Issue 21 December 2016

Woodworking CRAFTS

HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

How to create a beautiful decorative bookcase

CHRISTMAS FUN:
Train whistle
Snowman quoits
Rustic log reindeer
Willow decorations

50 things to buy for christmas

Router jig making
Top tips for chisels
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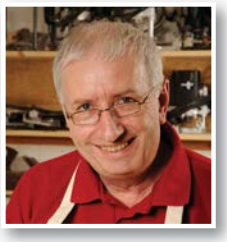
Welcome

to the December issue of *Woodworking Crafts*



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Thanks heavens for the Christmas break

Hello everyone and welcome to the December issue of *Woodworking Crafts*. We have the usual variety of content, just more of it thanks to the changes that I mentioned in the previous issue. We have all sorts of 'woody goodies' that you might suggest to your nearest and dearest as presents – hint, hint… I'm sure we will all feel better after a break and family get-togethers at this time of year. A time of over indulgence, a time to relax, a time to catch up on things we have been too busy to consider before now, such as planning next year's woodworking projects or simply reading and re-reading copies of *Woodworking Crafts*?

Me? I'll be very glad of the break myself. When I haven't been editing the magazine I've been busy doing some sub-contract work for Santa Claus, as the North Pole toy factory just can't keep up with the demand, not helped by the elves going on strike as they aren't being paid the minimum wage. So my shipping container is nearly full with all sorts – bendy rattle snakes, wooden trains, bikes, dolls' houses, you name it, it's all in there ready to go. So you see it isn't just Santa who has the hard job, it's a cast of thousands – ho, ho, ho!

Anyway, on a more sensible note, our very best wishes from all the 'team' here at *Woodworking Crafts*, do have a safe and Happy Christmas and may you prosper in the New Year!

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com

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PHOTOGRAPHS BY LOUISE BIGGS

Beautiful painted bookcase

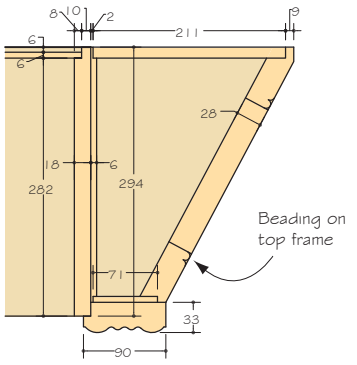
Louise Biggs

continues her series by building a decorative and intricate bookcase

Having completed the oak (*Quercus robur*) screen (issue 17) and several antique restoration projects, two of my special customers returned with their next project. With their two-storey porch extension completed on their cottage, a seating area was formed giving beautiful views over their extensive garden and a narrow return in the wall structure with oak beam structures above. With an extensive collection of books they had designed a narrow bookcase, which would make use of the area.

As with the oak screen, the carved details echo historical architectural features with the apotropaic marks – daisy wheels, arcading and circle decoration lifted from a guilloche decoration.

The bookcase was to be made using blockboard, plywood for the carcase and American tulipwood (*Liriodendron tulipifera*) for the timber frame and mouldings, all of which give a good base for hand painting. There were some different features used in the construction of the bookcase; I will concentrate on these and only give basic construction methods. ➤



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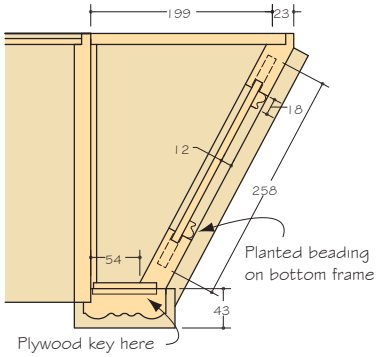

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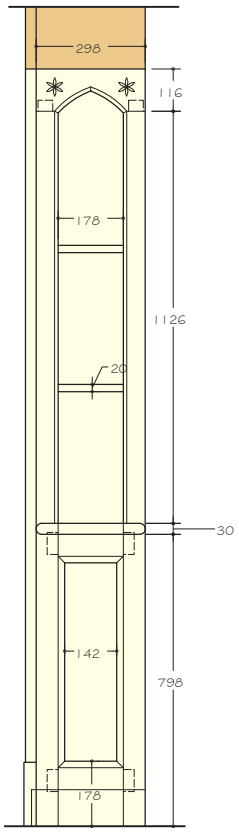
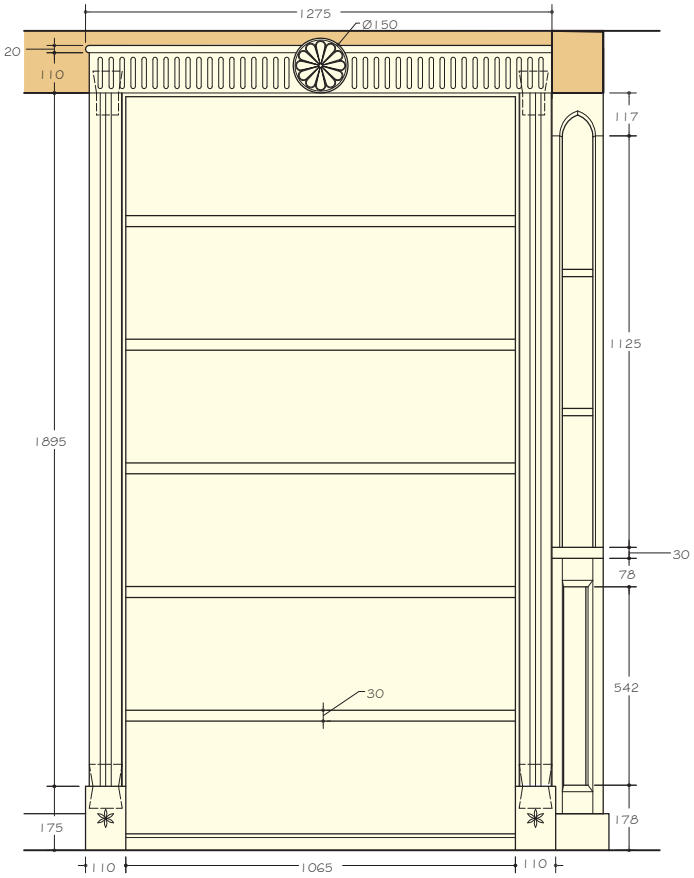
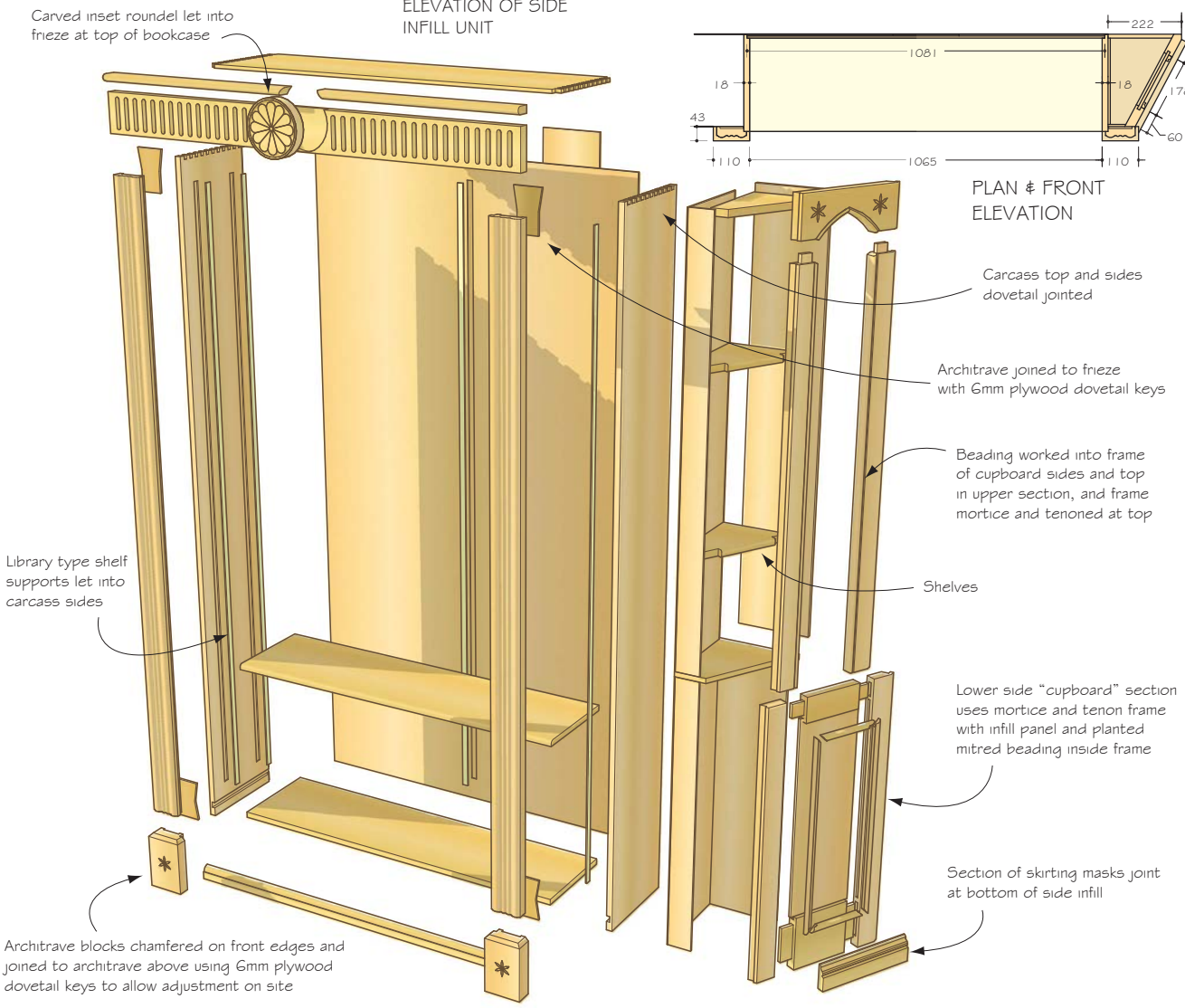


ELEVATION OF SIDE INFILL UNIT



PLAN & FRONT ELEVATION



Tool list

- Panel saw
- Tablesaw
- Planer/thicknesser
- Router and router table
- Squares – various sizes
- Marking gauges
- Sliding bevel
- Planes
- Drill and drill bits
- Screwdriver
- Dovetail saw
- Chisels – various sizes
- Shoulder-rebate plane
- Wooden moulding plane
- PPE suitable for ears, eyes and breathing
- Router cutters:
- Core box 12.7 and 9.5mm
- Point round 4mm
- Panel bead 9.5 and 3.2mm
- V-groove 90°
- Ovolo round 16mm
- Flat ovolo 18mm
- Waterfall ogee

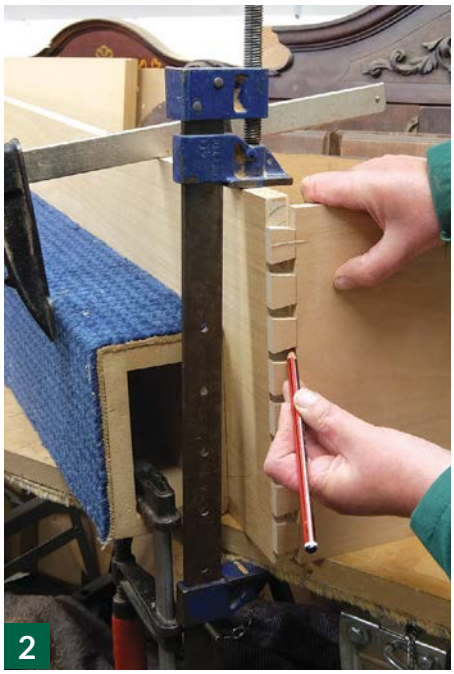
All router cutters from Wealdens Tool Company – www.wealdentool.com

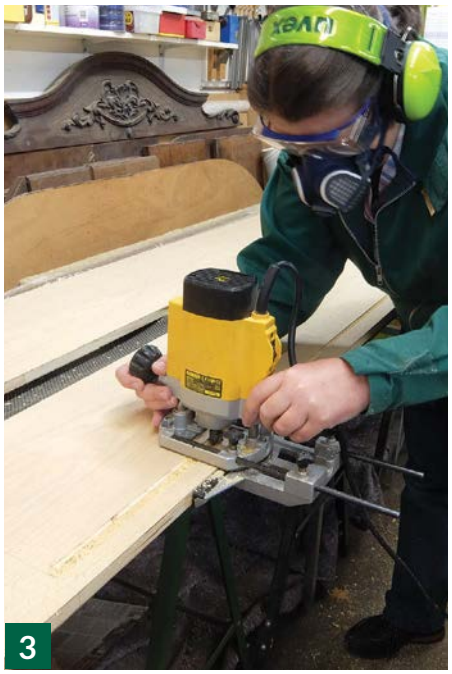
Architectural features

Apotropaic marks were used above windows and doors, but also fireplaces. All deemed vulnerable entry points to protect the buildings from witches and evil spirits during the 17th century. They are ritual marks, which are also referred to as 'witch marks' and the term apotropaic literally means 'evil-averting'. The arcading and guilloche decorations also date from the 17th century with the variations in design changing through the counties.

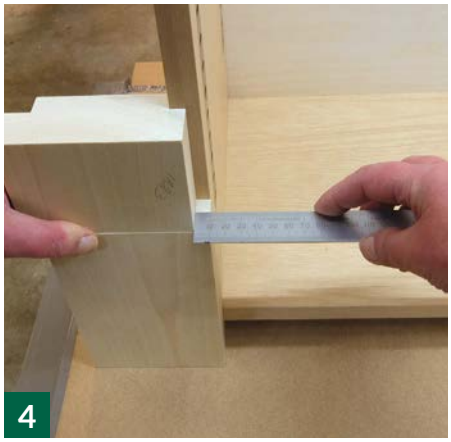
1 As always my customer provided detailed drawings and sizes of what he required. The design was drawn up on a CAD programme to iron out any 'hiccups' before drawing up a full size workshop rod. With the small cupboard return on the right hand side this aided clarification of the details for positioning many of the joints and angles. This enabled the bookcase to initially go together in my workshop while allowing for my customer's specialist builders to later fit it on site.

2 Firstly the main bookcase was constructed first. A groove was cut in the bottom edge of the sides to receive the bottom panel. As the top was formed of thinner boards I cut a series of through dovetails on each end to secure it to the side panels. The back panel was fitted into rebates on all edges with a central supporting strip glued and screwed into position to take the central bookcase strip.





3 With the main carcase formed, but before gluing together the bookcase strips were cut into the sides and back panels. A specialist cutter is available to cut the required double grooves, but I still make two passes with the router to gain the required depth. ➤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4 Using a test piece, rebates were cut using a router on the edge of the architrave blocks so they finished level with the inside edge of the carcase. With the blocks held in position the architraves were then routed in the same way, but measured, so when in position they left 10mm of the carcase edge showing and created a 10mm step to the architrave block.

5 As the architraves and blocks were to clip over the wall on the left and the side cupboard, on the right it only left the rebated edge to join them to the carcase. A series of holes were drilled for a wooden plug before being drilled for a screw at an angle so the screw pulled the architraves onto the corner of the carcase.

6 I was requested to leave the architrave blocks loose so they could be adjusted to fit if required once the bookcase was fitted on site. I decided the best way to join them to the architrave was to cut in a dovetail key. Using two pieces of 6mm birch (*Betula pendula*) ply I cut out the dovetail keys and trued them up with a chisel. With the architraves and blocks fixed in position the dovetail keys were positioned and marked on each side.

7 The bulk of the waste was then cut away using a router with the fence before trimming the remainder using the router freehand. The edges were trimmed using a chisel until the dovetail key fitted tightly, glued and screwed into the architrave and a slightly looser fit in the architrave block to be glued on site.

8 The bottom edge of the top rail was to finish flush with the bottom edge of the oak beams while leaving the 10mm edge of the top showing. There was a step between the architrave and the top rail due to the oak beam so I used a half dovetail key. The bottom half of the key was a tenon, which fitted into the architrave and was cut using a router with support blocks clamped to the architrave. The dovetail half of the key was cut into the top rail and the rail was then secured along its length to the top using thin 'L' shaped brackets.

9 The side return cupboard was formed using rebates to join the carcase panels. The bottom and middle shelf were fitted into grooves and the top fitted with a tongue and groove. The top was kept lower than the beam to allow for clearance. The front edge would sit behind the right architrave.


9

10 The frame stiles had to fit around the side cupboard, to meet at the left hand edge with the back of the architrave and allow a scribe piece on the right hand side using test pieces to establish the correct angles and rebates.


10

11 The stiles were then marked out using a gauge, a sliding bevel and the angles planed before being supported with wedges fixed to the router table to have the rebates cut. These were carefully cut out in several steps as this was safer and allowed more control to keep the stiles firmly against the support pieces.


11

12 The front frame was made using mortise and tenon joints with the top rail sitting on top of the stiles. This top rail would then be cut on a bandsaw to form an arch and was jointed in this way as it was better for the end result. This was left dry at the moment as carving and beading decoration still needed to be cut.


12

13 The architrave moulding was cut to the client's design having drawn the shape up full size and gained cutters with suitable profiles. The outer curves were cut first forming the small rebate. Next, the central shape was cut followed by the inner curves that blended the outer and centre shape together.


13

14 The shape was blended in using a shoulder rebate plane and a wooden moulding plane with the final stage being abrasives, which were wrapped around dowels for the concave shapes and shaped by my fingers for convexed shapes.


14

15 The roundel in the top rail, which would be carved with the circular guilloche pattern was cut using a router set up on a circle jig. The jig comprises of a piece of Perspex with the centre cutter hole and fixing points cut, drilled and then a series of pivot points drilled in a line, which is fitted over a tight fitting nail. Cutter sizes and positions were adjusted to get as close to the required size as possible.


15

16 The roundel was cut first working down through the material depth in steps to get a clean cut. Firmly hold the timber with a waste board behind and carefully turn the router on the pivot point.


16

17 The top rail was then routed out having marked the position of the roundel. The waste was then removed in depth steps, holding the router firmly. Any remaining levelling between cuts was done with a wide chisel.

18 For the arcading to be cut a jig had to be made that would move the top rail along in uniform steps. The exact depth of the cutter had to be established in order to get the correct width measurement of each detail and the gap that was left in between so that the end flat and the centre ones against the roundel were the same. Two blocks were cut to the exact width required and these were stepped back against each other to move the top rail through the jig in steps.

19 The router moved on the surface of the top rail and side blocks and was stopped either side by stop blocks positioned for the correct length of the detail.

20 The bead around the side cupboard frame was cut on the router table using the fence and stopping at the point of the middle shelf. With the arch cut, a guide arm cutter protector was used to guide the arch round. The final junction between straight and arched sections was finished with carving chisels.

21 The roundel, side top rail and architrave blocks were then sent away for carving. On their return the frames were glued and cleaned up before being fitted to the carcases.

22 The final stage was to fit the panel to the lower side cabinet with its moulded detail. The side shelves were fixed in position and screwed through from behind. The five shelves for the bookcase were made from 30mm thick tulipwood, with a rounded front edge, to prevent the shelves from bowing under the weight of the books. With a coat of undercoat the bookcase was delivered ready for fixing on site.

23 All that remains is for me to thank Rob and Barry for their craftsmanship to complete the project, which is now fitted, painted and awaiting the books. ■

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Snowman quoits

Mark Baker shows how to turn these fun Christmas quoits

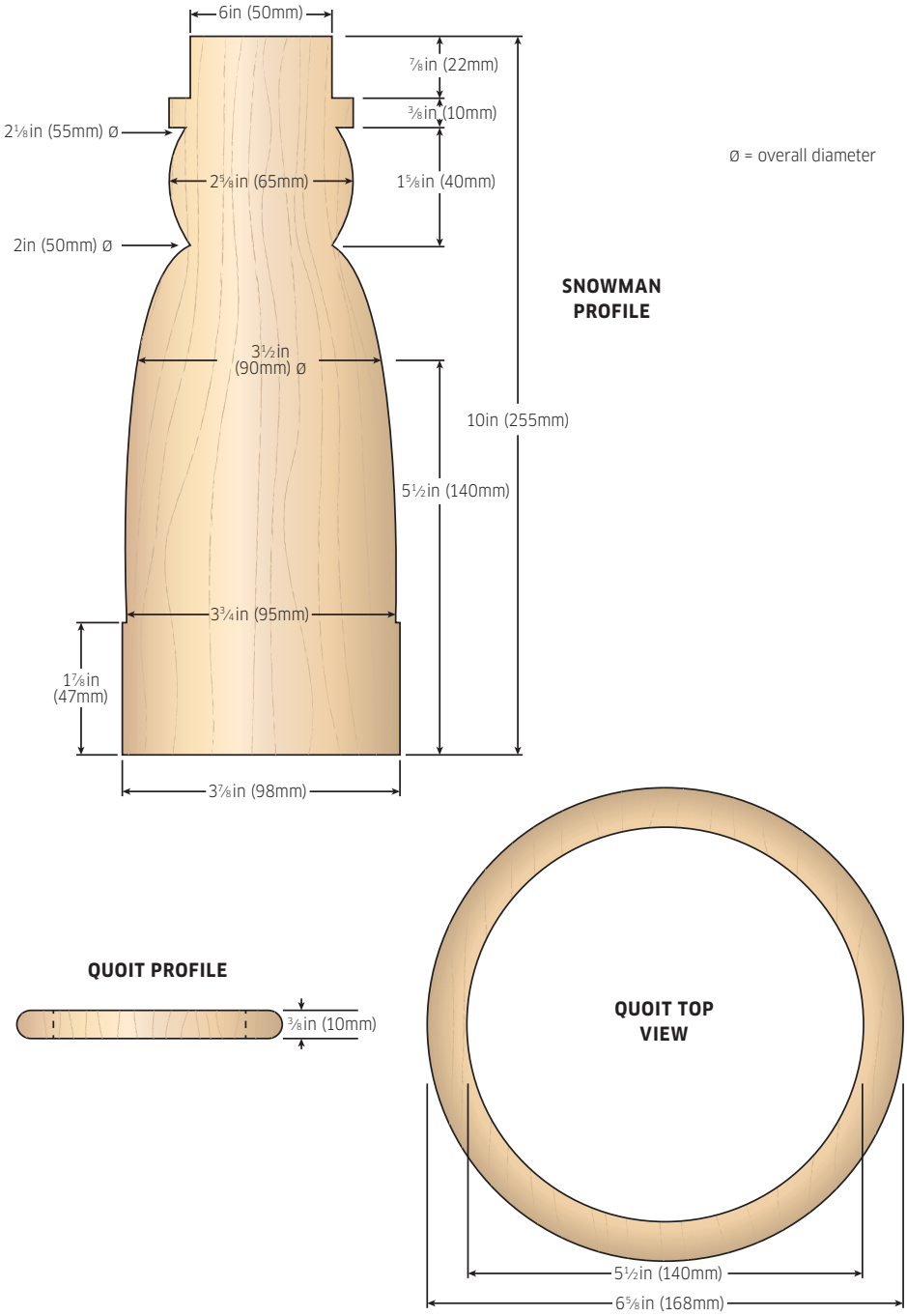
PHOTOGRAPHS BY ANTHONY BAILEY

Top tip

Instead of turning the throwing rings, you could buy rubber, plastic or rope ones to use instead. These are available from many toy stores and the internet.

Things you will need

- PPE: facemask/respirator
- Drive spur and revolving centre
- Chuck
- Beading and parting tool
- Thin parting tool
- Spindle roughing gouge
- Spindle gouge
- Abrasives, 120–400 grit
- Bowl gouge
- Skew chisel
- Disc sander (optional)
- Random orbital sander (optional)
- Paintbrushes
- Primer undercoat
- Gloss or satin paint
- Toy-safe pens



This project has three freestanding columns, which can be moved to any position and distance. To reflect the love all children have for snow, I have designed the columns as stylised snowmen. These snowmen need to be stable and to remain standing when hit by the quoits, so I have given them square bases. The snowmen can be made out of any suitable hardwood, and I used sycamore (*Acer pseudoplatanus*). It is durable and easy to turn, paint and colour as required. The rings were problematic in terms of their strength. To create something in solid wood that is not prone to snapping due to short sections of end grain might mean that they become too heavy if you increase the thickness and width of the timber to counter this problem. So, I decided to use high-quality, laminated birch-faced ply. It is strong and, because the ply is made of layers of wooden veneers presented at different angles to each other, it won't break, even in smaller sections, as long as the laminates are orientated in the right direction. Just cut the rings from the face of the ply and the laminates will lie across the ring, giving the ring excellent strength.

Making the snowmen

1 Working with a square section of wood, cut just over length to allow for a spigot to be cut at one end. Mount between centres. Use a beading and parting tool to cut the spigot on the tailstock end to fit your chuck. Then, measure up to the height


1

required for the square, lower section of the snowman. Using a thin parting tool, cut into the square corners and down through them, stopping when you meet the solid inner section.

