

Woodturning

THE WORLD'S LEADING MAGAZINE FOR WOODTURNERS

RICHARD FINDLEY GUEST EDITOR

- Introduces the issue
- Asks turners about their techniques
- Profiles Iranian turner Azadeh Masoomi



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Brent English, owner and designer, Robust Tools.

Noted turner and woodturning tool maker Steve Sinner, lower right, with some his friends and a couple of Robust Tools crew members.



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Guest editor's letter – Richard Findley



Since the sad loss of Mark Baker last year, the small team at the magazine have done a fabulous job of producing it each month and maintaining the high standard that Mark set. There has, however, not been a 'face' to the magazine and several readers have written in to say how they miss Mark's thought-provoking introduction letters. So, in a bid to do something about this, the magazine is experimenting with something new this month: a guest editor, and I am the one chosen to fill this role, for one month only!



PHOTOGRAPH BY RICHARD FINDLEY

As guest editor, I don't get involved in the main production of the magazine – that is a well-oiled machine that doesn't need any interference from me. I have been able to suggest a couple of features and ideas that I've had and been able to have a little input into the front cover and, perhaps most importantly, I get to write the guest editor's letter.

This month, as well as the usual mix of projects and technical articles, there is a new type of article based on an idea I have had rattling around in my brain for a while. Normally while reading an article, you will be shown one way of approaching a project or challenge, but we all know that there are often several ways to do almost every job. In this article, we put three options on the table for a particular technique from three different turners. Presenting three

equally good approaches celebrates our differences and hopefully encourages you to try them out. We'd be interested to know which works best for you.

I have also been fortunate to speak to Iranian turner Azadeh Masoomi for a feature in this issue to share her wonderful work. I wanted to introduce someone you might not be aware of, to show that there are turners producing high quality work all around the world.

There is no diary from me this month, but it will return next month. I hope that you have been enjoying it. It is very different to writing my previous series of the Editor's Challenge. In that series, I was challenged to try techniques or projects that I had not done before to test my skills and push my boundaries by trying new things. With the magazine trying something new

with the guest editor and a new type of article with Different Approaches, it has made me wonder how often readers try different projects. Often, I find people have a thing they like to make, and a way to do it that works for them, and stick to it. I wondered how often you think about trying a different project, or a different approach, to test yourself and see how it turns out? I hope that *Woodturning*, but in particular this issue of the magazine, encourages you to think about how you approach a project, and what projects you tackle.

As always, we love to hear from you and see your latest work, so please contact us at WTEditorial@thegmcgroup.com or on www.instagram.com/woodturning__magazine/

Happy turning

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Cover image by Richard Findley



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HEALTH & SAFETY

Woodturning is an inherently dangerous pursuit. Readers should not attempt the procedures described herein without seeking training and information on the safe use of tools and machines. All readers should observe current safety legislation when turning and wear appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE).

Different approaches

You will have heard the phrase ‘if you ask 10 turners how to do something, you will get 10 different answers’. Guest editor Richard Findley puts this into practice with two of our professionals...



PHOTOGRAPHS BY RICHARD FINDLEY, PAT CARROLL, COLWIN WAY

Woodturning is, more often than not, a solitary pursuit, so as we work alone in our workshops we have to sort things out for ourselves and find the best route through the maze that is woodturning. This leads to variations in technique developing and, generally speaking, there isn't a right or wrong way to do anything; as long as it's safe and the result is what we wanted then it can be rated as a success. Of course, some techniques are better than others, and by watching professional turners at demos and online, we can get a good idea of ways to do things better. But what if well-respected turners approach the same task in a different way? The chances are they are all right, but for whatever reason one version of the technique works better for them than another.

In this article, I demonstrate my method of successfully fitting a push-fit box lid and ask two well-respected turners for theirs. The approaches are

different but the result is the same. The aim of this article is not to confuse, but to offer different options for you to try and to help you find a method that reliably works for you.

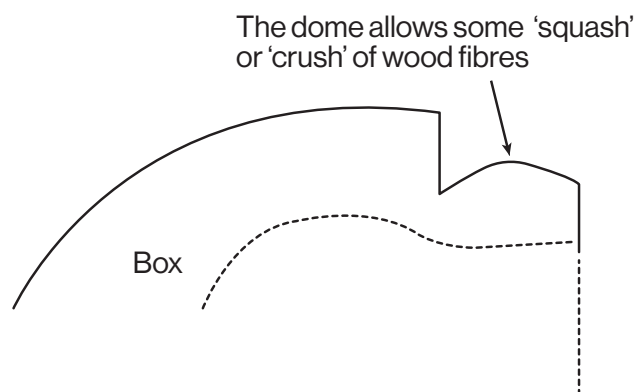
Over the years, I have tried lots of different methods of fitting box lids, it was only when I saw a demo by Jimmy Clewes that I learned of this method, it just made sense to me and I've used it ever since. Like any method, it isn't entirely foolproof, but it is as close as I've found to it, with an incredibly high success rate.

Usually, I have the tenon part of the box on the base and the recess part in the lid. I will hollow the lid first and sand, but only after sanding will I refine the recess with a negative rake scraper. If you sand afterwards it will round over the recess, making the fit less good. It is so important to cut the recess straight and square, as any 'dovetailing' will lead to difficulty in achieving a good fit.

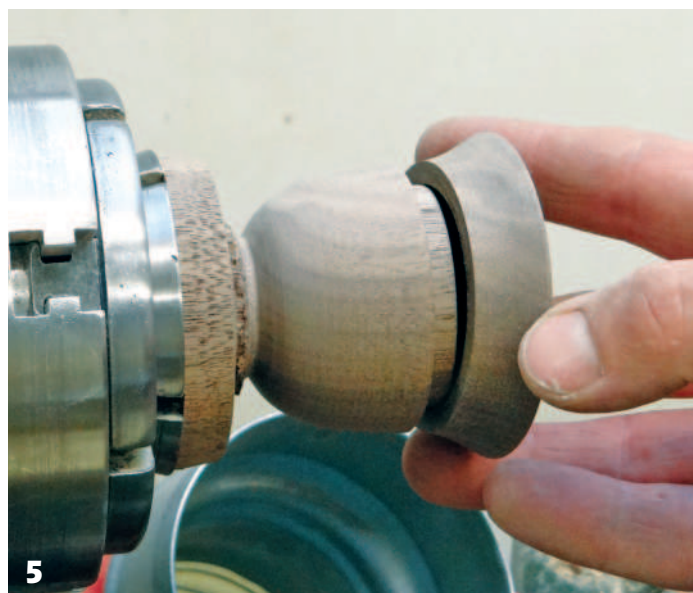
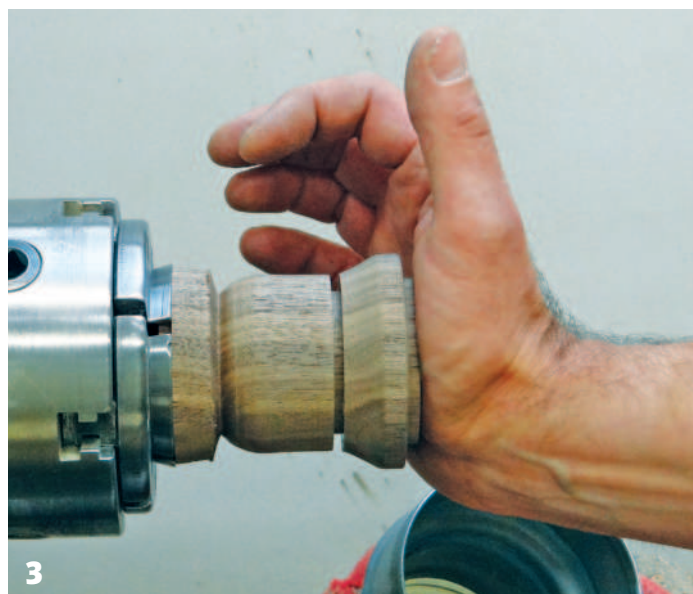
Richard's method for fitting a box lid

Top tip

I use a ruler, pressed tightly against the side of the recess to show that it is parallel to the lathe bed. By looking down on to the ruler, it is possible to eye it against the bed and make adjustments until it is perfect.



1



1 Shows an exaggerated view of the domed tenon 2 Shows the dome is actually tiny 3 Once the fit is close the lid can be jammed on for shaping 4 Refining the fit of the tenon to achieve final fit 5 Testing the fit of the lid – something that needs doing regularly

Having hollowed the box I can cut the tenon to size. Rather than cutting it dead straight, I cut it into a slight dome using a beading and parting tool. Dead-straight tenons have to be perfect to a fraction of a millimetre, but by cutting a slight dome it means that the point of contact between the box and the lid is small, but that point has some squash or compression in it, which means as long as the fit is close, you can

push the lid on and achieve a tight jam fit while shaping the outside.

Once the outside is complete, remove the lid and let it settle for a few minutes (the longer the better) before adjusting for the desired fit, whether that is a tight 'pop' fit or a light lift-off lid. I find a gentle scraping action works best to creep up on the perfect fit. As the dome on the tenon is removed, it becomes flat and no one would ever know it had a dome.

◀ Richard invites Pat Carroll to describe his method of fitting a box lid



1 Having mostly parted the two parts of the box, leaving the tenon one side and a witness mark on the other, I saw them apart **2** Following the lid up to the witness mark **3** Following the base, the tenon is clear to see **4** Once the two halves fit snugly together, I can shape the outside

To achieve a good fit for any lid without pre-required dimensions, the simple method I use is as follows...

Using my 4mm parting tool, I create a parting, leaving approximately 25mm in the centre of the piece. Then, using a 6mm parting tool, I create a tenon to the desired size on what will be the bottom of the box. Being careful to leave a clean surface from the tool minimises the amount of sanding that I must do – over-sanding may have a negative affect if a tight-fitting lid is required. Again, I use my 4mm parting tool to part the piece off, but I am careful to leave a 1mm witness mark on the lid of the piece, which will have the recess.

At this point I want a tight fit between the top and bottom part of the box so I can finish the base after shaping. The tight joint acts like a jam chuck. I create the recess in the lid using a 12mm spindle gouge with the flute open to approximately 45°. I refine the recess with my Jimmy Clewes box scraper, checking frequently how the tenon fits the recess. Once the pieces fit snugly together the shaping of the outside of the box can continue.

On completion of the box and with it still on the lathe, the desired fit can now be achieved. A tight fit needs to factor in the finish used, whether

it be oil, wax or lacquer. Moisture content and movement must also be considered into the fit. Even with kiln-dried wood, I would rough out the box and allow it time to move. So, sometimes it is a good idea to keep the chucking point on the box for a few days to see how the wood responds to the finish. Have the fibres raised or is there a larger build-up of lacquer than anticipated? With the loose fit these areas are easier to address.

Did you know?

Boxes sometimes lend themselves to two different types of fitting lid. A tighter 'pop' fit or a loose fit. The pop fit ensures a secure fitting lid that will not fall off should the box be knocked over or moved. This fit needs two hands to open the box

The loose fit is more suitable for trinket boxes or similar. This can be a single-handed operation to access the contents.

Richard asks Colwin Way how he achieves the same result



1 About to part the lid from the box, the tenon is roughly cut **2** Transferring the size of the tenon with Vernier callipers, ensuring only the left leg touches the wood **3** With the lid jammed onto the base it can be shaped **4** Using a jam chuck to finish the base

My first recollection of turning boxes was way back in the mid-eighties as a young apprentice when we turned hundreds of simple cylindrical or domed ring or pill boxes. This was a great way of honing box-making skills where you're having to turn relatively quickly, and fitting the lids was also a quick and, at times, aggressive part of the process. Today I still use the same aggression but instead of the speed with which I was forced to make, I now tend to adopt the slower, methodical, more enjoyable experience. Ray Key's 1992 publication, *The Woodturner's Workbook* has helped me a lot with inspiration and knowledge as it was the first woodturning book I bought and is responsible for the simple box forms I now turn.

I'm going to look at the most basic of box forms as these are the best way to practise a simple cylinder with a tenon on the base and mortice in the lid. I've also added another little design cheat and a gap in the joint. You could also use a bead which looks equally pleasing to the eye and will help if you think the grain isn't going to match exactly if it's particularly busy.

I always start by turning my chosen blank between centres and creating a small dovetail at either end. Then I decide on where I'm going to separate the lid and base and make two cuts with a parting tool – the first will be the parting-off cut and the second the join tenon.

Cut the tenon to a size you will be happy with but don't worry at this stage about being too accurate. The shape of the tenon is not to be an exact straight tenon either, as this would only give you one chance of getting the fit right, instead leave the tenon very slightly tapered, getting smaller toward the lid end. You can now put a parting tool cut where you want the bottom of the box to be before hollowing your box and sanding everything bar your tenon.

You can now start to work on the box lid. Hollow it out and measure the tenon at its smallest point on the box base with a Vernier. Transfer this measurement and scribe with the Vernier on the internal face of the box

lid. At this point you can use a square scraper or skew to cut the internal mortice to your scribed lines, remove the lid from the chuck and put the base back on the lathe. The next task was the aggressive bit I was talking about earlier. We used to have the machine running and force it on then use the burnish line to cut to. You are going to gently test the fit to see if it sits snug on to the start of the tapered tenon and when it does, gently start straightening the tenon until it fits all the way and comes off with a pop.

When happy with the fit, keep the lid on and add some masking tape to the join for extra security before cleaning the box lid top surface.

Now that the hard bit is done you can clean the underside of the base using the same method and a scrap piece of timber. Be sure to keep this piece of timber though as it can be used over and over again.

Top tips

- Make sure you get as little movement as possible to your boxes, regardless of how dry you think the material is. It's a good idea to rough turn them and leave them for a couple of months before finishing them.
- If you've made the mistake of taking that one cut too many and have a loose-fitting lid, you could use a couple of old tried and tested tricks to put diameter back on the box. Either by brushing on a small amount of water to the two surfaces of the join and leaving it to swell the fibres, or by using a thin film of PVA glue on both surfaces, waiting for them to dry before gently sanding, both of these methods will add that little extra diameter needed if the lid is just a little too loose. ●

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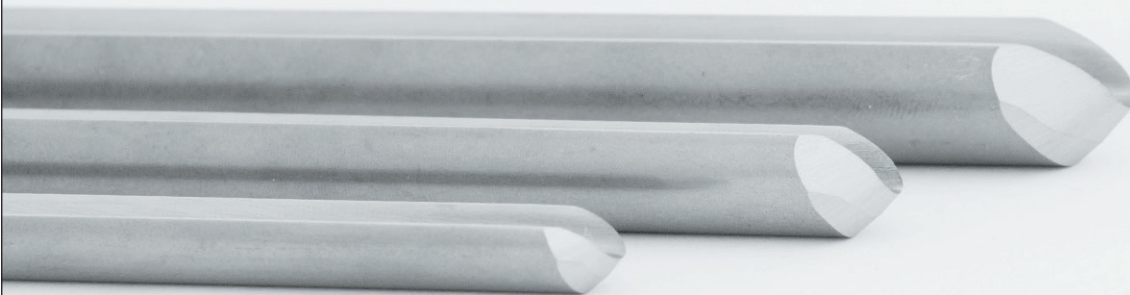


Turning and images by Brad Herrington & John Gunby



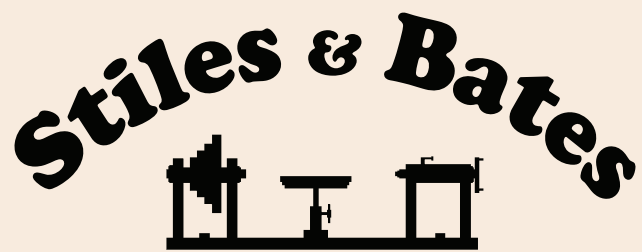
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Turning in Iran

Richard Findley introduces us to Iranian woodturner, Azadeh Masoomi

I first became aware of Azadeh Masoomi through Instagram. The woodturning community on Instagram is a fantastic and friendly place to share work and be inspired. Azadeh's work caught my eye as it appeals to my love of simple but beautiful shapes, curves and proportion.

Iran is not a place well known to most of us in 'the west' mostly due to political differences, but through the online community we are able to share our work and knowledge and do our part to make the world a more friendly place. I wanted to share Azadeh's work and started by asking her to tell us about herself and where she lives...

Tell us about yourself Azadeh, your background and how you got into woodturning.

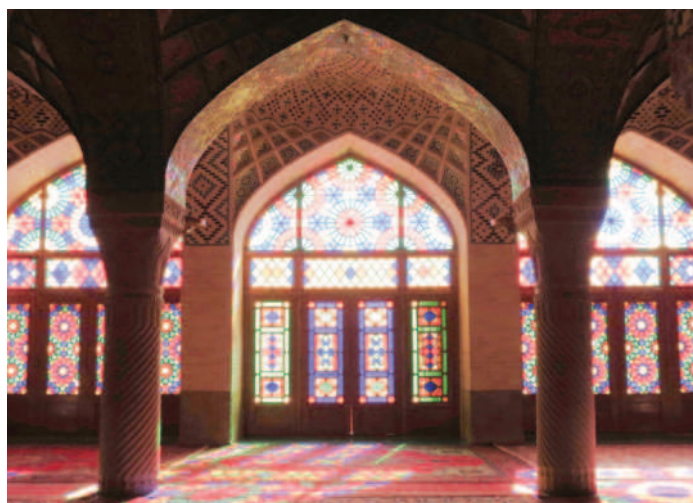
First I want to say I appreciate your invitation. Certainly, there are many professional woodworkers who have more to say about their works and experiences. It's a great honour for me to be featured in your magazine. I'm Azadeh Masoomi. I was born and grew up in Shiraz, Iran, in 1987. I was a PhD student in 2015 in plant physiology and for

some personal reasons I had to drop out of university. I was not in a good mental state, so I decided to treat my soul with some art and, actually, I got into woodcarving first. After a few months I changed my field of work to woodturning, since I prefer to make practical things. Accidentally I went to a workshop to buy some wood for carving and saw a lathe there. I asked about it and they let me use their lathe a few hours a week. A master taught me how to place wood on a lathe and how to work with different kinds of gouges, but not bowl turning. After five sessions he said I'd better buy my own lathe and have my own workshop. Then I started learning bowl turning experimentally and watching educational videos on Instagram and YouTube.

Many of our readers will know very little about Iran. Can you tell us about the area you live in?

Iran is one of the most ancient civilizations, with historical and urban settlements dating back to 7000BC, today bordered by Armenia, Azerbaijan, Turkmenistan and the Caspian Sea in the north, Afghanistan and Pakistan in the east, Turkey and Iraq in the west and the Persian Gulf and Gulf of Oman in the south. Iran is the land of four seasons and the second largest country in the Middle East. Some cities have summer weather in winter and also there are snow-covered mountains in summer in the north west, green forests in the north with maple, beech, alder and in the west with oak trees and many deserts in the central and eastern regions like Kavir, Tabas and Lut.

Diverse culture and different tribes with different traditions and their special arts live together in this country. Persian rugs, miniatures, enamel, toreutics, pottery and ceramics, architecture and Persian gardens are just some of the Iranian arts. You will definitely enjoy travelling to Iran.



PHOTOGRAPHY BY AZADEH MASOOMI



What is it like being a turner in Iran? Are there many clubs or ways for turners to get together and share knowledge and ideas?

Working with wood is always enjoyable in my opinion, but unfortunately, it's not easy to be a woman woodworker in Iran and many other countries, as far as I know. Most woodworkers are in contact with each other on social networks and they probably meet each other in symposiums and art and handicrafts exhibitions. To be honest, as a woman woodworker I prefer to work in seclusion and learn from the internet. However, I have good friends who always help me if I need it.

Although there are more and more women in the woodturning community, it must be unusual for a woman to be involved in turning in Iran. We'd love to hear your perspective on this.

Yes, it is. It is unusual and I faced many challenges along the way. First, I had to satisfy my family. It was the most difficult step. They wanted me to continue education and I was supposed to take a short break and get back to university. After that I had to introduce myself as a woman woodturner to buy wood and tools and sell my products.

People are usually surprised. Some people admire me, some people blame me, some of them are worried about dangers and some people even ridicule me. All these reactions cause a seclusion. So, I decided to stay on my Instagram page. I usually buy wood and tools online and sell my works through my page. There is only one shop in my city that I go to buy wood. There are other woman woodworkers in Iran who are working confidently with men. I think I'm not that strong. But the world is changing and women have been fighting for equal rights for many years and society has to accept this equality.

What timbers do you use most and what timbers are available in Iran?

I mostly use beech wood because I like its colour and texture. But in Iran customers prefer walnut. Here in Iran, walnut, beech, maple, plane, ash, pine, apricot, jujube, pear, cherry, elm, Russian olive, oak and many other species are available and any kind of wood can be bought at a high price.



Are tools and machinery freely available in Iran?

Most international brands don't have shops in Iran. But we can import at a high price. There are also high-quality Iranian machinery and tools.

Tell us about your workshop.

My workshop is not well equipped. I just have an old-fashioned lathe, a DeWalt bench grinder, an Iranian drill press and a few gouges – I just use three of them. I use a bandsaw in another workshop to cut the woods.

I noticed you use a Union Graduate. Do you find many English machines there or is this unusual?

Actually, it's not a Union Graduate lathe. It's just an Iranian copy of it and I think it's the best lathe in Iran. There are also other Iranian lathes that professional woodturners use. Some woodturners use a Hamlet bowl gouge but it's too expensive. I'm not sure about English woodworking machinery but Britool, Gordon and Eclipse are English brands that are well known in Iran.

Where do you get your inspiration? How do you design your work?

I usually listen to the wood. It says what it wants to be. I know it doesn't make sense. Yes, I have something in my mind when I start working. Picasso said: "Good artists copy, great artists steal." Obviously, he is not talking about implementing someone's idea directly. It's just about attention to the details and to use it in the right place. Sometimes I watch ceramics arts and crafts for hours – glass and crystal, metal, resin and polymer clay – and I find a detail that would be nice on wood. However, finally the wood decides what it wants to be. Additionally, I'm always looking around for round things to make on the lathe if it is possible.

What is your favourite piece that you have made?

I love all of them. But I think lidded bowls are more practical. Gnomes (designed by Rebecca DeGroot) are the most popular. I changed them to magicians and Santa Claus that are well-liked too. But my little birds are something else. I was inspired by a Chinese artist and I changed the shape of its body based on a painting in a children's colouring book. I love wooden cottages as well. I used to dream about a doll house



when I was a child and finally it came true. I should confess I still dream about living there when I'm working on them. I cook in the kitchen and drink my afternoon tea in the balcony, irrigate flowers, watch the stars on a wooden swing and enjoy snow falling sitting on an armchair beside the fireplace. Dreaming about living there is more enjoyable than finishing them.

What is the most challenging piece you have made and why?

Elliptical shape was the most challenging piece. It was a little scary and I had no idea what it was going to be like. I just knew an ellipse has two centres when I started, but it was completely different from what I had imagined.

Is there anything you would like to make in the future?

Of course! Many things. Most of all I'd like to try segmented

woodturning. Also, I'm eager to turn different types of woods. I'm very inexperienced and I have a long way to go.

How has Covid-19 affected you and your work?

Like people of other countries, we have difficult days. We are struggling with sanctions at the same time. Many families are economically affected. Fortunately, I was able to keep working even in quarantine because I work alone in my workshop. I just stayed home for two weeks to respect the society and treatment staff and entertained myself with wood carving at home. But many handicrafts artists were strongly affected by Covid-19 since their jobs depend on the tourism industry.

Finally I'd like to thank you for giving me this opportunity to talk about my country and my works.

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The ginger jar

Jim McConnachie makes a segmented design in a two-part article

After writing about the lidded vase in *WT 354*, I have taken the idea a little further and, in some places, have simplified the procedure in making the basic barrel blank form. This style of construction will produce a variety of patterns, dependant on the turned shape. The better patterns will be produced by smooth, flowing shapes.



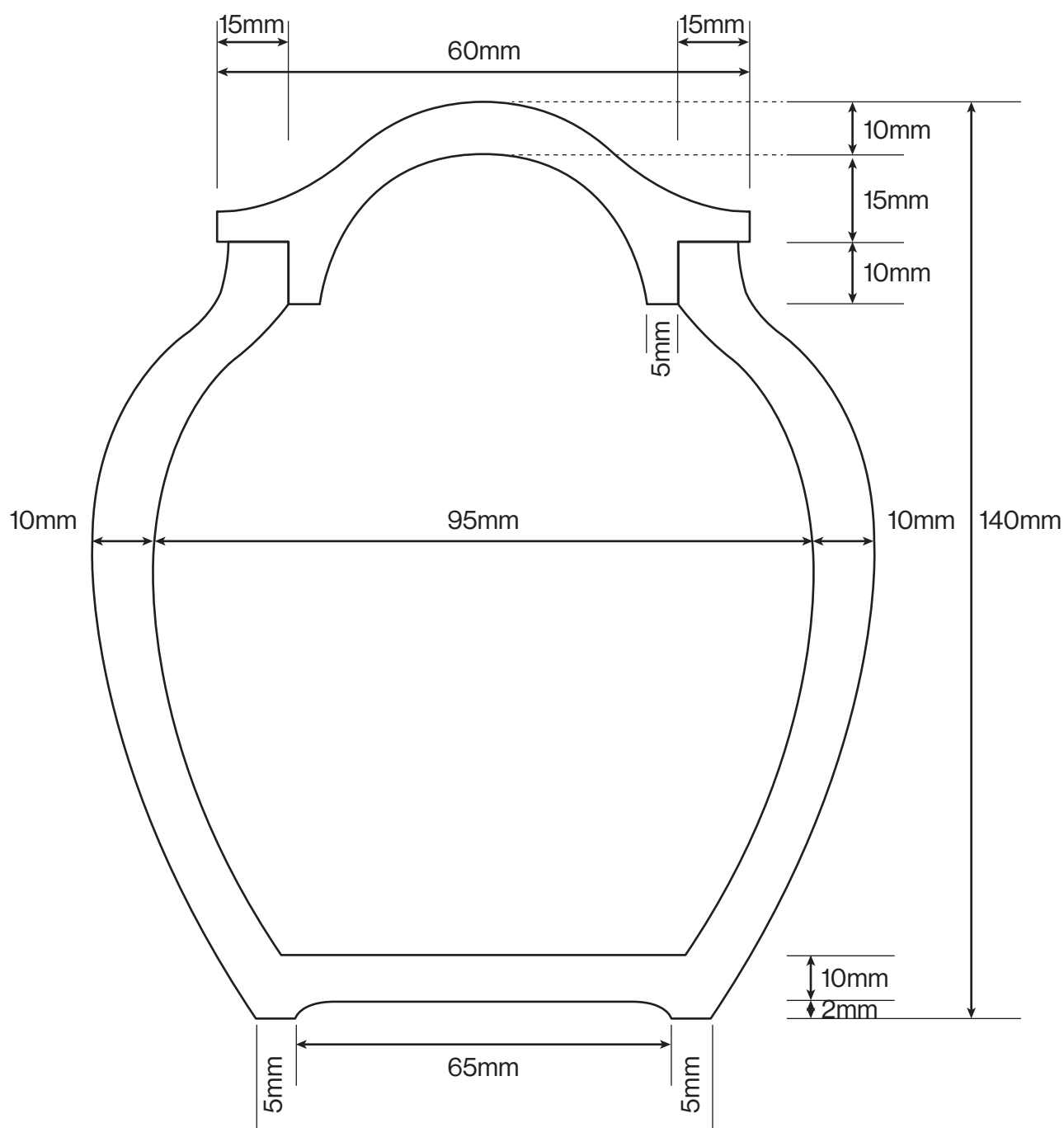
Plans & equipment

Materials

- PPE and RPE
- Black Bean, 90 x 18 x 900mm long
- Veneers: Queensland walnut, silver ash and ebony
- Scrap, 8 pieces only
- Glue

Tools

- Glue brush
- Band clamps
- Veneer saw or craft knife
- Spindle roughing gouge
- 12mm bowl gouge
- Parting tool
- 30mm round-nose scraper
- 10mm scraper



Making a sanding station

1 Before starting this project, make a sanding board. Take a piece of 19mm particleboard or 12mm ply, 230mm x 115mm, and glue to it half a sheet of 80 grit, good quality sand paper so that the whole of the board is covered, edge to edge. If you do both sides, the sanding board is less likely to slip on the bench. This sandpaper board will get a lot of use, cleaning up the 'fur' on pieces after cutting, before gluing. Another aid will be a small cup about 35mm diameter and about 19mm deep to hold glue when gluing a number of pieces. A 19mm, good quality, short bristle paint brush will be used for spreading glue.

This photo shows a group of segments and the veneer pieces, with the glue pot, small dish and glue brush at the ready.

I work between two sheds, and often forget to wash the brush out before the glue sets. When that happens, I immerse the bristles in vinegar for about two hours and then clean out the softened glue with a wire brush. Wash the brush with soap and water and rinse in clean water. Some of my glue brushes are more than 10 years old.

I have chosen to use shop-made wooden faceplates instead of traditional metal faceplates with waste blocks fixed with screws. I have used wooden faceplates now for more than five years, without failures. Making a wooden faceplate was featured in a previous issue of *Woodturning*.

For this project, you will need a piece of timber 90mm x 18mm thick, 900mm long. Alternatively, use two pieces 450mm long, and use two contrasting colours to get a different effect without using the veneer.

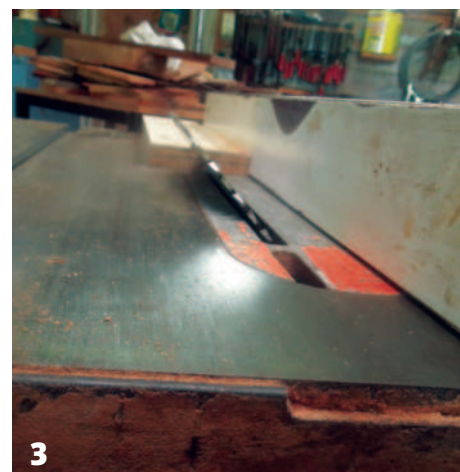
Preparing the stock

2 For this project I have used Black Bean, an Australian, dark native rainforest hardwood. Black bean is quite acrid and will cause prolific sneezing and can induce nose bleeding, so definitely use a mask and proper PPE that's up to the task.

I have opted to use a combination of two silver ash veneers and one black walnut to make a three-ply panel for a contrasting effect. The alternative is to use a single contrasting veneer. I have cut the 90mm x 18mm Black Bean board in two lengths of 450mm, for convenience. That will give you about 50mm of waste.

You now need to decide to use a single veneer or multiple veneers, either way glue the veneer to one face of the board. For the three-ply veneer inserts I glued up a sheet 150mm wide and 600mm long, of one sheet of walnut, sandwiched between two sheets of silver ash.

Cut the veneer to the size of the boards, allow about 4mm for trimming. Glue the veneer to the boards. Veneer slipping can be a problem. My solution is to use some clear plastic packing tape to secure the veneer to the boards. An alternative way to prevent slipping is to insert a grain of sand or sugar between the glued surfaces. Then the assembly is then turned over, with the veneered side down, on to a caul, I used a piece of 150 x 50 timber for the caul.



Use plastic sheet between the caul and the veneer, to prevent gluing the whole set up together. Clamp securely and let dry thoroughly.

If you use a metal caul, it is important to use a plastic sheet under the veneer to prevent staining. Don't use newspaper, the print will appear on the veneer but in this case that would not matter.

When the glue has set, trim off the surplus veneer with a hand plane. I have used three veneers for effect, one would do much the same job, but probably not as spectacular.

Mark a line in the centre of the board, parallel with the side, and a second line centrally across the width, on the end of one board. Set the saw blade at exactly 45° and cut through this point to make two identical halves.

3 To cut the board, I lowered the saw blade and moved the fence to the left of the saw. My saw blade tilts to the right. That eliminates a potential hazard by not trapping the wood between the fence and the saw blade. Note, I have removed the guards for taking the photo. It is essential for safety to leave all guards in place while the machine is in operation.

4 Here are the 16 pieces ripped and docked to length.

5 Before gluing together, make sure the internal angle is 90°. Here, I have placed two of the short boards sharp edge down on a flat surface, glued and, using a try square, made sure the assembly is truly vertical, and applied clamps to hold the boards firmly together.



