

Two-Bit Project

A stately project combines collections of quarters and trees

Reprinted with permission.

American Association of Woodturners

By Nick Cook

Over the years, I have turned paperweights to incorporate commemorative coins, golf-ball markers, and lapel pins as insets. Last year alone, I turned several dozen paperweights from mahogany with a Sacagawea dollar inset into the top as shown *above right*.

These commemorative pieces are well received as corporate gifts and giveaways for special occasions. I've also found this to be a good way to use the timber from a special tree that must be removed for the sake of progress or from storm damage.

Earlier this year, Chuck Thomas, a friend from the Space Coast Woodturners in Florida, sent me his version of a paperweight. Chuck turned a paperweight from Georgia live oak and then recessed a shiny new Georgia quarter in the top.

Chuck suggested that it might make a good article for the journal. He's right on target: This is a straightforward project that should be of interest to wood collectors and coin collectors alike.

Get started

You'll find a list of state trees at the end of this article. If your goal

is to turn a paperweight for each state quarter, acquiring some of the woods may be an initial challenge. But here's another great benefit of AAW membership: With an AAW chapter based in every state, you're certain to find someone willing to trade turning stock.

Don't overlook the International Wood Collectors Society (IWCS; woodcollectors.org). They have a worldwide network of wood collectors. Their standard 6×3×½" sample isn't thick enough for this project, but many of the members are also avid woodworkers and turners. Most are willing to share sources (or perhaps larger samples) of local woods.

If you plan to use the state trees, some of this turning stock may put you in unfamiliar territory. For example, Florida and South Carolina have sabal palm—a stringy wood also known as cabbage palmetto—as their state tree.

I start out with turning stock—in this case, southern magnolia (*Magnolia grandiflora*)—that has cured for about a year. Freshly cut or wet wood is not suitable for this project.



At the lathe, you'll also need a screw chuck, a scroll chuck, and a ¾" deep-fluted bowl gouge. The only other specialty tool you will need is a 0.995" drill bit that matches the diameter of a standard quarter. Rockler Woodworking and Hardware (rocklerhardware.com) sells part no. 26057 for about \$24.

For added weight, purchase 2"-diameter flat washers (three per project) at a hardware store.

A standard 2½"-diameter Forstner bit moves the project along quickly, but you can turn the recess for your washers as described later in this article.

Before you contact someone in every state and work out a deal to trade wood, figure out exactly what you are going to do. I recommend gathering an assortment of scraps (usually poplar) and fine-tuning the design and technique to turn the final product.



Turn the bottom

Cut the material into 4×4×2" blanks. For mounting your screw chuck, drill a ¼" hole into one face of the blank. With a ¼"-thick plywood spacer on the screw chuck, your hole needs to be about ½" deep. Attach the screw chuck and spacer to the lathe and mount the blank on the screw. Set the lathe speed at approximately 1500 rpm.

True up the blank with a ⅜" deep-fluted bowl gouge and face off the exposed end. Next, mount a drill chuck in the tailstock of the lathe. With a 2½"-diameter Forstner bit, bore a hole ⅛" deep into the exposed end of the blank.

For the 2"-diameter washers, bore a 2⅛"-diameter hole ½" to 1" deep, depending on how much weight you wish to add. I have found that three washers (about ⅜" total) add about the right additional weight to this project.

If you do not wish to purchase the drill bit, turn a recess with a ⅜" bedan tool or square-end



Attach your 2"-thick turning block to a screw chuck. With a ¼" plywood spacer on the screw chuck, the threads will grab about ½" of stock.

Continued



A square-end scraper provides an alternate way to cut a 2⅛" recess.



After shaping the bottom of the paperweight, mount the stock to an expanding chuck.



After securing the base to the scroll chuck, true up the paperweight top with a bowl gouge.

scraper. Be sure to carefully measure both the diameter and the depth.

Use either the 2" hole or the 2½" step as a recess for the standard #2 jaws on most scroll chucks. The 2½" step is ideal to add a finished appearance to the bottom of the paperweight as a final step.

Turn the top

Remove the blank from the screw chuck. Attach a scroll chuck to the lathe and expand the jaws into the recess on the bottom of the blank. Now, true up the blank again.

Next, bore the recess to receive the quarter. There are two ways to do this. The easiest way is to mount a drill chuck in the tailstock fitted with a 0.995" Forstner bit. As long as your lathe is running true, you can drill a perfect ¼"-deep hole in the center of your blank. However, if your lathe is not running true, you may end up with a hole that is slightly larger than the quarter (this is especially troublesome on lathes

with rotating headstocks). If you have not checked center alignment recently, this would be a good time to do so.

The other method for creating the recess is to use a divider or vernier scale and mark the diameter of the quarter on the blank. To do this, carefully cut the recess with a bedan tool, parting tool, or square-end scraper. Cut the recess slightly deeper than the thickness of the quarter, then make a finishing cut across the face to arrive at the proper depth. Use a quarter to check the depth.

After sizing the recess, shape the blank to whatever profile suites you. I usually leave the center portion thicker and create a nice curve down toward the perimeter. Be careful not to leave the rim too sharp, as it will be easily damaged.

Sand and finish

When you're satisfied with the profile and the quality of the surface, sand through a succession of 150, 180, and 220 grits.

For finish, I prefer urethane oil because it's easy to apply and durable. Apply one coat on the lathe and allow it to penetrate for 5 to 10 minutes, then wipe off the excess with a paper towel and burnish the oil into the wood. Depending on the wood species, a second coat may be necessary. A light coat of wax finishes off the project nicely.

