Woodworking CRAFTS

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

Making a welsh stick chair

ON TEST
Triton Superjaws
Mirka DEOS sander

FEATURE
JoJo Wood, inspirational woodcarver

TECHNIQUES
Drop leaf table – A past revealed
Lacquer panel restoration

PROJECTS
Magazine rack
Scrollsawn trivets
Make a marking gauge

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WORLD-CLASS BRANDS

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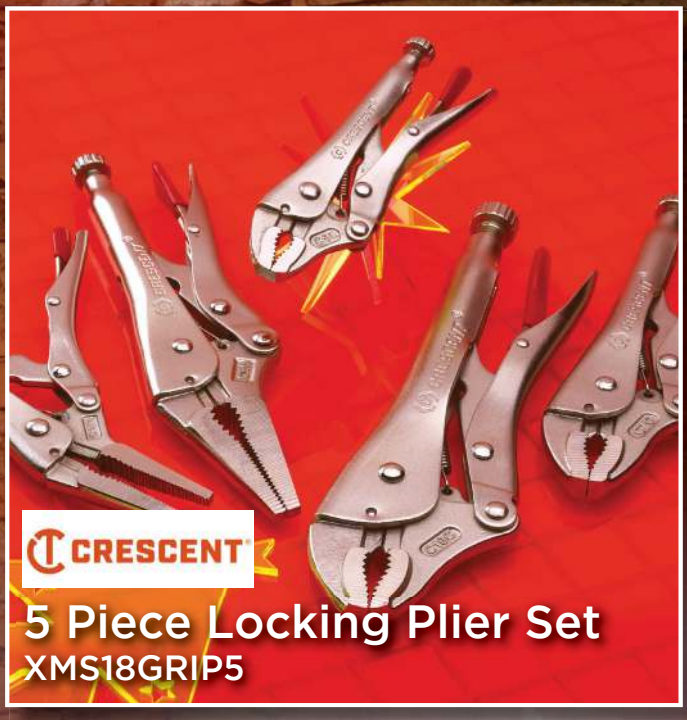
XMS18MTCORDL

8 Piece Splitproof Chisel Set
XMS18S373S8

18V Combi Drill
XMS18CD18V



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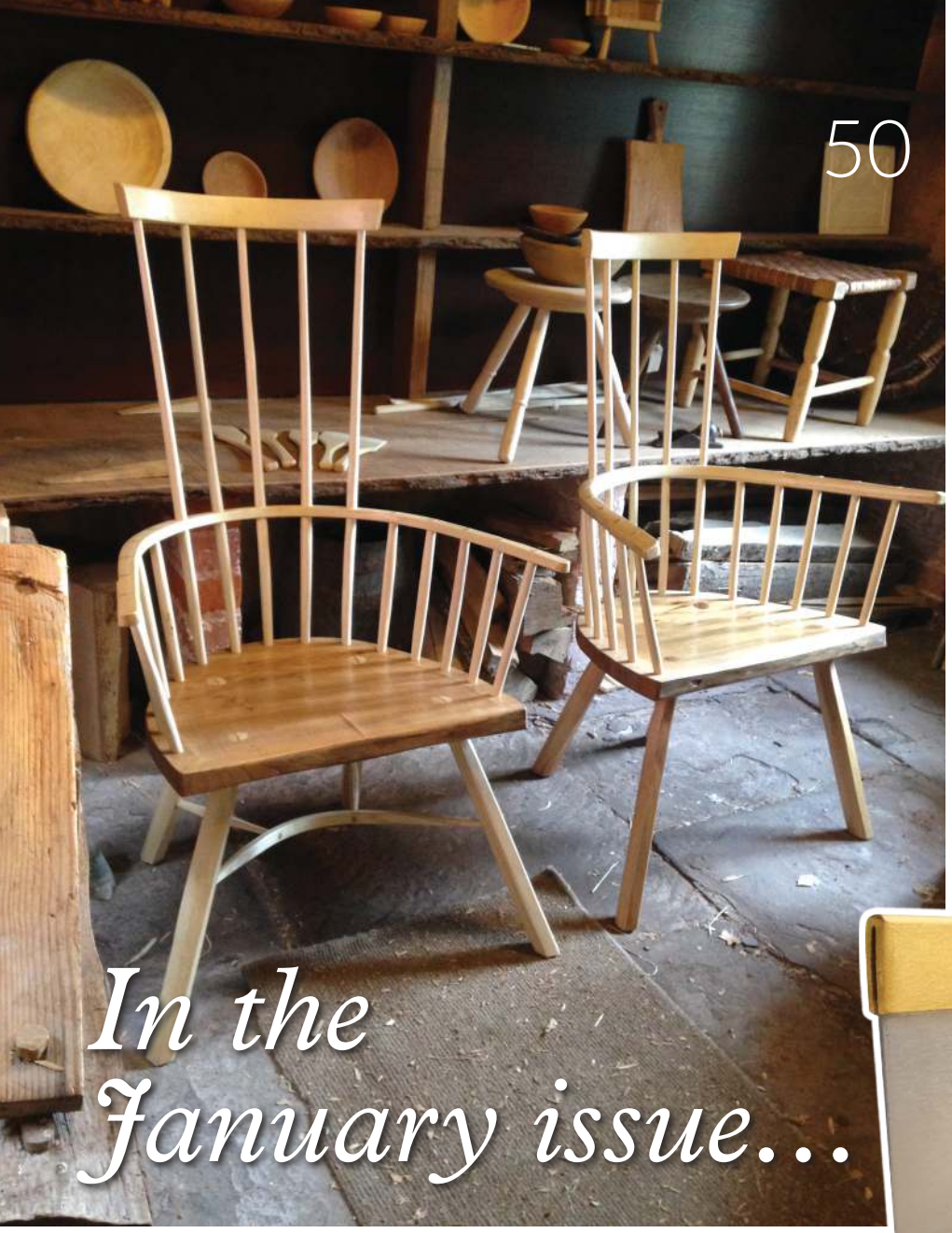

In the January issue...

COMMUNITY

TECHNIQUES

KIT & TOOLS

PROJECTS

Woodwork on the web

To find more great projects, tests and techniques like these, visit our fantastic website at:
www.woodworkersinstitute.com

Hello everyone and welcome to the January issue of Woodworking Crafts

Tempus fugit

When I was a lad everyone read comics – mine were *Beano* and the slightly posher *Eagle*. I remember the astronaut Dan Dare, whose spacecraft was round, like my mum's Hoover Constellation vacuum cleaner, which floated across the floor on a bed of air like a hovercraft. Anyway, the spacecraft was called *Tempus Fugit* – Latin meaning 'time flies'. So after a brief trip back to my childhood, fast forward to 2019. Even the space between 2018 and the New Year seems to have been and gone in a flash. New Year's resolutions? I've never done those – easy to make, impossible to keep, why struggle with my conscience? What I will keep doing for my own benefit, and yours too I hope, is to keep on designing, making, restoring and generally bumbling around the countryside recording everything as I go.

Why not give this a go?

You may not bother with making resolutions just like me, but it is often a good time at the beginning of a new year to do something different, break existing habits and try new things. It's very easy to find yourself in a post-Christmas rut and January-February can be quite 'down' months, especially if there is no snow to liven things up. Have you considered volunteering? There is a lot to be gained from helping other people, being involved as part of a team and producing a good result. It is a satisfying end in itself and 'kicks away the blues'. It helped me some years ago and now I wouldn't want it any other way. There are so many different volunteering opportunities around your local community and often they are related to the countryside, such as the National Trust, Canal & River Trust, RSPB, the list goes on and on. Google 'volunteering' and see what comes up. Fresh air, exercise and saving the environment can do us all a power of good. I've added a volunteering web address, but you can find many more to keep you busy.

Do It For Good – https://do-it.org

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com

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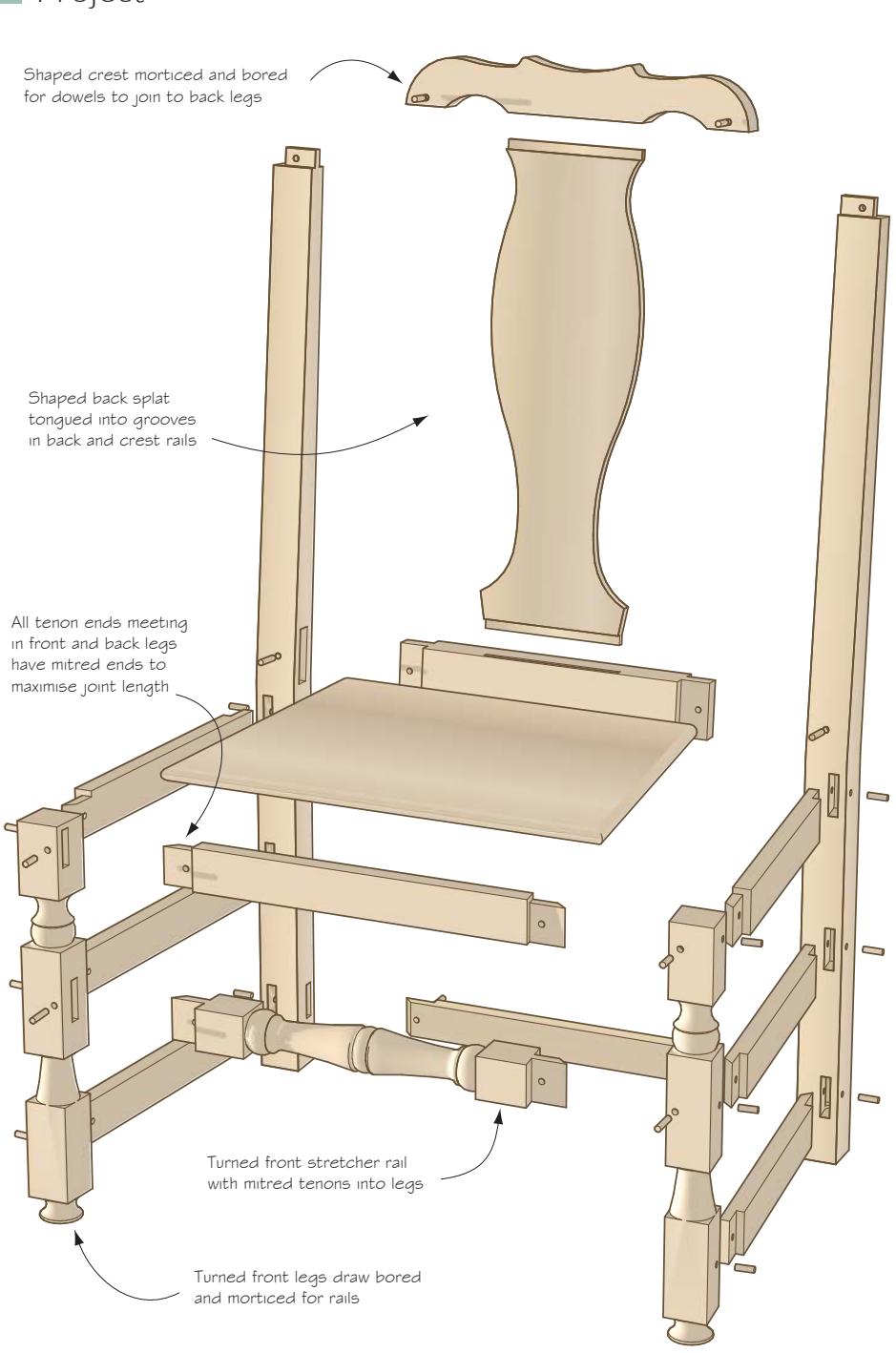
Replicating an antique oak chair

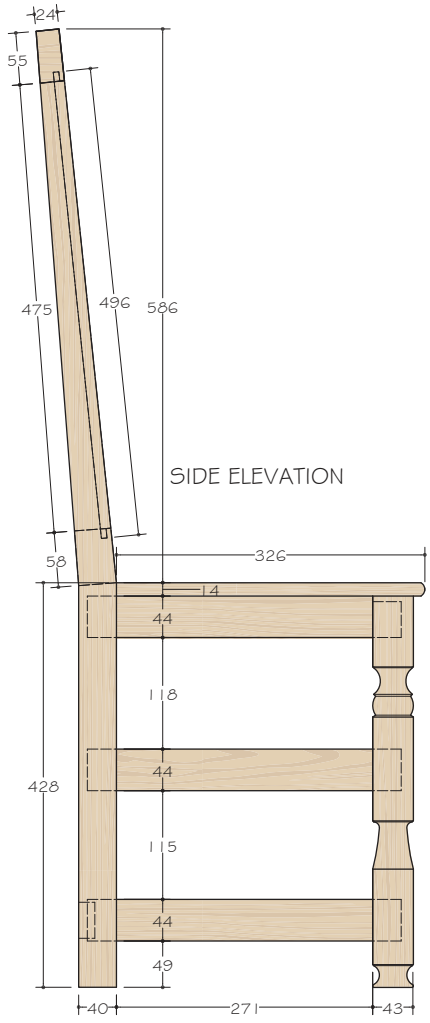
Chairs are the most complex type of project and making a perfect copy is even more challenging, as **Louise Biggs** shows us

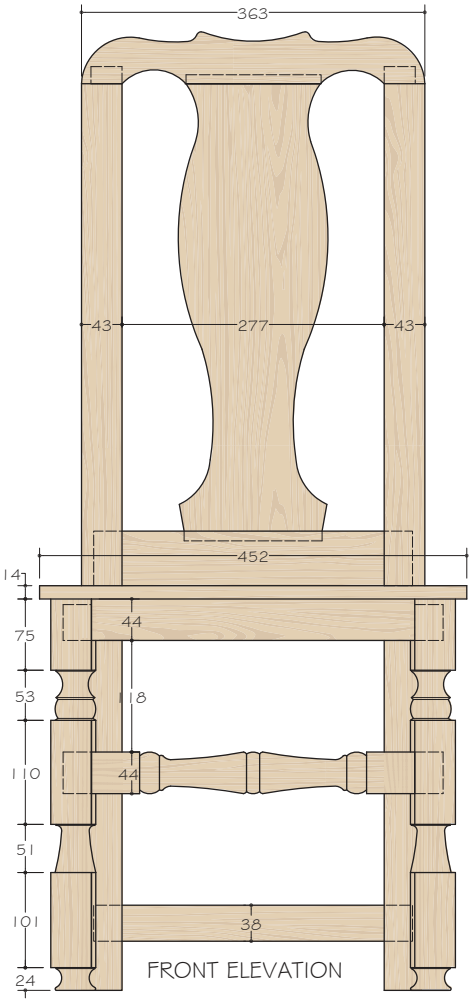
My customers had searched high and low in antique shops and centres for another chair to form a complete set of six. They unfortunately could not find one so approached me to replicate one of the chairs. There are a lot of stages involved to get the replica correct and there is not room in one article to cover every step in depth, so where the stages are repeated I will just say to repeat for the relative stage involved. All timbers were rough cut and left for several weeks to allow for any other movements before the chair was made. ➤

The original oak chair

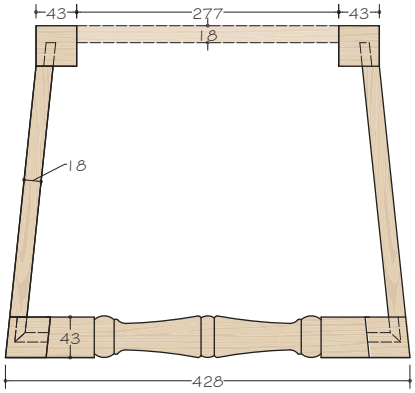
PHOTOGRAPHS BY LOUISE BIGGS



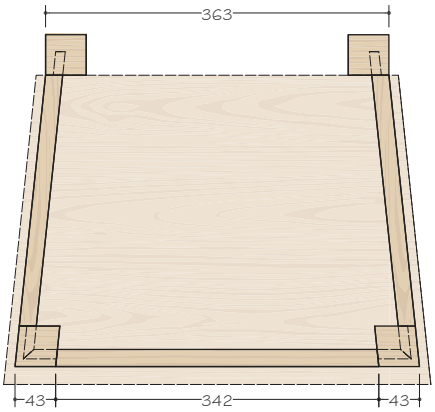




SEAT PLAN / SECTION
MIDDLE RAIL



SEAT PLAN / SECTION
TOP RAIL



Measuring and making templates

1 Each straight seat and stretcher was measured with callipers and rules and a cutting list formed. Templates were made in card for the top rail and back splat and joints marked. A piece of card was held in line with the joints and clamped to the top rail, which was then drawn around. The back splat was treated in the same way.


1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2 The templates for both back legs were done in the same way, with the card being lined up along the joint to the side seat rail. By clamping top and bottom both hands were left free to mark around the leg and the positions of the seat rails and stretcher rails.


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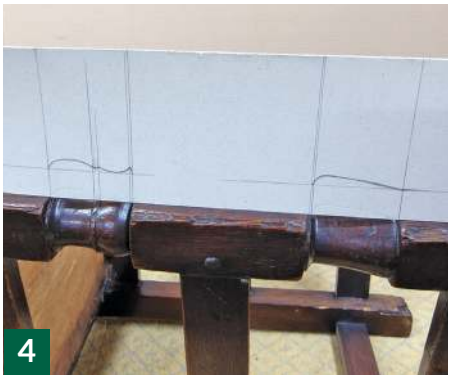
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3 Templates for the turned front legs and stretcher rails were formed using a profile gauge. Card was initially marked for the length and joint angles and the points of the square sections. The gauge was then pushed against the existing turning so the needles follow the shape.


5


6

4 The shape on the profile gauge was then carefully drawn round to transfer the shape to the card. Once transferred the pencil lines can be drawn over freehand to get a stronger pencil line. Only half of the stretcher and legs need to be drawn out. Key diameters can then be measured with callipers and marked on the templates ready for the turning stages.

5 Using a utility knife and carving tools where required, the turning templates were cut along the profile and the outer half will then act as a full-length profile to check the shape of the turnings while on the lathe.

Front legs and stretcher turnings

6 The timber was prepared to size for the turnings, the stretcher was turned from a square section, and the legs were angled on both side faces. A sliding bevel was set to the correct angle and the blade on the table saw tilted over. Each leg was passed through the saw on the outer side before the fence was reset to cut them both to size and create the second angle. All faces were then planed to remove the saw marks prior to turning.


7


8

7 Before starting, if you do not have the equipment to turn, a local production turner can turn the sections. The stretcher rail was turned first with the timber set up on the lathe between a Steb centre and a ring centre. The joint lines had been squared around the timber. Marking off the template, the first stage was to cut the pommel, the square cut that framed each end of the turning. The long point of a skew chisel was used with the bevel in line with the pommel line and carefully the skew was pushed in to make the initial cut.