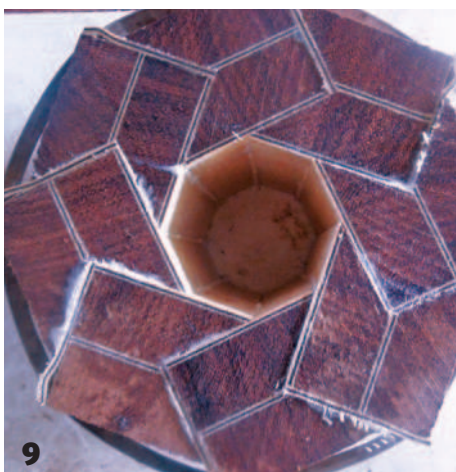
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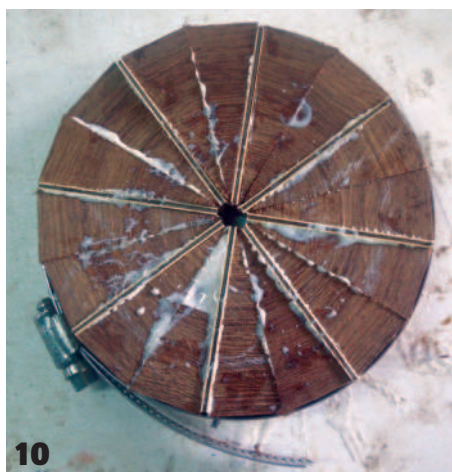
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6 Glue the two halves of the board together to form a V on one edge. If this proves difficult, cut the boards into 115mm lengths. It is critical that the two boards remain in that position until the glue has set. After the glue has fully cured, clean out any surplus glue from the inside the V with a sharp chisel.

7 The back or square edge of the glued-up boards will be veneered with the same veneer set-up as before. Trim the back of the two boards to 48mm minus the thickness of veneer being used, on the bandsaw. Tidy up the cut if necessary with a hand plane or by sanding on a belt sander. It is critical to make sure the back edge is square before applying the veneer.

Cut the veneer to 115mm long and about 40mm wide and glue veneer to the sawn edge. Be very careful not to damage the sharp edges of the V.

I do not waste much wood, any useable offcuts are cut up into 19mm blanks for pens and needle boxes etc. These square pieces of timber conveniently fit inside the V, but any square sections up to about 19mm square and 100mm long will do. This prevents any damage done by the clamps to the sharp edges. Be careful not to accidentally glue the two blocks together into one piece.

8 So now you have eight pieces with a V shape on one edge and a square veneered edge opposite. Clean off any surplus veneer and dry fit the pieces together to form a cylinder. Clamp with a radiator band clamp to see what the fit is like. Now it will be obvious how important accuracy is.

9 If all is well disassemble and apply glue to the joints. Apply two band clamps to hold the assembly firmly and set aside to dry.

10 Note here that I have used a sheet of plastic to prevent gluing the job to the bench. While the glued barrel is drying make up the top and bottom discs.

I have chosen to make a 16-segment disc for the top and bottom. Alternatively, an eight-segment disc or even a single piece would do the job for the bottom, it just depends on your skill level and confidence.

Preparing the bottom disc

11 For the bottom disc you will need 400mm of 45mm x 19mm timber, I have used the same species as for the barrel. Cut eight wedges at 22.5° and 44mm on the long edge. Investigate Jerry Bennett's Segeasy website (www.segeasy.com) for instructions on making a wedge-cutting sled. Alternatively, use a mitre box and make a 22.5° cut for an eight-segment disc, or 11.25° for a 16-segment disc, and cut by hand. Clean the 'fur' from the saw cuts and dry assemble into a disc. Apply a band clamp, tighten and check the fit. Adjust if necessary using the sanding board. Or, glue in semi-circles together with a match vertical in opposite joints. Sand the edge of the two halves flat on the sanding board. Before gluing, assemble the segments, cut the veneers if required and place in a handy position. When you are happy with the fit, apply glue, clamp with a band clamp and put aside to dry.

The procedure for the lid is similar as for the bottom, but the best option for appearance is the segmented version with the same veneer pattern used for the barrel, between the segments.

Top tips!



Wooden faceplate

I have been using shop-made wooden faceplates for a number of years. They are usually made in batches of 10 or 12. The advantages include: they are cheap, can be modified to suit the job and hot-melt glue is easy to use.

One such faceplate is fitted to the headstock and has a spigot turned to fit neatly into the octagonal hole at the centre of the barrel.

Turn the barrel

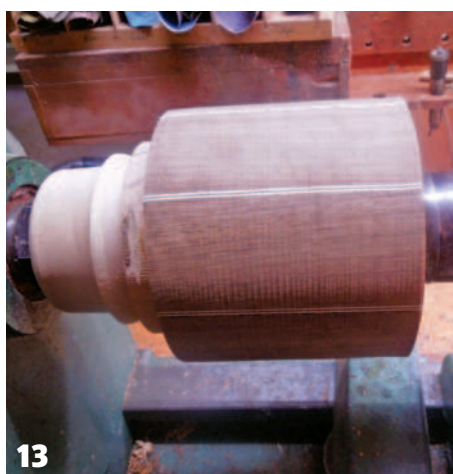
12 A large revolving cone is fitted to the tailstock, to fit into the other end of the barrel.

13 Now the faceplate is securely hot-melt glued to the barrel, we are ready to start turning. The barrel is turned to a cylinder, using a standard spindle roughing gouge. Allow 3-4mm for cleaning up.

14 Mark the diameter of the bottom on the tailstock end. Refer to the drawing and estimate where the largest diameter is located. Mark a line around the barrel at that position and turn a full curved shape from there to the diameter marked on the tailstock end. Tidy up the end with a narrow parting tool. Don't hit the centre.

15 Here the pattern is beginning to form as wood is turned away.

Next issue, I will hollow and finish turning the components and assemble the ginger jar. ●



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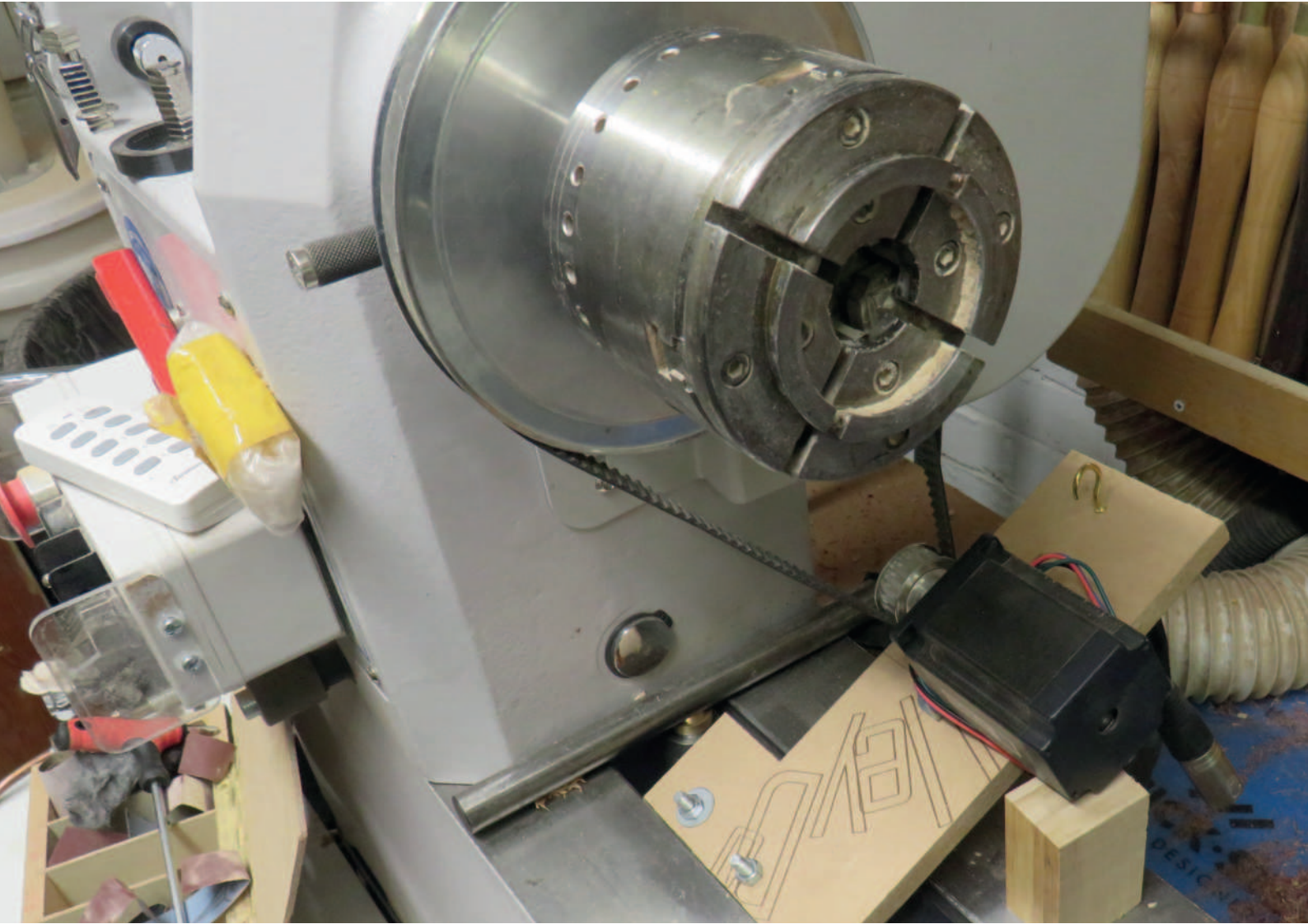
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Indexing

Adrian Jacobs installs electric indexing on his lathe

I admitted in my last article that I am not very good at burning designs with a hot pyrography wire , so I decided to invest in a laser etcher that could burn patterns and designs with great accuracy. My objective was to be able to burn designs on every part of a bowl and also to be able to burn my logo and signature on every piece that I make.



Soon after my new laser etcher arrived, I realised that it would make life a lot easier if I installed electronic indexing on my lathe. Electronic indexing is something I am very familiar with (having used it on my ornamental lathe that I wrote about in *Woodturning* 329) and would be very easy to adapt to my big lathe. Electronic indexing has several advantages over the mechanical systems that are provided with or retrofitted to lathes:

They are very flexible, most mechanical systems only have 24 positions on the index circle. With electronic systems, the 'circle' can be divided in degrees into as many sections as you like from 10 upwards

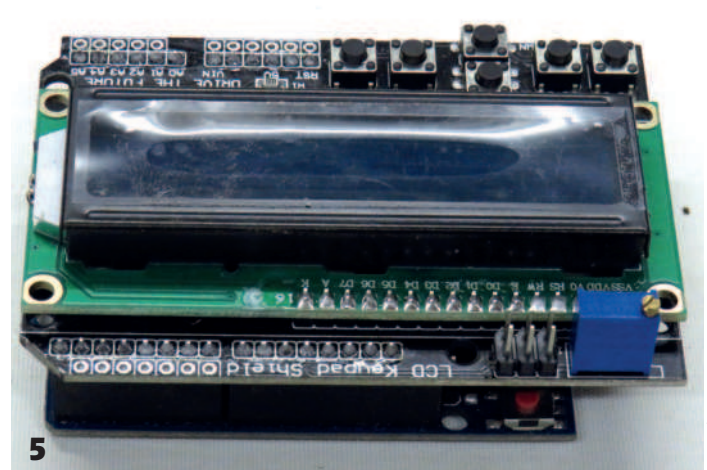
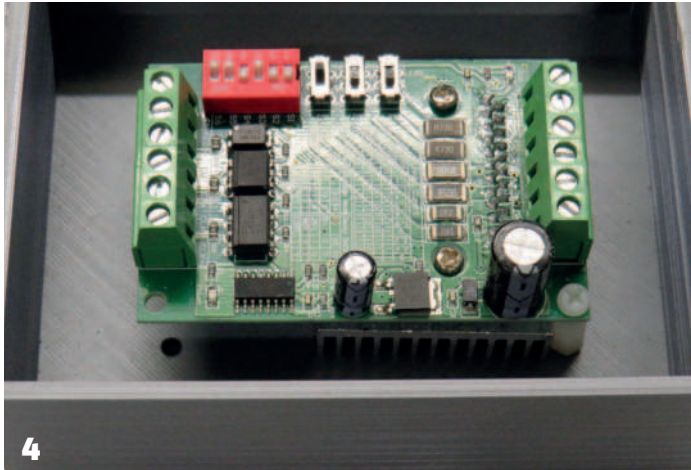
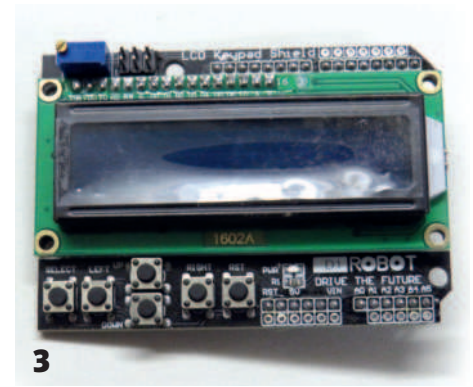
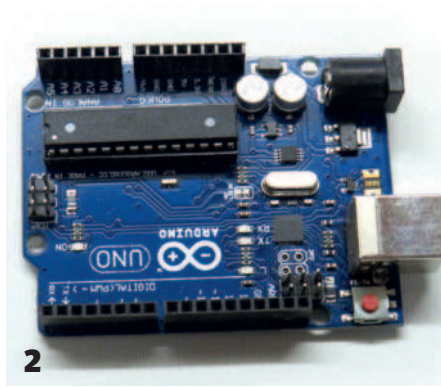
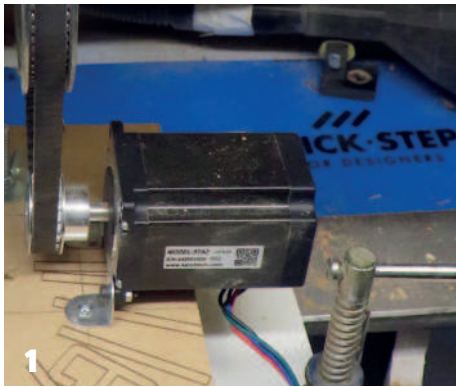
Alternatively, you can divide a circle into as many sections as you like, including odd numbers. This gives a much greater range of places where you can place your designs on a bowl or piece of turned work.

Electronic systems are very quick to operate; you can move from position to position at the touch of a button.

In my case the electronics were already available because I could transfer the control box from my ornamental lathe.

HEALTH & SAFETY

- If you intend to sell electrical items you then you will need to check on the specific electrical safety legal requirements of your city, state, county, or country to ensure that the items are compliant. In the UK a Portable Appliance Test (PAT) carried out by a qualified person is usually sufficient to certify the item; this may or may not be the case where you live. Do check before you sell to the public.
- The set-up detailed in this article is low voltage, and the components can not be tested in the same way as a lamp or other 240v appliance. If you are at all unsure about building the equipment yourself then do seek the services of a competent electronic engineer.



PHOTOGRAPHY BY ADRIAN JACOBS

1 Motor unit 2 Arduino microcontroller 3 LCD keypad shield 4 Stepper motor controller 5 The LCD keypad shield plugged into the Arduino

Set-up

Stepper motors are inexpensive, highly controllable and accurate electric motors that have to be controlled by electronic circuit boards. They are most commonly used in computer printers and CNC machines and the electronics make the motors move in 'microsteps', the size of which are determined by the controller. This means they can be moved very accurately by tiny fractions of a millimetre.

In this set-up, I used a Nema 23 stepper motor that I bought on eBay for £28. The motor needs to be big enough to hold the lathe steady in a locked position at rest. The motor I used has an $\frac{1}{8}$ in diameter motor shaft and a model number 57A2, serial number 440501559 and www.szruitech.com as the manufacturer.

To control the motor you need:

- A microcontroller – most home-built designs use a device called an Arduino – a very cheap and easily available circuit board with lots of uses and help available on the internet. These are available on eBay for around £4.95
- A small VDU with control buttons that piggybacks on to the Arduino. This plugs directly into the Arduino and is called a LCD keypad shield. These are available on eBay for around £4.79
- A TB6560 stepper motor driver that converts the instructions from the Arduino into something that the stepper motor can understand. Cost around £9 on eBay
- A 12V, 5 amp power supply. I used one from an old defunct laptop computer, but these are available on eBay for around £13
- A computer to run the necessary software to programme the Arduino
- The pictures above show what the components look like in their 'raw' state.

The keypad shield has the control buttons for the stepper motor and the LCD that allows you to see what you are doing and plugs into the Arduino. The connections to the stepper motor controller are four wires that need to be soldered to this board. The buttons on this keypad can be used to control the stepper motor in the finished product. Alternatively, you can build this into a box and solder external press buttons on in parallel with the buttons on the board. This is a bit fiddly but increases

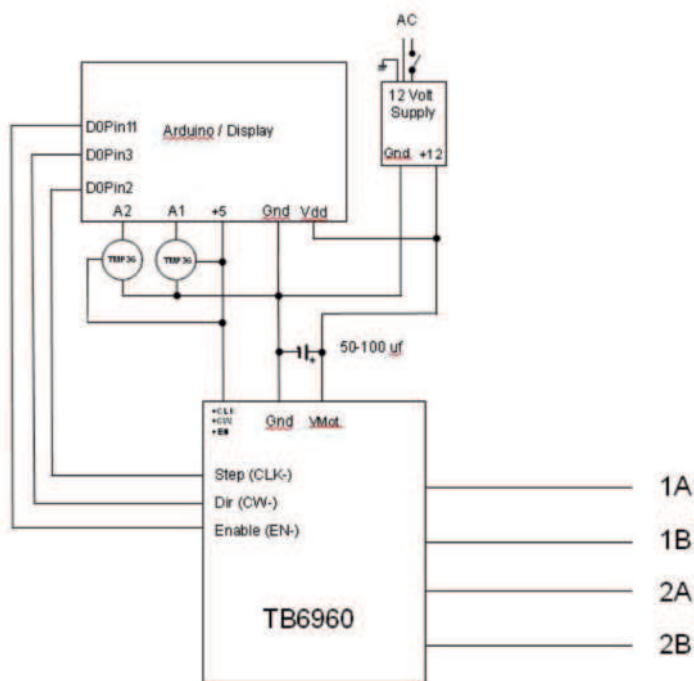
the usability of the system and keeps dust out of the workings.

To put everything together you need:

- To be able to use a soldering iron (or have access to someone who can)
- A box to house the electronics
- To be able to understand a basic circuit diagram
- Access to a good instruction sheet
- For instructions on how to put it all together, I used a website set up by a chap in the US called Gary Liming. You can access these instructions and download the Arduino programmes at www.liming.org
- You will need to change one line of the programme as follows:
- Download Arduino IDE to your computer. This is the programme that reads the code and uploads it to the Arduino board.
- Download Gary's Stepindex23 programme from: <https://digitalmachinist.net/downloads/> on Winter 2013, and click on Liming DM8.4 Liming
- Open Arduino IDE and load the programme Stepindex23 so that you can edit it
- The 12th line will read:
#define GearRatio1top 3 // Change these three values to reflect any front end gearing you have
- All you need to do is to change the 3 to a 5 so that it reads:
#define GearRatio1top 5 // Change these three values to reflect any front end gearing you have

Once you have made the change, click on the 'sketch' then click 'compile' tabs on Arduino IDE. When this has been completed click on 'sketch' again and then 'upload' to get it on to the Arduino board. The reason for making this change is to reflect the 5 to 1 gear ratio between the small and big timing wheel. This ensures that when you enter the number of degrees on the keypad, this will actually make sure the big timing wheel will turn the same number of degrees.

Gary also has a video on YouTube that shows his design in action, you can see this at: www.youtube.com/watch?v=Nfamr2HbIPk



Motor terminals

The basic circuit diagram

You can ignore the connections for temperature sensor because this is not used in this set-up.

The small blue circuit board is only there because my power supply needed to be downgraded from 30V to 12Vs. It is not necessary if you have a 12V power supply. The stepper motor driver on the left is bigger and more powerful than the one described above but I had it hanging around and so used it for this project.

The good news is that if dealing with electronics frightens the life out of you, I have recently discovered you can buy a ready made stepper motor controller from a website called Wish. Wish supplies Chinese-made goods at very cheap prices but these usually take around a month from order date to delivery. The Wish controller cost £22 plus shipping and is a little limited in that you can only control the motor steps by 10 or more. It does not allow you to divide the circle into any number of sections. Nevertheless, I think it does the job nicely. This device will not allow for the gear ratios so you will have to divide the number of degrees on the control box by five to get the correct number of degrees on the big timing wheel. So a 10 reading on the control box will actually turn the big wheel 1/50; this will increase the flexibility of your control but I suspect that no one needs quite that degree of accuracy for woodturning. The Wish unit arrived with no instructions and the controls written in Chinese!

If any readers want to try the Wish unit, I can report that I have worked out how it works. The connections used are all on the right as you look at the unit and, from top to bottom, they are:

- DC positive in (12-30V)
- DC negative in
- A+ Connection to first motor coil
- A- Connection to first motor coil
- B+ Connection to second motor coil
- B- Connection to second motor coil

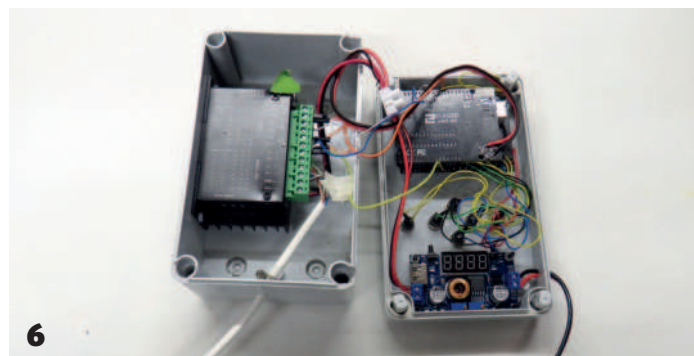
The top readout is controlled by the top potentiometer and sets the speed of the motor. The second readout is in degrees and is controlled by the bottom potentiometer. Do not forget that this number will be a fifth of the number of degrees that the big timing wheel will move because of the 5:1 gear ratio between the big and small timing wheel. The maximum number of degrees appears to be 9,999 so you have plenty of room for manoeuvre!

The blue buttons

Number the blue buttons along the bottom 1-5, from left to right. The buttons are then used as follows:

Button 1 – Controls the type of programme to be used from P1 to P7.

This controls the way that unit is used. Press and hold and the lower display will show a P number, press again and this number increases by



6



7



8

6 My set-up with the electronics all wired up and ready to go

7 The control box with external press buttons ready to operate

8 Wish stepper motor control

one up to a maximum of seven. Each of these seven numbers represents a different programme as follows:

P1 uses buttons 3 and 4 to inch the motor clockwise or anticlockwise.

P2 uses buttons 3 and 4 to run the motor continuously clockwise or anticlockwise.

P3 uses buttons 3 and 4 to run the motor clockwise or anticlockwise in the number of degrees on the lower readout.

P4 uses buttons 3 and 4 to run the motor clockwise or anticlockwise in the number of degrees on the readout but the motor has to be reversed before it will run again. This mode is not use for a continuous run of steps in one direction.

P5 uses button 3 to run the motor alternately clockwise or anticlockwise. The direction changes each time the button is pushed.

P6 uses button 3 to jog the motor and back to the original position.

P7 appears to duplicate the actions of P2.

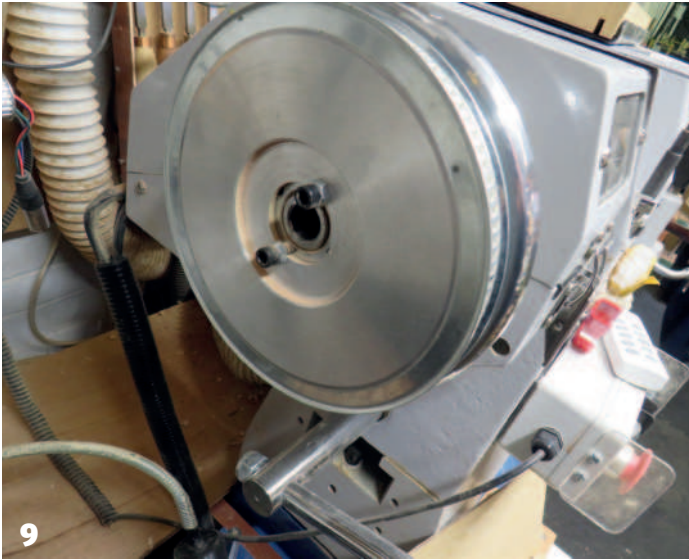
Button 2 - Not sure what this is for!

Button 3 - Turns the motor clockwise.

Button 4 - Turns the motor anticlockwise.

Button 5 - Stops the motor.

Using this control for stepping degrees is really all that will be needed for laser etching so setting to programme 3 is all you need to do. The device appears to remember which programme was in use after the power has been disconnected.



9 Timing wheel bolted on to existing threaded holes in the handwheel **10** Timing wheel sandwiched between the base of the headstock spindle thread and the chuck

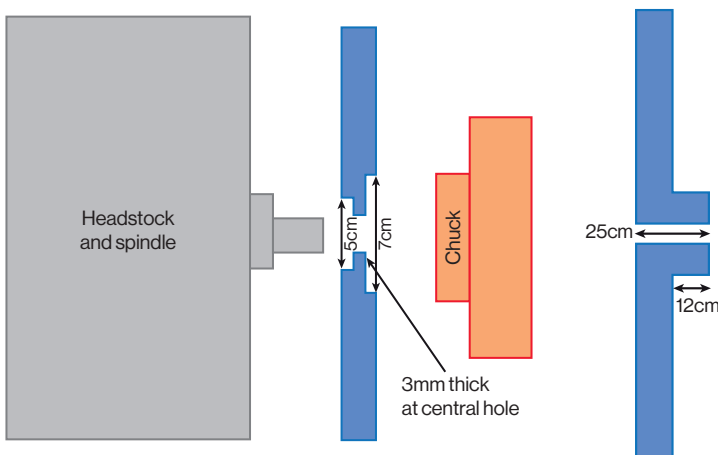


Figure 1 Profile of timing wheel after machining

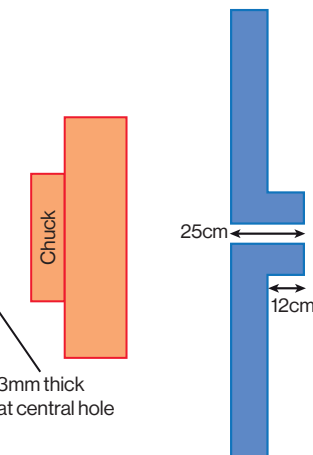


Figure 2 Profile of factory timing wheel

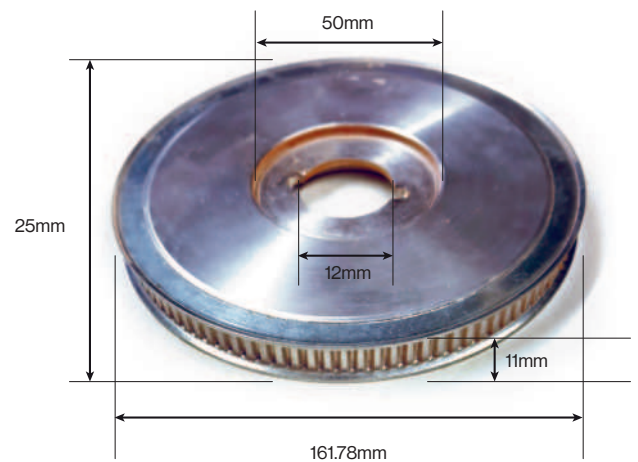


Figure 3 100T XL

Fitting it all together

The next step in the process is to fit the mechanics to the lathe. For this you need:

- A large, 100-toothed timing wheel that can be fixed to the headstock drive shaft. I used a 100T XL timing wheel that I bought on eBay for £39.28
- A small, 20-toothed timing wheel that is fixed to the stepper motor drive shaft. This has to be the same tooth design as the large drive wheel. I purchase a 20T XL timing wheel from eBay at £6.52
- An XL toothed timing belt, the length of which is determined by how your tension mechanism is set up. This will in turn depend on how you fit the motor drive to your lathe. My belt cost around £10.

The large, toothed timing wheel will need some modification to fit it to the lathe. The first thing to do is to decide where you are wanting or able to fit it to the lathe. The best thing to do is to either fix it to replace the hand wheel on the headstock. There are a number of ways that you can do this and that is entirely dependent on how your hand wheel is set up. In my case, the handwheel is held to the spindle by four deeply embedded grub screws. These were so deeply embedded that they left enough spare thread for me to bolt the timing wheel to the handwheel by inserting new bolts on top of the existing ones. An alternative would be to drill holes in the timing wheel into the handwheel and bolt the two together. If your timing wheel has a concave profile, you may need to create some sort of spacer between the two. If you opt to piggyback the timing wheel on to the handwheel, you may well need to enlarge the hole in the timing wheel to give access to the hollow drive shaft for knockout bars, etc.

Timing alternative

The other way to fit the timing wheel (**pic 9**) is to machine it so that it can be fitted on to the lathe spindle thread between the chuck and the headstock. The timing wheel is held in place by friction between the chuck and the headstock spindle and is completely rigid. This is what I did at my first attempt and it worked well. I changed to the handwheel position because when it is placed at that end, it can be left as a permanent fixture. (**pic 10**)

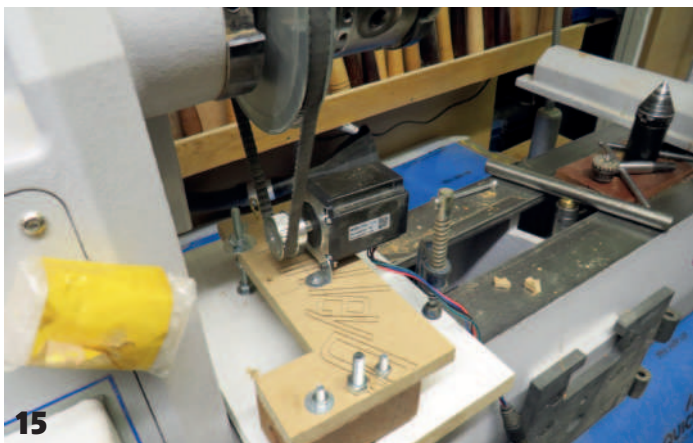
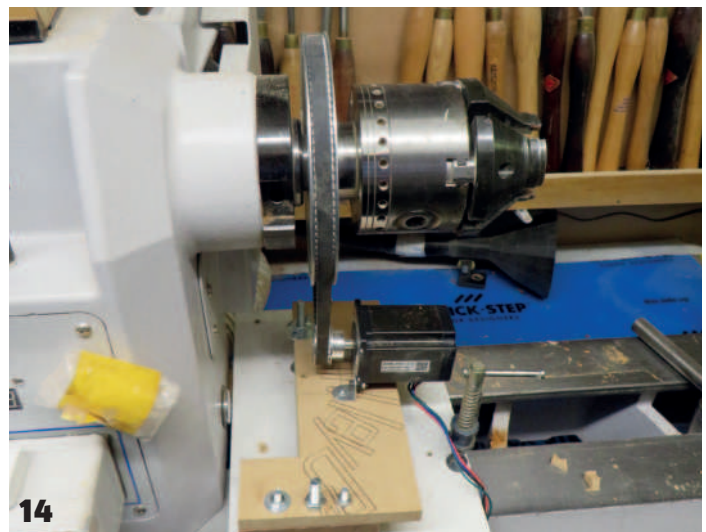
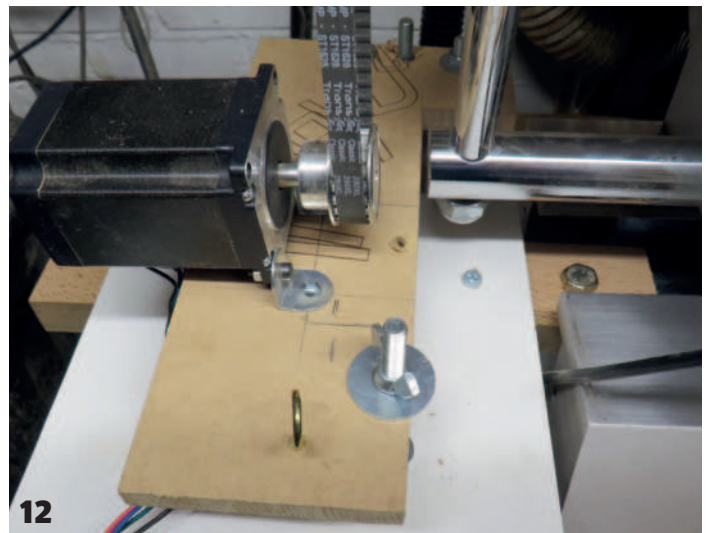
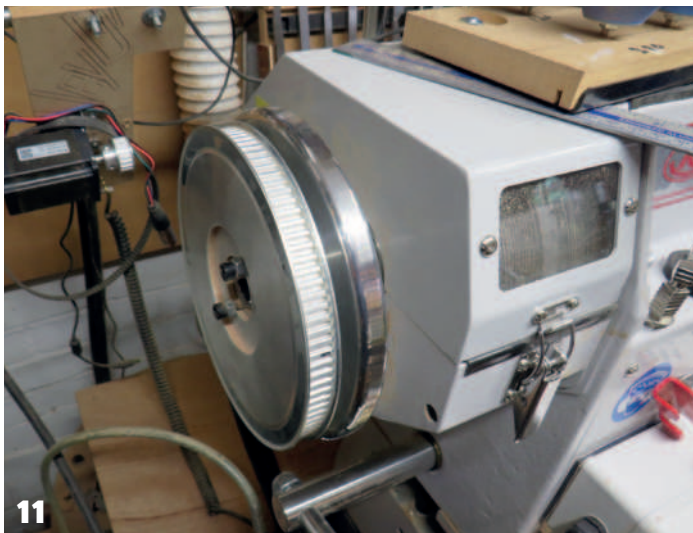
Specify details

The timing wheel (**Fig 1**) was modified to fit on to the spindle thread behind the chuck. I am lucky in that I have a small metal working lathe and was able to machine this myself.