2 Stop the lathe, remove the wood from the lathe and mount the spigot in the chuck. Use a spindle roughing gouge to block in the shape to the widest diameter required for the snowman, leaving the square base section alone. Note the square shoulders at the lowest part. Be wary of these when working. Once you have a cylinder, make a parting cut where the top of the snowman's body will be. Cut to a depth that can be deepened later on, but shows clearly where you need to refine the body and head section.

3 Use a spindle gouge to reduce the top section. I am using a pull cut here rather than a push cut. This is crude and may damage the surface, but it removes wood quickly.

4 Measure and mark the position of the head section. Use the spindle gouge to roughly shape the head.

5 Use the beading and parting tool to make a parting cut to the depth of the widest part of the snowman, in line with the mark on the toolrest.

6 The body and head need refining according to the pattern, so I marked the relevant positions on the toolrest. Refine the body and head forms so that everything works in balance and proportion, and then sand.

7 Remove the tailstock, and remove the waste wood not needed for the hat. Then, use the spindle gouge to clean up the top. Multiple light cuts are best, due to the extended overhang of the work from the chuck.

8 Remove the piece from the chuck, reverse it and hold the hat gently in the chuck jaws. Bring up the revolving centre to centralise everything and lock the piece in place. Undercut the base, leaving a solid outer rim so that the snowman is stable when placed on a surface. Remove the snowman from the lathe and carve off the pip left under the centre. Sand the underside smooth. Now make two more snowmen to match the first.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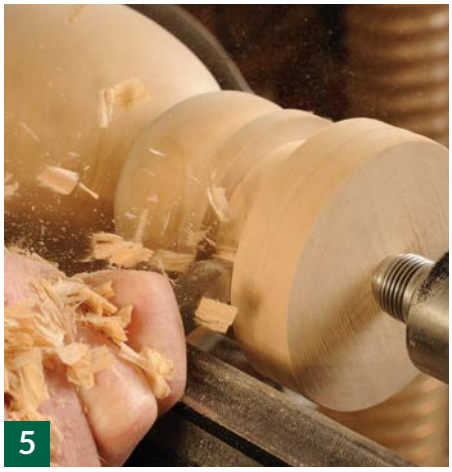
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Making the quoits

1 The block of ply for the quoits is laminated so that the ply is mainly faceplate-grain orientated. Mount between centres. (You can instead drill a hole and mount the block on a screwchuck or faceplate, using the tailstock to provide extra support.) Use a bowl gouge to true up the face and edge.

2 Cut from both sides on the edge, so you don't break off any splinters on the top and bottom faces. Reduce the diameter of the block to the size needed for the quoits.

3 With the block mounted between centres, use the thin parting tool to make a few plunge cuts to create a spigot that fits in the chuck. Once cut, remove the block from the lathe and mount on the chuck.

4 Using the tailstock for support where you can, measure and mark the thickness of the rings required for the quoits.

5 Use the thin parting tool to part in to about 25mm depth on the first ring.

6 Lay a skew on its side and use a scraping move to create a pronounced 'V' chamfer on the two corners created by the parting cut. I also chamfered the top corner.

7 Repeat the process to make as many ring sections as required. In this case, I thought five rings would be enough.

8 Clean up the top face with a little skim cut, and sand the outer ring edges. You could round them over, but as long as there are no sharp corners this shape will work fine. ➤

Safety note:

Although this game is for children above toddler age, always make sure you use 'child safe' paints and varnishes. There is much written and legislated for on the subject of toy safety. If you are using a string cord and small handles, there is a strangulation and choke hazard that should be considered, making it not suitable for children under three years of age.


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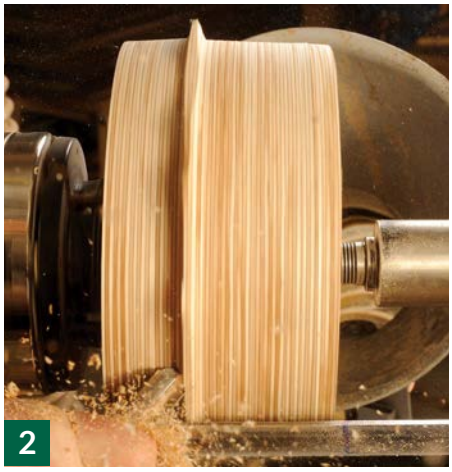
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9 Once sanded, use the thin parting tool to plunge cut just enough into the face of the ply to release the first ring.

10 Sand the flat face of the next ring, then release the next one, and so on, until you have your complete set of rings.


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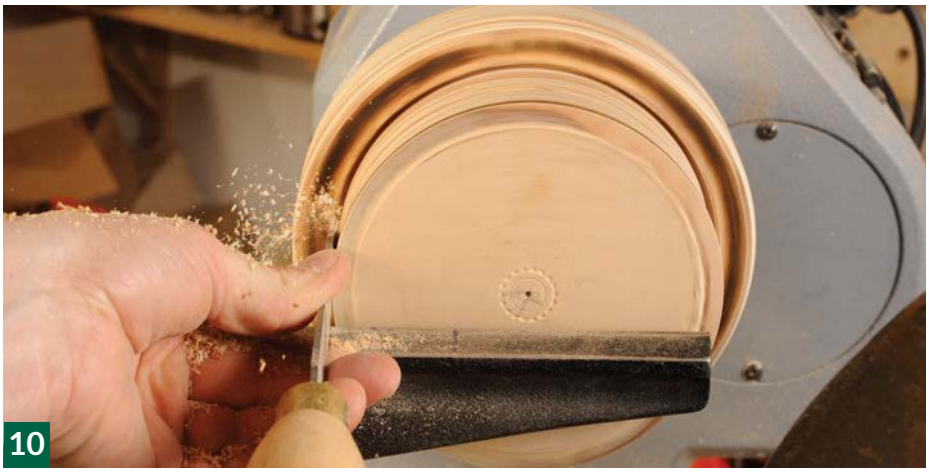
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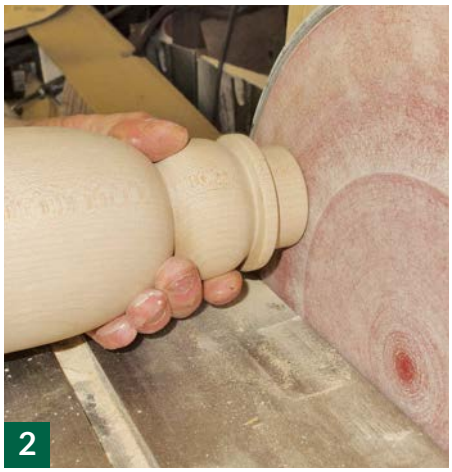
Top tips

- *Since the quoits will hit the snowmen, make sure you use dense, close-grained material for the snowmen to minimise any damage and splinter risks.*
- *To further minimise splinter risk and damage, don't have any fine detail on the snowmen. Keep everything a good size and boldly shaped.*
- *Instead of making snowmen, you could make Christmas trees. Round the tops slightly to make sure there are no sharp points. Experiment with the shapes and make something unique.*

Finishing off

1 Take the snowmen and sand the square shoulders on a disc sander or by rubbing them on an abrasive strip on a flat surface. I am using 320 grit here.


1


2

2 Sand the top of the hat, but be careful, because if you get the angle of attack wrong, you will end up with an irregularly shaped hat.

3 Sand the non-sanded face of the quoits by using a random orbital sander, or by hand.


3

4 Coat everything with a primer undercoat before applying gloss or satin paint as desired. I used toy-safe pens for some of the fine detail. ■


4

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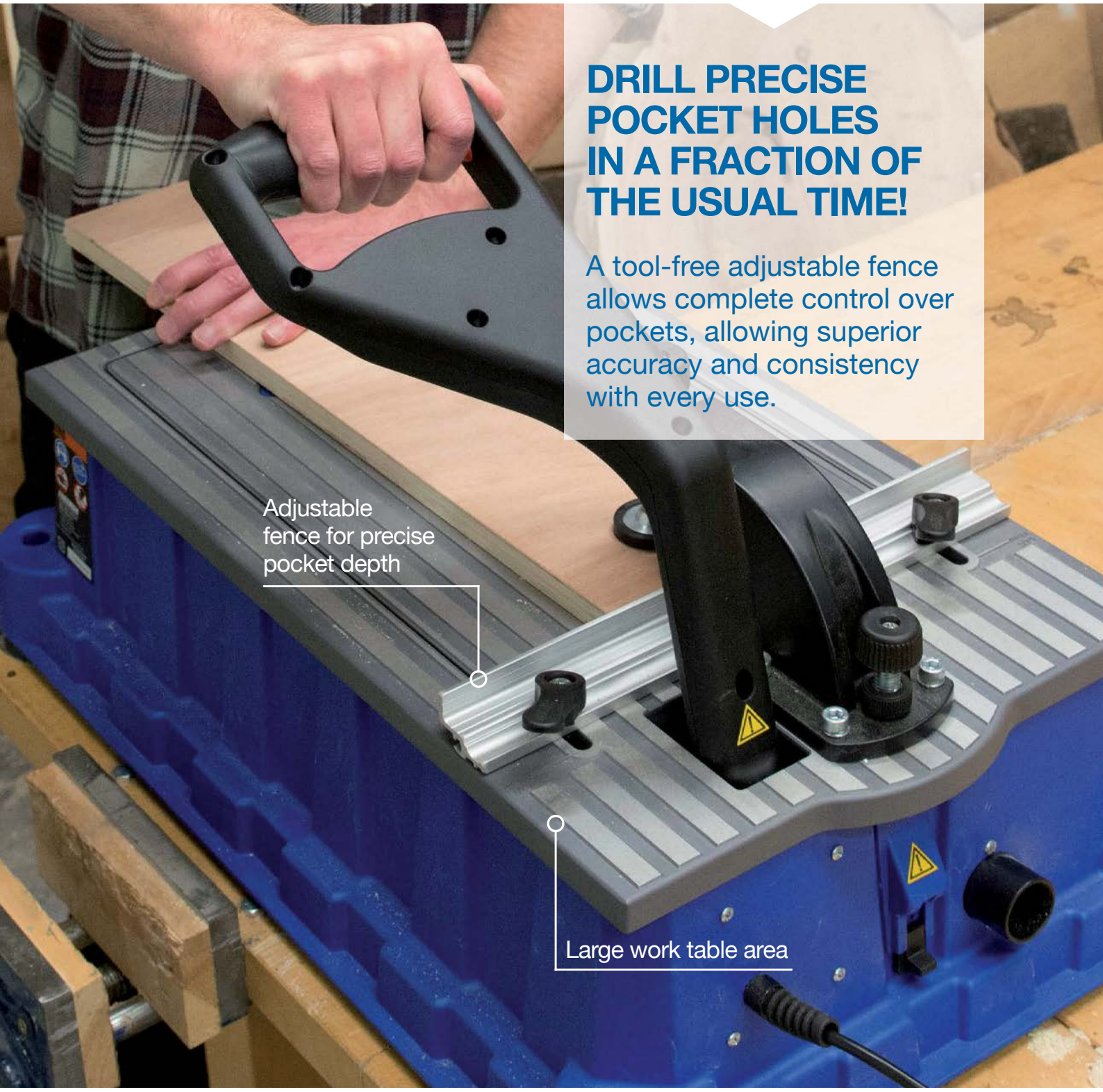

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PHOTOGRAPHS BY PETER WOOD

Willow Christmas decorations

Peter Wood makes a trio of simple Christmas decorations

Christmas is just around the corner and now is the time to be thinking of making some decorations for the Christmas tree, and to sell at the craft fairs I attend in the run up to the holiday.

The willow (*Salix* spp.) I'll be using is from the Somerset levels. There are plenty of suppliers around the country, but the main growing area is in Somerset – some suppliers have been growing here for hundreds of years (see suppliers list – overleaf). There are many different varieties of willow, some are fast growing (4m in a year!), others give fine thin rods and there are a multitude of different colours, which adds great interest to your weaving. ➤

WILLOW PREPARATION

All willow (apart from green) requires soaking to make it pliable, enabling you to weave it without it breaking. Willow without its bark on, be it white or buff is relatively quick to soak, needing only approximately 1½–2 hours submerged in water. This can be in a bath, water trough, water butt for shorter lengths or even your local pond. Willow with its bark needs much longer, approximately one day for each foot length (steamed is a slightly shorter time). After soaking, wrap your willow in a damp blanket and leave to 'mellow' overnight which allows the moisture to penetrate deep into the wood. It's then ready to weave!

FREESTANDING TREE

For this freestanding tree I'm weaving with some black maul (brown) willow. Use a thicker rod for the sides, as you always want your weavers (the rods that you weave with) to be smaller than your uprights as this stops the weavers distorting the frame of your piece.

1 From the butt (larger) end, measure 150mm then kink the willow. Use your thumbs (as in the picture), which will enable you to kink the willow exactly where you want it.

2 Use the shorter, smaller diameter rod of willow to start the weave. Starting with the tip (thin end), wrap the willow around the outside of the uprights. Use the inside of your finger (or thumb) to 'push' the willow around the uprights. This will give you a tight weave; if you just pull the willow around it will bend away from the uprights giving you a loose weave.

3 Next, pass the willow in-between the uprights and weave around the opposite upright. Continue with this for four or five turns.

DIFFERENT TYPES OF WILLOW

Willow can be bought online and delivered 'to the door'

Brown willow

Brown willow is simply willow with the bark left on. Its colour depends on the variety of willow you buy; this can range from reds and purples, to yellow and greens.

Buff willow

Buff willow is where the willow has been harvested then boiled for up to eight hours. This allows the tannin to penetrate the willow and softens the bark, which is then stripped using a stripping machine.

Steamed willow

Steamed willow, as the name suggests, has been steamed with the bark on for a few hours then dried. The bark dries to a shiny, almost black colour.

White willow

White willow has been cut over winter then 'pitted' (stood in pits of water), which keeps it alive until the buds break in spring. The bark is then stripped or peeled off and left to dry, producing a high quality creamy white rod.

Brown willow

Green willow

Green willow is simply willow that's freshly cut and so requires no soaking to make it pliable. Willow can be bought online and delivered 'to the door'. Traditionally it was sold by the bolt, which was a standard bundle 1ft diameter with a circumference of approximately 3ft 2in. It is now more commonly sold by the kilogram. Depending on availability you will order by length from 3–9ft lengths.

Willow suppliers

www.musgrovewillows.co.uk
www.englishwillowbaskets.co.uk
www.willowgrowers.co.uk


4


5


6

4 Cut the willow to convenient lengths. Use your secateurs to point a length of willow similar in size to your uprights.

5 As the distance between the uprights increases, push your pointed rod into the weave. It's easier if you point the end of the willow.

6 Continue weaving in and out until either you reach the end of the rod or the rod approaches the size of the upright. Add another rod, usually starting with the end you finished with (butt to butt, tip to tip). Extra willow can be trimmed off when you have finished.


7


8

7 When you've woven enough willow into the tree you now want to trap the willow so it doesn't unravel.

8 Kink one upright, fold the rod and kink again.

9 Snip the end into a point and push back into the weave, locking the willow in place.

10 To finish, cut a short round of branch wood, drill a hole to match the central upright then glue the rod into the base. Here's another tree but made from buff willow.


9


10

SIMPLE CHRISTMAS TREE

1 Here's a second, simple Christmas tree; I've kinked the willow twice to form the tree shape. You can then fix the shape by wrapping the rod around twice.

2 You can then thread the end of the willow through the tree shape. Make sure you wrap the willow tightly around the sides. ➤


1

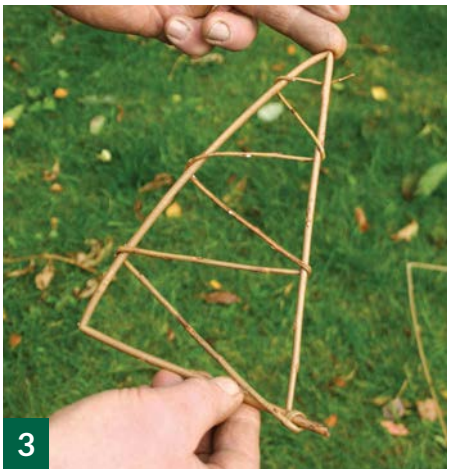

2

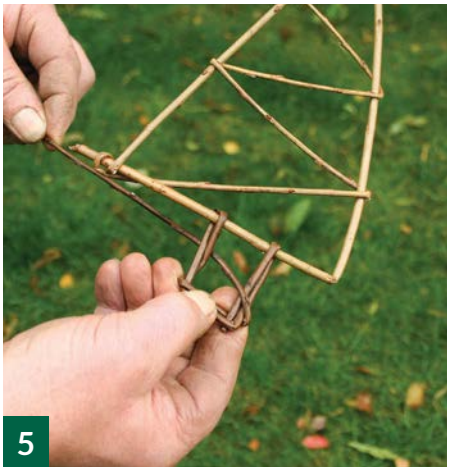
3 Thread this through criss-crossing, finishing with a tie at the top of the tree.

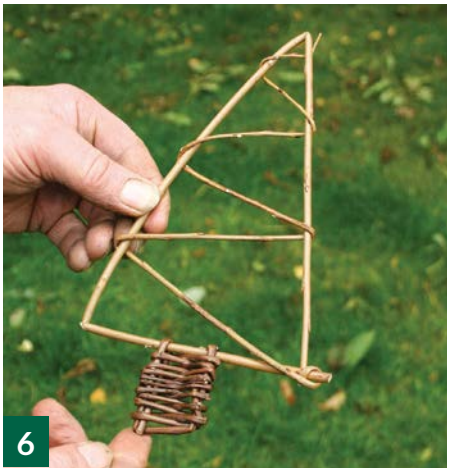
4 Now I've used a different willow to form the trunk. You can see here how I've fixed the butt end of the willow, wrapping it around the base of the tree, then kinking the willow twice before finally threading the tip through the trunk we've formed.

5 You can now weave the tip in and out using a figure-of-eight weave filling in the trunk.

6 Finish off trimming the leftover willow. You could then add some suitable ribbon and either hang on your tree or window.





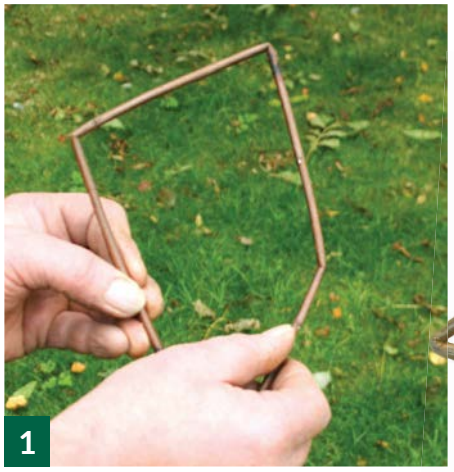


A CHRISTMAS STAR

1 For a final flourish you could make a simple star, kink the willow four times starting from the base, try and make the 'sections' equal in length.

2 Now thread the willow through into a star shape; note how you weave the willow through 'over and under' the other rods of the star.

3 I like to finish the star by threading the rod back on itself until it locks, then trim off the excess willow. ■




The finished star

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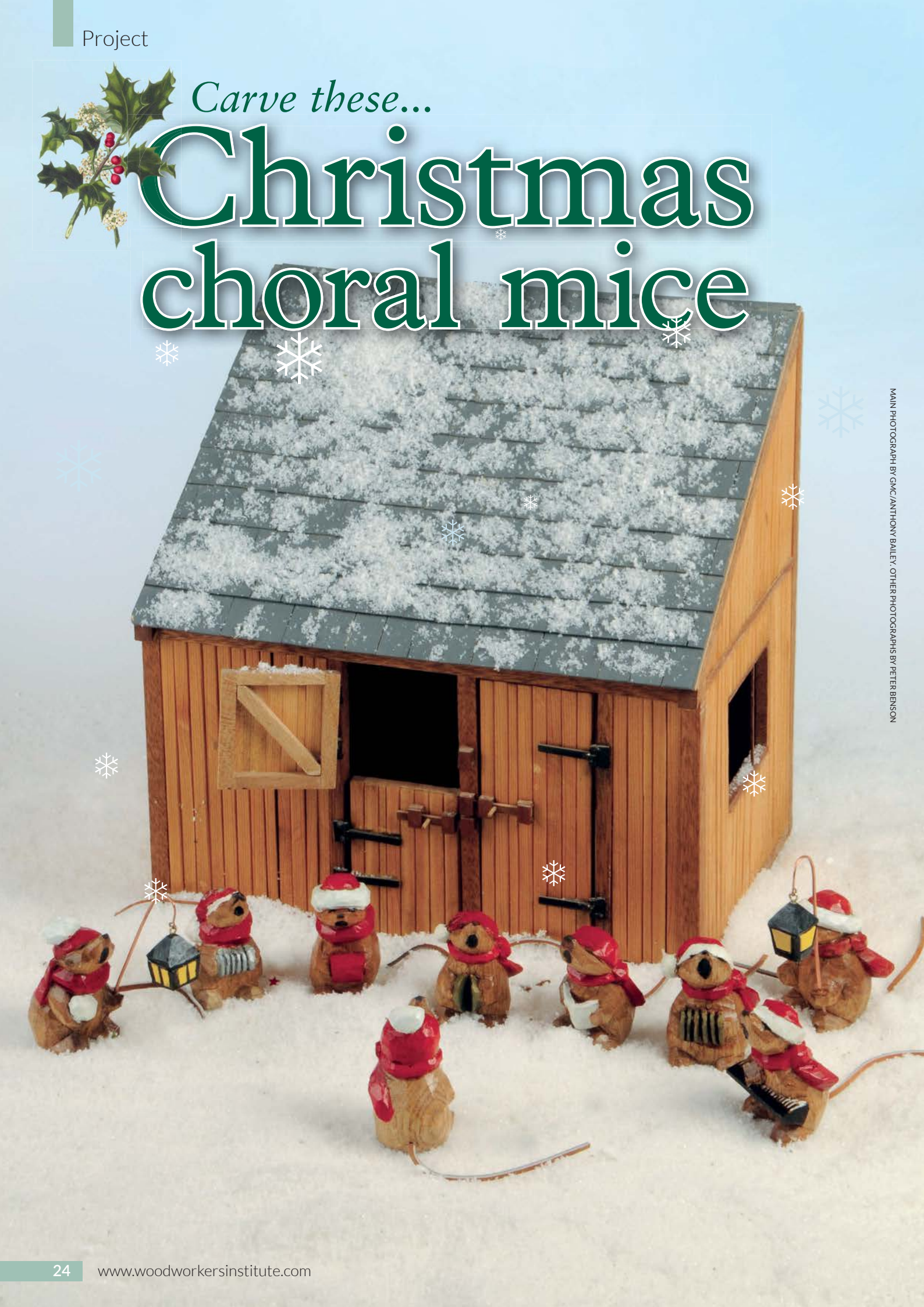
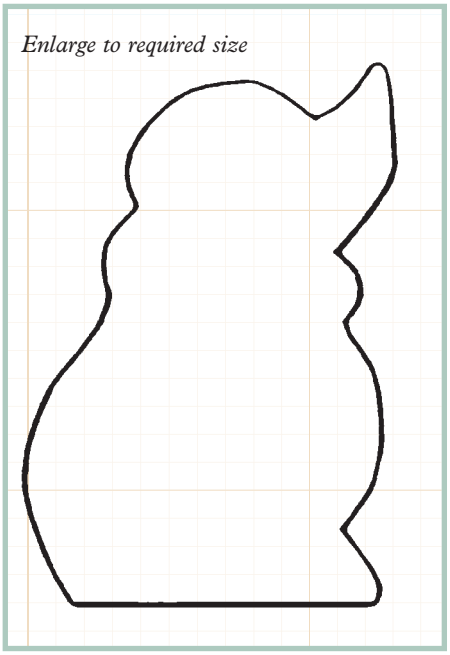
Carve these...

Christmas choral mice



MAIN PHOTOGRAPH BY GMC/ANTHONY BAILEY. OTHER PHOTOGRAPHS BY PETER BENSON

Peter Benson gets ready for the season of good-will with these adorable singing mice, perfect for a Christmas scene under the tree



In an attempt to find something 'silly' for my carvers to do in one day for a Christmas session, I came up with a simple design that could be modified in dozens of ways to individualise the end result – the Christmas mouse. Since then the same principle has been adapted time and time again with different subjects. Once you have had a go at one idea, it is amazing how the mind flies with a succession of variations.

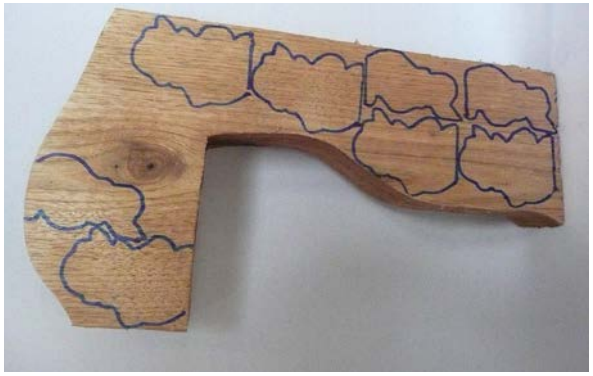
Most hobby carvers tend to spend the majority of their carving time producing 'works of art' that are generally confned to the display cabinet and occasionally they are given to unsuspecting friends and relatives or, rarely, sold to an admiring member of the public. The whole process tends to be a rather solitary affair.