8 The skew chisel was then laid over to one side, keeping the bevel in line with the cut depending from which side you are cutting. A chamfered cut was made into the first cut. This was repeated until the cut cleared the flat sections into a full round. The cuts were made carefully in order to obtain a clean cut while not destroying the corners of the pommels. ➤

9 The section between the two pommels was turned to a cylinder using a spindle roughing gouge, then a skew chisel was used to make the V-cuts, which were either side of the centre bead. A V-cut was also used to define the inner side of the end beads before a parting tool was used to cut the fillet that sat next to the beads.

10 Before shaping the beads a parting tool was used to turn down to size the narrow end of the long curve. Once these depth points had been set the beads and other shapes were turned using a spindle gouge. Working downhill with the grain, the two cuts are blended together at the lowest points.

11 The beads were formed using a skew chisel with the bevel rubbing, rolling the long point from the centreline down to the lowest point. This was repeated on each side of the bead until the desired shape was achieved.

12 At stages the turning was checked against the template and in the final stages the profile gauge was used, moving from the original turning to the new turning to double-check the shapes.

13 The legs were mounted on the lathe and the pommels cut in the same way as the stretcher rail, but three sets of pommels were cut on each leg to frame each shape. As with the stretcher rail, V-grooves and fillets framed the shapes and in each section the timber was reduced to the correct diameter using the spindle roughing gouge or a spindle gouge.

14 Each leg's turned foot had a small fillet next to the pommel and a cove which ran into a bead. The cove was cut using a spindle gouge and, with the bevel running, the cut was made from the outer shoulder and rolled down into the cove. Cut from each side with the grain the shape was blended together at the bottom of the cove. The small bead was a judgement call as the original two legs have quite a lot of damage to the bottom of them, destroying the feature.

15 The tapered middle section had a fillet under the pommel and then a half cove which ran into a slightly concave tapered section.


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The fillet and half cove were cut as before. The taper finishes right on the edge of the pommel, so turning in with the skew chisel only just cut through the straight edges. A spindle gouge was used to cut the taper with the bevel rubbing to blend at the end with the half cove.

16 Repeating the stages the beads, coves and fillets to form the top turning on the legs were turned. The stretcher rail and front legs were abraded through the grits. Left long on the top until after the joints were cut and the chair glued up to prevent the mortise and tenon splitting out, the bottom ends of the legs were cut on a saw so they were both the same length.


16

Constructing the chair

17 Templates of the back legs were marked on to the timber, which had been prepared to thickness. They were cut on the bandsaw, leaving the pencil line, using a wider blade to keep the cuts straighter. The first cut along the edge line of one leg split the board in two before cutting the other three edges of the legs.


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18 To plane the leg section straight a jack plane was used as it has a long sole. This aided in keeping the timber straight until the saw marks were removed and the timber was to the size of the templates. The front faces were worked first, making sure to keep the face square to the sides.

19 The back faces of the legs were first planed from either end as much as possible before the centre section was worked with a flat-bottom spokeshave, working with the grain and blending the cuts at the point where the leg angles changed until the leg shapes matched the templates.


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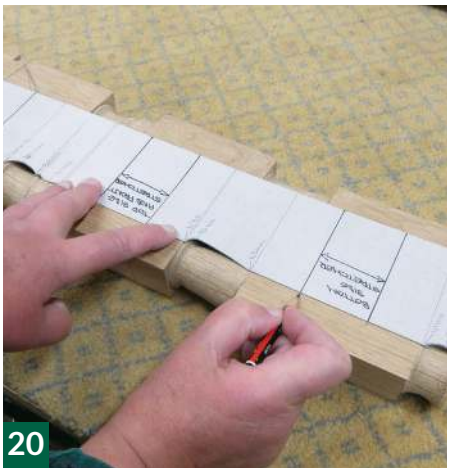
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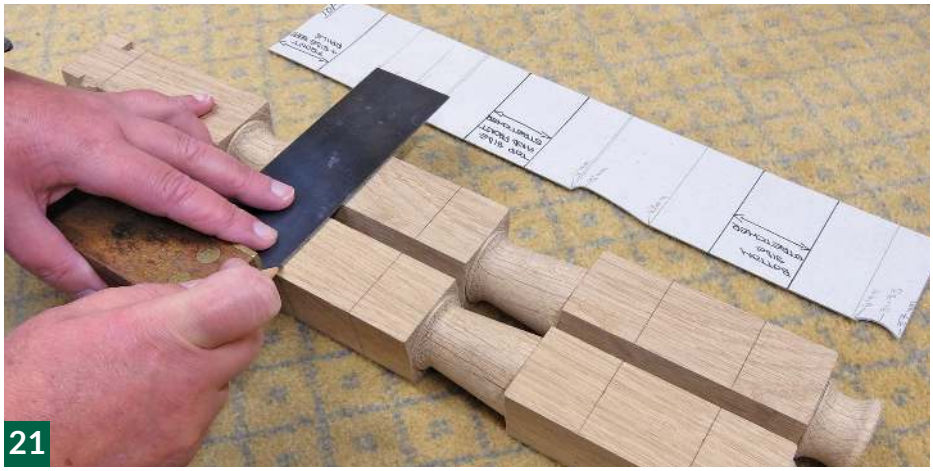
20 Working from the templates the positions of the seat and stretcher rails were marked on to one front and one back leg and a square used to mark across each leg. Where the seat rails meet the front legs stub tenons were used to keep the joint down from the top end of the leg.

21 With one of each leg marked, the other legs were lined up accurately so that the rail positions could be transferred to the other leg, ensuring the positions were the same for both legs. ➤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22 The mortises were all cut on a mortiser. The front rails went into the legs square with the leg face. For the side rails the legs had to be held at an angle in the mortiser. Although the faces of the legs were held between the fence and the clamp, forming the angle required, the offcuts from cutting the angles on the legs were used to pack out above and below to hold the legs firmly while the mortises were cut.

22

23 The back leg was held in a similar way, but to gain the angle for the side rails a long wedge was used underneath as well as either side. Extra packing was also used underneath the bottom wedge to allow the shape of the leg to clear the table.


23

24 A test piece was used to set up the router for cutting the tenons on the back rails and adjusted for a good fit. These were square-cut tenons and the shoulder line was scored with a marking knife to prevent breakout.


24

25 With the rails fitted in the back frame it was clamped up dry and checked that it was square. The joint line at the top of the leg was marked on the outer edge of each leg and a straightedge used to mark the joint across the face of both legs. An allowance was made above this line for the tenon, which would go into the top rail.


25

26 The top rail template was marked on to the prepared timber and the positions of the mortises marked, allowing for the shape of the rail when working out the depth of the mortise.


26

27 Before cutting the shape of the top rail the mortises for the leg joints were cut. The rail also required a groove into which the back splat would be joined. A test piece was again used to set the router cutter up in the right position. With the shoulder lines marked on the top, lines marking the position of the cutter were transferred up the fence to act as stop lines for cutting the groove.


27

28 The same procedure was applied to the back rail for the bottom end of the back splat. Before cutting the back splat to shape a rebate was cut on the bottom end to correspond to the grooves in the back


28

rail. They could then be aligned and the shoulders cut using a dovetail saw and trimmed with a chisel.

29 Having dry clamped the back frame the back splat was fitted into place so the length of it could be established in relation to the shoulder line of the joint at the top of the legs.

30 Shapes of the top rail and back splat were cut out on the bandsaw. A sliding bevel was set to the angle on the edge of the existing back splat and a spokeshave used to clean up the shaped edge and cut the angle.

31 The top edge of the top rail was cleaned up with a spokeshave. The curves on the bottom edges were cleaned up using a rasp and abrasives wrapped round the rasp. The lead edges against the joints' shoulder line were left a little oversize so they could be finished after the back frame was glued up to line up with the legs.

32 The back frame was then glued and clamped. The waste material cut from the top corners of the top rail had been retained to act as shaped blocks for the cramps to prevent any damage.

33 Using a sliding bevel the angle required for the front rail and stretcher were again taken from the original chair. The lengths of the rails were established and the lines scored with a marking knife to prevent breakout.

34 The tenons were cut out in steps to remove as much of the waste as possible while allowing for the angled shoulder line. They were then cut back to the shoulder lines with a chisel before the front frame was glued and clamped.

35 To set up the template to cut the side rails I cut a piece of card and, having set the angles on a sliding bevel, I then cut ends of the card until it sat between the legs. This was then checked for its length for each side rail. ➤


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36 Pieces of card the width of the mortise were inserted into the mortise and the rail template held in place and the two were glued together. This stage was carried out for each end of the template.

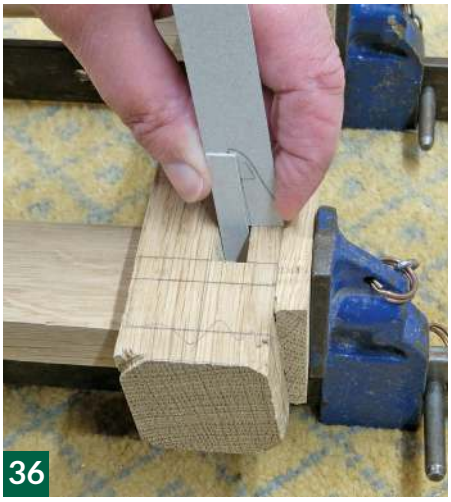
37 The tenons on the side rails and stretchers were cut and trimmed in the same way as the front ones and the chair frame clamped together dry to make sure everything pulled together correctly. Once correct the chair frame was glued and clamped.

38 When dry the shaping of the top rail was completed using both flat and round-bottom spokeshaves. The rail was blended into the leg and the top of the rail shaped to match the existing one.

39 The top ends of the front legs were cut flush to the rails and the whole chair frame was abraded down to 240 grit. The holes were drilled for the pegs through the tenons and oak pegs made by knocking square sections through a homemade dowel plate. The dowels were cut slightly proud of the rail surfaces and the edges flattened off.

40 A template was made of the existing seat and this was transferred to the timber prepared from two sections joined together. The outer shape was cut on the bandsaw and planed square and straight using a jack plane. The edges were then rounded over, as were the front corners.

41 With the chair completed it was stained with a mix of oil stain colours to match the colour of the original and worn areas were wiped back with the oil stain thinners. The chair was then sealed and French polished before being wired and waxed. ■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Tool list

- Tablesaw
- Planer/thicknesser
- Bandsaw
- Mortiser
- Router table and router
- Straight router cutter – various sizes
- Profile gauges
- Utility knife
- Squares – various sizes
- Chisels – various sizes
- Rubber mallet
- Hammer
- Sliding bevel
- Jack plane
- Smoothing plane
- Flat and round-bottom spokeshaves
- Straightedge
- Dowel plate
- Sash cramps
- Tenon, dovetail/gents saw
- Mortise gauge
- Flush-cut saw

For the turning

- Steb drive centre and ring centre
- Skew chisel
- Spindle roughing gouge
- Spindle gouge
- Parting tool
- Callipers

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 & Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers in London before starting her own business designing and making bespoke furniture and restoring furniture.
Web: www.anthemion-furniture.co.uk

Gareth Irwin

Gareth Irwin is a hand tool-only woodworker from Mid-Wales who uses both green and seasoned timber to make everything from Welsh stick chairs to pole lathe-turned bowls to spoons.
Instagram: @Welshwoodturner

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.

Paul Bignell

Paul teaches woodcarving classes at Bognor Regis Community College. He has been involved with crafting wood for more than 12 years and owes his style of instruction to his former teacher, George Karon.

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, Adam fireplaces, book cases and reproduction furniture.
Web: www.sawdustandwoodchips.com

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 working as a freelance designer and maker based in Sheffield.
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Simon Rodway

Simon has been an illustrator for our magazine since 'the dawn of time' itself, drawing on his experience in the field of architecture. He 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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16/1010*	3 HP	14.5	100ltr	£259.98	£311.98

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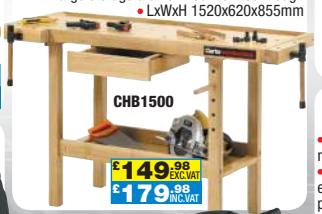

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CMS10S2	254/30	78/340	£139.98	£167.98

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CDP152B	450 / 12	£149.98	£179.98
CDP202B	450 / 16	£189.00	£226.80
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DEVIL 7003	230V	3	£59.98	£71.98
DEVIL 6005	400V	2.5-5	£69.98	£83.98
DEVIL 7005	400V	5	£84.99	£101.99
DEVIL 6009	400V	4.5-9	£109.00	£130.80
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XR80	20.5kW	£239.00	£286.80
XR110	29.3kW	£289.00	£346.80
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Clarke CONTRACTOR Clarke JIGSAWS

BEST SELLER

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CJS380*	420W	55/6mm	£15.99	£19.19
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CSS400C	90W	550-1600	£114.99	£137.99

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CDTJ12

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MODELS ALSO FEATURE:

MULTI-STEP DUST EXTRACTION OUTLET

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REMOVABLE DUST TRAY

BLADE TENSIONING CONTROL

* was £478.80 inc.VAT # was £597.60 inc.VAT

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
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CBS300*	305mm/12"	165mm	115mm	£379.00	£454.80
CBS350#	340mm/14"	225mm	160mm	£479.00	£574.80

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NEW

*DIY

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
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CR1C*	1200	0-50	£46.99	£56.39
Bosch POF1400ACE	1400	0-55	£89.98	£107.98
CR2	2100	0-60	£119.98	£143.98

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Making marking gauges

You can gauge the success of your work by the marking tools you use. By Michael T Collins

Let's face it – marking gauges are not flashy, cost very little and, after the piece of furniture is produced, there is little evidence or much thought given to what part the marking tools played in its production.

But in my opinion, one of the most important tools used by woodworkers, and the one that I reach for in most of my projects, is the humble marking gauge.

Gauges come in all types, cost, shapes and sizes: the cutting gauge, mortise gauge, panel gauge and marking gauge. But, regardless of the type, they are an essential tool in the hand of a woodworker. In my experience, after the initial dimensioning, little of my work is actually measured. Instead, I gauge dimensions and joinery more often than not off the work itself. A marking gauge precisely locates the baseline of dovetails, the location of a mortise. And, as we have seen in previous articles (issue 42 pg.49) a gauge will ensure that multiple boards can be planed to the same thickness.

1 Over the years I have accumulated several gauges, but perhaps my most used is the one I bought from Colonial Williamsburg in West Virginia.

1

PHOTOGRAPHS BY MICHAEL T COLLINS

I often think about the skilled hands the gauge has passed through and whether the tool has been imbued with those historic skills and what amazing items it helped make. Hoping that some of that skill will transfer to me.

In this article, I will show you how to make two simple gauges, a cutting gauge and a marking gauge, followed by a short tutorial on their use.

Wood selection

Any hardwood will work and this project lends itself to using scraps. For my gauges, I'll be using a few scraps of walnut and maple from a recent project.

The dimensions of the gauges are not fixed and are a personal choice, but make the body of the guide so that it feels comfortable in your hand.

2

2 Having selected the wood, plane the faces. Then mark the face and edge side.

3 It is traditional for woodworkers to set dimensions based on the sizes of chisels that they own. To this end, I laid out the handle mortise with a 19mm chisel and then deeply marked the boundary with a marking knife. Do this on both sides, measuring from the face edge.

4 Create a through mortise by chopping out the waste from both sides, in exactly the same way that you would any other mortise – start about 1mm from one end with the bevel facing the direction of travel, chop and advance the chisel, stop about 1mm from the end and about-face and work back, clearing out the waste as you go.

Turn the wood over and repeat the chopping process.

An alternative method is to drill out the bulk of the waste and then clean up the hole with a chisel – the choice is yours.

5 As the mortise is going to have a handle pass through it is important to make sure that the inside faces of the mortise are perfectly smooth and parallel. It's OK to have slightly undercut mortise walls, which would allow only the outer edges to touch the handle.

6 Plane a piece of 300mm wood, which will form the handle, so that it fits the width of the mortise.

7 Next, rip the piece of wood so that it is about 22mm x 19mm.

8 Traditionally the underside of the handle has a slightly curved profile. This allows the gauge to be rotated and drawn across the wood surface. To create this curve I used a washer and then….

9 ...simply marked the length of the mortise on both sides of the handle and carry those lines down the length of the handle. By planing down to these lines a gentle curve is created. Alternatively, if you have a half-round moulding plane use that.

10 Check the fit, if necessary, plane or sand to size. The handle should move – with a little resistance – its full length through the fence's mortise. ➤


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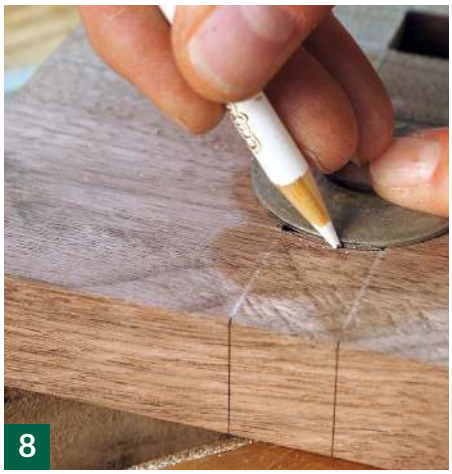
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9


10

11 I am making two gauges and no matter how accurate I am they are going to be a unique fit, so I marked the respective mating parts.

The cutting gauge locking mechanism

The next step is to make the locking mechanism. There are any number of ways to lock the gauge fence in place, from a simple screw driven through the body into the handle, to the more elaborate cam lever. But for the cutting gauge let's look at a traditional wedge lock.

12 First, decide the location of the wedge. The underside of the fence is not an option as it would interfere with the fence and the workpiece. My personal preference is to locate the wedge on the top. If I made a general purpose cutting gauge, the side facing away would be the better option as it would allow marks to be made right up to the fence. With the wedge on top, the closest setting will be about 12mm, which is plenty for most joinery.

For the wedge, I have found an 8°-10° slope offers the best combination of holding power and ease of unlocking. Any steeper and the wedge will slide in use and any shallower and it will be too hard to release. Mark out the slope using a 6mm chisel.

Because of my chosen location, I am chopping with the chisel parallel to grain, so to prevent 'blowout' I used a narrow saw blade to cut the slope angle across the fibres.

