

October 12, 2019

Brent English of Robust Tools invited Mark Sfirri to demonstrate on a Saturday for his annual open house, open-to-all meeting. Mark is 67; he started turning in 1974-1975. He did platters and bowls. But he got bored. Instead, he focused his talents on Furniture Design at the Rhode Island School of Design (RISD) under Tage Frid, and eventually received a Master of Fine Arts degree in 1978. Frid encouraged Mark to incorporate turnings in some of his designs, and the rest is history.

With an interrupted cut of the type used in making his eccentric turnings, Mark likes to use a 5/8-inch detail gouge from Thompson Lathe Tools. It is a stout tool, used with the handle in the down position, with pressure *down* on the tool rest. He also likes to use a ring center aka cup drive center, as opposed to the customary four-prong drive center. The point locates the center; the ring holds it in place. With the ring center, if there is a catch, no harm is done. The cup will simply rotate at the head stock end of the turning until the tool is withdrawn.

Mark's lathe setup is unusual. He likes the center height of his turning to be just below nipple level. Why? Because it allows him to turn without bending over, which in time, could result in back strain. Similarly, he likes to set his tool grinder at about 1.5-inches below eye level, which permits him to see better the type of grind being applied to the tool.

For his demo, Mark selected four different projects, each lasting about an hour: a baseball bat (Rejects from the Bat Factory), a squiggle, an eccentric candlestick (originally appeared on the AAW cover in 1993), and finally, his famous Homeland Security, eccentrically turned rolling pin.

Most baseball bats start as a 3-inch by 3-inch turning square, 30-inches long. Traditionally, they are made of ash or hickory. Why? Because these woods are unique in that they flex at the moment of impact, imparting extra energy to the batted ball. Hickory is slightly less popular, simply because it is heavier. True, there are major league baseball players who prefer bats made of hard maple, simply because certain household name stars have achieved dramatic home run numbers with such bats. Whereas bat factories of the past did rely upon the skills of human woodturners, today's bats are made in 25-seconds using a computerized lathe making serial copies, one after another. Human turners simply cannot compete with these machines. (Mark often turns a bat for his demos, but the fastest he can do one is in about one minute.) It sort of reminds me of the legendary John Henry, who challenged a mechanical steam hammer that pounded in railroad spikes, only to expire immediately after besting the machine.

Mark usually starts with a 2-inch by 2-inch square, 12-inches in length (small) for a new design, which he will later scale up to full size if the design is successful. For his slightly disfigured baseball bat, Mark likes to use a bowl gouge sharpened to a 30-degree angle, like a spindle gouge, to refine the bottom of the cove. To check the size of the cove, Mark uses a Wiffle ball. (In his earlier years, Mark was a standout Wiffle ball player.) To start the cove, the tool flutes are at 45-degrees, with the tool handle down. (If you get a catch, it is likely because your tool handle is too high.) Mark likes to make a "soft bead" on either side of the cove. The tool flutes

start level (6:00 o'clock position) and move to 45-degrees at the end of the cut. Once the cove is completed, Mark hand-sands it with the lathe off, going down to 220-grit. Then he wets the turning to raise the grain, and finishes sanding with 320- and 400-grit sandpaper. Mark's preferred sandpaper is about 7-inches wide. It's not cloth backed, but it's stiffer than standard sandpaper. With the cove and "bump" completed, Mark re-sets the blank to its true centers. What about the handle? Do the outside end first. A real baseball bat has a 1-inch diameter at the level where the hands grip it.

Have you ever cut yourself using a chisel to remove that nib at the end of a turning? Mark showed us a slicing technique, where the thumb of the right hand pushes against the side of the chisel, while the chisel held in the left hand has its depth of cut limited by the curved fingers of the left hand held below the level of the turning. But if you do get a cut, there is a hydroseal Band-Aid product available in large (4x4) format, which can stay on for as long as four days. Mark reports good success in healing with it. A product called "Skin Crack Care" has also worked for him.

