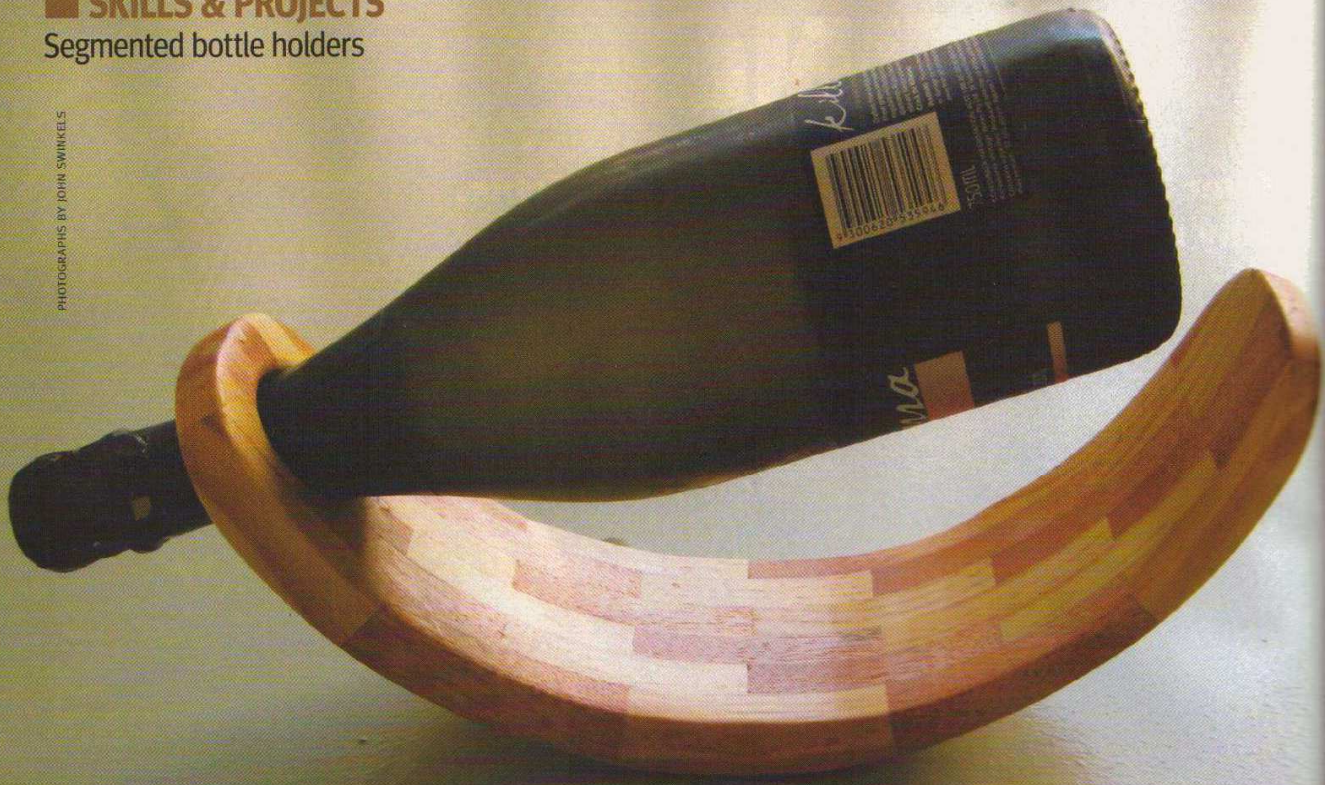


SKILLS & PROJECTS

Segmented bottle holders

PHOTOGRAPHS BY JOHN SWINKELS



Segmented wine bottle holders



John Swinkels creates two segmented wine bottle holders from a cylinder made up of six layers

You may have seen witty and unusual creations that hold a wine bottle as though it is lightly suspended in air; it occurred to me that it should be possible to make one on the lathe. The following is the development of that thought. I considered that by building a semi-circular shape from small segments of timber, I should be able to come up with an attractive design that combines the effect that segmentation gives with a nicely sweeping curve. Now, it is not possible to create just a semi-circle on the lathe but a cylinder is easy to achieve and should yield two semicircular bottle holders. To build them up from many small pieces of timber I used a flat MDF board as a base, and to make it easy to put that board on the lathe and take it off I

used an aluminium faceplate ring. With some experience with casting and a mini 'backyard foundry' I have made a number of these rings.

