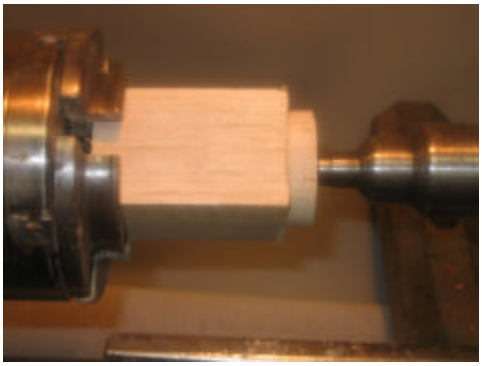
Turning Finials and Ornaments

Steps to making an Ornament

By Bob Moffett

Make the globe first so that when turning the finial and icicle later, they can be sized to fit the openings in the globe. For this demonstration the globe will be about a 2" sphere. It does not have to be a perfect sphere. Some turners make the globe oval, less than 2" from top to bottom. The globe can also be made larger or smaller than 2" in diameter depending on the total overall size of the Ornament desired.

1) Start with a 2" square block of wood glued to a glue block. You could also us a piece of wood cut in a rectangle 2" square and 3" – 4" long. The grain should run parallel to the ways of the lathe as you will be doing end grain hollowing and spindle turning.



2) Using the spindle roughing gouge turn the block round.

3) Then measure the block 2" or the height that you want the globe and mark it with a pencil.

4) Divide this distance in half, make another pencil line (this will be the largest diameter of the globe) and divide each half in half resulting in 4 equal divisions and the rest is scrap.
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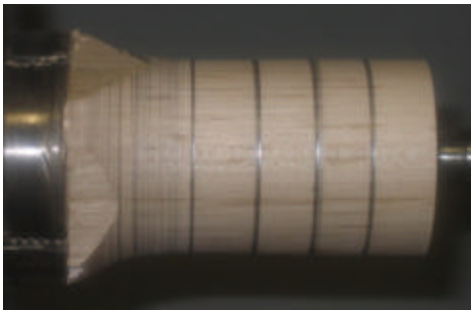
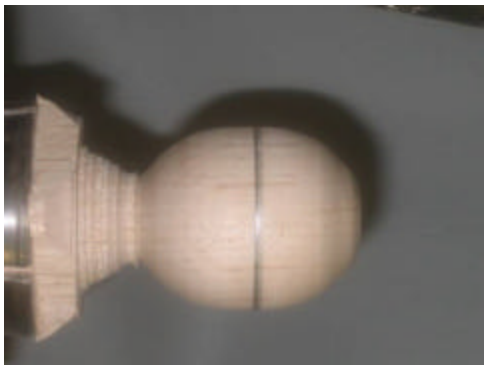


5) Now put a 5/8" drill bit in the drill chuck in the tailstock and drill a hole to within 1/8" of the base of the globe. This makes the globe easier to hollow since the center has been removed. It also sets the depth of the hollowing of the inside of the globe.

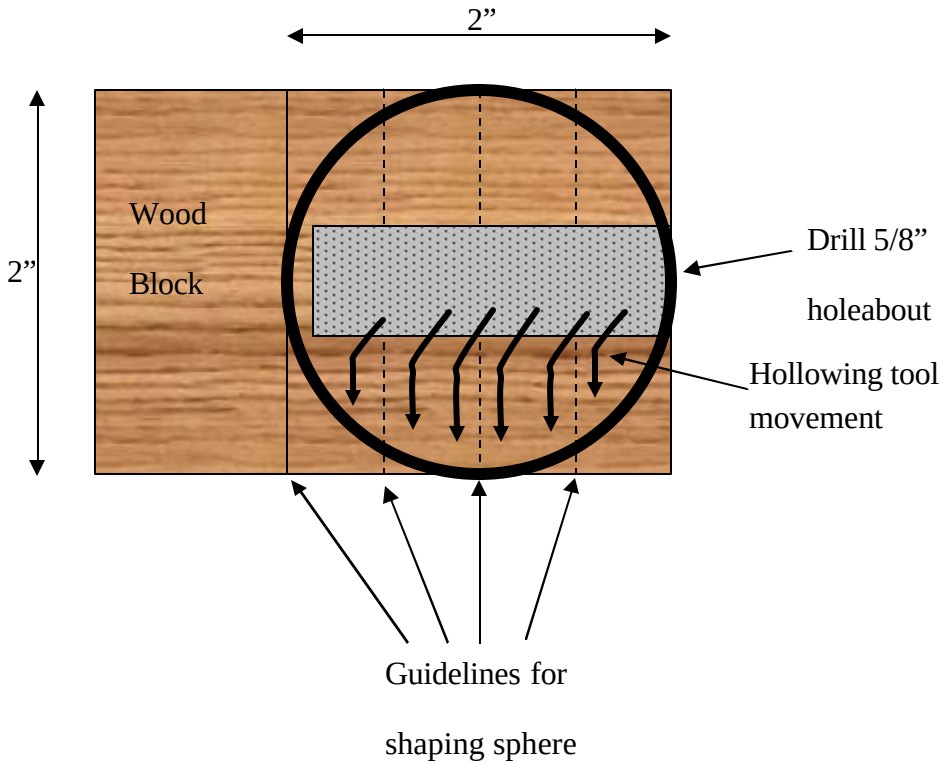
6) Now go back and start shaping the glove. Cut the globe from the mark nearest the end of the globe at about a 45 degree angle to the hole drilled in the end. Then cut from the comparable mark on the other end down to about 1" – 1 ¼" (this should be from the 3rd mark from the tail stock end to the 4th mark which is the opposite end of the globe). You want to leave the end near the headstock larger so the glove will have extra support while you are hollowing it.



