

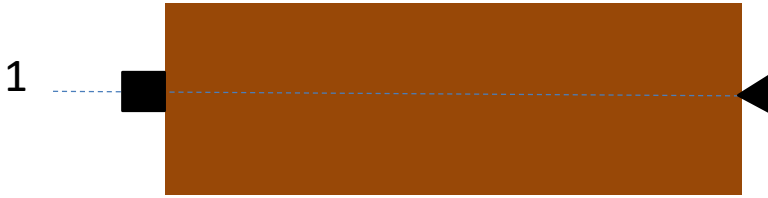
Triangle Twist Candlestick



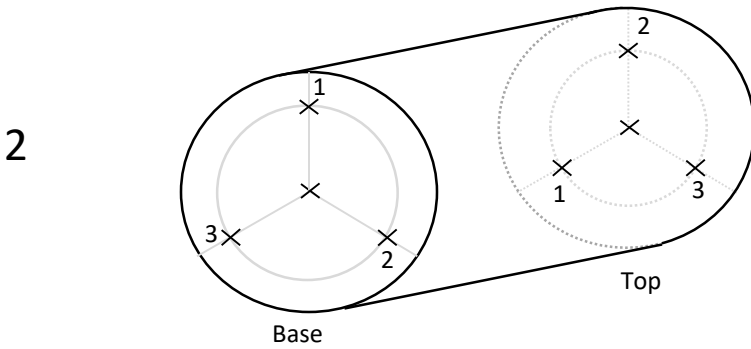
Design and Notes By: Arnold Ward

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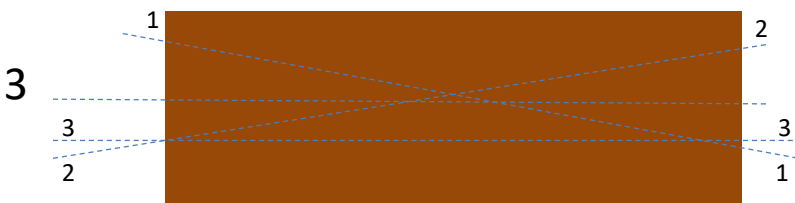
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Start with a 2" square 6" long. Round off the piece on the lathe and square the ends.

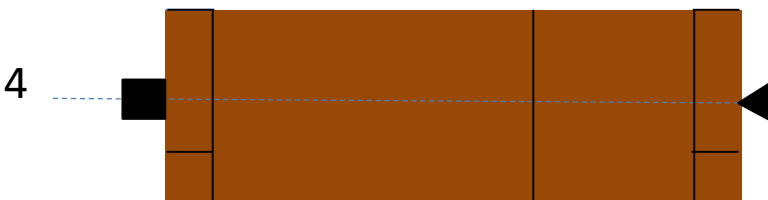


On the base, mark the center and 3 equilateral points and label them. On the top, repeat the same four marks, but make them a little closer to center. The distances from center can be changed to your liking. Be consistent when making duplicates. The marks on the top should be rotated one position, such that 1 is opposite 2, 2 is opposite 3 and 3 is opposite 1. The direction of the rotation will be the direction of the twist.

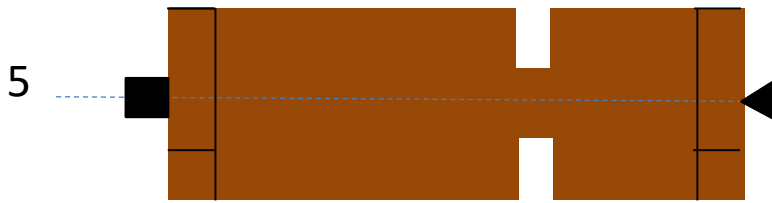


Very important!

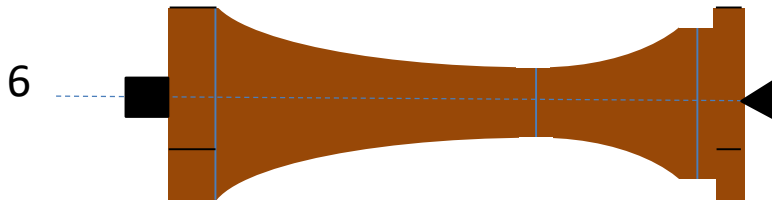
Use a center punch to indent all the marks. Before making any cuts, Line up points 1 to 1 on the lathe center points and compress until it leaves a groove and you could turn it. Line up 2 to 2 and compress and 3 to 3 and compress. If you skip this step, then you could break the piece when trying to compress the points later. Then return the piece to the center points.



