

Amie Floral Pendant

By Valorie Clifton

This intermediate level tutorial is intended for those with some skill in the areas of sawing and riveting.

This floral pendant is delicate and feminine. It makes a wonderful gift! These subtly textured flowers are crafted from layers of copper petals.

I created a template to accompany this tutorial, complete with the shapes to cut out of the metal and placement marks for the holes to be punched for the rivets.

I created this using 26 gauge copper, but it could possibly be created using 24 gauge copper.



Materials List

- 24 gauge copper sheet
- 26 gauge copper sheet
- 4 - ¼ inch long, 14 gauge nail-head rivets (or you can create your own rivets using 14g. wire)

Tool List

- Safety glasses and particulate mask
- Rubber cement
- Jeweler's saw and blades, size 2/0 or 3/0
- Bench pin
- Torch and soldering pad for annealing
- Template (provided with this tutorial)
- Flat jeweler's file with fine teeth
- Sandpaper or sanding sponges, medium and fine grits
- Jewelry tumbler and stainless steel shot, if desired.
- Gwen Youngblood's Riveting Essentials Kit (optional)
- Alphabet design stamps and stamping hammer (optional)
- Small bench vise
- Sharp wire cutter pliers
- Bench block or anvil
- WUBBERS Large Oval Mandrel Pliers
- WUBBERS Apprentice Flat Nose Pliers
- WUBBERS Apprentice Round Nose Pliers
- WUBBERS Artisan's Mark Sharp Texture Hammer
- 1.5mm hole punching pliers
- Awl or metal punch
- Medium sized, hard rubber mallet
- Small ball peen hammer or a riveting hammer
- Wooden stump or swage block
- Nylon or wooden dapping block
- Steel or wooden dapping punches
- Vulcanized rubber bench block (optional)

Step 1:

Print the template and cut out the layer pieces for the pendant. Using the rubber cement, glue the petal layers to 26 gauge copper and glue the bail template piece to 24 gauge copper; coat both the metal and the back of the paper for best adhesion. Allow the glue to dry (it doesn't take very long at all). *Don't worry about excess glue on the metal sheet; it can be easily rubbed off later.*



Step 2:

Using the jeweler's saw and bench pin, carefully cut out the shapes. If your sawing skills aren't precise, try to err on the outside of the lines. Later, the metal can be filed to the lines if needed.

It's going to be challenging to saw the 26 gauge copper petals because the sheet is so thin. It's a good idea to hit the sheet a few times with a rubber mallet prior to sawing in order to work harden the metal.

It is best if you don't cut the individual layers from the main sheet prior to sawing; holding on to small pieces while sawing is difficult. I recommend cutting the smaller layer first and moving up in size until only the larger layer is left to cut.

I've provided plenty of each shape on the template in case a mistake occurs during sawing.



Step 3:

Before peeling the paper off the sawn flower layers, mark the center hole for riveting using a metal punch or an awl. If any filing is needed to correct sawing mistakes, file the excess metal to the lines and then remove the paper from the copper.



Step 4:

File any rough edges or burrs and then sand the edges smooth.



It may be easier to gently fold every other petal upward for filing and sanding.

Take care not to over-bend the petals. Any metal will snap or crack if bent repeatedly in the same spot. During this project, we will anneal the petals several times in order to prevent this from occurring.



One option for sanding in tight places is to cut a thin strip of 60 micron sanding film and threading it through an old saw frame. This method is very effective for getting the spaces between the petals.



Step 5:

After the petals and bail are sanded smooth, punch the center holes (and holes for the bail) using the hole punching pliers.



Step 6:

Prior to texturing, it is a good idea to anneal the flowers. *I prefer not to pickle my flowers—I like to let the torch patina accumulate. If you wish to keep the copper bright, you can pickle after annealing.*



Step 7:

Using the Wubbers Artisan's Mark Sharp Texturing Hammer, lightly texture the back of each flower layer. The texturing doesn't have to be precise; simply apply texture lines along the outer edges of each petal.

Texture the front sides of each petal after texturing the back sides.