Once the cylinder, made up of six layers of 12 segments was completed, I did some modifying with a bandsaw, a belt, drum and a flap sander. Not every turner has all these sanding tools and it is not really necessary to carry out these modifications. It is sufficient to shape the cylinder on the lathe, part it off, divide it in two and round off the ends without any tapering, as I have done. The following describes my approach – it can be a beginning from which a fellow turner can take off in his or her own direction. I will be happy to know that some others enjoyed this project, so feel free to let me know.



SKILLS & PROJECTS

Segmented bottle holders

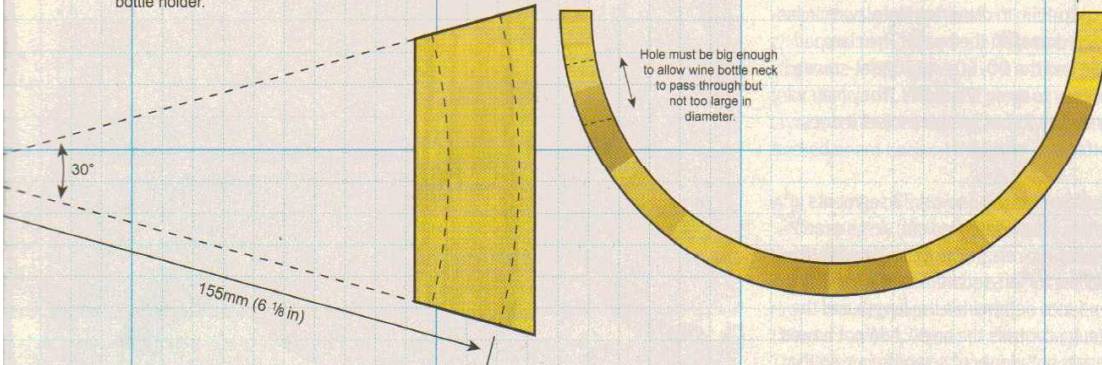
SEGMENTED WINE BOTTLE HOLDER DIMENSIONS

Actual size and shape of blocks I used

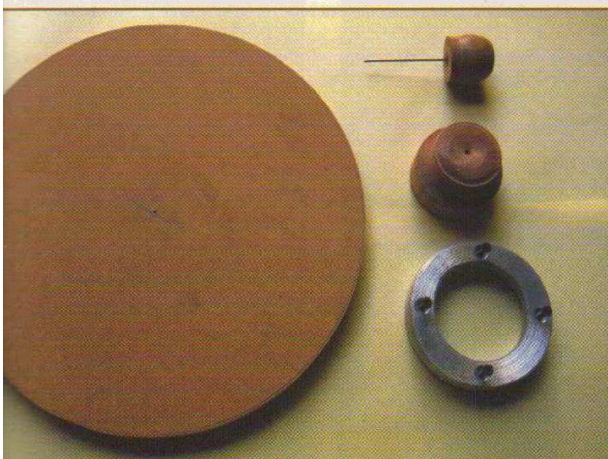
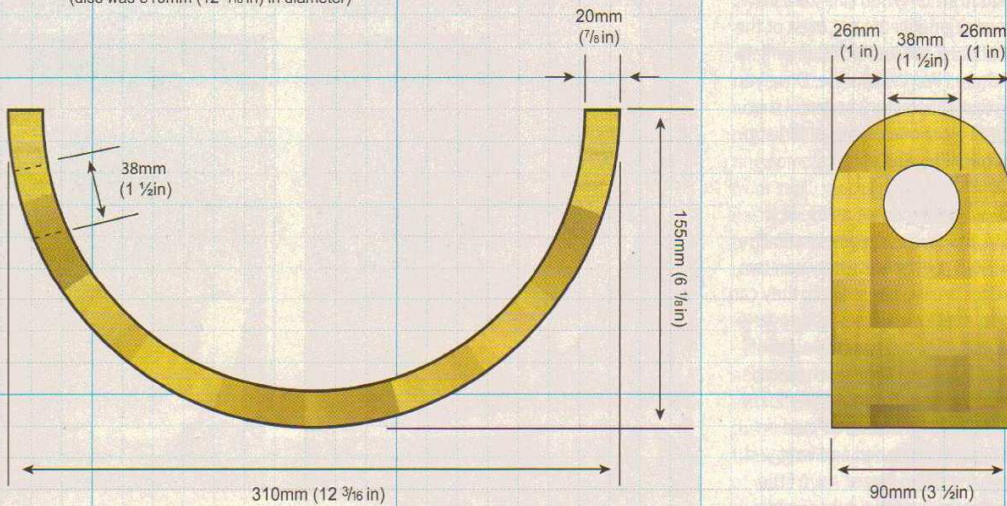
wide enough to cover both arcs, 30° angle between the short sides and length depending on the size of desired bottle holder.

