

TURNING FLOWERS

Blossoming Excitement in Woodturning

JIM RINDE

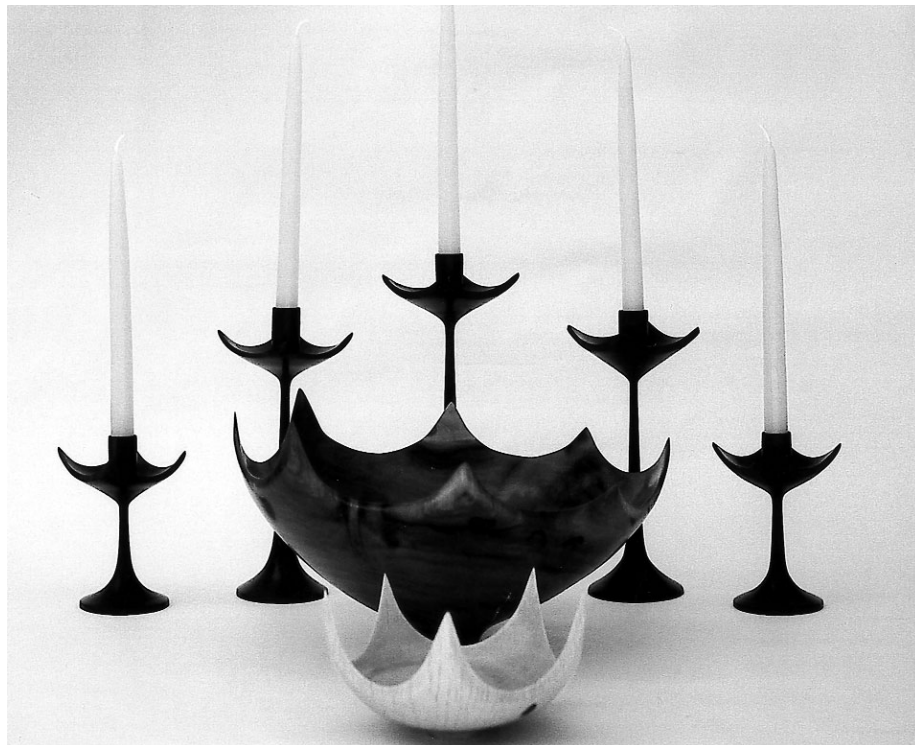
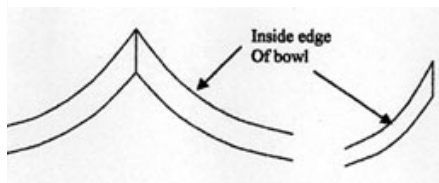
I HAVE ALWAYS THOUGHT OF WOOD turning as a rewarding activity with the major payback coming from the pleasure of the act of turning itself and of the object turned. The only exciting times had been when the tool caught and went flying off in the wrong direction. Recently I started turning “Flowers,” which are bowls that have a distinctive edge shape that was inspired by the petals on flowers. While turning a flower, it occurred to me that this is exciting; it gets the adrenaline going. You ask yourself, “Can I do this? Will it hold together?” At times the tension is palpable.

What is a “flower”? The basic shape of the “petals” on the bowl edge is shown in the drawing below. The points and the inside edges are knife sharp. The wall thickness at this point is essentially zero and the challenge is to retain this natural shape. Note: this shape results from turning and no carving is required! When turning the petal part of the bowl, I think of the points and edges as spinning razor blades. Be extremely careful — this is not a project for a novice turner or the faint of heart.

Laying out the petals

Flowers come with many petals. The first task is to decide how many petals you want; the number of petals determines the starting shape of the wood block. For example, to produce five petals I start with a pen-

Detail Of “Flower petals”



The author’s technique can be applied to many designs, from various sizes of vessels to elegant candlesticks.

tagon. So far I have made flower bowls with three, four, five, six and eight petals. As a general rule the larger the diameter, the more petals are needed to make the most pleasing shape.