Tools you will need...

- Butternut (*Juglans cinerea*), lime (*Tilia vulgaris*) or similar offcuts with grain
- Bandsaw or coping saw
- Knife
- Selection of palm gouges or block cutters as required such as 6mm No.4, palm gouge and 3 and 6mm, No.9 palm gouge
- Bradawl – hole for tails
- Adhesive
- Leather or string for tails
- Danish oil
- Water-based acrylics
- Acrylic varnish in matte or satin

The Christmas mouse, therefore, is an opportunity to carve rather than produce something artistic, meaningful or with intrinsic value – it is intended purely for entertainment. You will certainly enjoy the process and anyone to whom you give one as a present will enjoy the result of your efforts.

You can do what you like as you develop the ideas – just have fun.



1 This particular piece can use up a bucketful of scrap pieces of wood that have been cluttering up the workshop for months. Each mouse is only about 38mm wide and 63mm long. As my scraps are far from uniform in shape, I only draw up one pattern for cutting out. You will need to allow extra wood in places depending on how you want your design – different instruments, hat bobbles, etc.

2 I generally start with just one pattern and modify it as I go along. In this case I have shown you two variations, both of which have been cut out with a bandsaw. Something this small can easily be cut out with a coping saw or even a fretsaw. Use whatever you have.

3 Next, draw the rough shape of your mouse with a felt tip pen. Be sure to check that the shape of your mouse is roughly symmetrical.

4 Start with the head – this is the most difficult part and if you mess it up, you can start again without having wasted too much time and effort.

5 You have a great deal of scope with the hat design (see the finished examples) so let your imagination run free. ➤

6 You should end up with something like this. I use the felt marker freely to show any possible detail that I might want to include.

7–8 You can now decide what you want your mouse to be doing. They can be playing instruments, holding song sheets or snowballs. Adding lanterns is always quite a good variation.

9–10

Once you have decided on how you want your mouse to look, you can shape the body and detail the front. In this case the mouse is playing a concertina (or squeezebox).

11 Don't try to be too ambitious with the feet – just round them off, keeping them fairly thick. They are short grain and can easily part company with the rest of the mouse.

12 All that is left is to add a tail and paint your mouse. I make a hole with a bradawl and glue in a strip of leather for the tail using hot melt glue, but you can use string if you prefer and superglue or epoxy.

13–14

If you wish to add a lantern I suggest that you make these in a continuous strip – they are easier to handle. A piece about 13 x 13mm will be sufficient.

Finishing touches

All you now need to do is add some colour to the hat and scarf – I leave the rest natural. I have found that if I give the whole thing a coat of Danish oil – or any other sealer – and let it dry, the paint goes on better. I use water-based acrylics, but you will probably need more than one coat. For something like this you need really bright colours.

Use water-based acylics to bring your mice to life

The squeezebox has been lined with black and then painted with a metallic gold paint and the mouth is painted black. Once this is thoroughly dry, give the whole thing a coat of matte or satin acrylic varnish. All of this is readily available from any decent craft shop.

The lantern poles are short lengths of copper wire from electrical wiring cable

Family of mice

You now have the start of your family of Christmas mice. If you think you will get away with carving just this one think again. Once your friends and family see this you will end up with a long list of orders. I did this with one of my classes and one student came back the next week with a request for 24 more blanks. Be warned!

Why stop at mice?

I have done a similar thing with carol singing kids (*see below*) and I have them with mobile phones, iPods, cans of drink, catapults and so on. There is probably no limit to what you can add to make this a truly festive holiday. ■

NEWS & EVENTS

All the latest events and news from the world of woodworking...

PHOTOGRAPHS COURTESY OF WOODLAND HERITAGE

Chris Wiseman's 'Oak Within' sideboard

Robert Scott's 'Aeolian'

Chris Wiseman scoops 'Best use of British Timber Award'

Chris Wiseman with his remarkable piece called 'Oak Within' became the latest winner of 'The Best Use of British Timber Award', sponsored by Woodland Heritage, at last month's Celebration of Craftsmanship & Design exhibition in Cheltenham. Now in its 22nd year, Celebration of Craftsmanship & Design is recognised as the UK's largest annual exhibition of contemporary designer-maker furniture. The first prize of £500 was awarded to Wiseman for his demonstration of the best use of British timber, while Robert Scott and his 'Aeolian' console table received a Highly Commended prize and a cheque for £250; unusually a third award of £200 was also given to Paul Jaques for his most imaginative use of small offcuts to create a most stunning 'Walnut Poem' coffee table.

'Walnut Poem' by Paul Jaques

"Woodland Heritage is proud to recognise each year at the Celebration of Craftsmanship & Design, exhibits that in our view maximise the economic and environmental value of trees and promote wood as a renewable natural resource," said Peter Goodwin, Chairman of trustees and co-founder of Woodland Heritage. "We are a unique environmental charity, which truly unites all tree people – a vehicle for wood users to 'put something back' and contribute to the proper management of British trees.

"Using British timber encourages the sustainable and economic value of our woodlands, as well as supporting the wood chain. Well-managed, healthy woodlands can also provide an environment that supports wildlife, flora and fauna, while ensuring traditional woodland skills are not lost," continued Mr Goodwin.

In determining who should be the recipients of this year's awards, marks were given for design, species selection, use of timber, craftsmanship and provenance of the wood used; points were also given to entrants who gave proof they had gone out of their way to source timber locally and/or find out where the timber came from.

Celebration of Craftsmanship & Design director, Jason Heap was delighted with this year's winners: "Once again the Woodland Heritage judges were spoilt for choice and quality. With this in mind, it is a fantastic achievement for Chris Wiseman, a student who has just completed his training, to have produced such a wonderful winning piece from beautiful British sycamore (*Acer pseudoplatanus*) and oak (*Quercus robur*). Robert Scott, also a young maker, and Paul Jaques works demonstrate the beautiful potential that lies hidden within our native timber, waiting for a craftsman or woman to maximise it."

New woodland management award created for landowners in The National Forest

The National Forest Company has established a new Woodland Management award to recognise examples of outstanding woodland management taking place within the 200 square miles of the forest.

The awards are being introduced in celebration of their 25th anniversary, and aim to highlight to importance of good management covering three categories; creation of new woodlands (10 years or younger), woodland management (over 10 years) and community woodland management. Applications under each category will be scored against a range of criteria such as silviculture, enhancement of landscape, public access, nature conservation and contribution to woodland economy.

Contact: National Forest
Telephone: 01283 551 211
Web: www.nationalforest.org

Markfield Lodge

PHOTOGRAPH COURTESY OF THE NATIONAL FOREST

Community Woodfuel Project

Forest research in search of open grown trees

Forest Research is developing a model to predict growth in individual tress of mixed species and/or mixed aged stand. They aim to create tools to use in the management of Continuous Cover Forestry (CCF). Open grown trees are those that have grown free from inter-tree competition throughout their entire life. An open grown tree can have branches that extend as low as possible and for some species, it can grow as low as the ground. With an open grown tree, there is typically no evidence of pruning, shearing, browsing, decay, or insect damage.

The Forest Research are looking to select trees across the UK to represent different geographical and age ranges, particularly from douglas fir (*Pseudotsuga menziesii*), Scots pine (*Pinus sylvestris*), oak, sitka spruce (*Picea sitchensis*) and western hemlock (*Tsuga heterophylla*). The Forest Research team would like to make an assessment of each open ground tree, which will include the measurement of diameter at breast height, total height and crown width.

Contact: Ian Craig
Email: ian.craig@forestry.gvi.gov.uk

Ashdown Forest

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Tree of the Year

The Woodland Trust is offering a £1000 Tree LC care grant to the winner of the Tree of the Year contest. The charity is urging the public to vote for their favourite tree from the final shortlist. The winner will go on to represent Northern Ireland – against competitors in England, Scotland, Wales and elsewhere in Europe – in the European Tree of the Year competition, in early 2017.

Contact: Woodland Trust
Web: www.woodlandtrust.org.uk/treeoftheyear

EVENTS

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Christmas market

The Christmas Village

The markets serve much same function as they have for centuries, providing a warm welcoming place for all to enjoy the festivities, local delights, home made treats and celebrate with friends and family.
When: 30 Nov–22 Dec, 2016
Where: Ellesmere Port Civic Hall, Ellesmere Port, Cheshire CH65 3DU
Web: www.thechristmasvillage.co.uk

3D2D Edinburgh Christmas Craft, Art & Design Fair

Over 120 makers, artists and designers selling their own work. Exhibits include ceramics, glasswork, prints and cards, woodwork, jewellery, clothing, textiles and accessories.
When: 3–4 December, 2016
Where: Assembly Rooms, 54 George Street, Edinburgh EH2 2LR
Web: www.3d2d.co.uk

British Crafts

The fabulous collections are 100% British and all beautifully handcrafted by the exhibitors themselves. As you wander through the oak-beamed barn, prepare yourself for an ultimate craft extravaganza.
When: 3–4 December 2016
Where: Blackthorpe Barn, Rougham Estate, Rougham, Bury St Edmunds, Suffolk IP30 9HZ
Web: www.blackthorpebarn.com

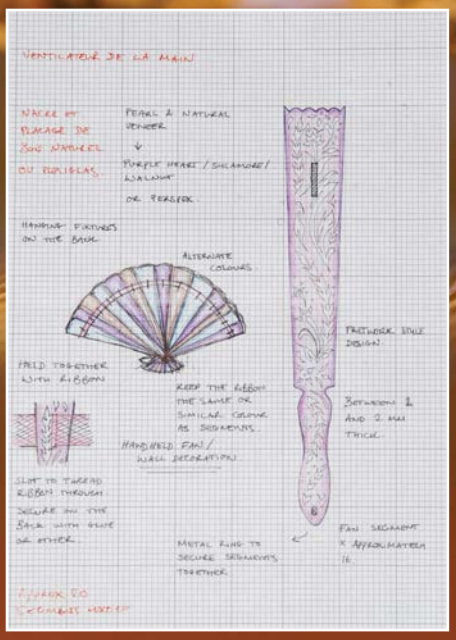
Chichester Christmas Market

You'll find an enormous variety of unique and interesting crafts and gifts on offer at superb prices direct from the makers, designers and distributors. All this with the fabulous selection of Chichester shops and restaurants.
When: 3–11 December, 2016
Where: Chichester City Centre, Chichester, West Sussex PO19 1QG
Web: www.woodlandcrafts.co.uk

PHOTOGRAPHS BY AMBER BAILEY, UNLESS STATED OTHERWISE

Laser cut fretwork

Amber Bailey tries, for the first time, laser cutting to create a handheld fan



My initial project sketch

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

While I am whole-heartedly an advocate for traditional fretwork, a number of my fellow woodworkers have broached the subject of experimenting with laser cutters. Fortuitously, I found myself in the position to have a go at creating a simple project to see just how effective these machines really are.

From freehand to computer screen

Prior to this project I went on a visit to the Musée de la Nacre et de la Tabletterie, France. Their most recent exhibition is a vast display of antique handheld fans, many of which included exquisite fretwork detailing. This seemed an ideal first project to try on the laser cutter as it would only require a single segment to be repeated a number of times.

Like all my fretwork, I began drawing out my design by hand, which was then redrawn on the computer using Illustrator. Certain laser cutters require specific programs for running, however some are compatible with Illustrator.

Preparing the material

For the fan to include enough segments to be aesthetically and ergonomically pleasing, each piece needed to be extremely thin while maintaining structural integrity. Rather than use solid wood I decided to build up a plywood-like composition of a decorative face veneer, adhered to a groundwork and backed with a waste balance veneer. The adhesive used was PVA glue for heat resistance. The potential danger if a protein glue is used is the heat may reactivate the adhesive and lift the veneers.

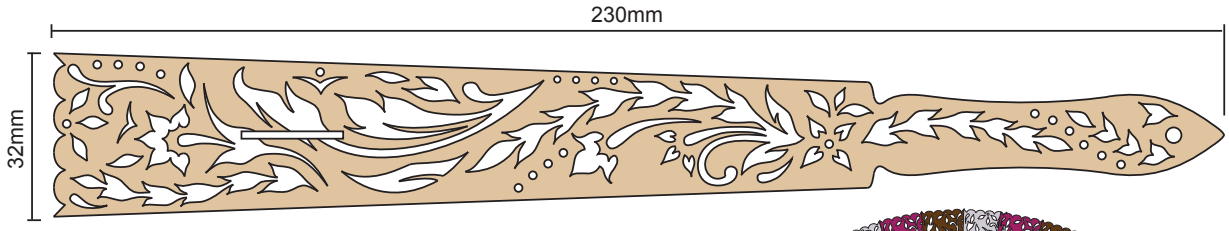
Health & Safety

Laser cutters involve laser radiation. Direct exposure can be damaging to eyesight. Always wear safety goggles when working with these machines.

Laser radiation warning signs should be positioned near to the machine

Laser cutting

For the laser cutter to begin running, a series of modifications to its settings had to be done. Amendments need to be made every time a new piece of material is being cut. The major ones are height, velocity and frequency. Once the machine was ready and waiting, I positioned my material on the laser bed, put on my laser safety goggles and sent the command. For the



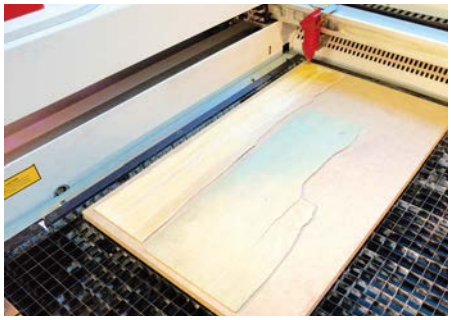
The computer generated fan segment

very first time when cutting fretwork, I did not even break a sweat. Once cut out I resumed traditional finishing, it was actually easier to smooth the material surfaces prior to cutting, eliminating any damage to the delicate design later.

A problem and its solutions – burn, burn, burn

The biggest problem to occur when working with a laser is that cutting is produced through burning a series of minute holes into the chosen material. This will inevitably leave unattractive burn marks. Dark materials may hide this well, but light colours can be quite unforgiving. In many cases it's possible to sand out the damage, however this is labour intensive and there is not a guarantee that the grain will clear up entirely. A safer and far more successful option is to purchase a laser suitable film to wrap over the surfaces of your work. The film will then endure the majority of the burning to leave a fresh finish on the material underneath.

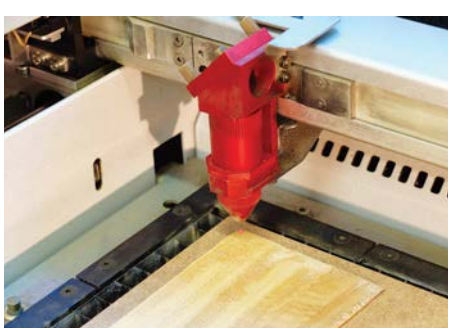
Keeping to a minimum of three layers held the veneers flat and resisted any inclination to curl up



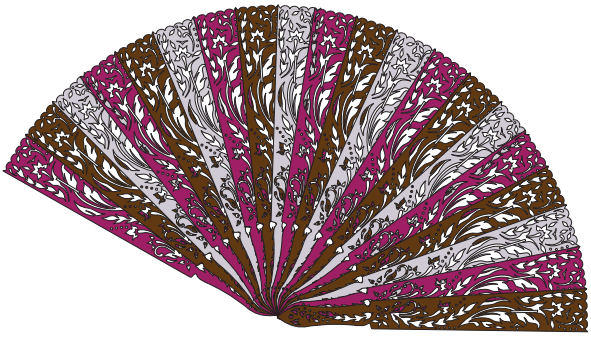
It was a good idea to cut a single segment first to check the cutting quality before sending the command to cut the entire project

Burn marks are extremely obvious on light coloured wood

Protective film is expensive, but will save on labour and material damage at a later stage



The height of the laser bed can be adjusted so that both deep and shallow materials might be cut out



Right: A computer generated mock-up of the final piece allowed me to estimate that approximately 20 segments would be required to complete the fan

Technical advantages

A machine of such scale and rapid production allows for several advantages against hand tools. Unlike traditional fretwork, the material is positioned horizontally and does not require any force to cut, whereas a fretsaw produces a certain level of pushing and pulling. There is no technical need for the grain direction to be running in any specific way.

Accuracy

Programming the design on a computer allows for many technical alterations to be made at the touch of a button. Similar to adjusting a blade kerf on a saw, the laser beam width can be altered and repositioned for accuracy and rescaling.

Duplication

Laser cutters are an incredible piece of machinery for rapidly and accurately producing work with no limitation on experimental possibilities. It has to be said though, I am a 'workshop gal' at heart and would not trade my workbench for a computer!
For further information visit:
www.troteclaser.com ■

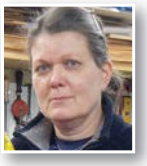
Alternative materials

The laser cutter has very few limitations to the materials it can cut. Acrylic plastic is an extremely popular and effective material that is particularly resistant to burning and comes in a wide variety of colours.

Unlike with wood or veneer, plastic will not burn along the inside edges of the design

Meet the contributors...

We put all of this month's professional and reader contributors here, so you know exactly who they are and what they do!



Louise Biggs

Having completed her City and Guilds, Louise trained at the London College of Furniture. She then worked for top antique dealers and interior designers before starting her own business designing and making bespoke furniture and restoring furniture.
Web: www.anthemion-furniture.co.uk

Peter Wood

Peter has been a skilled green wood craftsperson for over 25 years, demonstrating around the country, giving lectures and running hands on workshops for all ages. He is currently the world champion pole-lathe turner!
Web: www.greenwooddays.co.uk

Michael T Collins

British-born Michael has been working with wood off and on for 40 years. He moved to New York in 1996 and over the years, has made bespoke furniture, including clocks, inlay work, Adams fireplaces, book cases and reproduction furniture.
Web: www.sawdustandwoodchips.com

John Swinkels

After 11 years of turning, John still considers himself an advanced beginner, as he continues to learn and experiment with various techniques. John says the enjoyment is still there, as much of it is done in the company of other turners.
Email: swinkels38@yahoo.com.au

Amber Bailey

Amber Bailey is a marquetarian and surface design artist with a background in furniture restoration. She has trained in prestigious decorative art schools both sides of the English Channel and is now based in North Wales working for a furniture company using laser cut marquetry.
Web: www.abmarquetry.com/services

Mark Baker

Mark has always been fascinated by timber and loves exploring the different woods, shapes, surface enhancement and experimenting in his work. Mark is Group Editor of *Woodworking Crafts*, *Furniture and Cabinetmaking*, *Woodcarving* and *Woodturning* at GMC Publications.
Email: markb@thegmcgroup.com

Jason Townsend

Jason has a background in computer science, but has been working with wood for around five years to indulge his more creative side. He has no formal training but considers himself to be on a journey of learning with regards to woodworking and doesn't expect it ever to end.
Email: jas@ant.uk.com

Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently ran a company working with the local County Councils and Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations.

Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is proving really popular.
Web: www.linemine.com/courses

Your face and details could appear here in our 'rogues gallery' if you write an article for the magazine, and you could be rewarded for your efforts too!

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KITTED OUT *for Christmas!*

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

Record 350s bandsaw

An ideal workhorse for the busy workshop where power and generous capacity are required but budget and space do not allow a bigger machine.
Contact: Record Power
Web: www.recordpower.co.uk

Building Sheds

By Joseph Truini
This well-illustrated guide offers a range of building options, with complete instructions and plans for five different styles of shed, including a small timber frame garden storage shed, a traditionally framed shed and a post-and-beam barn.
Contact: GMC Publications
Web: www.thegmcgroup.com

LCD inspection camera

The Clarke CIC2410 is a versatile tool ideal for viewing objects in hard to reach areas. Common applications include cars, ceilings, drains, machinery, cavity walls, ventilation shafts and more.
Contact: Machine Mart
Web: www.machinemart.co.uk

Master precision tape

The Axminster master precision tape is made to class 1 accuracy, making it one of the most accurate conventional tape measures available. Ideal for cabinetmakers, joiners and anybody who needs an accurate measurement every time.
Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

Barbour beanie hat

An ideal accessory for staying warm over the cooler months. The large turn back style harks back to traditional fisherman hats.
Contact: Outdoor and Country
Web: www.outdoorandcountry.co.uk

Dockable gear ties

From $5.05 plus tax & p+p

High-strength flexible ties made from steel wire with a thick rubberised sheathing and a loop at one end. You can feed the free end through the loop to cinch around loose items, form it into a hook or wrap it around objects.
Contact: Lee Valley Tools Ltd.
Web: www.leevalley.com

£328.80

Random orbit sander

Traditional random orbit mode for fine finish sanding and buffing the motion of the pad is orbital action plus random action or free-rotation, which stops when firm hand pressure is exerted on the tool. The alternative roto-orbit mode is ideal for stock removal, coarse sanding and polishing. Here the motion of the pad is a combination of orbital action and power-driven rotation.

This mains-powered sander, with 750watt motor, will run the 150mm pad up to 6800 orbits per minute and deliver up to 13,600 sanding orbits per minute. The maximum orbit eccentricity is 5.5mm. The pad is hook-and-loop fixing for abrasive changes.
Contact: Makita UK
Web: www.makitauk.com

Bahco saws

Bahco's new saws are designed and manufactured in Sweden, they are available in a choice of toothing and tooth pitch, with versions for coarse, medium, fine, precision and special cutting. Blade lengths range from a 305mm tenon, 355mm veneer and 510mm precision saw to 560mm and 610mm lengths for coarse and medium cutting.
Contact: Bahco Tools
Web: www.bahco.com

From £25

Scraper set

A three piece set made from 0.015in thick CS80 steel. A finer version from their current scrapers, which are made from 0.032in thick steel meaning more flexibility.
Contact: Thomas Flinn & Co.
Web: www.flinn-garlick-saws.co.uk

£17.50 per set

APF10 Evolution powered respirator

This positive pressure powered respirator eliminates the drawbacks encountered with standard negative pressure face masks. The motor unit blows filtered air down over the face at a rate of 160L/min. The air exiting around the sides and bottom of the mask is at a slightly higher pressure than that outside, thereby forming a most effective seal.

The respirator is supplied with an eight-hour battery, plus charger, two filters, a flow-rate meter and complete instructions.
Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

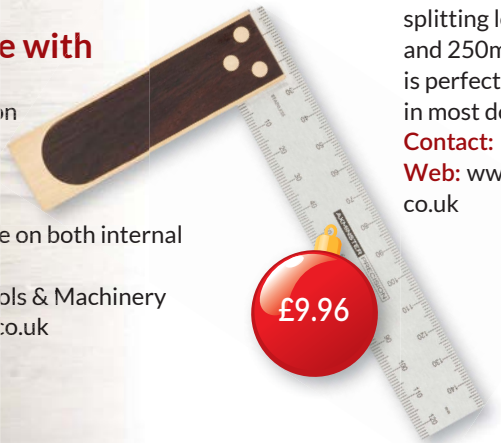
£199.94

Clarke 7 log buster

The log buster 7 is the perfect domestic log splitter. Perfect for splitting logs up to 370mm long and 250mm wide, this splitter is perfect for tree logs found in most domestic gardens.
Contact: Machine Mart
Web: www.machinemart.co.uk

£201.59

Precision square with metric rule



The stocks are H-section brass with a rosewood infill. The blades are matte chrome finish stainless steel. Accurate on both internal and external angles.
Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

£9.96

Clifton bench planes

Clifton bench planes are both highly attractive and functional tools that give an accurate and smooth finish. Made from accurately machined grey cast iron with sides and sole fully ground. Available in seven sizes.

Contact: Thomas Flinn & Co.
Web: www.flinn-garlick-saws.co.uk

Orbicut

Orbicut from Kirjes in Sweden is designed to be safe and efficient, with two HSS cutters inserted into a ball which project about 0.1mm. This small amount of projection makes the tool easy to control while producing thin shavings instead of dust. The small orbicut has a 20mm diameter head with a 6mm shank. The large orbicut has a 40mm head with a 11mm shaft. The orbicut;

- Works fast and efficiently at a low speed (5000 max rpm)
- Can be used in many types of rotary tools (flexible drives, drills, etc.)

Contact: Classic Hand Tools
Web: www.classichandtools.com

Microcrystalline wax

A very dense coating, which makes it very hard wearing and highly water repellent that's ideal for situations needing a tough coating that might get wet.

Contact: Chestnut Products
Web: www.chestnutproducts.co.uk

Diamond sharpening plates

All Atoma plates measure 210 x 75mm and are available in 140, 400, 600 and 1200 grit.