Step 8:

After each flower petal layer is textured, texture the bail. I chose to use the Wubbers Artisan's Mark Sharp Texturing Hammer again.

If desired, you can place initials and use any design stamps on the rear half of the bail.

I also took the opportunity to texture the edges around the bail.



Step 9:

Now is a good time to anneal again. The next step will be to form the petals into a pleasing shape.



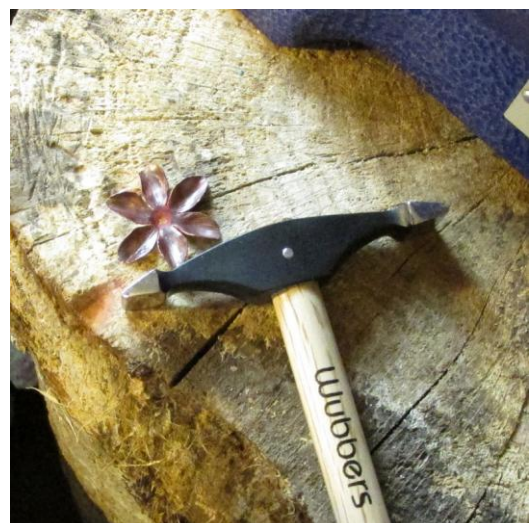
Step 10:

For the petals, there are several ways to form them. If a wooden stump is available, you can hammer a slight divot using a sharp hammer, and then lightly hammer each petal into the depression using the Wubbers Artisan's Mark Sharp Texturing Hammer.

If a wooden stump is not available, a swage block could also be used, or a rubber bench block. The desired result is to get a simple "U" shape down the center of each petal.

In a pinch, this could also be done using round nose pliers or bail pliers.

The purpose of the "U" shape is to slightly pre-form each petal, and also to work harden the metal. The next step rounds the petals, and if the petals are harder, they are likely to "crimp" a little bit on the edges. I love this ruffled effect because it makes the petals a little more organic.



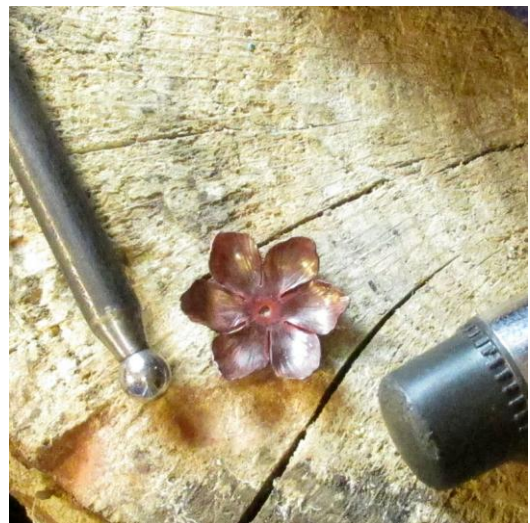
Step 11:

After the petals are formed into “U” shapes, the petals can be formed into a more rounded shape using several methods.

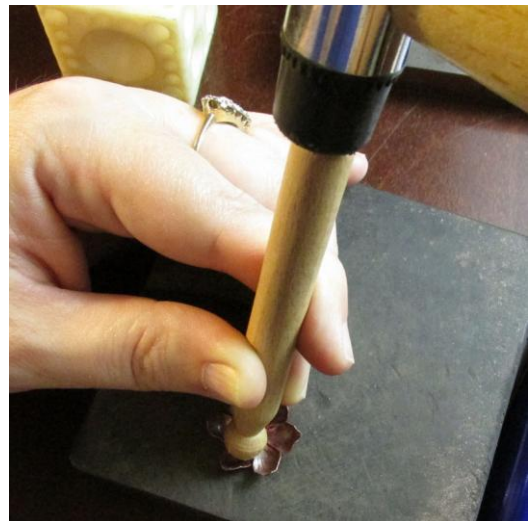
One method is to hammer a small divot into a wooden stump using a steel dapping punch. Next, the petal can be laid across the depression, with the metal extending slightly beyond the edge of the depression. Using a rubber mallet and the steel punch, lightly round the petals.