thickness can vary from 10 to 19mm (3/8 to 3/4 in) (personal choice).

Hole must be big enough to allow wine bottle neck to pass through but not too large in diameter.



(disc was 310mm (12 3/16 in) in diameter)



Backing board for this project is cut from 17mm (2/3 in) thick MDF and is 300mm in diameter. The centre point of the circle that was drawn is just visible and the board is cut on the bandsaw. The next thing is to use a faceplate or a faceplate ring on the lathe chuck jaws. The two small ring locator parts were turned on the lathe. The locator part just fits inside the ring and the handled pin engages the centre hole of the backing board of the faceplate

At this stage, the backing board has not been trued on the lathe – it is shown the way it came off the bandsaw. Without the locator it is more tedious to centre the ring. The locator is slightly thicker than the depth of the ring. The screws I use protrude about 13mm (1/2 in) below the ring

SKILLS & PROJECTS

Segmented bottle holders

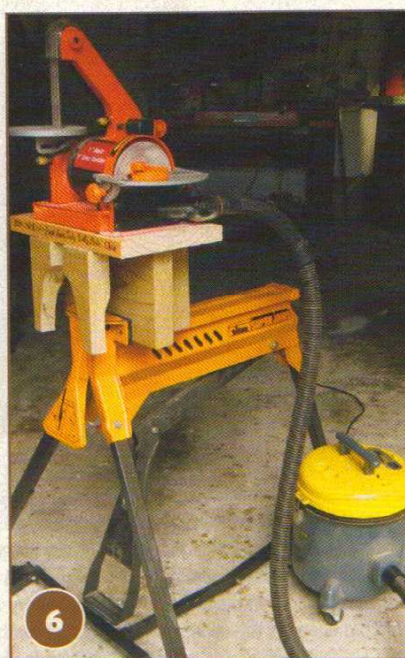
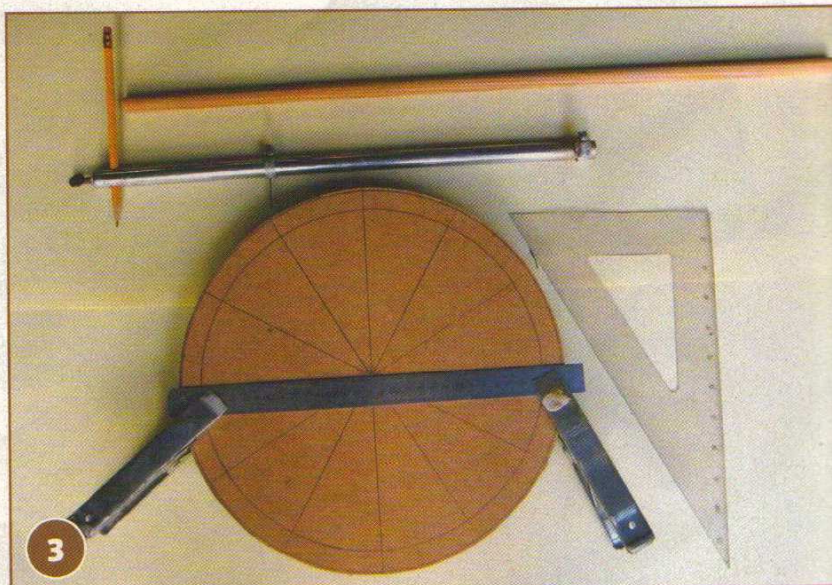
3 The trammel is a combination of a steel tube, a dowel that slides in, two small ring clamps and a thumbscrew. The thumbscrew turns within a piece of dowel (that is glued in the end of the tube) and secures the pencil. The left ring clamp has been drilled to take a flathead nail. The long dowel allows me to draw circles up to 1.5m in diameter. Note: two circles have been drawn on the board. The clamped steel rule and the 90, 60 and 30° set-square make it easy to draw 12 sectors. They may vary slightly by 1 or 2° but for this project it does not matter