13 Then pare the waste away.

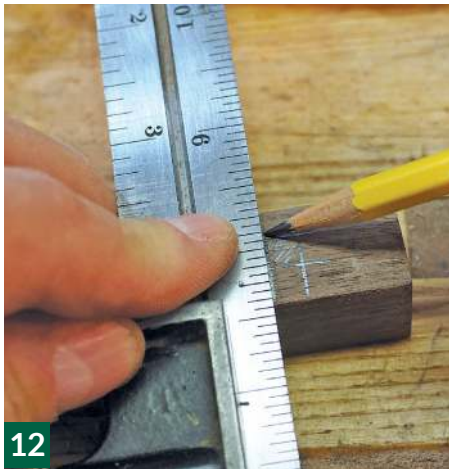
14 Next, using a bevel gauge, measure the slope angle, and…

15 …transfer this to the wedge stock – don't worry about the height of the wedge at this point, this will be adjusted later. At this stage, you can embellish the wedge. In the image I used a washer to create a stop.

16 Mark the depth of the wedge when it is in the slope in the unlocked position. Draw a line and plane to this depth.

17 For small fiddly pieces, I find that clamping a block plane in the vice is the easiest way to work, just be careful of that blade.

11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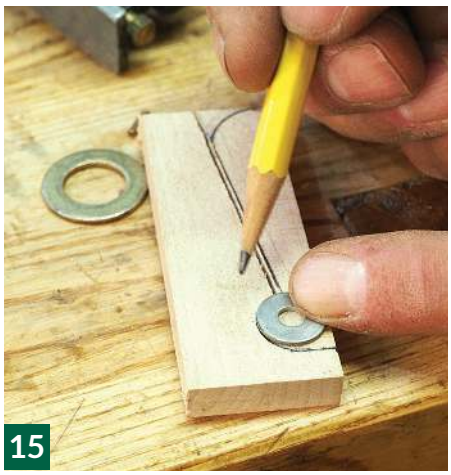
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17

Test-fit the wedge. Once it seats correctly and the long edge is parallel and flush with the mortise, insert the handle and test the locking ability – it should hold snugly when locked, but not so tight that it is hard to unlock. If the fit is too tight lightly sand the sides of the handle.

From the images, you can see that I gave the fence a more stylish design by sawing off the top corners.

The cutter

Traditionally woodworkers would have made the blade with whatever they had to hand. I have a bucket of scrap metal, saw blades, brackets etc. (Yes, I know I'm a woodworker but these things just happen…)


18

18 Saw steel is the ideal metal for all sorts of woodworking tools, from scrapers to marking blades. The first thing to do is to cut a length of hacksaw blade. Hacksaw blades are case hardened and therefore almost impossible to cut – but heating the blade (annealing it) for a few minutes will make it quite malleable and easier to cut.

The heating process changes the molecular structure of the metal, allowing you to shape the piece of metal. Cut the piece so that it is approximately 6mm x 40mm, then file a double edge on one end.


19

19 Next, using a file, refine the edge of the blade to a knifepoint.


20

20 With a series of grits and a figure-of-eight motion hone the edge.


21

21 Without delving deep into the properties of metallurgy, the metal needs to be reheated to temper it so that it reverts back to its pre-annealed state of hardness.

Heat the blade slowly and then allow it to cool. When you see the surface of the metal start to change to a dark straw colour – about 230°C – quench the blade in water.

Many years ago, while at secondary school, I did metalwork and Mr Parfitt, my metalwork teacher, would always yell "Collins, wait 'till you see the straw colour!"

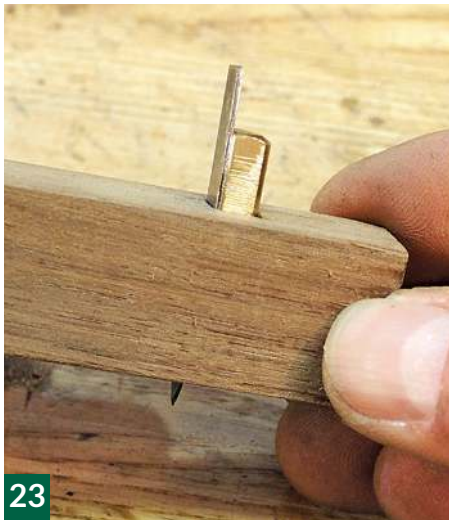
Clean off any oxidization and give it a couple of swipes across a honing stone.

You now have a very small knife blade.


22

Creating the mortise for the cutter

22 The mortise is 6mm square on the topside and 3mm x 6mm on the underside – this allows for a wedge to hold the blade in place. Chop the mortise but make sure that the sloping wall is the one farthest from the fence. This will make sure that the cutter is forced vertically towards the fence.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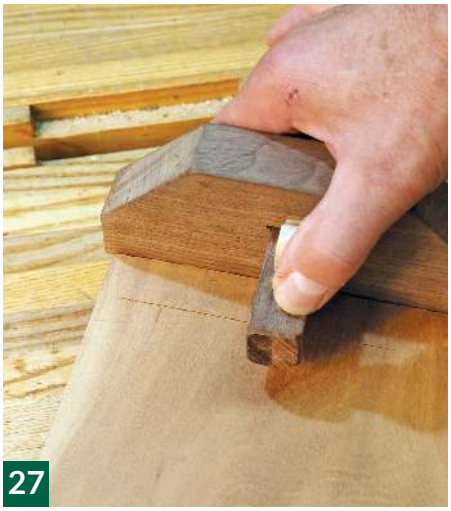
23 The wedge is a piece of brass fashioned by filing into a wedge that fits snugly in the mortise. Leave it so that about 6mm protrudes from the top and 4mm out the bottom. A wooden wedge would work just as well.

Position the cutter in the mortise so that approximately 6mm of the blade protrudes out the underside. Then wedge into place. ➤


24


25


26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The marking gauge

24 The marking gauge fence and handle are made using exactly the same techniques, but instead of having a wedge to hold the handle in place, I used a brass threaded insert and a thumb screw.

25 The pin is nothing more than a panel pin driven through a hole with a slightly smaller diameter, leave about 6mm of nail showing on the underside. File the nail smooth – it isn't necessary for it to be super sharp.

26 I created a curved profile on the upper and lower edge of the fence.

Using a gauge

27 A cutting gauge is used to slice fibres perpendicular to the grain, such as when laying out the baseline for dovetails. Hold it firm against the edge, pushing towards the wood. I generally pull the gauge towards me.

For me, one of the major advantages of a wedge lock is that they are very easy to set. I hold the gauge with my thumb and index finger around the fence, with the remaining fingers holding the handle. Holding it this way allows me to lock, unlock and adjust the gauge with one hand.

Setting the gauge

Adjust the gauge so that it is about 2-3mm under the required setting. Tap the wedge on the side of the bench to lock it. To get the exact setting tap the bottom of the gauge handle (the end without the cutter) on your bench top this will move the fence away and at the same time tighten the wedge. Repeat until you have the setting you are looking for. If you go too far, start again, as hitting the top of the gauge will loosen the fence.

28 A marking gauge is generally used to mark wood in the direction of the grain. Again, hold it firm against the face edge.

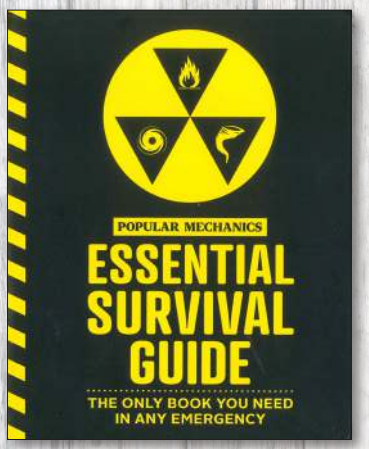
29 Angle the gauge towards the direction of travel. Make several light strokes – if you dig too deep initially, it is very easy to get caught in the wood's grain and go off track. Making several, increasingly heavier passes will prevent this.

And there you have it – two very practical, traditional and easy-to-make gauges that will serve you for many years to come. And who knows, in some years hence, when a young woodworker handles your gauges, they may wonder at the skills of the woodworker who made and used them… ■

BOOK REVIEWS

This month the Editor reviews two very different books – one teaches you survival skills and the other one, something useful to make before you starve with hunger...

Popular Mechanics: Essential Survival Guide – The only book you need in any emergency



ISBN: 978-1-61837-272-7
PRICE: £19.99
Hearst Books

A couple of years ago, our eldest son bought each of us an emergency survival backpack for Christmas. A bit different I grant you, but there is a burgeoning market for that 'end of the world' scenario that seems to be lurking just around the corner. This book slowly works up to that threat level, I'm pleased to say. Successive chapters are: Planning, Low, Medium, High and Apocalyptic – nice…

Low-level threat advice is about keeping a stash of tinned and dried food, mending adhesives and tools; making your home safe, getting to safety, structural damage and tree removal; survival skills such as fishing, the ultimate survival dog, and pitching a tent. Medium level covers things such as 'how not to die' – maybe 'staying risk averse' would sound more cheery? Basically steering clear of trouble. There are some scrummy bits such as how to roast a whole pig and making sausages, or building a rocket stove to keep toasty warm; surviving in Arctic conditions, being a radio ham and demolition methods. Then we come to escape vehicles and special forces skills. So, in total, maybe not quite as desperate as the headlines in this book suggests. There's some really useful info you can apply in more everyday situations too. Best be prepared I say. (My own survival tip – keep this volume in a zip-closure waterproof plastic bag – mustn't get it wet after all).

Make A Folding Spoon

Jane Mickelborough

ISBN: 978-0-99318-612-7
PRICE: £12.20 UK inc postage
Crafty Little Press
https://craftylittlepress.co.uk

Both books are available from:
www.gmcbooks.com
01273 488005

While you're sitting front of your rocket stove in underpants and string vest waiting for your wet clothes to dry and cooking freshly caught fish, you might wish to try your hand at carving a portable folding spoon, ideal for those 'back to basics' camping trips. Illustrated in a black-and-white comic-book style it is a different treatment to any other book on a similar subject that I have read. It is A4 size and it needs to be because the author, a lifelong carver and relatively recent convert to spoon carving, has gone into great technical detail while still retaining the fun of making an unusual spoon variant. This project is made with hand tools alone and includes a plan drawing and a history of the spoon. It occurs to me that you might want to be a big kid all over again and use coloured crayons on the drawings – hopefully the author won't mind? Pudding time, the fish course is done.

Handsaws

You've got the hardpoint saw – fine for rough carpentry, but what about that fine jointwork, creating lovely handmade projects? That's when you need a decent tenon saw

Thomas Flinn Pax 1776 Saw – pistol grip

Comes with a brushed brass back and oiled walnut handle. The blade is 10in x 15tpi – the rip version is shown here. A good intermediate model for anyone on a budget. Available as tenon saw 13tpi or 15tpi, dovetail saw 20tpi – 8in, 10in and 12in length.
Price: £150 for 10in

As with all hand tools price and quality can vary tremendously. The old adage 'you get what you pay for' holds true. Here's a selection of hand saws from budget to pricey. They all cut well but the more expensive models will give you superb results and, besides, they are a joy to hold and appreciate even you're when not actually cutting with them. A word of caution, only use these saws on appropriate material i.e. wood, not anything else since they are neither hardpoint nor disposable – they are meant to last a lifetime. If a saw gets blunt you could, in theory, resharpen it or give it to a saw doctor to do, but with the more expensive models in particular they must be returned to the manufacturer, who will ensure they are given the correct factory-fresh cutting profiles.

Technical detail – the folded back fitted to a tenon saw keeps the blade flat and adds weight so the cutting action doesn't require downward pressure. Tenon saw teeth are sharpened and set (angled) either as crosscut (but capable of rip cutting) or rip cut (not suitable for crosscutting). Dovetail saws have smaller teeth and more of them – tpi (teeth per inch). Tenon and dovetail saws are sometimes available in rip as well as crosscut versions. Handle design is either enclosed grip or open, pistol grip, depending on the model.

Spear & Jackson 10in/13ppi Professional Tenon Saw 5410Y

Described as 'a fine cutting saw for use along and across the grain' it is a slighter posher version of the beech-handled model and has slightly fewer teeth per inch and with a lower blade profile.
Price: £38.74

Victor Brand 10in Benchcraft Tenon Saw

A low blade profile basic bench saw with a beechwood handle and brass back under the Victor brand made for Axminster Tools by Sheffield sawmakers Flinn, Garlick and Son. 10in x 12tpi tempered spring steel blade.
Price: £38.56

Spear & Jackson 10in/15ppi Traditional Brass Back Tenon Saw 9540B

This unassuming tenon saw comes with a folded brass back to stiffen it and an enclosed beech handle. Despite being the lowest-budget model here, it will acquit itself well in everyday use. Very suitable for beginners and improvers of all ages.

Price: £33.26

Victor Brand 12in Tenon Saw

This model has a blade 50mm longer and also taller than the other Victor model, with a polished brass back and dark finished handle. 12in x 15tpi alloy steel blade.

Price £59.50

Bad Axe Stiletto Dovetail Saw 12in/15ppi

Like all Bad Axe saws it is fast, accurate and well suited to the 'get it done' approach to sawing. With a longer toothline you can gang several components together, sawing several lines of dovetails at once. Bad Axe Stiletto comes with a hickory handle, gun-blued back and 12in x 0.18 gauge x 15ppi steel blade.

Price: £240

Veritas Small Crosscut Saw 16tpi/230mm

Fitted with a removable Japanese-made blade, The injection moulded back creates a solid one-piece blade, spine and mount assembly. The hardwood handle is secured with a brass nut. 360mm x 0.5mm thick x 16tpi high carbon steel blade.

Price: £58.96

E.T.Roberts & Lee Dorchester Tenon Saw

The brass back is mirror finished and it has an enclosed pattern walnut handle. This model comes in 13tpi or 15tpi, rip or crosscut and 10in, 12in and 14in lengths.

Price: £106.21 for 10in

We would like to thank the following companies for taking part in this feature:
Thomas Flinn & Co
www.flinn-garlick-saws.co.uk
Classic Handtools www.classichandtools.com
Axminster Tools www.axminster.co.uk
Brimarc www.brimarc.com
Spear & Jackson www.spear-and-jackson.com

Prices inc. VAT

History Mystery

The 'conserved' table

The Editor seems inexorably drawn to 'damaged goods' and this little drop-leaf table was no exception...

A while ago we visited a local Sussex town where we hadn't been for ages and outside a furniture charity shop, jammed between a pile of stacking chairs and a Formica-topped kitchen table, was a small, drop-leaf mahogany table. It caught my eye instantly – it had a gorgeous, honey-coloured patina that screamed Georgian. It looked like it might rain and I wanted to rescue this unloved item quickly. I went inside and the guy in charge said "ten pounds – all right?" Yes, I replied and that was it, off down the road a quarter of a mile to my car with the table-top clamped firmly to my chest, avoiding passers-by with the sticking out legs. The start of a very interesting journey of discovery…

First thoughts

The table sat for several days in the front room before I finally gave it my attention. The top was indeed a honey colour but covered in myriad marks, including hundreds of ancient, fine cut marks running at all angles – why? Something looked wrong – yes, the drop leaves were too short. Lifting each one up, it was clear an extra piece had gone missing and the hinged supports had extra pieces held with old iron nails to support the wider leaves, but these had been crudely cut off when the outer boards had finally broken off. The drawer ran roughly as it was so worn and it had a plastic knob where once a large, probably metal knob and backplate had been. The table top was decidedly wavy where it had sprung out of shape. Oh dear, had I bought 'a pig in a poke'?

Note the very uneven top

Furniture detective

This table was going on my restoration bench for a much more thorough examination. It was carefully upturned and placed on rubber matting to protect the top surface. The table frame was loosely fixed with screws set in very crudely cut pockets. The pine frame would have been difficult to cut cleanly without a really sharp incannel gouge, and it showed. The underside of the mahogany top didn't inspire confidence. There was a remover's chalk writing of 'Miss Howes' – so she would regain her table safely. Perhaps she saw something good in it like I thought I had. Unfortunately, someone had practised doing some faint but just visible outline incised lettering to no good effect – but wait. There was something else even fainter still – there appeared to be barely noticeable letters possibly punched into the hard, dark wood. I struggled to make it out, but my daughter Amber, who was a graduate in restoration and conservation of antique furniture, had thought to give me a fax roll a while ago. This acts like carbon paper when rubbed down, but without leaving any inking. The fuzzy result seemed to say something with a fancy scrolled 'G'. G – then a space – then reeve, underneath – March 13. This wasn't good enough, I used a bright LED torch aimed crosswise, the result was – G Shreeve, March 13.

A quick Google search brought up *The Directory of Norfolk Furniture Makers*. Shreeve is an unusual name with a preponderance of them in Norfolk. I found one in London and one in Norwich with the wrong initials, but the one I settled on was GT Shreeve, Great Yarmouth, registered in 1807 as a cabinetmaker. It was a 'hairs

Script showing faintly

Finally it makes sense

on the back of the neck' moment. Could this be my man? Why only the 'G' on the stamping? And why March 13th? Then it struck me – perhaps he had experimented with cutting his name into the wood, hence the incised letters, gave up and had a brass stamp engraved instead. The person making the stamp would have charged per character. It would be cheaper to only have a 'G' and miss off the '18' from the '13' – this table was stamped in March 1813, it was more than 200 years old and the mahogany was as tough then as it is now, and it resisted being stamped into submission. So it was exactly as I thought – a late-Georgian drop-leaf table, made in an east coast town famous for its fishing and naval connections. Next stop was my online Ancestry.co.uk account to find out more…See side panel first ☞

An explanation

At the age of 24 Thomas Godfrey was a freeman. In 1813 he put his mark on this table, the top of which decided to misbehave, perhaps a lesson that he needed to consider a better future than just slaving away in a small back-street workshop trying to earn a living. However, it may be this little table was a very early example of his work that had hung around the workshop, since he is noted in 1812 voting records as 'a gent' – this term suggests he was now a man of means.

So he moved to London as a clerk working at the Anchor Brewery, Southwark, once the largest brewery in the world and owned by a member of the Barclays banking dynasty. The Victorian middle class emerged from the need for white collar workers in a burgeoning Empire, working for state and industry.

He married Lycia Potter, who was 19 years his junior and also from Norfolk, in Norwich, which cannot be a coincidence. She was married once before to an Edward Mitchell of Norwich, but since divorce was not available to ordinary folk, he must have died prematurely, thus paving the way for her to marry Thomas Godfrey.

Remarkably, our man Thomas showed great acumen by climbing even further up the social ladder, opening a linen outfitters in Charing Cross, then part of Middlesex before metropolitan boundaries were redrawn in 1889. It is quite likely that Lycia had worked in haberdashery, which would have given him the opportunity to take up a retail occupation.

We know Lycia worked in the shop and must have been the third outfitters' assistant mentioned on the census, since Old Bailey records show that both she and Thomas Godfrey were witnesses in a case of fraudulently attempting to pass off a fake half sovereign, Lycia having confronted the accused, Emma Wayland, at the cash desk.

