

Three-centre candlestick

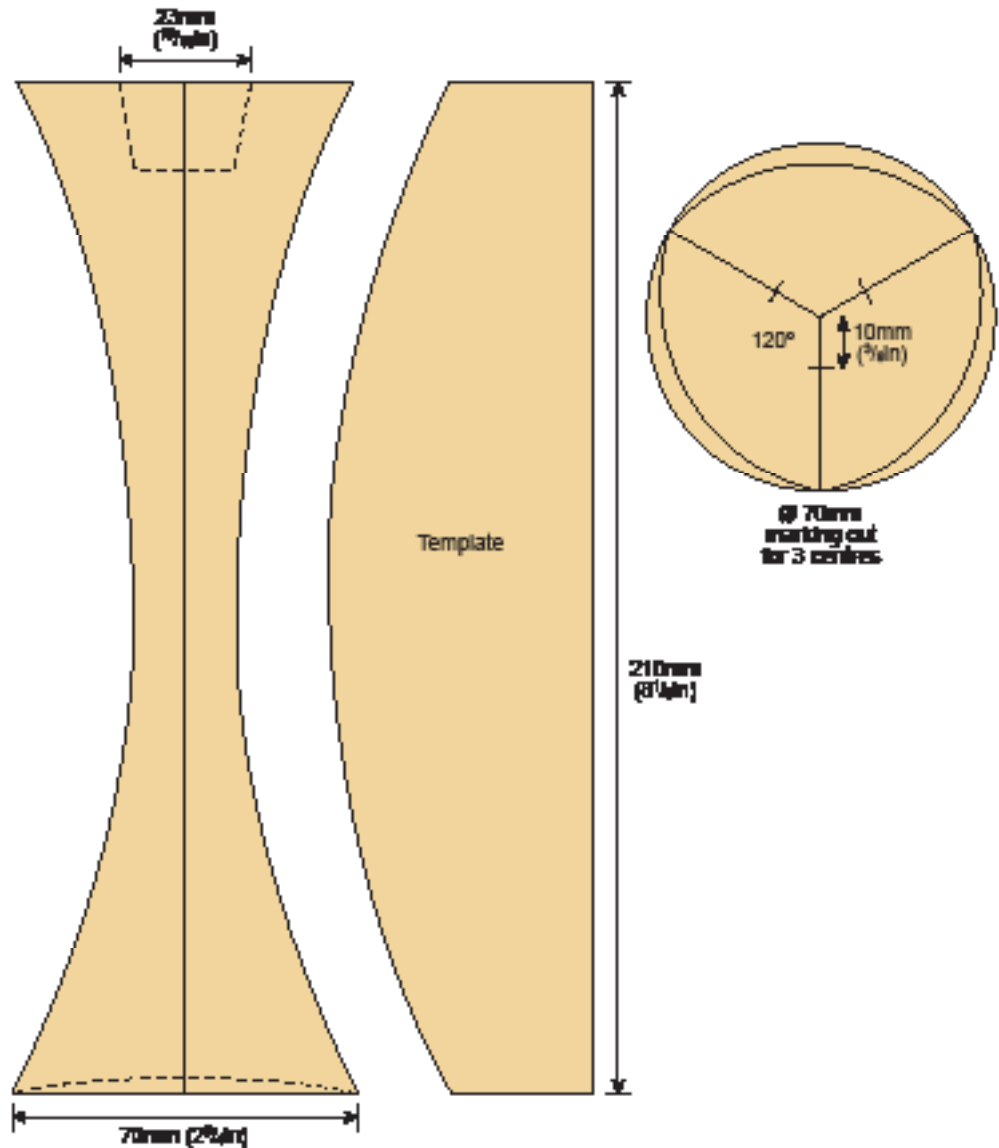
Walter Hall
makes an elegant
candlestick on
three centres

Like many woodturners I have long admired the designs of the late Rude Osolnik, whose pioneering work was instrumental in moving the world of woodturning forward from the mundane and practical to the creative and artistic. In particular I have looked in appreciation at the form of the elegant candlesticks that became his signature pieces. I do not aspire to emulate the apparently effortless elegance that Rude demonstrated in his work, but it is to those candlesticks that I must assign, at least in part, the inspiration for the subject of this article. I have also had in mind for some time the idea of turning candlesticks on three centres to give a triangular section to the form. Combining this concept with a sweeping curve which pays homage to Rude's work without seeking to replicate it gave rise to the design featured here. Two practical problems needed to be resolved to create this piece. First, the extent of the offset required to achieve the desired shape had to be ascertained and then a means had to be found of ensuring that each of the three sides had exactly the same curve to ensure clean, straight lines where they joined. The first was resolved by careful drawing and the second by using a template.



TOOLS AND MATERIALS

- RPE & PPE
 - 20-25mm spindle roughing gouge
 - 10mm spindle gouge
 - Parting tool
 - Forstner bit (to suit size of brass cup)
 - Dust extraction
 - Oak spindle blank
 - Brass candle cup
 - Abrasives 240-400 grit
 - Cellulose sanding sealer
 - Melamine lacquer
 - Tack cloth
 - Safety cloth
 - Paper towel or tissue.
- Timber of your choice.