Contact: Johnson Tools
Web: www.johnsontools.co.uk

Airmaster Tiger air compressor

The Airmaster Tiger range is ideal for any job involving spraying, nailing, stapling, inflating, etc. They feature fully automatic stop/start controls, twin outlets with outlet pressure regulator/gauges and efficient intake air filters, protecting the compressor and maximising output purity. Larger models feature an efficient high output 'V' twin pump. These compressors have an air displacement of up to 14.5cfm, a maximum working pressure of 8 bar and tanks sizes of up to 100 litres.

Contact: Machine Mart
Web: www.machinemart.co.uk

Good Clean Fun

by Nick Offerman

After two *New York Times* bestsellers, Nick Offerman (woodworker, actor, comedian and writer) returns with the subject for which he's known best – his incredible real-life woodshop.

Contact: GMC Publications
Web: www.thegmcgroup.com

Alcolin wood adhesives

Cold Glue is ideal for everyday woodworking projects; Fast Set wood adhesive is a 100% clear drying PVA; Alcolin Ultra is the world's most advanced wood adhesive.

Contact: Johnson Tools
Web: www.johnsontools.co.uk

M-class dust extractor

The new Makita VC3012M M-class dust extractor removes 99.9% of dust with limit value for occupational exposure >0.1mg/m^3. A performance level better than the minimum legal limit for dust working with hazardous materials including silica sand in brick, masonry, concrete, gypsum and wood dusts and plastic composites.

Contact: Makita UK
Web: www.makitauk.com

Multi-tool and 2-piece kit

Makita has added a slim, lightweight yet powerful multi-tool to the increasingly popular 10.8v range of cordless tools. The performance of these advanced 10.8v tools is proving very attractive for many 'lighter' operations, such as kitchen and bathroom installations and interior fit-out, where the power of the market leading 18v lithium-Ion tools is not essential.

Contact: Makita UK
Web: www.makitauk.com

Pégas scroll sawblades

Pégas scroll sawblades are manufactured in Switzerland from high quality carbon steel and contain the highest possible carbon content for sawblade applications. A fabricating process that produces crisp, sharp, precisely formed teeth. Long lasting durable blades, the finest in the world.

Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

Inside and outside callipers

Two new 200mm digital callipers – one for internal and one for outside measuring. These fractional display callipers can be preset to a specific measurement or display the size being measured. Made of aluminium, they are spring loaded for easy operation. Measurements are in fractions, decimals or millimetres. Battery included.

Contact: Turners Retreat
Web: www.turners-retreat.co.uk

Record BS300E

The BS300E is a great all-round bandsaw, perfectly specified for the medium sized workshop. Featuring a solid fence, vital for accurate ripping, the machine has a solid double trunnion fence mount to provide rigid table support and one-handed table tilt on a smooth rack and pinion. A solid blade tension indicator is fitted to the rear of the machine to allow for easy setup.

Contact: Record Power
Web: www.recordpower.co.uk

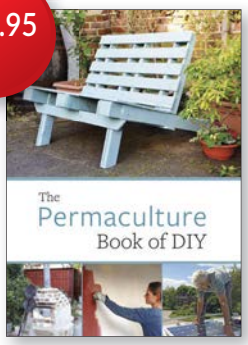
Dust Right bench sweep

The bench sweep can be used passively, allowing gravity to pull dust and debris down into a bin, or actively, connected via 63mm hose to a powered dust collection system.

Contact: Rockler Woodworking and Hardware
Web: www.rockler.com

REVIEW – The Permaculture Book of DIY

£12.95



The Permaculture Book of DIY has a brilliant range of projects, from a pallet bench project to a lumber horse, from a compost bin to making cider from scratch. Each project has its own detailed introductions, and provides a tools and materials list. The projects then follow on, step-by-step and with process photographs accompanying each step. A number of projects also include a drawing or sketch to further illustrate the finished product, each personalised by the authors for each separate project. The photographs are all high quality and illustrate perfectly every aspect of the projects you might want to know.
For a 10% discount, order from: www.green-shopping.co.uk
Contact: Permanent Publications
Web: www.permanentpublications.co.uk

£59.96

Rider sharpening station

Consists of a double-sided diamond stone (1000 grit and 400 grit), leather strop and honing compound, board and the instructions for the ultimate edge.
Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

From £105.19

Dremel 8200

If you're in the habit of making models before you commit to the full-size version then a Dremel could be a complete machine shop in miniature, especially if you invest in the router bit accessory kit. For short bursts the cordless is fine, but for anything else go corded and stock up on accessories.
Contact: Dremel Europe
Web: www.dremeleurope.com

£49.99

Winterbourne

This jacket has a 100% brushed polyester fabric and is available in all sizes ranging from small to XXXXL.
Contact: Dickies Workwear
Web: www.dickiesworkwear.com

£31.74

Elipse integra

The new Elipse integra combined eye and respiratory system is a compact, lightweight and flexible design which adapts perfectly to the face and offers a unique and innovative combined protection. The lens is designed in polycarbonate and withstands 45m per second impacts. Conforms to EN140: 1998 & EN166 2.F.K.N
Filters conform to EN143:2000 P3
Contact: Johnson Tools
Web: www.johnsontools.co.uk

From £263.96

Air filtration systems

The AFS-500 is a medium to large workshop filter unit that can be positioned anywhere in the workshop. Easy to operate with three speeds which are activated by the push of a button or the remote control. Fitted with a pleated cloth main filter and an electrostatically charged pre-filter. An optional charcoal filter is available which will neutralise odours and harmful organic fumes and also refresh the air by removing smoke, dust, bacteria, pollen and other harmful microscopic particles. With a powerful input 200W motor, the AFS-1000 B is intended for bigger, more commercial workshops. The air passes through the electrostatic pre-filter into the main pleated filter, filtering 98% of all particles five microns in size and 85% of all particles one micron in size. The remote control unit has three settings for the motor speed and three different time settings, which can be used to clear the workshop after work has finished for the day. An optional charcoal filter is available.
Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

Cape Forge starter set

The set consists of a No.1 standard carving knife with sheath, a strop and compound, all you will need for edge maintenance; a glove for protection against slips; an information packet.

Contact: Cape Forge
Web: www.capeforge.com

$69 plus taxes & p+p

£245 plus p+p

Dovetail saw

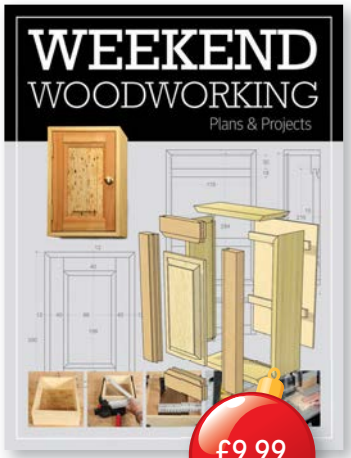
The Bad Axe 12in dedicated dovetail saw will likely be the last dovetail saw you'll ever own. The additional 2in of throw, light weight, exquisite balance and results-oriented action will give you the kind of accuracy you want with unmatched precision. And because they size the handles, the Stiletto will fit your hand. The .015 gauge plate is thinner than their standard .018 so specifically designed for use within a range of 6–18mm thick stock. Perfectly suited to smaller scale work, the thinner plate rivals that of a Japanese pull saw for wafer thin kerfs. A range of timbers to choose from and fittings you can customise your dream dovetail saw.

Contact: Bad Axe Tool Works
Web: www.badaxetoolworks.com

Weekend Woodworking Plans and Projects

by GMC Publications
Packed with a fantastic range of over 30 projects, all achievable within a weekend. Each project includes clear guidance on how to approach the making of each item and many include helpful tips and hints. Projects either include exploded, easy-to-follow diagrams or clear step-by-step photography.

Contact: GMC Publications
Web: www.thegmcgroup.com



£9.99

Digital level box

This digital level box will help you find the angle on a surface quickly and accurately. It has a magnetic base for hands-free use, ideal for table or mitre saws. Trend claim the device has an accuracy to +/- 0.2° for all angles and will measure in relative of absolute measurements.

Contact: Trend UK
Web: www.trend-uk.com

£20.34

Starbond CA adhesive

Non-toxic, non-flammable and waterproof and a guaranteed 20 month shelf life. The 50gm bottles of Starbond CA are supplied with an extra cap and fine feed extension tips.

Contact: The ToolPost
Web: www.toolpost.co.uk

From £3.99

Rotating base and mat

The Tormek RB-180 rotating base and RM-533 rubber mat teamed up to become one kit, for carrying out the easiest and cleanest sharpening with any Tormek sharpening system.

Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

£49.96

Makita impact driver

The new Makita DTD170 impact driver is technically a 6-function impact driver. This impact driver handles high strength bolts up to M14 and 22 x 125mm coarse thread screws.
Contact: Makita UK
Web: www.makitauk.com

65mm greenwood carving blades

The edge is a continuous 65mm diameter, with a concave inside face for ease of sharpening and a convex outside for a smoother cut. The blade is approximately 18mm wide, with a round tang 8mm in diameter.
Contact: Nic Westermann
Web: www.nicwestermann.co.uk

Butcher block conditioner

Ideal for bowls or chopping boards intended for food contact. Food grade with no odour contains carnauba wax to help with moisture resistance.
Contact: Just Pudding Basins Ltd.
Web: www.justpuddingbasins.co.uk

A Woman's Guide to the Wild

By Ruby McConnell
The definitive guide to being a woman in the great outdoors, covering the basics of wilderness survival and recreation.
Contact: Sasquatch Books
Web: www.sasquatchbooks.com

Mitre square

An updated and improved version of the carpenter's mitre square. 1.5mm thick, polished stainless steel blade, permanently fixed with four brass rivets with brass inserts.
Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

LED light magnifier square lens

A high quality professional magnifier work light, now featuring all new LED lighting.
Contact: Warco
Web: www.warco.co.uk

Digital Moisture Meter

CMT's ultra-sensitive Digital Moisture Meter easily detects hidden leaks in wood, concrete, plaster and carpet. Providing accurate moisture level readings, make this moisture meter great for new home inspections, locating roof leaks or even selecting dry timber at the yard.
Contact: TOMACO
Web: www.tomaco.co.uk

£16.99

Wolf Haven

by Annie Marie Musselman
A stirring book of photographs of wolves that have been given sanctuary near Mount Rainer. The book looks at the behaviour patterns and social structure of wolf packs.
Contact: Sasquatch Books
Web: www.sasquatchbooks.com

High-impact chisels

From £17

IRWIN high-impact chisels feature a fully-forged steel core and a hardened and tempered blade for long life and unbeatable durability and strength. An extra-large steel strike cap withstands hammer pounding at different angles plus ProTouch over-mould grip for ergonomic comfort. It is constructed with a split-proof acetate handle for toughness. High-impact chisels are ideal for builders, roofers and floor installers. Available in 3, 6, 10, 12, 16, 20, 25, 32, 38mm and 50mm sizes and three-piece sets and five-piece wallets.
Contact: Irwin Tools
Web: www.irwin.co.uk

£68

Condor Classic Scout Hatchet

This is a delightful, well balanced little axe, which is ideal for carving. The Condor Classic Scout Hatchet weighs only 500g, with a cutting edge of 70mm and a total length of 305mm. Forged from 1060 Carbon steel, heat treated to 45–50° Rockwell, the American hockory handle and blade are protected by a hand-crafted leather sheath.
Contact: Helko Axes
Web: www.oldtools.free-online.co.uk

£12.45

FLEXCUT knife strop

A knife strop, that can be used for other edge tools. The strop is supplied with a block of Flexcut gold polishing compound for a razor-sharp edge.
Contact: Brimarc
Web: www.brimarc.com

Beebe carving knives

The hand forged and polished blades are extremely sharp and hold their edge well. The 140mm pau ferro hardwood handles are shaped to be comfortable and to provide the feel that is so necessary for good knife control. These knives are available individually or in a set of three (No.2, No.4 and No.5). Blade lengths range from 30mm for the No.5 knife to 40mm for the No.3.
Contact: Lee Valley
Web: www.leevalley.com

From $36.50

Record Power DML320 cast-iron electronic variable speed lathe

£499.99

Record Power has introduced an exciting new lathe to their comprehensive range of woodturning machinery – the DML320 cast-iron electronic variable speed lathe. This machine packs a real punch, with a powerful 1hp motor, 305mm swing over the bed and an impressive 510mm between centres. The spindle thread is the popular M33 × 3.5 and the tailstock is No.2 Morse taper, with a wide range of accessories available to fit. The solid cast-iron bed, tailstock and headstock offer superb stability, even when turning items at the limits of the lathe's considerable capacities. Most impressive of all is the high quality electronic variable speed function, giving smooth and responsive speed change at the turn of a dial, with a highly accurate digital speed readout. The DML320 is also capable of reverse turning. Priced extremely competitively the DML320 offers some fantastic features, giving woodturners the chance to own a high quality variable speed lathe at an unbeatable price.
Contact: Record Power
Web: www.recordpower.co.uk

The Aero Morgan Challenge

The Editor accepts an invitation to watch Morgan Cars racing and learns a whole lot more about this quintessentially English marque and what makes it so completely unique

Dateline: 1 October, 2016 at Snetterton Circuit, Norfolk

It's the penultimate race in the 2016 Aero Racing Morgan Challenge held at circuits around the UK – Silverstone, Castle Combe, Donington, Anglesey, Oulton Park, Mallory Park and the finale here at Snetterton, all racing for a chance to hold high the challenge trophy!

Race day

If, like me, your interest in motor racing tends to start and stop with Formula 1 with its almost dull predictability of engine failures, blown tyres and an almost total lack of overtaking, then you haven't experienced throaty four-wheel (as opposed to the three-variants) Morgans, waiting to race. For the whole weekend the air over Snetterton was heavy with the stink of hot brake pads, exhaust fumes and the more localised smell of petrol oil and grease as mechanics and enthusiastic owners worked on their race cars preparing them for the off. The race wasn't just for Morgan cars and there were many other classes, but it was the Morgans that stood out form the crowd.

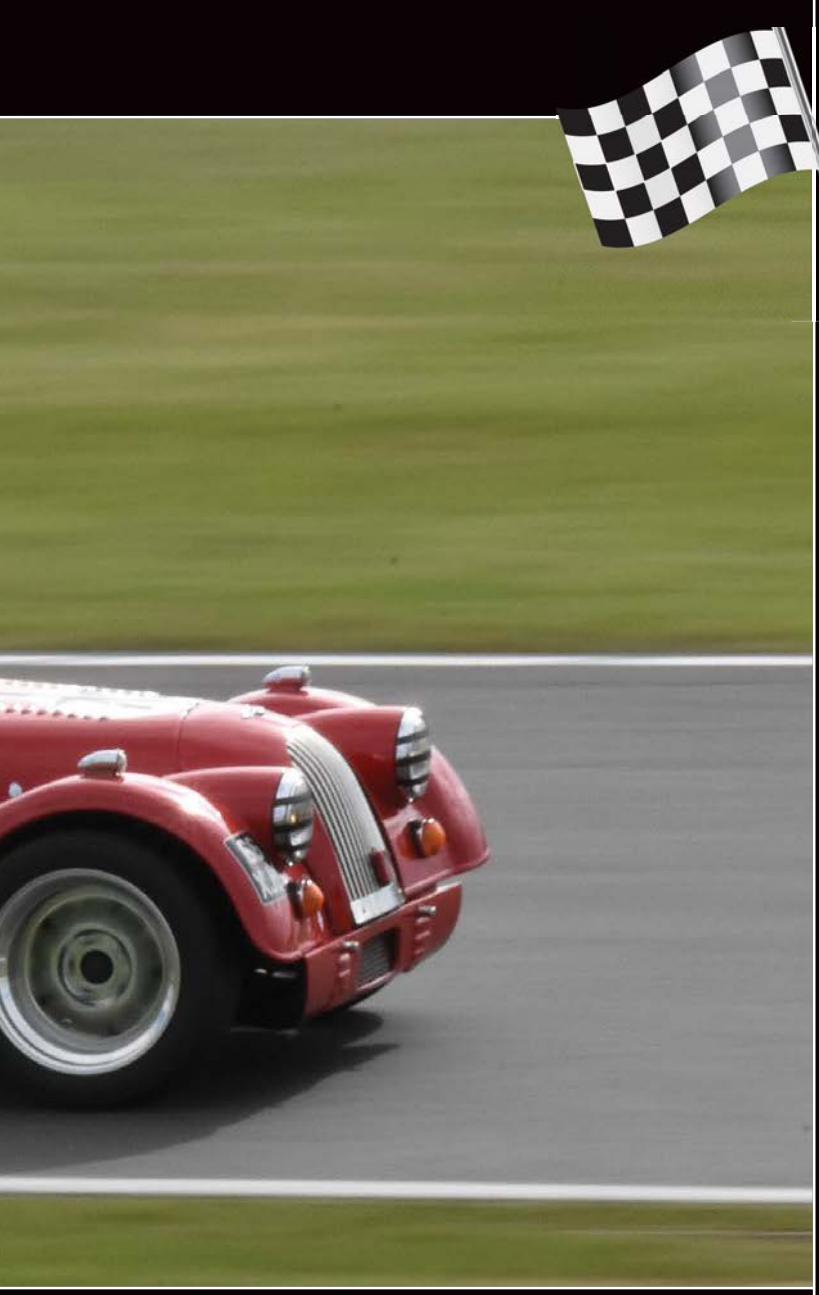
They are cars that, if it wasn't for all the highly individual racing conversions and markings, would look as if they should be out on an afternoon picnic with a hamper strapped to the boot lid. Instead, these classic 'beasts' rumbled into the assembly area being marshalled into place to the start line. On the day I was some distance away, on high ground, which should be an excellent 'damper', but the ground shuddered with their throbbing powerplants and burbling sounds of very un-stressed machinery.

The challenge

The flag went up and they were off! Despite what one of the drivers told me beforehand 'it really is about getting round the circuit in one piece, rather than winning', it just didn't look like that to me. The race was fast and furious with exhaust smoke filling the area, there was overtaking and even a wild spin-off in lap two. To confuse matters, these Morgan's had different size engines depending on the vintage and model. These varied from a modest two litre 1956 model right up to a recent four litre plus vehicle, more than twice the power. So throughout the challenge, each car has a number appended with a smaller letter so they are timed and judged according to the class they belong to, confusing to all but the most alert spectator.

Team Aero Morgan

Although the Morgans all belong to different owners, they still have their own two-car team. These are under the enthusiastic leadership of aero racing manager Mark Evans, whose daytime job is at the Morgan factory after sales and customer service. His engineering team consists of students from Wolverhampton University studying for motorsports degrees, which seems like a ➤



PHOTOGRAPHS BY ANTHONY BAILEY/GMC PUBLICATIONS, UNLESS STATED OTHERWISE

dream course as they have fully equipped workshops and the chance to support Formula 3 as well as Morgan racing. The drivers are very experienced, highly skilled and, as I found out, not keen on losing or, at least, not losing critical points in the scoring! The race was exhilarating to watch, but by having different classes there were a number of round winners – all to be settled the next day.

The lap flag going up again


A serious discussion about race 'points'

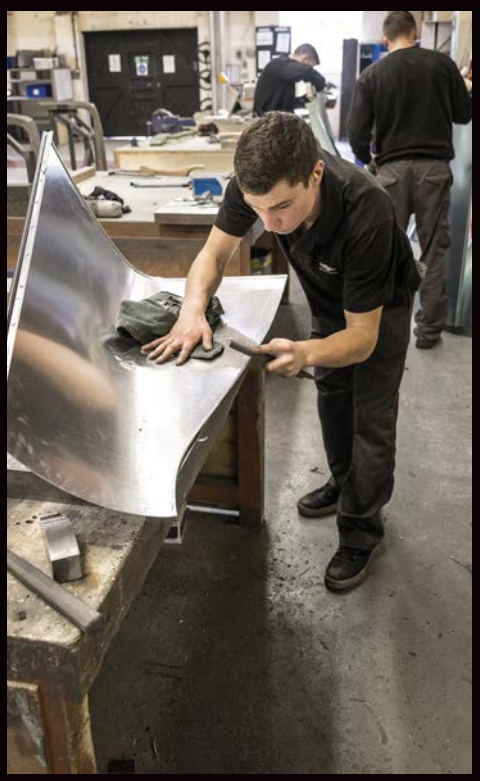
Bodybuilding

All Morgans are known for their 'aluminium over ash' frame construction. Although chassis construction has moved on to welded aluminium for lightness, strength and durability, the key visual feature of a Morgan, its body shape, is dictated by the fantastic work carried out by the skilled craftsmen who shape the various ash components, bent and laminated to create the familiar form that is unique to their cars. Ash is known for its strength and flexibility there really is no other suitable substitute in the world of wood. Easily machined and shaped, it can be steam bent or laminated in thin strips to create the required profiles using templates and jigs to make identical components time after time. On their scale of manufacturing this makes perfect sense and harks back to an earlier era that chimes well with prospective customers. It wouldn't work for mass manufacture because each process is quite laborious. After ash comes the aluminium sections, which have to be formed in more than one plane and have complex curvature added to them.

As each section is mounted on the ash frame, the joints have to be welded, although aluminium isn't an easy metal to weld. The welds are then ground off smoothly, which again is a problem because it 'wipes' unlike steel and can clog grinding discs. Incidentally the powertools used in the factory and on the racetrack are courtesy of Makita. Just getting the bodywork to this stage is the result of decades of experience working with these materials. It is the spray painting, which finally brings the bodywork to a high state of finish. These traditional styled vehicles have very modern powerplant, brakes, steering and electronics incorporated into them thus confounding the notion that Morgans are in any way 'old fashioned' or out of touch with modern trends. ■


PHOTOGRAPH COURTESY OF MORGAN CARS


PHOTOGRAPH COURTESY OF MORGAN CARS


PHOTOGRAPH COURTESY OF MORGAN CARS

Team Morgan – Mark Evans (*back row, fifth from left*)

A modern 3-Wheeler Morgan

PHOTOGRAPH COURTESY OF MORGAN CARS

Company history

The very first Morgan three-wheeler prototype was built in 1909 by motoring enthusiast and garage owner Henry Fredrick Stanley Morgan, or 'H.F.S.' as he was known to his nearest and dearest. He developed a love of all things wheeled from a young age and was later an apprentice at a G.W.R. railway, but it was the motorcar that won his enthusiasm and heart. By 1910 limited production of the uniquely Morgan three wheel 'Runabouts' started at the Malvern workshops. Despite a lack of public interest due to being a single seater and tiller steering, these vehicles claimed early racing successes in various trials including races at the famous Brooklands circuit, thus both a brand and a legend were born.

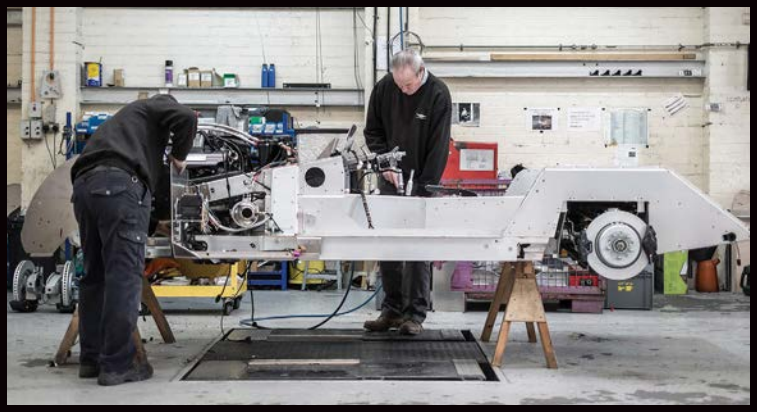
By 1911 the first two-seat version was built and caught the eye of the Harrods, managing director at the time and became the only car ever to have featured in their window display.

Many other versions were experimented with such as a four seater and versions known as 'Cyclecars', which took part in numerous races, the name by now inextricably linked with motor racing.

By 1920 Morgan had moved premises, but still in Malvern where it is today. This is when the moniker 'Aero' was first used for a special Grand Prix car, named after famous aviator Captain Albert Ball, the United Kingdom's leading fighter ace in World War One.

The current Morgan models still bear a passing resemblance to the Morgan 4/4 of 1936, the name indicating four cylinders and four wheels. The 4/4 became an instant success spawning other variants and became effectively the template for Morgans ever since – a sports car with road manners and an apparent civility and style belied by the hungry powerplant hidden beneath the bonnet.

If you want to learn more about this fascinating traditional British sports car marque just visit: www.morgan-motor.co.uk



PHOTOGRAPHS COURTESY OF MORGAN CARS

Clockwise from top left: Partly assembled ash framing, working on powerplant and steering, attaching the doors, rubbing down the aluminium bodywork, filing off rough panel edges, a stack of ash body frames

10 TIPS FOR CHISEL WORK

If you need to make joints or trim components to fit or chop away defective wood, good sharp chisels are what you need... **the Editor** shows us how to use them properly

PHOTOGRAPH COURTESY OF GMC/ANTHONY BAILEY

Once you've sawn your wood and planed it, the next stage is cutting joints and trimming components to fit. The perfect tool for this is a finely honed chisel so here is some useful advice for getting the best from your wood chisels.