At Thomas Godfrey's demise he clearly did not have great wealth to pass on to Lycia, it no doubt being used as their joint income in retirement since pensions did not become written into law until 1908.

To conclude

My little Georgian drop-leaf table may not have been his finest work. It must have come back from a disgruntled customer to haunt him, just sitting in the corner of his workshop and probably then used for cutting up veneers, hence the very fine cut marks everywhere – but my wife and I love it, because it represents an earlier stage of a man's life who worked really hard for everything he got. Thomas Godfrey Shreeve, we salute you! ➤

A very incomplete history

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

Godfrey Thomas Shreeve was baptised at the church of Yarmouth St Nicholas, (Great Yarmouth) in 1783 to William and Ann Shreeve.

Thomas G Shreeve apprenticed to Samuel Bream (junior) on 27/11/1797 for the sum of £30-

In 1807 he was noted as Thomas Godfrey Shreeve, a cabinetmaker in Yarmouth

On the 8th and 9th days of May 1807, Shreeve G T, was noted as a 'freeman' (apprenticeship completed) on the Poll for Members of Parliament for the borough of Great Yarmouth. In other words, he was one of a select group, the freemen who were allowed to vote for landowners and 'gentlemen of means' who could stand for Parliament. Women would not have the right to vote for another one hundred and eleven years.

1812 Voting register for Great Yarmouth Shreeve (T.G) is now noted as 'gent.' i.e. gentleman (no longer persuing a trade).

In 1837 various Middlesex newspapers mention him as a clerk, witness in a case of forgery committed against Barclays Anchor Brewery, Southwark by an otherwise respectable individual by the name of Charles Newcomb, heard at Lambeth Street court.

April 18th 1841 at the age of 58 he married Lycia Potter of Norwich, in the parish of Bermondsey. He is noted as a 'merchants clerk' living at Grange Place, Newington.

1849 Yarmouth voting records - Thomas Godfrey Shreeve, Barclays Brewery London, born Great Yarmouth, freehold house, Chapel Street (Chapel Street no longer exists).

1851 Pigots Directory - Thomas Godfrey Shreeve - 'ready made linen ware, 56 Charing Cross.

1851 census – 56 Charing Cross, St Martin-in-the-Fields, Middlesex – Thomas G. Shreeve – Head, outfitter employing three female assistants. Where born Norfolk, Yarmouth. It also lists Lycia, wife. Harriet, Scholar. Martha, sister, outfitters assistant. Ellen D. Harker, outfitters assistant. Mary Woodward, servant.

1867 Will – Thomas Godfrey Sheeve – effects under £6,000. Formerly of Grotes-place, Blackheath but formerly of 25 Turner-road, Lee both in the County of Kent who died 5th November 1867 at 25 Turner-road aforesaid was proved by the oath of Lycia Shreeve aforesaid Widow of the Relict the sole Executrix.

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Plaque marking the site of the Anchor Brewery, Southwark

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Britannia monument, Great Yarmouth

A tired, unloved little table with issues

TABLE RESTORATION

Definitions

It's worth taking a moment to distinguish between restoration and conservation. Restoration means basically putting an object back into a useable state, replacing missing and damaged parts and using new upholstery and/or applying a new finish. It's usually done for a private client or an antique dealer.

Conservation is concerned with stabilising an item and keeping it in its last, best state and, if necessary, revealing hidden detail and compiling a report on its condition, any conservation work carried out and its provenance or history if known. Such items are not for use, but for museum collections.

In the case of this little table I chose to repair the essentials but not try to flatten the top – conventional methods would do more damage. Damage to the wood on the hinge line was left nor did I attempt to replace missing leaf sections as none of the repairs would be convincing and I wanted its past on show. I also have collated what history I could find, so this personal project is a mixture of sympathetic restoration and conservation.

The oak drawer bottom separated into three sections by shrinkage

PROBLEMS

Plenty of surface markings including lots of random fine cut lines

Loose hinges and broken-off leaf edges and moulding

A crudely hacked-off leaf and support, with additional piece cut off

The softwood underframe with toothing to key it when gluing on the veneer

An old lump of rosin-type filler used to fill a gap in the mahogany

A faint mark showing where the leaf originally reached down

The original hinge position where the screws must have pulled out

Badly worn drawer runners that need repair

A plastic knob with ring marks from an old knob backplate visible

A crudely marked and cut screw pocket for a table-top screw

TABLE TOP AND FLAPS

Pressing a screw tip down on a piece of cast iron while pulling with pliers

These original narrow chisel marks were used to locate the frame position

Only one nailed-on wedge present, used to hold a leaf level

Cutting off the remains of a tongue that fitted a groove in the missing board

Using a bullnose rebate plane to remove most of the edge damage

The edge deliberately left imperfect to show its history, before refinishing

Original cross-grain plane marks on the underside of one leaf

Fluff-of-ages being picked out of the leaf gap to aid smooth opening

Trimming the leaf wedge at an angle to make it less visually obvious

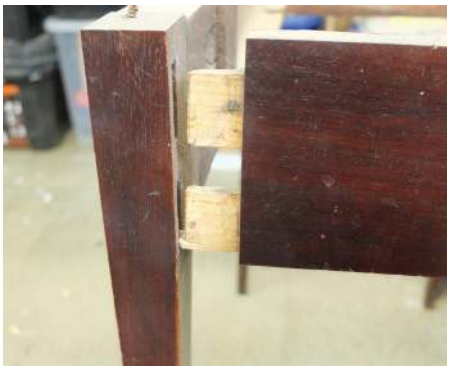
Injecting hide glue under a waggly hinge to set it firmly in place ➤

The screw holes were worn out. First some hide glue was squirted in, then a softwood plug inserted, which was then drilled to pilot diameter

The plug trimmed off with a flexible flush-cut saw

The last job for the top was a new support wedge glued to the other leaf

UNDERFRAME AND LEGS



One frame and leg joint was completely loose and needed re-gluing

Another joint could be partly separated – one tenon had broken off

As soon as the glue-up was done the frame was clamped tight overnight

The leaf supports had their add-on sections chiselled off

A cat's paw was used to withdraw the iron nails

The leaf supports were shortened and reshaped to tidy them up

They were sanded to give a smooth curve profile

Heavily worn drawer runners were planed level again

Slips of softwood were tried for thickness prior to gluing

The slips were planed to width by running them over a block plane in a vice

Animal hide glue was brushed on both runners and slips to ensure bonding

The slips were coloured down to blend them in better

The broken frame tenon was drilled through, then dowelled and plugged

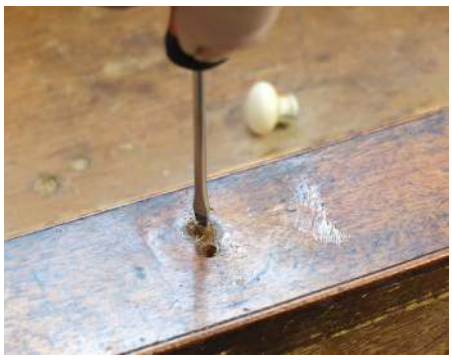
The broken area of veneer was trimmed ready for patching

A large area of the mahogany veneer was loose and needed re-gluing

The legs were wiped down with a brown dye to colour scuff marks

The top was buffed with beeswax, no cleaning required ➤

DRAWER



A broken-off thread removed by hacksawing a slot and using a screwdriver

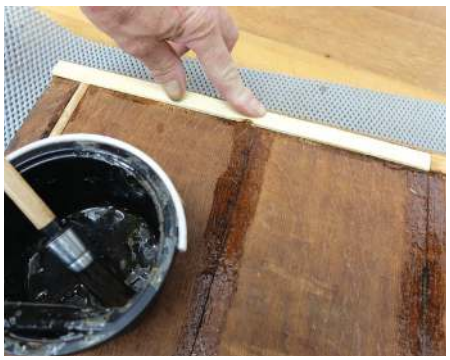
Where the drawer bottom boards were still joined, a pullsaw separated them

The drawer bottom slips were simply pulled away thanks to failed glue

The boards were scraped clean of the remaining glue

The front board was left in place. The others had their edges planed

A new piece was fitted in the gap left by shrinkage and edge planing



Plenty of glue on the board joints and the new slips added at each side

A thorough wash-down with hot water to remove all the surplus glue

I prefer to rub down patinated brassware and add my own patination

Patinating the fixing screw, the pencil point breaks the fluid surface tension

Summing up

This conservation project has been complex because its history had to be researched first, to help inform how to proceed. What it does show is that, by being observant and following a hunch, you can make exciting discoveries in the most unexpected places. ■

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NEWS & EVENTS

All the latest events and news from the world of woodworking

Open house at Axminster Tools & Machinery

It was a cool and blustery autumnal Friday in September when Axminster Tools & Machinery opened its doors to the public, welcoming more than 200 visitors to its HQ on Weycroft Avenue in Axminster.

Visitors were able to experience around 40 demonstrations and get hands-on with many tools and machines. Among the demonstrators were some familiar names, such as Robert Ingham – distinguished maker of collectable boxes and unique pieces of furniture; Peter Parfitt – inventor of the UJK Parf Guide System and Parf Dog; Matt Estlea – talented young woodworker and YouTube star; and Colwin Way – international woodturner.

HQ folk and many staff from all of Axminster's eight stores were involved, showing their expertise and woodworking skills. Some of the more quirky demonstrations from Axminster staff included cricket bat shaping and the 'hard point challenge' (looking for the fastest time in which to cut through a piece of 2in x 4in) with a prize of a set of three Axcaliber saws. Product development director Ian Styles demonstrated the Ultimate Edge – a new sharpening product. Wentworth Timber, which supplies all the Axminster stores, was present, as was UKMSA (Men's Sheds Association) displaying the kinds of things members make (local Axminster stores work closely with local 'shedders').

Approximately 160 visitors signed up for the guided tour around the site. An Axminster director led each tour, taking visitors to the engineering facility where woodturning chucks and accessories, bandsaw blades and many products in the UJK Technology range are manufactured. Other points of interest on the tour route were the Skill Centre and warehouse, which was fully operational on the day.

Peter Parfitt, creator of the Parf Dog

To keep warm, visitors were able to take advantage of the free tea, coffee and biscuits on offer. Plus, Axminster offered a 10% discount throughout the day.

Managing director Alan Styles said: 'It's been a while since we had an event here at HQ, but I think the day has gone pretty well. I led some of the tours and have had some very enlightening comments and questions from visitors. One of the most positive pieces of feedback is how pleased our customers are to see the return of the Axminster catalogue.'

Proceeds from the open day were donated to the British Heart Foundation.

For more information, please visit the Axminster Trade brand store **www.axminster.co.uk/axminster-trade**

PHOTOGRAPHS COURTESY OF AXMINSTER TOOLS

Robert Ingham doing some fine detail work

Matt Estlea – Axminster YouTuber

Reader letter

Hello Anthony. My name is Franklin Carrillo, I am from Costa Rica and I have written to you to show the rocking giraffe I made for my daughter, Maria Laura. I saw the project in the May issue and I just love it. I just want to say thanks for the publication you create and for giving me the opportunity to learn and develop my woodworking skills. I attach some pictures of the project, It is made of MDF and pine. Thanks again and greetings from Costa Rica.

PHOTOGRAPHS COURTESY OF FRANKLIN CARRILLO

Hello Franklin. Thank-you for sending me a photo of your finished project, I hope your daughter has a lot of fun playing on it. It's good to know we have readers in far-flung parts of the globe.

Best wishes, **Anthony**.

Events

FFX Tool Show
1-3 March 2019, Kent Event Centre, Detling, Maidstone, ME14 3JF
www.ffx.co.uk/tools/toolshow

The Midlands Woodworking & Powertool Show
22-23 March 2019, Newark Showground, Notts, NG24 2NY
www.nelton.co.uk/midlands-woodworking-power-tool-show.html

Woodcraft Weekend
Saturday 12 -Sunday 13 January
National Botanic Garden of Wales, Carmarthenshire.
All that is good about wood featuring turners, carvers, stickmakers and traders.Plenty of demonstrations and displays. Admission just £4 per person
https://botanicgarden.wales
Tel: 01558 667149.

Woodcraft Weekend at The National Botanic Garden of Wales

Web links for you

Instagram

@thecarpenterblog
Some interesting tips, tricks and surface detailing to be found here

Twitter

@westdeancollege
Always worth checking out their Twitter feed to see what is currently going on and courses to pick from

KITTED OUT

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

Trend birdsmouth professional router cutters

Trend has added two new birdsmouth profile tungsten carbide tipped router cutters to its range of jointing tools. The ½in shank cutters are designed for use in a router table and are ideal for creating barrels for coopering projects in six, eight or 12-sided configurations. The two-flute bevel cutters give a clean finish on timber and are designed to create a notch, or 'birdsmouth', on one edge of a piece of timber which is then used to mate against the square edge of the next piece of timber. The birdsmouth profile offers a larger gluing surface as well as an interlocking joint to aid positioning during assembly.

Two cutters are available, the 10/50X1/2TC for 30/60°, which will give 12 and six-sided barrel options. Six-sided projects can be made in stock up to 20mm thick and 12mm is the maximum thickness for 12-sided projects. The 10/51X1/2TC 45° cutter is used for an eight-sided barrel and can be used in stock up to 20mm thick.

From £60
www.trend-uk.com

Enlarged FEIN 18V product range

Fein is extending its 18V product range with the ASCM 18 QSW four-speed cordless drill/driver. This is an alternate version of the 12V and 18V ASCM machine, already popular within the community but with two new benefits. The multi-volt feature allows the machine to be powered by a 12V to 18V lithium-ion battery, and the body is lighter and more compact, weighing just 1.7kg.

Time is an important factor for professionals so all the drills are supported by the Fein Quickin interface – the end-user can change over accessories tool-free.

The SKE drill chuck is an automatically re-tensioning drill chuck from Röhm that prevents drill bits and taps from slipping. Even in reverse running, the drill chuck is stable and remains reliably closed. Other new additions include tapping collets, which transmit the torque to the square surface of the tap preventing slippage. Fein has now launched an angle head, which enables users to work around corners and in tight spaces, thanks to ideas and tooling requests by British tradesman within the Fein UK community.

https://fein.com/en_uk/

Self-adjusting toggle clamps from Axminster Trade Clamps

These new toggle clamps are quick to lock and unlock, and very versatile. They will clamp different thicknesses and require no adjustment. If necessary, you can adjust the pressure with a screwdriver and the arm piece to increase the throat opening. They are perfectly suited to small-scale production situations.

There are two types. One applies downward (horizontal workpiece) and the other is a lateral plunger (push-pull). Toggle clamps are ideal for work situations involving a router, spindle moulder, tablesaw or for constructing custom-made jigs. They are European-made from quality steel, galvanised and passivated against corrosion.

Horizontal clamp – three sizes
Push-pull clamp – two sizes
Prices from £21.65
www.axminster.co.uk

Makita 305MM slide compound mitre saw

The new LS1219 305mm Slide Compound Mitre Saw benefits from the new design of the sliding motor head layout that allows it to operate close to a wall – perfect for bench mounted applications.

It has a 3,200rpm no-load speed and features a bigger mitre and bevel range than its predecessor the LS1216 – 60° L to 60° R mitre, and 48° L to 48° R bevel.

The LS1219 benefits from DXT – Deep and Exact Cutting Technology – and the 12in blade has a 72 tooth count developed to dampen vibration and be super quiet. A lower vibrating blade produces greater cut accuracy and reduces wobble, giving a smooth cut surface. The rear fence has adjustable material locks and side holders to support a wide workpiece. The LS1219 can be connected to a dust extractor for operator safety.

The electronic controls feature soft start for machine and operator safety, constant speed control, electric brake, double insulation and laser marker system on the LS1219L model. 110V and 240V versions are available.

Standard version £1080, or Laser model £1110
www.makitauk.com

Charnwood Micro clean air filters

Charnwood has introduced a range of air filters for the workshop. There are four in all, manufactured in the UK, designed to remove dust particles from air in the workshop.

MC200 has an airflow rate of 200 cubic metres per hour and is suitable for a small workshop with a volume of up to 20 cubic metres. It is designed to sit on a shelf or bench. Locate close to the centre of the room to create the best airflow, or closer to the source of the dust.

MC420 is designed to be suspended from the ceiling with an airflow rate of 400 cubic metres per hour. This is suitable for a workshop with a volume of up to 40 cubic metres, roughly equivalent to a single garage.

MC760 has an airflow rate of 780 cubic metres per hour. Suitable for a workshop with a volume of up to 78 cubic metres, roughly equivalent to a double garage. It can also be fitted to a wall or on a bench.

MC1210 is designed to be suspended from the ceiling and has an airflow rate of 1200 cubic metres per hour, making it suitable for a workshop with a volume of up to 120 cubic metres, roughly equivalent to a triple garage.

Example price MC420 £235
www.charnwood.net

PHOTOGRAPHS COURTESY OF CHARNWOOD MACHINERY & TOOLS

MINI TEST

Fisco Mark-Right – time-saving' tape for right-handed craftsmen

I've been using expanding rule tapes for years like everybody else. However, I'm one of the left-handed 11% of the population and I've never had a problem reading and marking out because tape rules read from left to right, because that is how we write. So maybe now it is time that all you 89% of right-handers finally get the tape rule you deserve? I still struggle to buy left-handed scissors but I won't go on about it….

The Mark-Right reduces marking and cutting time for a right-handed user by 50%. Check out the video at **www.youtube.com/watch?v=ECTpcx7JzGI**

Available in a 5m length, the blade is graduated in mm and inches and accurate to EC Class II, housed in a tough ABS case with a positive action slide-lock brake, belt clip and zeroing end hook.

Price £11.99
www.fisco.co.uk

Mirka DEOS orbital sander test

The **Editor** sets out to see if he can be won over by a small, high-quality orbital sander

Mirka from Finland is, perhaps without question, the most innovative and pioneering developer of abrasive finishing materials around. Anyone familiar with Abranet and its newer variants, ACE and HD, will already know how good it is and new paper and film-backed Iridium and Novastar discs help to confirm its position as an abrasives expert. It hasn't stopped there, having a range of dedicated sanding units and extractors for various applications such as woodworking, automotive and plaster finishing. And it now brings us a smaller but potentially very useful orbital sander in the DEOS family. It uses 81 x 133mm rectangular hook and loop sheets (inter-sheet pad available to reduce platen wear). The ideal abrasive medium for wood is standard Abranet, which comes in a range of mesh grades. DEOS has several key features: a solid foam support platen with extraction holes, an extraction port at the rear with an interchangeable fitting and a removable main supply lead. On top is a large palm paddle switch, an on-off and neon activation light behind it and a variable speed dial. First impressions are of the build quality and the compact size. I've never been a great fan of orbital sanders, although the advent of Abranet has changed that perception as it works so much better than standard Alox material.