To start with, pick a section of a log with good strength, green or dry. In the turning I describe in this article the wood is green live oak. Flowers are turned endgrain because you need the strength that comes when the wood fibers are parallel with the petal axis. Put the log on the lathe with the centers located in the pith and turn the ends parallel. Remove the wood block from the lathe and draw a circle the size of the bowl you want to turn, keeping track of the center. Now draw within that circle the starting shape, in this example a pentagon. To get the correct angles for the pentagon, 72°, I used my

computer to draw the pentagon centered within a circle of the correct size. After printing, I transferred the design to one end of the log. You could also divide the circle with a protractor or some other geometric method.

I carefully cut the pentagon on a bandsaw. Since the bandsawn areas will form part of the outer surface of the finished bowl, I next smooth and true up the sawn surfaces on a 120-grit sanding disk. Using the center as a guide, I mount the woodblock on a faceplate. Work carefully here. Keep in mind that the more accurately the block is centered, the more uniform in height and the more symmetrical will be the peaks on the finished bowl.

Turning the flower

Turn the inside of the block first,

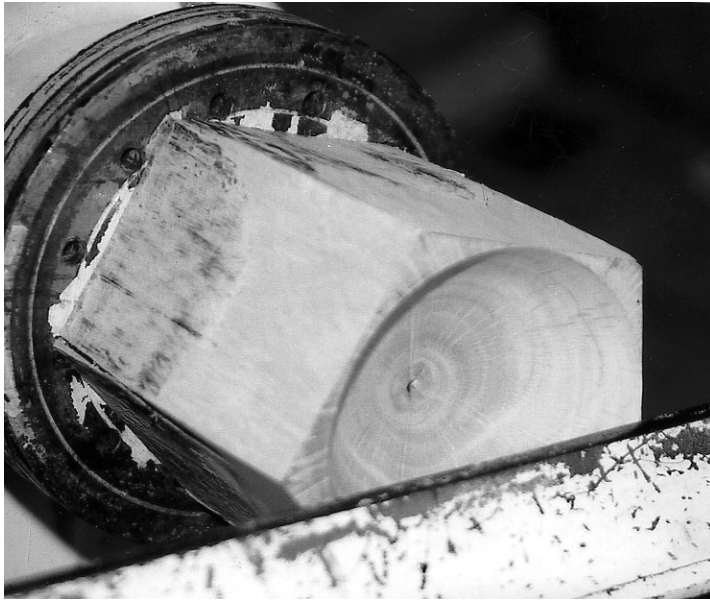


PHOTO 1: Block mounted on faceplate and hollowed out to near the edges.



PHOTO 2: Inside almost finished. Note the tip of the peaks still have flat ends and uncut fibers on outside surface.



PHOTO 3: The inside finished and sanded and the first outside cuts made. Note: wall thickness is about 1/2-in. at this point.



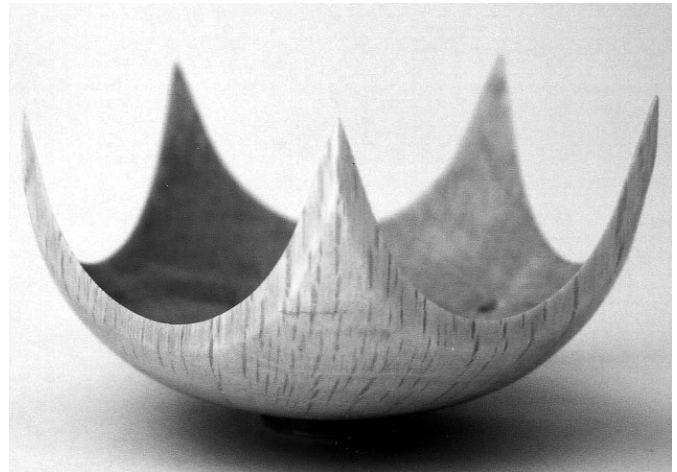
PHOTO 4: Outside finished and ready for parting off. All photos by the author.

starting at the center and work outward in steps. I start my cuts at the top surface of the block and carry the cuts to the center. At some point you will begin cutting where there is no wood. In essence you will be turning a natural edge bowl, but in this case

it has to be called an un-natural edge bowl.

