# Abacus Ring

## By Debora Mauser

This ring is adjustable and therefore is forgiving in size.  These instructions are for a ring that will fit size 6-9 but this technique can also be used to create ring that is larger or smaller—just adjust your length of wire. The width of the wire shape also helps to determine the size of the ring.

This same technique can be used to create a bracelet.  This tutorial assumes you know how to fuse fine silver.

## Materials List

- 5 inches 16 gauge round fine silver
- 60 inches of 26 gauge round sterling silver, dead soft
- 20 2mm beads or seed beads

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

- Ring mandrel
- Torch
- Quench bowl
- Soldering block
- Tweezers or cross lock pliers
- Flat file
- Cutters
- Safety glasses

- Wubbers Medium Bail Making Pliers
- Rubber or rawhide mallet
- Wubbers Classic Medium Flat Nose Pliers
- Bench block
- Tumbler
- Liver of sulfur (optional)
- Steel wool (optional)

## Project Steps

**Step 1.**  Cut a 5" piece of fine silver.  In this case I used 16 gauge wire.  Use 18 for a more delicate ring.  Form into a circle and fuse closed.  Quench.
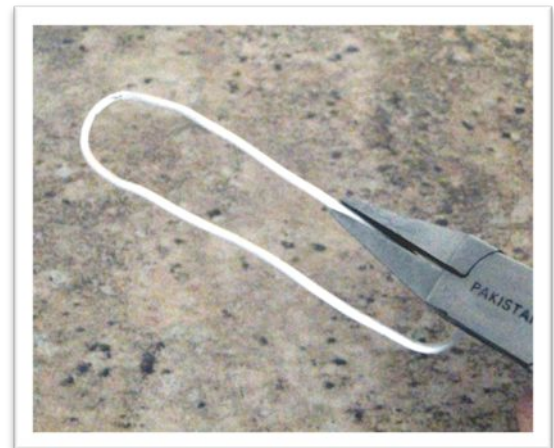
**Step 2.**  Manipulate into an oblong shape with fingers.
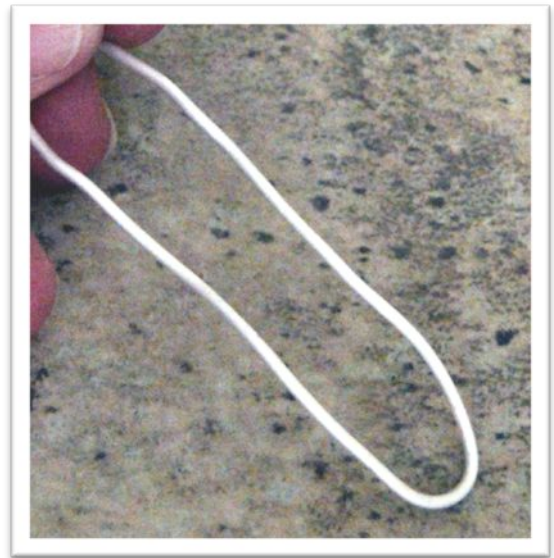
**Step 3.**  Finalize the shape with Wubbers Classic Flat Nose Pliers and Wubbers Medium Bail Making Pliers. You may use nylon jaw pliers as well.

This step assists to work-harden the wire.  Take time to make sure that the distance is the same across the entire armature.  Use a ruler if necessary.

**Step 4.**  Once you are happy with the shape, use a nylon or rawhide hammer and gently tap along the entire armature.  This will continue the hardening process.

**Step 5.**  Cut a 60 inch piece of weave wire.  Ideally, there will only be one piece of weave wire.  If necessary, another piece of wire can be cut and the weave continued.  Start the weave at the middle of the armature, on the bottom base.  Also start at the middle of the weave wire—then you're only working with 25 inches of weave wire, leaving the rest for the left side.  Just leave the other half dangling until you need it.

**Step 6.** This shows the right weave wire with the bead on top of the armature. Move it to the top base wire and wrap twice.

The number of wraps can change with the size of the beads. The bead should move easily, so pay attention to this when your wrap. Once you make this decision on number of wraps, keep it consistent though out the process.

You need to pull each loop tight, but take care not to bend the armature—the wires should remain parallel.



**Step 7.** Make sure to keep the wrapping wire straight, and *avoid kinks*!

Now bring the wrapping wire back under both base wires and wrap two times (or as many as you have decided.)
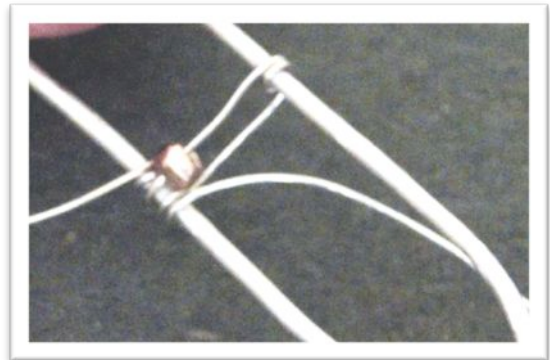


**Step 8.** Put a bead on the wrapping wire. Move the bead along the wrapping wire, back to the top armature, and repeat.