On test

I used it on my Glastonbury chair project in the December issue and it worked perfectly because Abranet rarely clogs, so marking on the wood is unlikely. The orbit path seemed to help cancel out orbit scratches, meaning I didn't feel any need to go to a finer mesh than 220. Speed-wise at the top end the DEOS was too skittery and

lively, but at speed 3 it behaved really nicely and with no fuss. The palm paddle takes a little getting used to, easy to trigger it when you don't mean to, but no harm done at all. It's a nice, dinky little machine that gets in tight corners and is perfect for smaller jobs. Very much one to own, but now comes the price…

Tech spec

- High output 250 watt brushless motor
- 5,000-10,000opm
- 3mm orbit
- Temperature monitoring
- Patented motor controller
- Bluetooth low energy technology
- Vibration sensor
- Weight 1kg

Price: DEOS 353CV 81 x 133mm. In case – £544.03. Without case – £502.72
Visit: www.mirka.com/mirka-deos

PHOTOGRAPHS BY FRED & JULIE BYRNE

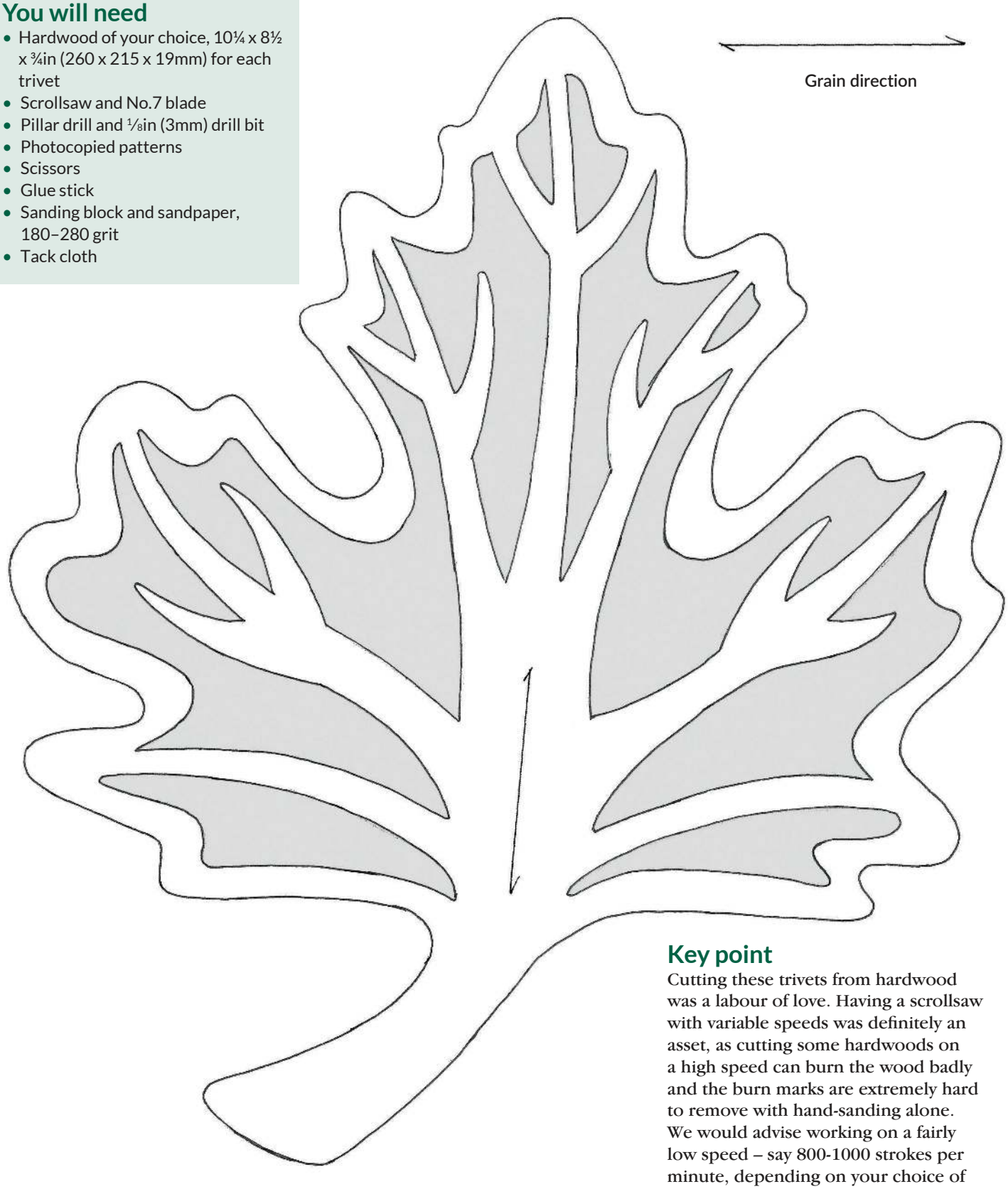
Maple-leaf trivets

It's a new year – time to turn over a new leaf

These attractive trivets are quite simple to make and will be a great addition to your kitchen or dining table. We give two variations on the same design, which are effectively negatives of each other: one with the leaf veins left solid, and one with the veins cut out. Since they will be left in a natural state, an eye-catching hardwood will look best. In any case, the many sharp, cross-grained projections would be very fragile in softwood. If you are new to scrollsawing, it is definitely worth practising these delicate cuts on a piece of scrap wood before you start on your chosen piece. ➤

You will need

- Hardwood of your choice, 10¼ x 8½ x ¾in (260 x 215 x 19mm) for each trivet
- Scrollsaw and No.7 blade
- Pillar drill and ⅛in (3mm) drill bit
- Photocopied patterns
- Scissors
- Glue stick
- Sanding block and sandpaper, 180–280 grit
- Tack cloth

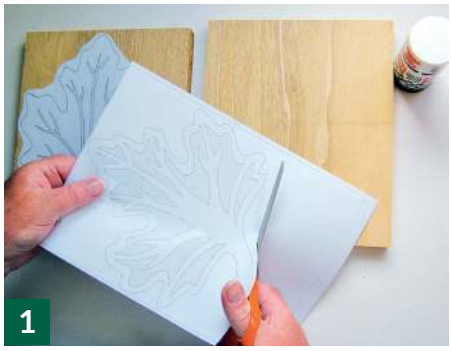


Finished size: 9½ x 8in (240 x 200mm)
(This template needs to be enlarged to 122%)

Key point

Cutting these trivets from hardwood was a labour of love. Having a scrollsaw with variable speeds was definitely an asset, as cutting some hardwoods on a high speed can burn the wood badly and the burn marks are extremely hard to remove with hand-sanding alone. We would advise working on a fairly low speed – say 800-1000 strokes per minute, depending on your choice of wood – with an Olson No.7 reverse-tooth blade, and cooling the blade with a fan if you have one handy to keep the burn marks to a minimum. It may sound strange, but it does work.

1 Photocopy each pattern to 9½ x 8in (240 x 200mm). The areas to be cut out are shaded to avoid confusion.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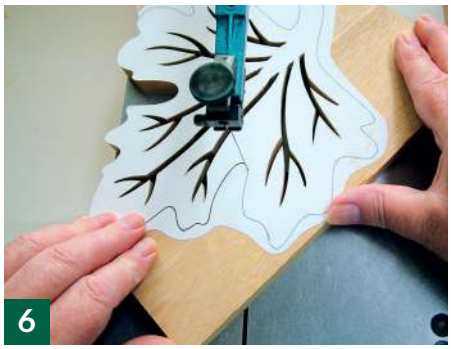
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8

Using scissors, cut around each leaf shape, leaving a border of, say, ⅜in (10mm). Look at the direction of the wood grain and position each leaf with the stem in line with the grain, not across it. Apply an even coat with the glue stick over the whole area, then press firmly into place.

2 Fit the drill with the ⅛in (3mm) bit, and carefully drill a hole through each of the shaded areas to be cut.

3 Pass the scrollsaw blade through the first hole, align and tighten the blade.

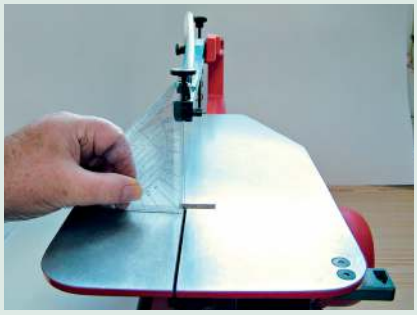
4 Proceed to cut out the first of the shaded areas, then each of the others in turn, rethreading and realigning the blade each time. With these tight corners, it's a good idea to cut into the V from one direction, then back the blade out just far enough to be able to turn and continue along the cutting line, then return to finish the cut once the majority of the waste has been removed.

5 The cutout areas in the second design are much narrower, but the technique is the same. Work carefully and do not rush.

Installing the blade

First check that the table is in the horizontal (0°) position, then, using the key supplied by the manufacturer, secure the blade clamps to each end of the blade, making sure the teeth are facing downwards. Then fit the blade, with the clamps attached, on to the scrollsaw mountings. Use a small try square or triangle to align the blade at a right angle to the table. Tighten the blade and then flick the back of it with your finger – if it is right you should hear a clear 'ping'. If the blade is not tight enough it will easily wander off the line. When you are satisfied, tighten down the spring on the top blade clamp. Slacken off the blade when it is not in use.

For all of the inlay projects it is very important that the edges of each piece are cut square, otherwise they will not butt together flush. To double-check the squareness of the blade, saw a small piece of wood in half, turn one of the pieces over, and if it still lines up with the other piece you know the blade is square. If not, undo the blade and repeat the setting-up procedure until you get it right.

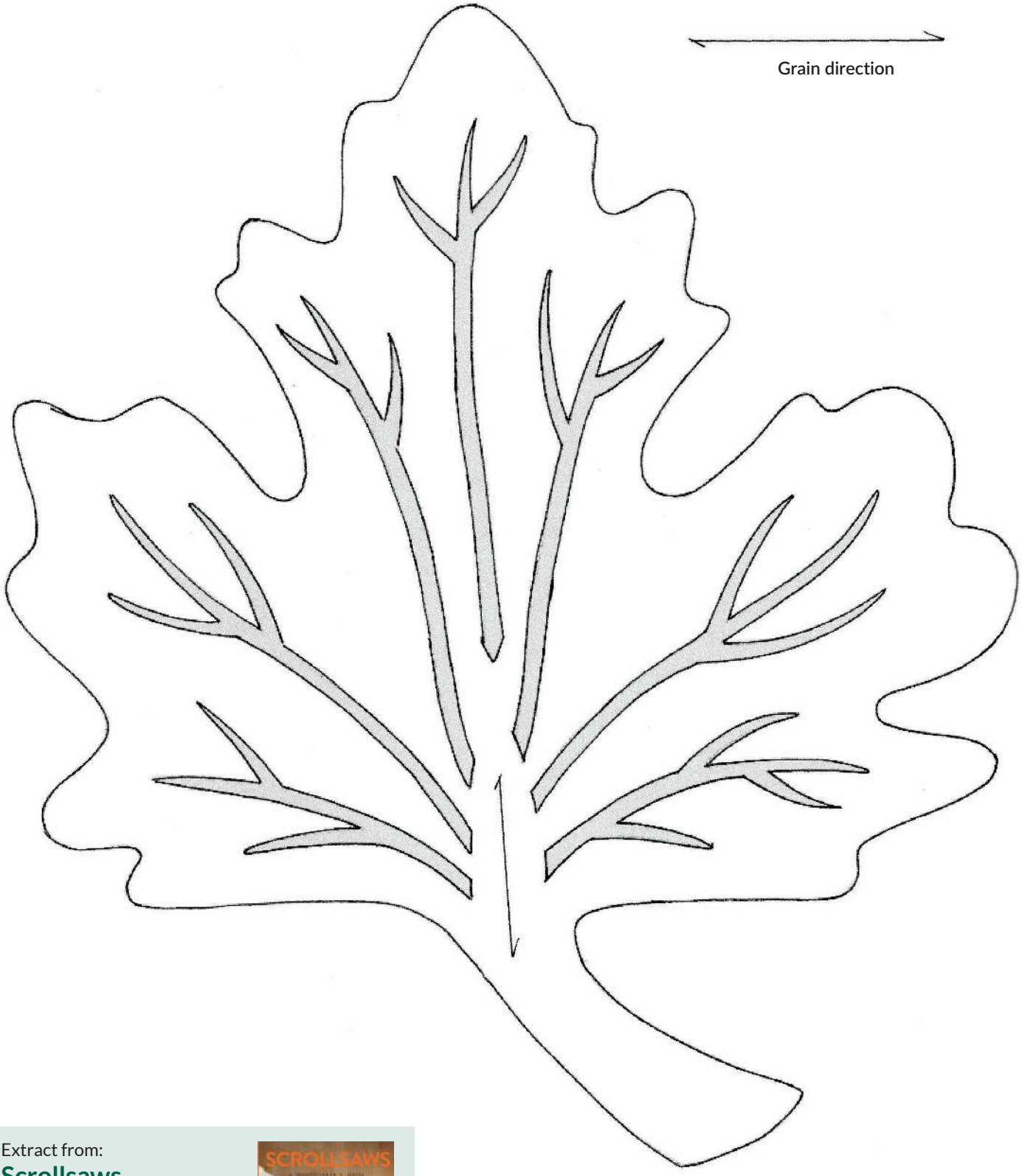


Using a set square to check blade alignment

6 With all the shaded areas cut out and removed from both trivets. Cut around the outer edge of each maple leaf to remove the waste.

7 Remove the pattern. Using a damp cloth to moisten the paper will help you to lift the pattern easily from the wood.

8 When dry, use a sanding block fitted with 180-grit sandpaper to remove any residue left by the glue, then hand-sand around the edges to remove the burr. Finally, wipe the trivets with a tack cloth to remove the fine dust. You can leave the hardwood trivets in their natural state. ➤

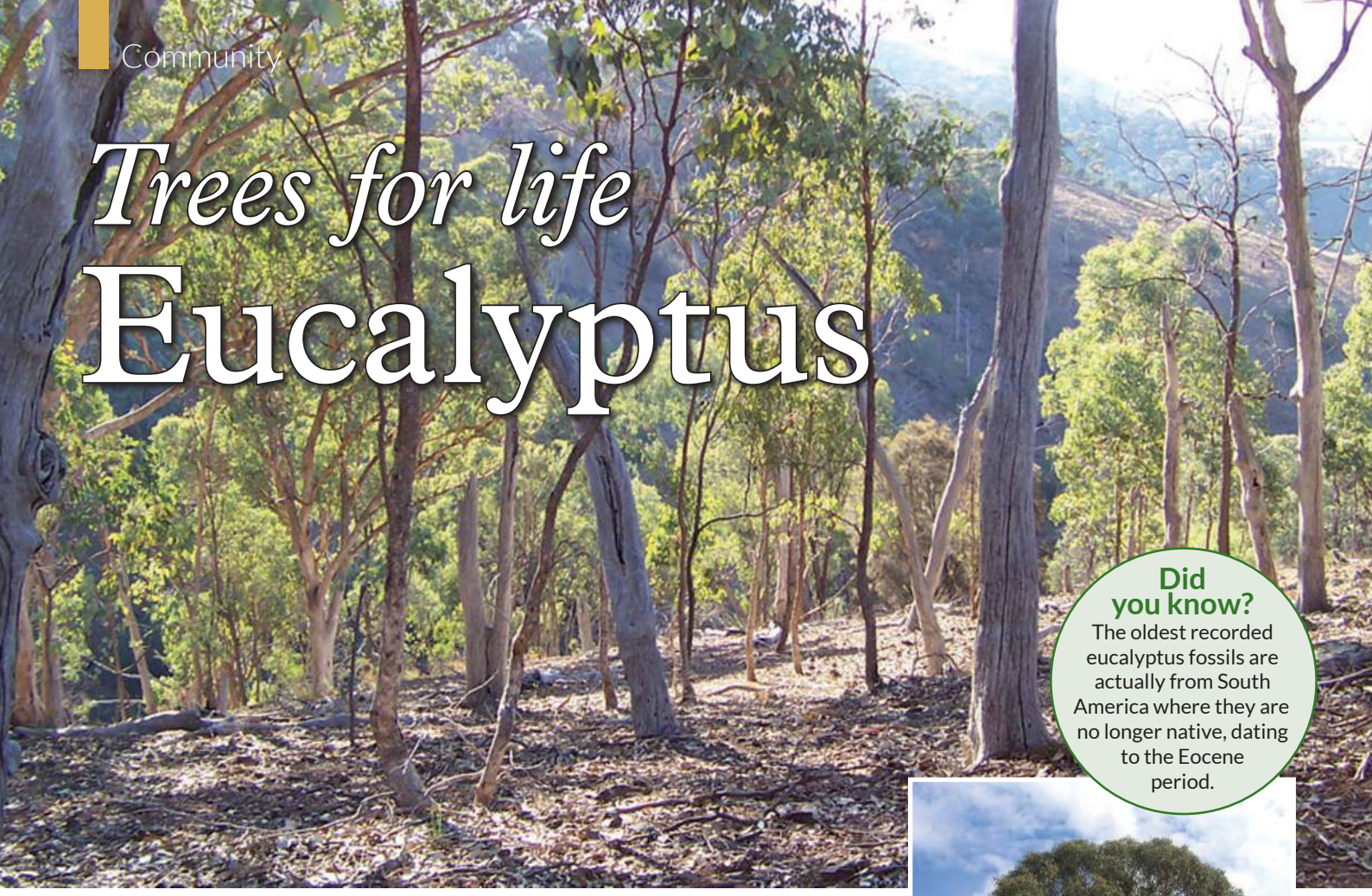


Finished size: 9½ x 8in (240 x 200mm)
(This template needs to be enlarged to 122%)

Extract from:
Scrollsaws
A Woodworker's Guide
By Fred and Julie Byrne

ISBN: 978-1-78494-443-8
Published by GMC Publications
Available from: www.gmcbooks.com 01273 488005

Trees for life
Eucalyptus



Did you know?
The oldest recorded eucalyptus fossils are actually from South America where they are no longer native, dating to the Eocene period.

Hear mention of eucalyptus and probably your first thoughts are of koala bears hanging in the trees, stoned out of their heads eating the leaves (this is a myth)...

