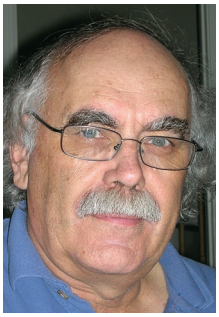

Make a Peppermill

by Ron Pouliot

I had the pleasure of being one of the presenters at the guild's New England Woodturning Symposium in May of this year. My presentation was *How to Make a Peppermill,* so I thought that I'd clean-up the handout to use as the basis for this article. What follows is the process I use to create a peppermill. This is by no means the only way to proceed in creating a peppermill, but they are the ones I use and with which I have had success in creating a mill for my personal use or to give away as gifts.

Making the peppermill is a combination of turning to first make the blank into a cylinder, drilling to create the cavity for the mechanism and the pepper, and turning to the final shape which you determine yourself.

The first thing to do is select a piece of stock of suitable length. Suitable in this case is a dry blank that is 1″ to 2″ longer than the finished mill. For this article, I chose a 3″ x 3″ blank of walnut that was 11″ long. Mount the blank between centers and turn it into a cylinder and make a dovetail on each end so the cylinder can be held using a chuck as shown in Figure 1 and Figure 2.

To prepare for the mechanism, I drill a shallow hole into the bottom — 1⅝″ diameter x ½″ deep — to house the hardware you see in Figures 10 & 12. The drilling operation is shown in Figure 3.

Next is a smaller 1 1/16″ hole that is the cavity where the peppercorns are held. Since I'm making a 10″ mill and the base is 8″ tall, I need to drill a hole 8″ into the base. I'm not going to do it all from the bottom because the bit might wander off the mill's axis resulting in the cavity being off center. This would give you a problem later on. So, I drill in about 5½″. See Figure 4.

After this operation is done, I next turn the tenon for the top and prepare to part off the lower portion of the mill. I make the tenon ½″ long and a little under 1 1/16″ in diameter to fit into the soon to be drilled mating hole in the lower section. I cut it 8″ from the bottom of the base. The tenon is responsible for keeping the top and bottom of the mill together when assembled. Figure 5 shows the tenon complete and ready to part.

Figure 6 shows the lower portion of the mill parted off and ready to drill the hole in the top of the mill for the mill shaft. The hole in the top is 5/16″ although ¼″ also works.

By drilling the top at this time, the operation is still on the same axis as the drilling already done on the lower section and the tenon created in the last operation. Care needs to be taken here to not force the drill through too quickly and cause the bit to wander off center.

Figure 7 shows the lower portion of the mill in the chuck and ready to complete the drill of the 1 1/16″ cavity. This insures that the hole is drilled on the same axis as the rest of the operations we've done so far. Should the bit wander during drilling, the intersection of the two drilling operations in the lower section will occur lower than where the tenon of the upper section intersects.

Now that all drilling operations are complete, I join the bottom section to the top and measure 10″ from the bottom section. I make a mark to guide me when I'm parting off the top section in the next operation. Since the top of the mill has to move freely when joined with the bottom section, I use a paper or cloth shim to make a tight fit for the two pieces as shown in Figure 8. I reverse the mill by putting the bottom section in the chuck. This allows me to part the mill to the desired length. Note that I use the tailstock to hold the mill securely while I turn the mill to the desired shape. Once I have the shape I want, I remove the tailstock and complete the top. Figure 9 shows the mill ready to sand

Once all sanding operations are complete, it's time to install the mill mechanism. Figure 10 shows the mill side by side with the mechanism stacked as they are when installed.

Installing the mechanism involves drilling two holes in the bottom to hold the grinding mechanism and the shaft, plus two holes in the bottom of the tenon. After drilling the holes, screw the drive mechanism to the tenon in the top. The rest of the mechanism goes into the bottom section in the order shown in Figure 10. Figure 11 and Figure 12 show the pieces installed in each of the sections.

