

Making a Small Beading Tool

by Anthony Napoli, AAW, CMW

While making a needle and thread box there were several small beads that needed to be made on the barrel of the holder that slides into the cap. These beads create separate areas for winding thread for storage within the box. To make them fast and consistently a small tool can be made from a 16d masonry nail, 3/4" copper pipe, and a piece of wood. The tools needed for this project are:

- * 3/8" round nose scraper
- * 3/8" shallow flute spindle gouge
- * 1/16" parting tool
- * 1/4" parting tool
- * 1/4" spindle gouge
- * Jacobs chuck with 1/4" brad point drill bit



Figure 1. Materials consist of a Masonry Nail, a piece of copper tubing, and wood for the handle.

I have talked with a wood-turner that works alongside a blacksmith and the masonry nail is made from hardened steel and is ideal for small tools and small projects. The first tool I made from a masonry nail was a round nose scraper that I use for small boxes and it works very well.

To start this project, select the piece of wood that you will use for the handle. The length of the handle will determine the piece of wood that you should select. For this project I have selected a piece of Oak that is approximately 7-1/2" long by 2" in diameter. I trimmed this piece from a tree approximately three years ago and it should be dry enough for this project. The first scraper that I made has a 4-5/16" long handle which is sufficient for the small projects that it is used to create. (See Figure 2) Trim the ends of the piece flush and parallel as possible and mount it between centers. In the head stock I used a spur drive that is designed to be mounted into the chuck's jaws. I like this set-up because it allows for quick change outs without removing the chuck. In the tail stock I used the standard live center that came with the Jet Mini-lathe. Select the end that will accept the masonry nail and create a tenon on the opposite end for mounting the piece into the chuck. Since the piece of Oak was relatively symmetrical I turned the speed up to 1500 rpm to produce a cleaner cut.



Figure 2. First tool made using a masonry nail.

Once the tenon is completed, I removed the spur center, reverse the piece and mount it into the chuck. The end that will have the masonry nail inserted is cleaned up, leaving the center mark made by the tail stock center. If the center mark is going to be removed, either bring the tail stock back up, or use a scratch awl, or a spring loaded

center punch to deepen the center mark. To drill out the hole I used a 13/64" brad point bit. I prefer the brad point because it does not wander before it seats. Drill the hole in approximately 2" to allow sufficient space for the masonry nail to be seated when driven into the piece. This hole also reduces the chance of splitting the handle.



Figure 3. Wood for the handle mounted between centers to turn a tenon to fit into the chuck.

Cut the copper pipe to approximately 3/4" in length with either, a hack saw, a tubing cutter, or a small cut off wheel. I prefer the tubing cutter because it produces ninety degree parallel cuts. Once the cut is made use a round file to remove the burr from the inside edges on both ends. This will become the handle collar or ferrule to strengthen the end with the masonry nail protruding from. Measure the inside of the copper pipe with either utility/digital calipers or screw calipers and using the 1/4" parting tool reduce the diameter of the wood to fit. The fit should be tight resulting in a curl of wood being created as the collar is test fitted. When the collar test fit is correct, part off the remaining tenon length. I left the tenon length approximately 1/16" longer than the collar. This allows for the collar to be pressed or driven tight against the stop. The added length can be left and tapered or cut flush with the pipe

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after it is installed. Cut a shallow groove at the stop's base so that any curl that is created during the collar installation can be easily cleaned off before the collar is fully seated.



Figure 4. Here the collar has been fitted to the wood.

To install the collar, I removed the chuck from the lathe. I started to slide the collar onto the tenon and place the pieces into a wood vise. I then tightened the vise and pressed the collar up to the shallow groove. I removed the assembly from the vise and clean away any wood curl that was created. I placed the assembly back in the vise and pressed the collar on until it seated against the stop. Once the collar is seated, reinstall the chuck on the lathe. With the 3/8" round nose scraper apply light pressure to the copper collar to trim off the end until flush and round over the end to soften the edge. Use a piece of 400 grit sandpaper to clean and polish the copper.



Figure 5. Handle is ready for the masonry nail.

