

Silversmithing Techniques

from Jewelry Making Daily:

**3 FREE Projects for
Silver Jewelry Making**
plus Bonus Silver Findings Project



**Jewelry
Making**
DAILY



**KENTUCKY AGATE
PENDANT**
BY JOHN LEEDS



BAMBOO SILVER RING
BY ELIZABETH ANN TOKOLY



POTTERY SHARD BROOCH
BY JULIE JERMAN-MELKA



CLASP-TASTIC!
BY MARTHA ALEO



IMPROVE YOUR SKILLS AS A JEWELRY MAKING SILVERSMITH while you create an outstanding silver pendant, ring, and pin – and a handmade silver jewelry clasp. With silver sheet, silver findings, and basic silver jewelry making supplies, you'll be sure to hone your silversmithing skills as you re-create these unusual pieces. You can also use any of the projects in this

terrific free eBook as a springboard to develop a unique silver jewelry design of your own.

In the *Kentucky Agate Pendant*, you'll learn to create a hammered sterling silver frame that will set off any cabochon with distinction. You'll also create a decorative backing for the stone using jump rings, giving the piece an interesting visual surprise as well as clever structural support.

To make the *Bamboo Silver Ring*, you'll use only the basic techniques of forming, soldering, and filing—but it will challenge you to use these skills with precision as you bring out the design's unusual texture. The bamboo motif also gives this versatile design a vintage look that works equally well in contemporary stack rings.

For a keepsake piece, try the *Pottery Shard Brooch*. This offbeat project will teach you how to set an unusual freeform focal: a bit of old china treasured for its antique pattern or perhaps because it belonged to a beloved grandmother. Whatever connection you have to your found object, you'll learn how to work an irregular shape into a pleasing design as well as enhance the antique look with liver of sulfur, fabricate your own pin stem, and set a half-drilled button pearl.

Add that professional touch to your handmade silver jewelry by learning to make your own findings, starting with *Clasp-tastic!* In this sterling silver findings project, you'll learn to wire wrap an S hook and a hook and eye clasp, each as individual and handmade as the rest of your work using silver wire, pliers, cutters, jump rings, and a simple butane torch.

Whether you're learning how to make silver jewelry for yourself or friends or to create custom silver jewelry to sell, you'll find *Silversmithing Techniques from Jewelry Making Daily: 3 Free Projects for Silver Jewelry Making plus Bonus Silver Findings Project* a valuable reference and source of inspiration.

Merle White

Merle White
Editor-in-Chief, *Lapidary Journal Jewelry Artist*

KENTUCKY AGATE PENDANT

Encircle a striking cab with a hammered silver frame

BY JOHN LEEDS

SKILLS

- soldering & torch control
- hammering
- laser welding (optional)
- lapidary (optional)



You can create this pendant from rough stone to finished jewelry, or you can start with a finished cabochon and do the metalwork yourself.

I used very few tools for this project: two hammers, a few pairs of pliers, a rubber wheel, and sandpaper. I also use a laser welder to tack everything in place, but you could just solder everything if you don't have access to a laser welder.



OPENING PHOTO: JIM LAWSON
PROJECT PHOTOS: JOHN LEEDS



SELECTING YOUR STONE

- I like to use stones with simple line and movement and more than one color and texture.
- The center stone could be other shapes as long as it will fit nicely into the outer rectangular frame.
- For this pendant, I began with the rough. As I cut the stone into pieces, I examined the colors inside. Since generally the most desired colors of Kentucky agate

are red and black, I constructed a piece with these colors by isolating the section I wanted from the rough.

- Whether you're cutting your own or selecting a stone that's already cut, a bull's-eye in Kentucky agate, also called Imperial agate, makes a compelling design element and is much sought after by collectors.



MATERIALS

Kentucky agate (rough, cut, or cabbed)
Silver, 5mm square stock; about 5"
14K bezel wire (28-gauge x 6mm)
14K square wire; 1mm
Hard silver solder
Hard and medium 14K solder
20-gauge silver sheet; 8mm x 20mm
28-gauge 14K sheet; 5mm x approx. 3½"

TOOLS

Torch, buffer, anvil, various pliers, forging hammer, raising hammer, flex shaft with hammer hand piece or bezel pusher.

OPTIONAL: Diamond saw, lapidary machine, laser welder

SOURCES

Most of the tools and materials for this project will be available from well stocked lapidary supply vendors.

If you're cabbing your own stones, start here.

