

Walking Bowl

Rebecca DeGroot

During this demonstration, I will be going over basic design concepts and walking through the steps to create a three-legged “walking bowl” in my own style. I will work my way through the process of basic bowl turning, plotting an oversized foot, drilling and power carving the foot into “hips”, turning the spindles for the legs, cutting the legs apart at the appropriate angles, using splines to reinforce the leg joints, then reassembling the parts into a finished piece. If there’s time left over, I may go over other processes to reinforce the leg joints.

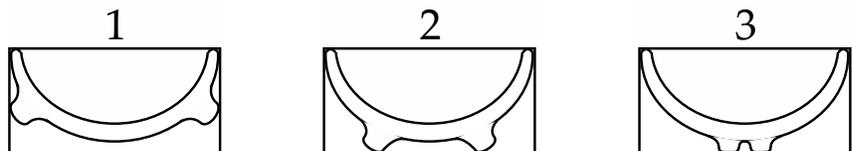
Tool and Equipment Needs

- Bowl gouge
- Spindle gouge
- Square scraper or parting tool
- Small faceplate and screws
- Four-jaw chuck with 2 inch jaws
- Band saw
- Coping saw or dovetail saw
- Rotary carver with variety of fine to aggressive burrs
- Drive center
- Live center
- Hand drill with drill bits
- Jacobs chuck
- Scissors
- Pencil

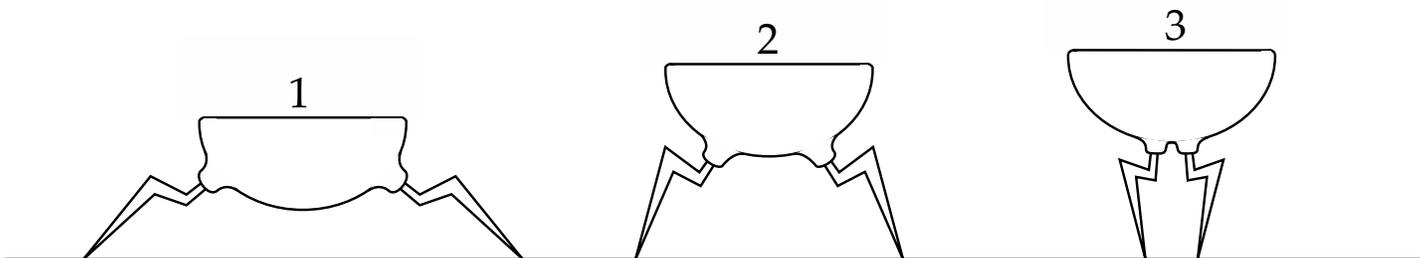
Material Needs

- 6x6x3 inch bowl blank
- 1x1x8 inch spindle blanks (x3)
- 1/ 64 inch thick veneer sheet
- Two-part epoxy or medium CA glue
- Cardstock paper
- Sandpaper
- Desired finish

Design and Personality



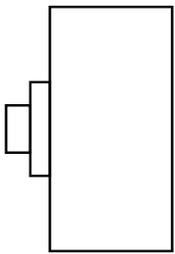
When I am designing one of my walking bowls, I first determine what type of attitude or personality it will take on. Do I want it to be in a crouched defensive position (1), a relaxed or natural position (2), or do I want it to appear as though it has been frightened and is trying to retreat (3)? I’ve illustrated an example of body type I would make for each stance. The variables are the position of the “hips” on the outer surface of the bowl and the angles of the leg joints. I’ve illustrated each example based on the 6x6x3 bowl blank, but if the proportions of the blank change, so should the plotting of the hips on the body .



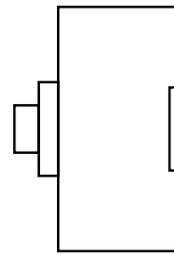
I personally like the look of the middle example (2) and it’s the easiest one to put on a chuck and eventually carve, so that’s the one I’ll use for this demo.

Turning the outside of the bowl

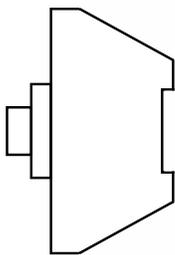
Because I need full access to the bottom of the bowl when turning, I like to put the bowl blank on a faceplate or worm screw. This makes it much easier to turn the full shape of the outside of the bowl, in addition to creating a recess for the chuck for when it comes time to hollow the bowl.



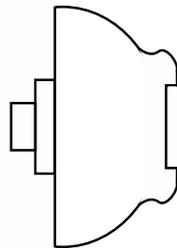
I typically save myself some time by cutting my blanks round before putting them on the lathe, but if you're into beating yourself up, I guess you could spend a while knocking off the corners. Once you've finished that, it's time to start shaping the outside of the bowl. The most important thing to remember is NOT to turn away the hips, which is essentially an oversized foot on the bowl.