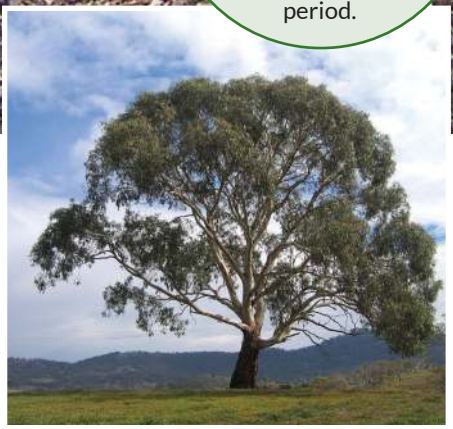
Eucalyptus is a very, very wide-ranging name for a diverse genus of flowering trees and shrubs in the myrtle family (*Myrtaceae*). It dominates the tree population in Australia, covering 92,000,000ha of eucalypt forest. There are more than 700 species, most of which are native to Australia, with a limited number in adjacent areas of New Guinea and Indonesia and also in the Philippines. Of the 15 species found outside Australia, just nine are exclusively non-Australian. Various species are cultivated in many other countries – the Americas, Europe, Africa, Mediterranean Basin, the Middle East and Indian subcontinent. They are not tolerant of cold conditions, which constrains where they can be planted in the temperate zone. Many species are known as gum trees due to the resin that can exude through breaks in the tree bark.

Growth

A mature eucalyptus may take the form of a low shrub or a very large tree. The species can be divided into three main habits and four size categories.

As a generalisation, 'forest trees' are single-stemmed and have a crown forming a minor proportion of the whole tree height. 'Woodland trees' are single-stemmed, although they may branch at a short distance above ground level.

'Mallees' are multi-stemmed from ground level, usually less than 10m in height, often with the crown predominantly at the ends of the branchlets and individual plants may combine to form either an open or closed formation. Many mallee trees may be so low growing as to be considered a shrub. Various terms, such as mallet, marlock or morrell, describe certain species and their growth patterns in this complex genus of trees and shrubs. Depending on the species, tree sizes can vary between 10m and more than 60m and the leaves are alternate and waxy or glossy green, although in the UK we typically see



Eucalyptus rubida

Eucalyptus cretata

Eucalyptus flowers, capsules and buds

PHOTOGRAPHS COURTESY OF WIKIPEDIA COMMONS UNLESS OTHERWISE STATED

Amazing fact

Eucalyptus trees in the Australian outback draw up gold from tens of metres underground through their root system and deposit it as particles in their leaves and branches. X-ray elemental imaging at the Australian Synchrotron clearly showed deposits of gold and other metals in the structure of eucalyptus leaves from the Kalgoorlie region of Western Australia that would have been untraceable using other methods. The amounts detected are too small to be useful but serve as an indicator of the presence of gold deposits.

leaves that are a powdery white colour over green. The bark again varies between species and the maturity of the tree, but successive layers add to the size of the tree, although others are annually deciduous and renew growth by shedding the old bark. One species – E. globulus – can re-fix internal CO_2 in the absence of foliage, meaning it can recover well after a forest fire or in a poor climate.

Characteristics

The wood the tree produces varies very much according to species, but in general they are fast growing and useful in various industries. In the UK the species we commonly see has a very twisted, spiralled trunk making the timber awkward to use for conventional purposes. A key feature of eucalypts is their ability to draw up and hold water. This is sometimes seen to be a threat to other flora because of the amount of water they can take in. In spite of this they can also be highly inflammable due to the presence of oil-rich air in the crowns of the trees fuelling bushfires. The trees have also been known to explode in the right conditions.

PHOTOGRAPH BY GMC/ANTHONY BAILEY

Eucalyptus footed pedestal, by Richard Chapman

Eucalyptus bark

Koala eating eucalyptus leaves

Epicormic shoots on eucalyptus following a bushfire

PHOTOGRAPH BY GMC/ANTHONY BAILEY

A eucalyptus drinking in a reservoir

The timber

There are so many species that can be used in one form or another for woodworking, but typically as a genus it is almost exclusively used for turnery, where the highly figured and faulted timber is more suitable than it would be for furniture and other standard items. Most species are moderate to hard in density and may be difficult to work with standard tools. Depending on the type it can be an interesting challenge to work with.

Uses

In poor areas such as Timbuktu, Mali and the Andes, several species are used for ornament, timber, firewood and pulpwood. In a number of industries it is used for fence posts, charcoal and cellulose extraction for biofuel.

Eucalyptus oil is steam distilled from the leaves and can be used for cleaning and as an industrial solvent, an antiseptic, for deodorising, and – in very small quantities – in food supplements, especially sweets, cough drops, toothpaste and decongestants. It is an active ingredient in some commercial mosquito repellents.

Eucalypt wood is used to make the Aboriginal didgeridoo wind instrument. A tree trunk hollowed out by termites is then cut down if the bore is of the correct size and shape.

All parts of eucalyptus may be used to make dyes on fibres such as silk and wool, by processing the plant part with water. Colours range from yellow and orange through green, tan, chocolate and deep rust red. The waste material remaining can be used as mulch or fertiliser.

To find out more about individual species for use in woodworking we would recommend *Wood Identification & Use* – revised and expanded by Terry Porter, from GMC Publications. It has a whole section on this very complex family of trees. ■

Sawfly larvae

Pests and diseases

Although apparently well defended by oils and phenolic compounds, eucalypts do have insect pests. These include the eucalyptus longhorn borer and the aphid-like psyllids, which have become established throughout the world wherever eucalypts are cultivated. The beetle *Austroplatypus incompertus* makes and defends its galleries exclusively inside eucalyptus plants and the trunks and branches of the eucalyptus tree allow the huge bentwing ghost moth to feed and protect its larvae and pupae.

PHOTOGRAPHS COURTESY OF JOJO WOOD UNLESS OTHERWISE STATED

JoJo Wood

The time-worn expression 'a chip off the old block' could not be more apposite in this month's study of a woodcarver

JoJo is involved in an AirBNB and HCA campaign to bring spooncarving, and Heritage crafts to more people

PHOTOGRAPH BY RANKIN

When I discovered JoJo Wood's website – well, one of them, anyway – I didn't realise just how complicated it would be attempting to describe just one person. JoJo, who is the daughter of woodcarver Robin Wood MBE, is – to use another rather hackneyed expression – multi-faceted. She has not only learnt about shaping wood from her father, maybe it's in the genes as well? She also shares with him a strong desire to do a lot more than 'just carving'.

Spoon carver, clog maker, teacher

JoJo says: 'As a second-generation green woodworker, I have been making almost since I could walk. I spent my early years travelling the world with my father, meeting craftspeople and amassing woodwork skills and knowledge, building the perfect foundations for mastering my chosen crafts. I am now one of the world's leading spoon carvers, and am training under the last of the English clog makers, Jeremy Atkinson. I aim to inspire more women and younger people to get into woodworking, teaching that technique wins over physical strength every time.

'I am also passionate about how beneficial craft can be for our mental wellbeing. I have spoken regularly over the years about my own experiences within craft, and how I have seen craft help other people. I am founder of Pathcarvers, a social enterprise based in Birmingham, UK, where we try to help bring the positive aspects of creativity to a wider audience.'

Design and making

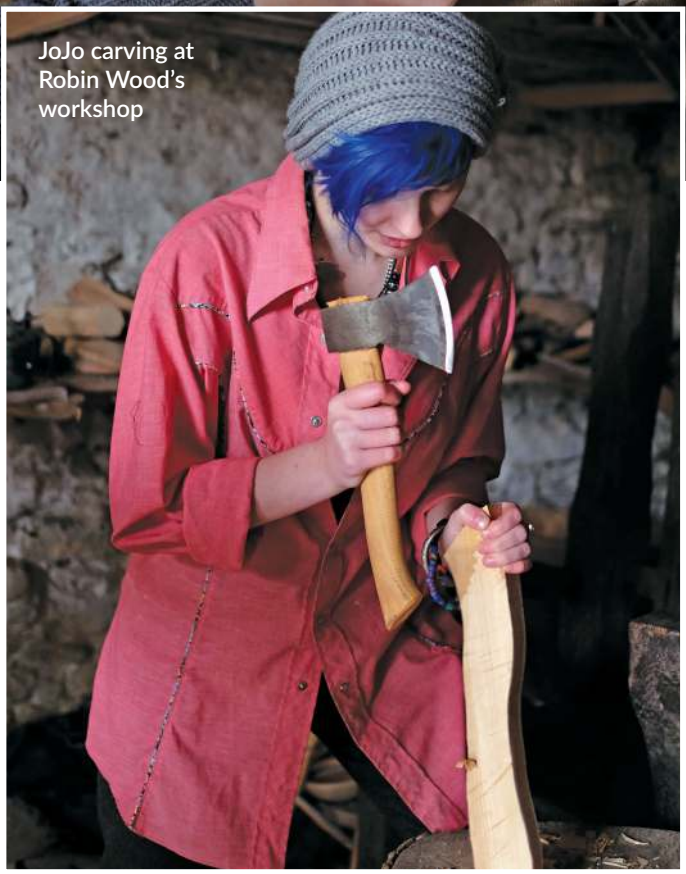
JoJo is never happier than when in her shop/workshop in Birmingham, preparing blanks for carving spoons or, more recently, her venture into making clogs the traditional way, then to shape them into exquisite forms we can readily recognise. But for her it isn't just the execution of those hand skills, the product of many hours learning those skills, it is the beauty, simplicity and the artistry of the finished pieces that make them stand out from the crowd. There is a sort of common theme that shows itself, shapes that seem to reoccur and yet are never quite repeated, always a bit different. A humble wooden spoon is never humble when it finally leaves her hands. There is a sort of beauty that defies explanation. It is a skill beyond just pure craftsmanship. ➤

PHOTOGRAPH BY GILES W BENNETT

PHOTOGRAPH BY PETER FOLLANSBEE

JoJo teaching the intricacies of Spooncarving at Greenwood Festival, USA

PHOTOGRAPH BY PETER FOLLANSBEE



JoJo carving at Robin Wood's workshop

PHOTOGRAPH BY GILES W BENNETT

JoJo teaching at Spoonfest

Tool making

Wood Tools is the venture of father and daughter, and this is their story. The idea began while teaching spoon carving courses. Robin grew frustrated by the lack of a perfect carving axe to recommend to beginners. So he set out to get his own made. With 25 years of using, forging and teaching tools he knew exactly what he needed. But it had to work for everyone, which is where JoJo came in. A 17 year-old budding spooncarver, she was at the opposite end of the spectrum, well-versed in the theory but lacking the physical strength to wield larger axes. If they could find an axe that worked for both of them it would suit most people.

Robin says: 'Now six years on we're the perfect father and daughter tool design team. We love playing with tools, we love old quality tools and we want to make tools that give years of trusted use, becoming the valued antiques of the next generation.'

Speaking of which...

JoJo isn't just a craft and tool obsessive – in a very good way – she also wants to promote and propagate crafts skills to help prevent them dying out and to encourage people everywhere to take up the challenge of learning and enjoying a craft that is a perfect antidote to a modern, digital, high-tech world, bent on destroying natural resources and seemingly not caring. She has appeared on UK and international television and in the press, spoken at conferences and events about design, her journey through craft, and how our mental and physical wellbeing can be improved through craft and making. She also teaches worldwide and travels to far-flung places to study how crafts such as spoon carving are done, often forming a basic income in poorer communities.

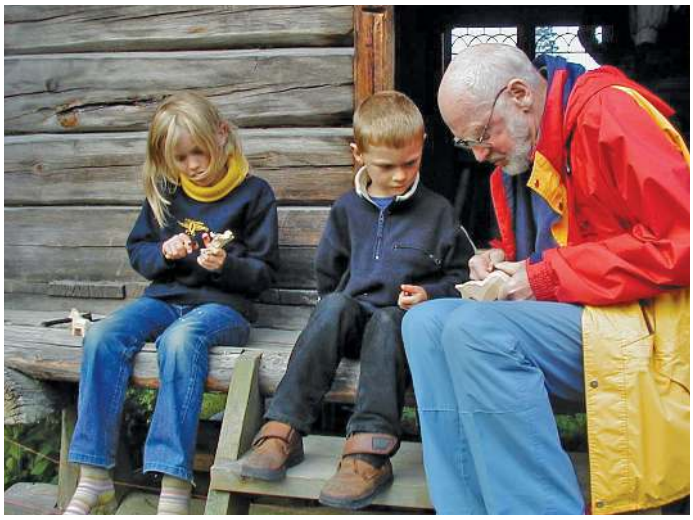
Pathcarvers

JoJo is the director and founder of Pathcarvers, a social enterprise based in Birmingham, UK.

She says of the project: 'Pathcarvers came about because I could see how craft can help so much with mental health. The act of creating and making can do so much for your wellbeing. It had been extremely beneficial to me, and I wanted to give other people the opportunity to experience this themselves. The project grew from there.'

So what made you choose Birmingham? 'In some ways, Birmingham chose Pathcarvers. As a city, it is one of the most interesting in the country, and I love being here. There is a lot of creativity, and it is a very exciting place to be.'

What is Pathcarvers' purposes? 'To make the beneficial aspects of craft to your health more available to people



JoJo and her brother, Ollie being taught by the late Wille Sundqvist

JoJo and instructors at Greenwood Fest, USA

who would not usually have access to it, whether that be educational, financial or whatever, to apply this as a way of helping with your mental health, and also how it can help with your physical health. We do this by opening up access to areas of the community who would not usually see craft as a way to help with their wellbeing. We have subsidised courses for people with early onset Parkinsons, have had courses attended by people with autism, depression, anxiety – a whole range of people have come to us and used craft in this way.

'There seems to be more focus on mental health recently, and that is a good thing. We are happy to be creating an environment where people are able to talk about their mental health, and it is great that larger organisations are now taking these things seriously too.

'We also see how craft can be used to create an environment where people can excel at being themselves. We have been involved with creating projects for refugees, projects around knife crime and projects for young people.

'We also see Pathcarvers as a potential launchpad for people who can see craft as an occupation. I have made a successful career with craft and Pathcarvers offers support to people who would like to pursue that themselves, from marketing help to providing a platform from which to sell.'

Pathcarvers is now well over a year old, so what is next?

'To consolidate our efforts here in Birmingham, with more courses in different areas of craft. We are also looking at opening workshops in other areas of the country, which we are in the early stages of already. I do feel, and have seen, that Pathcarvers is making a difference already, and I just want to continue this work.'

The future

So you see, it isn't just about wood, or carving – it's about people and the remarkable effect that someone still relatively young can have helping to transform people's lives and sustaining crafts at the same time. Recently JoJo has worked with the Heritage Craft Association and AirBnB Experiences to give people the chance to try some of her workshops. So there seems to be no limit to what JoJo Wood can achieve.

If you want to find out more about JoJo's latest activities, visit her Facebook page: **Jo Jo Wood Craft**. ■

PHOTOGRAPH BY RANKIN

SOCIAL MEDIA
Instagram.com/jojowoodcraft
Facebook.com/jojowoodcraft
Instagram.com/pathcarvers
Facebook.com/pathcarvers

WEBSITES
Jojo-wood.co.uk
Pathcarvers.co.uk

Triton Superjaws test

The **Editor** gets a grip at last, thanks to working with these well-known Triton machines...

An overview

Triton has a wide portfolio of orange signature products, of which the two Superjaws models plus a Multi-Stand form a standalone group. Superjaws originated under the long-defunct grey livery ELU brand but Triton has very much made Superjaws its own. Many have heard of it but I suspect also that there may be many who haven't been won over, preferring to use other kinds or work support instead. I thought I should give these machines a tryout, which is what they are, due to the clamping mechanisms.

The SJA100E is perfect for carpentry operations

SUPERJAWS SJA100E

The term portable just about fits. This is a heavy lump, not easy to cart around, but that is the price you pay for a very rigid work support. All steel and heavily coated, both it and the XXL model were subjected to an extended 'rain test', which they both passed. That was important because there is a likelihood either model could be left outdoors even if it is under open cover. Assembling it for use isn't tricky. Place it on the ground upside down, undo the back leg, which is the means of carrying when folded, slide it backwards, lift and pull upwards, push down into the leg socket and tighten. The front legs unfold and click into their locked position. Pull the treadle forward until it latches, then turn the Superjaws right way up for use. Closure is the reverse process, although the treadle uses a sprung lever to unlatch and similarly with the front legs.

L to R: SJA100E, SJA100XL, Multi-Stand

In use

The rear jaw and long, black-painted steel pressing are loose at this stage. Place an object between the rubber-faced jaws, press down on the treadle until the jaws are closed really tight and flick the red lock button at the front downwards. To unlock, flick the red button upwards and press the treadle once to release. The rear jaw can be reversed for holding very wide objects such as wooden panels.

There are accessory metalworking jaws and log jaws, which are bolted on once the rubber jaw facings are removed. I would note the rubber plugs and cups on both Superjaws could get lost and bolting on metal jaws is a bit tedious. All jaw types would benefit from snap-in connectors of some sort.

Verdict

Pressing down on the treadle firmly

Engineers jaws on the SJA100XL being used to cut a steel pipe

Unfolding the SJA100E to ready it for use

before locking applies a great deal of force and the chosen object stays firmly fixed for working on. Using the log jaws and gripping a thick, unevenly-shaped log of boxwood for sawing presented no problem. Reversing the jaws to hold an oak panel for trimming with a circular saw, again no problem. The tricky one was gently but firmly holding a length of plastic downpipe using the shaped engineer's jaws. To the Superjaws' credit, both gentle clamping and careful release pressure barely flexed the pipe, although I wouldn't try it with a hen's egg instead…

It was hard to find a test that would overcome the clamping and weight-bearing capacity of this basic model. It is tough, full stop. Both the log jaws and engineer's jaws have definite uses and once the whole thing is folded and stowed it need not take up a lot of space in the workshop or car boot.

SUPERJAWS SJA100XL

This more chunky model does the same thing but scaled up in both strength and weight. Not to my mind at all portable – note the swivelling handle for turning it over during assembly. The extra strength derived from heavier build means more load can be supported and the jaws are larger with commensurate added pressure applied to larger objects. This time, instead of sprung assembly for the front legs, there are twist knobs. The treadle positioning is the same, done by pulling forwards until it latches in the working position. It too has it's own larger accessory engineering and log jaws. There is also a tray for keeping items handy and triangular section aluminium bars that accept a roller work support and a plain work support.