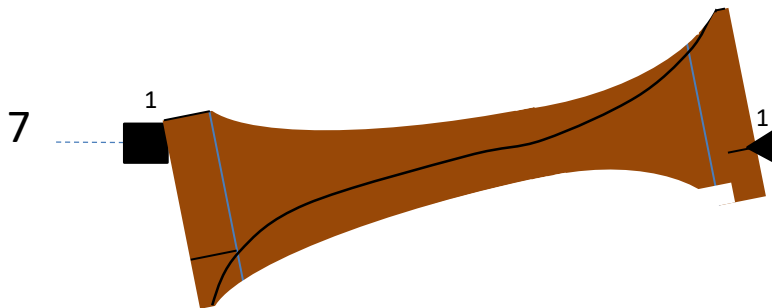
Using a pencil, mark in about 1/2" from each side. This area will be used for the tenon and curved base of the final shape. Then mark about 2/3 of the way from the bottom to the top. This will be the most narrow point. Also, make horizontal marks on the side of the piece to show where the 3 holes are



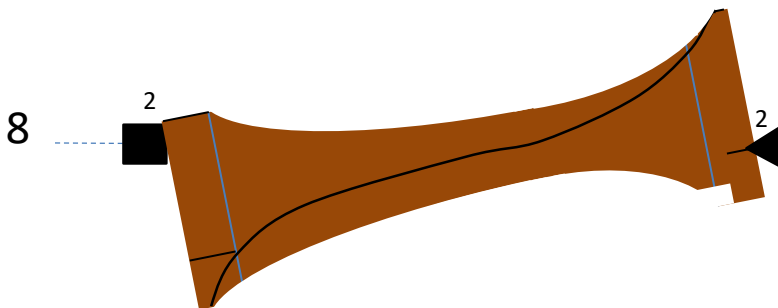
Use a parting tool to cut into the lowest point. About 5/8" or a little more works well.



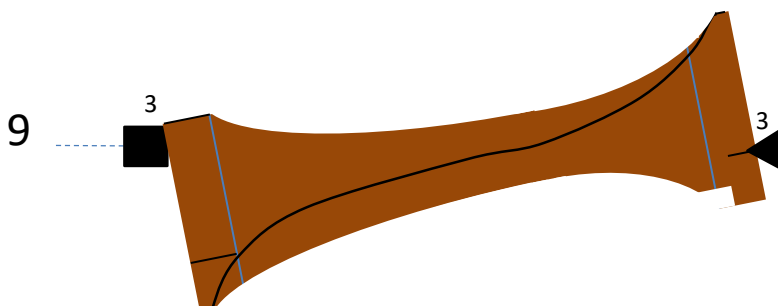
Cut a smooth curve from the base to the lowest point and then from the top to the lowest point. Make sure the curve is smooth without bumps or flat spots. The top can be a slightly smaller diameter from the bottom.



Put the piece on axis 1. Turn away only about 1/16" of the original curve. Stop frequently and try to make sure no part of the cut exceeds 1/3rd of the original shape. Use the marks on the side to judge what 1/3 of the circle is. The line created between the first cut and the second should be smooth and flowing. Any bumps will put a curve in the line.



If you do exceed 1/3 of the shape, then blend it in such that the line remains smooth. You will just have to make it a bit more narrow.

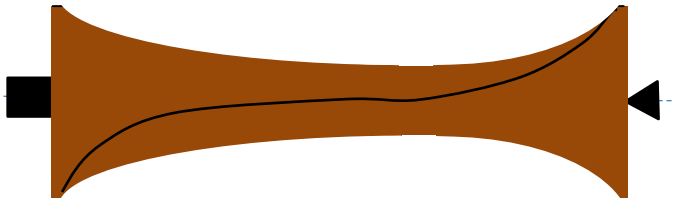


Move to Axis 2. Repeat the same cuts. This time, try to make the cut line meet up with the cut line from Axis 1. It should be a single line created between the two curves, with no flat spots. You may find that you need to return to Axis 1 to cut a little deeper, but you can also do that after doing axis 3.

Move to Axis 3. Now try to get all the lines smooth and crisp between Axis 3 and 2 and also Axis 3 and 1. You should be able to see if either Axis 1 or Axis 2 need to be cut further.

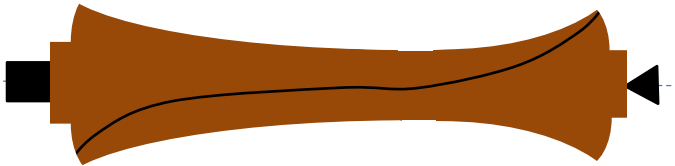
Move the Axis back to 1 or 2 and then 3 as necessary to complete 3 flowing crisp lines that make up the spiral.

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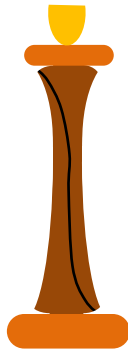
Return the piece to center and hand sand the spiral surfaces with the grain. Run through all grits until it is smooth. Try to not round over the spiral edges other than to remove the sharpness.

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Cut the tenons on the bottom. Make sure the corners of the triangles are all cut so that there are no flat spots remaining. If you leave the tenons slightly larger than you need, you can return this piece to the lathe later to get a perfect fit to the holes.

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Cut a top and bottom for the candlestick. A contrasting color will look better, with the bottom being larger than the top. You can put a brass or other metal cup on the top, or you can cut the cup out of wood. If using a wood cup, I suggest using a brass insert around the rim to insure the candlestick won't burn or char if the candle is left unattended. I have found a $\frac{3}{4}$ " hole makes a good fit for a taper candle. Some references say $\frac{7}{8}$ ", but that makes for a loose fit.

Materials:

craft supplies (search for Candle Cup):

<http://www.woodturnerscatalog.com>

Amazon (search for brass candle cup, or candle cup inserts):

<http://www.amazon.com>