Turn a recess at bottom that will fit your chuck jaws. It's never fun to finish the outer form, take the faceplate off, try to chuck the piece, then realize the recess is either too big or too small.

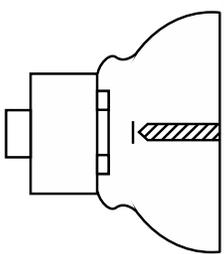


Turn away any excess material while continuing to work your way closer to the finished form.

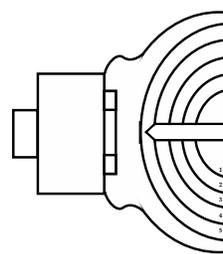


This form is the goal for the outside of the bowl. Ideally, you'll have an attractive curve to the bowl, a recess for the chuck that doesn't go so deep as to interfere with the continuous curve of the bowl, and an oversized foot that can later be carved into three individual hips. Be mindful that the foot should have enough "meat" so that you can later carve away the excess material between the hips to blend the sides of the bowl into the bottom in a continuous curve.

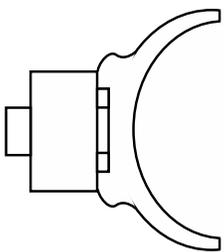
Turning the inside of the bowl



Save yourself some more time by using a Jacobs chuck to drill a depth hole. Make sure you mark the depth on the drill bit before starting the hole, so you don't drill past the preferred depth (just shy of the finished interior bowl depth).



Because I usually turn dry wood, I don't have to worry about keeping the center of the bowl intact until the end, so I like to start close to the center and make a series of small cuts increasing the size of the bowl interior with each pass.

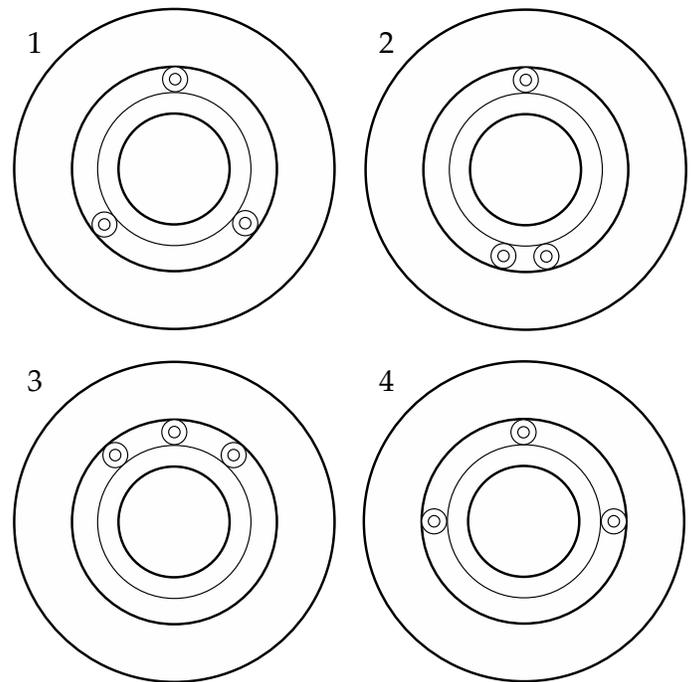
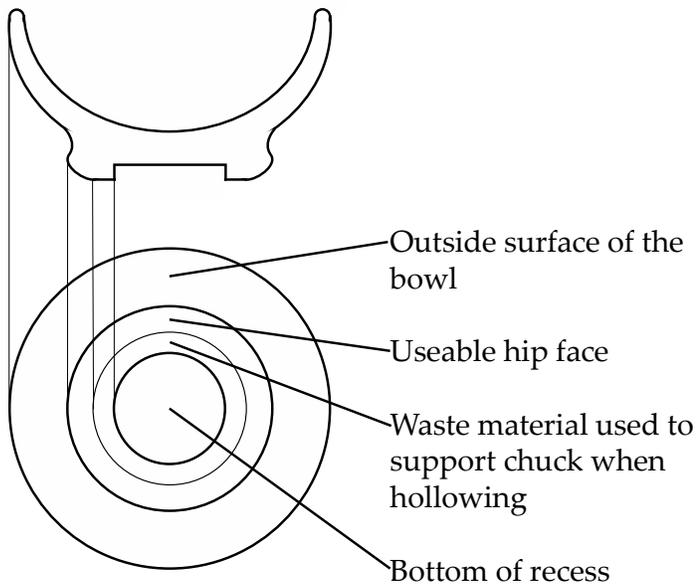


Before you start your final passes of the bowl interior, keep in mind that leaving the bottom of the bowl thicker than the sides is recommended. This provides excess material to support drilling into the hips, carving the excess foot, and any tension that the legs will put on the bowl after assembly.