Verdict

This is a bruiser and it's meant to be, the heaviest model for the heaviest work. What it lacks is a set of transport wheels to tow it along behind you. I'm surprised Triton hasn't created an accessory to do this, but I think you could create your own with a bit of ingenuity. There doesn't seem to be much that could defeat this machine. I dumped a big apple log in the log jaws, which bit into it satisfyingly. I only wanted to try trimming the end as the log might yield some useful timber, but this test did me a favour as the log was rotten right through so I just chainsawed the lot. Undoing the jaws and moving the log along between cuts was really easy. Gripping a steel tube for cutting off using the engineer's jaws was a doddle. The accessory tray and the bars and work supports I was less enamoured with, especially as I had the Triton Multi-Stand for holding lengthy timber. Like its kid brother the rear jaw is reversible for holding wide workpieces.

Multi-Stand

This is collapsible but designed to take a heavy load. The legs don't lock, which is a bit irritating when you move it around, and the rubber foot covers can slip off – a bit of contact adhesive inside would sort that. The swivelling head can turn vertical, which is handy for working on doors if they are resting on blocks. It works as an outfeed stand if you clamp a piece of 'eased edge' timber in the opening to bring it up to typical machine table height and, like the Superjaws, it can be screwed down to prevent movement.

The complete range of Superjaws accessories

Tech spec

Superjaws SJA100XL
- Clamping range 0-1000mm
- Clamping force 1000kg
- Maximum load 250kg
- Weight 21.5kg

Superjaws SJA100E
- Clamping range 0-955mm
- Clamping force 1000kg
- Maximum load 200kg
- Weight 14.5kg

Multi-Stand MSA200
- Min/max height 635-940mm
- Min/max clamping width 31-51mm
- Maximum load 100kg
- Weight 5.3kg

Prices
- Superjaws XXL £109.28
- Log jaws XXL £21.01
- Engineer's jaws XXL £32.05
- Tool tray support £27.38
- Extension bars £27.57
- Roller support £44.08
- Side support £32.87
- Superjaws SJA100E £73.61
- Log jaws smaller £20.80
- Engineer's jaws smaller £31.73
- Multi-Stand £28.11

For more information:
www.tritontools.com/en-GB

Verdict

A great bit of extra support when you need it, although a Superjaws will handle quite long workpieces anyway.

Conclusion

When I checked the prices I was surprised that none of the kit is pricey for what you are getting. Superjaws are an acquired taste if you are used to the typical flimsy workcentre, but it's definitely a taste worth acquiring if you want rock-solid, reliable gripping and support. ■

Loosening the rear leg on the SJA100XL ready to become the carry grip

Welsh stick chairs - *Part II*

PHOTOGRAPHS BY GARETH IRWIN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In Part I, **Gareth Irwin** described the history and development of the Welsh stick chair and preparing the basic components – now read on...

1 Once the seat slab has been cut out, the edges can be smoothed with a spokeshave. Clamping the slab in a vice, work from the centre at the back to each front corner. The front edge can either be planed flat, smoothed with the spokeshave to give some shape or even left with the waney edge. If the chair wants to have a delicate feel to it, a chamfer can be made under the outside edge of the seat to give the illusion of a thinner board. Conversely, the front edge can be angled back to accentuate thickness. If under-chamfering, leave this job until later as the angle will make holding in the vice awkward.

Saddling or scooping the seat slab

I have seen old chairs that range from completely flat to deeply hollowed out and sometimes with a raised centre pommel, and it has to be said that at least a little hollowing towards the rear of the seat does greatly add to the comfort of a chair. If the seat is only 40mm thick then obviously the saddling can only be subtle if it is to have enough 'meat' where the legs are joined in. Most old Welsh chairs had thick slabs, retaining plenty of thickness to allow the legs to be fitted well in from the edges. This meant plenty of splay and rake for stability. Later Windsor chairs had very thin seat slabs which, after saddling, left only the front corners and rear edge thick enough to accommodate the leg mortises. This resulted in quite upright legs that needed a stretcher to stop the associated 'racking'.

2 For deeper saddling, a long-handled gutter adze is best for removing most of the waste. The slab is placed on the ground and, while standing on the edges, the tool is swung, chopping across the grain.

3 For shallower saddling, the slab is held upright in the vice and a short-handled carving adze can be used to chop downwards, again across the grain.

4 To remove the chop marks left after adzing, a travisher (curved spokeshave) or scorp (curved drawknife) work well.

5 The final smoothing is best done with a sharp, burr-edged cabinet scraper, this time working along the grain, paying special attention to grain direction.

The result should be a smooth, scooped surface with an untouched, 50mm-wide, flat surface running round the rear of the seat top from one front corner to the other. This surface is where the upper sticks will be joined in, which can now be planed smooth.

The leg mortises can now be marked


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on the flat underside of the seat slab. For the front legs, mark two points that are 100mm from the front edge and 125mm in from each side. For the rear legs, mark two points that are 100mm from the rear edge and 250mm apart. If a centreline is drawn from the front to the back of the slab, these rear leg marks should be equidistant from it. ➤

6 Using the two adjustable bevel method, the front leg mortises can be made using a brace or drill and 32mm bit with 72° on the splay bevel and 80° on the rake bevel. The rear legs should have 80° on the splay bevel and 65° on the rake bevel. As the augur tip just reaches the other side, stop and complete the hole from the other side to avoid tear-out.

7 The angle for this will be freehand but is easy enough to judge. Any under-chamfering to the underside of the seat slab can now be done.

8 The leg billets that were roughed out in Part I will have had a month or so to dry out and can be finished and tenoned. These can be any shape you like but, because of the triangular wedge-shape that a cleft log produces, these billets can be worked down to a hexagonal shape by simply taking off the corners and smoothing down the resulting six sides. This is easily done with a shaving horse and drawknife, but difficult with a vice and plane. Many old Welsh chairs have hexagonal legs, which suggests that using a shaving horse is how they were made.

The leg tenons can be shaped when the wood is completely dry, by either drawing them down with a spokeshave or turning them on the pole lathe if the legs are straight enough. A template hole is useful for both methods.

9 After sawing a slot for the oak top wedge at 90° to the seat grain, the legs can be fitted, cut flush and levelled. Note that the front of the chair seat should end up being 40-50mm higher than the back, so when packing under the legs to mark the cut lines, 40-50mm needs to be added under the front legs.

10 The rear long sticks can now be shaped with a 16mm tenon at the bottom, widening a bit, then returning to 16mm at about 280mm up and tapering down to 13 mm at the top. These long sticks need to pass upwards through 16mm holes in the armrest, getting tightish with about 280mm left below.

11 Five 16mm holes roughly 75mm apart for the long sticks can be bored through the armrest at 78°. Arrange and fit all five long sticks into the armrest – no glue used here – and offer this assembly up to the chair seat.

12 When it looks correctly aligned, mark where the five sticks touch the seat and bore five holes in these marks at the same angle as the holes in the armrest. The spacing between each stick may vary here and if your way of thinking compels you to make them equal, then try rearranging the sticks until they are.

With the long sticks and armrest dry-fitted into the seat, the arms should be about parallel to the seat. Find a way of holding everything steady to bore the 16mm holes in the armrest for the short sticks.


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13 A 230mm-wide board placed on edge across the chair between the seat and armrest allows things to be clamped together while the holes are bored, sighting through to the seat below. At this point measurements can be taken for the length of the short sticks, which need to be 25mm into the seat and protrude 10mm above the arm.

14 When all the short sticks have been cut, smoothed and tenoned at each end, they can be fitted into the armrest with the long sticks and once again offered to the seat for marking and boring, where they touch, the spacing may vary here too. Mark a line at 90° to the armrest on the top of each short stick and, after making a note of which sticks go where, the short sticks can be removed and a slot can be sawn 25mm deep in the top of each.

15 Each short stick can be glued into the armrest and then all the sticks can be glued into the seat. Once everything is tapped into place, oak wedges can be glued into the top of the short sticks, set at 90° to the armrest grain.

16 Once the glue has dried, the tops of the short sticks can be trimmed flush and a comb top made.

17 At this point I like to sit in the chair and feel where the outer back sticks touch my back. If it feels good then the curve of the comb should match the curve at the top of the sticks. If the outer sticks feel too far forward, a flatter comb will pull these sticks back at the top. It's also worth standing back from the chair and looking at the way the long sticks rise up from the armrest to see if they need to be stretched out or inwards for appearance.

18 A comb can now be cut from a section of a steamed hoop, sawn as a curve from a block, or simply be sawn flat from a plank and the 13mm holes can be bored into it. Once smoothed with plane or spokeshave, this can be glued on and a finish can be applied to the whole chair.

NOTE – Many of the techniques described here are shown in detail in my Pig Bench article in *Woodworking Crafts 45*. ■


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Japanese lacquer panels

Amber Bailey offers a multi-layered approach to the restoration of a 19th-century lacquered panel

Several years ago I was asked by a client to restore two 19th-century Japanese lacquer panels. They came with a variety of problems and, on completion, I swore never to work on lacquerware again. In reality, though, it was a matter of weeks before I was being handed them left, right and centre. They went from being one of those things I'd never before noticed to being everywhere I looked.

As an art form, lacquerware is evident as far back as the 16th century, but pieces were rarely seen in the UK until the 19th century when an influx of lacquerware was imported, mostly adorning dark and heavy wooden furniture. As interior designs have changed, however, these vast, imperial pieces have fallen out of fashion and the lacquerware most frequently found today has been cut down from its original groundwork and fitted into less commanding surroundings. My original Japanese lacquer panels, for instance, were in frames, despite starting out as a two-part folding screen. Since then, as I hinted earlier, I have gone on to complete numerous such restorations. So many, in fact, that I am now happy (and only too able) to convey the process in a series of manageable steps. Here, I am illustrating the procedure by returning to its former elegance this rather lovely but poorly-kept framed panel. ➤

The panel prior to restoration

PHOTOGRAPHS BY AMBER BAILEY

Layered history

Lacquerware is an Asian decorative treatment where lacquer coats an object. Urushi lacquer is typically used, with the urushiol sap extracted from the *Toxicodendron vernicifluum* tree. The sap is applied in layers, often on to a wooden groundwork that has a layer of paper or fabric overlaid. Lacquer is a very durable coating that is both waterproof and glossy. The urushiol sap itself is extremely toxic, with workers often suffering severe damage to the hands.

Health and safety tip

This project involves the use of paint stripper, which can irritate and burn the skin. The chemical make-up of paint stripper is now regulated so that it is much weaker unless bought in industry volumes. It is always advisable, however, to wear hand protection and wash immediately with water if skin contact is made.

Restoring the frame

The surface finish of the frame was chipped and worn, revealing a wood that was much lighter than the varnish would suggest. This dark colouring didn't work in conjunction with the lacquer panel and past experience told me that a lighter frame would be better suited.

Taking the finish back to the wood required a mixture of processes constantly being repeated. Paint stripper was applied, neutralised with water then scraped with modelling tools, particularly for all the fine carved detail. As the wood is very fibrous it was important not to let the frame get too wet in case it became almost furry with damaged fibres during the scraping process.

One corner of the frame was coming loose, largely because of the inaccuracy of the angles when the joint was originally made, so a sliver of veneer had to be glued into place before being carved down to the appropriate level. The aim with the frame was not to go for a brand new look – adding back in some artificial shadow helped with the definition of the frame carving. Sections were painted over a mixture of dark gouache paints before the entire frame was lightly coloured with Van Dyke paste. Once dry the frame was finished in shellac, beginning with a sealing coat of transparent polish and isopropyl alcohol at a 50:50 ratio before a number of layers at a 75:25 ratio. The frame could then be waxed over using microcrystalline wax.

The frame was scraped back in stages to stop the paint stripper from drying out too quickly

A layer of artificial ageing was applied

The finished frame after polishing, still dark but with much more definition

Lacquer groundwork

The major problem affecting lacquerware is movement of the wooden groundwork. As the object undergoes changes in temperature and humidity the wood twists and bends while the lacquer stays unyielding, causing the lacquer to crack in lines across the surface.

Before the damage to the lacquer can be dealt with the groundwork needs to be realigned. The best way to go about this is to drill tiny access holes on the edges of the panel down the lines of the cracks. These holes can then be pumped with water to soften the wood before filling with fish glue (colle de poisson) using a syringe. My panel was then clamped to pull the pieces of wood back together. Quick grips were ideal as I didn't want to inflict too much force.

Holes drilled to enable the groundwork to be realigned

Replacing missing inlay

First, remember that when you are replacing precious materials such as mother-of-pearl and bone it is important to source responsibly and in line with CITES regulations. In my panel, large sections of the mother-of-pearl and bone inlay were missing because of the glue drying out and cracking, as well as the occasional incident of pest infestation because of the appetising sugars found in protein glue. Any remnants of the old glue were scraped away to reveal a clear groundwork.

To re-cut the missing sections, a paper template had to be made, which was stuck on to a new piece of material and cut out with a fretsaw. It is hard to judge the shape exactly so a few trimming attempts did occur. Once fitted tightly, these could be carved. As there is no evidence of exactly how these pieces should look, it takes some guesstimating based on the existing pieces. A rough design was drawn on to the bone or mother-of-pearl and then carved out using jeweller's files and a scalpel blade.

The new sections were stuck into place using a mixture of fish glue and the bulking agent, Microlite. This makes the glue thicker and creates more contact between the two surfaces. This is especially useful with the mother-of-pearl, which in itself was naturally curved then fitted to shaped pieces of wood to form the birds.

A variety of gouache paints were then used to 'age' and match up the new sections of detail. To eliminate any chance of losing colour a coat of transparent polish was applied before all the detail was buffed up using microcrystalline wax. Although the general look of the lacquer panel was to be clean but slightly aged, buffing up the mother-of-pearl as much as possible was an exception as it can gain a really impressive shine. ➤

The panel missing some significant sections

Working out the suitable pieces of blank material

Drawing out a design on to bone

Health and safety tip

The dust produced from these substances is a carcinogen so respiratory equipment is advisable. It can also irritate the skin so wash hands after use and apply a layer of hand cream for protection.

Cut and marked out for carving

A number of pieces of pearl also needed to be replaced

A section of blank bone cut to fit

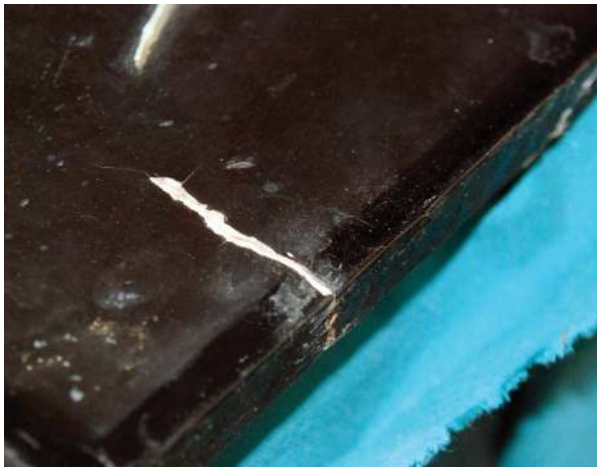
The same piece after it has been carved and coloured up

Cleaning and repairing the lacquer

The final stage was to restore the actual lacquer. Cleaning any evidence of dirt from the surface involved several applications of white spirit and the ever-faithful 'enzyme' cleaning – more commonly known as spitting on to a cloth. NEVER use water as this will leave water stains on the surface that are next to impossible to remove.

The damage produced when the groundwork split needed to be scraped back with a scalpel to leave the surface as smooth as possible. Lacquering is a highly complicated and skilled technique that isn't practical for repairing minor damages. Instead the damage can be covered up using a fine natural fibre brush and applying gouache paint in the appropriate colour. To seal this, a layer of transparent polish was coated on, making sure not to leave any obvious brush marks.

To give the lacquer a final clean and polish, the surface was buffed up using microcrystalline wax. This wax has an abrasive texture that helps polish out any scratches. ■



Scraping the surface flat will make the lacquer touch-up far less obvious as it should not catch the eye in the same way