4 A bandsaw is used to cut 72 segments in radiata pine (*Pinus Radiata*) and meranti (*Chlorophora excelsa*). The mitre gauge is set to 75° or 15° off-square. The clamped wooden fence determines the length and the mitre gauge controls the angle. I do not have a thicknesser but plenty of scrap timber, so the segments varied from 12-19mm ($1/2$ - $3/4$ in) in thickness. If your segments are not even or the same width, that does not matter. Mine ranged between 30-40mm ($1\frac{1}{8}$ - $1\frac{1}{2}$ in) wide. Once you have made the first satisfactory segment it is 'mass production' – cut one, flip over, slide up to the fence, cut another and so on

5 Here is a view looking down on the first layer of pine and meranti segments. Each segment is checked so that it fits between two radii. As the pieces are wedge-shaped, they can be moved in or out as long as they still cover the inner circle and stick out past the edge of the backing board. Before fitting, each piece is also checked and sanded to remove any fuzzy leftovers from the cutting. Glue is rubbed on and then the segment is pushed and wriggled in place. After gluing down five or six, a little sanding may be necessary on a subsequent segment to keep it between the lines

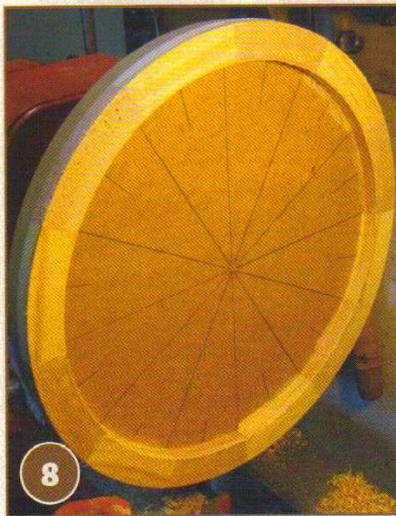
6 I have often 'sung' the praises of the Triton Superjaws. The small sanding machine (a gift from my wife and children) was fastened to pine supports so it could be clamped in the vice – it is now held at a comfortable height. It has two dust extraction ports and by fitting the vacuum hose into the one near the disk (using a rubber sleeve to ensure a snug fit) no dust escaped. The setup is a great combination for sanding small components

7 Firstly, you will need to remove the 12 segments that protrude outside the backing board with a gouge once the glue has dried, which will take around four hours in total. A scroll chuck is then required to hold the board on the lathe. The jaws of the scroll chuck move outwards inside the faceplate ring and hold the job securely in place. Next, a small 12mm ($1/2$ in) gouge, followed by a scraper will even out the front, and then the inside of the segment needs to be made round