A second way to explain this process...your wrapping wire is wrapped on the top of the armature and after one complete wrap and half of a second wrap, bring it to the back and down. On the bottom armature, wrap one complete and half of a second wrap, bring it to the front of the ring and back up.
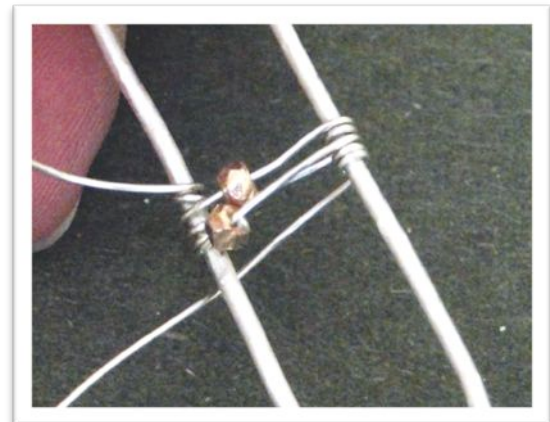


**Step 9.** Repeat these steps until there are at least 6 beads. Lay the ring on your fingers and see if this amount will cover the top of your finger.

Depending on bead size, finger size and personal preference you might want to adjust the number of beads. This is your choice. If the beads are larger than 2mm, I do not recommend including them further down the side of the ring as the ring will not be comfortable.
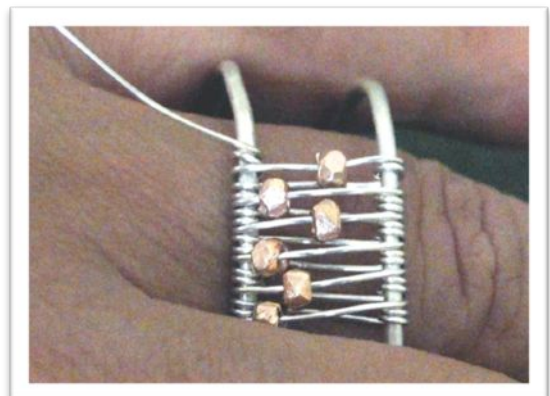
**Step 10.**  When you get to the area that will be under the finger, quit weaving.  There should be ¼ – ½ inch of bare base wire.

Take the remaining wire and wrap the base with a standard wrap.  To keep the weave from moving, wrap the entire base back to the other side of the weave.  If more wire is needed, try not to change at the center of the back as this is the part of the ring that takes the most abuse.

My measurements should ensure that you do not need to change the wire, but kinks do happen.  Also if the armature is wide, this takes more wrapping wire.
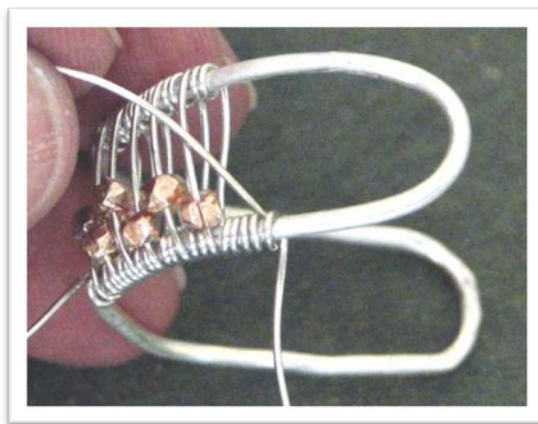
**Step 11.**  One side complete.  Make sure to clip the wire close to the base and tighten with Wubbers Classic Flat Nose Pliers.
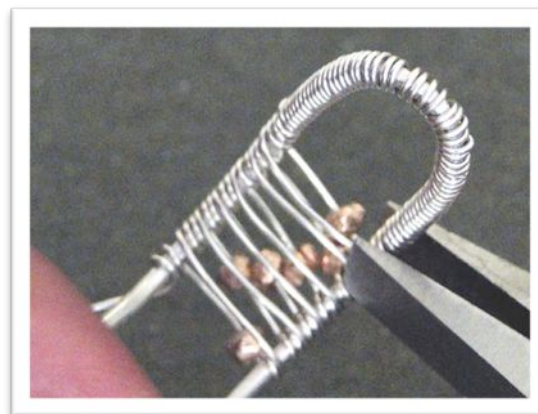
**Step 12.**  Move back to the center and repeat the weave, but do this in reverse.  Start by taking the left weave under the base wires.

Pay close attention to this area.  The ring may need an additional wrap before moving to the top.  Count and see if the wraps are equal.
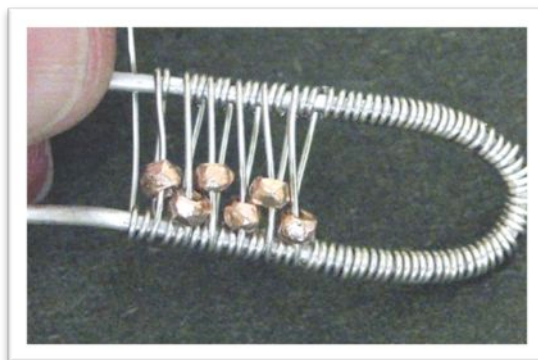
**Step 13.**  Anchor on the top by wrapping twice and adding a bead.