Now join the top to the bottom and install the screw at the top and there you have it, a completed peppermill. Finally, add peppercorns and give it a whirl! ■


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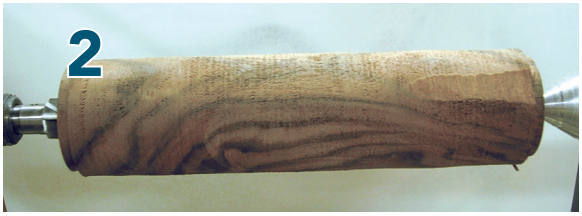
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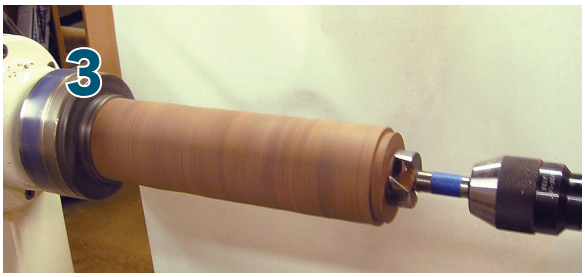
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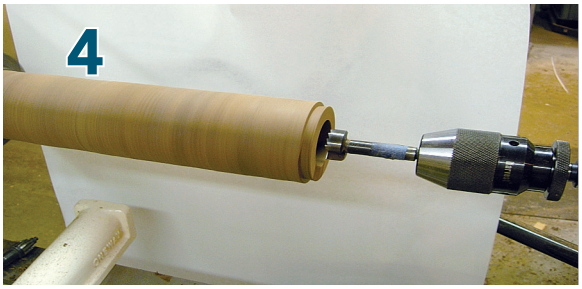
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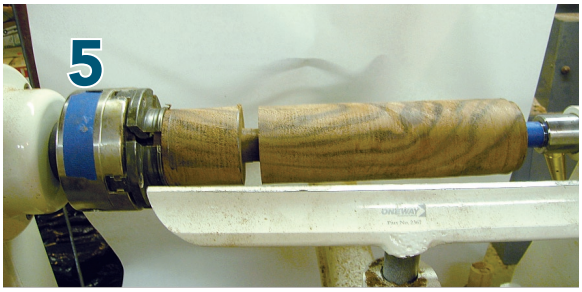
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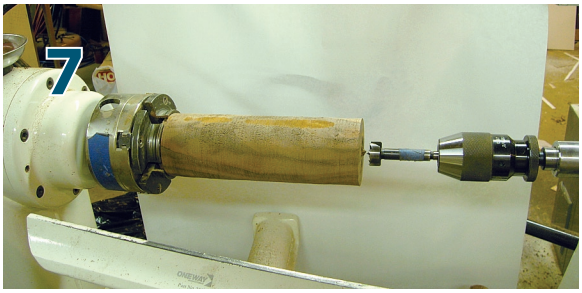
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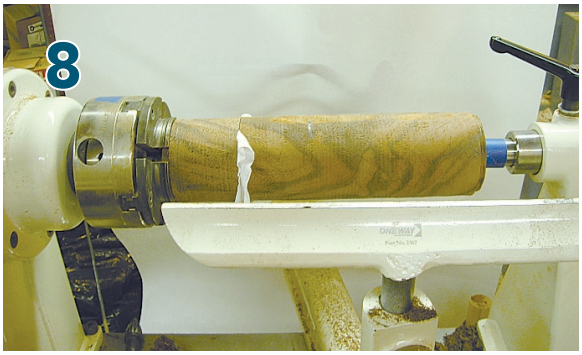
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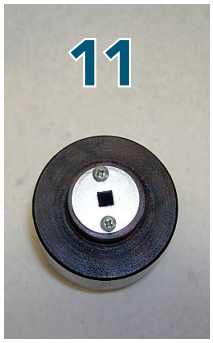
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