PHOTO 1 Examine rough cuts from original stone.

PHOTO 2 Use the stone cutter/grinder to cut and shape pieces into cabochons. I prefer Super Cerium on a felt wheel for polishing.

If you're starting with a finished cabochon, start here.

PHOTO 3 Sketch a design for the piece of jewelry.

■ *Select stone. I cut stones for my design, creating several ovals, then chose best stone for design.*

PHOTO 4 Referring to chosen stone for size, forge square bar stock into an oval for outer frame. Solder join with hard solder.

PHOTO 5 Preform 14K bezel around stone. Anneal and pickle. Tack weld join. Solder with 14K hard solder. File and sand bezel to clean finish.

PHOTO 6 Hammer-texture outer frame into more uniform shape. Solder 1 side of jump ring to inside of oval. Solder another jump ring to outer top of oval. Clean up assembly, sand, and polish.

PHOTO 7 Make jump rings from 14K 1mm square wire. Cut rings in half and tack to bezel for decorative back support. Solder into position with 14K medium. Solder jump ring to outer top of bezel assembly. Clean finish. Make bail out of tapered silver sheet. Make smaller tapered gold strip to layer on bail. Solder with medium solder. Clean finish. Bend bail into shape, file to refine final shape. Sand and polish. Tack bail to pendant so it swings. Refine height of bezel setting, polish, and set stone. Clean up piece, laser-weld any incomplete joins from back.



LASER WELDER OR SOLDER?

The joining can be accomplished without a laser welder; however a laser welder is quicker and you won't need to clean up excess solder.

JOHN LEEDS has been creating original art for more than 18 years. He has studied the craft of jewelry design in Europe and the U.S. and is influenced by both his studies in Italy and his Irish heritage. See his work at www.jleedsjewelry.com.

Bamboo Silver Ring

Mimic bamboo with precise filing

BY ELIZABETH ANN TOKOLY



OPENING PHOTO: JIM LAWSON
PROJECT PHOTOS: ELIZABETH ANN TOKOLY

SKILLS

- simple fabrication
- saw control
- soldering
- filing

This classic, elegant ring uses simple techniques—forming, soldering, filing—but demands a degree of proficiency and attention that can challenge the beginner or advanced beginner. After the ring is formed and soldered, the bamboo texture is slowly revealed through scoring and filing. The design echoes the vintage styles of several well-known jewelry houses.

With one ring made, you can create more in other metals, make several to hone your skills, or have the original cast in multiples: this design works well for stack rings. Once mastered, the bamboo effect may also be used for bracelets, earrings, flatware handles, or handbag hardware.



MATERIALS

Sterling silver length of round wire in 10- or 12-gauge
Hard solder

TOOLS

SOLDERING TOOLS: solder block, flux, pickle, copper tongs, torch, fire brick

LAYOUT TOOLS: compass, calipers, scribe, graph paper

FINISHING TOOLS: sandpaper, 320-600 grit; rouge

HAND TOOLS: half-round wooden forming block, ring mandrel, split mandrel, saw frame, 2/0 saw blade, three-square (triangle) needle file, 8" crossing file

OTHER TOOLS: flex shaft, bench vise, small Mizzy wheel, coarse/medium silicone wheel, medium/fine silicone wheel, small muslin buff on a mandrel

SOURCES

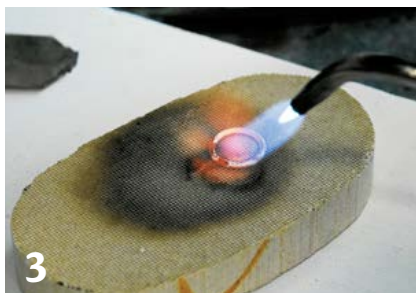
Most of the tools and materials for this project will be available from well stocked lapidary supply vendors.



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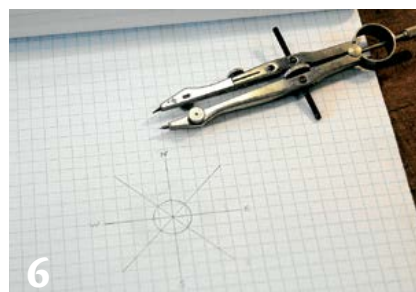
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8

PHOTO 1 Cut round wire to ring blank length.

PHOTO 2 Form blank into ring by hammering with rawhide mallet around ring mandrel placed in half-round wooden forming block.

PHOTO 3 Flux ring and place on fire brick. Solder with hard. Pickle to clean.

