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# The Rolling Pin

From Mom to...the Mother-in-Law

BY MARK SFIRRI



The assignment of a single-piece wood rolling pin makes a good exercise for students in my basic wood-turning class at Bucks County Community College. A traditional symmetrical rolling pin consists of two parts: the handles and a cylindrical part for rolling dough. The challenge for a novice turner is that left hand and right hand moves are required in order to make the handles symmetrical. There is some freedom in designing the handles but they should probably be smaller than the cylinder so that the baker can keep his or her hands loosely around them during the entire rolling process. The cylinder needs to

be...straight! That's so that the dough can be rolled to a roughly uniform thickness. A concave shape is obviously out since this would dig in deeper along the edges on every roll. A convex barrel is slightly less problematic, but would make the dough thinner in the middle. It really should be dead straight and true.

This is not that difficult if you have a set of outside calipers (6" is ideal, but 8" work as well). I highly recommend ones made in France, because they have a quick-action feature that allows for easy change of the distance between the legs. They are available from Lee Valley and are a little pricier,

but well worth the expense. When you get them, make sure you round over the points at the ends of the legs where the calipers meet. If you leave the points sharp, you will have disastrous results if you use them while the lathe is spinning. Even if it is not spinning, the calipers will dig in to the fibers of the wood. Take the time to round over that surface completely from left to right and front to back. Once this is done, they can be used on a revolving piece of wood. When the diameter of your cylinder is established and checked at several points, you can turn off the lathe and check the length of the cylinder with a straight edge.



sure your storage space for yourself to be sure of that dimension.

### OVERALL SIZE OF WOOD

This is an opportunity to use up a nice chunk of wood that's too small for a table leg. A 3" x 3" piece will give you more than enough diameter (1). A 4" x 4" piece is too large. A 4x4, while only 1" larger in both dimensions, has almost double the volume of a 3x3, and it will be that much heavier. So a 3" x 3" x 21" down to 3" x 3" x 18-1/2" piece of wood would be ideal. The blank will have 3/8" waste at each end so that you can avoid the marks on the final product made by the centers on the lathe.

### SPECIES OF WOOD

A closed-grained wood is a good idea. An open grained wood like ash will catch the flour in its pores. The best commercially available woods for this purpose are cherry and maple. Apple or other fruitwoods aren't as easy to come by but would also be good choices. Mahogany and walnut would be better than ash, but not as good as the other woods listed.

### TOOLS

The technique of turning a rolling pin is called spindle turning, or between center turning (as opposed to face plate turning or bowl turning). In this type of turning, the grain of the wood is in line with the axis of the rotation of the wood. The wood needs to be secured at the ends. In the tailstock of the lathe I use a cup center or ring center with a live center, which means that there is a ball bearing that allows the center to rotate with the wood. Cup centers work much better than a cone centers. A cone center leaves a wider and deeper mark in the wood as you continue to tighten your piece during the turning process. Oneway Manufacturing makes a wonderful live center with two ball bearings in it for added stability. In the drive end, I also use a cup center but without a ball bearing. The most available centers on the market are two-pronged and four-pronged spur centers. I don't understand the attraction to spur centers. They leave a big mark on the wood and they have a larger diameter, so you can't turn down the nubs at the ends as small, which means you have more to clean up when you are finished turning. And most important: it's very dangerous! If you have

### HANDLES

There's not a lot of design and engineering involved in such a simple piece, but there is some. The handles should be a dimension that is comfortable in terms of length and diameter. They could be straight, but they'd be more interesting visually and functionally if they had a taper or curve and possibly some detailing like a bead or a fine line. From a functional viewpoint, it would be good if the diameter were larger at the end than where the handle connects to the cylinder. This would help keep the piece from slipping out of the user's hand when carrying it by one handle. The length of the handle can vary but it should be at least the width of one's hand. You can simply measure your own or the end user's hand to come up with that dimension—3-1/2" should be about right. The diameter can vary as well, anywhere from 1-1/2" down to 3/4". Obviously, for a smaller hand, you should choose the smaller dimension.