7) After you have cut the 45 degree angles on either end move back to the center mark and round out the 45 degree angle cut. You can remove any tool marks and smooth out the rounding when you sand the globe.

8) Now it is time to start hollowing the globe.

9) Use the hollowing tools of your choice to hollow out the globe. Start by hollowing near the tail stock leaving thickness in the headstock end to give support. After experimenting with several types of tools, I have found that I use the ¼" square hollowing tool to do most of my hollowing. This tool is made from a piece of ¼" High Speed Steel about 6" – 8" long and is sharpened on one end like a round nose scraper. When hollowing keep the tool rest slightly below center which results in the cutting edge of the hollowing tool being slightly above center. The hollowing tool needs to be enough above center so that the bottom of the tool does not rub against the inside of the globe. You are mainly hollowing to take weight out of the globe so the hollowing does not have to be perfect. Hollow the globe until it is about 1/8" thick. See the attached diagram for the sequence of hollowing steps. Use the wire gauge for measuring thickness of the globe. To measure the depth of hollowing near the tail stock measure carefully with either the gauge or your hollowing tool. I find it helpful to mark the depth of cut on the hollowing tool with a Sharpie. See the diagram below:



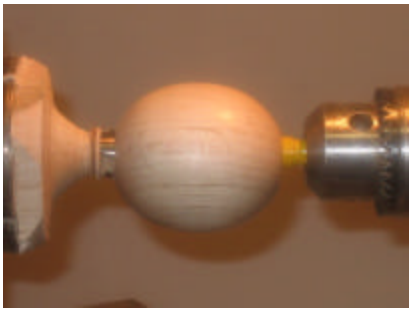
10) Once you have the globe hollowed to your satisfaction finish up the outside of the globe by rounding out the top of the globe (the end near the headstock). While rounding off the top, cut the end down so that you have a tendon smaller than 5/8” in diameter holding the globe to the glue block.

11) When the globe is rounded and hollowed to your satisfaction and the tendon holding the globe is less that 5/8” it is time to cut the globe off of the glue block.

12) Now sand the globe until it is as smooth as you want it. I usually sand to 400 grit and then finish smoothing with Scothbrite, first gray, then gold and finally white.

13) Now turn the speed of the lathe down.

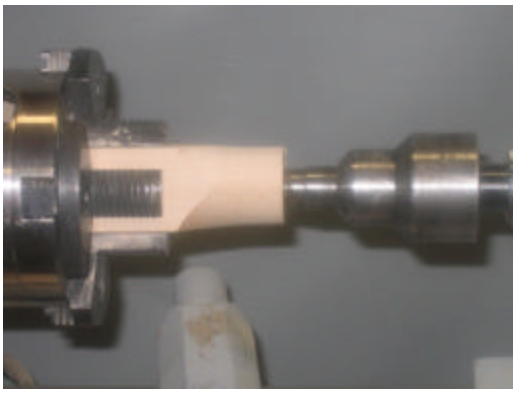
14) Using the 5/8” drill bit to cut off the globe by inserting the 5/8” drill bit into the globe with the lathe turned off. Turn the lathe back on at a low speed and drill out the rest of the hole. The drill bit will cut through the top of the globe and into the tendon. The globe will remain on the drill bit. Turn off the lathe and remove the globe.