PHOTO 4 Refine ring shape on mandrel with rawhide mallet.

PHOTO 5 Clean away excess solder with split mandrel using grits 320-600.

PHOTO 6 With compass, draw a circle on graph paper slightly smaller than inside diameter of ring. Divide circle into 8 equal parts. Label circle North, South, East, and West, then North East, South East, etc.

PHOTO 7 Lay ring on top of drawn circle. At North point, scribe vertical line on ring. Score that line completely around ring stock with 2/0 sawblade. Turn ring a quarter turn so previously scored line is facing East. Scribe and score again at North point. Turn another quarter and scribe/score again on North point. Repeat to divide ring into 4 equal parts.

■ *Important: Always work off the North point when positioning the score lines on the ring shank.*

PHOTO 8 Position ring back on paper template. Scribe line between North and East. Score that line around shank with 2/0 saw blade. Using North East as new scribing/ scoring point, turn ring to face South East and repeat. Repeat until ring is divided into 8 equal parts.



9



10

PHOTO 9 One millimeter to right of each scored line, scribe second line. Score all around shank using 2/0 saw blade.

■ The second line should not be exactly parallel to its neighbor—it should taper toward the center-point of the ring.

PHOTO 10 Use triangle file to cut V grooves in every scored line. Use crossing file to round sides of V grooves.

■ The higher side of your crossing file should face out toward each of the segments.



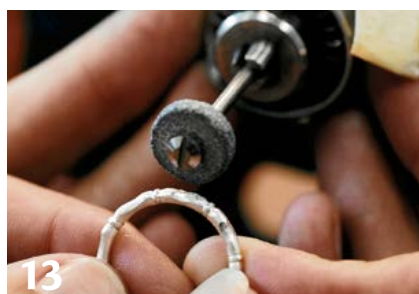
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12

PHOTO 11 Use high side of crossing file to create bamboo shape. Starting in center of segment, file shallow U shape in it. Do this in all 8 sections.

PHOTO 12 Repeat process on both sides of ring to taper each segment all around shank.



13



14

PHOTO 13 Fasten flex shaft hand piece into vise. Insert small Mizzy wheel into chuck. Rough out remainder of bamboo shape. Smooth marks from Mizzy wheel with coarse/medium silicone wheel. Then, smooth marks with medium/fine silicone wheel.

PHOTO 14 Finish ring with muslin wheel loaded with rouge.



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DESIGN OPTION

This design makes a great stack ring—try several in different metals and finishes to practice your skills and perfect your technique.

ELIZABETH ANN TOKOLY is an instructor at the 92nd St. Y in New York City, and holds an MFA from Cranbrook Academy of Art. She has worked for prominent jewelry designers and artists, including Steven Logos and Jan Yager. She is the founder of Studio No. 159, The Fine Art of Design, in Jersey City, New Jersey.

Pottery Shard Brooch

A nostalgic keepsake from a broken dinner plate

BY JULIE JERMAN-MELKA



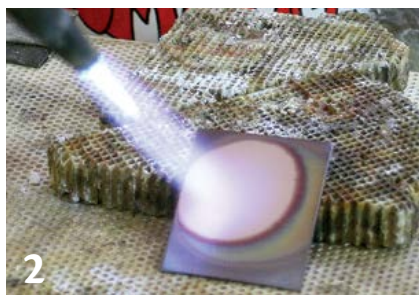
OPENING PHOTO: JIM LAWSON
PROJECT PHOTOS: JULIE JERMAN-MELKA

SKILLS

- soldering
- bezel stone setting

I enjoy the challenge of working with found objects and incorporating them into a wearable piece of jewelry. If you're like me, you probably have fond memories of enjoying a special dinner with family or friends, using the "good" china, or maybe enjoying a cup of afternoon tea from vintage tea cups. Inevitably, a piece of china or one of the prized teacups accidentally breaks, and it's painful to just throw the shards into the trash. In this simple project, I'll show you how to recycle the broken shards and make a simple brooch, perhaps reminding you of one of those special times with friends and family.

Instead of using a commercial finding for this piece, I decided to make my own pin mechanism. It's easy to execute and gives the piece a simple, handcrafted elegance with an extra personal touch.