### THE CYLINDER

The cylinder length can vary from 10" to 12" long. You could take the approach that making it a little longer would make it a more impressive gift or sales item, but consider the dimensions of where it will be stored. If it's going into a kitchen drawer it might be good to have it run from front to back in the drawer. To determine the cylinder length, you need to decide what the maximum overall length can be and deduct the length of the two handles. A base cabinet in a kitchen is typically 24" deep and the interior depth of a drawer is about three inches less than that, because of the thickness of the drawer front and back and the usual 1/2" to 3/4" space behind the drawer. You don't want the rolling pin to be wedged into the drawer so you'll want to leave at least 1/2" more for slop. At best, you'll end up with an overall length of 20-1/2," but it may end up needing to be closer to 19" or 18", allowing a cylinder of about 11". Mea-

a catch or dig with a cup center in the drive end, the wood will simply stop turning even though the lathe doesn't stop. To rectify the situation, you simply tighten up on the tailstock. With a spur center, you will have a tool flying back at you or a piece of wood flying off of the lathe. These safe drive cup centers used at the drive end are surprisingly hard to find. Oneway Manufacturing makes a good one of these as well.

I use three basic tools for spindle turning. First is a 1-1/4" roughing gouge (2). I think that anything larger is too aggressive, too catchy, and anything smaller isn't as effective in making long cylinders or sweeping shapes. I use a 5/8" deep fluted bowl gouge sharpened to a 30° angle. Sharpening it to this angle will commit this tool to spindle turning rather than bowl turning. And I use a 1/2" shallow fluted detail gouge. The distinction between a spindle gouge and a detail gouge is the depth of the flute. The deeper flute of the spindle gouge is more likely to chatter than the shallow fluted detail gouge.

#### TURNING THE ROLLING PIN

Once the wood is safely mounted onto the lathe and the tool rest is set as close to the wood as possible without actually touching it, turn a cylinder the complete length of the wood (3, 4). You can then sand it starting with the first and most important sandpaper, 100-grit (5). It's very important to get all tool marks and any imperfections out with this grit. If you do, the rest of the sanding process will go much more efficiently. I buy 100-grit in a 6" or 8" wide roll

that's used for belt sanders or stroke sanders. I like the rigidity of it and the fact that it has a nice edge. It's great for inside corners. After I've done all I can with 100-grit paper, I move on to 150, 180, 220, 320, and finish with 400. It's important to use fresh sandpaper and have the lathe running a little slower than turning speed, so that you won't burnish the wood too much. Speeds from 500 rpm to 750 rpm are sufficient for sanding bowls, but for a spindle like this, around 1200 rpm would be the ideal sanding speed.

Next come the handles. Put a couple of pencil lines as start points (6) that center the length of the cylinder and start turning down the handles (7-10). Always turn from large diameter to small diameter. If you do that, you are always cutting with the grain. Additionally, when cutting the right handle down from the cylinder, use the right side of the detail or bowl gouge to cut. Similarly, use the left side of the tool to cut down the left handle. Leave a "stem" at each end of approximately 3/8" in length that's turned down to a diameter that roughly equals the cup center diameter (11). This stem will be trimmed off by hand when the fully sanded rolling pin is removed from the lathe.

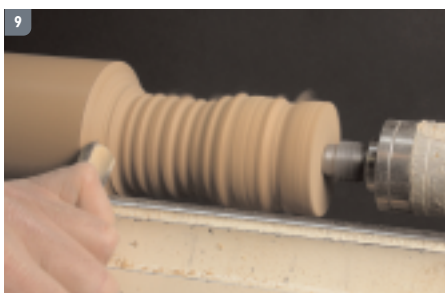
Go through the same sanding procedure for the ends that was outlined above for sanding the cylinder. The last step is to sand with the final grit (400) by hand with the lathe turned off. Sand with the grain of the wood. It's a good idea to raise the grain of the wood during the sanding process. I do this after sanding with the 220-grit. I use distilled water and a paper towel to wet the wood. You

can use tap water if there is no iron in it. If there is iron, you might end up with little purple specks all over your piece that go quite deep. This is a result of the iron, water and tannins in the wood reacting to each other. To avoid this you should test the water on a scrap piece of the same species of wood that you are using. Some woods have a higher tannic acid content than others. Walnut and oak have a high content, but I've had this reaction occur in cherry, which is not particularly known being as high in tannic acid.

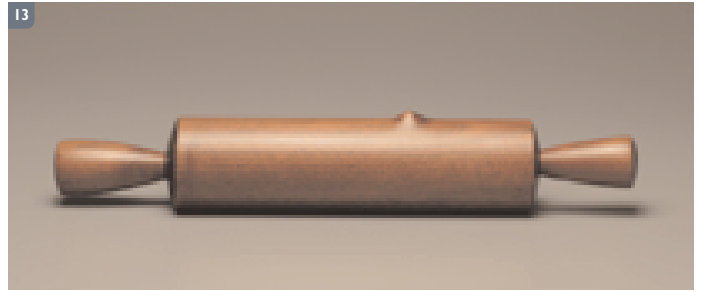
Once the piece is removed from the lathe, carefully cut the stems off and rasp, file, sand, raise the grain and final sand the ends of the rolling pin and prepare for finishing.