When you purchase the timing wheels (**Fig 2**), you can specify that diameter of the internal hole, so make sure that the small timing wheel fits the motor shaft, and for the big timing wheel, get the 12mm hole, the biggest hole offered. If you are lucky, the hole will be big enough to allow access to your hollow headstock spindle if you have one.

Mount the stepper

Once you have the big timing wheel machined and fixed, the next step is to find a way to mount the stepper motor. I mounted mine on a piece of MDF which is in turn mounted onto a metal bar that fixed into a tailor-made fitting on the XL lathe (**Fig 3**). This fitting was designed to fix lights and was perfect for the stepper motor. All I had to do then was to fix some shock cord between the stepper motor mount and the wall behind my lathe to tension the belt.



11 Stepper motor mounted on the XL light fittings bar. The drive belt is not yet in place **12** With an MDF platform **13, 14 & 15** Stepper motor and belt in place and ready to go

Top tips!

- Don't be frightened by the technicalities. If in doubt, get a teenager to help you!
- I would recommend using some kind of connector between the control box and the stepper motor. This will allow you to share the control box with other projects. Once you get a taste for this, I guarantee you will want to do more of this kind of thing.
- Never disconnect the motor with the power on; this can result in burning out your electronics.
- A box for the electronics can easily be made out of ply or MDF. If you opt to do this then you can build it exactly to size.
- If you are new to soldering, watch a few videos on YouTube and practise on some scrap electronic components if you can find them. It really is not that difficult.
- Everything beyond the power supply is low voltage and cannot cause harm. The power supply has 240V input and do not attempt to meddle with this. Build a socket to take the 12V supply into your control box.
- You can run an Arduino on a 9V battery but it is much better to solder in a connection to the 12V power supply. Make sure that you get the polarities right, they are marked on the Arduino; connecting positive to negative does not seem to harm the board but it will not work. •

Most other lathes will need an alternative way to mount the stepper motor. The simplest is to find a way to bolt or screw some kind of platform to the end of the lathe bed (**pic 11**).

I have bolted a white painted MDF platform to the end of the lathe bed behind the headstock (**pic 12**). The motor is mounted on another piece of MDF, which is in turn mounted on to the white platform suspended on two coach bolts, which provide a very easy way to adjust the belt tension (**pic 13**).

The same platform arrangement used at the handwheel end can be fixed at the front end of the headstock under the chuck (**pic 14**).

In this case the assembly is held in place by a G clamp for demonstration purposes (**pic 15**).

See my electric indexing system in action on this YouTube video:
https://youtu.be/Vi40K_vzB2g

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Applying texture

Andy Coates looks at texturing wood in part four of this series

With the exception of some of the absolutely-not-intended-to-be-texturing-tools we've now looked at most of the tools and techniques available to us. I hope that I've given some clues as to how to possibly use other implements and tools and you have enough to begin experimenting.



While we have looked how the tools create texture, and how to use them, what I haven't done is show how the texture might actually be incorporated into a piece of work. This may be very obvious to most, and probably is, but something a student once said to me always comes to mind. After showing her how to use a spindle gouge she, said: 'I think I've got all that now, but how do I know how and where to make the shapes?' This made me pause for a second or two to compose a reply. Technique, while fundamental, is useless without

understanding it's application, and successful application requires either a drawing or experience. So with that in mind I thought we would take a look at application.

I decided to use two of the commonly available texturing tools, the Henry Taylor Decorating Elf and the Sorby Texturing Tool, and see how we might use them to embellish a small lidded pot. I have included a drawing here, but the aim is not for you to replicate the object, rather to see where you might incorporate texture on your own work.

Plans & equipment

Materials

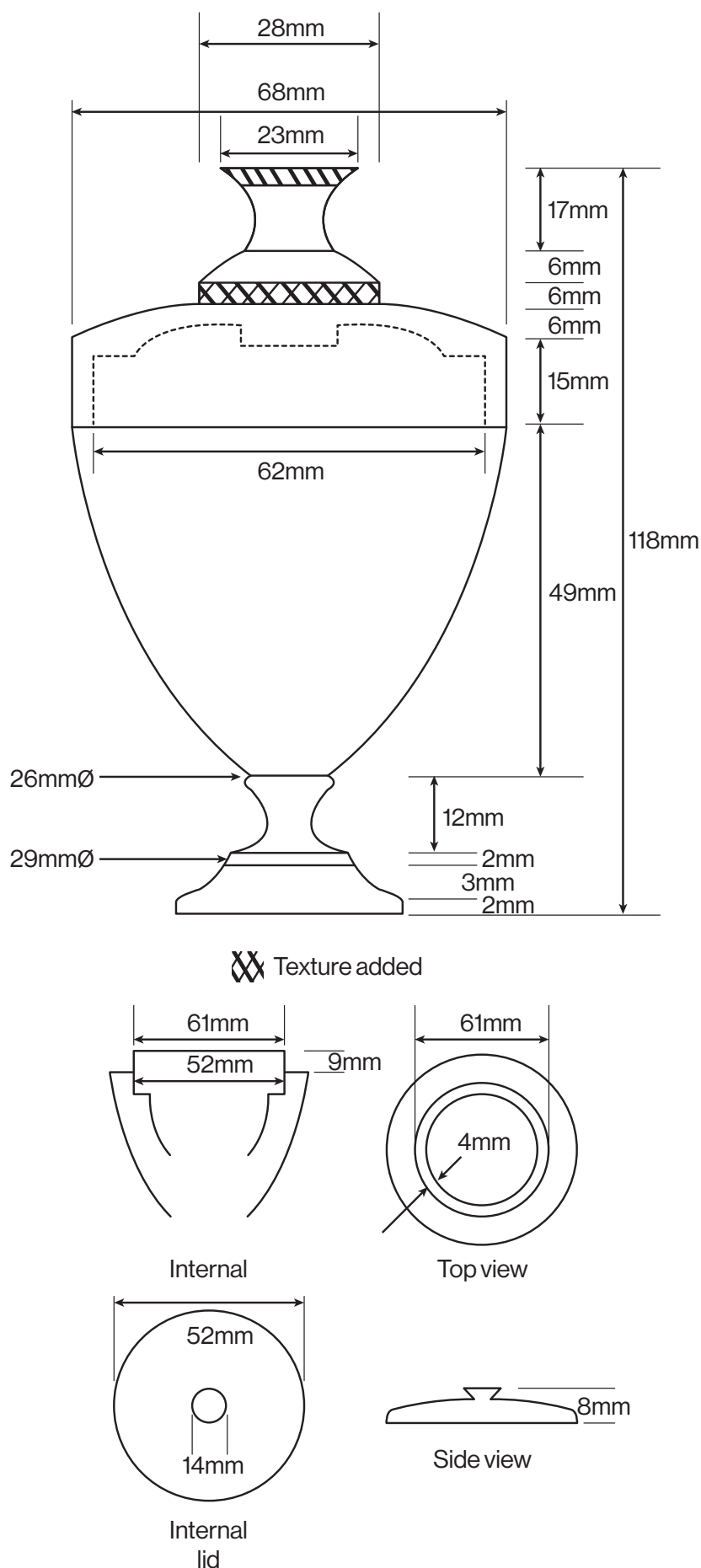
- Reused blank of sycamore, 160mm long x 90mm diameter (when roughed down)
- Scrap mahogany for tenon insert, 70mm diameter x 40mm thick

Tools

- PPE and RPE
- 25mm spindle roughing gouge
- 10mm bowl gouge
- 10mm spindle gouge
- 2mm parting tool
- 5mm beading and parting tool
- Henry Taylor Decorating Elf tool set comprising: point tool, cove tool, decorating tool and natural bristle brush
- Robert Sorby Micro Texturing Tool (two sizes of spiral cutter used)
- Jacobs chuck and 13mm twist drill bit

Top tips

- As a general rule the lathe speed should be around 400-500rpm when texturing, but these speeds are not cast in stone. The type of cutters used on proprietary tools tend to work poorly at higher speeds, but a variation in lathe speed and the pass rate used to traverse the tool will produce slightly different textures; so experiment and find out what works for you.
- The start point for all of the tools is on the centreline, but even here the texture can be modified by altering the start and end points of the traverse. Differences can be significant or even slight, but often you will find what works best, and looks best to you if you experiment first on some similarly dense material to that of the actual object you intend to texture.
- When using the micro texturing tool in small, confined places it can help to practise the required movement before actually doing it. You need to avoid accidental catches on the walls of the section you are texturing.
- Do remember that while texturing you will not be producing large shavings but you will be producing very fine chippings and possibly dust, so use all PPE mitigations as usual.



Making the object to be textured

1 I hate wasting wood, so I decided to reuse a blank from the second article in this series, a blank of sycamore that I had applied a spiral to.

2 The blank was re-roughed down with a spindle roughing gouge to 90mm diameter.

3 There was already a tenon at the tailstock end, but a fresh tenon was cut and the remainder at the tailstock end was parted off to be possibly used later. On the resulting blank a 90mm section was marked off, the top marked at one third of this, and it was parted with a 2mm parting tool. Maintaining grain alignment as precisely as possible always adds to the appeal of a lidded object, so in order to re-join top and bottom an insert will be turned and set into the base of the pot, which will serve as the mounting tenon for the lid.

Making the inset tenon

4 A piece of scrap mahogany 70mm diameter x 40mm thick was roughed down and trued up. The diameter of the sycamore base was measured and the mahogany turned to a diameter that allowed for it to be inset into the sycamore. This happened to be 61mm.

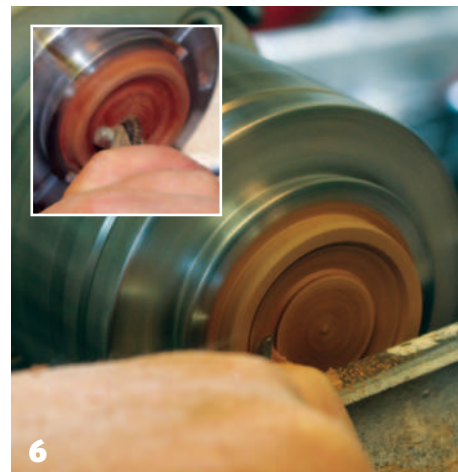
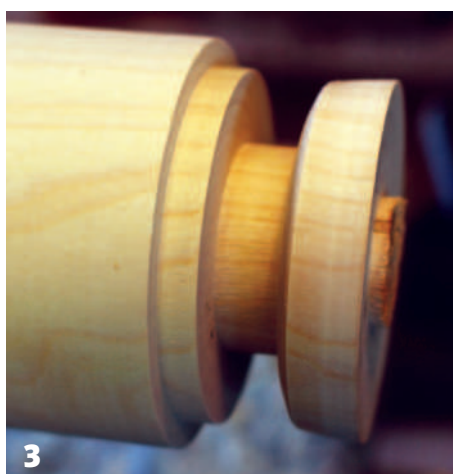
5 The mahogany was hollowed with straight sides to a depth of 20mm, leaving a wall thickness of 8mm. The face wall and side wall were checked to be sure they were absolutely square and the 20mm ring parted off.

6 This left some scrap mahogany in the chuck, and once again arboring the waste an interior secondary lid was turned from this waste. The diameter was cut to 8mm over the internal diameter of the ring previously made. The face of the secondary lid would be the underside when in place, so it was slightly dished, a cove cut leaving a central boss. This boss was textured with the micro texturing tool set at 45°. Once the texture was applied the extreme outer edge was cleaned up with a cut using the point tool to provide a crisp, clean edge to the texture. The underside can be abraded and finished (although I didn't make this to a finished standard).

Making the secondary lid

7 The sycamore base was re-mounted in the chuck and the face cleaned up. The ring was measured and a 10mm recess cut to take the ring as tightly as possible. The base of the recess had to be square to the wall. The ring was glued in place, ensuring the squared end was put into the recess and not the parted off end.

8 Once the glue had cured a recess was cut into the ring to take the secondary top. It needs to be as tight as fit as possible to enable shaping the top.



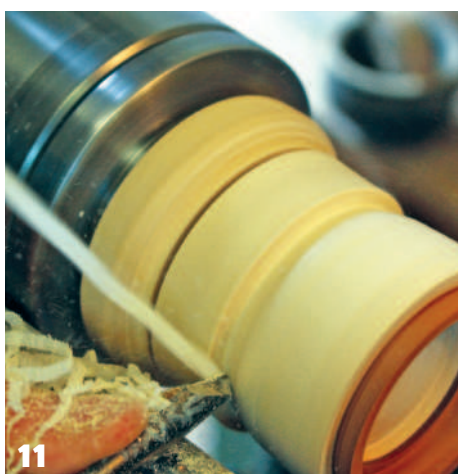


9 The top was shaped with a shallow dome and a small recess cut to take the short stem of a small knob.



10 A small knob was turned from an offcut of ebony. This only needs to be very shallow, and the stem is only 2mm long. Once the top of the knob was turned and abraded the micro texturing tool was used to create the same texture as on the underside of the secondary lid. The edge was once again cleaned up with the point tool. The knob was parted off and glued in place.

Bringing the pot together



11 If you rough out the shape you want for the body of the pot it will be an advantage when hollowing later on. A spindle gouge or small long-ground bowl gouge is best for the shaping.



12 The lid section was re-mounted and the cleaned up, then a recess cut to tightly fit the base of the pot. The fit needs to be tight at this stage to allow for shaping and texturing the upper face.



13 Once happy with that stage the base of the pot can be removed and the internal shape turned inside the lid. I created a boss to match the two bosses on the secondary lid. This unifies the overall design.

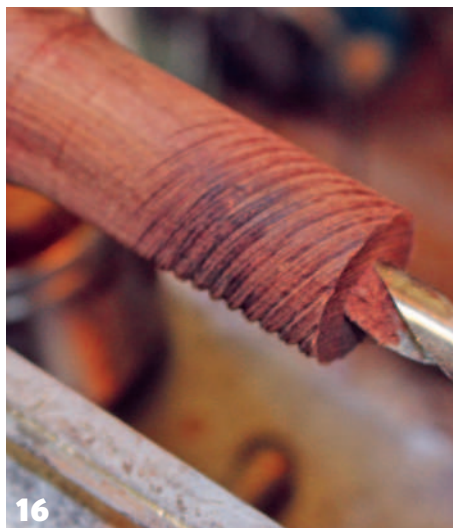


14 With the interior of the primary lid completed, I re-mounted the base to hollow the interior in the conventional manner. You may prefer to use a spindle gouge, small bowl gouge, carbide tool or scraper, but the turning is no different. Hollowing took place until the interior shape echoed the ultimate shape of the exterior, aiming for a 5-7mm wall thickness. The lid section was mounted to the base and the tailstock brought up. Note the pencil line on the lid, which identifies the internal depth of the lid to ensure you don't cut the top too deeply. A gentle, sweeping curve was cut – use a spindle or small bowl gouge. Ultimately I will form a 13mm peg in the centre to add another textured feature to, so leave enough material for this to be formed from.



Making a textured feature

15 An offcut of ebony was mounted and roughed down to a cylinder around 28mm diameter. With the lathe speed set at 500rpm and the spiralling cutter at 45°, the tool was traversed from left to right along the wood. The initial cut was made with the handle high and the edge of the cutter contacting the wood. When the cutter began to rotate, the tool was traversed at an even rate along the wood. When the cut ended the tool was returned to the left, the handle lifted a little and the second cut progressed. This as repeated until the spiral was at the full depth of the teeth on the cutter.



16 A 13mm drill bit was mounted in a Jacobs chuck and the blank bored down to at least 15mm. A 6mm wide ring was parted from the end of the blank and out to one side.

◀ Making a boss for the lid knob

17 The stub of this scrap was cleaned up after taking several rings for future use. A slight dome was cut on the face and is abraded to a finish.

18 Texture was applied as for the previous features. The cutter was set at around 45°, the lathe speed at 500 rpm and the cutter addressed to the face of wood on the centreline until it began to rotate, at which point the tool was pivoted towards the edge of the wood. This can be tricky on small-diameter sections because achieving rotation is difficult. The edge of the boss was cleaned with the point tool, creating a slight under cut.

19 A small tenon, 2-3mm long, was cut behind the boss and the boss parted off for fitting later.



Building the finial knob

20 The internal diameter of the spiral ring was checked (13mm) and a stub tenon turned on the lid of the pot. The ring needs to sit perfectly flat to the surface. The ring was glued on to the stub and the curve of the lid then cut to meet the base of the spiral ring.

21 The top of the lid was marked into two sections and on the outer section the Decorating Elf with ball cutter fitted was used to create a textured band.

22 The cove tool was used to cut a cove in the inner section; it is as wide as the diameter of the ball cutter. The cutter was applied into it and a texture created by gentle rocking in the cove. Any whiskers of wood can be removed with the natural-bristle brush.

Completing the finial knob

23 The piece of wood parted off right at the beginning was mounted in the chuck and a recess turned to the size of the stub tenon on the lid. The pot was re-mounted and this scrap block glued to the stub tenon.

24 The face of the scrap was cleaned up and a recess cut for the boss that is shown in picture 21. This was glued into place. Once cured the finial knob was shaped between the edge of the boss and the spiral ring, a small chamfer connecting the two was textured with the micro texturing tool to match the previous boss textures.

25 Once the finial knob was complete the shaping at the base of the pot could be completed, keeping in mind the interior shape and wall thickness, and a foot formed. To tie everything together a small band was defined on the foot using the point tool and scorching with formica. NB: This is also done at other points of pot, including the lid joint, to bring everything together.

With the lathe speed set to 400rpm the coarse spiral cutter was set to 30° and taking great care not to cut outside of the defining lines a texture was cut. The pot could then be parted off and the base finished by hand or reverse chucked and finished.



All done – the resulting textures



All or some of the textured bands could have been coloured or infilled with gilding wax, but this pot was only a vehicle to illustrate where you might consider texturing and how to incorporate it into the piece – further enhancement is entirely up to you. The texturing adds to the overall appearance and raises it above what it would have been without the texture. I hope that it has given you some ideas of how you might begin to use texture on the surface of pieces, or how you might use textured additions to the objects that you make.

Remember that the texture created by these types of tool is not terribly deep, so if you are unhappy with the results you can usually turn it away and try again. Keep notes of cutter angles, start and end points of the traverse, lathe speeds etc., as this can be useful for replicating a particular pattern, although they are rarely exactly the same. And if creating texture grabs you then you might even consider looking at Rose Engine turning or ornamental turning, where a huge world of possibilities awaits you. Happy turning. ●



Cupcakes

James Duxbury says 'woodn't' his fun cupcakes be tasty?



Can you imagine the perfect birthday cake? This special cupcake about has it all. Low-calorie, gluten-free, lactose-free, high-fibre, non-allergenic, sugar-free, no GMOs, sodium-free, Not harmful to pregnant women, lead-free, and does not contain nuts – although it has been said a nut made it. These little cupcakes have been enthusiastically received whenever we have given them as gifts and are a real conversation piece.

We all know that no one ever wants one cupcake at a time. That might be why they are usually made in large batches. I am showing these little gems being prepared in a batch of five. Actually, making multiples of any item is usually much more efficient and with smaller wooden pieces it is often safer too. I do like frosting so that part may be slightly thicker than you would normally see.

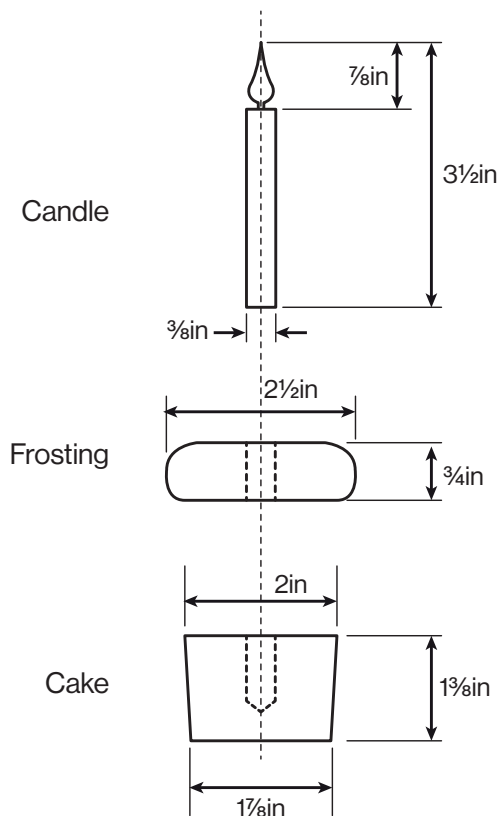
Plans & equipment

Tools

- PPE and RPE
- Compass or pre-cut disk
- Steel ruler
- Prick punch
- Screw chuck
- 10mm spindle gouge
- 19mm spindle roughing gouge
- 6mm skew
- Small flat rasp
- Small brass brush
- 5mm drill bit (to fit screw chuck screw)
- 9.5mm drill bit (to fit candle)
- Small paint brush

Materials

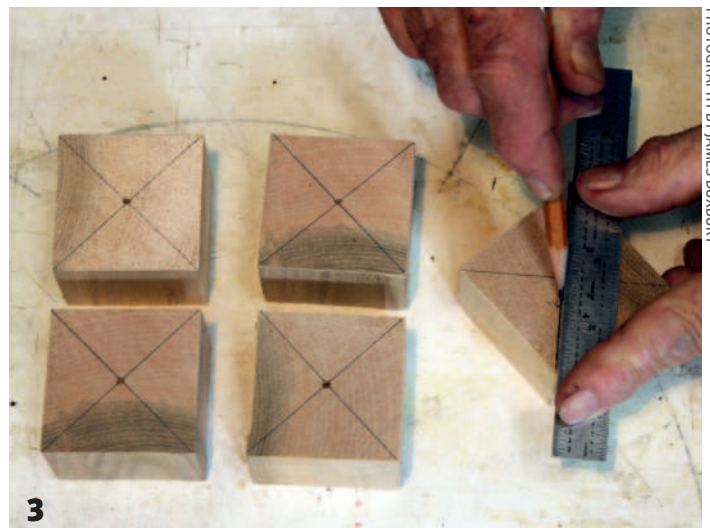
- One piece of straight-grained, light coloured hardwood, in this case maple, 51mm (2in) square x 230mm (9in) long for the cake
- One piece of darker wood, in this case cherry, with no knots or defects 114mm (4 1/2in) x 280mm (11in) x 19mm (3/4in) long for the frosting
- A length of light-coloured wooden dowel 9.5mm (3/8in) dia. x 500mm (20in) long for the candles
- 5 paper cupcake liners
- Red acrylic paint
- Sandpaper
- Yellow wood glue
- Wax finish

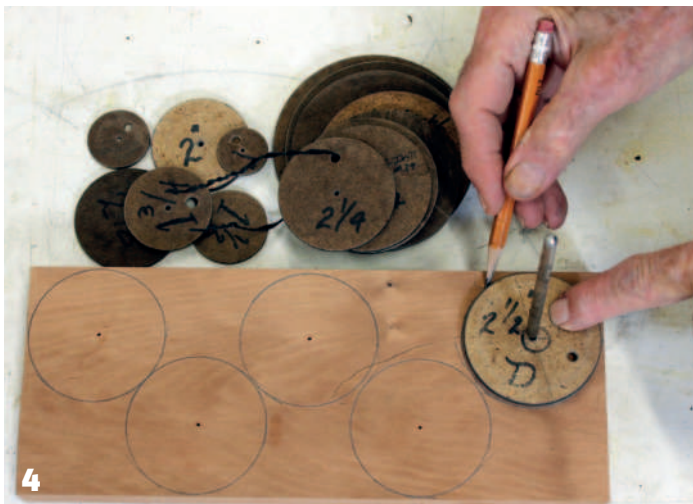


1 Materials for five cupcakes assembled.

2 We will start by cutting the 51mm square piece of maple (the cake) into five 35mm (1 3/8in) lengths. Since one of these cut surfaces later becomes a glue surface I cut it on the tablesaw with a good 50-tooth crosscut blade. This could also be done on the bandsaw or by hand with one end sanded smooth and flat for a glue surface.

3 Next mark and punch the centres on the glue surface side. These are now ready to drill.





Making precut disks

4 Take the piece of 19mm ($\frac{3}{4}$ in)-thick cherry (the frosting) and sand it smooth and flat on one side for a glue surface later. With a compass or a precut disc, lay out on the glue surface side five 64mm ($2\frac{1}{2}$ in)-diameter circles and punch the centres ready to be drilled. Note: By having a set of precut disks in multiple sizes, many different-sized circles can quickly be grouped together with the centres punched, saving time and material.

5 The next step is to drill all of the marked pieces. Drilling can be done by hand but whenever possible I like to use a pillar drill. These pieces can be turned between centres and later drilled, but a screw chuck really works well for small pieces. All screws are different sizes so you will have to pick a drill bit to fit your screw and mount it in the drill. Drill the cakes about 26mm (1in) deep and the frosting all the way through.

6 When that is completed, cut the frosting discs out on the bandsaw and everything is ready to turn.

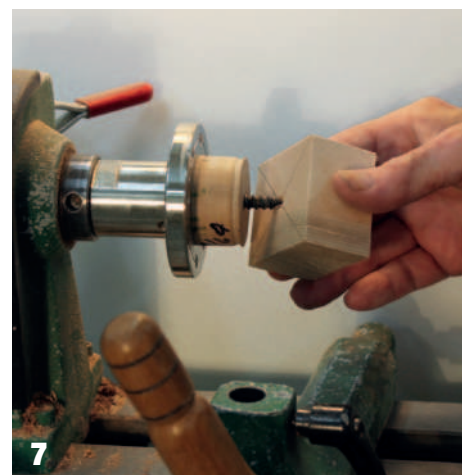
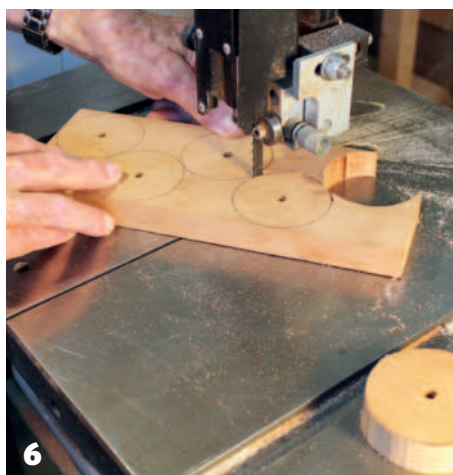
7 Mount the screw chuck on the lathe. If your screw is too long, make a wooden spacer so that just the required amount of screw is protruding. In this case it is about 19mm ($\frac{3}{4}$ in). Mount the first cake with the glue surface side towards the headstock.

8 With the spindle roughing gouge, turn the cake blank round, about 50mm in diameter. Then taper one end down to about 47mm ($1\frac{7}{8}$ in).

9 Remove the toolrest, slow the lathe down and sand this piece down to 220 grit. Now turn the next four the same way.

10 Using the same chuck set-up, mount the first frosting disc on the lathe with the glue surface side towards the headstock.

11 Rough-turn the frosting blank down to round with a 10mm spindle gouge.





12 Creatively form the frosting shape. The frosting is the best part!



13 Remove the toolrest, slow the lathe down and sand this piece down to 320 grit.



14 Using a piece of paper towel – not a rag – apply a generous coat of wax. Turn the lathe speed up and, with another piece of paper towel, buff to a gloss finish. Similarly turn and finish the next four frosting blanks.



15 Next is to make the candles. Candles can be turned between centres with square stock or, since my lathe will accept this size dowel all the way through the headstock, I install a chuck and feed short lengths out to be turned. The flame is about 22mm (7/8in), so feed about twice that distance out and turn a flame.



16 When you are satisfied with the flame configuration, remove the toolrest and sand it down to 320 grit. Remember, no two flames are alike so be creative. Be sure to shape the sandpaper to the configuration you are sanding so the details are not rounded over.



17 Now slow the lathe way, way down, cover the lathe bed, and with a small brush carefully paint the flame. I have used red acrylic paint.



18 Extend the dowel out and cut it off with a 6mm (1/4in) skew about 89mm (3 1/2in). Set this aside for the paint to dry and make four more candles.



19 Most cupcakes have the appearance of corrugated sides from the paper liners they are baked in. I attain this effect by eye on the bandsaw with the use of a back depth gauge. The back gauge is made from a piece of scrap wood 50mm (2in) square and long enough to go from the front of the saw blade to well over the back of the saw table. Cut a slot into the centre of one end about 25mm (1in) deep. Then turn the saw off. Slide this cut on to the back of the blade and let the teeth stick out about 1mm (1/16in). Clamp it firmly in place and make a few test cuts on some scrap. The mallet is for fine adjustment – after the saw has been turned off.

20 When you are satisfied take a cake, set it flat on the saw table, push it into the blade all the way and then lift up to make a complete cut on the taper. Proceed by eye, making a series of cuts all the way around.

21 When these little cuts have been completed, clamp the piece in a vice and round over the saw cuts with a small rasp.

22 Use a fine brass brush to clean out dust and debris. It seems like there are thousands of these cuts, but they go fast and you will be done in no time at all.

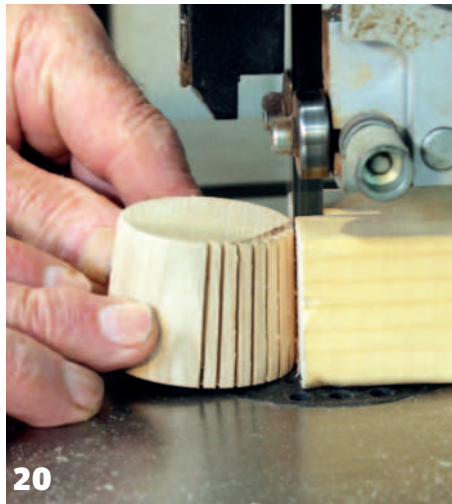
23 The hole in the cake and frosting were drilled for the screw chuck, which is way too small for the candle. Measure the exact size needed for the candle with callipers or a drill guide, select a drill bit, and use the pillar drill to enlarge these holes.

24 This should complete all the parts and pieces required.

25 Be sure to dry fit all three pieces just to be sure everything fits perfectly. Then add a little yellow wood glue and push the pieces together. You might need a spring clamp or two to hold the frosting to the cake until the glue cures.

26 Once the glue has cured, check the whole piece over, sign the paper liner on the outside and, with a very small dab of hot glue, attach the cake into the paper.

27 Looks good enough to eat, doesn't it? If you are a beaver! •



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BE INSPIRED, BE CREATIVE

Milk paint

Mark F Palma shares his tips for better milk paint bowls

Milk paint is a very popular trend in finishing, but sometimes it becomes frustrating trying to get consistent results. Here are some simple tips to make sure every bowl you make with a milk paint turns out as you intended.



Understanding milk paint

Milk paint is unique, so understand its nuances and play to its strengths. Milk paint is a powder that, when mixed with water, forms a strong, non-toxic, colour-fast finish. Milk paint has a chalk-like finish that can be left or buffed back and top-coated.