1 Be sure to buy good quality branded chisels and look after them. Avoid accidental contact with nails and screws and they are definitely not for opening paint tin lids!

2 Learn how to sharpen correctly, preferably using a diamond plate, lapping fluid and importantly, a honing guide as it guarantees the correct angle and thus a sharp edge.

3 Pick a 'short set' of five or six chisels that will do most tasks from chopping mortises to fine paring cuts.

Develop a reliable sharpening technique that you know works


Cutting in a bevel first makes for a neat recess

A set of six chisels will do most jobs


Mark your joints out carefully

4 When you are joint cutting, marking out your wood accurately is essential. Use a 'chisel edge pencil and an accurate square.

5 For mortising, chop within your marked lines and leave an area at each end so the chisel does not damage the wood when levering out chippings waste.

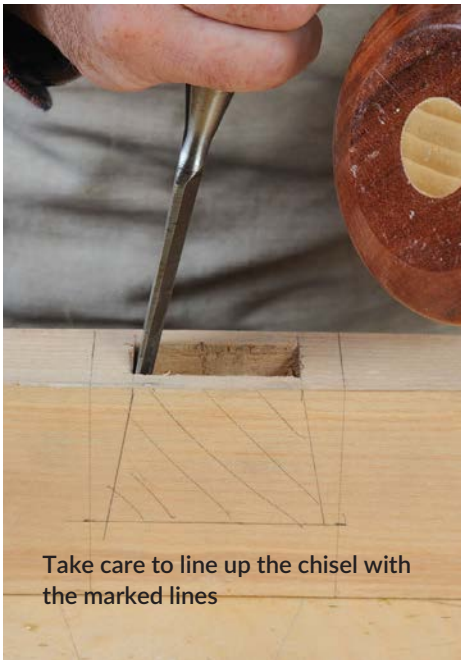
6 You can make the job easier by removing the bulk of the waste first with a spade bit or similar. Take care not to let the bit go over the marked lines.

7 To obtain neater edges you can use a wider paring chisel to cut a small bevel down to knife-cut lines instead of pencil-only lines. Do this before chopping out the bulk of the wood.

8 With halving and similar joints, make the side saw cuts then pare the wood away from one side then turn the workpiece around and work from the other side. Aim the chisel slightly upwards to take less material away with each slice.

9 When paring, a swivelling action can make for a cleaner slice. Paring across a surface at an angle to the grain can have a similar result.

10 For site work, keep several chisels that will take more punishment and keep your good set in good condition... for bench work. ■


Take care to line up the chisel with the marked lines


The first step in mortising is chopping in steps


Paring needs a very sharp edge

Coming next month in Woodworking CRAFTS

ISSUE 22 ON SALE 22 DEC

Arts & Crafts rocker

- Louise Biggs – what to do when you find one leg is shorter than the other
- Woodland Ways – making river banks safe
- Lee Stoffer – making a woven top stool

Paul Tear MBE *– a master of his craft*

PLUS:

- Ten top tips for marking out
- A housing jig for the router
- Fitting a bench stop

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READER GROUP TEST

Welcome to our **Reader Group Test** by members of our very own Woodworker's Institute Forum

PHOTOGRAPH COURTESY OF PFEIL

Pfeil chisels

Pfeil are a Swiss company best known for their high quality carving tools, but also make drawknives, axes and chisels. The set on test are the carpenter's chisels with blades hardened to 60% HRC and are ground and sharpened ready for use and have oiled elm (*Ulmus procera*) handles. A set of six in a tough tool roll.

DETAILS
Price: £150
Contact: Pfeil Tools
Web: www.pfeiltools.com

TESTERS
Mitch Peacock
Rob Sleet
Lawrence Brown
Stewart Teasdale
Julian Harrison

pfeil carving tools

PHOTOGRAPH COURTESY OF PFEIL

Mitch Peacock: The chisels were of a high standard with good overall finish. They are very comfortable in the hand and no obvious areas for improvement except for about a minute each, polishing the back and bevel to a mirror finish. Paring and chopping in both sapele (*Entandrophragma cylindricum*) and pine (*Pinus sylvestris*) produced excellent cuts. With no hoop, I would be loath to chop anything much harder, although the elm handles may well be up to it. If I could suggest any improvement, it would be the use of a socket rather than a tang allowing the easy replacement of handles, say a longer one when paring. The chisel roll attracts sawdust very easily and it doesn't freely shake off. I think these chisels are good value for money especially when it is compared to other premium brand sets on the market.

PHOTOGRAPH BY MITCH PEACOCK

PHOTOGRAPH BY MITCH PEACOCK

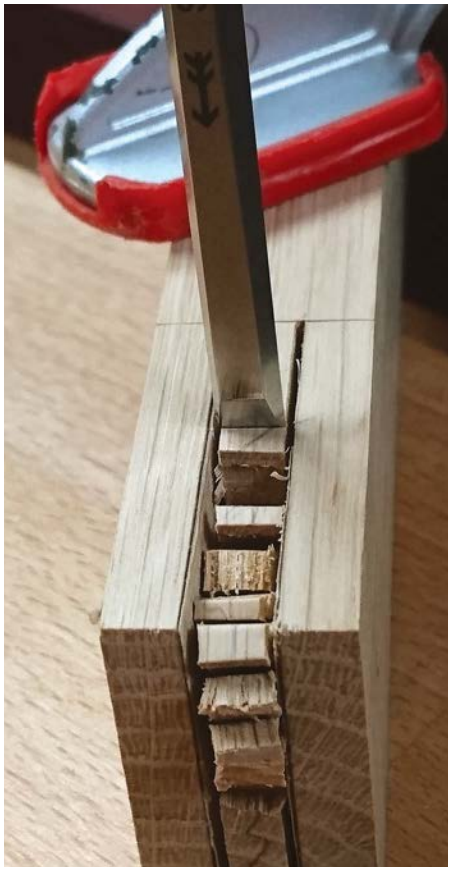
Mitch Peacock felt the unhooped handles could be damaged by hitting them

PHOTOGRAPH BY LAWRENCE BROWN

Lawrence Brown thought they were expensive, but worth it

PHOTOGRAPH BY STEWART TEASDALE

Stewart Teasdale said they are the best chisels he has used



PHOTOGRAPH BY JULIAN HARRISON

Julian Harrison found the edge holding of the steel was very good

Rob Sleet: After using chisels for a number of years these are definitely the nicest ones I've ever used due to the high quality weight distribution in the hand. I am very impressed with the quality of the chisel set. I was also very happy with the weight and balance of them when I used them on a number of projects. They are very sharp and accurate; I was able to take the smallest of slithers off along the grain to give an accurate fit for the work I was carrying out. I used them to cut in hinges and a lock, which gave very accurate cuts.

Lawrence Brown: The catalogue did explain about sharpening and was easy to follow. They are enjoyable to use, more like carving tools and different to my plastic handled chisels. Hard to improve on. Very good for finer cabinetwork by a skilled craftsman. The price seems a bit high, however you do get the tool roll and well sharpened chisels ready to use and they keep their edge longer.

Stewart Teasdale: I cut dovetails in 80 year old oak (*Quercus robur*) and the chisels still retained their edge.

The chisels are a joy to use. They feel well balanced and felt comfortable from the first moment I held them. I have never had so much pleasure in working with hand tools. The chisels are definitely good value for money.

Julian Harrison: A lovely product catalogue and pamphlet showing the entire Pfeil range was included. My first impressions of the chisels was they were of a very high quality and they're ready to use with razor sharp perfectly square edges, which saved a lot of time. They produce excellent cuts both chopping and paring with ease both in hardwood and softwood leaving superb results without any chipping or immediate dulling to the cutting edge. There is even the option to build the set up to 13 chisels for a wider spectrum of widths. Exceptionally good value at £150 a set. I would say they are up there in quality and usability with my Japanese set, which cost over £650. ■

How our testers rated the product

How would you rate the product performance?	10/10
How would you rate the product ease of use?	9.8/10
How would you rate the product overall?	9.8/10

Editor's comment:

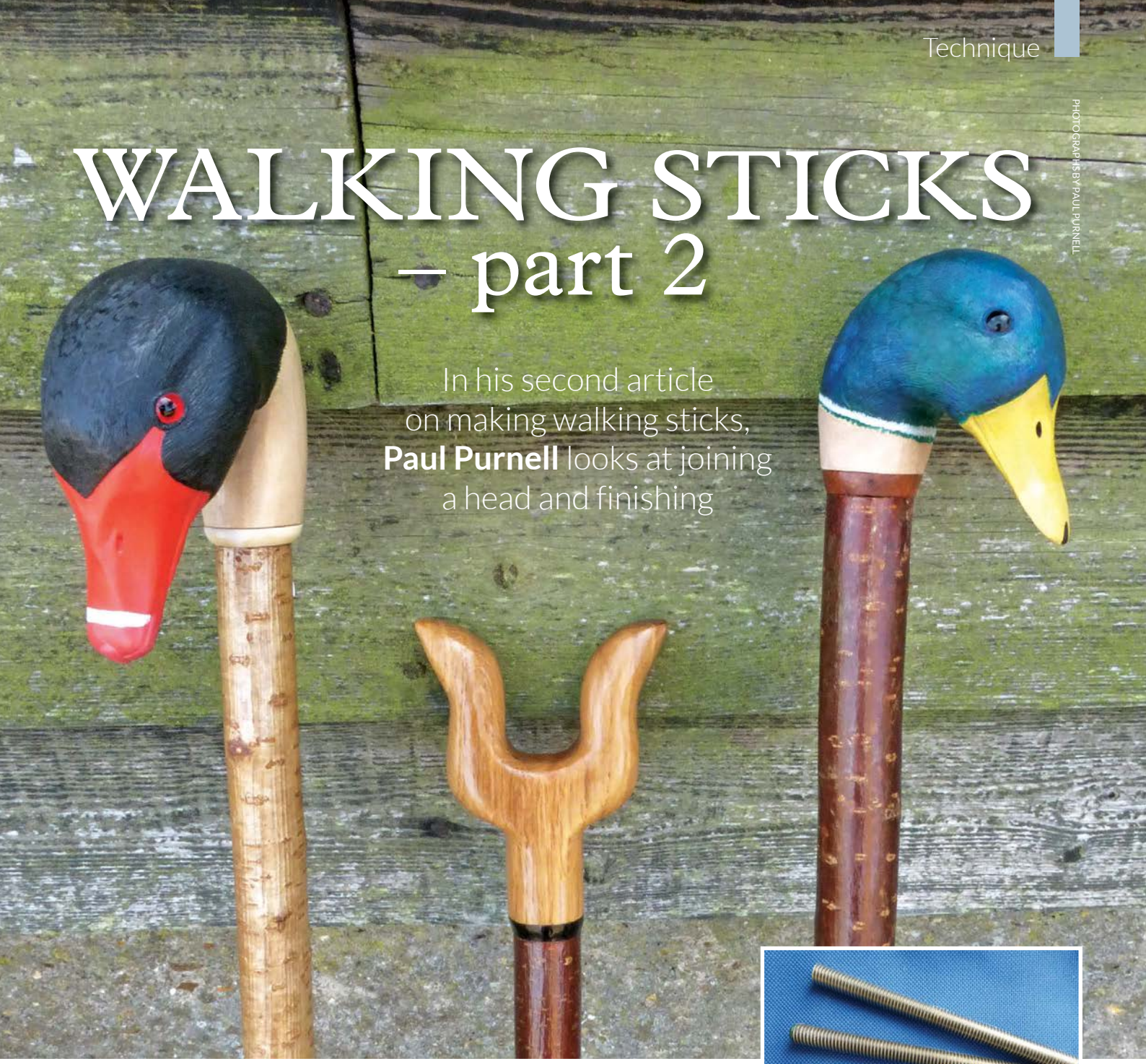
You can gather from the testers comments and scores that Christmas has indeed come early for them! These chisels are not only top notch – they aren't the cheapest you can buy and with good reason. The testers always get to keep whatever they test for us, so you can see why they must be pleased. If YOU want to be a tester and stand a chance of receiving something really useful for the workshop just email me at: anthonyb@thegmcgroup.com.

If you would like to be part of our panel of product testers, please go to our website www.woodworkersinsitute.com – and **SIGN UP NOW!**

WALKING STICKS – part 2

PHOTOGRAPHS BY PAUL PURNELL

In his second article on making walking sticks, **Paul Purnell** looks at joining a head and finishing



While there are several ways of joining a head to a shank, the following are the two main methods:

The first method

The first and easiest method, but not necessarily the best, is with a 127mm length of 8mm diameter, screwed metal rod. These are available to purchase on the internet pre-cut to size or you can buy a longer length and cut each rod as required.

Decide if you are using a spacer. Bone and horn spacers are available to buy or make your own from different woods. Place the shank in a vice/workbench. Use a piece of copper pipe insulator or cloth to protect the shank. With a two-way spirit level, ensure the shank is level in both planes.

Find the centre of the top of the shank – use a washer as a guide. Drill an 8mm hole to a depth of half the length of the rod plus a few millimetres, approximately 66mm. If a spacer is used, adjust this measurement. The drill must be in good condition, as this hole needs to be vertical and centre. A worn drill will wander and the effort needed as you drill will cause it to veer off course.

A method to help keep this hole straight is to drill a short distance, move your position, not the shank, by 90° and drill a touch more. Return to your original position and drill again. Continue to do this until you reach the required depth. If you have not done this before, practice on a piece of spare shank. ➤

Screwed metal rods

Use a washer to find the centre

If a spacer is included in the project, deduct its thickness from the correct measurement. Drill a hole that is the same size in the centre of the spacer. Whether you glue the rod into the shank at this stage is a matter of choice. However, it is safer to dry-fit the shank, spacer and head before glueing. This ensures everything fits snugly before a permanent fix.

Secure the head in the same way as the shank. Mark the centre point, or the point where you intend to fit the shank, and drill a hole 66mm deep. When using antler as a head, sometimes the centre is soft and needs scooping out and filling with epoxy resin prior to drilling. Test fit the head, shank and spacer. Often, there will be one position where the alignment of head and shank is perfect.

If the head and shank do not meet flush, small adjustments are possible. Clamp the shank in the vice or workbench and tap the rod with a light hammer in the direction that will remove the gap. Only tiny adjustments are possible; if overdone, the shank can split.

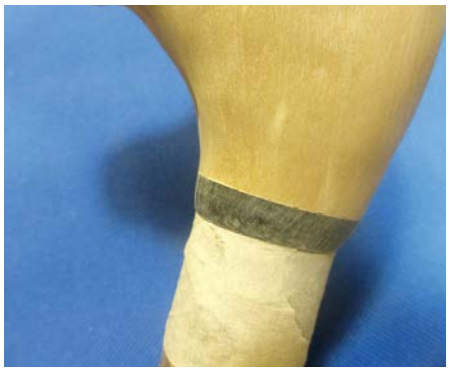
Another way to solve the problem of gaps is by removing slivers of wood from the surface of the shank or the bottom of the head. If you glued the rod into the shank before testing the fit of the head, this process will be more difficult.

There are conventions when fitting the head of a market stick, cardigan, crook and similar heads. The shank and head must be in alignment or with a slight backward flare of the head, but never with the head leaning forward. If the head is a carved dog, bird or something else, the alignment and finish will allow more freedom.

Drill an 8mm hole in the shank

Do a dry test fit

Mark the alignment of the head, spacer and shank where the best fit is achieved



Finished joint

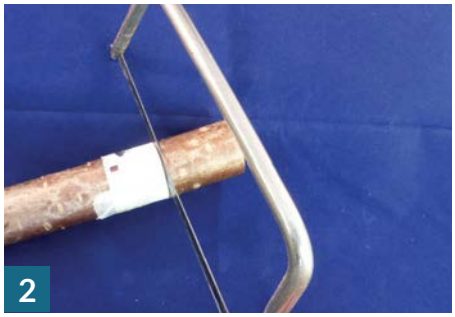
Make a pencil mark on the shank, head and spacer where they align for the best fit. It is more difficult, when using a metal rod, to finish the head without gluing the parts together. When happy with the joint, mask the shank to prevent damage and glue the rod into the shank and head with a two-part epoxy resin. If you prefer, you can glue in two stages. Use plenty of glue to the extent that it oozes from the joint when you push the components together. Use a cloth dampened with white spirit to remove any excess. Sometimes an air pocket can force the joint apart. Hold the pieces in place until the epoxy is set. Leave for 24 hours for the glue to cure then finish the head and spacer to achieve your desired effect.

The second method

The second method is whittling the end of the shank to form a dowel that fits into a hole drilled into the head. Mark out the centre point of the head or where the shank will join. Clamp it, bottom up, in a vice or workbench. Ensure it is level in both horizontal and vertical planes. With a 13mm wood drill or Forstner bit, drill a hole into the bottom of the head. Drill to a depth of at least 38mm, but ideally 50mm. This depth will depend on the size and shape of the head. Drill out the spacer with the same drill. Secure the shank in a vice or workbench and fashion a dowel as follows:

1 Measure the exact depth of the hole drilled into the head add depth of spacer. Mark this measurement down from the top of the shank. An easy method: place a spacer over the drilled hole, insert a flat-ended pencil into the hole, mark the depth on the pencil by pressing in your finger nail. Transfer this depth to the shank. Mark the centre point of the shank as a guide. Using a piece of magazine paper as a straight edge, wrap it around the shank at this measurement. Secure with a piece of masking tape. Remove some of the stickiness from the tape and dab on a dusty surface to avoid pulling away the bark when it is removed.

2 Use a junior hacksaw to cut around the circumference of the shank at the straight edge. Cut with care. Use the following as a guide: the junior hacksaw blade is 6mm in depth. If using a shank with a 25mm



diameter, cut to the depth of the blade around the shank's circumference. This will leave you with an internal measurement at the bottom end of the dowel of 13mm – the size you need it to be to carved. Vary the cut according to whether the shank is smaller or larger than 25mm.

3 Carve a wedge around the hacksaw line, which will prevent the knife or rasp slipping and damaging the shank in the next step.

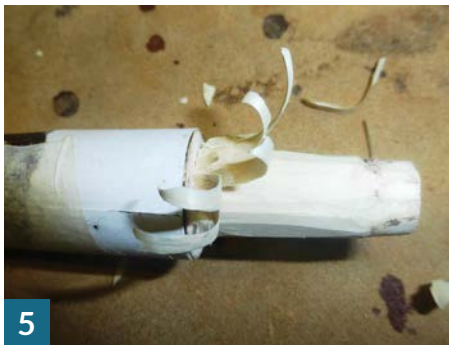
4 Use a knife or rasp to whittle a dowel that will fit into the head. Work methodically around the shank taking off small amounts at a time. Keep checking the fit into the head.

5 When the tip of the dowel fits, push the head on with a screwing motion for 5–10mm. This will give you the approximate size for the rest of the dowel.

6 Continue to carve the dowel until you achieve a squeaky-tight fit. Do not be tempted to force the head on as it may split the shank. Test fit with spacer. As with the stud method, small adjustments are possible by paring away tiny amounts of wood from the shank or head. When happy with the fit draw a line on the dowel, spacer and head. Chamfer a dish effect around the hole of the spacer on the side that sits against the shank as this will help it seat better. Use a V-tool to cut three grooves along the length of the dowel. This will allow excess glue to escape.


3


4


5


6

7 Attach, but do not glue, the head shank and spacer as per your alignment marks. Mask off the top of the shank to prevent damage, then work on the head and spacer until you achieve the desired finish.


7

GLUING

Dependent on the shape of the head, e.g. an animal, dog, bird, work on it while off the shank until you reach an approximate finish; then attach to the shank – but do not glue – to finalise. The head will not move when worked on if you have whittled the dowel to the correct size. Add a wrap of masking tape around the dowel if the head is loose. If the joint is still loose or unstable then consider gluing the head and shank before working on it. If the head needs further work, e.g. fitting eyes, texturing, painting, finish this before gluing on to the shank. When joining, use only a small quantity of epoxy glue.

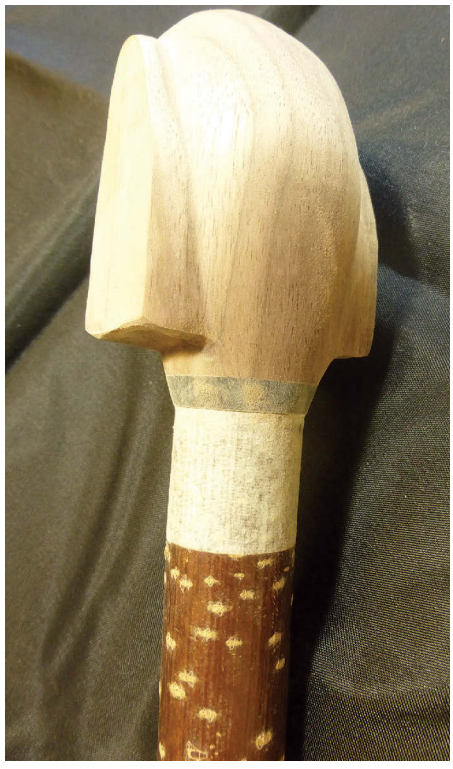
Other less common methods include:

- When using methods one and two, the join between the head and shank is cut at an angle of 45°
- Double-ended wood screw
- Threaded rod and nut (allows for head to be removed and changed)
- Long/short hardwood dowel
- Plug and anchor
- It is possible to fit a straight or rolled-top collar made of brass, copper, silver-nickel or silver to cover the joint when using the main methods and some of the others.

FINISHING

Clean any remaining dirt or moss from the shank by hand or using a soft brush.

Remove side branches – sand level with the shank. The exception is blackthorn, and other knobbly woods, where the side branches look more attractive if left proud. Rub the shank with 000 grade of wire wool to provide a better adhesion for the finish. Give a final clean with white spirit. A variety of oils, e.g. Danish, tung, nut and boiled linseed, are available to finish the shank. Use several applications. Using oil makes it easier to add another coat when needed. Varnish is another choice. This may peel over time



Head and spacer shaped to shank

Example of using a rolled-top collar

and need stripping before applying another coat. A head of natural wood, horn or antler can be finished with oil or varnish. Horn can be waxed and buffed. If a painted head needs outdoor protection, use a varnish and not oil. Oil or varnish the shank before fitting the ferrule; this will ensure full protection of the working end.

FITTING A FERRULE

Ferrules are made of brass, brass with a steel tip, horn, antler, bone or rubber. Select a ferrule that is the closest match to the diameter of the tip of the shank. Measure the height of the ferrule and deduct the thickness of its base. Using this measurement, wrap a straight edge of a magazine or masking tape around the shank.

Use a knife to mark around this line to a depth of 1mm. Use a knife or rasp to remove wood from the shank to match the shape of the ferrule; keep testing and aim for a tight fit. The engineering process of the ferrule leaves a residue of oil inside; as you push on the ferrule to test the fit, a black mark will indicate where wood needs removing.

Continue until the ferrule is 2mm from the cut mark on the shank. Do not glue the ferrule just yet. The traditional way of fitting the ferrule was to use a couple of pins or to crimp the top in three places with a sharp nail and hammer. These methods do not always give a tight fit. Instead apply a small amount of epoxy glue to the shank and push on the ferrule as far as it will go. Tap the shank on the floor to squeeze the ferrule over the couple of millimetres you left in the above step. This will provide a long-lasting, watertight fit. ■

Next month, Paul will be making a lyre-shaped thumb stick.