It is difficult to see, but this method gives the extreme edges of the petals a slightly ruffled appearance. This is my favorite method of forming the petals.



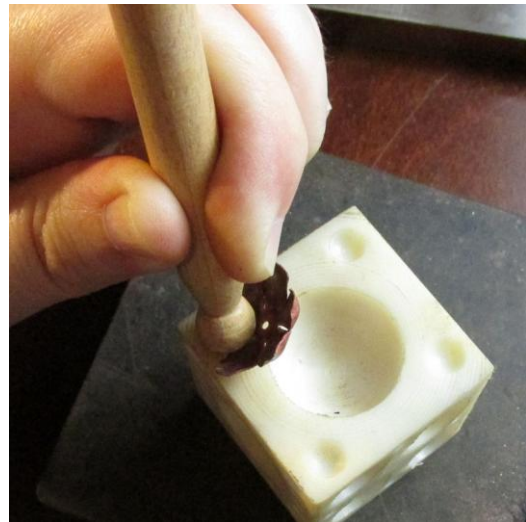
Another method is to use a hard, vulcanized rubber bench block with either a steel or a wooden dapping punch to round the petals. There will be less of a ruffled appearance, but the rubber block forms the petals nicely.



Step 12:

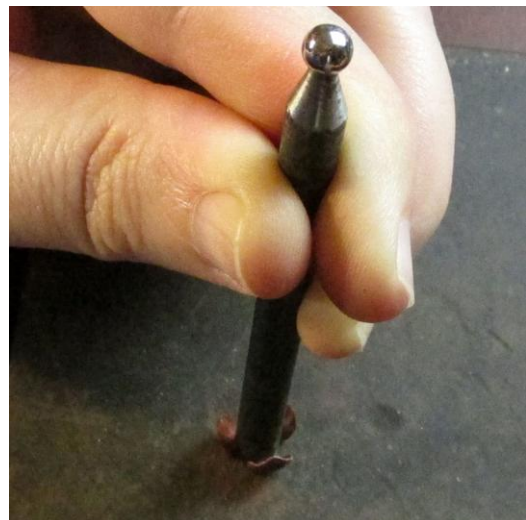
The final shaping can be done using a wooden dapping block or a nylon dapping block. I avoid using steel blocks because there is a subtle texture to the petals that would be smoothed out if we used steel.

Final rounding of petals can be done using smaller depressions, and a larger depression can be used to gently curve all the petals slightly inward.



Step 13:

Before the riveting step, it is important to make sure each petal section is flat and smooth in the center. To achieve this, I like to use the flat end of a steel dapping punch and a rubber or wooden bench block. Lightly tap the punch with a rubber mallet to flatten the center of each petal layer.



Step 14:

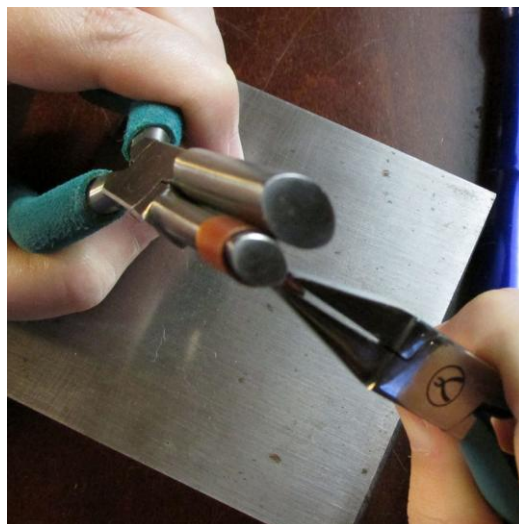
After forming the petals, take the bail and lightly fold it over the smaller jaw of the Wubbers Large Oval Mandrel Pliers.



Step 15:

Using the Wubbers Apprentice Flat Nosed Pliers, pinch the ends of the bail together, carefully aligning the holes *while the bail is still wrapped around the oval pliers*.

Try to have the front side of the bail be a little flatter than the rear side of the bail, so it sits more flush with the flower for riveting.



