

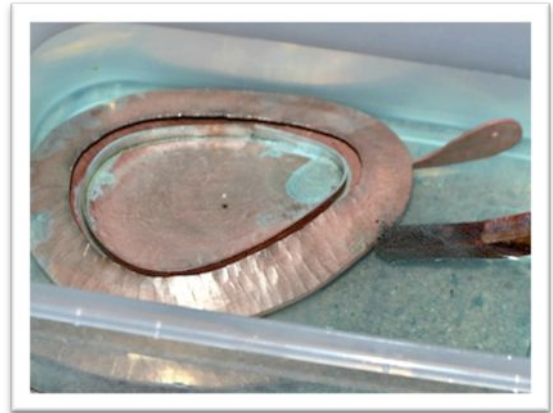




**Step 16.** Using the “Third Hand” set up your bail on the back of your piece. Use easy solder and solder in place. Remember that solder flows to the heat, so concentrate your heat on the large base plate until the solder flows. Check your joint to insure a good connection. Pickle and rinse.



**Step 17.** Drop your piece into some hot pickle and put a piece of iron into the mix to plate all of your silver solder joints. Leave it in for at least 15 minutes to insure a thorough job.



**Step 18.** After plating, your piece should look like this.



**Step 19.** To high-light the textures and to match my beads, drop your piece in some warm liver of sulfur. Take it out when you have achieved the color you want.



**Step 20.** After a light sanding with 600 grit to bring out the highlights, set the cabochon in place and use a bezel pusher to set the stone. Be careful not to slip and damage your stone.





**Step 21.** And here's our pendant all ready to string. The necklace on the right is strung with the copper beads from my Copper Beads Project on Wubbers University.



### Review Questions

- 1) When creating the bezel, what Wubbers pliers does Jeff use to take the twist out of the joint?
  - a) Wubbers Jumbo Square Mandrel Pliers
  - b) Wubbers Classic Round Nose Pliers
  - c) Wubbers Classic Bent Nose Pliers
  
- 2) What type of flux does Jeff recommend for copper?
  - a) Battern's
  - b) Handy Flux
  - c) Prip's Flux

- 3) What tools can be used to texture the shadow box?
- a) Texture hammer
  - b) A rock
  - c) A rolling mill
  - d) All of the above
- 4) What is added to the pickle to “plate” the silver solder joints?
- a) Table salt
  - b) Iron plate
  - c) Ferric nitrate
  - d) Ferric chloride
- 5) What tool is used to help shape the shadow box?
- a) Wubbers Jumbo Round Mandrel Pliers
  - b) Anvil horn
  - c) Wubbers Jumbo Triangle Mandrel Pliers