Leave side branches of blackthorn proud of the shank to create a knobbly effect

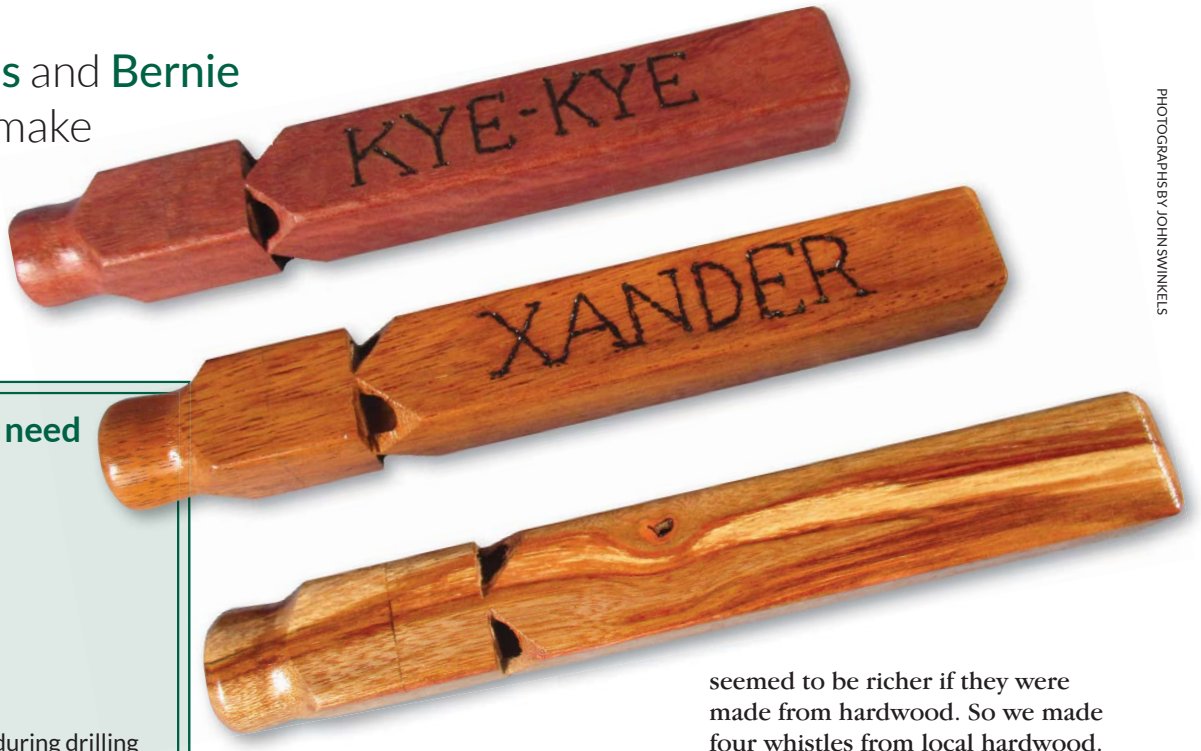
Black marks left by oil residue during manufacture of a ferrule

Leave shaping of shank slightly short of the cut mark

A finished stick

An *'all aboard!'* train whistle

John Swinkels and **Bernie Leadbeatter** make wooden train whistles on a lathe



PHOTOGRAPHS BY JOHN SWINKELS

Things you will need

- Tablesaw
- Lathe
- Bandsaw
- Disk sander
- Pyrography tool
- 22mm Forstner bit
- 12.7mm drill bit
- Abrasives
- Try square
- Jig to support blank during drilling of four holes and support for cutting out small triangular parts
- Finishes – I used polyurethane varnish

Materials

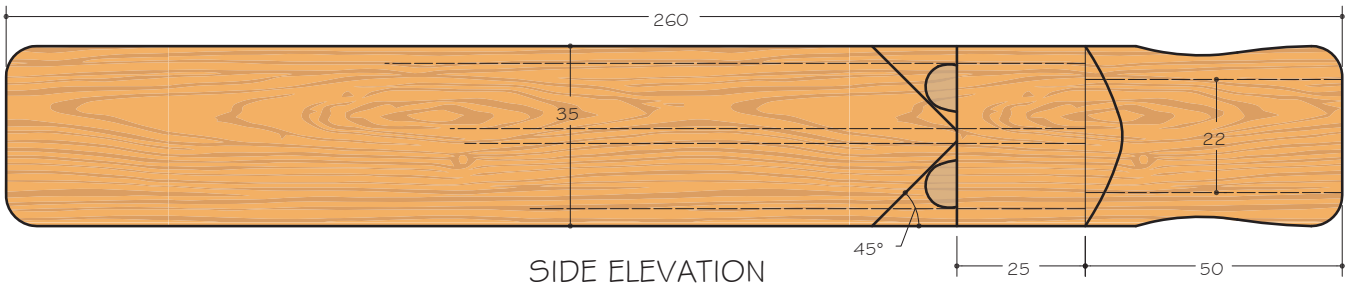
- 330mm long section of hardwood – 35 x 35mm
- 12.7mm dowel

Bernie brought some wooden train whistles to the club – Woodturners of the Hunter – and was happy to share with us how to make them. The whistles have four holes and Bernie designed and built a jig that made drilling those holes in a blank an easy procedure.
We made a few from radiata pine (*Pinus radiata*) but found the sound seemed to be richer if they were made from hardwood. So we made four whistles from local hardwood. We made the whistles using jarrah (*Eucalyptus marginata*), merbau (*Swintonia floribunda*), coachwood (*Ceratopetalum apetalem*) and macadamia (*Macadamia ternifolia*).

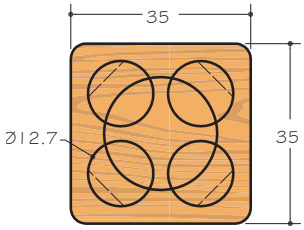
1 First, cut a 35 x 35 x 300mm long section of wood. Mark the centres on both ends, fit the blank between the scroll chuck and tail centre. Shape the mouthpiece.


1


2



SIDE ELEVATION



END ELEVATION

"We made a few from radiata pine but found the sound seemed to be richer if they were made from hardwood"

2 Next, drill 50mm deep into the mouthpiece using a 22mm Forstner bit. Prepare a support for the blank, which will make it safer to cut openings where the air can exit.

3 Make two cuts at 90° and 45° to give clearance for the saw blade to make the cuts in the whistles. Cut off the 50mm long mouthpieces.

4 Bernie's jig supports the blanks during the drilling of the holes, and here's how you make make it…


3

4

BERNIE'S JIG

1 There is an unseen piece of wood that just fits between the lathe ways.

2 Under that is another smaller piece that can turn and lock the jig in place.

3 The visible lowest piece is fastened to the unseen one and has a bolt with a wingnut that locks the jig in place.

4 The trapezium-shaped uprights support the actual channel.

5 Bernie made his channel from a solid section and routed the recess in it.

6 Another option is to build the channel from three sections of timber. Getting the channel in the correct position, just 4mm below the drill bit requires careful measuring. It can, however, be accomplished by measuring with the drill bit in the Jacob's chuck and checking exactly where the channel should go so its inside lower surface is the required 4mm below the drill bit. The channel is 35.5mm wide so that the 35mm square whistle blank can move inside it. Mark on the jig how deep to drill.

5 Now, begin with a 12.7mm Forstner bit and follow that with a longer drill bit. The holes should be: 100, 130, 160 and 190mm. Fasten the jig to the lathe and push the job into the bit. The channel for the blank has spaces of 4mm below and to one side of the drill bit.

6 Cut the recesses 25mm from the end – as indicated in the drawing.

7 On the disk sander shape a flat on 25mm of four 12mm dowels, 3mm deep.

8 Next, glue 22mm long sections in the holes, level with the cut ends. Then glue the mouthpiece back on.

9 Round all corners and edges on the belt sander and then varnish the whistle. ■

5

6


7


8


9

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GET THE JOB DONE RIGHT

150mm Random Orbit Sander
BO6050J

1/2" Plunge Router
RP2301FCX

82mm Planer
KP0810K

Biscuit Jointer
PJ7000

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PLANS 4 YOU

Coffee tables

Simon Rodway makes a coffee table

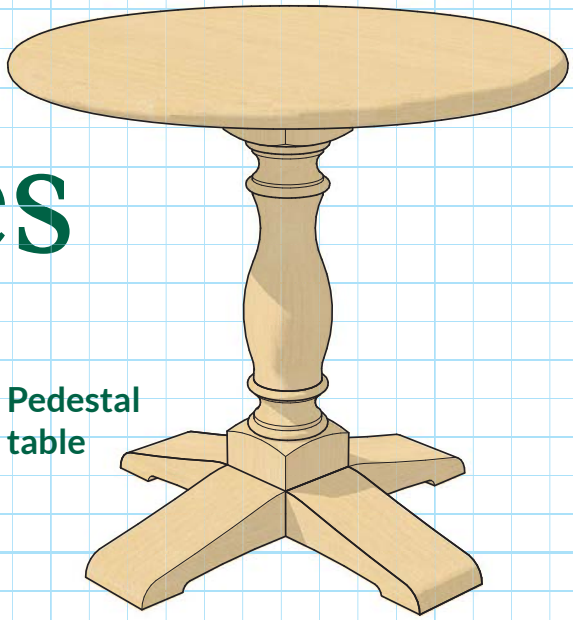
Cutting list

Pedestal table
- Top 1 @ 530 diameter x 25
- Column 1 @ 89 diameter x 438
- Legs 2 @ 459 x 89 x 64

Solid table
- Top 1 @ 1400 x 630 x 30
- Legs 4 @ 540 x 290 x 30
- Rail 1 @ 1020 x 60 x 30

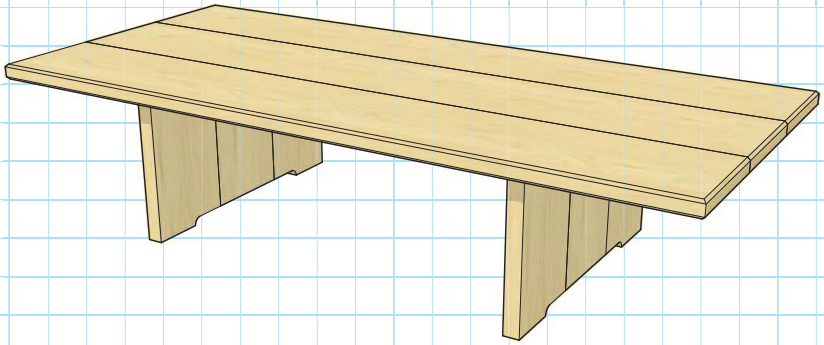
Lightweight table
- Legs 4 @ 445 x 40 x 40
- Rails 4 @ 642 x 50 x 30
- Top 1 @ 602 x 602 x 12

NOTE: Dimensions for top and legs in first and third tables are overall and don't include for individual boards which have to be glued together.

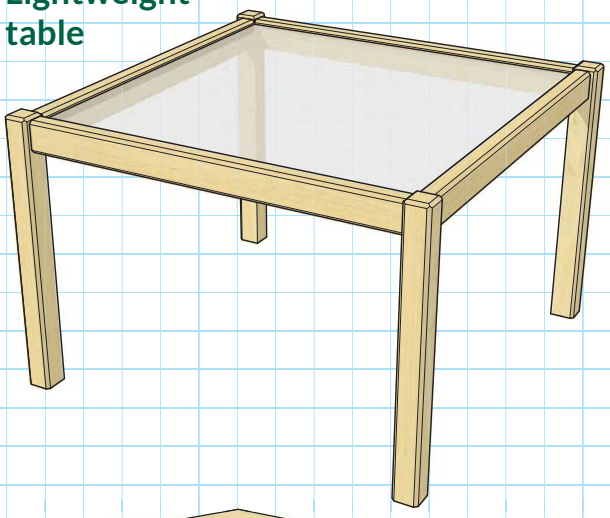


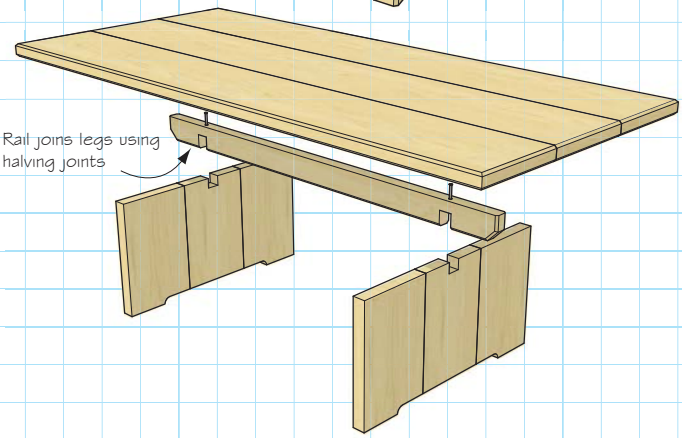
Pedestal table

Solid table



Lightweight table

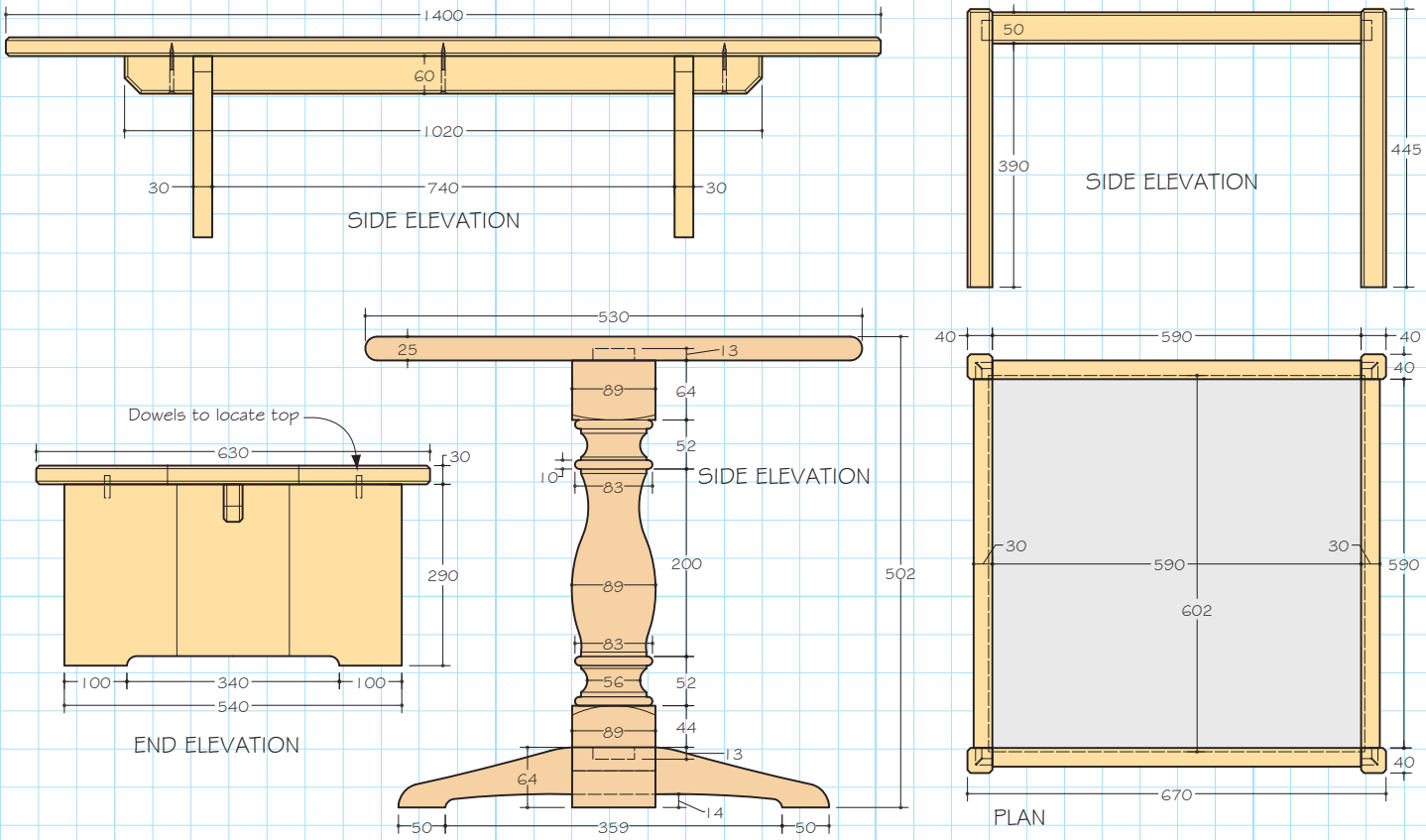




Coffee tables come in all shapes, sizes and styles. With this in mind, and rather than just selecting a single example, this month's issue includes a trio of coffee tables, which I think cover some of the broad range of designs typical of this furniture type.

The solid table

A fairly common format, and one of the simplest pieces of furniture in terms of its construction, is the solid leg and top style. For this example I've modified the structure by adding a top rail which joins the two legs together with halving joints screwed down into the legs, giving the table much greater strength along its long axis. This also allows the rail to be used to secure the top to the base, by screwing in from underneath, and in the 2D drawing I've suggested adding dowel joints on either side of the rail, to help locate and secure the top in place. A chamfer on all edges on the top and along the bottom edges of the rail gives the table a bit more visual interest. A smaller chamfer on the bottom of the feet, which are formed by a shallow cutout along the bottom edge of the legs, is a good idea technically as it will help to prevent the edges catching on the floor. Of the three designs this one would be the easiest and best to adapt by adding a shelf or drawers to, omitting the rail and adding biscuits or splines to join the legs to the top. You could then add housings to the inside of the legs and insert a solid shelf which could also carry a drawer, or a couple of drawers if you also put in a central divider.

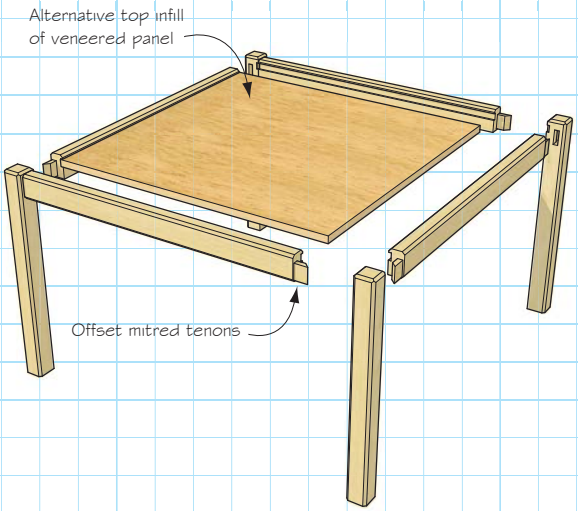


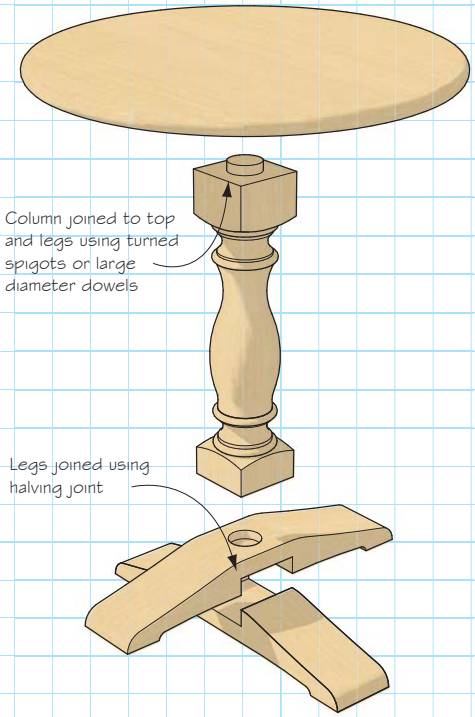
The lightweight table

Turning to the second of my tables, I've chosen a much lighter weight in terms of look and construction. This one has mortice and tenon joints between the rails and legs, mitred on the ends to give the tenons their maximum possible length. These tenons are also offset downward and outwards relative to the ends of the rails. The top, which is shown in two possible guises, in glass or veneered ply, is let into a groove in the rails just below the inner chamfer. The legs are also notched out on the corners to take the top as well. I've chosen to chamfer all the outer edges on this table as well, something I think gives a much more finished look to what is after all a very simple piece. The legs project slightly above the top surface of the rails, another small but important feature. If you choose to use glass for your top, make sure you cut the grooves a few millimetres deeper to allow for movement, as otherwise the glass will force the joints on the corners.

The pedestal table

The third and final type, a small pedestal table, is really one for the turning community, but having said that a suitable column could easily be bought 'off the peg', and a top and legs constructed to match. If you do turn the main column yourself you can add spigots on the ends as it is turned, or alternatively join the legs and top to the column with large diameter dowels glued into both ends. The top, and this is also the case with my first table, will have to be made up from boards glued together using biscuits or loose tongues and then cut out using a trammel. So make sure you don't carry the tongues too far along the edges so that they are exposed once the circle is cut. The legs are quite simple in profile and the design is really something you can sketch out on a piece of board which should then be cut out as a template to get a consistent look all round. The legs are then joined together using a halving joint again, and the top has the edges rounded over to finish. ■





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INCLUDES LEFT & RIGHT TABLE EXTENSION

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CTS11	1500W	254mm	£149.98	£179.98
CTS10D	1500W	254mm	£169.98	£203.98

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- Dust extraction facility
- 4" x 36" belt tilts & locks 0-90°
- 225mm x 160mm table, tilts 0-90°
- 370W, 230V motor

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- Cutting depth: 72mm at 90° / 65mm at 45°

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WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
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Stanley Multi Angle	Clamped	72/60/40	£16.99	£20.39
Record TV75B	Clamped	75/50/32	£19.98	£23.98
Clarke WV7	Bolted	180/205/78	£26.99	£32.39

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CBS1-5

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- Flow rate of 850M3/h

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CDE7B	750W	850 M3/h	114Ltrs	£149.98	£179.98

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powered by Li-Ion

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CCD240	24V	1	£47.99	£57.59
Bosch PSR18	18V	1	£54.99	£65.99
CON18Ni	18V	2 x Ni-Cd	£69.98	£83.98
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* 'V' Twin Pump

8/250

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
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7/250	2 HP	7	24ltr	£94.99	£113.99
11/250	2.5HP	9.5	24ltr	£109.98	£131.98
8/510	2HP	7.5	50ltr	£119.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£167.98
16/510*	3 HP	14.5	50ltr	£209.00	£250.80
16/1010*	3 HP	14.5	100ltr	£259.98	£311.98

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- Includes two tables
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CS4-8

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CEP1

BLACK & DECKER

- 82mm cutting width

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MODEL	MOTOR	DEPTH OF CUT	EXC.VAT	INC.VAT
Clarke CEP1	650W	2mm	£26.99	£32.39
Einhell TE-PL850	850W	3mm	£49.98	£59.98
B&D KW750K - GB	750W#	2mm	£54.99	£65.99

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CCT48	Cordless 4.8V Ni-MH	22/18	£28.99	£34.79
CESNG2	Electric	18/18	£39.98	£47.98
CONSN18LiB	Cordless 18V Lithium-Ion	18/18	£114.99	£137.99

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Kit includes:

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- Rotary tool
- 1m flexible drive
- 40x accessories/consumables

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- 900W
- No load disc speed: 1490rpm
- 305mm Disc Dia. (1 x 60 grit sanding disc included)
- Dust extraction port

CDS300B

Clarke SHEET SANDERS

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CON300	230X115mm	330W	£34.99	£41.99

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CON185*	1600W	60/40	£59.98	£71.98
CCS2	1300W	60/45	£59.98	£71.98

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CONVERT 230V 1PH TO 400V 3PH

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PC20	2HP	10Amps	£229.00	£274.80
PC40	3.5HP	20Amps	£269.00	£322.80
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- 2 Heavy Duty Vices
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Makita

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Clarke CBS2	1200W	480	£76.99	£92.39
Makita 9911*	650W	75-270	£89.98	£107.98

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- 450W motor
- 2000rpm spindle speed
- 1750rpm belt speed
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COEBS1

*only Bobbin Sander

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CPT600	6"	120mm	£184.99	£221.99
CPT800	8"	120mm	£209.98	£251.98
CPT1000	10"	120mm	£289.00	£346.80

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Evolution Fury 3-B	210/25.4	50/120mm	£57.99	£69.59
Einhell TC-SM2131#	210/30	62/310mm	£119.98	£143.98
Einhell SM2534‡	250/30	75/340mm	£159.98	£191.98

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CBS190	350W	7.5"	£124.99	£149.99

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Top Quality Bandsaws - ideal for professional workshop use. Strong steel body with solid cast iron table

- Table tilts 45°
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- FLEXIBLE LED WORKLIGHT
- REMOVABLE DUST TRAY
- BLADE TENSIONING CONTROL

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CBS350	340mm/14"	225mm	160mm	£479.00	£574.80

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- Inc. outriggers & rollers

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MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
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DEVIL 7003	230V	3	£59.98	£71.98
DEVIL 6005	400V	2.5-5	£74.99	£89.99
DEVIL 7005	400V	5	£84.99	£101.99
DEVIL 6009	400V	4.5-9	£119.00	£142.80
DEVIL 7009	400V	9	£139.98	£167.98
DEVIL 6015	400V	5-10-15	£179.00	£214.80
DEVIL 7015	400V	15	£199.98	£239.98
DEVIL 6025	400V	22	£289.00	£346.80
DEVIL 7025	400V	22	£319.00	£382.80
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- Great for sawing, cutting, sanding, polishing, chiselling & much more
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CMFT250

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*DIY #Professional

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Clarke CON750#	750W	80/10mm	£27.99	£33.59
Bosch PST700E*	500W	70/4mm	£44.99	£53.99

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Router not included

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*Black & Decker

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was £71.98 inc.VAT

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KA900E*#	350W/230V	13x455	£54.99	£65.99

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CDP102B	350 / 5	£79.98	£95.98
CDP152B	450 / 12	£134.99	£161.99
CDP202B	450 / 16	£179.98	£215.98
CDP10B	370 / 12	£194.99	£233.99
CDP352F	550 / 16	£219.00	£262.80
CDP502F1100	/ 12	£499.00	£598.80

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*DIY

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What you need to know to start turning – part three

This month, **Mark Baker** looks at the core tools used in woodturning

There are many turning tools that can be bought and it is easy to get sucked into buying lots of things because one thinks they are useful. This can be a costly mistake and, in truth, it's better to buy a limited amount of tools that will do a big variety of work for you. Concentrate on learning to use those tools so you can get used to working with tools, a variety of woods and different projects before investing in more tools. Tools have many variants and each type are available in different sizes.