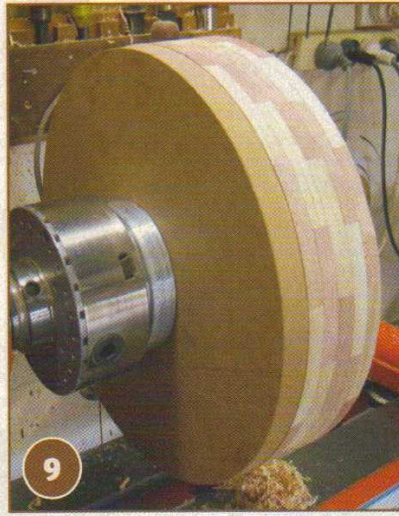


SKILLS & PROJECTS

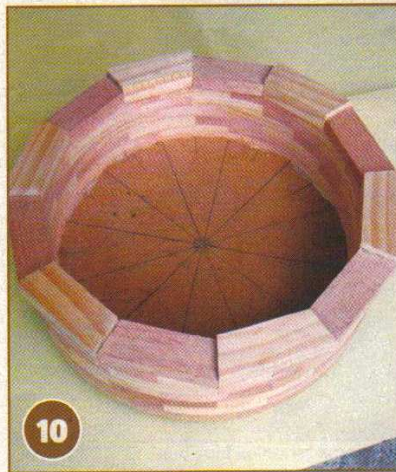
Segmented bottle holders



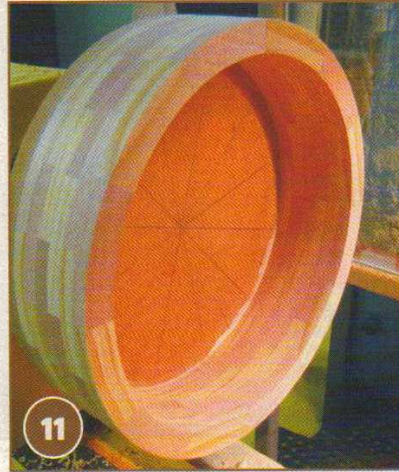
8



9



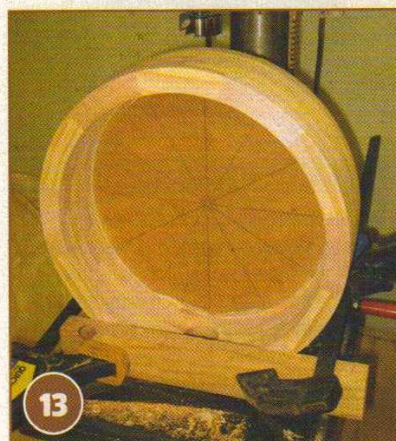
10



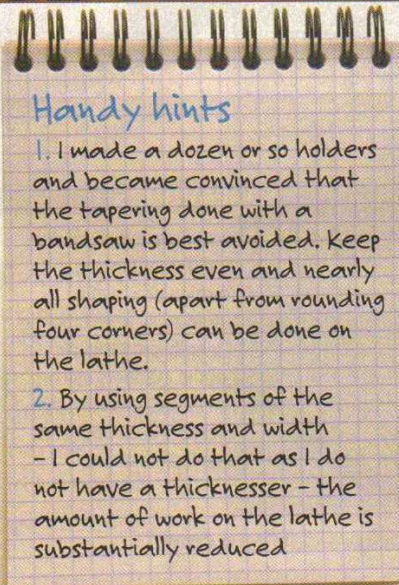
11



12



13



Handy hints

1. I made a dozen or so holders and became convinced that the tapering done with a bandsaw is best avoided. Keep the thickness even and nearly all shaping (apart from rounding four corners) can be done on the lathe.

2. By using segments of the same thickness and width - I could not do that as I do not have a thicknesser - the amount of work on the lathe is substantially reduced

8 The next step is to remove excess material with a gouge and a scraper. Layer one is now ready to receive the next 12 segments. You will need to check with a straight edge that the face is perfectly flat. The short lines midway between the long ones will be the guide for the next layer of segments. The faceplate ring makes it a simple matter to take the job off the chuck and to put it back on. Just twist the T-bar clockwise - depending on your chuck - and take the job off. When the glued-on second layer is ready for dressing, simply slip the ring-backed board back on the lathe

9 The jaws of the scroll chuck hold the ring very firmly. Here you can see that the chuck dovetail jaws hold the faceplate ring, but a normal faceplate could be used instead of the ring. The advantage of the ring is that it can be taken off and replaced very easily and quickly. The MDF baseboard is now holding all but one layer of the meranti and radiata pine segments

10 You now need to add the last layer of 12 segments after the glue has set and now the large 72 segment wooden ring can be turned. It is obvious that this MDF and faceplate ring combination can be used to make a bowl from small pieces of timber. Such a bowl can easily be given an unconventional shape or profile that would be hard to achieve in the usual way. Also, other timbers can be used

11 Here is the ring that is to become two wine bottle holders which has been cut and scraped. With six layers of segments I arrived at the large ring shown here. Moving the assembly on and off the lathe and dressing the large ring is quick and easy. The gluing up of each layer will take a little longer but the two wine bottle holders that will emerge will have made the effort worthwhile. If you were to part off the ring now it would be more work to clamp it on the drill press table, so, it will stay attached to the backing board for the next step