Milk paint is very versatile as you can intermix powders to create custom colours. It is self-priming on bare wood. It accepts an incredibly wide range of top coat finishes, so whatever finish you like to use is probably compatible with milk paint. So long as properly stored, milk paint in powder form will not spoil, so it works for small objects like bowls and other turned objects.

Milk paint isn't an intuitive finish. Please read the detailed instructions, they were written to make your life easier. Consider practising on a scrap of similar species of timber. Lastly, remember that, since milk paint is water based, it will raise the grain.

Measuring and mixing

Plan on mixing only as much milk paint as you will use for one coat as the shelf life of mixed milk paint is very short. A plastic spoon makes a great measuring device. Use a small, clean container and a stout mixing stick. The instructions for milk paint show how adding white milk paint to a colour adds an array of tints that can be obtained. So experiment. Try a small sample at full strength, one at 50% colour and 50% white and one at 25% colour and 75% white to see what you like. You can also use a colour wheel to take make a wide range of custom blends. Keep track of your experiments so that you can repeat the ones you find most pleasing.

Put the powder into your container first (a spoon full will paint the outside of three 6in bowls) and slowly add water. Sneak up on a 50/50 mix, stirring until you get the consistency of, well, whole milk or butter milk. Scrape the sides and bottom of the container so all the powder is in solution. Mix for several minutes – it will make a better batch. Take a 5-10



Instructions and colour guide



Mixing colours to create a custom colour



Milk paint workstation and organisation



Close-up of mixed paint

minute coffee break. Milk paint does better if it can rest. Now mix it again (bubbles are not a problem) and you are ready to go.

Application

Plan on two coats. The first coat seems to be blotchy and unflattering. It may have rough areas, and it will raise the wood's fibres in most cases. Plan on throwing away the mixing container and the brush. Inexpensive brushes are fine as long as they do not shed bristles. Wear disposable gloves. Apply a coat and let it dry for an hour or more. Then take an non-abrasive pad (such as a green Scotch-Brite pad) and scrub down the whole finish. This will burnish away the bumps and irregularities and create a smooth surface. If you like what you see you can proceed to top coating. If the colour is too irregular for your taste, mix up another coat, take a new brush and reapply. Two coats seems to be a good balance on a bowl, however nothing precludes you from adding as many coats as works for the look you want to achieve. Consider stopping short of perfection as milk paint bowls seem to look better as they get knocked around the kitchen with use. A few irregularities only along with the historical colour pallet of milk paint only add to the charm. If you want a chalky look do not buff again with the abrasive pad. If you want a smoother finish, burnish the surface thoroughly. If you rub through the colour here and there it only adds character to the piece.

Layering colours works well with milk paint and creates unique results. A base coat in one colour can be topped with another, completely different colour. A colour wheel may be helpful to choose colours, but do not feel limited to traditional combinations. Then by burnishing through the layers with an abrasive pad or 220 grit sandpaper the richness of the colours emerge. This also works well over traditional embellishment techniques. A suggestion would be to use a full-strength colour for the base layer as they are naturally muted by the layering. Using a test board (or bowl) can help you dial in the colours and techniques to get the look you seek. Keep notes so that it is a repeatable formula.

Another alternative that has worked well for the author is to mask off areas of the bowl before applying any colour. The contrast of the milk paint and the natural wood colours seems to create a nice touch. Often the inside of the bowl is left as natural wood and only the outside is coloured.

Top-coating milk paint

Milk paint can be used as a standalone finish. For pieces that will be handled or used, milk paint is usually top coated. A unique trait of milk paint is that it is compatible with effectively any top coat. Oil, such as Danish or tung oil, gives a darker soft finish. Surface finishes such as shellac and polyurethane will also darken the finish and provide a cover layer over the milk paint. Acrylics and water-based finishes seem to change the colour of milk paint the least. So, a tip to the wise, when choosing your colours take into account how much your chosen top coat will impact your final colour and the feel of your piece. A tip would be to start with Danish oil, a no fail and proven top coat for items used in daily life like cereal bowls.

So, after the piece is burnished with an abrasive pad or 220 grit sand paper you are ready to top coat. Apply your top coat as you normally do. Do not be surprised if the colours in milk paint are a little blotchy, that is part of its charm. It isn't about uniformity, it's about depth of colour and the visual interest that is caused by how milk paint creates its colour.

Storing milk paint powder

Milk paint powder has an indefinite shelf life, so it allows you to keep it around your shop for when the opportunity to add its unique colour arises. As milk paint cures with water, you want to seal any unused milk paint powder well. A zip-style sandwich bag around the foil package insert works well. Then put it back into the factory bag and seal tightly. Finally, put all your milk paint into a sealed plastic container, such as a kitchen storage container. If you use this triple storage technique the milk paint will stay fresh for a decade – although you will love using it so often you won't have it laying about that long. ●

Kurt's clinic

Kurt Hertzog answers readers' questions



Question: I'm shopping for a turning smock and am puzzled by the huge range in prices. Seems like there a large variation in prices, styles, etc. What should I be looking for as I shop?

Answer: I have too large a collection of smocks I've accumulated over the years. Many were gifts from clubs, symposia, and occasionally vendors. I try to buy a smock at events where I haven't been given one to help support their fundraising efforts. Regarding the price, smocks are clothing and the variations in price are driven by production run sizes, materials used, complexity of production, manufacturing location, purchase volumes, shipping costs, and retailer mark-up. Obviously better materials with pockets, cooling vents, embroidery, and elastics will be more expensive than lesser-featured products. The features I look for when I shop include quality zippers and stitching, elastics at the neck and on long sleeves; rear pockets just above butt level, mesh vents at the underarms when possible, full-length zippers making it a jacket rather than a pullover, and a design that zips all the way up, closing the neck area tightly to just under the chin. Materials can range from light khaki to rip stop nylon since my turning temperatures



1 If you are going to have more than one turning smock, you may wish to include light weight, warmer, short and long sleeves, more water resistant (wet wood turning), and perhaps different sizes **2** The more important features I look for are pockets on the back and elastics around the neck and cuffs if long sleeve. For summer use, having mesh underarm vents is a plus **3** Personally, I like full zipper jacket styles rather than pullover designs. While I don't need a pocket on the front, if there is one, I'd like it flap covered yet still able to accept a pencil through the flap.

can range from cold to warm depending on the location and season. I buy them sized large enough to allow for warm clothes to be worn underneath if needed.

Since a smock will usually last a lifetime,

I suggest you shop with that in mind. Spending a bit more rather than scrimping will let you enjoy a quality product for many years – especially if you have more than one to use so none will get extensive use.



4 Once harvested, a painting of end-grain sealer of your choice will usually keep a blank from checking and splitting until ready for use **5** I buy my Anchor Seal in larger quantities and store it in a sealed five-gallon container. It looks white and paints on easily, drying clear. I've never had it 'go bad' regardless of storage length **6** There isn't any real downside to using end-grain sealer on wood that will be in storage, like this cherry blank, or turnings in process, like the green turned bowl



Question: My local retailer has a product called Anchorseal. It is pretty pricey, but they tell me it is great for sealing green wood. Why so expensive? Is it as good as some rave about it?

Answer: Anchorseal is a product of UC Coatings in Buffalo NY. It is wax emulsion used on green wood to avoid the checks and cracking that occurs with uneven drying. It is one of several products on the market available to serve this purpose. Painted on the end grain, it does a good job of minimising the usual end checks and splitting. I believe it has been around since the 1980s. On the expensiveness, there obviously are the chemical content, processing, and packaging costs. Whatever those are, I'm guessing one of the big factors in the price you see at retail is the shipping cost to get it to you. It is very heavy, much like paint products and seemingly even heavier. Ship that around a few times, such as from the manufacturer to a retail chain warehouse then to the retail outlet, and you'll have costs much like shipping around boxes of rocks that factor into the retail price. That assumes there isn't any wholesaler(s) in the loop that will also add some mark up. I can't speak to the actual product costs but can attest to its effectiveness. I use that brand extensively because it works well for my needs and is made about 70 miles away. One of the clubs I belong to makes large-quantity buys at the factory, industrial drum sizes on occasion, and subdivides it selling to the members at their cost. I buy five gallons at a time. Rave about it? I know turners who use similar products they like better. Are those other products better? Perhaps so but I'm a pretty simple person. In Anchorseal I've got a product that successfully accomplishes what I need of it at a price I'm content with. The MSDS tells me it is safe, it works well for me, and even if I buy at retail it is cost competitive with the alternate choices. No need to reinvent the wheel from my perspective. By the way, many, including myself when needed, use old household latex paint to perform the same purpose. Since it will ultimately be turned away, even hideous colours will serve the purpose.



Question: I need some advice on business cards. Where do you buy yours? Do you have photos on your cards? Do you have both sides printed? Why?

Answer: I use one of the discount business card printers I found online. I currently use Vistaprint but there are many others. I recommend you shop around and pick your own. I'm pleased with my vendor because I can create, compose, and order so painlessly. They are very cost effective for my needs and deliver quickly and accurately. I think you'll find others who can do the same. When planning your design, decide who your audience is and what you wish to accomplish. Often businesses will have more than one business card because they have more than one purpose and audience. Here's my story and you can alter it as appropriate based on your needs and thinking. I want a quality card, so I opt for the better card stock with glossy finish and colour pictures/printing. I do print both sides but the back is only simple info so it can be easily 'found' if it is ever turned over in someone's stack of cards. My purpose is to inform the recipient about my woodturning business, provide my contact info, especially my email and website, and a picture to tease them about my abilities. I have the exact same cards with a few different pictures, just so over time there is some variety in what I might hand out. My favourite image as shown is one of several collaborations I did with an old friend, Binh Pho, who has since passed away. Not only is it eye catching in my opinion, but it reminds me of him and our times together. If you have multiple aspects to business, you may wish to create different cards that focus on each.

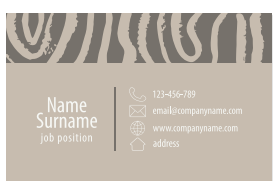
A business card is your advertising so make it put your best foot forward. Make it brief enough to be readable and printed in quality. Unless you are promoting the very artsy aspects, I suggest you skip the flowing fonts and weird colours that are difficult to read. You can be artistic and eye catching yet let the reader discern the information easily. Your card is a representation of you and



7 I suggest business cards be simple with something eye catching, like a photo relating to your craft and the pertinent contact info in easily read fonts and colours **8 & 9** The only limit on what sort of cards you produce is your imagination!

your business so cheap, flimsy, blurry images, or difficult-to-read cards should be avoided. There are ways and materials available to print your own cards on your computer. They range from pretty good to pretty poor. Commercially printed cards are so modestly priced, I recommend you avoid the hobbyist-looking home-done cards. Even done on a good printer

with the better stock, most of the die-cut edging retains sufficient difference to say 'homemade'. Some people opt for odd sizes, so your card stands out by being larger or differently shaped than others. Especially the artist-type folks. You decide. Personally, I think odd sizes are counterproductive because they don't easily fit in a card file. ●



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Double-rimmed bowl

Ian Woodford makes a feature of the outer edge of a dish

The inspiration for this project came from a pottery exhibition I'd been to a couple of years ago and I wanted to make my version of a bowl that attracted me, so I designed and made this purely as a decorative piece. However, it could still hold items of small personal interest if you wish.



The walls are reasonably thick at the top as I wanted to make a feature of the rim by making it two layered, with the outer edge rough carved and coloured while the inner rim is smooth and also coloured. You can slightly undercut the inside below the inner rim to make the walls thinner. The outer rim also has a 'broken' section to add interest. The base is round so that movement can attract attention. I've made a couple of

these before from elm and sycamore, but this one is made from beech and the blank size is 8 x 3in. When choosing the blank, my thoughts are that a light-coloured wood is more appropriate as it will add more emphasis to colouring.

Most of the work is done using two or three basic tools, while I did the carving with a Dremel and then used Jo Sonja's acrylic paints.

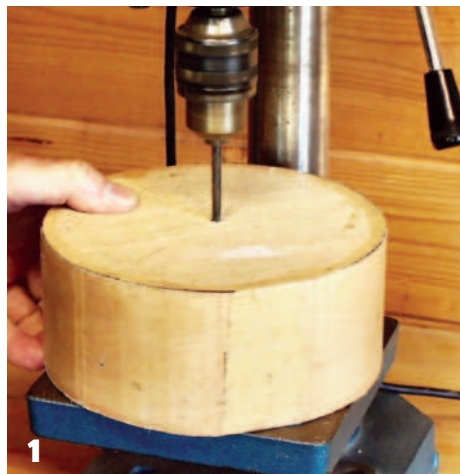
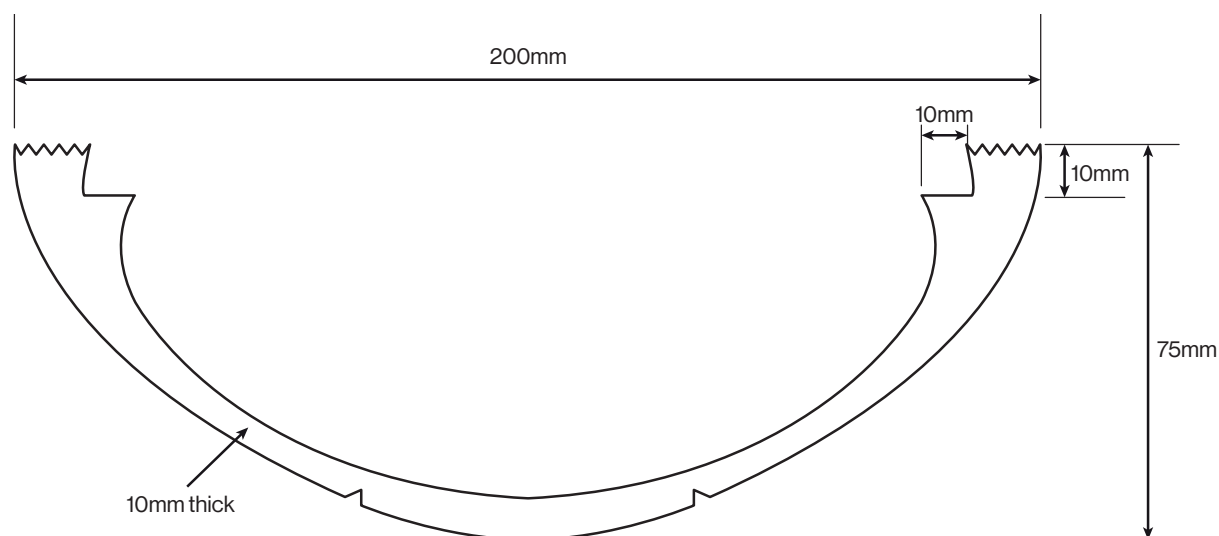
Plans & equipment

Materials

- Beech blank, 8 x 3in

Tools

- PPE and RPE
- Powered dust helmet
- Bowl gouge
- Spindle gouge
- Skew
- Negative rake scraper
- Drill and drill bit
- Screw chuck
- Chuck
- Cole jaws
- Dremel or hand carver
- Sanding grits to 400
- Sanding sealer
- Semi-gloss spray lacquer
- Jo Sonja acrylic paints or equivalent



1 Once you've chosen your blank the first thing to do is locate the centre so that a hole can be drilled to hold it on a screw chuck. The photo shows the hole being drilled using a pillar drill, but a hand held drill can also be used. Make sure the drill bit is the correct size so that the blank can be held securely on a screw chuck.

2 This shows the blank being rounded off using a bowl gouge. I use the gouge at a slight angle so that most shavings are directed to one side and I always use a face shield to avoid being hit in my eyes by shavings.

3 The bowl shape is now being formed and the photo shows the gouge cutting from the centre to the outer rim as this gives a better and easier cut. You can cut the other way, but that would be cutting against the grain. This is okay but the final finishing cuts are best made from the centre to the rim as this is cutting with the grain and gives a much better finish, which helps to reduce the amount of sanding needed.

4 The shape has been formed but a spigot has been left so the bowl can be reversed. With a skew on its side, I've formed an indent so that a coloured ring can be done. This is not necessary, but it does add attraction. The spigot will be removed later to leave a rounded/curved bottom.

5 The outer surface is now being sanded using a revolving sanding disc just below the centre area. This is the safest area for sanding as it avoids any 'grabbing' of the sandpaper. Sand from 120 grit to 400 or even 600 grit.

It's wise to use a dust extractor to reduce dust in the workshop area. I also wear a powered dust extractor head shield.

6 Using a felt-tip pen and steadying my hand on the toolrest, I add colour to the cut ring. Use any colour to suit your fancy. The bowl can now have a coat of sealer applied and, when dry, be given at least two of coats of spray semi-gloss lacquer.

7 Reverse the bowl on to a chuck and square off the face using a bowl gouge. I then determined and oversized the size of the top rim and marked this with a pencil. I've made it wider because some will be cut away when reducing to the lower rim. Using a Dremel with a curved cutting insert, start to form scallops all the way round. I find it easier to cut with the grain and start from the inside, cutting to the outer edge.

8 This shows the top rim with the finished cutting texture. Although it's all in the same direction, there isn't any uniformity in the depth of cut and some are at a slight angle and cross other cuts. This adds to the randomness of the texture and will be more apparent when colour is added.

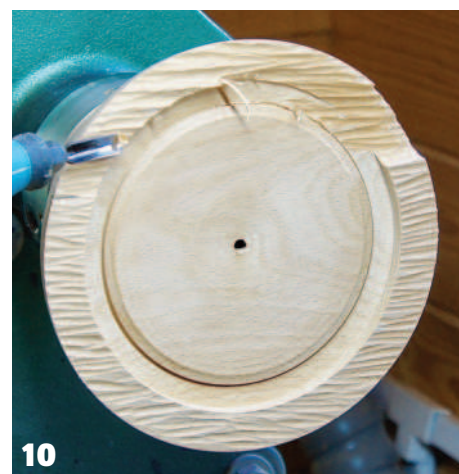
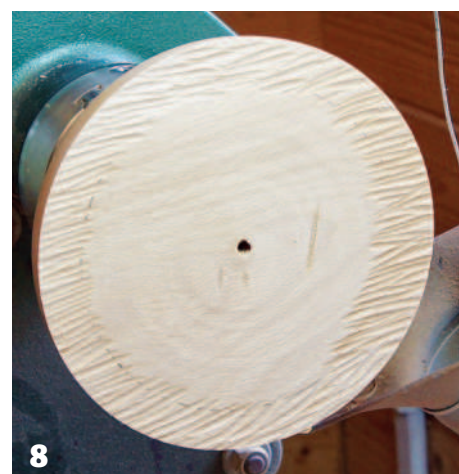
9 Using your bowl gouge, start to reduce the interior down to the lower rim level. When happy with this, mark a line on the outside of the bowl to the depth of the lower rim and mark the area which will be cut away.

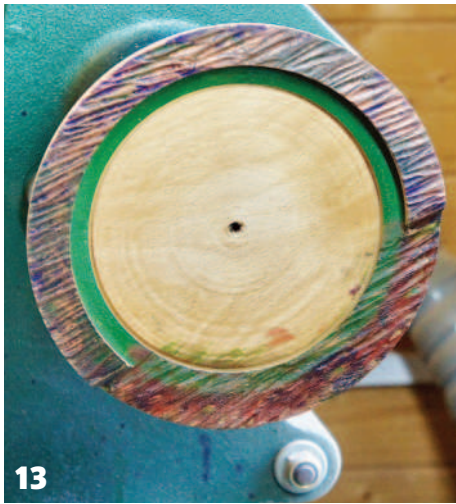
10 Again, using the Dremel, start cutting away the marked area down to the lower rim level. In this area, also cut across the lower rim. When carving the entire rim area, I stabilise the bowl by using the headstock lock as this makes the cutting more positive without any movement.

11 The texturing is all complete and the lower rim has been sanded. Before any colouring is done ensure that the entire top surface is brushed to remove any dust and chippings that remain. The centre of the bowl is left until the colouring is finished as this area can be used as a painters' palette.

Colouring begins

12 Painting is underway using Jo Sonja's acrylic paints. I've also taped some paper around the outside of the bowl to avoid any spillage on to the outer bowl surface. I use the toolrest to steady my hand while colouring the smooth inner rim. You can see how I've dabbled with colour mixing on the 'palette' area to achieve my desired result. I've also smeared some golden brown paint on the outer rim and this area will be over-painted with shades of blue.





13 This shows all colouring finished and I've also removed the painted area in the centre with a quick pass with a bowl gouge.

14 Removal of the centre is now undertaken with a bowl gouge and, in the process, I undercut the area beneath the lower green rim as this also enhances the attraction of the coloured rims. All tool work is done from the outer area to the centre as this is with the grain, making it easier with cleaner cuts. Be careful not to cut it too thin – I prefer to keep it at $\frac{3}{16}$ in (10mm) thickness for this style bowl.

15 Finish the inside cutting with a negative rake scraper. This is clearly shown in the photo where I am completing the undercut area. When you are satisfied with the internal shape and have got rid of any ridges, it is time to finish off by sanding from 120 grit to 400/600 grit.



Finishing touches

16 When sanding you can use either a sanding arbor (as I did on the outside of the bowl) or hand sand. When holding the grit, I like to steady my hand by holding my wrist with the other hand. As I've mentioned before, during sanding it is best to wear a dust protection helmet and also use a dust extractor. When sanding is complete, use a brush to make sure all the inside and both rims are completely dust free.

17 The rims and inside of the bowl can now have a finishing coat applied. I use one coat of sanding sealer from a spray can and when dry I give it a couple of coats of spray semi-gloss lacquer. The bowl is now ready to have the bottom finished.

18 To enable the bottom to be finished, I reverse the bowl on to a set of Cole jaws, but to protect the bowl's rim I use a sheet of kitchen paper as seen in the photo. The tailstock is also used to give more security. If you don't have Cole jaws a jam chuck from scrap wood can be used.

19 Very carefully remove the chucking spigot, remembering that the bottom needs to have a gentle curve following the bowl's outside shape. I find a spindle gouge is best for this process. This will give the bowl slight movement when touched which (for me) adds to the overall attraction. Sand the area and remove from the Cole jaws.

20 The underside is now ready to be placed upside down on a flat surface and sprayed with sealer and then two coats of spray semi-gloss lacquer. Your bowl is now finished and can be put in an appropriate place to be admired. ●



Healthy forests, healthy planet

The 19th-century logging boom changed landscapes across North America, and deforestation remains an issue of global concern today. Can sustainable forestry balance the economic benefits of timber with the environmental value of trees?

Extracts taken from *Lumberjack* by Lauren Jarvis, Ammonite Press, RRP £9.99, available online and from all good bookshops.



A forest in British Columbia, Canada, where harvested areas are quickly replanted

Since the first English settlers arrived in Jamestown, Virginia, in 1607, it's estimated that America has lost somewhere between 75 and 90 per cent of its virgin forest. Indigenous peoples farmed holistically and were hunter-gatherers, working in harmony with the land, but the new arrivals voraciously tore through the New World, converting ancient forests to farmlands, and logging like there was no tomorrow. In some regions, all that remained were vast areas of 'cutover', a barren landscape of stumps, stripped of all life.

Legal forest and land protections, introduced in the mid-1800s and subsequent years, arrested what could have been total annihilation. The world's first national park, Yellowstone, was established in 1872, and the preservation of its two million acres is the reason the UNESCO World Heritage Site remains one of the few intact ecosystems on Earth today. Elsewhere, a fragile balance remains in play.

Ancient forests

United Nations data shows there are more forested lands in North America today than 100 years ago, and between 2010 and 2020, forest cover in the United States increased 0.03 per cent annually. Meanwhile, according to the Canadian Forest Service, the area harvested in 2018 represented 0.2 per cent of the total area of forest land, with the harvested area promptly replanted.

Leaving carbon 'locked' in the forest is a good idea. The Pacific Northwest is home to some of the highest carbon density forests in the world, where trees can store carbon for more than 800 years. Stretching from northern California to Alaska, this is where you'll find some of America's last remaining old-growth forests, which are still actively targeted for logging.

A 2018 report by researchers at Oregon State University and the University of Idaho found that logging is by far the number one source of greenhouse gas emissions in Oregon, emitting 33 million tonnes of CO₂ a year, almost as much as one of the world's dirtiest coal plants, the Taichung Power Plant in Taiwan.

Did you know?

Forests to farmland

While unsustainable and illegal logging are having a devastating effect on the world's forests, the biggest global driver of deforestation is agriculture: converting forests to farmland and grazing land for livestock.



A truck hauls salvaged logs from Montana's Lolo National Forest, US. Salvage logging recovers trees damaged by storms or fires

In 2019, the Centre for Sustainable Economy concluded that the logging industry emitted enormous quantities of the greenhouse gas. Focusing on the industry in North Carolina, the study found that 201,000 acres of forest are cleared each year, producing 44 million tons of carbon dioxide. The United Nations Food and Agriculture Organization (FAO), meanwhile, estimates that the world has lost around 420 million hectares of forest since 1990, mainly in Africa and South America. And while trees are being replanted, industrial forest lands store much less carbon than the native forests they've replaced, and sustain less biodiversity – one million species are known to be at risk of extinction. The good news is that now the data is out there, the damage can begin to be repaired. The ancient forests that have been lost will never return, but with hindsight and new science on our side, we can plant the seeds of a greener tomorrow.

So, what is sustainable forestry?

According to North America's Sustainable Forestry Initiative (SFI), which works with the forest sector, conservationists, governments and communities to advance the sustainable use of forest lands, sustainable forestry ensures the long-term health of forests while providing social, economic and environmental benefits from timber harvesting. Management decisions and activities are based on scientific research, rigorous planning processes, certification standards and meaningful public consultation. They also support ecosystem services, like water

purification and carbon storage, while maintaining the health and diversity of forests. Replanting after harvesting trees helps forests, and the habitats they contain, to regenerate. This is one of the core principles of sustainable forest management.

Why do we need forests?

Forests are one of the planet's most important natural resources. They're the ultimate 'renewable' and one of the greatest tools in fighting climate change. They clean the air we breathe, filter the water we drink and support educational opportunities for today's youth.

How do trees fight climate change?

Protecting the world's trees is one of the most cost-effective forms of climate action. Forests act as carbon sinks, absorbing roughly two billion tons of carbon dioxide each year. They're also increasingly managed for resilience in the face of climate change's effects. Practising climate-smart forestry focuses on actions like increasing the diversity of tree species to make them more resilient to wildfires and pests. According to the US Forest Service, 100 trees remove 48 metric tonnes (53 tonnes) of carbon dioxide and 195kg (430lb) of other air pollutants every year. If we want to tackle the issues of climate change, water quality, waste reduction and species loss, taking good care of the world's forests is fundamental.

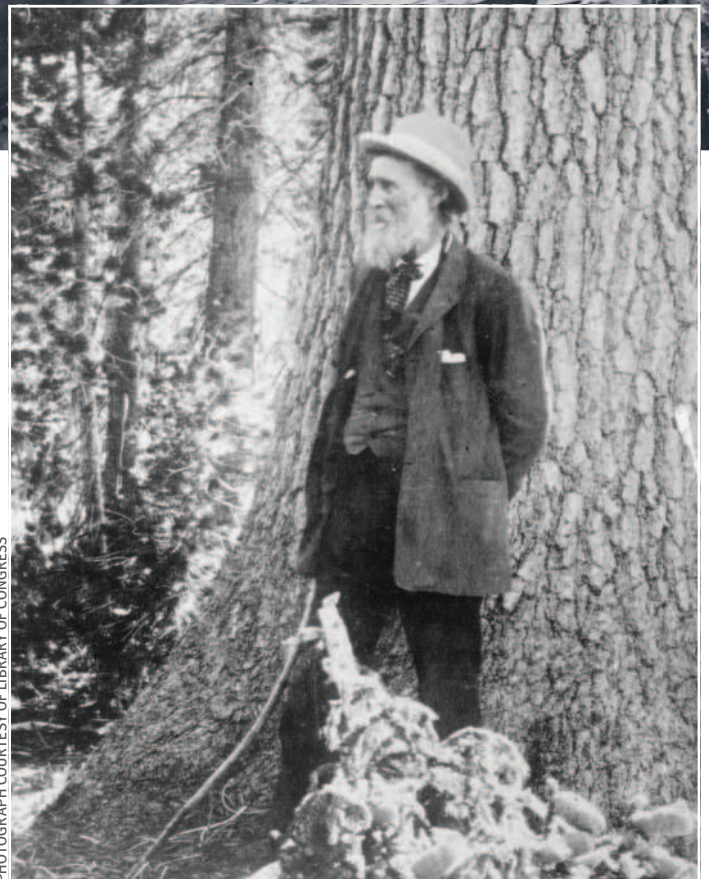


A team of lumberjacks posing with a felled giant redwood tree, California, US, 1905

Did you know?

Man of the wilderness

Known as the 'Father of the National Parks', Scottish-American author, botanist and early conservationist John Muir helped to secure protection for America's wilderness areas, including Sequoia, General Grant and Yosemite National Parks and Yosemite's Mariposa Grove, a magical forest of 500 giant sequoias, home to the 3,000-year-old 'Grizzly Giant'. In his essay, *God's First Temples; How Shall We Preserve Our Forests?*, published in 1876, Muir warned of the dangers of destroying forests, 'the most destructible of the natural resources'. In a brilliant early analysis of trees' contribution to the Earth's 'climate, soil and streams,' he warned: 'Our forest belts are being burned and cut down and wasted like a field of unprotected grain, and once destroyed, can never be wholly restored.' Going on to found the Sierra Club in 1892, to 'do something for wildness and make the mountains glad,' Muir helped to preserve precious habitat and inspire awe and admiration for land that the country's Native people had been protecting as responsible stewards for thousands of years.



Conservationist John Muir protected America's wilderness



How does this ‘green’ approach help communities and wildlife?

Sustainable forestry is focused on encouraging a positive relationship between people and forests, balancing their needs, and aiming to create both a sustainable marketplace and healthy landscapes. Purchasing products from a sustainably managed and certified source helps to conserve the planet’s precious wildlife and natural resources.

Communities rely on forests for their livelihoods and economic development, sustainable products, recreational benefits and human health. These links have always been important, but are even more relevant in today’s increasingly connected and developing world.

How do loggers practise sustainable forestry today?

Logging companies need to ensure they’re implementing forestry practices that protect the environment every day. Sustainable management enhances water quality, protects wildlife habitat, accounts for wildfire risk, counters invasive species and recognises indigenous rights, accounting for the social and economic wellbeing of workers and local communities.

Forest certification standards, such as the international Forest Stewardship Council (FSC) and the SFI, are there to help ensure forests are managed sustainably. The SFI trains thousands of loggers in sustainable forest practices each year. When they’re aware of the importance of their role and responsibilities, they’re better equipped to protect the environment. ●



PHOTOGRAPH COURTESY OF SUSTAINABLE FORESTRY INITIATIVE (SFI)

Loggers are key players in helping to solve some of today’s biggest sustainability challenges

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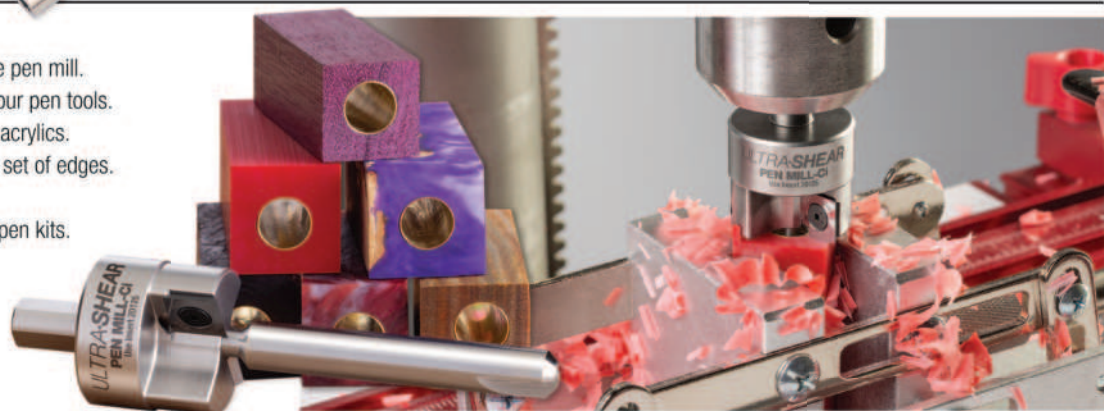
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Spindle turning exercise

Rick Rich discovers a tapered spindle in a book from 1907

For skew chisel and spindle gouge practice, the bead and cove stick is excellent. The spice of life being variety, and to add a bit of challenge, I turned to the old book *Elementary Turning* for a spindle practice exercise. Published in 1907, it was written by author Frank Selden for use in manual training classes, which we would call woodshop class now. Sadly, schools these days do not seem to place the same value on building 'manual' skills in our youth as they did then.