MATERIALS

Pottery shard
22-gauge sterling sheet: 2" x 1½"
22-gauge brass sheet: 2" x 1¼"
28-gauge sterling bezel wire:
5mm height x 6"
20-gauge round sterling wire: 6"
18-gauge round nickel wire: 4"
One 7mm half-drilled button pearl
#65 Drill bit
Hard and medium solder
Texture to roller print (texture paper)
330 epoxy
Liver of sulfur
Ammonia

TOOLS

SOLDERING TOOLS: torch, solder pick, Solderite pad 6" x 6", pickle pot with pickle, copper tongs, cross locking tweezers

HAND TOOLS: metal shears, wire cutter, saw frame, saw blades, beeswax or Bur Life, bench pin, 6" half round file, needle files, 2½" bent steel burnisher

OTHER TOOLS: rolling mill, buffing machine, dust mask, safety eyewear, Sharpie, Fabulustre or buffing compound, 4" muslin buff, flex shaft

SOURCES

Most of the tools and materials for this project will be available from well stocked jewelry or lapidary supply vendors.

PHOTO 1 Select pottery shard.

■ The shard I've chosen is ¾" x 1¼", so all of my measurements are based on using a piece of pottery about this size.

PHOTO 2 Cut a 1¼" x 1" piece of 22ga sterling sheet. Anneal and pickle. Rinse in water and dry completely. Cut a piece of 22ga brass sheet slightly larger than the silver sheet. Do not anneal.

PHOTO 3 Cut a piece of rice paper to 1½" x 1¼". Sandwich rice paper between silver and brass sheet and pass through the rolling mill under pressure to roller print.

■ Your silver sheet will distort and elongate with this process.

PHOTO 4 Make bezel for pottery shard using flat nose pliers. Solder bezel together using hard. Pickle bezel until clean. File any excess solder on seam. Rub bezel on sandpaper to clean bottom edge.

PHOTO 5 Place shard on rollerprinted silver sheet. Trace outside edge of shard with Sharpie pen to create an interesting shape for your brooch. Mark on metal sheet will be slightly larger than shard. Saw along Sharpie line and then fine-sand edge.

PHOTO 6 Place bezel on sheet making sure there are no gaps between them. Solder bezel to roller printed sheet using chips of medium solder.

■ If there is a gap, rub bezel on sandpaper again to true up edge before soldering bezel to sheet.

PHOTO 7 Decide where you want the pearl. Center punch a divot in metal and drill a hole using #65 drill bit. Insert a ½" length of 20ga round wire through hole, extending it ⅛" out of back of brooch. Solder wire from back of brooch with medium. Cut, file, and sand excess wire until flush with back.



■ This is also a good time to stamp the back of the piece with a sterling stamp and your personal maker's stamp if you have one.

PHOTO 8 Use 4" of 20ga round nickel wire for pin mechanism. Bend wire in half and solder ends to back of brooch with medium solder. Pickle and sand any excess solder.

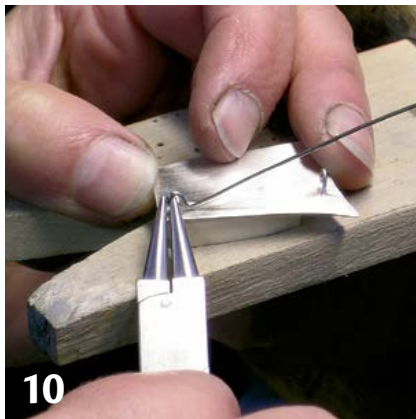
■ Make sure you locate the mechanism above the central axis so the pin will sit properly when worn.

PHOTO 9 Snip wire for catch at $\frac{3}{16}$ " and bend over.

PHOTO 10 Curl wire for pin stem with round nose pliers twice to create tension for mechanism. End of pin should extend slightly beyond catch. Snip end if too long, then file, sand, and polish.

PHOTO 11 Set shard in bezel and check height: bezel should just barely extend above shard. File bezel down if too high. Push walls of bezel over shard using bent steel burnisher.

■ I use a triangle file to file the bezel corners. This creates a V shape, so the metal will not fold over itself during setting.



MY ORIGINAL SKETCH FOR THE PIECE

22ga s/s sheet
porcelain Tea cup shard



7mm Pearl Bit
#65 drill bit
For wire

Texture - rice paper

pin - 18ga rd
nickel wire

Bend - solder - cut - L.

Bend - curl.

