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PROJECT: THREE-WINGED JEWELRY BOX

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This article, "Three-Winged Jewelry Box" is from the issue of Fairmont Woodworker and is brought to you by the American Association of Woodworkers (AAW) in partnership with Woodworker's Journal.

A while ago, I was idly twirling a small cube of maple back-and-forth by its corners and noticed its irregular-shape could be made if a cube were held this way on the lathe. The Fairmont Triumphal Vase® illustrated in the October 2013 issue of American Woodworker.

Photo credit: J. Cole. The vase is turned on a 12-inch square of 3/4-inch Corian material. Finished with Danish oil and Minwax Wipe-On Poly.

It was while studying another such bowl that a further idea came to mind of the profile of a three-winged box. Instead of the corners being rounded, they could be left sharp and form three "wings" on the top. The corners could then be hollowed, for a classic winged bowl. My wife suggested making it into a jewelry box by adding a lid with a bead. Here is the process in detail.

Mount Tan Cube

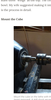

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

Begin with a 6" (Metric cube of hardwood. To get the "wings" to come out at the desired lines, a set of tangent lines must be drawn on the face of the cube to be hollowed. To do this, make a mark 2-3/8" (2.5cm along each of the three edges, then "connect the dots" by drawing lines across the cube faces. Each of the three lines will be 3" long.

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

A bowl, per-cut with crescent-shaped tangent lines, is a little, and a lot harder than a flat-faced cube. Mount the cube in a 4-jaw chuck and true up the cube. Use a tailstock tailgunner into the first center-cup, and bring the tailstock forward so the opposite corner engages in the drill chuck. Lock the tailstock and advance the quill to press the cube securely in place.

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

Turn the ceramic shape Pentime the tailstock so that it will clear the bottom-angles of the cube, and begin to round the lower section, taking light cuts with a bowl gouge. Cut in the direction of the tailstock. Initially, you will be turning across the edges of the cube. Overall tolerance are the table at around 2000 rpm, if you can do so without vibration.

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Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

Aim for a diameter of about 2" (5cm) adjacent to the drill chuck. Aim from a gouge cut-line, and bring the tailstock forward to contact the tailstock. Stop turning when the wing tips touch the pencil lines.

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

Measure 3" from above the shape and have a pencil mark to equal the base of the vase. The diameter here should be about 3-1/4" (8cm) if it is similar, or round the profile to bring it down and to mark the base line. Turn cut straight to at this line and turn the area to be will turn to 2" diameter.

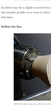

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

Using a 1/8in parting tool, cut part way to about 3/32" (8 3mm) back from the base line. Then, remove the waste material using a hacksaw with the lathe off. Remount the workpiece in a scroll chuck.

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

To remove the scroll chuck, the only option for lots of the 2-inch parts, use the tailstock to push the work into the chuck before tightening the jaws. Proper contact of the tenon shoulder in the jaw faces will and impressive stability for when you are hollowing with the tailstock retracted.

Photo credit: J. Cole. Mount the tan cube on the lathe using a 4-jaw chuck and true up the cube.

As there may be a slight eccentricity once the chuck is tightened, take a cut or two on the tenon and refit to re-true it, then mark the centerline. It will not be practical to do this later.

Hollow the Box

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

With the table stopped, and two-pin Pinnacle chuck in place, cut the tenon, bore and 1/8" (3mm) from the curved edge and the other, 1/8" (3mm) from the curved edge. Use a small detailing gouge to parallel with the edges running to the tailstock, and begin to hollow the box.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

Since, as before, you'll be cutting across the rubber edges, I suggest at least 1000 rpm with gentle cuts. And since the tailstock is still in place, a central spindle will remain, which I cut away with a Sorstokar Series continuing to hollow.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

To create a minimum base thickness of 1/2" (10mm) with a depth-stable indicator bob before continuing the hollowing. When hollowing near the outer edges, take care when approaching the parallel lines on the three flutes.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

Use a gouge with the handle low and presume the cutter low, cutting the wall parallel to the outside profile. With the relatively thin walls and increasing depth, it is not practical to cut the wall thickness uniformly, but it is important that the bottom of the box should curve to meet the bottom of the depth indicator bob.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

When the hollowing is completed, sand if necessary, but take care not to catch the edge of the wing. Use the edge by hand, with the lathe off, to avoid sanding the edges, into a rounding-bead.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

The final-turned lid is a shoulder-fit lid, the 3/8-in of a 1/4-in bead, 1/8" (3mm) in diameter. Cut a disk of the width-out of stiff cardboard and a simple dowel handle attached with a small glue.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

The dowel can then be fitted into a drill chuck in the tailstock and the disk brought up to contact the inner wall. Refine a partial bead around the tailstock.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

The shoulder can then be cut with a straightedge tool, parallel to the 1/4" (6mm) to 1/16inch-deep.

Complete the Base

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

Remove the straightest from the chuck. To reverse mount the box and complete the base, mount the box in a 4-jaw chuck, tightening the jaws against the inside of the hexagon bead in a scroll chuck. The workpiece is held quite securely in the hexagon by a ring of ring-wrap a hole in the middle and both down-to-true. To reset the tailstock, bring it up to the center-point, and lock it in place. Remove the tailstock and the tailstock disassemble to remove the outside shape of the box.

Turning at a slow lathe speed and putting light cuts clean up the bottom of the box, shaping it to a slight concave profile and turning as needed.

Make the Lid and Finial

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

The lid can be re-mounting round or another for extra-large-diameter. It should be formed to a 1/2" thick disk from stock that can be final turned to just over 2" in diameter, and 1/8" (3mm) thick. Cut a 1/8" (3mm) bead, 1/8" (3mm) in 1/8" diameter resting it bottom of the lid, so it can be mounted on a scroll chuck in expansion mode. Once mounted, the diameter can be trimmed to a comfortable fit on the box. Cut a 1/8" (3mm) bead on the outside edge of the lid, and a 1/8" (3mm) diameter hole in the top of the lid with another disk. Sand to avoid sliding through, place a piece of standing tape on the drill bit to mark 1/8" depth. The top of the lid can then be profiled, discussed next your preferences.

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

Cut a bead and a 1/8" diameter hole in the center for gluing the finial to the lid.

The functions of the finial is twofold: to hide tenon and to serve as a handle. After turning the 3/8" (8mm tenon-diameter, I find that an overall finial length of 2", plus the tenon, is a good size. Cut a 1/8" (3mm) bead, 1/8" (3mm) in diameter, and a small bead, and the bottom of the finial is about right to catch the lugs. I use both for finials, or the finial grain when coherent with. If you do add color, then a hole deep before installing the finial.

Finishing

Photo credit: J. Cole. Hollow the box using a 3/8-inch bowl gouge and the tailstock for support. Thin the lower wall, and cut a 1/4-inch bead with a parting tool and a small detailing gouge.

Apply laser sheen of finish to the box and lid. Oil-this process, I applied 6pt and then wipe on polyurethane to the finial, and redose oil to the box and lid. Glue the finial into place, and let the glue dry. Finish the finial with a light sanding and a coat of wax. Apply a unique gift, dry needs one or coarse carvings make and a larger box on the finial.

Michael Sonnenfeld Clarke, a retired civil engineer, has been turning wood for seventeen years. He lives in the Fraser Valley, British Columbia, and says local wood is product a variety of forms. He is a member of the Fraser Valley Woodturners Guild, the AAW, and the Craft Council of British Columbia. For more, visit his website.

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