Mark's iconic multi-axis candlestick starts with a 2-inch by 2-inch square, 6-inches long, per the design drawing in his book, *Multi-Axis Turning Projects*. But I have seen larger versions starting with 2.5-inch or 3-inch square stock as long as 8-inches. Key to success of this project is to drill a small hole 7/8-inch in diameter at the top, where the candle base will fit. Do this with a Forstner bit on your drill press, with the blank tilted slightly (off vertical) against a fence attached to the drill press table. The centerline of the hole starts 7/8-inch in (from the edge) on a line bisecting the top of the blank, and terminating at a line drawn through the center of the base, at its mid-point. Turn a sacrificial 7/8-inch diameter pin, slightly longer than the bored hole, which will later serve as a temporary mounting point on the tail stock end of the lathe. Initial positioning of the blank on the lathe is on a pair of centers 3/8-inch in from parallel lines bisecting the base and top of the blank, at diametrically opposite ends. Mark suggests that you may want to make a small flat on each end where the head- and tail stock clamp the blank, for a more secure hold.

Using a blank of Honduran Mahogany, Mark starts turning one-third of the way down from the top, concentrating on the center third of the blank. He makes a large bead or vase at the center, and then, on the bottom third, a slope that gets wider toward the base. (The heavy end is the top at this point. Do not touch the top third yet.) The center bead/vase is refined with his 5/8-inch Thompson detail gouge. Note that vibration can occur here, as the tip of the gouge extends further than 2-inches from the tool rest. Move the toolrest in (closer to the blank), but with eccentric turnings, always rotate the piece manually (lathe off) to verify proper clearance before turning the lathe on again. Mark listed the three sources of vibration in woodturning: machine, tool, and wood. With a Robust lathe, you can rule out the machine. And the wood won't cause vibration unless it gets really thin, typically less than 3/8-inches in diameter. Tool-induced vibration can be reduced by reducing the maximum tool extension beyond the tool rest, and/or by sharpening the tool. Now is also the time to create the bottom of the "flying saucer" immediately above the bead/vase.

Next, re-position the blank on the second set of centers to do three things: (1) create the top third of the candlestick; (2) turn the top of the flying saucer; and (3) refine the base. Periodically stop

the lathe to check the thickness of the roof on the flying saucer, relative to its base. (Because the turning is eccentric, the roof will slant slightly, in relation to the base.) The candle will sit on the rim of the base, so it will be necessary to turn a slight indentation into the base, to make it concave.

If Mark wants to impart a really fine finish to his turnings, he uses wet-or-dry sandpaper, down to 1500- or 2000-grit, which he uses to wet sand the piece. He can also use the Liberon brand of 0000 (four ought) steel wool. It costs a little more than what you might find in you local big box store, but the quality justifies the price, in his opinion. Mark also likes Minwax Antique Oil as a finish.

If making a multi-axis candlestick sounds like a project you'd like to pursue, be advised that Mark has posted a full copy of an article he wrote for the October, 2008 issue of *Woodwork*, that includes multiple photographs of each step. Go to www.marksfirri.com for details.

Turners Tip: Do you want to turn a spherical bead? One way to do this is to rough it out first, and then, with a compass and paper, draw a perfect circle and carefully cut out the center, to make a template. But there's an easier way. Purchase a plastic, yellow "No Trespassing" sign, and cut it into 3-inch squares. Take one of the squares and hold it perpendicular against the spinning spindle at the edge of the bead. The lathe will burnish the plastic into a perfect semi-circle, which you can then hold up against your bead, to see where the high/low spots might be. Clever!

Mark completed his demo by showing us how to make a squiggle and his signature Homeland Security rolling pin. I'm not going to discuss either of these, although the latter project is the subject of an article published in the August, 2007 issue of *Woodwork*. That article also appears on Mark's website. Following completion of each of the four projects, Brent English generously dispensed valuable door prizes that went to about 20% of the lucky attendees. That, and the discounts Brent offered on lathe accessories, including tool rests, cup centers, gouges, and tool handles make the annual open-house an uncommonly attractive event for woodturners. In addition, you get to see the factory floor where some of the finest woodturning lathes in America are created by skilled craftsmen. Interested? Then maybe you should circle your calendar for October of 2020, when the next Robust open-house is scheduled to occur in Barneveld, Wisconsin.