Last, but not least, make sure you do something to the rim of the bowl instead of leaving it without much thought; a rounded or detailed edge is more pleasing to the touch and to the eye than a squared edge.

Plotting and carving the hips

Before you decide on the hip placement, you need to first understand which portion of the foot should be considered waste material and which areas are usable for hip placement and design experimentation.

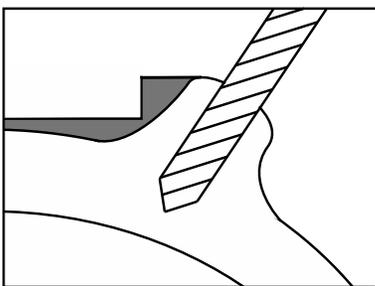


Planning for hip placement

When planning the hip placement, you must again consider the stance of the piece. Do you want a balanced stance where the leg are spaced evenly from each other, as demonstrated by example 1? Or do you prefer a stance with the legs all weighted toward one side, as in example 3?

Examples 2, 3, and 4 each have their own challenges accompanying the stance, mostly due to balancing the piece. I've found that examples 1 and 2 have the highest success rate, both visually and structurally.

Drilling the holes for the legs

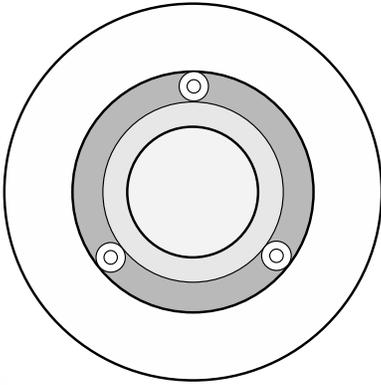


Drill the holes before carving away the excess foot around each hip. This leaves enough support material around the socket that it will be less likely to "break a hip" while drilling the hole.

I typically use a drill bit about $\frac{1}{3}$ to $\frac{1}{2}$ of the width of the useable hip face and drill in perpendicular to the bowl, which should make the hole parallel with the angle of the hip. Using calipers, make sure to measure the thickness of your material from the hip face to the interior of the bowl, then mark the drill bit to drill to depth. I would recommend setting your depth just shy of the inside of the bowl. That way you won't drill through the inside of the bowl, but will give yourself enough surface material to hold the legs securely into

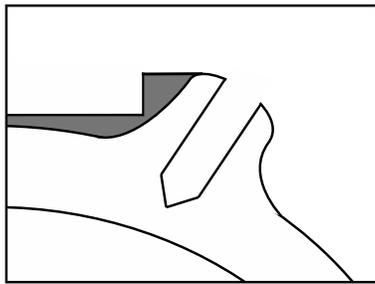
Carving away excess material to create the hips

There are two areas that you will need to carve to create hips with a smooth transition from the main body to the socket where the legs are inserted.

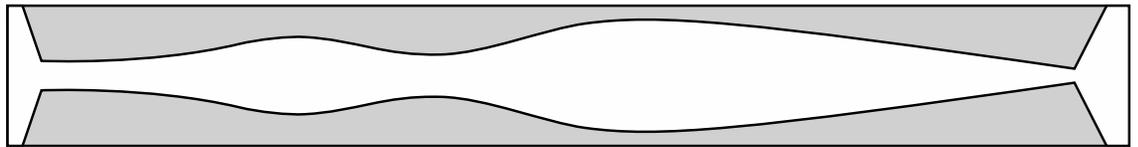


The first area to focus on while carving is the space between each hip. The trick to removing this area and making it appear as though there was never a full foot there in the first place is by making sure you pay attention to the profile of the bowl. This can be difficult, because you have to visualize the bowl as though the foot were not there. A lot of the technique is in feeling that the curve is continuous after you remove the foot.

Continue carving until the space between the hips is indistinguishable from the bowl. While carving, make sure the sides transition smoothly into the bottom with no interruption.



The second area to spend some time on will be inside the hips where there is still a hard angle from the recess that was created for the chuck. The goal here is to remove the angle and to create the gentle curve from the face of the hip to the bottom of the bowl. Because there should only be a small section of this left over inside each hip from the initial removal of the foot, this shouldn't take too much time. When carving, make sure you don't remove too much material from the hips and be sure to remove all of that hard line.



Turning the legs

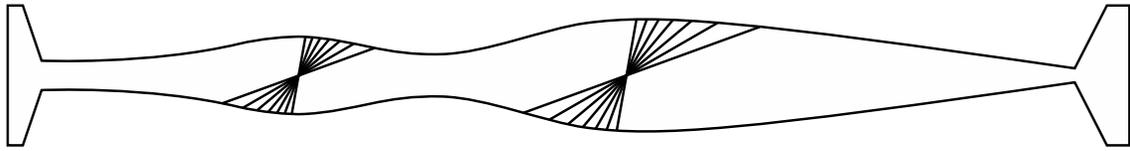
I typically design this simple style of turned leg in three sections: the section that connects to the body and angles down; the next section which angles back up; and the last section, which is oftentimes the longest, angles back down to touch the floor. Unless the leg is excessively long, all three sections can be easily turned from one spindle blank, as seen above.