Following is a rundown of the core tools that turners use, that will form the basic tool selection I would recommend for you. Most turning tools are now made from High Speed Steel (HSS). There are different grades of steel, but M2 HSS is the most common because it gives a superb cutting edge when sharpened and lasts a reasonable amount of time.

I recommend seven basic tools to start off with. They are as follows: a bowl gouge, a spindle gouge, a parting tool, a beading and parting tool (these are thick and thin versions of each other), a spindle roughing gouge, a skew chisel, and a scraper or two.

ANATOMY OF A TOOL

All turning tools, irrespective of type, have the same basic features: the cutting edge, which is typically at the top of the tool; a bevel, which is underneath the cutting edge; the blade of the tool; the tang, which is the section that is secured in the handle; and the handle itself, which comes in various lengths to suit the size of the tool.

In the case of gouges, the blade of the tool has a flute running about two-thirds of the way along it. The cutting edge that it produces has a bottom section and two sides. These sides are commonly known as wings. Depending on the shape of the cutting edge, the wings can be quite short or quite long.

Anatomy of a gouge

Anatomy of a scraper

PHOTOGRAPHS COURTESY OF RECORD POWER

TOOLS FOR FACEPLATE TURNING

Faceplate turning typically requires a bowl gouge, parting tools and scrapers. These should give you everything you need to shape and refine the project you are going to tackle.

Bowl gouge

A bowl gouge is typically milled from a round bar, which has a deep flute running along about two-thirds of the blade towards the handle. The flute, depending on the make, can be a U-shape, a V-shape or a parabolic curve. It is initially used for rough shaping by removing lots of wood quickly, then to refine the curves on bowls and platters. A 10mm gouge is a good size to start with. It is the workhorse of the faceplate turner's armoury. It is capable of making heavy cuts to rough shape work, yet also can be used to make the most delicate of refining cuts.

PHOTOGRAPHS COURTESY OF RECORD POWER

Bowl gouge shaping the outside of a bowl

Turning the inside of a bowl

Parting tool and beading and parting tool

The standard versions of the parting tool and the beading and parting tool are usually rectangular or square in section, although other shapes are available. They typically have two bevels at the front end that converge to create a cutting edge. They are effectively chisels used to shear timber fibres cleanly. The thinner 3–6mm parting tools are ideal for making thin parting cuts and creating delicate fillets. The wider 6–12mm beading and parting tools are ideal for cutting larger tenons, spigots, fillets, V-cuts and rolling beads on spindle work. I would, if you can afford it, advise buying a 3mm parting tool and a 10mm beading/parting tool, which gives you a great deal of versatility. If your budget is tight, a 3mm will serve you well.

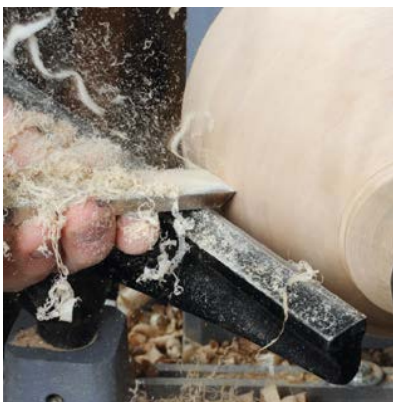
Beading and parting tool cutting a parallel section

Cutting a series of beads with a beading and parting tool

Scrapers

Scrapers can be used on faceplate and spindle work – bowls, vases, boxes, goblets and such projects. They are usually flat, rectangular bars, which have various shaped sections on the end and are available in various widths to suit the shape of the work being cut. They are usually used to clean up and refine the work after it has been shaped with a gouge. A 25mm scraper with a rounded or French curve cutting edge profile is an excellent choice to start with for cleaning up the inside of bowls or other projects such as the inside of boxes, vases and goblets. For some external curves you may need a square or angled/raked edge – similar to a skew – to clean up the outside of bowls. The larger the work, the greater the contact with the tool edge that is required to create a smooth ridge-free curve or surface.

Round nose and French-curve scrapers



Square-end scraper refining the outside of a bowl

TOOLS FOR SPINDLE TURNING

The tools required for spindle work are a spindle roughing gouge, a spindle gouge, parting tools, skew chisels and scrapers.

Spindle gouge

PHOTOGRAPHS COURTESY OF RECORD POWER

The spindle gouge is used for creating fine detail such as coves, beads and for creating delicate detail and refining shapes on spindle work. It is usually made from a milled round bar; the flute is shallow and typically semi-circular. The profile is totally different to that of a bowl gouge and, as with the spindle roughing gouge, the tool should not be used with much of an overhang from the toolrest. A good size to start with is a 10mm version.

Spindle gouge refining the head of a candlestick

Spindle gouge used for cutting a cove

Selection of skew chisels

Skew chisel

The skew chisel is the woodturner's version of the wood plane. When presented at a shear cutting angle to the wood, it peels the wood off, leaving a fine finish. It can also be used to roll beads and create incised V cuts. Skew chisels can be oval or rectangular in section. I would recommend a rectangular blade skew chisel to start with of either 19mm or 25mm in size.

A skew chisel being used to make a V-cut

A skew chisel planing smooth the surface of a spindle

Spindle roughing gouge

PHOTOGRAPHS COURTESY OF RECORD POWER

The spindle roughing gouge is usually made from a forged flat bar or, less commonly, a milled round bar. The flute – the channel down the centre of the tool – is U-shaped or semi-circular. It is only to be used on spindle work where the grain is parallel to the bed of the lathe. The tool is used on between centre work such as spindles, candlesticks and tasks to smooth timber from square or log section down to round, and can be used to roughly shape the exterior of the work before you put in the detail with a spindle gouge. The large flute allows for the rapid removal of timber, but you must keep the toolrest as close to the work as is practicable when using this tool. Start with a 20mm or 25mm tool. This will give you the flexibility to work on projects of many different sizes.

Spindle roughing gouge roughly shaping a spindle

Beading and parting tool

As mentioned earlier parting tools and beading and parting tools are great for spindle and bowl work. The tools can also be used to roll beads on spindle work.

Scraper

Scapers are hardly ever used on the outside of spindle work, but as mentioned earlier, they can be used to clean up the inside of boxes, goblets, egg cups and similar projects. ■

In the next issue we look at sharpening equipment for tools.

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Woodland ways

Woodland access

Above: Staffhurst Woods, in Surrey, UK

Gary Marshall decides to wander 'lonely as a cloud' on well-trod footpaths and sylvan glades...

Access to woodlands in the UK varies enormously and depends on: use, ownership, size, location, topography and designations such as SSSIs – Sites of Special Scientific Interest, ESAs – Environmentally Sensitive Areas and many other factors. So let's start very simply...

Entrances

For a small private wood, with limited management, just a hunt gate may suffice, giving access to informal paths or tracks, for the owners' use.

Public access

I'm very pleased that an increasing number of woodland owners and organisations actively encourage people into woods. The Woodland Trust has such a policy – also promoting understanding, sustainability, developing woodland skills, crafts and recognising the huge health advantages that are promoted by getting into the woods. Forestry Commission sites are often open access too as with Wildlife Trust sites, Country Parks and other open woodlands. Some access can be by permit only – particularly in sensitive woodlands, easily disturbed or damaged.

Some woods are 'open' – with no boundary fences and gates, except where they allow woodland workers access with their vehicles and equipment, the New Forest and Staffhurst woods in Hants and Surrey being two examples. The public have a 'right to roam' in many woods – although trampling in the bluebell or other sensitive wildlife season is to be avoided. Other publicly accessible woodlands may be fenced with access only from designated car parks, footpaths, bridleways or tracks. Visit www.openwoodlands.co.uk to find accessible woodlands near you.

Rights of way

Commonly, where public rights of way enter and leave woods – public and private, stiles, kissing gates, squeeze

Squeeze gate entrance

Farm gate with gap for pedestrians

An electricity wayleave and pedestrian access

Above: This woodland footpath is in need of clearance

Right: Volunteers replacing steps with a more substantial footbridge

gaps or farm type gates are erected. It's the owners' responsibility to keep such access in good order and it is the local County Council or Unitary Authority's duty to ensure standards of access on public rights of way are adequate. Voluntary organisations often also maintain the access paths, but only with owners' and the council's permission. You can help by reporting access problems to the council. ➤

Track up steep slope to extract thinnings

Above: A fully engineered forestry access track

Right: Commercial woodpile in open access woodland

Commercial areas

Commercial woodlands, forests and plantations pose their own access problems. They're usually overcome using civil engineering techniques. Forest roads, tracks, bridges and culverts are built to last for the wood's commercial life. When felling, thinning and extraction takes place, 'racks' are often cut in plantations – rows of trees taken out at intervals to allow forest workers access with chain saws, winches and tracked harvesting machines. These connect with a series of woodland access tracks and rides – contoured in hilly terrain. Timber is stacked in loading areas ready for collection and transporting. Where the public also have access to such sites, extreme caution is called for during such operations and signing, restricted areas and look outs will be in force. The public are advised to avoid areas where harvesting is taking place. The last thing a forest worker wants while operating machinery, or felling, is someone casually strolling or 'rubber-necking'. Of course, another commercial use for woodlands is shooting, another subject completely, but do beware.

High seat for deer culling – beware

Problem visitors

Public access can lead to unwanted problems: littering and fly-tipping, dog fouling, unauthorised vehicles such as off-roading and trials biking, and even travellers' camps. Car parks will often have height and other barriers – and there's increasing use of CCTV in some 'hot-spots'. Another way that volunteer wardens and the public can help is to be the local eyes and ears acting as guardians of the woods reporting issues to woodland owners and organisations.

Get involved

Scattered throughout this article are photos relating to woodland access. Go and spot some yourself. If you feel so inclined join in with volunteers – making and mending, clearing and managing. If you own woodland consider using local volunteers to help with your access work – contact your local land-based educational establishment or volunteer bureau. Once all counties had their own Agricultural Colleges such as Plumpton in East Sussex, or Hadlow in Kent. Now these often offer a variety of land-based learning – and can have students and tutors looking for suitable sites on which to practise their skills. Get out there and get involved, you won't regret it! ■

Get involved – Gary Marshall volunteers putting in a stile

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Holding small parts secure

PHOTOGRAPHS BY MICHAEL T COLLINS

The humble bench hook

Michael T Collins works his way through cutting a simple, but effective bench hook

Cut list

One board – 180 x 305 x 25mm
One block – 150 x 38 x 25mm
One block – 180 x 38 x 16mm
Note: use a hard wood – in this article I am using hard maple (*Acer saccharum*)

Things you will need

- Block plane
- Brace and 3mm twist bit
- Try or combination square
- Cross cut saw

In the 1970s I attended what was then called a 'building school' and learned all the finer points of woodworking and hand tool usage. To this day, the most useful and most used tool in my toolbox isn't what you might expect. In fact, it's more of an accessory than a tool: the bench hook. It's an implement that has remained unchanged in its design for hundreds of years. No workbench would be complete without at least one bench hook, which is essentially a stop that is held perpendicular to the bench's length. The purpose of a bench hook is to provide a surface against which a work piece can be held firmly without the need of a vice or other mechanical means. The simple three-piece construction helps guide the saw, keeping the cuts straight and true. Many of my projects have small parts and trying to cut these on a table or mitre saw would be asking for trouble, which is why this accessory has been a favourite since my days at building school.

My go-to accessory

MAKING THE BENCH HOOK

Construction

Early bench hooks were made from a single piece of wood, with more modern constructions composed of three pieces of wood – mainly because of the simplicity of construction.

The development and design of the bench hook has evolved over the last several centuries and so, for the modern hand tool woodworker, there is little to change in the basic design and functionality of the accessory. However, when I make bench hooks I make two small changes to the traditional design. The first is to add a 3mm chamfer to the bottom edge of the shorter stop, so that sawdust has a place to go preventing it from interfering with the positioning of the work piece. The second change is to the stop on the other side; I make this a full width stop as this allows me to use the hook as a shooting board when squaring ends. We'll look at this in more detail later on. Cut all the pieces to their final dimension, making sure that the ends are square.

In a traditional bench hook the stops are about 25mm shorter than the width of the board and depending on whether you are left or right-handed you'll want to off-set the stops towards your non-dominant hand. The purpose of this is to allow a cut to be made without marking the bench surface. Use a block plane to add a chamfer to the short stop's lower front edge and ease all other edges with the exception of the right-hand end of the full width stop and the right-hand edge of the board. Since this is going to be used for shooting pieces we want full contact

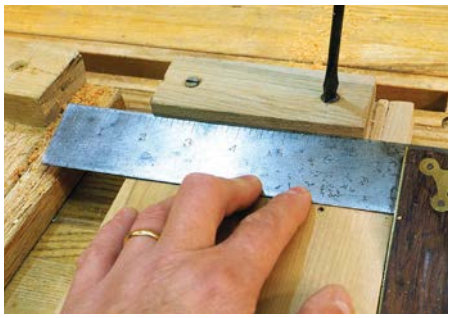
A 3mm chamfer

Cutting the parts to size

The three components

between the work piece and the bench hook. Drill two holes through each of the blocks that is slightly larger than the screw used to secure it – we want the blocks to be pulled onto the board tightly. Use a square to align the blocks and drill pilot holes into the board. Then screw the stops in place, this way the base can be replaced while keeping the stops. If you want to make these stops more permanent you can go ahead and glue them.

Easing the edges and adding a chamfer



Squaring the stops

IN USE

Sawing on a bench hook

Planing small pieces

Using the bench hook for shooting ends

When used for sawing, the bench hook is positioned with the lower hook against the edge of the bench. The work piece is held firm against the stop between the thumb and fingers of the non-dominant hand. After all the necessary scribing is done, it is then a simple matter of sawing the joint. Typically you will want to use a cross cut backsaw when working with a bench hook as most of the time you will be cutting across the grain.

As a shooting board

Planing end grain is also easily done using a bench hook. The side with the full width stop is used to position the work piece so that it protrudes a fraction of an inch beyond the edge and with a heavy plane (I use a jack plane with a finely honed iron).

Planing small parts

The shorter stop on the bench hook makes a great surface to plane small parts against. Most of my stock is 19mm thick, so I make this stop 16mm. Using a downward forward pressure the piece will stay in place as you plane.

Holding small parts secure

If working with long boards you will want to make several bench hooks and support the free end of your project with a single narrow bench hook. Take care to make these using the exact same dimensions as the larger bench hooks. There is no need to apply a finish to the bench hook.

I use my bench hooks for just about any task where a small piece of work needs to be held, cut, chiselled or drilled. For example, chamfering ends of table legs. Bench hooks will make your hand tool work safer, more accurate and your rate of production will vastly improve. My trusty bench hook has undergone a lot of abuse over the years! But as they're so easy to make they're easily replaced. If you've never used a bench hook, make one and try it for a few days. You'll wonder how you ever managed without it! ■

Variation on a theme

By adding a 45° saw kerf you have made yourself a small but effective mitre block. Simply make the stops as per the instructions above, but cut it at 45°. Then secure the two parts with two screws either side of the kerf.

Right: Creating a mitre box

Ask the Experts

This is your chance to challenge our Editors and for them to answer your comments and queries

ANTHONY BAILEY
Editor,
Woodworking Crafts magazine

MARK BAKER
Group Editor,
GMC woodworking magazines

GONE SCREWY

STAR QUESTION

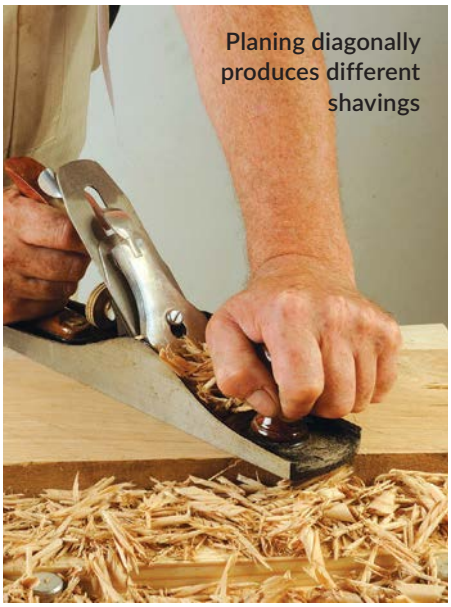
"My local DIY store has a good selection of screws, including twinfast types. Some have Pozi slots with the sort of start pattern, while other that look the same are referred to as 'stick-fit', and then they also have others with a Torx fitting and garden decking screws with square slots. Honestly, what is this all about? Can't manufacturers agree on just one type to make it easy? I don't even have driver tips for all these types anyway, so I just go for the Pozi screws."

Andrew Humm

There are many screw types and head patterns

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Anthony replies: This is a simple question to which the answer could be huge as it is a very big subject. I'll try to give a shortish answer. Bear in mind that the screw rather than just the head is what it's all about. Screws for chipboard need to be a different profile from those for solid wood or for plastic double glazing for instance. On top of the screw shank is the head which can be shaped to suit a specific purpose e.g. countersunk for wood, pan head for holding things to wood and metal and so on. This may determine the possible shape of the driving recess, also certain trades are used to using specific fittings. Add to that, that patents on types of screw recesses may give a sales advantage and that type might have just come 'into fashion' and you get a proliferation of recess types. Pozi's allow a slight degree of offset in driving angle where a Torx or square socket give none at all but are more positive. The 'stick-fit' you mention comes with its own driver bit in the box as do decking screws – so you have the exact driver bit for the task which makes all the difference. Incidentally, from memory, I think the very first wood screws were developed by the mediaeval Portuguese for making guns, as nails simply fell out of the wooden gunstocks when firing – as usual it's the military that 'drive' developments…



Planing diagonally produces different shavings

SCRUB THAT!

"I've watched US woodworking videos online where a 'scrub' plane has been used. Do I really need one and where can you buy them? I haven't seen any in the UK, but they seem an interesting tool to use."

Ron Empson

Anthony replies: Scrub planes are a peculiarly American thing. The sole purpose (excuse the pun) is to have a narrow bodied plane with a rather excessive degree of curvature on the blade so it can do roughing out work to start off the process of flatting surfaces. Personally, I can't see the charm; they are rather unlovely to use. If I wanted a scalloped surface an adze would be far better and if I am simply smoothing and levelling a sawn surface this tool will only mess it up! It suits our friends 'across the pond', but here in the UK a gentler approach is more acceptable. I will cover advanced planing technique in a future article but for flatting large areas a jack plane with a slightly 'cambered' blade used diagonally or across the grain will do a better and more pleasing job. After that, a smoothing plane working with the grain will then finish it off. Plenty of physical effort is required but the results are satisfying when you get it right.

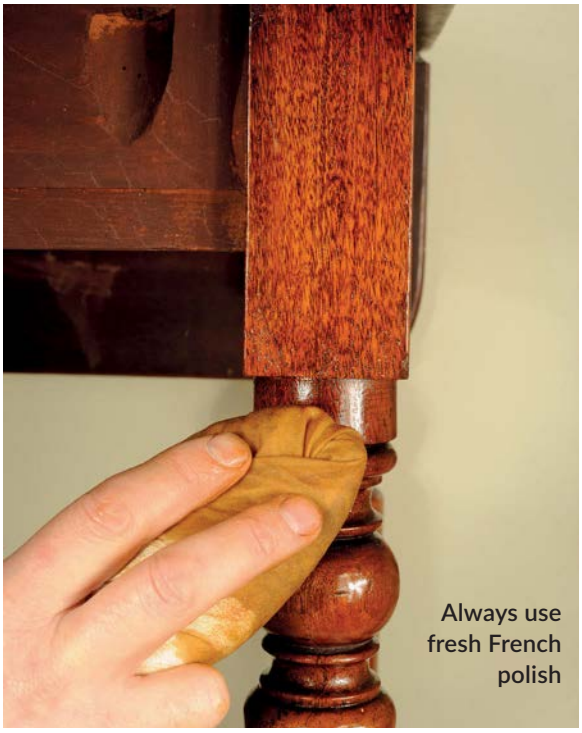
GET A GRIP

Reading articles in the mag about 'shabby chic' and paint effects, I'm not sure how much surface preparation is needed to get a good key on the surface. I cleaned a cupboard with a wax cleaner but it still seemed quite shiny. If I sand it are scratches going to show through? I'd like to do a proper job and get it right.

Rob Nash

Anthony replies: It very much depends on what the finish is; it could be lacquered, varnished, waxed, etc. Any of these can have a sheen or shine that cleaning off won't deal with on its own. Using abrasives is the only sure way to get a grip on the surface. Use a medium abrasive pad and if it clogs, swap to a new one. You need a good scratch pattern all over for the paint to stick properly. With all due respect to your painting technique, frankly the paint will be uneven enough and thick enough to cover the scratches. In any case the 'rubbed back' nature of 'shabby chic' means the surfaces will end up with an uneven finish.

Preparation is the key, but this product bonds to almost anything



Always use fresh French polish

STICKY FINISH

I haven't done French polishing for a while, I'm only an amateur and still learning, so I decided to repolish an old table top which was bare and cleaned off. I used a bottle of clear French polish that was several years old, but I didn't want to waste it. Unfortunately, even though I thought I was using the right figure-of-eight technique and not overloading the rubber, it has been a week and a half and the finish still feels quite sort of 'firm-sticky' as if it hasn't set properly. What do I do now please?

Bunny Robbins

Anthony replies: All finishes are likely to degrade with time and unfortunately French polish which is a heavily refined, naturally sourced product is very prone to denaturing over time. The best thing you can do is get a bottle of meths, wear a carbon filter mask and working outdoors in the open air, use medium wirewool and meths to scrub off all your hard work! Clean up with meths-soaked rags and leave them and the wirewool to dry out safely away from any sources of ignition. Leave the table overnight so the meths has evaporated completely. Now use fresh-bought French polish and everything should be alright this time.

STAR QUESTION PRIZE

The Tool Marketing Company, or TOMACO, as it is known, who sell a variety of tool brands, including COLT, Sharp Edge and Narex Tools, are pleased to be sponsoring the 'Ask the Experts' section in collaboration with GMC Publications.

Each issue's 'Star Question Prize' will receive a Narex six-piece chisel set worth £79.95 and all other published questions will receive a 20mm half-round fine cut Narex rasp worth £20.95. For more information see www.tomaco.co.uk

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If you have anything to say, write to: The Editor, *Woodworking Crafts*, 86 High Street, Lewes, East Sussex BN7 1XN.
Alternatively, email: anthonyb@thegmcgroup.com

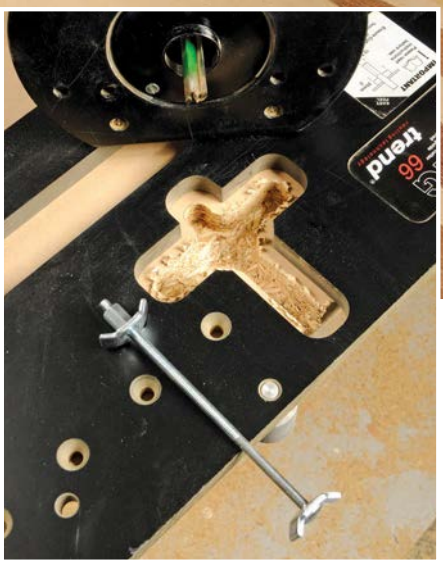
Trimming a backgammon board made using a tiny diameter cutter and small guide-bush to create the V-slots

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

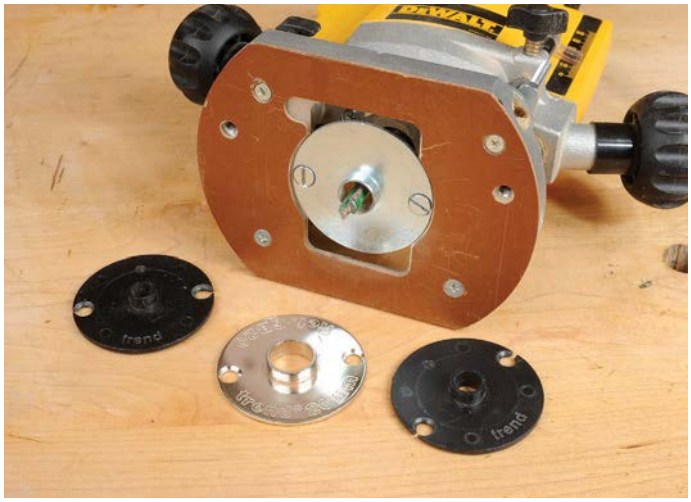
Using router jigs

The Editor explains the importance of jigs for routing, he should know – after all he has written a book all about it...

Routers only work safely and accurately because of 'control'. Vertical movement can be set easily, but horizontal movement needs some form of guidance. The standard straight fence has its limitations, but one really useful accessory that comes with a new router is a guide bush. This piece of pressed metal opens up a host of possibilities in terms of accurate guidance and creating specific shapes.