#### FINISHING

I usually use a tung oil finish for an object like this. People may question the use of a finish that you would not want to ingest, but this finish is non-toxic once it is fully cured, which takes about a month. Mineral oil is not toxic but it is not a finish with driers that allow it to harden. A mineral oil "finish" will always look starved. For many years, I used Waterlox, a commercially available finish at most hardware stores. The biggest issue with it is that it takes 6 or 8 coats to get any kind of build. The reason is that it contains a lot of drier and thinner and not a lot of body. I came across a Sutherland and Welles product that really helps. It is their medium luster wiping varnish. It has a high solids content and is quite viscous. My secret formula—don't tell anyone—is to mix these two products 50/50. Two coats should be



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PHOTOS THIS PAGE BY JOHN CARLANO

plenty. I then rub it out with #0000 Liberon steel wool and use mineral oil as a lubricant. Unlike most cheaper steel wools, Liberon has metal strands that are more uniform and does not contain rogue coarse strands that can scratch the finish. I use mineral oil because you don't have to race the finish to do the rubbing out. If you aren't fast enough with using a tung oil finish as a lubricant, it can end up being a big mess.

#### THE "MOTHER-IN-LAW" ROLLING PIN

A rolling pin makes a good present for someone like a mother-in-law. You might have started out with an uncomplicated romantic interest in someone, but as the relationship becomes serious it necessarily becomes more complicated when you meet the extended family. Typically, the center of that family is your prospective mother-in-law. For those of you who don't have mothers-in-law or who have positive and unconflicted relationships with them, the article can just end here.

For the rest of you, I will say that in my years on earth I've noticed that some people develop issues with their mothers-in-law. Relationships with mothers-in-law run the gamut from undiluted affection to extreme animosity. Because of this, there is a really wide range of rolling pins that might be appropriate to the relationship.

Let's say that you just want to make a subtle statement. You could keep the cylindrical portion of the rolling pin true, but change the axis of the handles so that when rolled, the handles will rise and lower alternately,

creating a wobbly feeling. It's playful but still very usable. Another option is a tapered model. Instead of a cylinder, make one with a tapered or conical body (12). This will still function as a rolling pin, but its track will be curved instead of straight. The more strained the relationship, perhaps the more tapered. For aesthetic reasons, you might make the handle at the large end of the cone larger and the one at the small end smaller. This will require further adjustments in usage, maybe allowing a whole hand on the large end and only one finger on the other.

The next design possibilities are for more seriously strained relationships. You could turn a perfectly cylindrical body and either straight handles or the wobbling off center handles described above, but add one little thing. Somewhere along the cylinder turn a raised soft bead. Turn a shape that starts as a cove, rolls into a bead about 3/8" high and coves back into the cylinder. Once you are finished turning this, and while the lathe is stopped, you can "erase" 95% of the bead, by carving it away so that all that is left is one small bump (13). Then carefully rasp and file and sand it round. You'll end up with a rolling pin that is 100% usable except for that one spot. That one spot will then make the rolling pin 100% unusable. When questioned on this, you could explain that it's commonly agreed that all humans are flawed, so why should we not expect that all rolling pins be flawed? People are adaptive and figure out how to make do with what they have. You could suggest some options

like hanging the bump over the edge of the counter or carving a recess into the countertop that corresponds with the bump so that the cylinder rolls normally, though by no means functionally. As mentioned above, with this or any other model one handle can be larger than the other. When presenting this model, you could say, "I couldn't help but notice that your right hand is larger than your left, so I made one handle larger than the other." That should really help to cement the relationship for decades to come.

Another option is the "Branch" rolling pin (14). For this version you might shift the centers off axis several times, while turning different portions of the cylinder to create a lumpy and ineffective utensil. Finally there is "Homeland Security". It consists of a cylindrical portion turned on two axes, resulting in a shaft that is visually broken in two, with wobbly handles (15). This piece should come across as clearly intended to be humorous, as a piece with rolling pin genes, and will be taken in the lighthearted way that it was intended. Or not.

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