

Inset and Inlay Snowflake Ornaments

By Bev Connelly 2023

Materials:

2" hardwood cube for the globe (The cube can be a bit smaller but MUST be a true cube.) Darker woods work well for light snowflakes. Be wary of paduk as it will "bleed" when sanding. Maple is good for painted globes

$\frac{7}{8}$ " - 1" sq x 8" blank for finial and cap

A pair of forstner bits : 1" + $\frac{7}{8}$ " or $\frac{15}{16}$ " + $\frac{13}{16}$ " (Two bits with $\frac{1}{8}$ " difference in size.) . When used together they create a $\frac{1}{16}$ " lip on which to glue the snowflakes.

Drill chuck

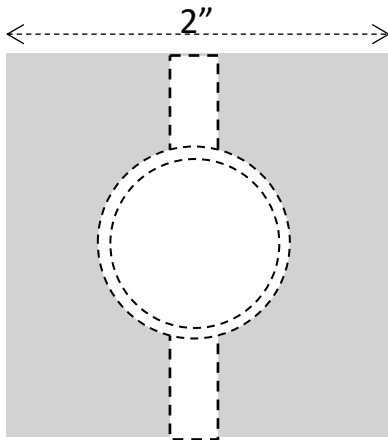
$\frac{1}{4}$ " brad point bit (Stubbies work great for this)

4 jaw scroll chuck with jaws to hold the cube and for the finial. (I use Talon #1 and #2 profiled jaws)

$\frac{1}{4}$ " diameter mandrel - Pen turning mandrel (or equivalent) works well

1" wooden snowflakes (Can be purchased through Amazon. The size varies a bit based on style, so pick the style, measure the precise diameter, and match the large forstner bit to the style.)

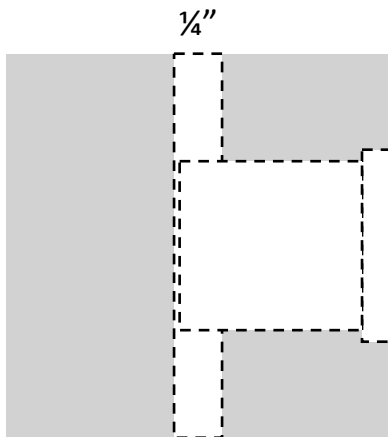
Decide on how you want the ornament to look. Snowflakes may be inlayed after turning the globe, or incorporated into the shape of the globe. In order to incorporate the inset into the overall shape of an ornament, it must be glued into the cube before turning. I do this by creating stacks of 3 snowflakes in advance using wood glue for flexibility. Do not use CA glue for this as it will cure brittle and the snowflakes may shatter and tear out when turning. I glue these stacks into the the globe using wood glue the night before, leaving the stacks proud of the globe equally in each drilled face.



Process (globe):

Clearly define the end grain sides of the cube and mark them for reference.

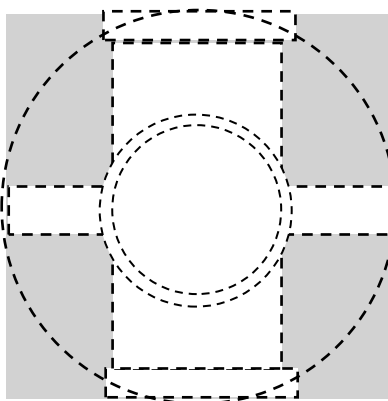
Mount the cube in the scroll chuck with **end grain** facing the the tail stock. Mount the ¼" bit in the drill chuck and drill a hole just over 1" deep (halfway through the cube); flip the blank and repeat on the opposite end grain. **Do not drill all the way through the cube as the bit may wander off center following the grain**



Remount the cube exposing **face grain** to the tail stock. Using the larger forstner bit, drill a hole the depth of 2 snowflakes (approximately 0.15"). Switch to the smaller forstner bit. Using the same center point, drill just past center of the cube. Flip the cube and repeat the process on each face grain side.

At this stage, snowflakes that are incorporated into the overall shape of the globe are glued in place and seta aside for the glue to cure.

Remount the cube on the mandrel via the ¼" bore between 2 pen bushings.

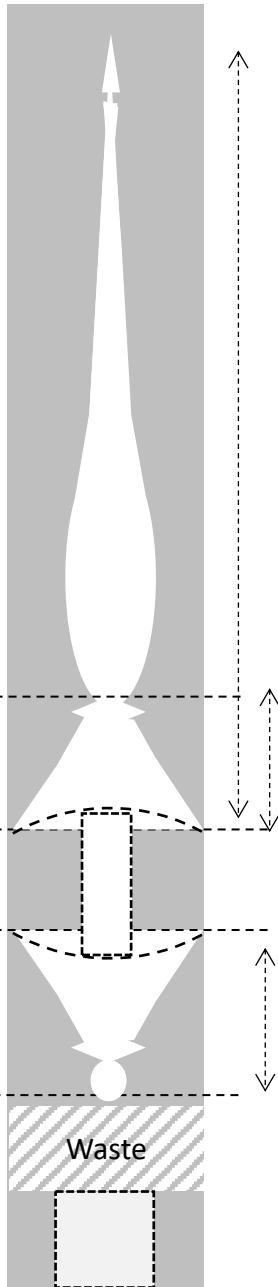


Use a spindle gouge to turn the blank to round. You need a sharp tool and at least 1200-1500 rpm as you will be turning air. Use light cuts to shape the globe referencing off the shadow line. **(Do NOT rough to round at this step with a roughing gouge as you will turn away the wood that will frame the holes!)**

Sand the globe to 400 grit. Seal the outside with wax-free shellac. (I use Zinsser Seal Coat wax-free. Using a sealer with wax may prevent the spray lacquer or acrylic from bonding to the ornament later.)

If making colored globes for inlayed snowflakes, paint the finished globe with acrylic paint and set aside to dry.

$\frac{7}{8} - 1''$



Process (finial and cap):

Plan for bottom finial to be about 2x the diameter of the globe...or about 4" long.

Mount the finial blank between centers and turn to round with a roughing gouge. Turn a $\frac{1}{2}''$ diameter tenon $\frac{1}{2}''$ long on one end.

Mount finial blank in a scroll chuck using the center hole on the opposite end to facilitate centering the blank in the chuck. (Spigot jaws or similar)

Turn the distal 1-1/2" to about $\frac{1}{2}''$ diameter then shape the distal end of the finial. You will need to remove the tail support in order to shape the distal end of the finial and may need to GENTLY rough to round the distal portion again before beginning to shape. Sand as needed before continuing.

Reduce the diameter of the 2nd section and turn the bulb. Sand as needed before continuing.

Shape the base of the finial, undercutting to a $\frac{1}{4}''$ stem with a relief cut. (This will be the tenon to mount to the globe.) Sand to 400 grit.

Seal and part off leaving a $\frac{3}{8}''$ long tenon."

Shape the cap to compliment the finial base. Start with the stem and undercut the bottom. Sand and seal then part off the waste block. Add a $\frac{1}{16}''$ drill hole to the tip.

Process (glue up):

Gather the globe, snowflakes (if not turned as a part of the globe), finial and cap.

Glue the snowflakes in the face grain holes. Pay attention to the orientation. A dab of glue on the snowflake tips is sufficient.

Glue the cap and finial and add a $\frac{1}{2}''$ #216 screw eye to the cap.

Spray with acrylic or lacquer finish. Using light even coats.