Here is my finished bail, with the rivet holes lined up.



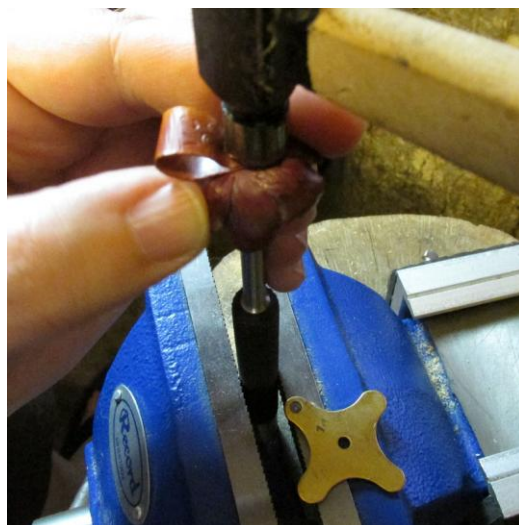
Step 16:

It's time to rivet the flower and bail together! If you have the Gwen Youngblood's Riveting Essentials Kit, this step is very easy.

Place the medium punch included in the kit into a vise and tighten securely. Stack the flower layers and bail together on a nail head rivet, with the nail head positioned in the center of the smallest petal layer. *An alternative to using this punch is to use the flat side of a small steel dapping punch by securing the punch in a vise.*

Using the 14 gauge wire riveting gauge provided in the kit and sharp wire cutters, measure and snip off the excess wire that is threaded through the flower and bail.

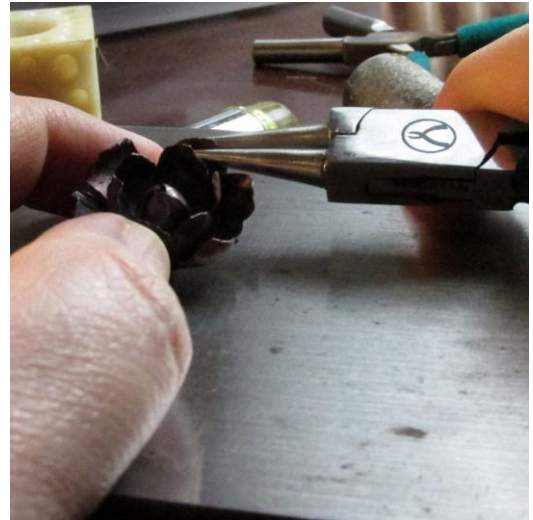
Using a riveting hammer or a small ball peen hammer, carefully expand the wire in the back of the pendant until a rivet head is formed. Planish the rivet to



smooth and flatten the head, and sand smooth if necessary. Take care not to mar the bail and the flower while creating the rivet.

Step 17:

Using the Wubbers Apprentice Round Nose Pliers, gently curl the flower petals into the desired position. The flower can be opened or closed—whichever you prefer. Take great care not to stress the point where the petals meet the center. We wouldn't want to break a petal off the flower by accident.



Step 18:

Here is the completed flower after riveting and forming. If you allowed the torch patina to build up, the copper will be quite dark. The flower can be gently cleaned with a brass brush and dish soap, and it can be tumble polished if desired. I tumbled my flower for 3 hours using stainless steel shot, water and dish soap.



Review Questions

- 1) True or False: It is very easy to hold small pieces while sawing.
 - a) True
 - b) False

- 2) What is the purpose of forming each petal into a "U" shape?
 - a) This pre-forms the petals.
 - b) This work-hardens the petals.
 - c) The petals are more likely to "crimp" a little bit on the edges while being formed into a rounded shape.
 - d) All of the above.

- 3) True or False: It's a good idea to strike thin sheet metal a few times with a rubber mallet prior to sawing in order to work harden the metal.
- a) True
 - b) False
- 4) True or False: Before the riveting step, it is important to make sure each petal section is flat and smooth in the center.
- a) True
 - b) False
- 5) True or False: If your sawing skills aren't perfect, it is recommended to saw outside the lines and file the metal to the lines later.
- a) True
 - b) False