Flipping through the pages, I stopped at Lesson XXIV, titled Tapered Spindle. While not providing sizes and dimensions, the earlier exercises in the same section call for blanks of 1¼in square by 8in long, which is what I ended up using. The instructions were quite particular in the order the elements were to be turned. Once I read through the text and studied the photos a few times, it made sense to follow the logical turning sequence. To do otherwise would

make some of the turned elements in the spindle harder than need be.

I ended up guessing the dimensions and came reasonably close, but not exactly like the photo in the book, which had been my goal. For the next practice tapered spindle, I will adjust slightly some element sizes a bit to try and to make a closer duplicate of the spindle photographed so long ago. But that is next time. Here is how I turned this practice spindle, which was an excellent and enjoyable exercise of turning skills.

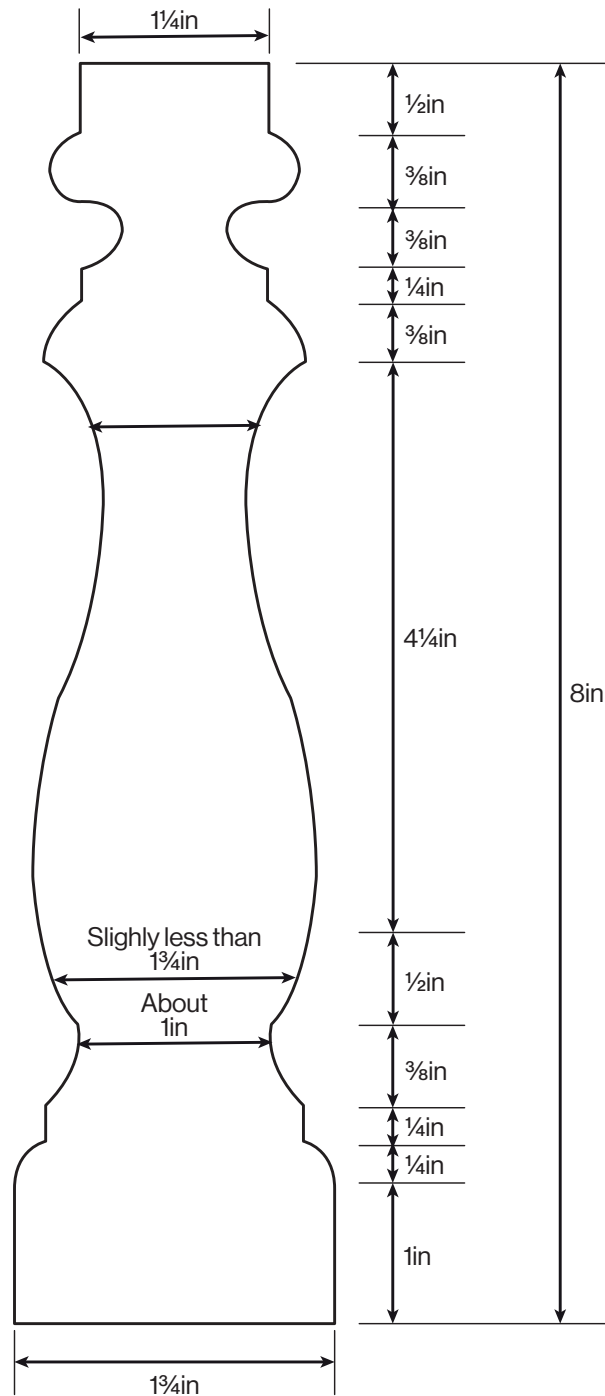
Plans & equipment

Tools

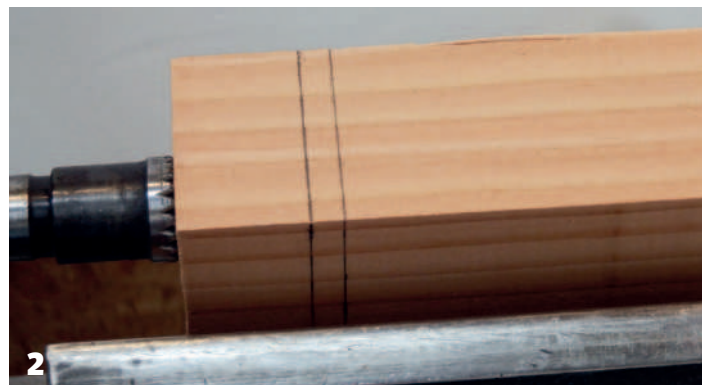
- PPE and RPE
- Drive centre and revolving centre
- 6in sliding square & pencil
- Callipers with rounded ends
- $\frac{3}{4}$ in spindle roughing gouge
- $\frac{3}{8}$ in spindle gouge
- $\frac{1}{2}$ in skew chisel

Materials

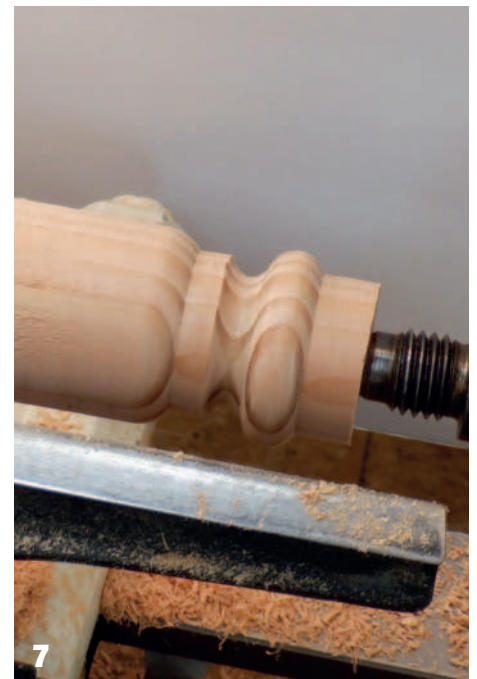
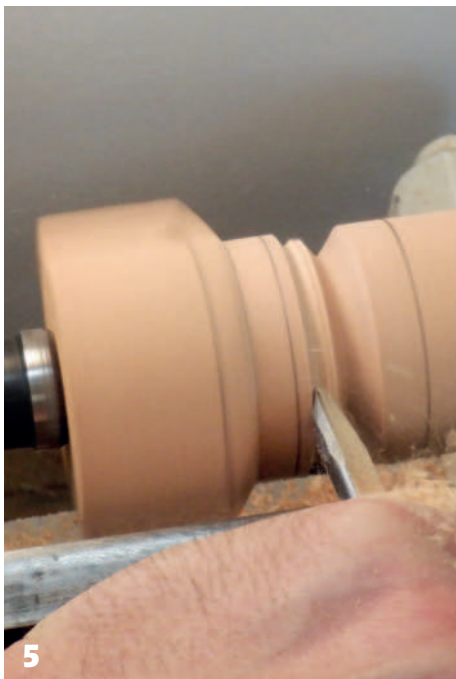
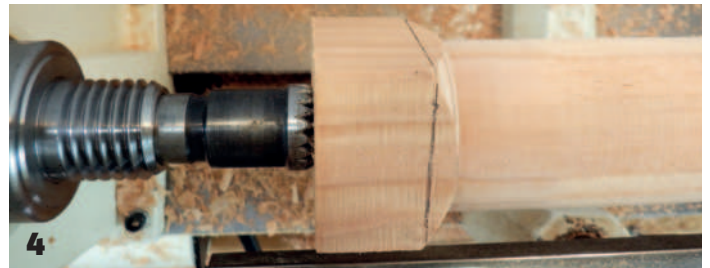
- Douglas fir blank, $1\frac{3}{4}$ x $1\frac{3}{4}$ x 8in



1 Locate centres and mark both ends. Mount between centres on the lathe.



2 From what will be the bottom end, make a mark at 1in and $1\frac{1}{4}$ in. Use a square to draw lines on each face of the blank. When spinning, these lines will be clearly visible.



3 Use the spindle roughing gouge to turn the blank round, excepting the bottom area below the lines.

4 Now with the long point of the skew, turn the shoulder, or pommel, at the square end. The two lines represent the depth of the shoulder. Cut the shoulder down to the cylinder. The shoulder is a curved shape that begins at the outside edge of the blank at the left-hand line, and ends at the cylinder on the right-hand line. Use the skew here also to clean up the cylinder portion next to the new curve.

5 Draw lines $\frac{1}{4}$ in up the spindle, $\frac{3}{8}$ in up from that one and another line $\frac{1}{2}$ in up from that one. These will be the lines for the fillet, the 'cavetto' or half cove and the half-bead curve of the vase in the middle of the spindle. With the skew make a V-cut at the middle line of the three lines about $\frac{1}{4}$ in deep. Use the spindle gouge to cut the cavetto and turn to the skew again for the half bead. Both cuts will end up at the bottom of the V-cut.

6 Now make a line $\frac{1}{2}$ in down from the spindle top and then $\frac{3}{8}$ in down from that one. The $\frac{3}{8}$ in line is where you will use your skew to turn a $\frac{3}{8}$ in bead. V-cut slightly at the lines to help clear waste for turning the bead. The top $\frac{1}{2}$ in will be a fillet, or flat, flush with the bottom of the bead.

7 Mark a line $\frac{5}{8}$ in down from the lower bottom of the bead and another line $\frac{1}{4}$ in down from that one. At the middle line (the $\frac{5}{8}$ in down one), V-cut $\frac{1}{4}$ in deep. Use the skew to turn a half bead from the lower line to the bottom of the V-cut. This will result in what the book calls an 'ovolo', which is a cylinder shape with a curved end. Use the skew again to neatly flatten and smooth the area between the half bead just turned and the $\frac{3}{8}$ in bead. Make a mark $\frac{1}{4}$ in up from the half bead, or $\frac{3}{8}$ in down from the full bead.



8 Use the spindle gouge to cut a $\frac{3}{8}$ in cove. Cut carefully so that it connects seamlessly with the bottom of the bead. The lower flat area is now a fillet and the book says it should not require any additional work, provided you smoothed it properly before!

9 From the largest diameter of the half bead, which is the almost at the top of the 'ovolo', mark a line down $\frac{3}{4}$ inch. Use the spindle gouge to cleanly turn a $\frac{3}{4}$ inch half cove. Finish the spindle with a skew by turning the long curve from the top of the half bead to the bottom of the just turned cove.

10 The completed tapered spindle exercise should look something like this. Set it next to the drawing to see how it compares. •

Top tips!

- Perfect practice makes for more perfect cutting. Careful attention to your cuts should result in a surface free from tear-out.
- When turning the half cove at the bottom (Step 5), the spindle gouge is rolled very much to the right so that it will cut square to the bottom of the half-bead curve.

Wizardry in Wood

After being postponed The Worshipful Company of Turners flagship event is back

The flagship exhibition of The Worshipful Company of Turners was postponed last year like many other events. But we're back. Over four days (13-16 October) leading turners from the UK and abroad will be at Carpenters' Hall in the City of London showing their skills through live demonstrations and exquisite creations. There'll also be curated talks about turning, examples of how young turners are helped to learn the craft, and we'll be displaying all entries to our competitions.

Some turning events aren't returning in 2021 – we miss them all – but Wizardry in Wood is going ahead. Planning is going at full speed, as we catch up after being in the freezer for a year.

So why not get together with friends and renew the buzz that every turner gets from meeting others who share the passion. Check out our website for details, turnersco.com/turning/wiw/.

And why not enter our competitions where there are big prizes? <https://turnersco.com/turning/turning-competitions-2021/>.



PHOTOGRAPH BY STUART KING

Wizardry in Wood 2016

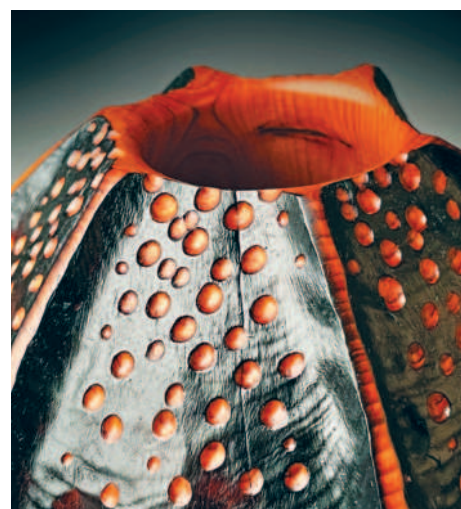
Exhibitors

The list of exhibitors has changed slightly due to the stresses of the pandemic and the uncertainty of life. A couple of the original exhibitors have therefore had to pull out. The confirmed exhibitors are all amazing artists in their own right and are looking forward to meeting the public and showing their work: Jason Breach, Sally Burnett, Ron Caddy, Angus Clyne, Margaret Garrard, Phil Irons, Tobias Kaye, Carlyn Lindsay, Stuart Mortimer, Gary Rance, Joey Richardson, Mark Sanger, Les Thorne and Colwin Way.

Angus Clyne

Angus Clyne is one of the newest recruits and says how he is looking forward to Wizardry.

'Wizardry is my first opportunity to exhibit in person since the pandemic started. I'm making a new body of turned and carved work using burning and sgraffito techniques. Having to close my gallery and stop all teaching during the pandemic combined with the transition from my normal routine where I'm under constant pressure to replace work for sale in galleries was at first very difficult. It then became an opportunity to renovate and organise. I reinvested in equipment and rearranged working spaces making my working environment more efficient. This has given me a fresh insight into my creative processes giving me the incentive to create new work again. I'm looking forward to attending Wizardry in Wood and meeting an audience face to face again. Watching how people react to and interact with my new work is for me the only way to learn if it is successful.'



PHOTOGRAPH BY ANGUS CLYNE



Work by Angus Clyne



PHOTOGRAPH BY MARGARET GARRARD

Work by Margaret Garrard

Margaret Garrard

Margaret Garrard adds: 'The covid virus will have affected us all in different ways. Uncertainty, lethargy. But the positives have been good. Thanks to Zoom, for me, it has made the world a much smaller place, keeping in touch with family and friends, and making new friends from all over the world. Wizardry in wood is our opportunity to see up close all the beautiful, inspiring, technical work, that is on display and can be purchased. Also, to chat to all our friends and colleagues that we have missed during this period of the Covid pandemic

'This is one of the pieces I have been working on for Wizardry in Wood made from sycamore, using an airbrush for colouring and an air tool for piercing plus acrylic paint. It was initially inspired by the lift panelling made for the refurbishment of Selfridges, London in the

1920s. These panels were replicas of the original by Edgar Brandt, made in wrought-iron and bronze.'

Colwin Way

'I've been working on several new projects in the last few months, including a range of robotic forms to help me demonstrate the Chroma Craft range of finishes. This is my first Wizardry, and once I overcame the initial shock of being among the invited 14, I quickly became excited at the prospect of being able to show my pieces among the country's best. I really want to show people how my travels and the people I've met have helped shape my work and led me on a journey I'm loving every minute of.'



PHOTOGRAPH BY COLWIN WAY

Work by Colwin Way

Community news

What have you been turning? Please email your images to WTEditorial@thegmcgroup.com



Mature woodturning

As a 92 year old I may not be the oldest reader of *Woodturning* – but possibly one of your earliest subscribers!

Due to loss of sight and other issues I had to give up subscribing some years ago but still hold dearly many issues, most of the early issues lost to flooding. This is the only magazine I have kept over the years and still pick up a random copy to just page through and refresh my skills. I have, over a period of time, managed to learn new ways to continue turning although not the smaller items such as lace bobbins. My hands have become my eyes to a great extent!

A lot of dust and wood chips under the lathe after about 30-odd years of trying to get it right. I've attached photos of a couple of my latest pieces.

Paul Cunningham Warner, Tallahassee, Florida, via Herts, Wales and other parts of the world.

Segmented selection

I saw a request for photographs of things you've been turning since lockdown. I started my journey in the first lockdown, everything I make is segmented and comes from offcuts of hardwood, here are some examples of my work.
Best regards, Mike Fell

Online demos 'minefield' or brilliance?

The tenor of Pete Moncrieff-Jury's article in your

1 One of Paul Cunningham's latest pieces

2 & 3 Work by Mike Fell 4, 5 & 6 Varied pieces by Ray Shaw

last issue seemed a bit down or negative about online demos. A lot of my learning as a humble beginner and currently an 'intermediate' has come via online learning. So, who the heck am I to speak of online demos?

Well, I was a newbie, less so now. I was and am still struck by how the community of turners are willing to share their knowledge and experience, their ideas and talents, with those of us who are new to the game. In the most part they do so, not out of any ego satisfaction or pecuniary benefit, but as an expression of their passion. The effort some people put into sharing knowledge and best practice is just... magnificent. And sometimes their reward – from the few – is criticism and vilification as if they are only doing it for reasons of their own profitability, sponsorship or other self-interest.

There are lots of experienced turners who go out of their way to share experience and explain things for newbies. I speak here of people like Brian Havens, Alan Stratton, Mike Waldt, Carl Jacobson, Mark Siley, and Martin Saban-Smith to name but a few. They are willing to share and most are good, if not very good. Some have, I think, dedicated themselves to sharing best practice.

On the other hand some just want to share what they've done. They're not pretending 'best

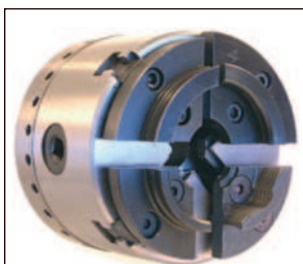
practice', they're not suggesting any expertise, but what they are doing is sharing their experience, their method, for better or worse, and the outcome they have achieved. They aren't teaching, they're sharing. Furthermore, it's brilliant when more experienced viewers suggest, often very gently, some better technique or safer practice to get to a similar end result.

So how would I try to help any newbie like myself to discern the better videos or live sessions? First, I'd say walk before you run, the first priority is not to create the largest bowl you could make. The first priority is safe practice. Understand your tools, their function, how to use them well. Start with just tool practice using 2x2s, then move to beginners' projects. Your acquisition of skill is worth far more than any particular outcome. Don't be intimidated, nor tempted to take short cuts. Look for those vids that explain and cater for beginners and don't be ashamed to metaphorically put your hand up: 'Hey, I'm learning!'

I'd like to finish by saying a very big thank you to all those that post videos and, in particular, to those that take time out to inform and develop viewers knowledge and skills. I am impressed by the world wide community of turners and their willingness to share.

With best regards, Ray Shaw

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Amphora with stand

Les Symonds turns an amphora with a steamed-wood tripod stand

This is the second part of a two-part article in which we have already discussed the practice of steam bending and seen how to construct a basic steam box.

This month we will tackle a small project using steam-bending techniques to produce a stand. We will be making a fully hollowed amphora, using the split-turning, or two-part turning, technique, in which the vessel is made from a single piece of timber, cut into two, hollowed, then reconnected. For the stand, we will be making a tripod comprising three steam-bent legs attached to a central collar, which is shaped to the approximated taper of the amphora's main body.

The overall project is going to include the making and use of several small jigs and reverse-turning blocks/jam chucks, all of which will require a high degree of precision if they are to work well. None of the techniques involved are particularly advanced, so this project is suitable for woodturners across a broad skill-base, but what is called for is careful planning and working to a strict format, especially with the use of the steam-box.

Amphorae originated in Ancient Greece, come in all shapes and sizes and were originally storage vessels for wine and for oils. They generally conformed to a shape of a long, tapered body, narrowest at the bottom, with a very narrow, long neck, to reduce the risk of spillage. Most would have been held in woven-rush casings, but individually owned examples may well have been pressed into a sand floor. Those in commercial use generally had handles, but many did not.



Plans & equipment

Tools

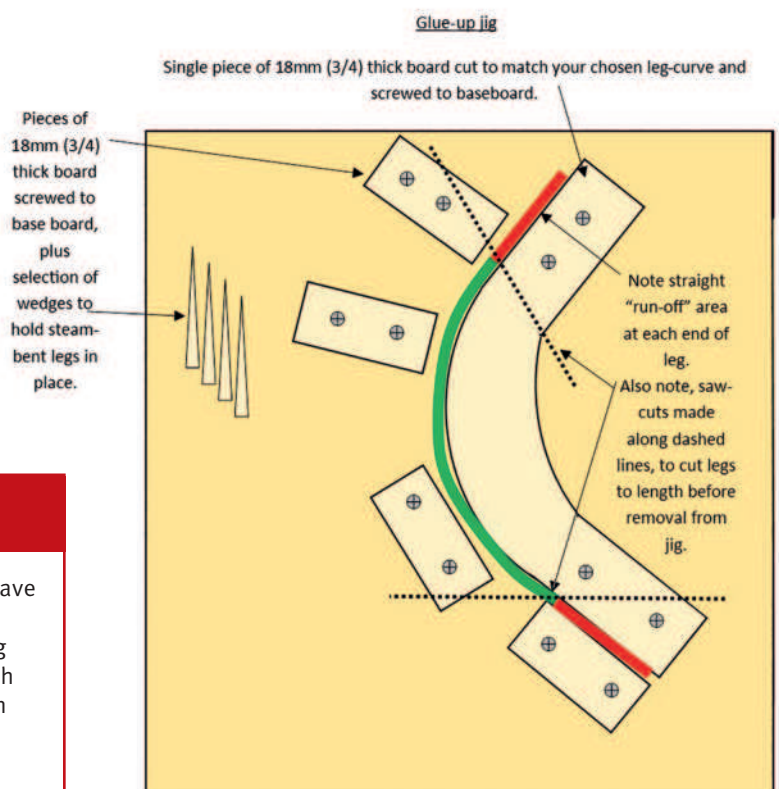
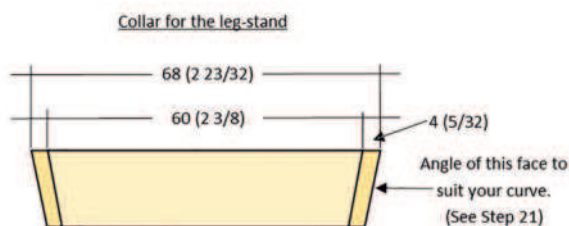
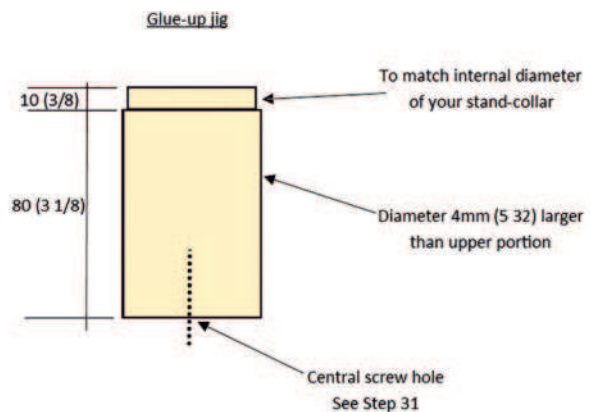
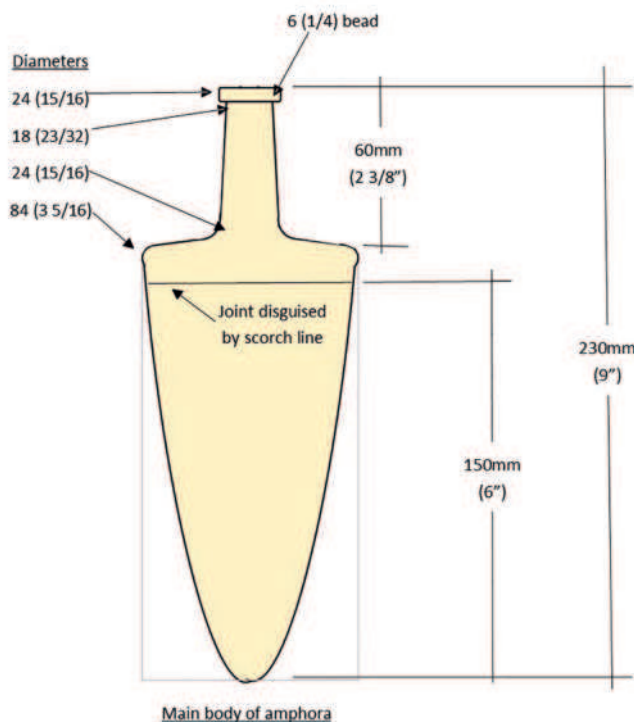
- PPE and RPE
- Drive and live centres
- Chuck with 50cm, 70cm jaws and screw chuck
- Spindle roughing gouge
- 9mm bowl gouge
- Spindle gouges
- Skew chisel
- Parting tool
- Jacobs chuck with 12mm HSS twist-drill
- Steel rules

- Dividers and thickness callipers
- Try square
- Sliding bevel
- 6mm Round file
- Pencil and felt pen
- Steam box

Materials

- Amphora: cherry, 250 x 90 x 90mm
- Stand: sycamore
- Legs, three at 280 x 10 x 10mm
- Collar, one at 80 x 80 x 25mm

- Scrap wood pieces for reversing chucks and jigs
- Ebonising spray-paint
- Cellulose sanding sealer
- Microcrystalline wax
- Two-part epoxy adhesive
- Abrasives to 400 grit
- Masking tape



HEALTH & SAFETY

The health and safety implications of using a steam box have been dealt with in detail in Part 1 of this article, and you should refer to that before carrying out the steam-bending procedure. There are few other H&S issues associated with this project, beyond the need to have a suitable handle on the leading end of whatever wire you use to produce the scorch lines in Step 17.

The process

1 Mount the blank for the main vessel on the lathe between centres, reduce to an 84mm cylinder and cut a chucking tenon on each end, then set the workpiece in a chuck, using the live-centre to ensure correct alignment.

2 Mark 2 pencil lines around the workpiece, one at 60mm and the other at 80mm, working down from the end in the chuck. The 60mm mark indicates the shoulder on the amphora where the neck begins, so make a shallow cut with a parting tool to the left of the line. The 80mm mark indicates where the vessel is going to be split to allow hollowing. Part the vessel off here, using a small handsaw with the lathe stopped for the final cut.

3 Set the bottom end of the vessel to one side, clean up the end grain of the top half, then drill a 12mm hole down its centre, using a piece of masking tape on the drill bit as a depth indicator, so that you drill into, but not through the chuck tenon. Retract the drill regularly to ensure the flutes don't clog with dust and hold the Jacobs chuck body firmly while retracting to ensure it doesn't run free if it slips out of the taper in the tailstock quill.

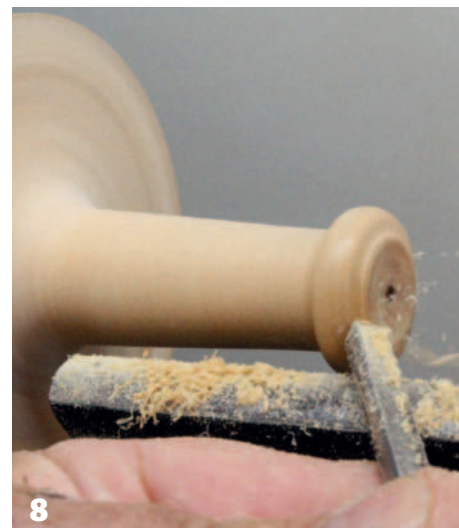
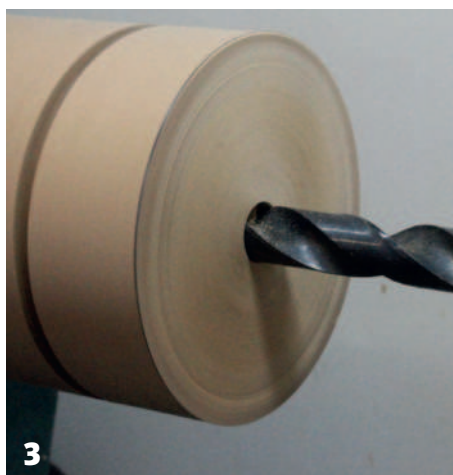
4 Using a small bowl gouge (9mm is ideal) start hollowing the top of the vessel, leaving a wall thickness (for now) of a full 10mm. Form a concave radius in the corner between the wall and the shoulder leading up to the neck, so that the outer convex corner can also be radiused over when the outside shape is refined, and hollow down to about 15mm, leaving about 5mm thickness for the shoulder.

5 Use a parting tool to create a rebate running around the inside of the vessel wall. The diameter across the outer face of the rebate needs to be 72mm and it can be about 4mm deep. Once cut, any excess wall thickness left in the previous step can be reduced such that the rebate measures about 4mm x 4mm.

6 Refine the junction between the shape that you hollowed in Step 4 and the hole running up into what will become the neck of the vessel. This is best done with a skew chisel placed flat on the toolrest, using the toe of the chisel in scraper-mode and gently swinging the tool around in a large arc to form a convex radius.

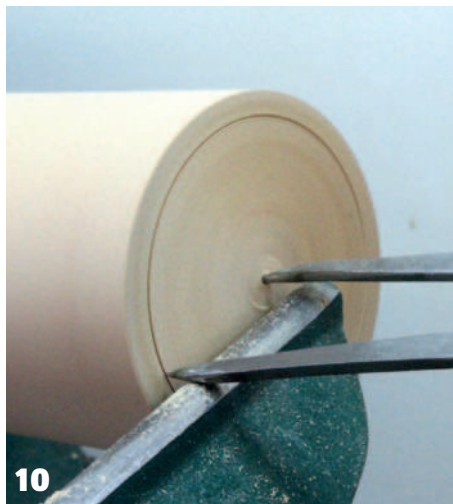
7 Remove the workpiece and set it into your 70mm chuck jaws, gripping it lightly by setting the chuck jaws into the rebate formed in Step 5. Use a revolving centre to give extra support for now, especially while the heavier cuts involved in reducing the neck thickness are carried out. Reduce the neck to a straight cylinder of about 25mm diameter.

8 Form a bead at the top of the neck, of about 6mm diameter, then make the finishing cuts to the neck, forming a gentle taper from the bead back to the shoulder, reducing the neck to about 18mm diameter at the bead, and to about 24mm diameter at the shoulder.





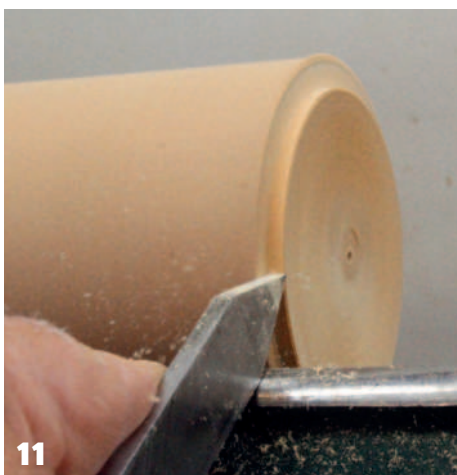
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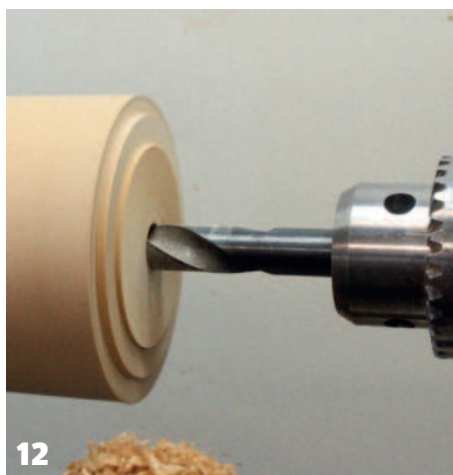
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9 Use a small spindle gouge as an auger to cut down into the top of the neck and into the 12mm hole drilled in Step 3. Ensure that the tip of the gouge is at centre height and that the gouge is held horizontally and at 90° to the end of the workpiece, with the flute pointing off to the left at about 45° to the toolrest, then gently blend the opening of the neck into the 12mm hole. Remove from the chuck.

10 Place the bottom half of the vessel in the chuck, clean up its end grain and make a small centre mark with the toe of a skew chisel. Mark a 72mm diameter circle on its outer face by setting the dividers to 36mm, then, with the dividers held horizontally, place the tip of the right-hand leg into the centre mark and use the tip of the left leg, resting on the toolrest, to score a line.