12 I chose to turn a replica full-size copy of a wine bottle from slash pine (*Pinus caribaea*), as this will be useful for determining the diameter of the holes for the neck of the wine bottle. Slash pine is very resinous and as such I had to clean the tools after shaping this bottle on the lathe

13 You will need two clamps to hold the unit under the Forstner drill bit. You will need to drill slowly to minimize rough edges when the drill bit breaks through. Make one hole and the second will be directly opposite, midway between the first and sixth layers. Pencil lines here will prove quite helpful. You may encounter a slight amount of damage from breaking through, in which case the unit will need to go back on the lathe for a little more scraping and sanding

SKILLS & PROJECTS

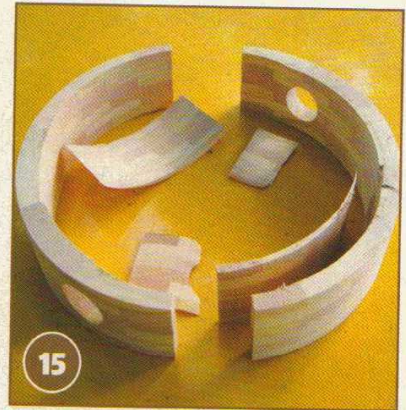
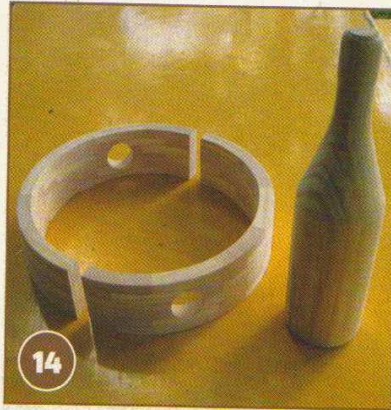
Segmented bottle holders

14 Next, part the large ring off with a 1mm ($\frac{3}{64}$ in) wide parting tool. With your right hand move the cutting edge of the tool inwards near the MDF board and catch the ring as it comes off – you may want to wear a leather glove for this part. The ring is cut in two, as shown – 1 and 1/2 segments from the holes. You may wish to cut about half a segment's length from the hole, thus leaving more wood at the other end

15 Next, long tapering wedges need to be cut on the inside of the semicircles from the ends furthest from the holes and short ones from the other end. Draw pencil guidelines freehand and make the cuts on a small bandsaw. The holders can be left as they are, but tapering them gives a better effect

16 You will need a belt and drum sander for obtaining the final shape, depending on the bottle shape. A still larger ring (this one was 300mm (12in) diameter) might be preferable as the end of the wooden bottle was close to the tapered end of the top holder. However, it did clear it and a holder like this should make a nice and welcome gift for any wine connoisseur. One fellow turner suggested adding a flat section on the bottom but I believe that the rounded bottom is a better option, as the holder can find its own position with any bottle filled, partly filled, or empty

17 An option for the other holder is to apply a few coats of semi-gloss varnish, which can then be rubbed with '0000' steel wool, charged with wax paste, then buffed. I believe this is quite a nice way to make use of small pieces of timber. The common radiata pine and meranti combined, as shown, give a pleasing effect. The wine bottle holders made in this project make perfect gifts ●




www.WoodworkersInstitute.com

Enjoyed this article?

Log on to **The Woodworkers Institute** and follow the links below.

1. Charles Faucher's segmented work: <http://www.woodworkersinstitute.com/page.asp?p=949>

2. Steven Russell's bottle stoppers: <http://www.woodworkersinstitute.com/page.asp?p=166>

3. Adrian King's offcentre clock: <http://www.woodworkersinstitute.com/page.asp?p=752>

CONTACT DETAILS

Email: swinkels38@yahoo.com.au

FURTHER ENDEAVOURS

Since making this project I have experimented with segments from six different timbers, arranged in a random fashion or a regular pattern. I have also steered away from tapering the holders along their length and instead reduced the thickness of the cylinders still on the lathe to about 10mm ($\frac{3}{8}$ in). This way, the only sanding that is necessary is on both ends after they are rounded on the bandsaw.

On this first pair I used timbers of different thicknesses simply because I had them handy. On subsequent pairs I made, I used segments of the same thickness, but even with them it was necessary to put the assembly back on the lathe after the adhesive for each layer had set. This was because the top surface was not perfectly flat and a flat surface is essential as a basis for the next layer