TIPS ON SUPPLIES

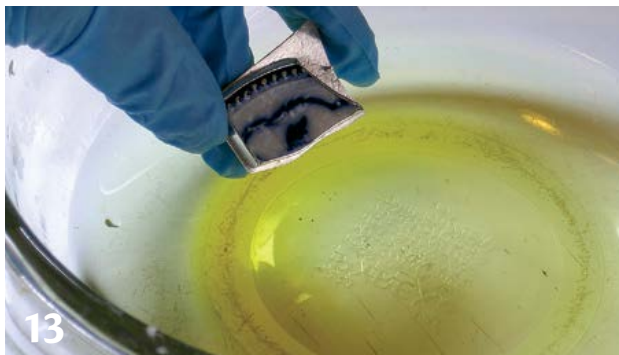
- If you don't have a rolling mill, you can purchase embossed metal sheets from Metalliferous: www.metalliferous.com, 888-944-0909, or David H. Fell: www.dhfco.com, 800-822-1996.
- I prefer using Fabulustre buffing compound because it gives me a lustrous finish and I don't need to prefinish. It contains a cutting and a polishing compound in one bar.
- Texture paper is handmade paper and can be found at art supply stores. Look for paper that contains elements embedded in the paper, which will give your piece a more interesting texture.

PHOTO 12 Polish brooch on buffing machine to desired polish. Clean off buffing compound using weak solution of sudsy ammonia mixed with water and a soft toothbrush. Rinse piece under warm water and dry with soft cloth. Dissolve a pea size piece of liver of sulfur in a cup of warm water.

PHOTO 13 Dip brooch in solution and rinse in cold water. Repeat until you achieve desired patina color, then let air dry. Polish lightly to bring contrast to piece.

PHOTO 14 Adjust height of stem for pearl by cutting and filing until pearl sits flush with silver sheet. Mix equal parts of 330 epoxy on small piece of paper with toothpick. Put small amount of epoxy on stem for pearl and place pearl on stem. Allow epoxy to dry.

JULIE JERMAN-MELKA earned her M.F.A. from Colorado State University in Fort Collins, Colorado, where she lives and works. Her work can be seen in galleries throughout the United States. She also teaches part time at Laramie County Community College in Cheyenne, Wyoming. You can see more of her work at www.flyinganvildesigns.com.



Clasp-tastic!

Make your own hook clasps.

BY MARTHA ALEO

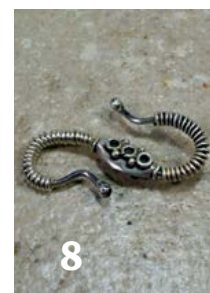
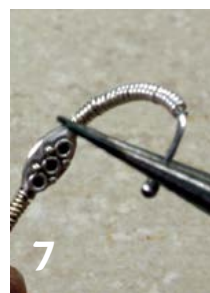
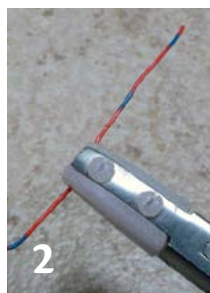


OPENING PHOTO: JIM LAWSON
PROJECT PHOTOS: MARTHA ALEO

TOOLS & SUPPLIES

- 14-gauge dead soft sterling wire, 1' (depends on the size of your clasp)
- 20-gauge dead soft sterling wire, 2' (depends on the size of your clasp)
- Bali silver bead, in size proportional to the clasp you want to make, large enough to accommodate 14-gauge wire
- Handheld butane torch
- Phone wire
- Round nose pliers
- Chain nose pliers
- Crimping pliers
- Flush cutters
- Nylon jaw pliers
- Small file
- Sharpie marker
- Steel wool
- Rouge polishing cloth
- Small container of water
- Paper towel
- Mandrel, in diameter appropriate for the size of jump rings you want
- Chasing hammer
- Steel bench block
- Jeweler's V slot bench pin (optional)
- Jeweler's saw and beeswax (optional)

Handmade clasps set jewelry apart from pieces finished with mass-produced findings. Making your own clasps can save you money and time. I started making my own findings after endless hours of trolling bead stores and Web sites trying to find the perfect clasp for a necklace I'd made. I knew the style and size of the clasp I wanted, but I could not find it anywhere. With a minimum of wire-working skills, tools, and a little imagination, I made it myself. You can, too!



S-clasp

PHOTO 1 For a measuring guide, cut a piece of phone wire, and bend it to the shape of the clasp you want. Cut off any excess to get the approximate size.

PHOTO 2 Straighten out the phone wire with your fingers or nylon-jawed pliers. Since the clasp will have balled ends, which will shorten the wire, cut a length of 14g wire about ½" longer than the size of the phone wire.