11



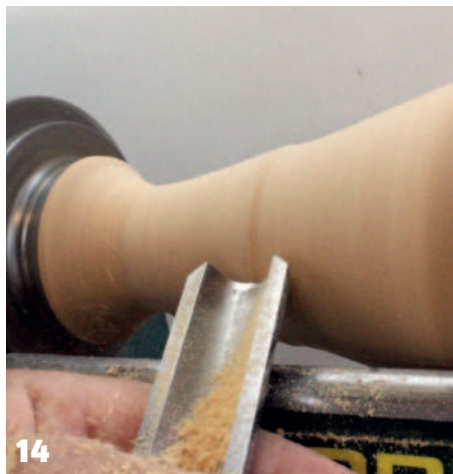
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11 Using a parting tool and with the toolrest set against the outside of the vessel, make a parting cut in towards the line scribed on the end grain in the previous step. Stop short of the line and, with the lathe stopped, hold the top of the vessel in position to see if the two rebates fit together. Refine the fit of these rebates until the top of the vessel fits snugly on to the main body.

12 Remove the toolrest and use the Jacobs chuck and 12mm drill to drill down into the body of the vessel. Note that there will be very little waste off the overall length of the vessel and that the tip at the very bottom of it will actually be cut out of the chuck tenon during the reverse-turning process, so you can drill down to a depth of 110mm.



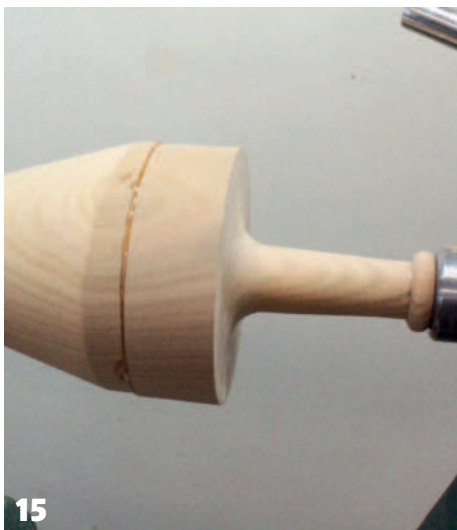
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14

13 While the main body of the vessel remains solid, commence hollowing using your 9mm bowl gouge. Take the hollowing down to about 50mm depth for now, the remainder will be hollowed after the outer face has been shaped.

14 Rough out the shape of the outer wall's taper from the top downwards. Ensure that you leave a shoulder intact where the workpiece fits into the chuck and don't attempt to achieve any finishing cuts as this will be done after the vessel has been glued back together. Finish hollowing the inside and, for now, settle for a shape that will leave a wall thickness of as much as 10mm.



15



16

15 Using two-part epoxy adhesive, glue the top of the vessel in place, taking care to align the grain pattern. Any seepage of excess glue on to the outer face of the vessel will easily clean off afterwards, but avoid placing excess adhesive on the innermost edges of the rebate so that seepage on the inside of the vessel is avoided. Use the tailstock to hold the top in position while the adhesive dries.

16 Keeping a live centre in place at the neck, the outer shape of the two-part vessel can now be blended, and its thickness reduced slightly, forming a gentle convex curve along its downward taper, while at the upper end, the shoulder can be rolled over with a spindle gouge, also forming a slight upward taper towards the neck.

17 At the chuck end, reduce the thickness down to about 10mm diameter, again maintaining a slight convex curve along the body wall. Apply a few scorch lines, one to mask the joint in the body, the others in a layout of your choice. The whole of the outside, right down to the chuck, can then be sanded down to 400 grit and given a coat of cellulose sanding sealer.

18 Set a piece of scrap wood into a chuck and form a 12mm spigot of about 50mm length and try this spigot for a snug fit into the hole down the centre of the neck of your vessel. Ensure that the shoulder at the left-hand end of the spigot is cut cleanly so that it doesn't mark the top of the neck, then slide the vessel into place and bring the live centre in the tailstock up against it.

19 Cut away the chucking tenon on the bottom of the vessel until no more remains than a central core of about 5mm thickness. This can then be sawn off by hand and hand sanded to maintain the convex curve along the vessel's body. Apply sanding sealer and set the vessel aside.

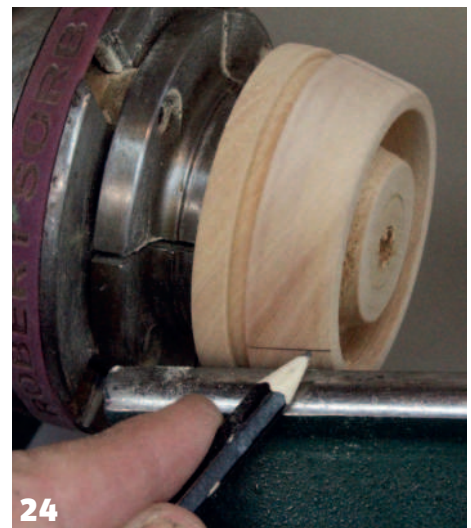
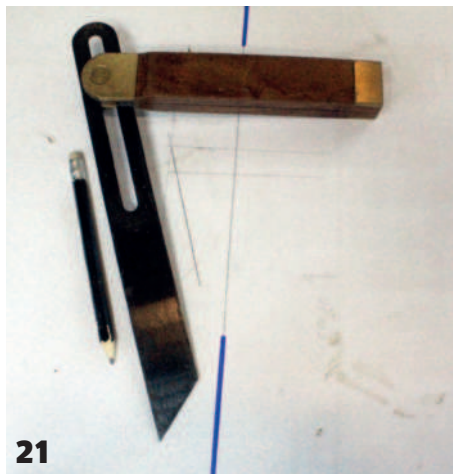
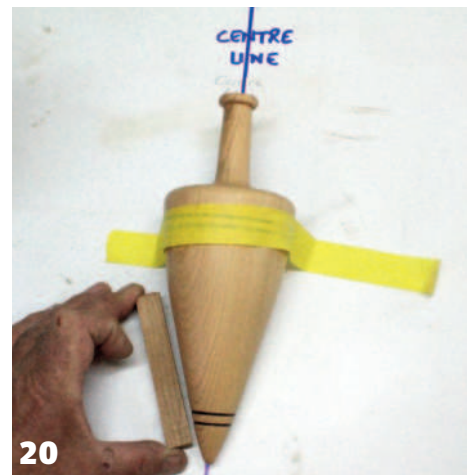
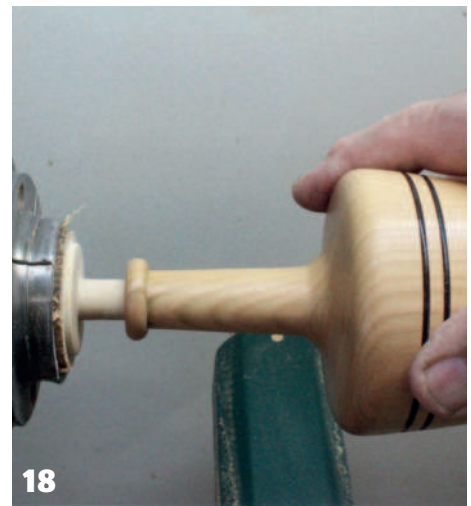
20 On a piece of light-coloured board, mark a distinct line representing the centreline through the vessel, then use a few pieces of masking tape to hold the vessel in place over its centreline. Place a small block of wood, about 15mm square, against the outer wall to indicate the approximate angle along the vessel's outer taper, then draw a pencil line along the piece of wood.

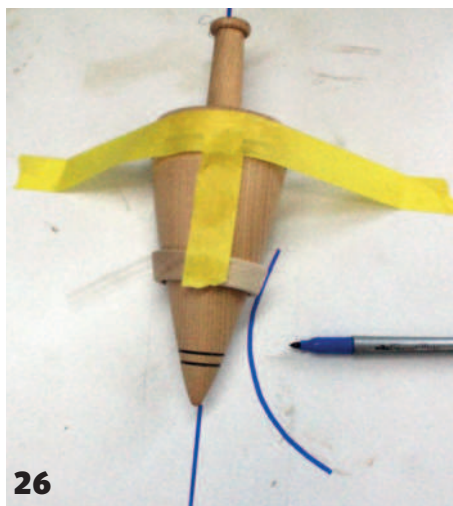
21 Mark a pencil line, square to the centreline, such that it cuts across the pencil line drawn in the previous step. This establishes an angle for the collar of the tripod stand that you are about to make. Set a sliding bevel to this angle.

22 Place the piece of timber for the stand's collar on to a screw chuck and reduce it to 68mm diameter, then form a taper on its outer face to match the angle on the sliding bevel. Once that angle is established, clean up the taper on the outer edge.

23 With a parting tool, make a plunge cut to form a groove, 4mm in from the edge. You will probably have to make a second, relieving cut inside the first to prevent the parting tool binding in the cut. Make this groove 20mm deep, then abrade all surfaces, gently rounding off all corners.

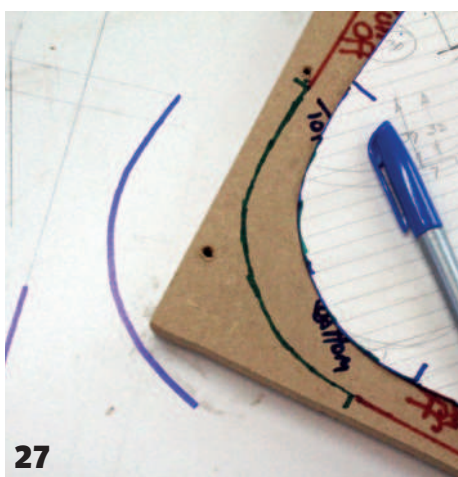
24 Mark three pencil lines along the outer edge of the workpiece. These three lines should be equally spaced around the circumference of the collar and indicate the position for each of the three legs.





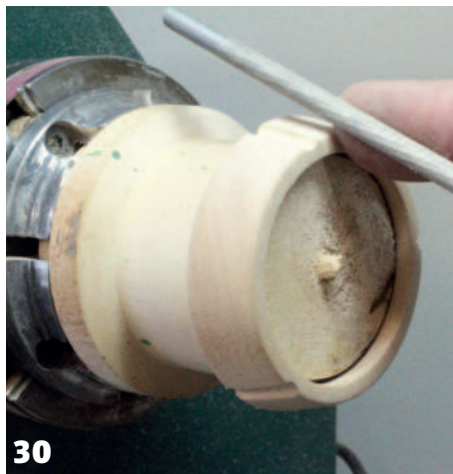
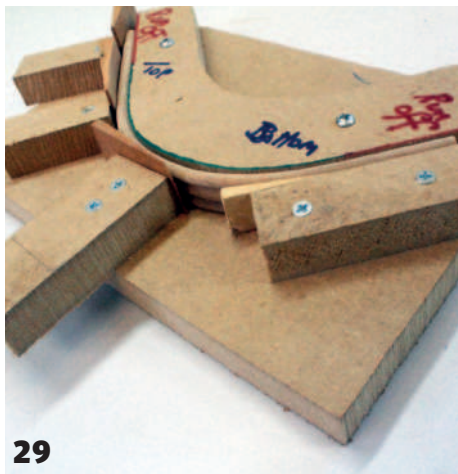
25 15mm back from the outer face, cut a groove with the parting tool to part the tapered collar off the workpiece. This can be done safely by using the tool single-handed in the right hand, while lightly cupping the fingers of the left hand around the collar. The remains of the workpiece can now be shaped as a jam chuck to reverse the collar and abrade it to clean up the final corner.

26 With the vessel taped down on the drawn centreline again, slide the collar on to it and tape it into place. Draw a bold, free-hand curve with a dark felt pen to represent your chosen shape for one of the three legs.



27 Place a sheet of paper over the line and trace it through on to the paper, marking its start and finish clearly. Cut along the line with scissors and transfer it to the face of a piece of 18mm-thick board (this will become the bending jig). Cut the board along the curve, leaving a straight run-off of about 50mm at each end, then screw the board down firmly on to a base board (see drawings).

28 Turn the three legs down to a cylinder, each 6mm in diameter. Be precise about this – there must not be any thin points along the length as this will cause uneven bends after steaming. Refer to last month's article for the steaming process, allowing two hours in the steamer, as these legs have quite a tight curve to bend to.



29 Set up the blocks and wedges on the bending jig while the legs are in the steamer (refer to drawings) and when the legs are ready, work quickly with one leg at a time, wedging it in place in the jig until all three legs are stacked up, on top of each other. Leave to dry for 24 hours.

30 Put a piece of scrap wood into a chuck and reduce it to a shape/size that you can slip the collar on to, then, with a 6mm round file, cut a round-bottomed groove along each pencil line for a leg to sit in. Before removing the legs from the bending jig, cut through them (and through their holding blocks) at whatever angle you feel will give a pleasing shape, thus reducing them to their finished length and shape.



31 Turn a piece of scrap wood into a glue-up jig (refer to drawings), slide the collar on to it and extend the three pencil lines on the collar along the jig. Then screw the jig upright on to a base board. Where the three pencil lines on the jig meet the baseboard, mark them on to the baseboard, extending outwards, then remove the jig and use the screw hole in the baseboard as a centre mark. Draw a circle to mark the position for the end of each leg. Reassemble and glue the legs on to the collar with two-part epoxy, using plenty of tape to hold everything securely while the adhesive sets.

32 Finally, abrade to 320 grit and apply several coats of ebonising lacquer to the whole of the stand. ●

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Money saver

Emiliano Achaval takes a trip down memory lane to turn a much-loved piggy bank

Something that I enjoyed in my shop is the odd jobs customers sometimes ask me to turn. A friend called and asked if I could make a piggy bank for his son. I told him yes, of course. What I did not tell him is that I have never turned one.



I keep a computer in the shop, so I decided it was an excellent time to take a coffee break and search for some inspiration to see what I could find. It turns out that there are lots of ceramic-made piggy banks and some wooden ones. What I saw was enough to get my creative juices flowing.

While I was searching the woodshed for a suitable piece of timber for the project, I was reflecting on something my friend said.

Piggy banks were one of the most common presents when we were young. All my friends had one. It was one of the ways we were taught how to save money. I remember opening my piggy bank and counting to see if I had enough to buy myself a better-suited bicycle. Nowadays, with digital money and cryptocurrency, my friend is paying his young son with cold, hard cash for doing chores around the house and mowing

some of the neighbours' yards. All will go into the piggy bank towards his future car a few years down the road. I can't think of a better way to teach a young one how to save money and prepare them for the real world, than with a good old-fashioned turned, reusable, piggy bank. I hope you will enjoy turning your project as much as I did this blast from the past. Now, let's have some fun and get turning.

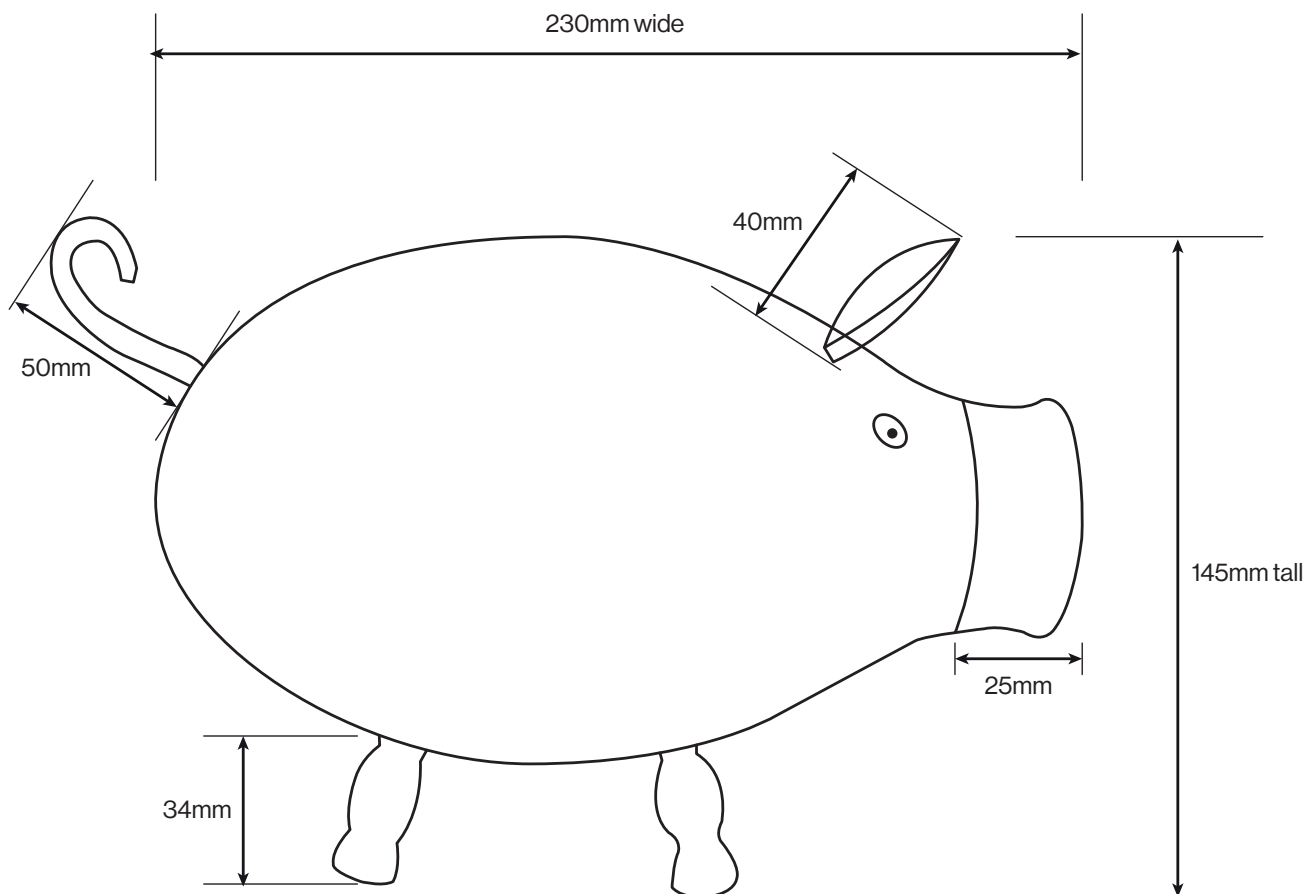
Plans & equipment

Materials

- Male and female threaded brass inserts
- Two-part epoxy

Tools

- PPE and RPE
- Spindle roughing gouge
- 1/2in bowl gouge with a 40/40 grind
- Carbide-tipped hollowing tool
- Point tool
- 1/8in parting tool
- Slim parting tool
- Coping saw
- Depth gauge and callipers
- Proxxon carver with cutting disc
- Micromotor and burrs
- Pyrography machine



1 This is going to be a spindle-oriented project. Choosing a log with a slight bend should give you some exciting grain.

Making the body

2 Bring the log to round. The tool of choice for this is a spindle roughing gouge. Check the tightness of the tailstock as you progress.



3 Turn a spigot at the tailstock end of the log. A bowl gouge is a good choice to clean up the face and make a tenon, but you will need the tip of a skew chisel used on its side to ensure the tenon is perfect to make the jaws fit right. If you have extras, keep one chuck jaw to test for fit.

4 Start shaping the body of the piggy bank. I always recommend using the tool that you are most comfortable with. The two tools I would use here would be a spindle gouge or a bowl gouge. I chose a $\frac{1}{2}$ in bowl gouge with a 40/40 grind.

5 Take away any tool marks with a negative rake scraper. Not all woods work with an NRS. If this is your first time, test it in a small area to make sure you don't end up with torn grain.

Making the 'nose' lid

6 We are basically making a box. I'm using threaded brass inserts. I measured to make sure I have enough width for it before parting off the lid. If you don't have inserts, make a suction-fit lid.

7 Part the 'nose'. Using a thin parting tool assures that the grain will match better.

8 Before you start hollowing, let's take care of the male and female parts of the lid. Turn a recess to the size of your insert, or to fit the tenon you will cut on the lid.

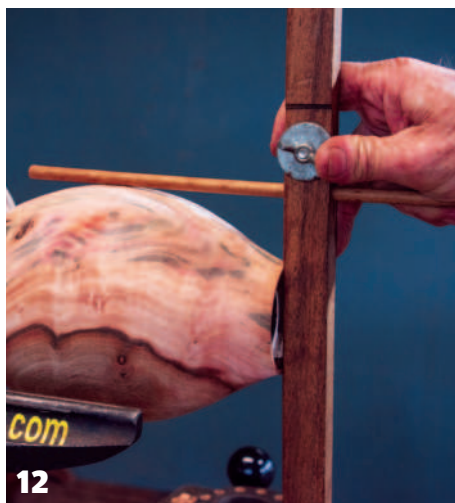
9 Once the recess is cut, two-part, five-minute epoxy works great to glue the inserts in place. You have to leave a small gap to let the epoxy work.

10 To test for fit, place two small paper wedges to hold the male insert in place. Once you have the lid fitted, you can shape it into a nose. Continue the curve of the body and have a small lip at the end. Take a look at the picture of the final product.





11



12

11 Start the hollowing process with your tool of choice. Because it's a small project, instead of bringing out my big boring bar, I used a #5 Badger from Hunter tools with a cupped carbide insert.

12 Remember to check often for thickness and depth.

13 Once the body's shape is done, turn a small friction chuck that will fit in the opening, hold it with the tailstock and reverse turn it to remove the tenon.

14 Mark where the four little legs and the two ears are going to go. Drill all six holes.

15 For the ears, you need a small bowl. Look around the shop and see if you have one on your pile of rejects. If you don't, turn a small, thin bowl.

16 Start in between centres and turn a tenon. Once in the chuck, hollow the inside with a bowl gouge.

17 When you are done, draw the ears with a pencil. If you make a mistake, do not despair, you can easily erase pencil lines with a regular eraser. While on the chuck, cut the ears off the bowl with a saw.

18 Finish them with the carving or grinding tool of your choice and put them aside. Next you will turn the feet.

Feet and ears

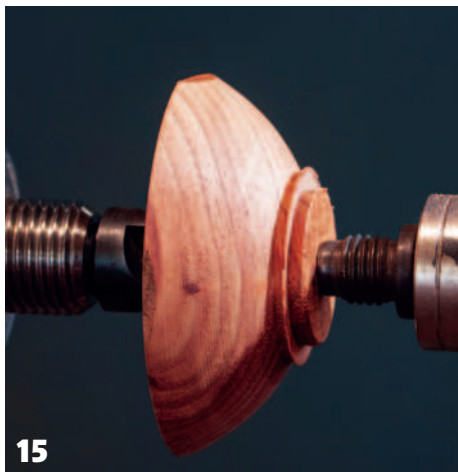
19 Put a piece of matching timber in between centres, about 8in long by 2in wide, enough so you can make four little feet. Bring it to round with a spindle roughing gouge or, if you do not have one, a bowl gouge.



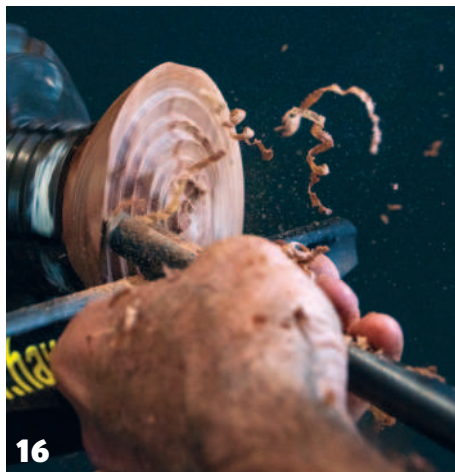
13



14



15



16



17



18



19

Top tips!



When you use inserts in your work, don't make the fit too tight. If you do, there is no room for the glue or epoxy to bind the pieces together. I like to make a groove with a point tool to have an area where the adhesive can penetrate more. Too loose, and the lid can be off-centre. If you do not have a point tool, use a thin parting tool.

20 With a spindle gouge or a skew, start turning the first of the four feet. Ensure you measure and make a little tenon to match the drilled hole where you will be inserting them.

21 Once you have all four feet ready, test for fit before you glue them. I had to sand two of them to make the piggy bank level and sit on four legs.

22 Before gluing everything, take the body off the lathe and sand off the little nub left on the tailstock side.

23 It will not be a piggy bank if you don't make the slot on the top where you insert coins and bills. Mark it with a pencil. Drilling a hole on each end made it easier for me to finish it with my micromotor and a carving burr.

24 You now have to do something for the eyes and the nostrils. Draw them with a pencil. I chose to burn them with my pyrography set, but you could also use some acrylic or water-based paints. The possibilities are endless, have fun while trying.

25 The last piece you need to make is the little tail. Carefully cut a $\frac{1}{8}$ in thin piece 3in long and 2in wide on the bandsaw. Draw the tail and, using push sticks, cut as much as you safely can with the bandsaw.

26 Finish by carving it. I used a small burr on my micromotor, and it worked well. I lightly sanded it, leaving some burr marks as texture. Drill a small hole at an angle and glue the tail in place. I finished the project with Danish oil. I could not resist going to my car and cleaning up the ashtray of all the coins I had there and putting them in the piggy bank. Now, it felt complete.

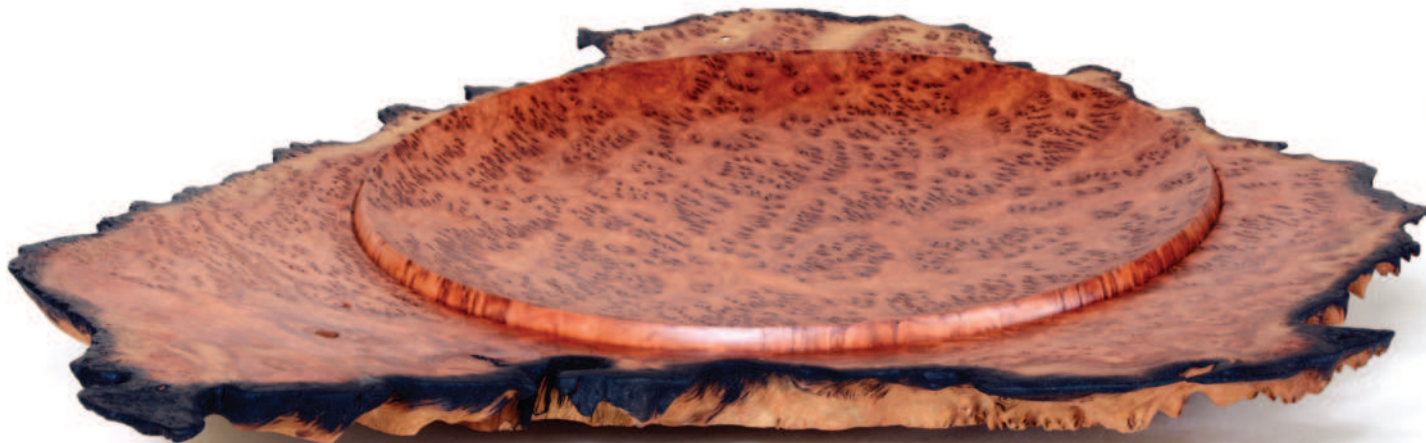
27 Finished pig, ready to fill with cash. •



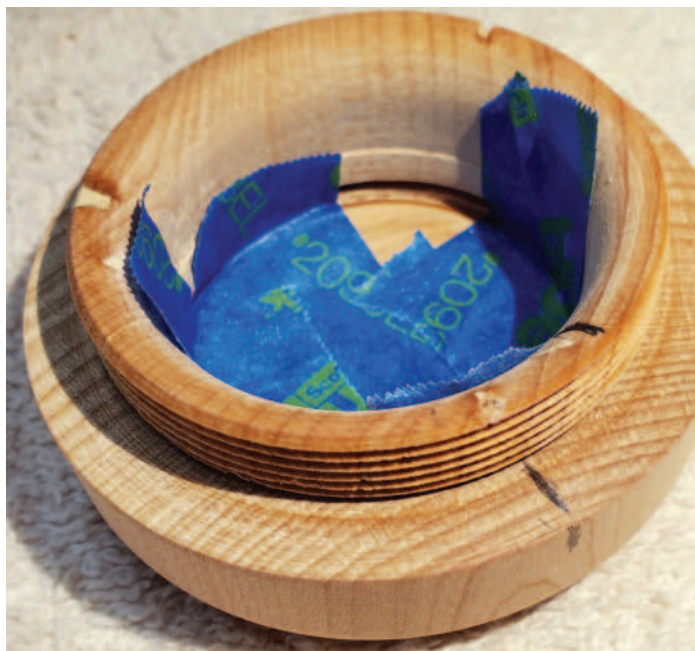
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Brian Horais turns threads on lidded jars



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Distribution
Seymour Distribution Ltd
T: +44 (0) 20 7429 4000
Woodturning
(ISSN 0958-9457)
is published 13 times a year by
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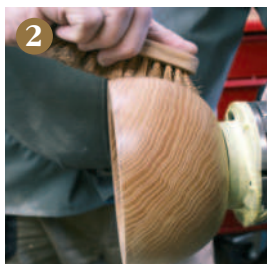
Using Gilt Cream over Ebonising Lacquer. (1)

1



1 Ebonising Lacquer is a heavily pigmented black lacquer designed to emulate the classic look of ebony. It works well as a finish on its own or as a base for other decorative effects, including Liming Wax, Iridescent Paints and, in Part 2, Gilt Cream.

2



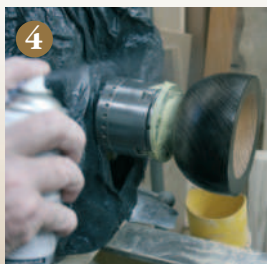
2 When planning to apply Gilt Cream or Liming Wax into the grain of an item a better result is achieved if the grain is opened first using a Liming Brush. Ash and Oak are among the best timbers to use.

3



3 To avoid ending up with a black lathe it's usually best to cover it over to protect it from overspray, or remove the item from the lathe completely and spray in a clean, dry area.

4



4 Apply the Ebonising Lacquer in thin, even coats until the whole area is covered. Be careful to avoid runs and 'sags' in the finish, caused by applying too much at once.

5



5 Allow twenty minutes for the lacquer to dry, it can then be burnished using Burnishing Cream for a gloss finish. Use a small amount of Burnishing Cream and let the lathe do the work for you.

To be continued...

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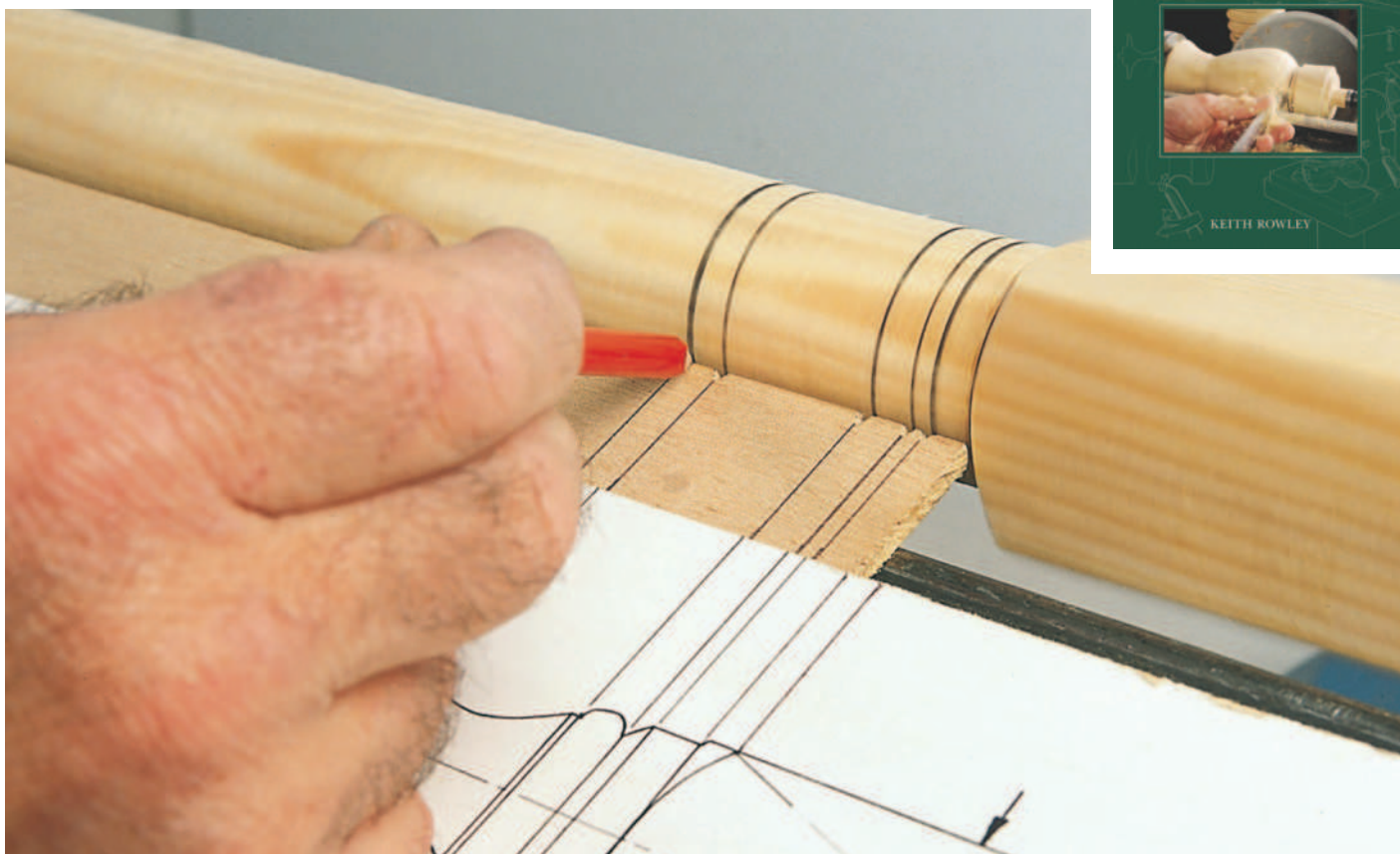
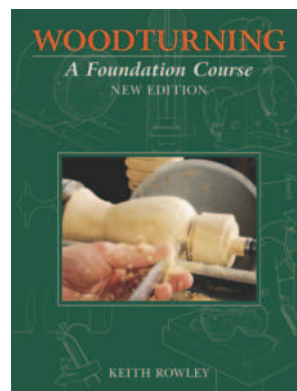
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PER ISSUE

Sanding and finishing

Keith Rowley offers a guide to enhancing turnings

Woodturning: A Foundation Course by Keith Rowley,
GMC Publications, RRP £16.99, available online
and from all good bookshops.