Although you are adding at the top, these beads move so there is no problem.

If working from right to left is difficult, then just turn the entire piece upside down.  You will then be working from right to left just as you did on the first half of your ring.
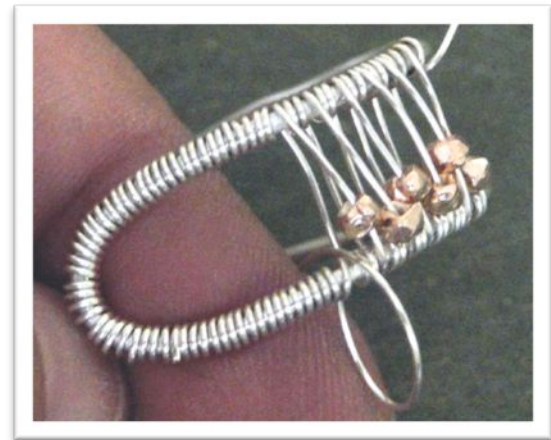
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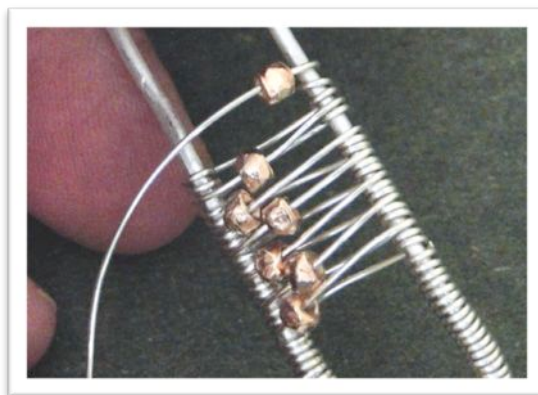
**Step 14.** Continue until an equal amount of weaves with beads has been added on the left as on the right
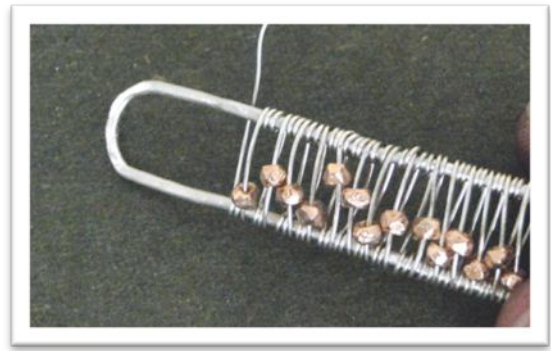


**Step 15.** Finish this end in the same way as the previous end. Before cutting the last wire, gently shape the ring into a loose half circle.

This shows how the weaves will gently spread. One or two more loops may be needed. Cut and trim.



**Step 16.** Finish forming around a ring mandrel and hammer with a nylon or rawhide hammer.

I highly recommend tumbling if possible to complete the process. Fine silver is soft and the tumbling will harden and shine. If oxidation is desired, do this before tumbling.
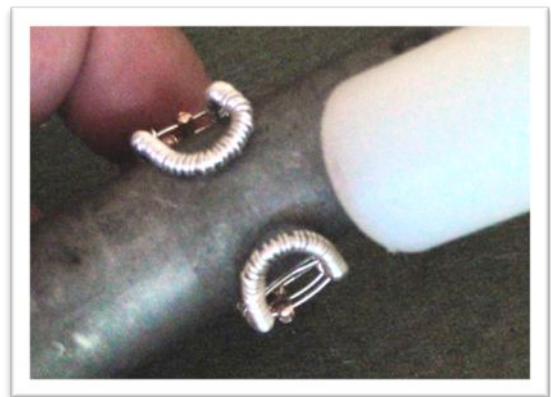


**Wire Wrapping Option**
**In Lieu of Fusing Silver**

**Step 17.** Cut a 6" piece of 16 gauge wire. Fold in half and form an open loop in both ends. Place them on top of each other.



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**Step 18.**  Using some scrap wire, and anchor them together for now.



**Step 19.**  Follow all basic instructions, except when wrapping this end, make sure to wrap both open loops together to keep the base shaped and firm.  Remove temporary wrap as you come to this point.  Finish by shaping, hammering and tumbling.



The finished ring…well, a version with blue beads and patina…but very lovely!

## Review Questions

1) True/False.  The wires of the armature should be kept parallel.

      a)  True

      b)  False

2) What can be used to work-harden the metal?

      a)  Nylon hammer

      b)  Rawhide hammer

      c)  Fretz hammer

      d)  Both a) and b)

3) True/False.  When you start weaving with the weave wire, start at the middle of the weave wire.

      a)  True

      b)  False

4) True/False.  The beads should be continued around the entire ring.

      a)  True

      b)  False

5) True/False. If you choose to apply a patina, do so before tumbling.

      a)  True

      b)  False