Bring up the end stock's cone shaped tip into the drilled hole without contacting the flat area with the outer ring. The standard live center should provide sufficient support with the cone center for the turning of the handle. If the outer ring is going to contact the end of the handle switch to a cone shaped live center. With the 3/8" shallow flute spindle gouge I reduced the diameter of the wood blank and started to shape it. The shape is up to you. I switched to a 1/4" spindle gouge for the final shaping. Once the shaping was

completed I was able to sand the handle with 220-grit and finished with 320-grit. I applied friction polish as the handles finish. After taking the handle out of the lathe I sanded the end flush and applied finish. The handle is now ready for inserting the masonry nail.

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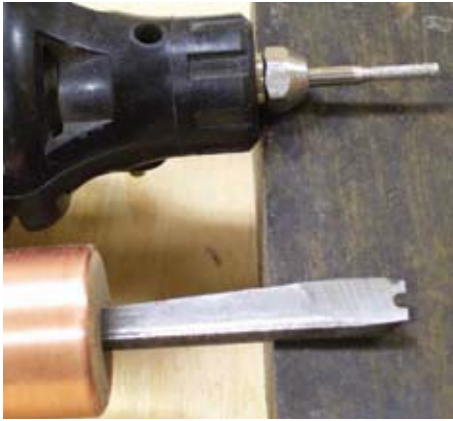


Figure 6. The finished beading tool along with the Dremel used to shape the beading section.

To insert the masonry nail place the back of the handle on a soft wood so the handle end is not marred. Insert the nail into the pre-drilled hole and with a hammer, drive the nail in until it seats. The depth will be approximately 1-1/2" into the handle. To form the cutting edge grind the head of the masonry nail smooth on all sides. The sides are ground down to approximately 1/4" in width. Once the top and bottom are flat and side width has been established, grind the bevel to approximately a 45° angle. During this process you must maintain the front edge at 90° to the center line dividing the masonry nail in half from the handle to the tip. During the grinding process have water for cooling the metal. If it turns blue then you will need to re-grind to remove the over-heated metal. To grind the bead relief into the tip use either a jeweler's round file or as I used, a Dremel with a 1/8" diamond bit. The goal here is to ensure that the bead groove is centered from either side. As you are grinding the angle match the 45° tip angle. Take

a scrap piece of wood to test the cut produced by your completed beading tool. In all I spent approximately a half hour to 45 minutes creating this tool which will help me create uniform beads for the needle and thread box.

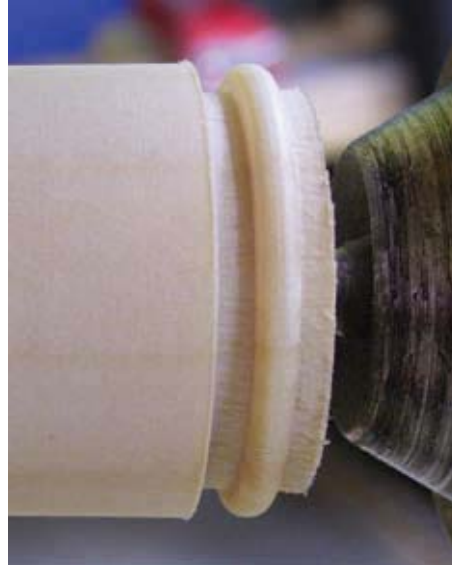


Figure 7. Checking the beading tool to see if it is doing the job properly.

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New Products from Vermec

By Fred Holder

Vermec has added more great products to their extensive range of woodturning tools and equipment, according to their recent newsletter. Some of the interesting ones that I feel like sharing include:

VERMEC CARVING MOUNT.

This mount is a multi-position mounting for carving of woodturned items. It can be rotated to almost any position and can be mounted on lathe bed or the work bench. If you order this item, please specify thread size required and lathe bed gap. Quoted item number and price are ACC-075 \$250.00. I've supplied a few photos to illustrate the item.



This photo shows the unit mounted on the lathe bed and ready to receive a chuck or faceplate with wood attached.

ULTIMATE SANDING HEAD

The second item is their Ultimate Sanding Head which is available in two sizes: 50mm (2 inch) and 75mm (three inch). When used