It is said that the finish can make or mar any woodworking project, and woodturning is no exception. It is also true to say that no matter how well any finish is applied, it will not disguise poor workmanship and the lack of care that has gone before. A good finish or polish applied to any piece of poor-quality turnery will not improve the appearance.

In fact, it will have the opposite effect – that is, it will only serve to highlight the shortcomings of the turner. It follows, therefore, that both the turning and the finishing techniques must be of a high standard if the maker's reputation is to remain 'untarnished'.

Equally important is the durability of your chosen finish or polish. You will certainly not have customers coming back for more if you make use of a finish that will not stand up to its intended use and becomes tatty after only a short while.

The need for a finish

Very few woodworking projects of any kind are left in their natural state, and there are usually several reasons why an appropriate finish must be applied:

- 1 To enhance the beauty of the wood by bringing out the grain and colour.
- 2 To protect the surface from dust, grime, fingermarks, etc.
- 3 To seal the surface. This helps to limit the amount of moisture absorbed.
- 4 To enable domestic artefacts to be wiped with damp cloths or even washed.
- 5 To change the natural colour of the wood by staining.

In short, the object of applying a finish to woodwork is to seal, protect and enhance its natural beauty.

However, as emphasised above, a good finish applied to poor work is no better than a poor finish applied to a piece of exquisite turning. The success or otherwise of a piece of completed turnery depends on every step from preparation to finish.

What are the steps?

Most of these steps have already been dealt with. I have stressed the need to make use of quality tools that have been carefully and accurately ground to the 'acceptable degree of sharpness'. I have urged you to discipline yourself to practise, practise, practise in the forming of the basic profiles using cutting techniques, wherever possible, to leave the best possible surface finish straight off the tools.

Without such preparation you will need to spend a disproportionate amount of time sanding your work to get a reasonable surface to apply the finish or polish. Too much sanding destroys the 'crispness' of a piece, so it must be your aim to minimize this step towards your goal.

In most cases, however, it is inevitable that a certain amount of sanding will have to be done (this amount being inversely proportional to the ability of the turner) to remove surface blemishes. It should not be used to shape the wood, but merely to improve the surface.

Sanding is a boring, tedious chore and I loathe it. Nevertheless, you must discipline yourself to go patiently through the correct sequence of procedures if the best results are to be achieved.

You will discover faceplate work will require considerably more



sanding than spindle turning, and side grain sands much more easily than end grain.

Experience will teach you that sanding can sometimes make the surface more uneven than it was before. For example, knots, being harder than the surrounding wood, will tend to become 'raised'. Timbers in which there is a pronounced difference in density between the quick-growing spring growth and slower-forming summer growth will sand unevenly. The darker rings (the hardest and densest) will also become raised. As an experiment, turn a small bowl in Columbian pine and sand it with some 100-grit paper. You will only have to run your fingers over the surface to realize how uneven and 'rippled' the surfaces of such timbers can become.

Unnecessary sanding should obviously be avoided. For example, I turn a good many newel posts and balusters in Scots pine which I know will be painted. If the timber is of good quality, I am able to avoid any sanding at all, the finish from the tool being more than satisfactory for a painted finish. Similar work in hemlock, which usually has little 'life' in it, gets a quick application of 100-grit paper, again good enough for paint application. Such work carried out in oak or mahogany, or any timber where a 'clear finish' is to be applied, demands a much more sympathetic approach, and several grades of paper may be needed to achieve the desired finish.

Before we come to the sanding stage, the first step is to examine your piece of turnery closely for any defects such as worm, insect or nail holes, slight cracks or shakes. These will need to be 'stopped', and there are many proprietary brands of 'stopping' on the market. This needs to be pressed well into the defect (use a waste piece of wood, not a tool blade), and it is as well to leave it slightly proud of the surface to take account of any shrinkage in the drying process. Most of these products are fairly slow-drying and it may be necessary to leave the piece overnight before commencing the sanding.

Many different shades of stopping are available, but even so, on special projects it is advisable to test for colour-matching on a waste piece of identical wood. Mixing two colours together sometimes gives a better match.

Types of abrasive material

Although we invariably use the term 'sanding', modern woodturners rarely use either sand- or glasspaper. These have been superseded by garnet paper, aluminium oxide and silicone carbide papers. All are quite suitable, and the latter is made up of waterproof backing and glue, being more commonly known as 'wet-and-dry' paper.

Abrasives are graded by numbers: the higher the number, the finer the paper. I normally make use of four grades of paper in my complete finishing process. For between-centres turning, I rarely use anything coarser than 150 grit, other than on turnings to be painted. The sanding is completed by then making use of 220 grit, which on some timbers is the only grade I use. After the application of sealer or polish,

I generally use 320 grit to 'cut it back'. (NB: Any liquid applied to timber has the effect of raising the grain, this effect varying from timber to timber. The term 'cutting back' merely means sanding very lightly with a fine abrasive to restore the original smoothness.)

On faceplate turnings, I generally start the sanding process with 100 grit (if I am hand-sanding), and then go on to the finer 150 and 220 grits to obtain the desired finish. The 320 grit is used as described above.

The selection of grit size for the initial sanding is important, and only experience and knowledge of timber will provide an adequate guide. Too fine a paper may not remove the blemishes, but too coarse a paper will inflict more damage than was originally on the surface. For example, I turn a good deal of mahogany for cabinetmaking projects and I know making use of anything coarser than 220 grit will mean that circular scratches will be visible when the project is polished. It must be appreciated that nearly all sanding is across the grain, and the depth of the circular scratches is increased as grit size is increased. To avoid these unsightly scratches, my advice is to use nothing coarser than the grit sizes I have mentioned. Wherever possible, it is advisable, before going to the next finer grade of paper, to stop the lathe and sand along the grain. It does help!

For best results, before proceeding to the finer papers, all the scratch marks from the initial sanding should have been obliterated by the intermediate sanding.

Methods of sanding

In the interests of safety, the toolrest must be removed. Prepare the paper by tearing it neatly into four equal parts and then fold each piece into three. This provides three sanding faces and helps to prevent the frictional heat becoming too uncomfortable for the supporting fingers.

Where the lathe has a good range of speeds (and it is not a major operation to change them), I normally 'drop down a cog' from the turning speed. I find it more efficient, and the frictional heat transmitted to the supporting fingers is certainly reduced.

For the majority of the sanding, the paper can be held between the fingers and the thumb and additional support can be given by the other hand clasp the wrist.

Wherever possible, sand underneath the whirling wood, because in the event of the paper or fingers 'grabbing', the centrifugal force throws both clear of trouble. (You can see now why the toolrest must be removed; in **pic 1**) For sanding coves, I wrap the paper round an appropriately sized spindle gouge to ensure the desired profile is maintained (**Pic 2**). V-cuts and fillets are sanded with the edges of the paper, but great care is needed so as not to destroy the crisp intersections. On long cylinders or flowing shapes, do not dwell in one position. Keep the paper on the move and traversing in both directions to prevent scratching and the build-up of frictional heat.

A trick used by some turners to prevent the fingers becoming uncomfortably hot is to use a piece of thin leather between the fingers and the paper.

A technique I employ for top-quality cabinet turnings is to wipe the whole of the turning with a damp cloth. This raises the grain and will need 'cutting back' when dry with 320-grade paper. This process is sometimes repeated several times, and is always done when the work is to be stained (mahogany and oak are often stained). Otherwise, the application of the stain would raise the grain and subsequent cutting-back might well expose bare wood. Make sure clean water is used, particularly on mahogany.



2 Making use of a spindle gouge to sand a cove

On the safety aspect, be extremely careful where squares or pummels form part of the workpiece. Contact with these while sanding can lead to a severe rap on the fingers. In fact, such features are often referred to as 'knuckle knockers' in the trade.

Directing our attention now to the sanding of faceplate turnings, it will soon be evident that this is even more loathsome than sanding spindle turning. Why? Because, as mentioned earlier, end grain is much more difficult to sand satisfactorily than side grain, and therefore more sanding needs to be done, particularly if toolwork is less than perfect.

Because of my loathing of sanding, I always do my utmost to achieve the best possible finish on bowls and any type of faceplate work before I start the sanding.

Here are a couple of tips to help towards that better finish. Stop the lathe and examine the bowl for rough patches of end grain. Some timbers are notorious for this, but it can be improved as follows:

Soak the rough patches with sanding sealer. I prefer the cellulose-based variety and I always thin it down with cellulose thinners (about 50-50) for this purpose. Danish oil can also be used, providing it is compatible with the intended finishing product. The reason why I prefer the sanding sealer is that I use it as a basecoat for every finish.

I use, be it wax, friction polish, pre-catalysed lacquer or Danish oil. The soaking of the end grain has the effect of softening the fibres, and a newly sharpened scraper – I personally use a small spindle gouge, but this is not recommended for the beginner – should remove the trouble and leave a nice, smooth surface. Some timbers even resist this method, and you may have to resort to:

Repeating the soaking process, but this time using some kind of tool to scrape the affected area locally; that means without the lathe running. You can use either your normal turning scraper or a cabinetmaker's scraper. Sometimes

I make use of a piece of broken glass, but be very careful if you do!

The bowl can now be sanded, starting with 100-grit paper.

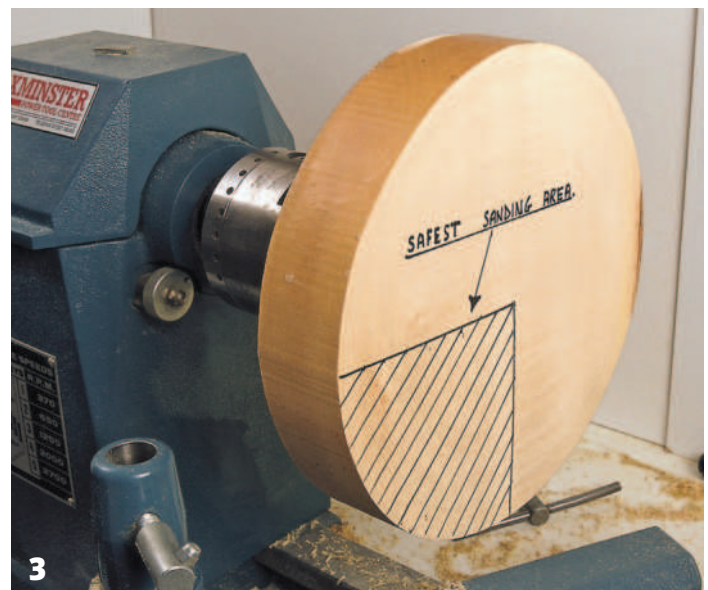
(I must confess that on really stubborn end grain I sometimes resort to 80 grit.) The safe area to sand faceplate work is in the quadrant between 6 and 9 o'clock. It is also advisable to have the fingers pointing downwards so they cannot be bent backwards against the joints, which can be very painful (**Pic 3**).

Initially, the paper will fetch off a considerable amount of dust, but gradually this diminishes to a point where virtually no dust at all is evident. This is the time to stop and go to the next grade of paper, repeating this process until the desired surface finish is arrived at.

Finally, and on all categories of turning, I always burnish the surface with a handful of shavings, which makes the piece more pleasing to the eye.

Power sanding

Many bowl turners now use this system, which consists of foam-backed abrasive disc pads mounted in an electric drill. The abrasive discs are interchangeable by means of the Velcro system, and are available in grit sizes ranging from 60 to 400 grit. As the lathe and drill are rotating in opposite directions, frictional heat is minimized, as are the chances



3 Sanding in the safe area – faceplate work **4** Power-sanding the outside of the bowl

of inflicting those irritating scratch marks which are always likely when hand-sanding. This method is obviously much quicker than hand-sanding, and flowing-shaped bowls can be completely sanded without resorting to hand methods.

Obviously, very small, ornamental or detailed bowls cannot be power-sanded, but the saving on time on many bowls is tremendous.



5

5 Axminster APF 10 Evolution Powered Respirator gives full respiratory protection. The bump cap gives head protection and the clear visor gives a wide field of vision along with impact protection

You will need considerable practice before you become proficient in its use, but it is worth persevering. In the interests of safety, do not try to use other than the bottom half of the disc, and sand in the quadrant described above for hand-sanding methods. **Pic 4** shows the outside of a bowl being sanded with this method.

Be warned, however, because you may think you are in the Sahara Desert with a sandstorm raging. The dust cloud can be considerable.

The perils of dust

Power sanding conveniently leads me to the problems and perils associated with dust, which is the scourge of woodturners. Mention was made in Chapter 1, Trees and Wood, that the dust from some species, particularly the tropical hardwoods, can be harmful. I think it true to say that while some timbers are more likely to give trouble than others, dust from any source will do nothing to improve your health.

Everything possible should therefore be done to minimize exposure to and inhalation of fine dust. The least that can be done is to wear a face mask when sanding. These are available from most hardware shops and are inexpensive.

Much better protection will be given by a battery-powered respirator. These provide a constant supply of clean air through the inbuilt filters, and are deceptively lightweight and comfortable to wear.

Additionally, the flip-up visor protects the eyes and face from flying debris such as loose bark and flying splinters.

They are not cheap, but even so I consider it a small price to pay for such vital protection to lungs and eyes particularly. **Pic 5** shows examples available from Axminster.

If the turner intends to specialize in bowl work, I believe a portable dust extractor is an absolute must, but even these have their limitations. While they will efficiently collect dust from a localized area, such as when sanding a bowl, they are not so effective in collecting dust on spindle work over about 15in (380mm) long. To overcome this problem I hold the hose in one hand and sand with the other, keeping the hands close together to ensure optimum dust collection. This method is very tiring, but it is the most efficient way I know (**Pic 6**)

Staining

Many turners do not stain their turned objects at all, relying on the natural colour and beauty of the wood to speak for itself. I too avoid staining wherever possible, but some timbers – and mahogany is a perfect example – look better for it. On this and similar timbers, the colour of the wood can vary tremendously even from different parts of the same bole. The colour can be brought to a better degree of uniformity by making use of stain.

Bear in mind that staining can only make the wood a darker shade than the original colour, it cannot lighten it. Faceplate turnings do not take kindly to staining, as the end grain absorbs more stain than the side grain and therefore tends to go much darker in colour. Any areas of torn grain are also likely to stain darker than the surrounding



6

6 Method of using a dust extractor on a piece of spindle turning so as to ensure optimum dust collection

wood, which means that the preparation must be perfect.

There are many types of stain available, and I use an industrial cellulose-based stain which is easy to apply and dries evenly. It can either be applied with a rag or sprayed on, with good results from both methods.

Sealing

As stated earlier, I use a cellulose sanding sealer as a base coat for every finish I use. It seals the grain and prevents dust, fingermarks, smudges, etc. from soiling the wood. It also provides for uniform absorbency of the final finishing or polishing application. Like any liquid it will raise the grain of most timbers, but this is easily cut back to the original smooth finish with some 320-grit paper or wire wool. Sealer can also be applied either with rag or brush.

I prefer to use a good-quality varnish brush, which makes it easy to get into the nooks and crannies. The powder additive mixed in the sealer during manufacture provides for easy cutting back, and the application of two coats of sealer is not a bad finish in itself. When applying sealer, polish, oil, etc. to a piece of wood that is mounted in the lathe, it is as well to cover the lathe bed with a dust sheet or newspaper to prevent the substance soiling the bed. It can set very hard, and movement of the toolrest and tailstock can become very difficult.

Polishing or finishing

Beginners to the craft can be forgiven if they are perplexed by the problem of choosing the most suitable finish from the bewildering variety available. Finishing woodworking of any kind is a subject and trade on its own and whole books are devoted to it. All I can hope to do is provide a summary of the finishes I consider to be the most suitable for woodturning projects.

7

7 A selection of finishing products



The first piece of advice I can offer is to keep the finish as simple as possible. If you use a cellulose sanding sealer as a base coat, as I recommend, on top of this you can choose a type of finish suitable for each particular project.

Choice of finish

In deciding what kind of finish to apply, the following points must be considered:

- 1 Is the piece of turning intended to contain food? If so, you are restricted to a finish that does not smell or taste and is non-toxic.
- 2 Will the finished product be likely to be washed or wiped with a damp cloth?
- 3 How much handling is the object likely to get?
- 4 Do you require a glossy, satin or matt finish?
- 5 For drinking vessels, special treatment is required.

Products I use

Danish oil

I use this for turnings that come under 1 and 2 above, such as salad bowls, platters, cheese and breadboards, decorative bowls, etc. It can be applied (lathe stationary) with either rag or brush. Immediately after application I sand it in with some 320-grit wet-and-dry and then burnish it with a handful of shavings (lathe running). Successive coats can be applied at 24-hour intervals, which will produce a pleasing satin finish that will not peel, crack or chip. It is also heat- and water-resistant.

Wax

I prefer to use pure carnauba wax on extremely dense timbers, and a mixture of this and beeswax for less dense timbers. Choose a fast lathe speed and melt the wax on to the whirling wood, but take care not to overload. It can be immediately burnished up to a high gloss by using a clean rag. There are also some excellent proprietary brands of wax available, such as Bri-Wax, Chestnut, Liberon and Rustins, and these come either coloured or clear. Wax finishes are suitable for articles that are not likely to be handled too much and which are intended for ornamental purposes.

Friction polish

The advantage of this type of polish is that it is simple to apply and an extremely glossy shine can be achieved in a couple of minutes. Products such as Speedaneze and Crafeeze are tried and trusted polishes, but because they are not particularly durable, again they are more suited to ornamental turnings which are unlikely to be continually handled. Apply it while the wood is stationary; I think a more even coat can be applied this way. Then start the lathe and, using the same rag, apply an even pressure along the span of your turning until the desired shine is achieved. If you wear spectacles, make sure you are standing to one side when you start the lathe up. The centrifugal force sends a fine shower of polish flying in your direction and this can set very hard on the lenses and

take some moving. Photograph 7 shows a collection of oils, waxes and friction polish.

Microcrystalline wax

Microcrystalline wax is a byproduct of the petroleum refining process and is a useful wax for woodturners due to its durability as a finish. It is the perfect finish for items that may be handled, and has improved waterproofing properties over conventional wax finishes. Microcrystalline wax can also be used as the last process on a buffing wheel, and brought to a good shine. It is also safe for use on toys.

HEALTH & SAFETY

WARNING: Using rags to apply any type of finish to wood whirling round on the lathe can be dangerous, particularly on natural bark edges. If the rag 'grabs', fingers can be seriously injured. An alternative and safer method is to make use of kitchen roll or a proprietary brand of 'rag' such as that manufactured by Liberon, which is guaranteed to tear rather than trap the retaining fingers. Rags that have been soaked in finishing oil, cellulose polish, etc. are a potential fire risk (spontaneous combustion). After use, they should be kept in an airtight jar until they can be disposed of safely.

Rustins Plastic Coating

This is ideal for drinking vessels and, although it is quite expensive and the finishing process can take some considerable time, it is worth both the expense and the effort involved. It produces a tough, mirror-like finish that is heat- and solvent-resistant. The bare wood can be stained (use the same brand) before applying the coating with either brush or spray gun. Several coats may be necessary, and full instructions are included with the product.

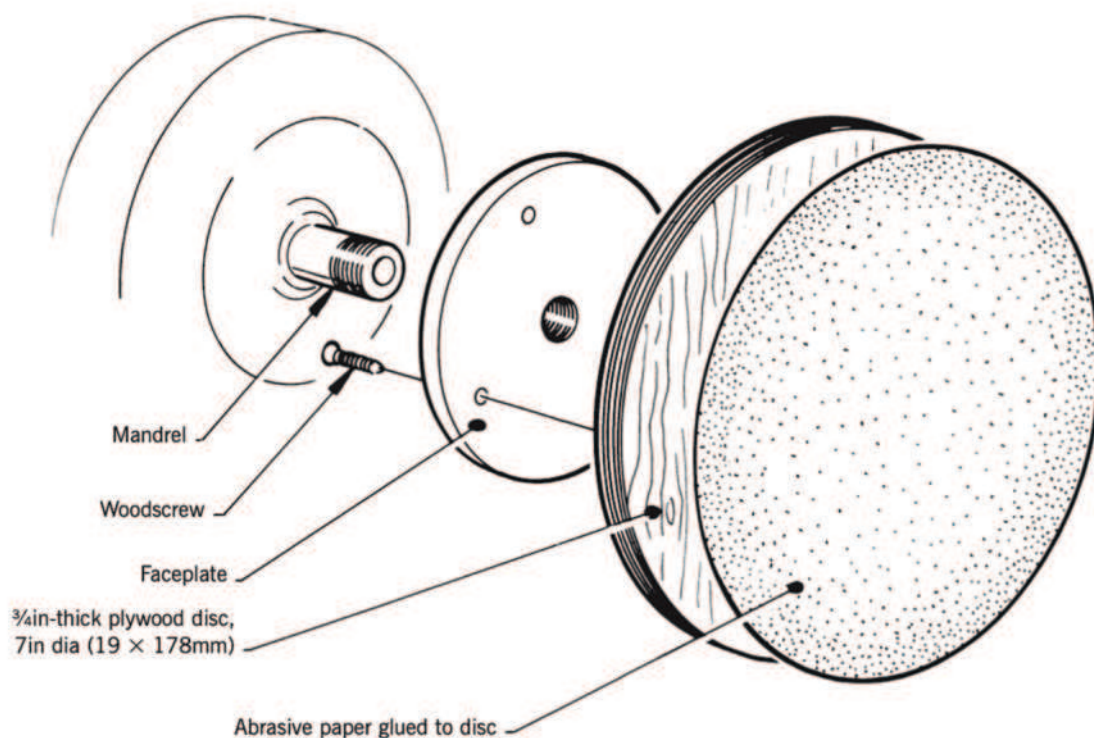
Pre-catalysed lacquers

These are really industrial finishes and intended to be sprayed on to the work. They provide a tough and durable surface. Although best results are achieved by spraying, they can be brushed on if they are thinned down. I use them frequently for polishing standard lamps, reproduction tables, and so on, but then I have a spray booth providing ideal facilities.

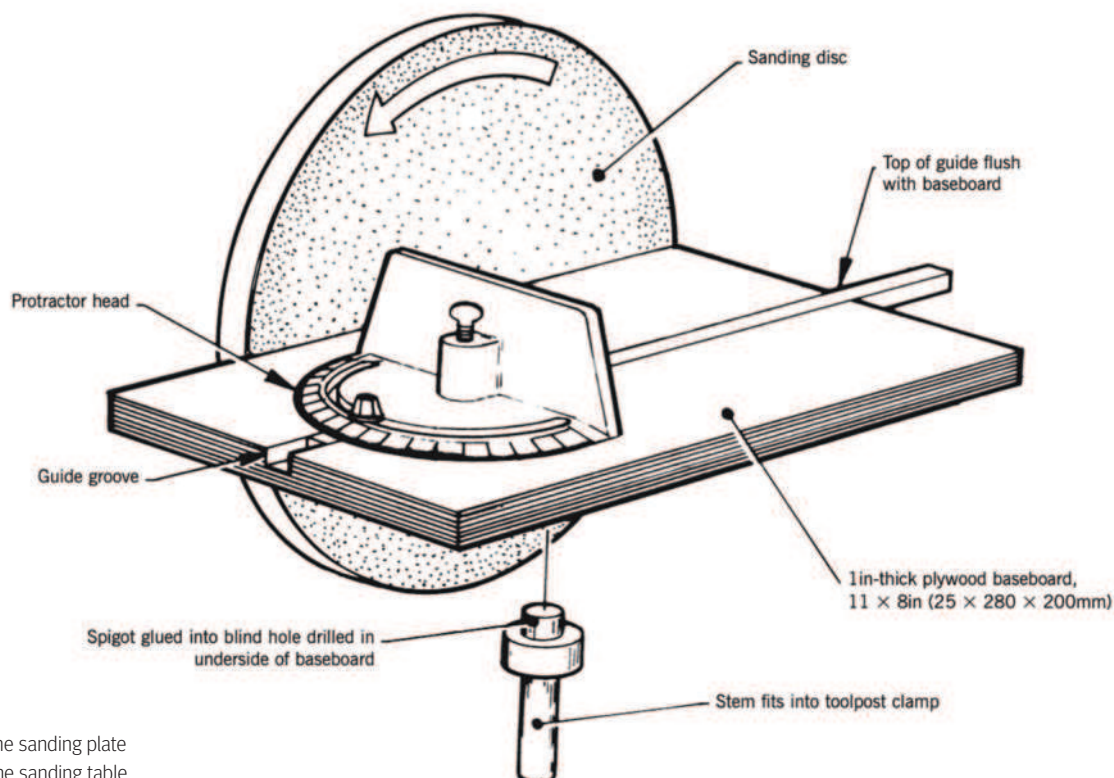
There are numerous other types of polish, many of which are no doubt equally suitable, but I can only comment on those I have personally used. My advice is to keep the polishing process as limited and simple as possible.

DIY sanding table

Such an attachment for the lathe is extremely useful for sanding the bottoms of boxes and the underneath sections of lids, plinths, bowls,



8



9

8 Constructional details of the sanding plate

9 Constructional details of the sanding table

etc. It is very simple to construct and the components required are a faceplate, a few discs of $\frac{3}{4}$ in (19mm) plywood (on which to stick the various grades of abrasive paper), a plywood platform, and a turned stem. One end of the stem is joined to the platform and the other end is turned to a diameter that will provide a good fit in the toolrest holder on your lathe.

Diagram 8 shows how the sanding plate is constructed and diagram 9 shows constructional details of the sanding table, together with a Picador protractor mitre fence. This accessory is invaluable for such jobs as truing up the edges of laminated or built-up work and sanding mitre joints. The top of the platform will require routing out to a depth and width suitable to accommodate the mitre fence, as shown in the drawing.

Summary

1 The success or otherwise of any finish is totally dependent on every

step which leads up to it being carried out to the very best of your ability.

- 2 Sanding is boring, dusty and tedious, and must be kept to a minimum by aiming for the best possible finish straight off the tool.
- 3 In normal circumstances, grit sizes 100, 150, 220 and 320 should be adequate to achieve the most satisfactory surface for applying the finish.
- 4 Always remove the toolrest when sanding, and wherever possible sand in the 'safe' areas of the workpiece.
- 5 Always wear a dust mask or respirator, and if possible use a dust extractor.
- 6 The choice of finish must be influenced to a great extent by the intended use of the turned piece.
- 7 Ensure that the final polish or finish is compatible with any base coat that has been applied to the piece. ●

Starting young

We talk to 15-year-old Peter, who turned to woodwork during lockdown

For just over six months I have been trying to get to grips with the tricky yet unbelievably satisfying craft of woodturning. I'm Peter, a 15-year-old hobbyist woodworker/turner from Scotland.

During the UK's first lockdown in March of 2020, I decided to try some woodwork to keep me busy and make the most of that unprecedented time. By the following December I believed that getting a lathe would be a brilliant step forward in my woodworking journey. So, for Christmas of that year I was thrilled to receive a small 300mm woodturning lathe.

I must admit that I definitely struggled with this new skill, and still do struggle with certain projects and that dreaded skew cut. I remember being in the workshop on Christmas day attempting to get my blank round. The thing kept jumping off the lathe and just not giving that mesmerising string of shavings that you see on YouTube. Slowly though, progress was made. I started on 'real' projects: a honey dipper, bottle stopper and a rolling pin. Those three projects are still my top three to turn but I also enjoy bowl turning. Due to the capacity of my lathe bowls are limited in size but, despite this, I still enjoy the process and this is one of the areas that I really want to develop and hone my skills in.

Some of these images are of my favourite projects: a small woodworking mallet that I turned from two mystery species of hardwood (reclaimed) has been my favourite project so far, it was so enjoyable to turn and it looks, works and feels great. Another project is a carving mallet, turned from elm with some decorative pine inlay – as you can see, I do have a thing with mallets. Also pictured is a bottle stopper, which I really struggled with, as you need to get the handle, for want of a better word, perfectly centred on to the metallic stopper. Finally, one of my best bowls is pictured, turned from softwood, which brings me nicely on to...





My wood

Getting nice hardwood for turning and woodworking in my local area is really quite difficult and expensive. Therefore, I have moved to primarily using reclaimed timber for the vast majority of my projects. I find using this sort of timber very rewarding as it gives it a new lease of life and, on the plus side, it's cheap or even free.

My workshop

The space I use for woodworking needs to serve as a filming studio (although studio does sound a little grand) and a functional, usable space to make projects. All my tools are of a budget level but work well for what I need them for. The bandsaw is my most well-used machine, followed by the lathe and the bench grinder. I also have a tablesaw, which does get some use, although not much. Despite all these machines in my workshop, most of my woodwork is done by hand, which allows me to have a genuine sense of and feel for the wood and enjoy the process more than I would if I used power tools.

Sharing my work

I mentioned earlier that my workshop must serve as somewhere to film videos – this is for my YouTube channel and my Instagram page. My YouTube channel (named Design, Create, Innovate) started way back in March last year and documents my progress through the craft with weekly videos. The channel may be small but I am proud of what it has achieved. I also use my Instagram page to show more of my work and engage with my viewers in a way not possible through YouTube.

The future

In general, I would just like to continue woodworking and turning, growing my skills and my channel. I would also like to start to sell my work to be able to fund this pricey hobby and also stop filling the house with all

the things I make. In terms of projects, I have always found captive ring goblets really captivating – see what I did there? And I would love to try to make one. Getting a chuck at some point may also increase the variety of projects that I can do and make bowl turning a lot, lot easier.

For now though, I am just going to keep doing what I am doing, expanding my skill set, having fun and watching the shavings fly. ●



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£ 9,⁰⁰

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Open segmented vase

Sue Harker shows how to construct a vase with three rows of open segments glued diagonally

Open segment turning has been an interest of mine for at least 20 years. I saw an image of a beautiful vessel in *Woodturning* magazine with gaps between the segments. There was no description of how it was made so, enjoying a challenge, I experimented and came up with the open segment 'wheels' I now produce. The spaces between the segments are a constant, the only thing that changes is the width of segment required to construct the diameter of ring needed. The wheel used for this article is my 12 open segment wheel, which can construct rings from approx. 3-8in diameter.



I have made numerous styles of vases over the years, but this one is slightly different in as much as the segment rings do not run horizontally. To achieve this, the starting timber needs to be cut at 22.5°, so the vase can be constructed with the segments running at an angle. This gives the

vase a totally different look. To further enhance, a contrast timber could be used for the base of the vase, should that appeal. I have experimented with different sizes of vase using this design and have concluded that I prefer the small, delicate-looking vase as featured.