If I imagine a creature's leg, I picture curved lines. There are no straight lines in nature, which is why you'll see so many curving lines in the legs and bodies of my walking bowls and other creations. The shallow curves gradually transitioning to beads create a more graceful leg than straight lines and hard angles.

Begin turning the leg by putting the spindle between centers and turning your square blank into a cylinder. Then mark where you want the joints or "knuckles". These need to be thicker than the transitions between the knuckles for the joint to rotate and match back up again properly.

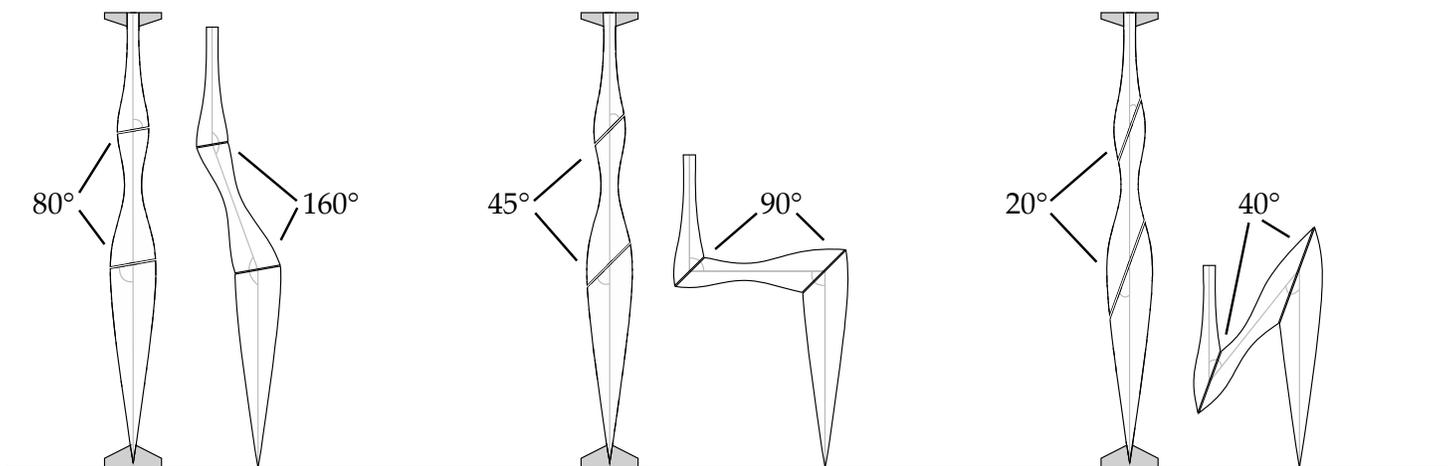
Once the knuckles have been marked, turn the leg into the curvy lady form seen above.

Cutting, rotating, and reassembling the legs



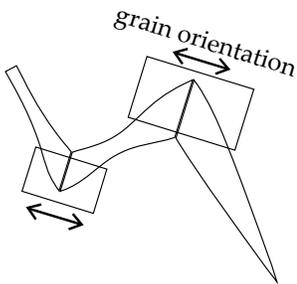
There are a few things to consider when determining the angles at which you cut the legs. The first consideration is where the hips are placed on the bowl. This is important because it determines the angle at which the legs enter the body. The second consideration should be how tall and how wide you want the stance to be. Every angle affects the overall appearance of the finished piece. Below is an example of a turned leg with possible cut lines for each joint. For demonstration, these angles range from 80° to 20° .

Because you must rotate each section 180° to achieve the desired angle, cutting the sections at 90° would do nothing but spin the sections on their axes when rotated. Additionally, the further we get from a 90° cut line, the more extreme the joint angle will be after rotation.



Once you've determined the joint angle and cut on the line you've established, lightly sand the newly cut faces. Try not to sand so much that you change the angle; the leg sections just have to meet without gaps once rotated. Glue the pieces together with two-part epoxy and let set up. Once the first glue-up is set, you need to cut the groove for the spline. I use a dovetail saw, which gives me just enough space in the kerf for more two-part epoxy and one piece of $1/64$ th inch veneer.

Splines and Assembly



For the best support, make sure you glue the veneer spline in place with the grain running perpendicular to the joint.

Once the second glue-up has set, cut or break away excess veneer, clean up any excess glue, sand the legs and body thoroughly, then assemble the legs and body into one piece.

Ta Da! Yay! Go you!