Now, add the three 2"-diameter flat washers. Secure the washers in place with flexible cyanoacrylate (CA) glue or a product similar to Liquid Nails or E6000 epoxy.

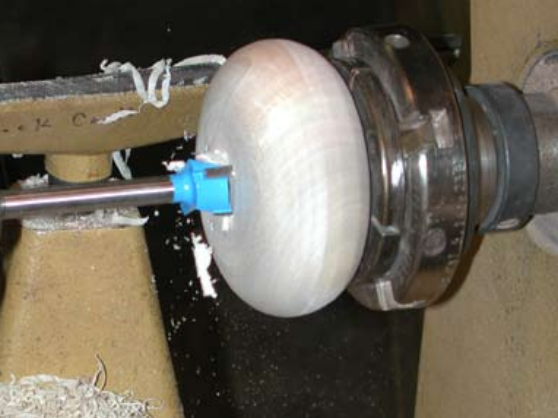
Cut a 2½×1½" disc to cover the washers and glue it in place. Sand and finish the disc. With a woodburner or Sharpie marker, identify the wood species.

Finally, fit the quarter into the top recess. Flexible CA glue will bond the quarter to the wood. Now, that is one down and 49 to go. You must collect all 50!

Nick Cook (nickcook@earthlink.net) is an *American Woodturner* contributing editor. He lives in Marietta, Georgia.

State Quarter Releases and State Trees

The following is a list of states, years each state quarter is put into circulation (based on order entering statehood), and state trees.



A 0.995" Forstner bit bores a hole perfectly sized for a standard U.S. quarter.



With a vernier scale, check the 2 1/8" diameter of the 1/8"-thick plywood cover.



Use drops of cyanoacrylate (CA) glue to secure three washers in the recess.



After adhering the washers, cover the base with the plywood cover.

- Alabama (2003)..... longleaf pine, *Pinus palustris*
- Alaska (2008)..... Sitka spruce, *Picea sitchensis*
- Arizona (2008)..... blue palo verde, *Cercidium floridum*
- Arkansas (2003)..... loblolly pine, *Pinus taeda*
- California (2005)..... redwood*, *Sequoia sempervirens*
- Colorado (2006)..... blue spruce, *Picea pungens*
- Connecticut (1999)..... white oak, *Quercus alba*
- Delaware (1999)..... American holly, *Ilex opaca*
- Florida (2000)..... sabal palm, *Sabal palmetto*
- Georgia (1999)..... live oak, *Quercus virginiana*
- Hawaii (2008)..... kakui, *Aleurites moluccana*
- Idaho (2007)..... western white pine, *Pinus monticola*
- Illinois (2003)..... white oak, *Quercus alba*
- Indiana (2002)..... tulip poplar, *Liriodendron tulipifera*
- Iowa (2004)..... oak (no specific species)
- Kansas (2005)..... eastern cottonwood, *Populus deltoides*
- Kentucky (2001)..... tulip poplar, *Liriodendron tulipifera*
- Louisiana (2002)..... bald cypress, *Taxodium distichum*
- Maine (2003)..... eastern white pine, *Pinus strobus*
- Maryland (2000)..... white oak, *Quercus alba*
- Massachusetts (2000)..... American elm, *Ulmus americana*
- Michigan (2004)..... eastern white pine, *Pinus strobus*
- Minnesota (2005)..... red pine, *Pinus resinosa*
- Mississippi (2002)..... southern magnolia, *Magnolia grandiflora*
- Missouri (2003)..... flowering dogwood, *Cornus florida*
- Montana (2007)..... ponderosa pine, *Pinus ponderosa*
- Nebraska (2006)..... eastern cottonwood, *Populus deltoides*
- Nevada (2006)..... singleleaf pinyon, *Pinus monophylla*
- New Hampshire (2000)..... paper birch, *Betula papyrifera*
- New Jersey (1999)..... northern red oak, *Quercus rubra*
- New Mexico (2008)..... pinyon, *Pinus edulis*
- New York (2001)..... sugar maple, *Acer saccharum*
- North Carolina (2001)..... longleaf pine, *Pinus palustris*
- North Dakota (2006)..... American elm, *Ulmus americana*
- Ohio (2002)..... Ohio buckeye, *Aesulus glabra*
- Oklahoma (2008)..... eastern redbud, *Cercis canadensis*
- Oregon (2005)..... Douglas fir, *Pseudotsuga menziesii*
- Pennsylvania (1999)..... eastern hemlock, *Tsuga canadensis*
- Rhode Island (2001)..... red maple, *Acer rubrum*
- South Carolina (2000)..... sabal palm, *Sabal palmetto*
- South Dakota (2006)..... white spruce, *Picea glauca*
- Tennessee (2002)..... tulip poplar, *Liriodendron tulipifera*
- Texas (2004)..... sweet pecan, *Carya illinoensis*
- Utah (2007)..... blue spruce, *Picea pungens*
- Vermont (2001)..... sugar maple, *Acer saccharum*
- Virginia (2000)..... flowering dogwood, *Cornus florida*
- Washington (2007)..... western hemlock, *Tsuga heterophylla*
- West Virginia (2005)..... sugar maple, *Acer saccharum*
- Wisconsin (2004)..... sugar maple, *Acer saccharum*
- Wyoming (2007)..... plains cottonwood, *Populus sargentii*

*California also recognizes *Sequoia giganteum* as a second state tree.