Plans & equipment

Materials

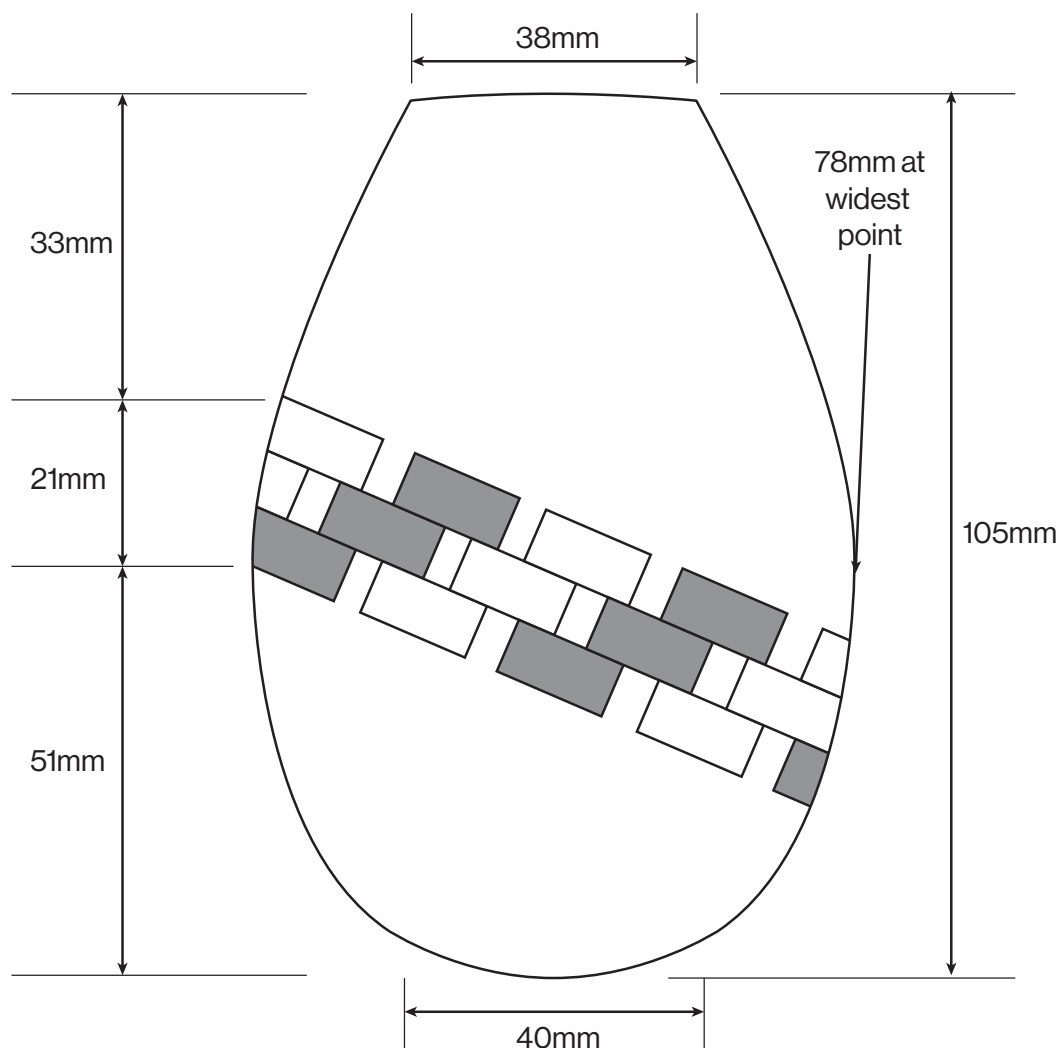
- Piece of sycamore, 90mm x 90mm x 120mm long
- Length grain strip of thickened sycamore, 350mm long x 38mm wide x 7mm thick
- Length grain strip of thickened mahogany, 350mm long x 38mm wide x 7mm thick

- Lollipop sticks or scraps of timber
- Titebond Quick & Thick adhesive

Tools

- Spindle roughing gouge
- ½in fingernail profile spindle gouge
- (RS200) Robert Sorby multi-tip hollowing tool
- ⅝in parting tool

- ⅝in fluted parting tool
- Jacobs chuck with 16mm drill bit fitted.
- Rotary sander
- Clamping jig
- Vernier callipers
- Hot-melt glue gun
- Steb centre
- 12 segment open segment wheel



Top tips!

- When preparing the strips of sycamore and mahogany for the segments, run them through the thicknesser at the same time so their thickness is uniform.
- With the measurement transferred to the bandsaw, cut two segments and slide them in the wheel. Place the base timber on top to check for sizing and adjust the size if needed.
- With the opening of the vase being quite small, a hollowing tool with a small cutting tip works better for hollowing.
- Wax oil can be diluted with white spirits to make the oil thinner so it will soak into the end grain of the segments.

1 With a piece of timber measuring 120mm long x 90mm x 90mm, mark the parts you want as the top and bottom. Set a bandsaw up to cut at 22.5° and 80mm from the bottom of the piece of wood cut across its width at this angle.

2 Place the bottom section of timber on a 12 open segment wheel. I have centralised the timber using the concentric circles on my wheel. Measure between two of the wheel 'spokes'. This measurement, of 19mm, will be the width of segment needed to clad this size of timber.

3 Transfer the measurement to the bandsaw by setting the rip fence 19mm away from the blade. Set the angle mitre to 15°. Using prepared strips of thickened timber measuring 350mm long x 38mm wide x 7mm thick, cut the end off to create first angle. Flip over the strip, butt the point of the timber up to the rip fence and push through the blade. Repeat until you have 18 sycamore and 18 mahogany segments. These will create three rows.

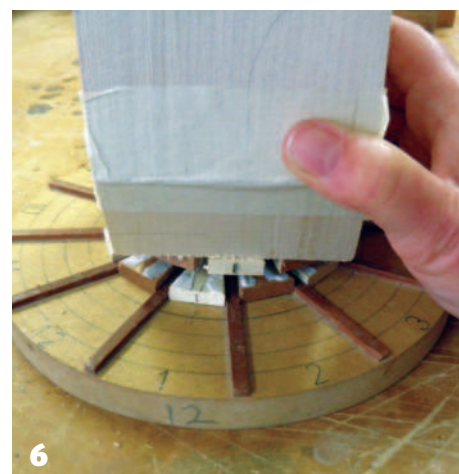
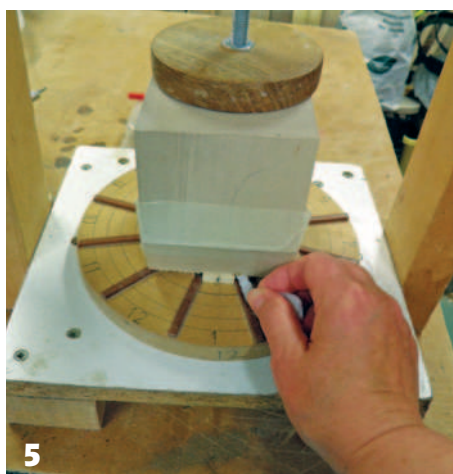
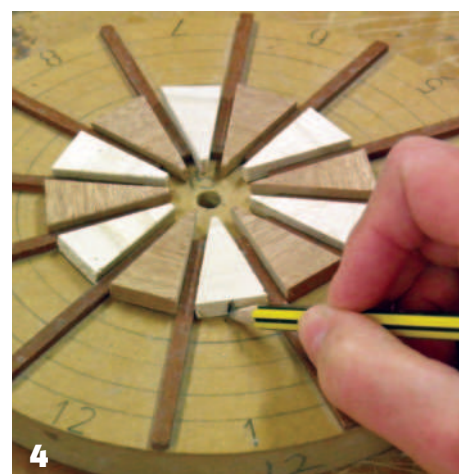
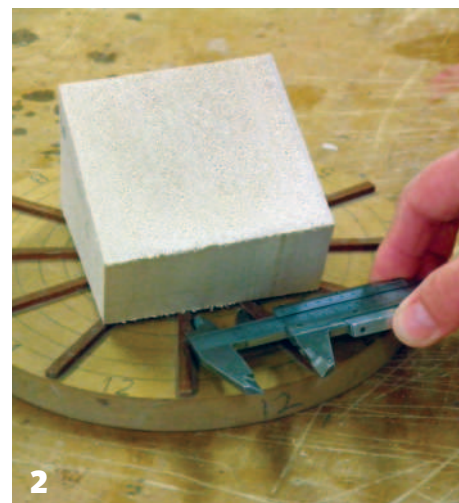
4 Sand the end grain cut edges of the segments. Do not sand the thickness. Place the sanded segments in the wheel in a pattern of one sycamore and one mahogany. Mark No.1 on the edge of the segment in slot number 1 to help when continuing the pattern on rows two and three.

5 Coat the segments with glue. With segment slot 1 facing, sit the base of the vase centrally on top of the segments. Secure the top section to the base using masking tape. Place the wheel in a clamping jig with overhead pressure and tighten. Clean out excess glue between the segments. Leave in the clamp for 30 minutes.

6 For the second row, place another 12 segments in the wheel, starting with a sycamore segment in slot 1 and forming the same pattern as the previous row. Mark the centre of segment one then make marks 2.5mm to the left and right. Transfer these marks to the segments in slots 3, 6 and 9. Apply glue, leaving approx. 5mm strips down the centres glue-free. Position the base with row one glued to it over the segment wheel and line up segment 1 to position 1 on the wheel. Rotate the base half a segment width so the segment gap lines up with the reference marks made on segment 1. Check the alignment of segments 3, 6 & 9, adjusting as needed. Secure in the clamp and remove excess glue.

7 For the third row, repeat step 6. With three rows glued and dried, the top section can be glued in place. To assist with positioning, glue lollipop sticks or similar on each corner with hot-melt glue. Apply the adhesive to all segments, leaving no gaps down the centres. Slide the top section in place, clamp, remove any excess glue and leave for a minimum of 30 minutes.

8 Allow to dry for at least 24 hrs. Mount on the lathe using a Steb centre at the headstock end and a revolving tail drive at the tailstock end. Turn into a cylinder using a spindle roughing gouge and use a 1/8in parting tool to cut a chucking spigot at one end to fit the jaws of your chuck.





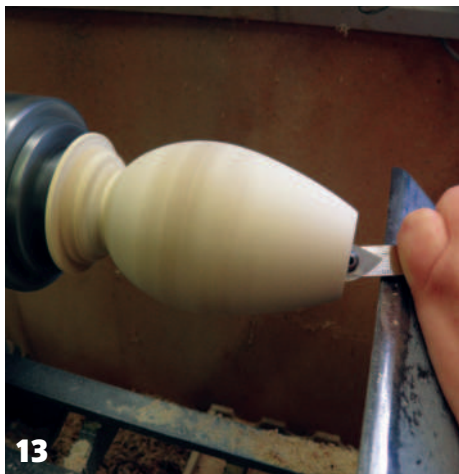
9 Mount the vase blank in your chuck using the chucking spigot cut earlier and pull the tail drive up for support. Use a $\frac{1}{8}$ in parting tool make a couple of cuts to define where the parting off will take place. Next, use a $\frac{1}{2}$ in fingernail profile spindle gouge to turn the shape of the vase.

10 With the desired shape achieved sand the vase using discs mounted on a sanding arbor. Start with grit 120 and work through 180, 240, 320 and 400.



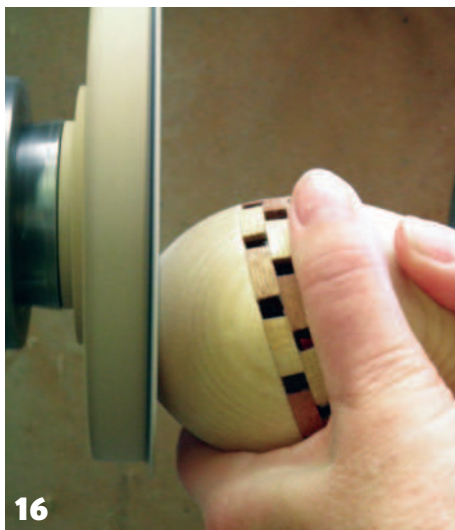
11 Mount a drill large enough to produce a starting hole for your hollowing tool. I used a 16mm diameter bit in a Jacobs chuck fitted into the tailstock. Measure the depth required to hollow the vase and mark the drill bit. I have wrapped a piece of masking tape around the bit. With the lathe running at about 500rpm, drill a hole to the measured depth.

12 Using a fingernail profile spindle gouge, take a smoothing cut across the end of the vase. Use your preferred hollowing tool, position the toolrest so the tool cuts on centre height and, with the lathe running at approximately 1800rpm, remove the inside of the vase, small sections at a time. Stop the lathe regularly to remove the shavings. The segmented area spans a large area and interferes with the smoothness of the cut, take small cuts pulling out from the centre hole. Concentrate on the segmented area until it is in the round then continue hollowing as you would any other vessel until the desired wall thickness is achieved. Here I am using an RS200 with the round cutter tip attached.



13 If you have used an RS200 to hollow the vase, the surface will require sheer scraping. Use the teardrop cutter that comes with the tool. Attach it to the bar and approach the wood at a 45° angle with the half-round section of the bar sat on the toolrest.

14 The inside rim of the vase can be sanded by rolling abrasive into a cylinder and using the thickness to apply the required pressure. Work through all the grits. DO NOT insert your fingers into the vase while the lathe is rotating. Apply your preferred finish. I have chosen wax oil applied with a small brush; the oil can be diluted with white spirits for the first coat to enable it to soak into the segment's end grain.



15 When the oil has soaked in sufficiently, the vase can be parted off. This is done using a $\frac{1}{16}$ in fluted parting tool. The base of the vase needs to be parted off as flat as possible.

16 To sand the base, mount a sanding disc in your chuck and with the lathe running at approx. 800rpm hold the base of the vase flat to the wheel in the bottom left-hand quadrant. Rotate the vase periodically to prevent removing too much timber from one area. Further sanding can be done by hand. When the base is smooth, apply a coat of wax oil. Allow to dry for at least four hours before applying another undiluted coat. Further coats can be applied if required.



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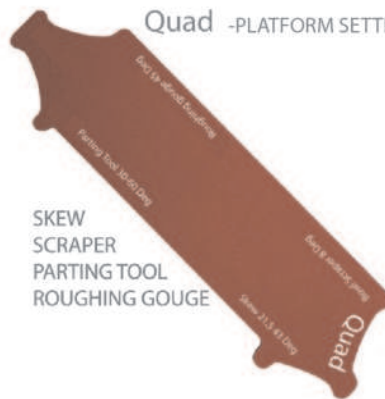


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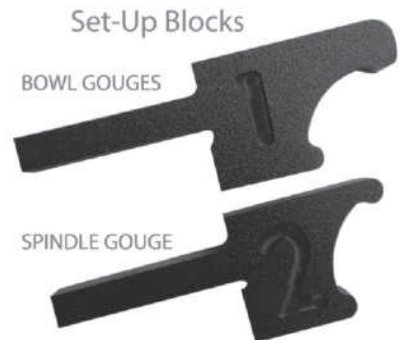


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Hand mirrors

Jason Breach turns elegant but simple looking glasses

I first began making hand mirrors after being asked by one of the craft shops that I supplied many years ago. They had some that another turner had made, he was retiring, and they wanted someone to take this item on, so how difficult could it be?



When I first looked at them they seemed so simple, and in many ways, they are, apart from the fact I am making them for a price, so the timber, mirror glass and time all start to add up.

The first issue that struck me was how to attach the round disc to the lathe – a faceplate and screws was not an option as this would leave holes in the finished item. As a way around this I used a plywood disc held on the faceplate and then used a hot-melt glue gun to secure the cut blank on to it. This allowed the recess for the mirror glass to be cut and a recess to expand the chuck jaws into, and then shape as much of the profile as possible. The problem came when trying to separate the blank from the carrier. I expect I had used too much glue, and so they did not always part company and some would end up in the bin at this stage. Not cost effective. I also at this time owned a collet-style chuck that had extraordinarily little jaw movement, and so the recess had to be spot on size.

I still make these today, but not with same method. The first thing that changed is that the plank to cut the disc from is machined to thickness, the disc marked out with a plywood template and a pencil, a set of dividers leaving a central indent that limits which face of the blank can be the polished side. Cut these out accurately on the bandsaw. This

machining flat saves a lot of effort later as it means that very little work needs to be done to the back face of the head that will be polished. In some cases a sanding is all that is required – remember that these need handles and the best colour match will be from the same board. The grain direction for where the handle fits into the head needs to be nice, straight grain, as this needs to provide strength.

As the handles are turned down to 10mm diameter where these fit into the heads I started to strengthen them using a short section of 3mm diameter metal rod. This can be a nail with the head cut off, a coat hanger, or I use some fencing wire, and I locate this into the handle by about 50mm and fix in place with CA or PU glue.

The making up of a simple drilling block that fits into the lathe banjo makes the drilling of the head easier. This needs to be set up so it is at centre height of the lathe, otherwise the mirror head will look off centre, and yes, a little bit will show. A spindle lock makes drilling the head easier. If your lathe does not have one, can you make a way of doing this with a clamp or a spanner? It just needs to stop the lathe moving and hold in position firmly. The mirror heads are drilled cross grain. They do look nicer with the handle and head grain running in line, but when the handle is inserted, it tends to split the short grain section on the front face.

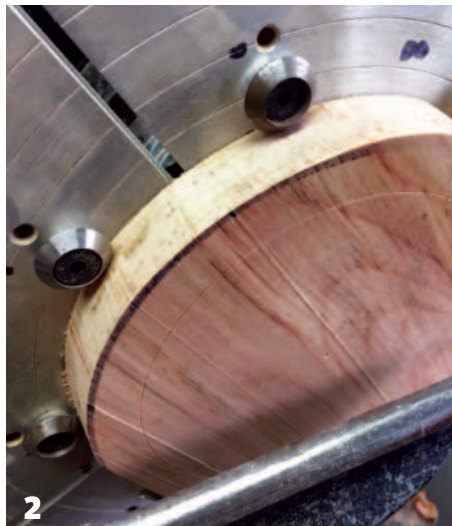
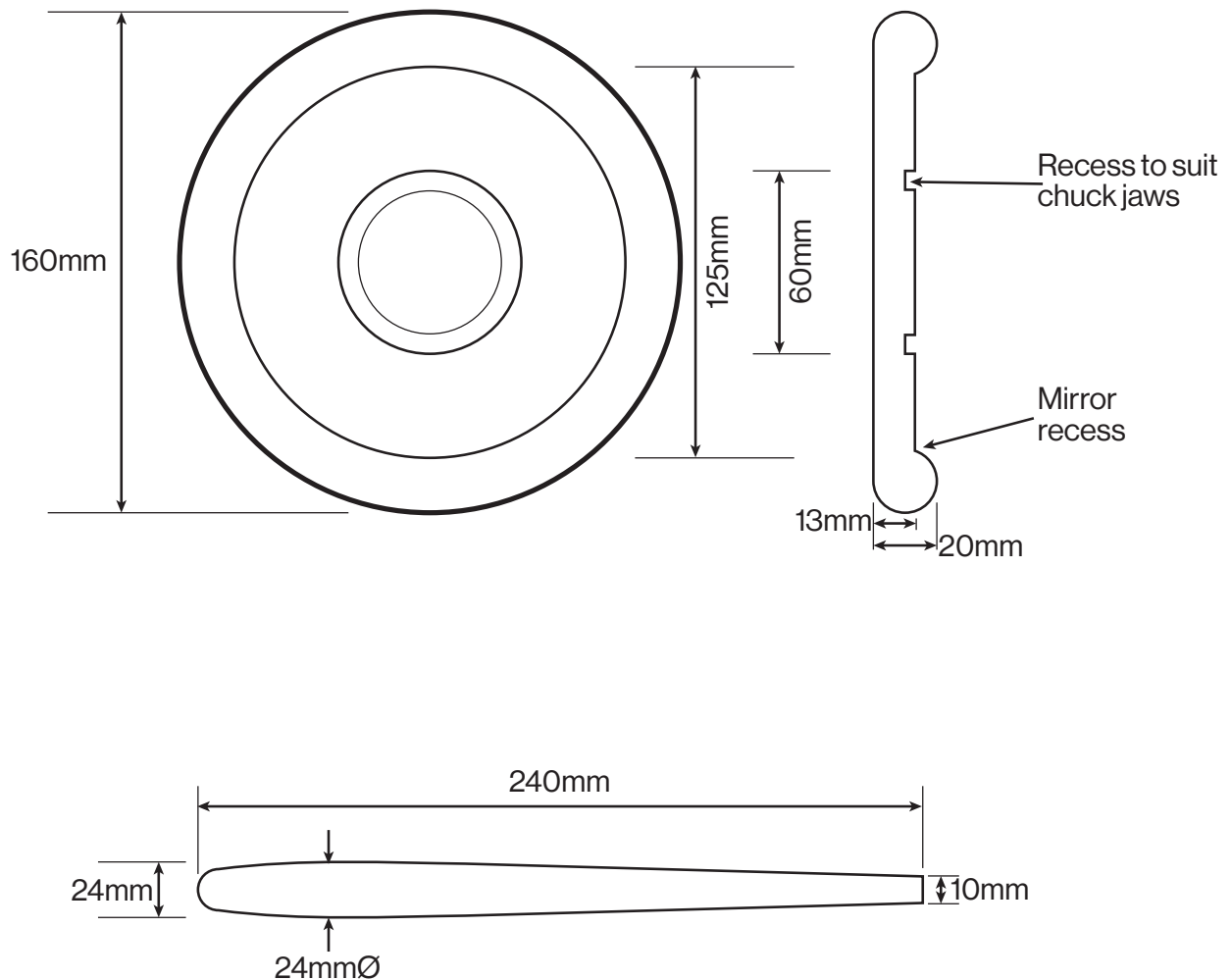
Plans & equipment

Materials

- **Head:** 155mm dia x 20-25mm thick
- **Handle size:** 250mm x 25mm sq

Tools

- Bowl gouge
- Skew chisel
- Square ended scraper
- Beading tool
- 3 and 10mm drill bit
- Lathe centres
- Chuck and jaws
- Hot-melt glue gun
- 125mm mirror
- Polishing mops



1 With the board machined up flat on both sides, cut the round blanks for the heads and the squares for the handles. If possible, cut these from the same planks as this will result in a better colour match

2 As a quick method to hold the mirror head I use a set of button jaws and a set of stackers. The stackers bolt on to the button jaws and this set-up allows quick changing of the blank and the stackers, providing a firm grip with very little damage.

3 Using a set of dividers, mark out the diameter of the mirror glass that is to be recessed into the blank. This needs to be about 2mm over in size to allow the wood to move without breaking the glass.

4 Using a 6mm bowl gouge, remove the bulk of the material within the scribe line. This needs to be about 6mm deep and will then need to be cut level and flat across the surface with a square-ended scraper. This needs to be flat and is worth checking.

5 With the mirror recess cut, mark out and cut a recess to suit a set of chuck jaws. I use O'Donnell chuck jaws for these as they allow better access for the sanding. Cut this recess to suit the jaws, this might need a slight dovetail shape.

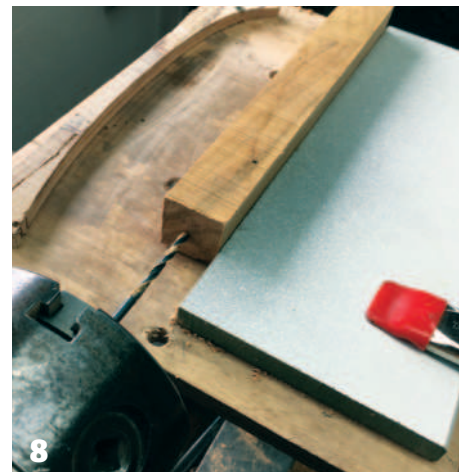
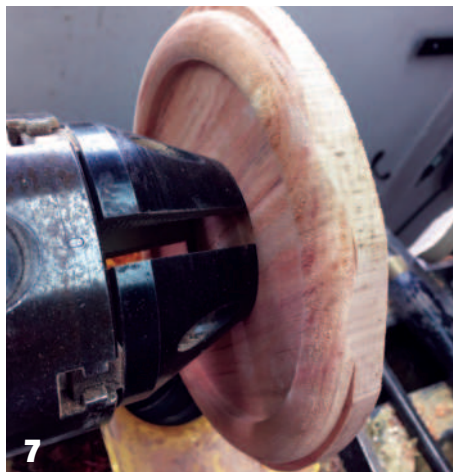
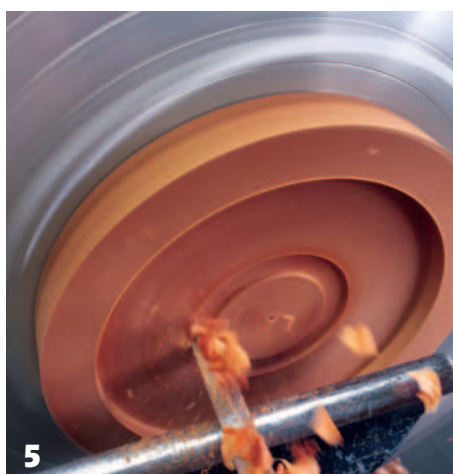
6 Clean up the outer edge of the blank and shape the curved profile edge. I use my negative rake square-ended scraper, as this is quick to use and provides a clean finish.

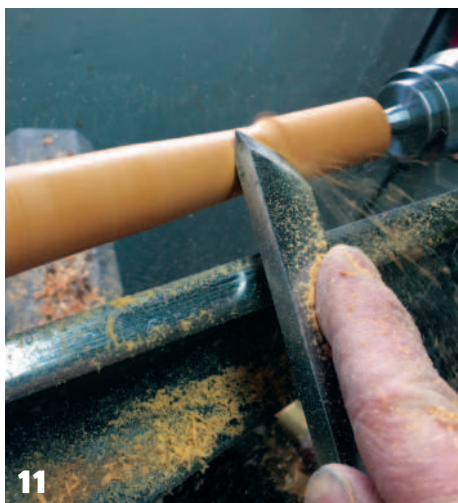
7 Re-mount the blank, holding on the recess, and shape the rest of the outer profile. With the shaping done, sand to a clean finish. Lowering the lathe speed will help reduce the heat build-up which creates small end-grain shakes. Seal the timber, including the recess to hold the glass.

8 To strengthen the handle I insert a metal pin by setting up a drilling table on the lathe, which allows these to be drilled accurately and quickly. Match the drill size to the diameter of the metal insert and mark a depth position on the table.

9 Having cut the pin to length, degrease the metal pin using a solvent. To secure in place I use a thin CA glue. The overhanging section on metal is important as this is used to align the centres of the blank when it is held between centres on the lathe.

10 To ensure that the metal pin is central I adapted a multi-headed tailstock centre point. This fits over the short protruding section of metal rod, and so provides a quick and easy way of aligning the timber.





11 Mount the timber between centres and turn the handles to shape. These are a great skew chisel exercise, but you can use whatever you feel confident with, remembering to work larger to smaller diameter. The tailstock end is cut to a 10mm diameter and needs to be straight for about 25mm and accurate in size. Sand and seal these before making too small at the headstock end.

12 Turn and sand as much of the shape as possible. The headstock end needs to be finished off as a nice clean curve – use a parting tool to create a clearance cut and then shape as much as possible with the tip of the skew.

13 To be able to hold the handle on the lathe to finish off, create a simple steady using a short section of PVC waste pipe, and an old sock with the toes cut off. The sock is inserted inside the pipe and then wrapped around the pipe and secured with an elastic band.

14 Hold the pipe on the lathe toolrest and secure in place with a clamp. Adjust the height of the toolrest so that the handle can be passed through and held in a chuck. This simple set-up cushions the workpiece and holds it central, allowing the contour shape to be sanded. Keep the lathe speed to no more than 700rpm, sand, and seal.

15 To drill the mirror heads, make up a simple drilling guide to fit into the banjo. I use a 10mm lip and spur drill for these and set up the height so that the drill tip is set to the centre point of the lathe. A jubilee clip work as a good height stop. At this stage it is worth isolating the lathe from the power.

16 With the mirror head held on the chuck recess on the lathe, position the banjo with the drilling guide. I use masking tape on the point of where this will be drilled – locking the spindle makes this easier. Drill the hole.

17 To polish the sealed heads and the handle, I want a hard-wearing polish that will retain its finish. A polishing mop set-up works well on these. Use a light or dark compound for the first stage with a stitched mop, then follow by a buff with a loose-leaf mop loaded with carnauba wax.

18 Assemble the mirror and glue the handle into the head using a good wood glue. If the handle has been sealed and polished to the end that will be glued then rough this up with some abrasive as the glue will not cut through the polished surface. To glue the mirror in place I have found a few spots of hot-melt glue works very well. ●

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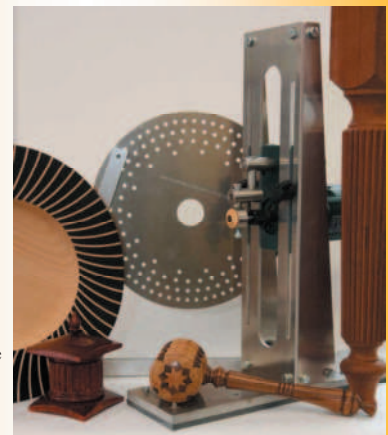
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It's all ancient history

Pete Moncrieff-Jury looks at ancient influences on design



Amphora crystal 5 large by Pete Moncrieff-Jury

Recently there has been a series of projects based on ancient civilisations. Pottery in particular has been around for millennia and is found in all parts of the world in one form or another. The Neolithic pottery of the Orkneys, for example, has yielded a great source of inspiration for Michael Sinclair, featured in *WT355*, both in design of shape and form and in decoration, as can be seen in the bowl shown here, which is in the style of the Carinated early Neolithic pottery with the pyrographed pattern being in an Unstan ware pattern. This and many other Neolithic and so-called prehistoric civilisations can be a great for inspiration if we do a bit of research. The first known, dated pottery is some that was found in China and has been dated at around 20,000 years old. Plenty to investigate and get inspiration from.

A quick internet search for pottery for Byzantine, Egyptian, Persian and Mesopotamian eras will result in a huge source of shapes and designs. Though many are borrowed from one another, there are often differences both in shapes and decorative work.

The Greek designs brought a change in the way pottery was made and set a standard that can be seen in many European styles to this day. A classic is the amphora, which is emulated in different forms but was initially just a basic vessel for transporting oil and wine. On to the Roman era and we see almost a reverting back to a simpler clay style that gives a good base for those of us who like to work with the wood and have less decoration. Often utilitarian, the fancy, Greek-inspired Roman pottery was mainly for the upper classes and the rich. Not so dissimilar perhaps to today.



Michael Sinclair's Neolithic Carinated-style pottery, with Unstan decoration by Sara Sinclair

There is also a wealth of styles, designs and forms to be found in the work and patterns of the indigenous peoples of the US and South America – shapes, patterns and colour schemes that can be incorporated into our woodturning. Pueblo, Navajo and Hopi potters loved their geometric designs and often created simple calabash-type shapes then covered them in intricate patterns. The Navajo in particular are well-known for their intricate designs in textiles as well as pottery. Interestingly, they have a tradition also seen in Japanese artwork of inserting deliberate mistakes in their work to show it is manmade.

South and Central America had amazingly sophisticated civilisations long before the Europeans got there, and this is seen in the wide variety of styles. Don't just think Inca or Aztec as there are also the Olmecs, the Mayans, Toltecs and a number of others. All have often distinctive styles of work that are well worth investigating, not just pottery but the designs found in their architecture (often reminiscent of Byzantine and Egyptian), textiles and other crafts and art forms.

Personally, I find it fascinating how so many ideas, designs, etc. seem to have either evolved individually in different parts of the world or maybe through interaction between ancient civilisations. Another story. What I do believe is that we can find huge sources of inspiration if we research other civilisations, right back to the so-called Stone Age – there is always something to make us think again, go down a different path. People have been designing and creating not just for necessity but for pleasure and to create beauty for as long as man has been around. We are just a continuation of that when we are making shavings in our workshops.

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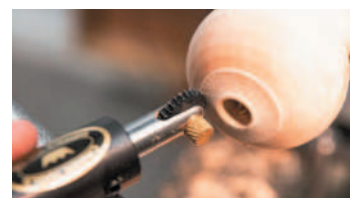
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