Now it is time to turn the finial and icicle

First, let's do the finial.

1) Select a piece of straight grained wood for both the finial and the icicle, usually hard maple or another light colored wood. Do not use a dark wood because if it was put on a Christmas Tree, it would not show up. Cut the wood about 1 ¼" square and 6" long.



2) Put the wood for the finial and icicle in a chuck with number 1 jaws and round it using the Spindle Roughing gouge. If you don't have any number 1 jaws you could just use a large piece of wood in number 2 jaws. Use the live center in the tail stock into the other end of the spindle for added stability.

3) Using the parting tool and 3/8" gouge, cut a tendon on the end of the spindle to fit into the hole in the top of the globe. Taper the inside of the finial so that the curve of the top of the globe will fit into it. I put a slight taper on the edge of the finial so that it doesn't have to be a perfect fit onto the globe. You can stop the lathe, remove the tailstock and check the fit of the globe to the finial. The better fit you have here, the easier it is to assemble the ornament when you finish. Cut the tendon about ¼" long below the base of the flange. Then rough cut the top of the finial and part it off.

4) Then take out the piece of wood that will be the finial, turn it around, and put the tendon in the chuck.

5) Once it is in the chuck, put a #16 brad in the drill chuck and drill the hole for the Eye Bolt. If you drill this hole while there is some bulk in the wood, it will be less likely to split when you insert the eye bolt. You also could screw in the eyebolt to thread the hole and then take it out to shape the top.

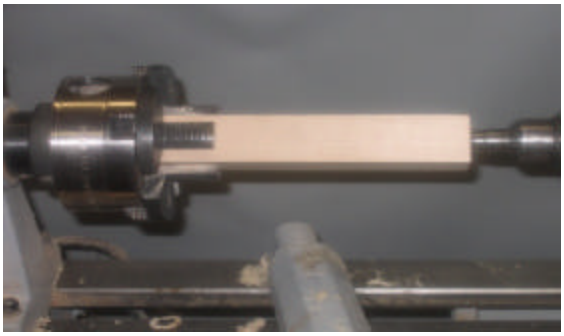
6) Now shape the finial to a shape that pleases you.

7) Finally screw the eyelet into the finial. I find this is easier while the finial is in the chuck because you can hold the eyelet still and turn the finial using the handwheel on the lathe.

8) You have completed the finial aside and can now make the icicle.

Making the icicle

1) Put the remainder of the spindle into the #1 jaws.



2) Cut the tendon on the end to match the bottom of the globe the same way as you cut the tendon for the finial as in step 3 above.

3) Now turn the spindle around and put the tendon end in the chuck. Use the live center on the opposite end of the spindle for added support.

4) Make the flange the same size as the flange for the finial. Determine the shape of the icicle that you want.

5) Turn the icicle to that shape leaving enough extra length on the end of the icicle to have the live center in the end of the icicle. (Since the icicle can get rather thin, when I cut the icicle, I hold the

tool so it is cutting along the length of the wood rather than pressing against it.) This takes some of the stress out of the cut.

6) And the final result is!

Some good sources of reference for design of the icicles are our club website as well as other club websites, Bob Rosand's website, www.rrosand.com and the ornament gallery at Woodcentral.com. Robert Rosand also has a good article about turning ornaments on his website and a good book on the subject is Turning Ornaments & Eggs by Dick Sing.

Tools needed:

¼" – ½" Skew
¼" – 3/8" Spindle Gouge
¾" – 1 ¼" Spindle Roughing Gouge
5/8" Drill bit – Either Brad Point or Forstner is fine
Thickness Gauge - can be made from a wire coat hanger
Calipers or 5/8" open end wrench
Parting tool

Hollowing Tools

Sorby – Woodcraft
Packard
Basham Tools
Home made:
from ¼" Allen wrenches
¼" High Speed Steel Rod
Duxbury Specials

¾" X 16 Brad with head cut off

Small Eye Bolts # b216 ½ .062 X ½ from Michaels or other craft store

Eyelets can also be made from fishing hooks. (Cut off the eye part where you would attach the line, drill a hole in the top and clue in with Medium CA)

¼" Skew and Captured Ring tool can be made from ¼" X 8" HHS Round Tool Bit from Enco Supply #362-0079 ph. (800)873-3626

Drill chuck with morse taper