PHOTO 3 Gently hammer the 14g wire on the steel block, or run it through nylon jaw pliers to straighten any kinks. Coil the 20g wire around about half the length of the 14g wire. Keep the coils closely together. Slide off and set aside.

PHOTO 4 Hold one end of the 14g wire, and point it straight down into the flame of the torch to form a ball. Pull away the torch immediately, and turn it off. Plunge the balled end of the wire in a container of water to cool. Dry it off, clean off the soot and fire scale with steel wool, and polish.

PHOTO 5 Cut the 20g wire coil in half, and slide one segment onto the 14g wire, then the Bali bead. File or nip any sharp ends off the coil, and use the big opening on crimping pliers to cinch in the ends of the coil so they hug the 14g wire. Repeat with the bead.

Don't cinch so hard that they get stuck. The object is to keep them away from the other end of the wire when you ball it. Slip on the second piece of coil, nip the sharp ends, and secure with the crimping pliers. Slide the entire assembly as close to the ball as you can.

PHOTO 6 Ball the other end of the wire and plunge it into water. Dry it off, and clean the fire scale off of the second ball and the coils with the steel wool. Polish. Center the coils and bead on the wire.

PHOTO 7 Bend the side of the wire with the ball into a crook shape, with round nose pliers and your fingers. Mark the spot you used on the pliers with a Sharpie, so you can make the other side the same size.

PHOTO 8 Bend the second part of the clasp, as illustrated. Slide the Bali bead to the center of the clasp, and adjust the wire coils. Secure the coils and the bead firmly with the crimping pliers, so they can't slide around. File any bits of wire poking out.

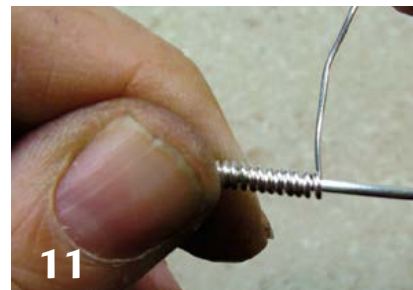


PHOTO 9 Take 6" of 14g wire, coil it firmly around the mandrel, and slip it off. Hold the coil steady on the jeweler's bench pin, and saw the rings, holding the saw diagonally to the coil. Use the rings to attach the clasp to your piece. Alternatively, you can cut the rings using a flush cutter. File the ends smooth.

Hook-and-eye clasp

PHOTO 10 Measure the length of 14g wire needed by using the phone wire as a guide as described in Step 1. Ball one end of the wire, dry off, and clean with steel wool. Polish.

PHOTO 11 Straighten the 14g wire, and coil the 20g wire around half of it. Slide the coil off.

PHOTO 12 Bend a crook on one end, with round nose pliers or your fingers. Cut the coil into two pieces, one three times as long as the other.

PHOTO 13 Thread on the long coil and use round nose pliers for the top of the hook. Slip on the bead and short coil. File the other end flat, and use round nose pliers to form a loop. Cinch the coils and the bead.

PHOTO 14 Use the phone wire to determine how big you want your eye to be. Cut the 14g wire and file the ends flat. Using round nose pliers, make a large loop on one end of the wire. Make sure it is just large enough to pass the hook through.

PHOTO 15 Add a coil of 20g wire, a bead, and a smaller coil. Using round nose pliers, make a smaller loop on the other end of the wire. Make sure each end of the 14g wire sits snugly against the neck of each loop. File and nip any sharp wire if needed.

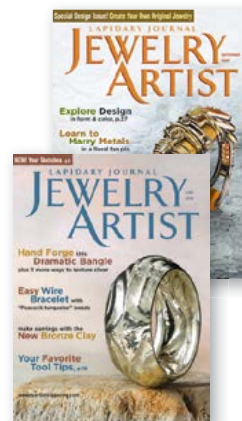
MARTHA ALEO works in seed beads, polymer clay, and glass. She can be reached at marthaaleo@yahoo.com, or on the Web at marthaaleo.tripod.com.

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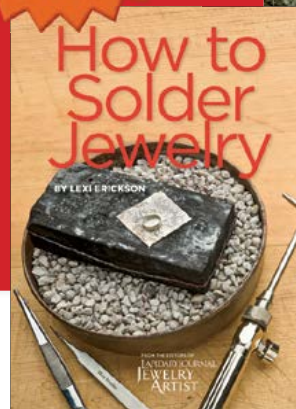
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