This kitchen worktop jig is used in conjunction with a straight cutter and special worktop bolts to lock the worktop sections together

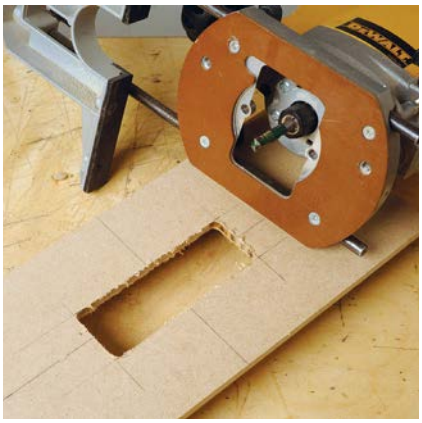


To get the best from jig making you need a router that will accept different size of guide bush. Cheap routers often only have one size, which is still useable but limits versatility

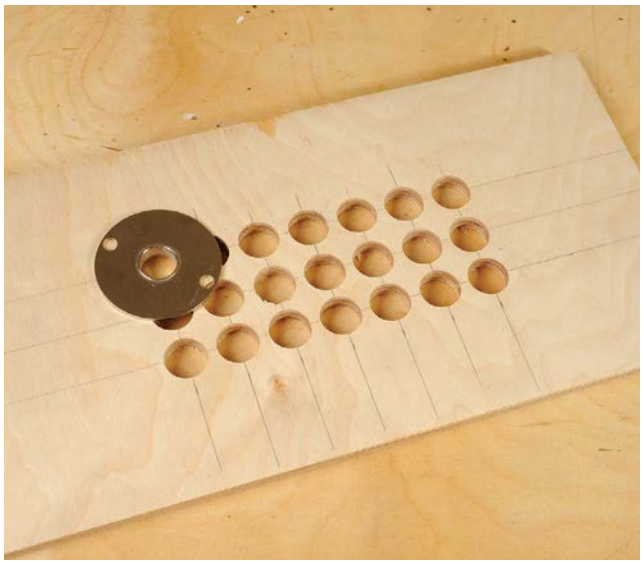
Ready-made jigs like this one for accurate circle cutting are very useful, but can cost money so be careful to choose the right one for the job

For machining housings or trimming boards a home-made T-square jig with a slot the same width as the guidebush will give easy and accurate machining

For certain jobs, such as creating a false panel effect, the jig can be a frame so the guidebush only runs against one edge



Mark out the intended shape in pencil on the jig material, then increase the amount to be removed to account for the difference between guidebush and cutter diameters. For example: 16mm diameter guidebush minus 9.5mm diameter cutter = 6.5mm, now divide by 2 = 3.25mm (but call it 3mm for convenience). Make the jig opening bigger all round by this final amount – 3mm



Some jigs are better made on a drill press such as this one for a solitaire board. Using a Forsner bit and a fence for guidance, all the jig holes are accurately aligned

This is the result, exactly positioned recesses for the marbles to sit in, made by using a guidebush and a corebox cutter

Here a small jig is being used to help create a much larger one, when the shapes join up the completed shape finally makes sense. Flat shaped jigs like this are often referred to as templates

...and the result, just let your project ideas take flight – just like Percy the pigeon! ■

Decorative rustic reindeer

Our grizzled, rosy cheeked old Editor gets festive with wood – oh dear...

My wife saw a rather splendid Rudolf made from logs and branches and an order was passed on to me to make one, then another one after that. Thankfully the build process doesn't take long with a few tools and some long screws.

PHOTOGRAPHS BY ANTHONY BAILEY

1 The first thing is to find some suitable logs and branches to use. The body and head are about 75mm in diameter while the legs, though much smaller diameter, need to support the weight of the animal. You need small diameter forked branches for the antlers.

2 Here you can see the final selection of pieces I will be using to build my reindeer, the body now cut to length. I used a sharp pruning saw for all the cuts in this project.

Silky

There are pruning saws and then there are superior saws like this, Silky Zubat, which comes in three different lengths 270, 330, 390mm, come in a plastic scabbard with a detachable belt loop. They cut on the pull stroke and are lethally sharp. They are my standard pruning saws, which I wouldn't do without.

Contact: Niwaki
Priced: £55–75
Web: www.niwaki.com

3 The head was made from the same log I used for the body, but this part needed an angled nose cut at the front end. Size is a matter of choice; you need to look at shape as it develops and have some spare pieces handy if you do need to remake anything.

4 Here are all the parts cut to length including the antlers in the background. Note how the legs aren't all exactly straight or equal in diameter. You just need to work with what nature provides.

5 To drill leg holes I used several sawtooth Forstners in a cordless drill. I chose the diameters so they would be slightly smaller than the branches that would fit in the holes.

6 Unfortunately, new green wood can be very wet and fibrous and not cut very well. Spade bits would perform similarly, but good old-fashioned spiral augers would clear waste much better.

7 The end of the leg is shaped slightly with a spokeshave and then thumped tightly into the hole.

8 One leg is screwed into place using a 100mm twinfast screw. After that you can decide the correct position for the adjacent hole.

9 Be careful not to clash holes with the first one you made and make them deep enough for the legs to plug into. The next leg is fitted, then the other two legs at similar angles. The neck and head joints are the same, but drilled at an angle.

10 Poor old Rudolf has to have his head drilled to take the antlers, which are too small a diameter to screw successfully, so they are just pushed into the holes. ■

Rudolf and Dasher awaiting Santa's Christmas Eve arrival

Sanding bow

Jason Townsend talks us through making a useful sanding bow

PHOTOGRAPHS BY JASON TOWNSEND

The completed sanding bow made from idigbo and reclaimed mahogany in use

Sanding is a job that no one really likes and yet everyone likes smooth and nicely-finished wood. This sanding bow helps with the sanding down of large curved surfaces and can be used with a variety of abrasives from coarse to fine. The length of the bow means that you can apply a lot of abrasion with each stroke. When you have finished sanding your item with one grade of abrasive, you can undo the screws and fit a finer grade of abrasive.

1 Using the templates, or some of your own devising, select some wood of appropriate size. I have used some idigbo (*Terminalia ivorensis*) timber that has been planed-all-round (PAR). This gives it a final thickness of 27mm (original 32mm). I didn't have a piece of PAR timber long enough for the back of the bow so I used a bandsaw to cut a reclaimed mahogany (*Khaya ivorensis*) table leg down to size. Once your timber is selected, glue the template to the wood using a glue stick or trace it onto the wood using carbon paper for example.

2 Using a scrollsaw, cut out the ends of the bow. At this point do not cut out the inset pieces that will be used to clamp the abrasive cloth in place. Ensure accuracy when sawing so your bow ends will fit neatly onto the bow back.

3 Mark up the inside face of the bow ends using a pencil and combination square. Mark diagonal lines in the rectangle that you have just marked out to find the centre point to drill a hole for the thumb screws.


1

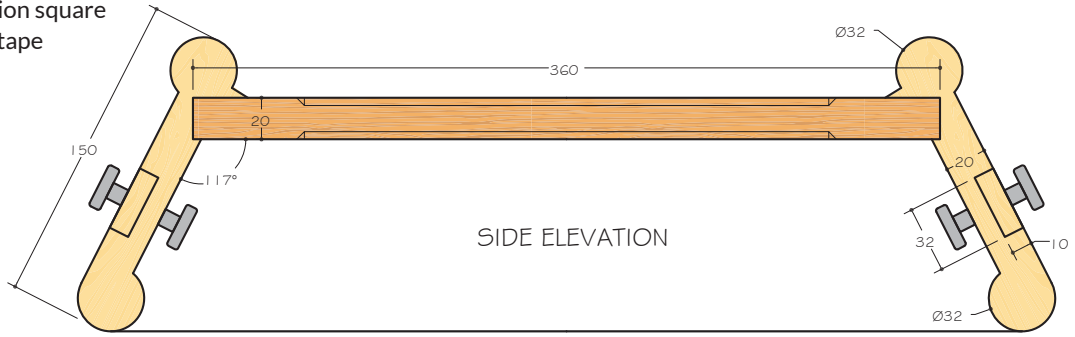

2

Tools

- Carpenter's yellow glue
- Abrasive
- Carving knife
- Danish oil (including a brush and rag)
- Drill press or cordless drill
- 7mm drill bit (suitable for wood)
- Pencil and combination square
- 50mm PVC packing tape

Materials

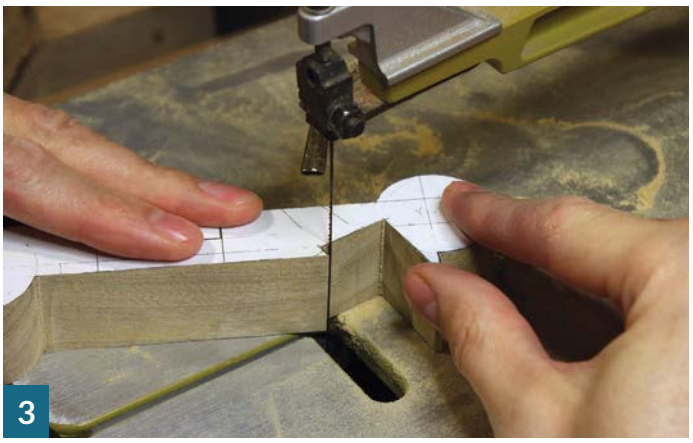
- Four Neoprene M6 washers
- Two M6 thumb screw (25mm)
- Two M6 thumb nut
- 25mm abrasive roll (in various grades)
- PAR timber (27mm)



4 Drill a hole using a 7mm drill bit in each of the two bow ends. Clamp the wood down onto a piece of waste wood to minimise the risk of breakout from the drill. The holes are being drilled at this point in order to ensure that they pair up perfectly as this avoids any later issues with the thumb screws not fitting properly.

5 Now that the holes have been cut for the thumb screws, use the scrollsaw to cut out the pieces of wood that will clamp the abrasive in place. Depending on your choice of scrollsaw blade, you will not be able to cut out a perfectly square piece of wood here. You can round the corners of the piece you are cutting out very slightly when sawing. You shouldn't need to allow for the thickness of the abrasive cloth because it shouldn't really be thicker than the kerf of your scrollsaw blade.

6 The three pieces of our bow now need to be glued together. I suggest using carpenter's (yellow) glue, but PVA is fine. The image in step 6 might look odd, but it is an alternate method to clamping awkwardly-shaped pieces of wood. For this method, I have applied glue to both pieces of wood and married them up to one another. I have then taken some PVC packing tape and stretched it over the joint. ➤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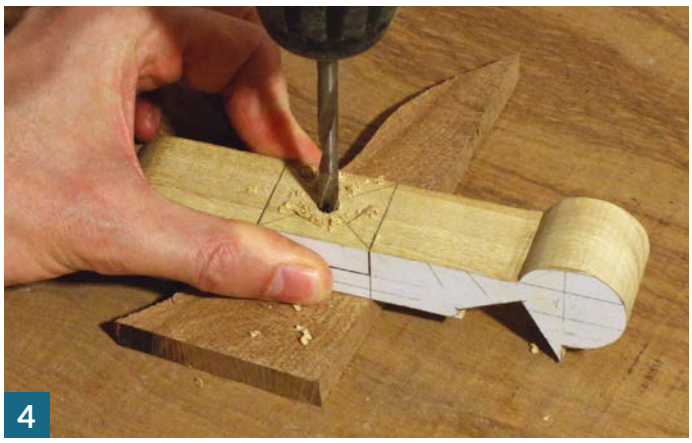
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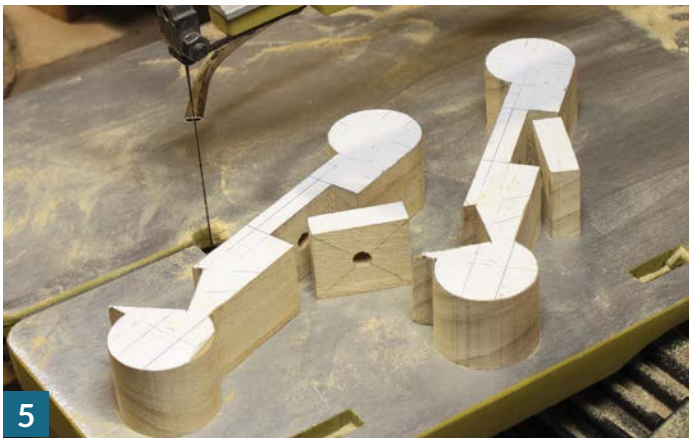
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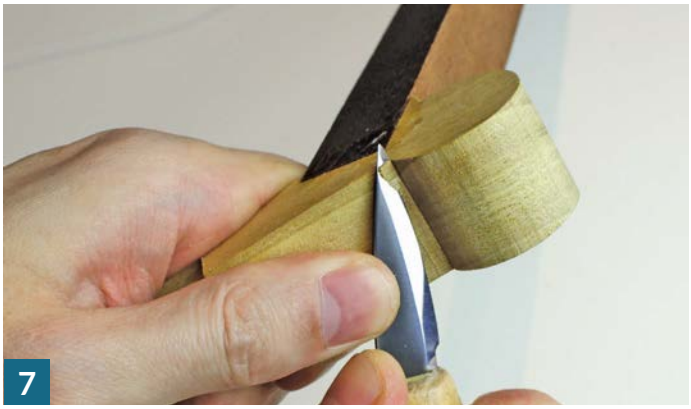
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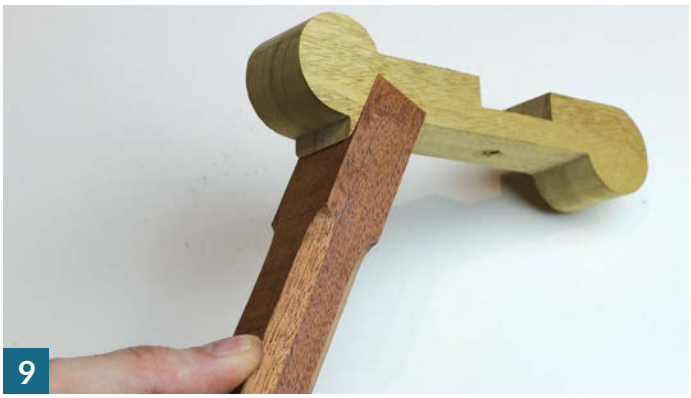
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12

Packing tape can be stretched which means that when it is stuck down, it has a lot of tension in it which will hold the joint tightly while the glue sets.

7 Having glued our three pieces of wood together, use a knife to tidy up any burr or inaccuracies that have been left by the scrollsawing.

8 To make the bow more comfortable to use, you can use a knife to cut the corners off the edges of the bow back. You could apply the same technique to the two 'handles' on top of the bow ends. This step is optional but if you are going to the trouble of making a tool, it's worth trying to make it ergonomic as well.

9 Your sanding bow by now may have lumps of glue around the joints and saw marks, which don't give it a very attractive finish. Smooth down the wood using abrasive paper. Here, I have used a silicon carbide abrasive in grits 120, 240 and 400 (each in turn). Cut or tear a sheet of abrasive into 12 smaller squares to make it more manageable and go further. Step 11 shows a piece of the abrasive paper gripped between thumb, forefinger and third and fourth finger. Gripping the paper like this allows rapid strokes with the abrasive and prevents the edges from catching.

10 Using a brush, apply Danish oil to your finished bow, leave it for 10 minutes and then remove excess oil with a cloth (preferably cotton and lint-free).

11 Cut a piece of abrasive cloth to length. Measure it by laying it on your bow; it needs to stretch just below the screw hole on one end to just below the screw hole on the other. You could use a cloth-backed abrasive or an abrasive mesh with this bow; the choice is yours as long as it is 25mm wide.

12 Assemble the bow by clamping the abrasive cloth at each end of the bow using a thumb screw and nut (with neoprene washers to protect the wood). These thumb screws and nuts are available in a range of metals including brass for a really attractive tool. Make sure that the abrasive cloth is tight on your bow otherwise it may not be of much use when you apply pressure to the bow when sanding. ■

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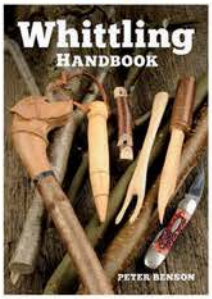

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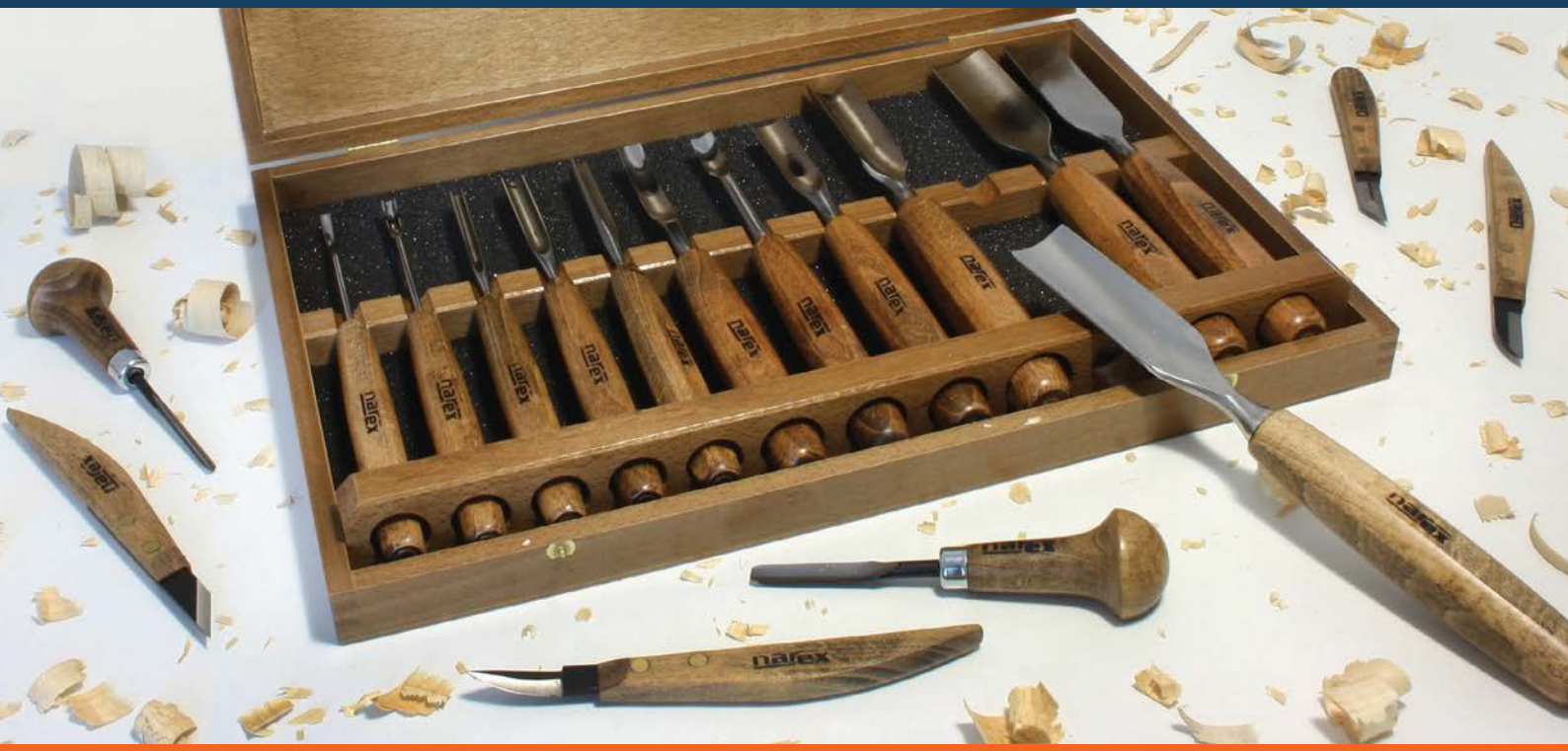

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Focus on… gondolas

PHOTOGRAPH BY GMC/ANTHONY BAILEY

PHOTOGRAPH BY PAOLO BRANDOLISIO

Shaping the fórcola

This month, we look at the famous boat whose name is inextricably linked with canals of Venice

Mention Venice and a number of things come to mind – St Mark's Square, Grand Canale and, of course, gondolas. There are many kinds of wooden-hulled boats, but the canals of Venice would seem incomplete without the presence the gondola. The origin of the name is unclear, but in the 1500s there were apparently only a handful in existence. This is because of the many other watercrafts, but swelled to between 8000 and 10,000 as Venice became a popular destination. Now numbers are down to the low hundreds and are now under the protection of the Institution for the Protection and Conservation of Gondolas and Gondoliers. Gondoliers are given extensive training and pass rigorous exams of their knowledge of Venice and its waterways.

A gondola has certain key designs and construction features, which all have a symbolism. The shaped metal prow is called the 'ferro' and acts as a counterweight for the gondolier at the rear of the vessel. The oar or 'rémo' sits in a sculptural feature called the 'fórcola' that allows the oar to rotate freely. The boat hull is made from eight different timbers: fir (*Abies* spp.), oak (*Quercus* spp.), cherry (*Prunus avium*), walnut (*Juglans* spp.), elm (*Ulmas procera*), mahogany (*Khaya* spp.), larch (*Larix decidua*) and lime (*Tilia vulgaris*).

Construction of a typical highly embellished shiny black gondola will take a year and be very costly to build. For the latter reason there are very few in private ownership, which tend to be used for weddings and other events. Early Venice itself was built on a lagoon, the water allowing free and easy movement of commercial traffic and silk, grain and spice. The buildings are largely piled on alder (*Alnus* spp.) known for its resistance to decay.
For more information visit:
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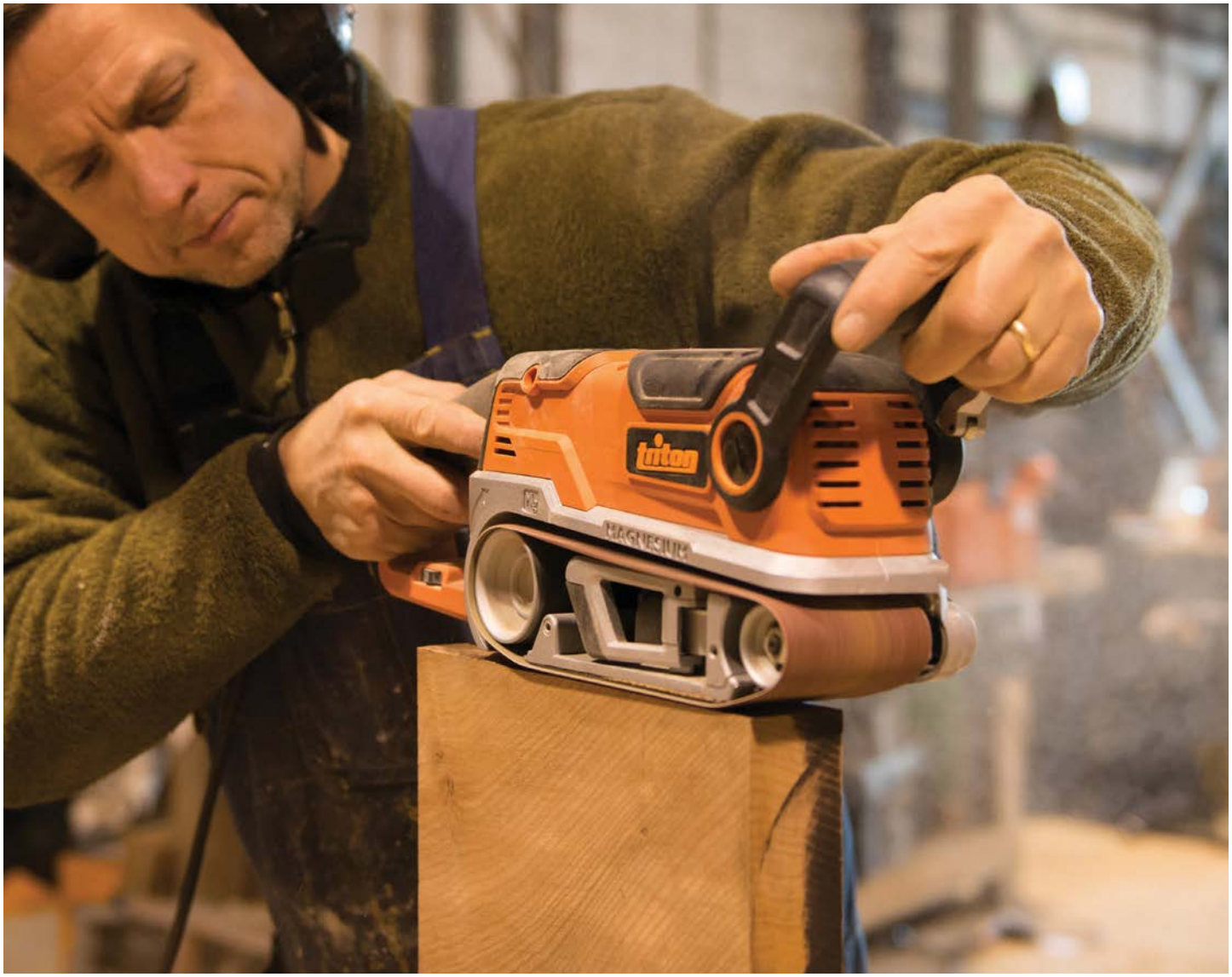

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