I use a 1/4-in. bowl gouge with a long fingernail grind. It needs to be sharp, so don't hesitate to resharpen as needed during the turning. Even with a sharp tool, you will find that

when turning green wood, not all the fibers will be completely cut off at the trailing edge of the "petals." I use scissors to cut them free and then take a piece of sandpaper and blunt the sharp edges. For up to 6-in. diameter bowls I turn at a high speed,



Two of the author's Flowers: Pistache at left, and green live oak bowl demonstrated in this article, above right

about 2000 RPM's.

Working in the ghost region

When you begin cutting in the "ghost region," take light cuts. To get high peaks on the edge of the bowl you have to cut into the block at a fairly steep angle, about 70-to-80°. To get uniform curved edges on the "petals" the inside shape of the bowl must be a smooth curve. This is the time where the edges are spinning razor blades. I wear leather gloves. To smooth out the tool marks that invariably are left by the bowl gouge I take a light shear scraping cut using a 1-in. round nose scraper. After shear scraping I power sand the inside surface where there is solid wood while the lathe is turning and power and hand sand the petals with the lathe stopped.

And for the excitement

Now the excitement begins – the turning of the outside surfaces of the petals. Since we are turning the outside surface there is not room for supporting tape or other restraints.

But have heart; none of the bowls I have turned have broken ...yet! Set up a light so that you can see the "ghost image" well. Start turning some distance down from the peak and remove some of the excess (sup-

porting) material so that you have a section where the wall thickness is uniform, but thick. Then start near the tip of the peak and make light shear cuts parallel to the inside surface until you arrive at the wall thickness desired. Stop often to check the wall thickness.

Now the true shape of the "petals" emerges. There is a three-dimensional quality to the peaks that tells me the thickness should not be too thin. The thinnest wall I have turned is 1/8-in.-thick, but I think 3/16-in. looks better. Continue turning the outside surface in short sections until you are into solid wood and the diameter is significantly reduced. I then power and hand sand to achieve the surface finish desired before final shaping of the bowl foot and parting it off.

I dry the bowl before a final sanding to 400-grit and finishing. I will typically apply a thin coating of clear hard epoxy resin that has been diluted with methyl ethyl ketone (MEK) to reduce the viscosity and allow greater penetration. I allow this to soak in and then wipe off the excess.

SAFETY NOTE: Wear rubber gloves when working with epoxy resins.

I cure the epoxy resin overnight at

room temperature, which is generally 50-to70° F. To finish the cure I will put the bowl in an oven with the light on for 3-to-24 hours at a temperature of approximately 130° F. The final finish is a coating of wax.

The pith problem.

Since these turnings are end grain, the pith must be dealt with. If the pith is small and the cracks around it are small, I will generally saturate the area with low viscosity Cyanoacrylate glue and fill the cracks with wood dust. However, in one case the pith was large and cracks were long. In this case I drilled out the pith area with a 1 1/2-in.-diameter Forstner bit before parting off the bowl. After drying I turned a plug to fit this hole and glued the turning onto the plug. That way I could re-turn the inside bottom of the bowl and finish the outside and foot. Making the plug from Ebony while the "petals" were made from Elm gave a good contrast. Because of its resemblance to a real-life flower, I just had to call that bowl "Black-eyed Susan."

Jim Rinde is a recently retired research chemist who spent 25 years working in the area of epoxy resins and adhesion science. He began wood turning about 10 years ago and lives in Fremont, CA.