SAFETY

Our recommendation is that you always use a heat shield insert of metal, glass or ceramic between the tealight/candle holder. There may, depending on the country one lives in, be specific laws/guidelines to cover the use of heat shields and also specific instructions as to distance used between candles and tealights, where one can and cannot place them and at what distance apart and other issues such as the stability of item, material used in which

tealight and candles sit in and so on. If there are guidelines, follow all of them accordingly.

General guidelines for working with candles and tealights are:

- Use a heat shield.
- If you stick the glass, metal or ceramic heat shield insert in place, use a heatproof adhesive and make sure you leave a little bit of an expansion gap between the hole and the holder insert

to allow for any wood movement.

- Never leave a lit tealight or candle unattended or place one near any flammable material.
- Never place tealights or candles too close together.
- Always make sure the holder of the candle or the tealight is of a design and weight to be stable enough to stay where it is placed and withstand accidental knocking.



1 Select a straight-grained blank about 75mm square and turn it between centres to a cylinder. I chose oak (*Quercus robur*). The length of the blank is not critical, but it must be slightly longer than the final candlestick to allow for a spigot to hold the work while forming the hole for the candle.

2 Once the candlestick has been reshaped it will be necessary to return it to the chuck to create the recess for the candle cup insert/heatshield. To do this it is necessary to form a spigot now. Use a parting tool to cut the spigot to the size of your chuck jaws, using callipers to gauge the size. Angle the cut slightly to form a dovetail.

3 After cutting the spigot, begin marking out by drawing three lines equidistant around the circumference. Use the indexing facility if your lathe or chuck has one or carefully mark the 120° positions on one end with a protractor. The positions of the centres on each end must be exactly aligned.

4 I cannot stress too strongly the importance of accurately marking the three centres which will define the success or failure of the project. With the work removed from the lathe, carefully extend the lines to the centrepoint at each end. Carefully measure or mark with a compass the positions of the three centres. It is also important to ensure that the drive and tailstock centres engage accurately with the centres, so define them with a centre punch. Numbering them will also help to ensure the same centres are aligned at each end when mounting on the lathe.

5 Remount the work on the lathe on one of the three pairs of centres and begin shaping the sweeping curve using a spindle roughing gouge or other tool of your preference. Repeat on each set of centres until you approach the desired shape. It is better to remount the work several times than try to cut too much at a time from each face.

6 Make a template to the design shown. You could use card, but as I intend to make at least one more of these to create a pair I used a piece of hardboard cut roughly to shape on the bandsaw and refined with a block plane and abrasives. Check regularly on each face until the form matches the template.

Top tips

- Prior to switching the lathe on, rotate off-centre work by hand to check that the toolrest position does not hinder the off-centre work.
- Keep firm pressure on the tool to keep in stable on the rest when turning off-centre work and make light cuts to minimise any knocking back of the gouge/tool when you cut.
- Using a revolving ring centre rather than a point centre helps minimise the risk of splitting end grain when holding closer to the edges of the candlestick ends.
- Candlestick inserts are available from turning craft stores or online.

Top tips

- The shape chosen for this project works well and it is a shape that is easily adapted to have a wider base too.
- While I chose oak for this project, most hardwoods can be used, giving you many options colour-wise
- You can experiment and explore further by trying a four, five or even six-sided item.

7 Once the sides are evenly turned there should be a straight line where they join. In the photograph, the work is nearly there but some refinement is still needed at the ends. Take great care remounting on each set of centres until a perfect join is achieved. Small adjustments can be made with abrasives when finishing, but the better the tool work the less there will be to do later.

8 For reasons that should be obvious it is not possible to sand the work to a finish under power. Hand sand along the grain, working through the grits from the coarsest you need to remove any tool marks up to 400 grit. A firm sanding pad will help to ensure that you do not round off the edges and maintain a well-defined shape. I used an Abranet pad which attaches to my shop vac, but whatever you use do ensure adequate dust extraction. Wipe off with a tack cloth and apply sanding sealer between each grit.

9 Apply two or three coats of melamine lacquer to the completed sides then remount the work in your chuck using the spigot formed at step two. You can now begin to form the hole for the candle cup using an appropriately sized Forstner bit in a tailstock chuck. Drill slightly undersize and complete the tapered shape with a spindle gouge to achieve a good fit for the cup.

10 Using very light pull cuts with a spindle gouge form a slight hollow in the end of the work to refine the top of the candlestick. Take great care at the end of the cuts not to cause any breakout – remember that for some of the time you will be ‘cutting air’. Very light shearing cuts will give the best results.

11 All that now remains is to part off the completed work using the parting tool at a slight angle so as to form a hollow in the base that will ensure the candlestick stands steady. Make the final cut with a fine saw and finish off the bottom with abrasive before applying melamine lacquer to the top and base and fixing the candle cup in position.

12 The finished candlestick. •

Two projects in one?

If, as I did, you use a spindle blank that is slightly longer than necessary you may be left with an offcut long enough for a second project. A three-sided box perhaps, or a tealight holder.