The panel with all detail complete and most of the damage to the surface hidden

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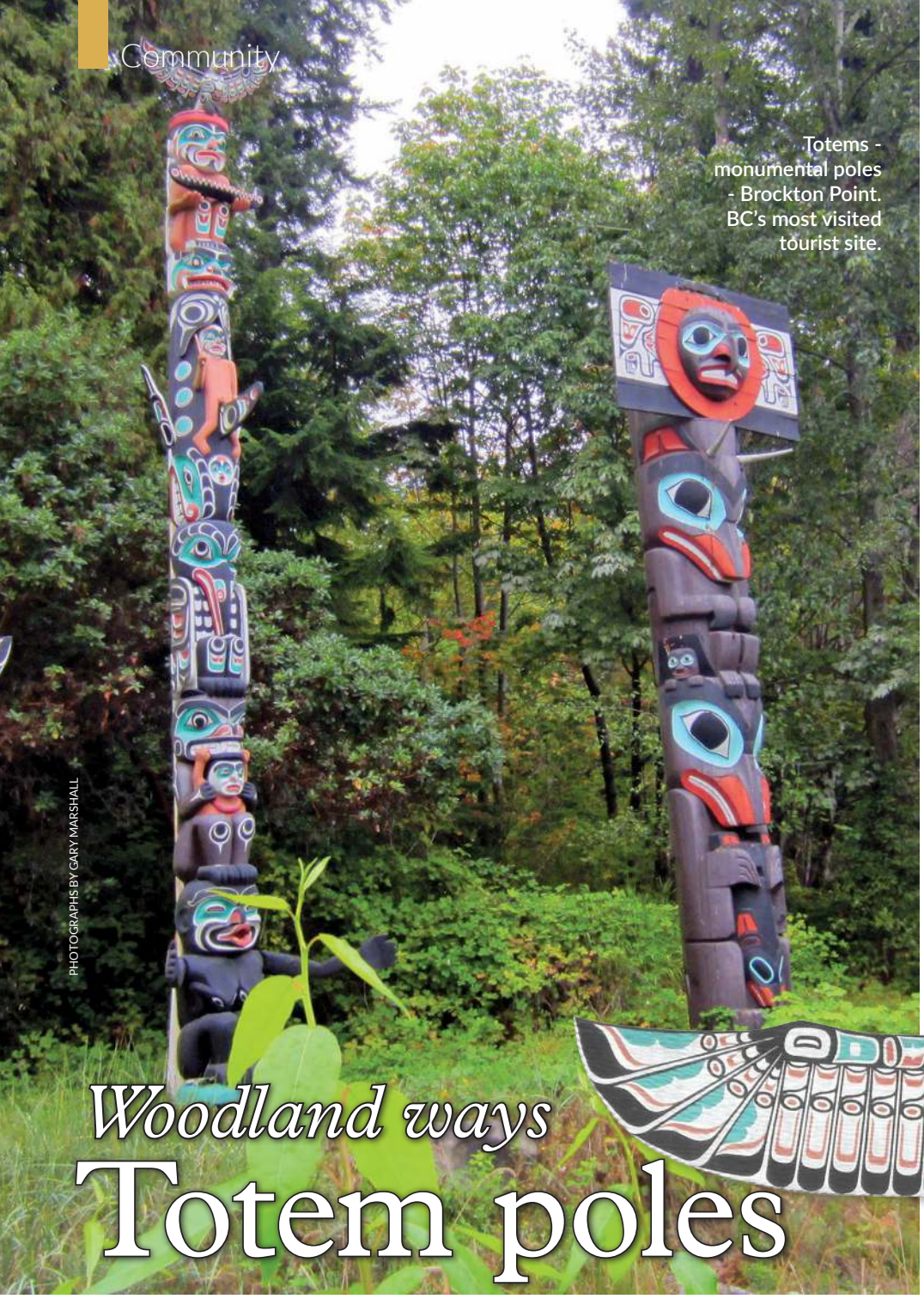
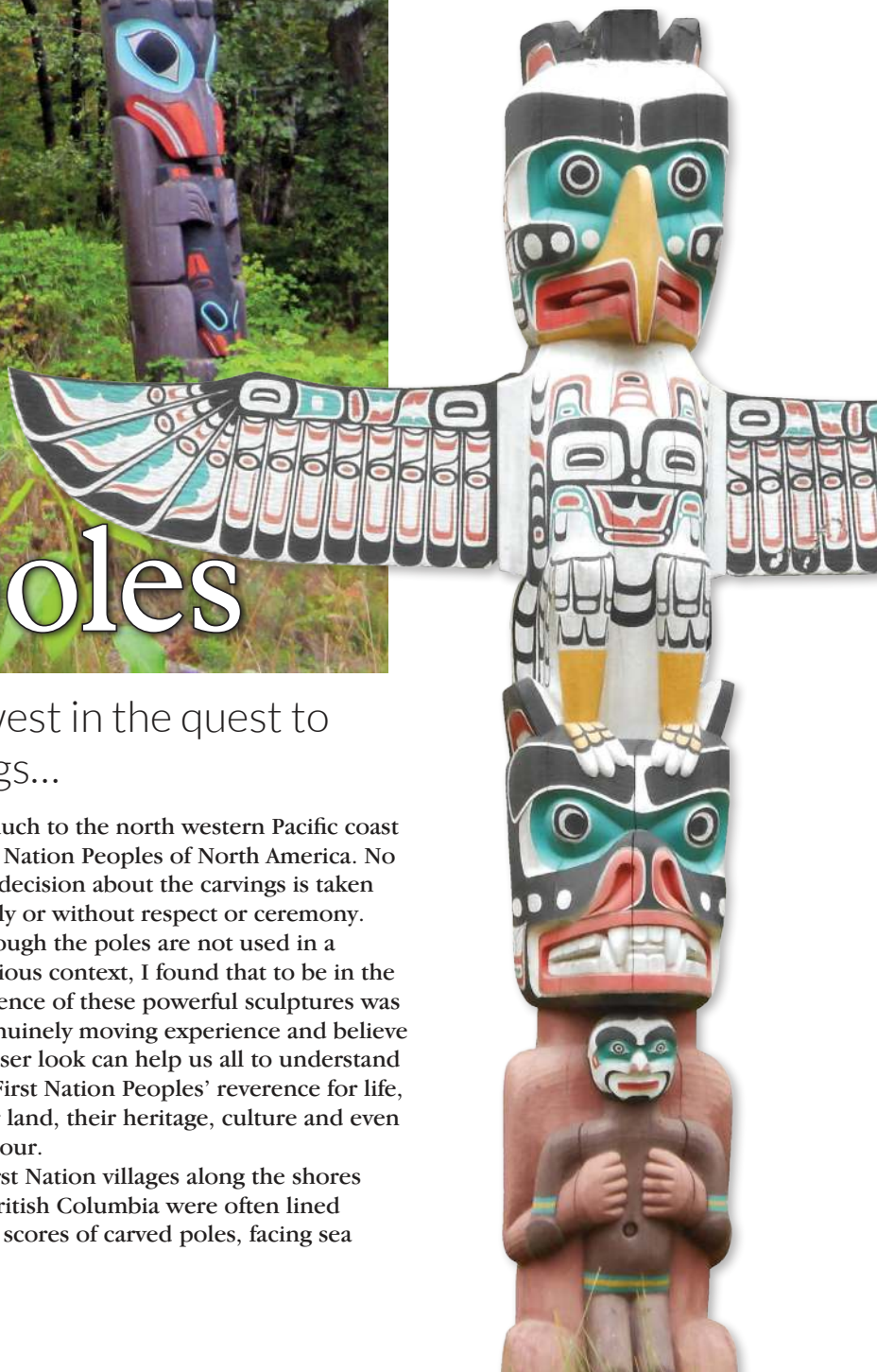


Totems - monumental poles - Brockton Point. BC's most visited tourist site.

PHOTOGRAPHS BY GARY MARSHALL

Beautifully carved cedar portal, Brockton Point



Woodland ways Totem poles

Gary Marshall goes way out west in the quest to find some monumental carvings...

I am fascinated by the history and diversity of these iconic monumental carvings in British Columbia and Alberta. During a recent trip across Canada I was able to see them for myself. They are more than just art: they hold history, mark events and serve as a way to 'document' stories.

The choosing and honouring of a suitably tall, straight western red cedar (*Thuja plicata*) from which a totem pole is usually carved; the ceremony at which a pole is erected (the potlatch); the animals and symbols depicted on the poles; and the choice of colouring (if any) all means so much to the north western Pacific coast First Nation Peoples of North America. No one decision about the carvings is taken lightly or without respect or ceremony. Although the poles are not used in a religious context, I found that to be in the presence of these powerful sculptures was a genuinely moving experience and believe a closer look can help us all to understand the First Nation Peoples' reverence for life, their land, their heritage, culture and even humour.

First Nation villages along the shores or British Columbia were often lined with scores of carved poles, facing sea

Longhouse and totem pole

Interpretation board 'The brothers' – two cedar trees transformed into 'teachers', Victoria BC

Carving of great power – Thunderbird Park Victoria BC

Totem – recognised as cultural symbol in International Conference Centre, Vancouver

These carvings depict (top to bottom): thunderbird – for eagle daughter; human face between wings – men in the family; raven – adopted clan; wolf – son; killer whale held by wolf – sea journeys; woman holding bones from a traditional game – mother of carver

or river. In their misguided wisdom, missionaries from the 1900s onwards visited many of these villages and would encourage the indigenous people to cut down their poles. They were acquired by 'learned settlers' for sterile display in museums or as misunderstood artefacts. Canadian federal law banned potlatch ceremonies and feasts until 1951. Since then there has been a renaissance in pole carving, siting, informed exhibiting and replacing.

Because the north west coast of Canada has bountiful fish, fowl, game and other food and natural resources, the indigenous people there had more time than many other peoples in less favourable areas to create intricate carvings. Archaeology points to totems having been carved before European settlers arrived. However, with better metal blades and tools from the pioneers and settlers the practice flourished. Also colouring became more common, using blacks, red, blue, blue-green and occasionally white and yellow. At first these were natural ochres, now a range of colourants can be seen.

Each pole is individual, all having different stories to tell. The creatures, people and other symbols are highly stylised and differ from place to place. For instance, one people may use narrow eyes traditionally while another may generally use large, wide-open eyes.

Carvings are often of powerful creatures such as the mighty thunderbird – which you would not wish to anger in case he whipped up fierce storms. The eagle, grizzly bear and orcas can also be seen. Some creatures act as family crests. The sun or moon can also be included.

Poles can serve as memorials or even to shame. House posts were common rather than single poles among the Coast Salish of the Lower Fraser in the interiors of longhouses. Some of the tallest poles come from the central coast, where the Haida and the Tsimshian carved towering totem poles, often reaching more than 100ft tall. Deep carving with jutting wings and beaks are typical of Kwakwaka'wakw poles. Many of the poles in this article are from the famous Stanley Park totem pole array, although on Coast Salish land,there are poles from all over coastal British Columbia in the park. Not only are these from Haida, Tsimshian, Salish, Kwakwaka'wakw peoples but also from Nisga'a and Nuu-chah-nulth designs.

Although Canadian cedar wood is rot resistant, it is unusual to see a pole more than 200 years old. Most poles on public display are modern carvings, nevertheless by indigenous carvers with their roots, culture and understanding deep within the landscape they truly know and respect. ■

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Magazine rack

Anthony Bailey makes a stylish holder for your favourite titles

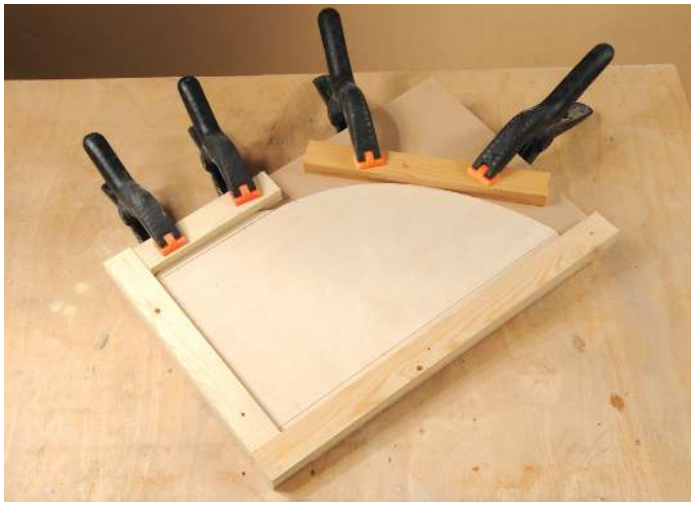
I was looking for a neat, space-saving solution to keep magazines close to hand. This design is perfect for standing next to a settee or armchair, or is equally at home standing against the wall thanks to its single-sided design. Of course, it's ideal for keeping the latest copy of *Woodworking Crafts* next to you if you fancy a spot of armchair woodworking.

THE JIGS

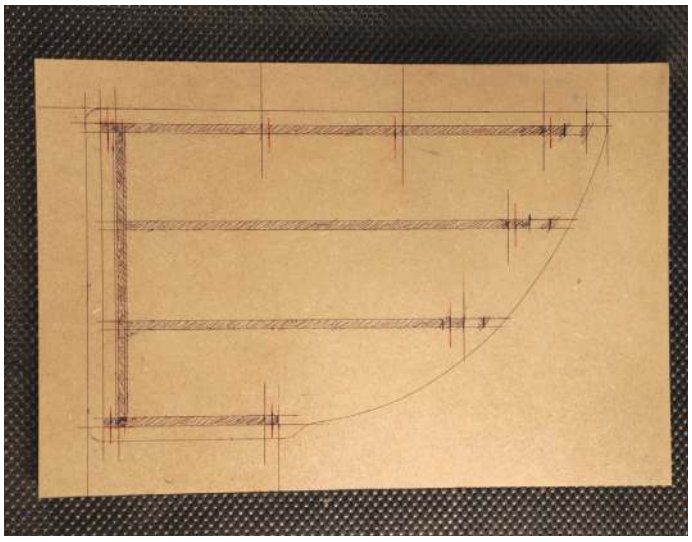
The ply I've chosen for the magazine rack is quite thin, so I've opted for a suitable corner joint to hold the rack together, which is also highly visible, making a feature for the rack. The simplest and most effective method seemed to be a form of through mortise and tenon. The ends have the slots in them so a jig is required. The same jig incorporates the guide bush slots for housing in the dividers and base.

1 The most complex components are the rack ends and they are best made using a jig.

2 The jig is made from 6mm MDF and softwood battens, which are clamped then screwed in place along two sides with a prepared rack side in place. The battens are clamped first before the jig is turned over for insertion of the screws.



3 Fit two other battens in place so the end blank is held firmly. Now remove the blank ready for marking out.



4 Carefully mark out the positions for the rack front and back, the dividers and the bottom panel, on the other side of the jig. Now mark where each slot for the front and back will be. Note that in every case except the base, each is notched back from the end so you get strength and discreet joints. Draw where the guide bush needs to stop (shown as short red lines in this photo). This is where the cutter to make the guide bush slots must start or stop.

PROFILING

One of the basic features of a router is the ability to copy shapes again and again, although this often isn't exploited properly. As soon as you fit a bearing-guided template trim cutter to the router you can mimic any shape exactly. This can be done freehand, although working on the router table gives you much better vision and control of the job. There are other trimmers intended for laminate or veneer trimming as well.

Many different tasks can be done depending on the size of router and cutter in use, even 50mm-thick electric guitar bodies, or other big sections such as brackets, can be made this way.

Standard template trim cutters mostly have the bearing at the bottom, which is safer because if the router lifts (freehand) or the workpiece lifts (router table) the bearing is still in contact with the template or component to be copied, or the blank fixed to it. The top bearing type in the same situation can chew into the job and cause damage. Before starting a trimming operation use a jigsaw or bandsaw to remove the bulk of the waste, leaving no more than 3mm to be machined away, thus avoiding cutter strain.

5 A 16mm straight cutter was used to create slots for a 16mm guide bush using a straight fence and taking care not to let the cutter deviate off course. ➤

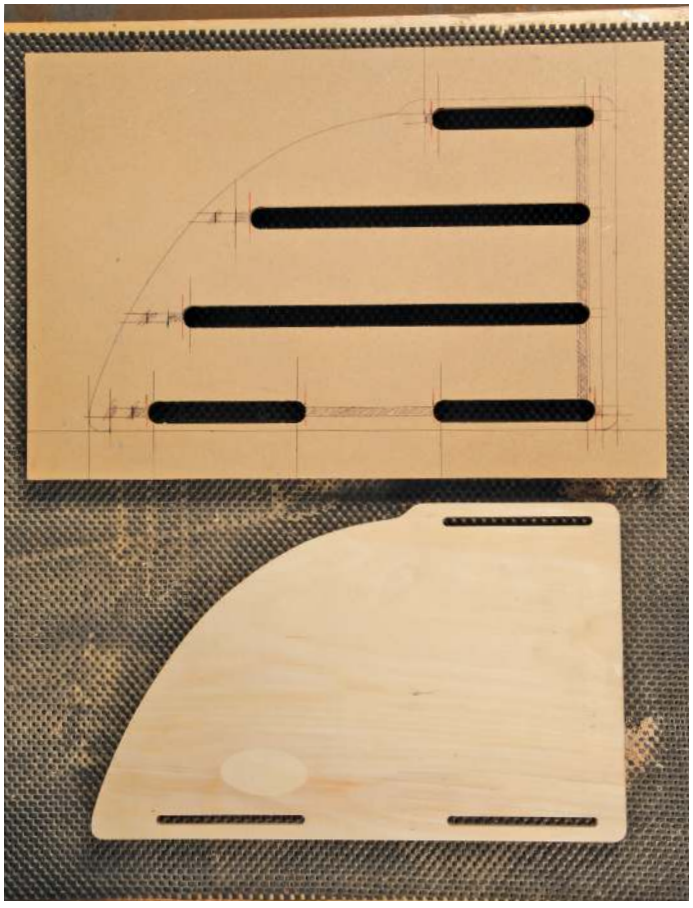
THE CUTTERS

This is a project that isn't 'cutter heavy' – it needs 6.4mm and 16mm straight cutters and a 9.5mm template trim cutter with a bearing at the bottom end. Both straight cutters are essential in a standard kit, although preferably you will have more than one 6.4mm cutter as they are so ubiquitous in routing – likewise the template trim is an easy way to copy shapes with the router table.

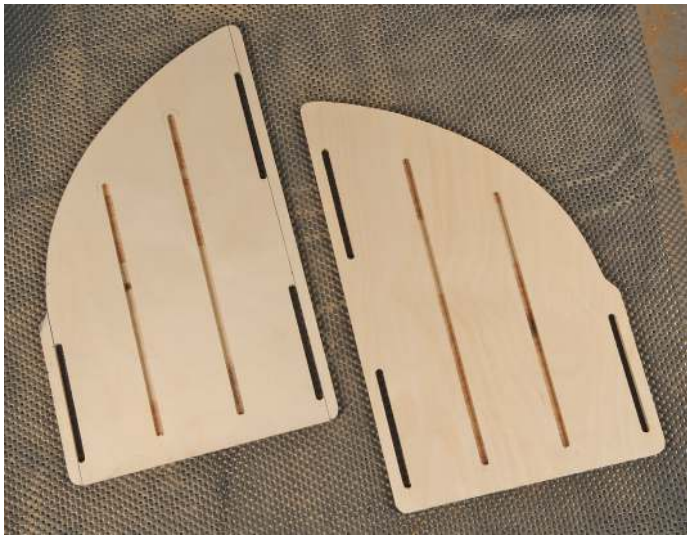
MAKING IT

1 Start by cutting out one end of the rack, allowing for the overlapping corner joints, and finish to size and the finished shape, with a long smooth curve on the top edge. Now cut an oversized blank for the other end.

2 In the router table install a template trim cutter and use carpet tape to fix the finished end piece on to the other, slightly oversize, end blank. You can now trim it to exactly the same size and shape as the finished component. Note the use of a lead-in pin to rub against when starting the cut. This avoids any unexpected kickback. Always press against the rotation of the cutter, not with the rotation. If you do the latter, the workpiece will shoot away from you unexpectedly.



3 Use the end jig to make the long slots in each end component so the ply tenons can slide into them using a 16mm guide bush and 6.4mm straight cutter combination.



4 Now set the 6.4mm straight cutter so it will make the divider housing slots by going down no more than half the thickness of the ply. Note that the battens on the jig need to be fixed to the other face of the jig in order to cut out the other end of the rack as they need to mirror each other.

5 Next, cut out the front and back, allowing for the projecting tenons. Mark out the tenons and make the long cuts between on the router table doing a 'drop-on' cut with the 6.4mm straight cutter, starting where each slot begins, and lift off once you reach the end of the slot. Put marks on the through fence so you can see where the cutter is. Do the short shoulder cuts with a fine-tooth handsaw and round the ends with a chisel so they fit in the mortises.

7 The resulting bottom panel groove neatly meets up with the other slots and grooves.

6 Adjust the router table to make the bottom panel slots. Again, use a 6.4mm straight cutter to make the slots in the sides and ends to take the base. Still use the through fence for continuous support and machine in no more than half the thickness of the ply to avoid weakening it

8 Dry-assemble the rack and measure and cut out both the base and dividers to suit. Notch out the top corners of the dividers so the ends fit in the housings. Sand and assemble the magazine rack with PVA glue. When dry apply a suitable finish and the job is done. ■

A READER'S QUERY

Q I find my router isn't that accurate. When I plunge it leaves a slight divot in the slot I'm starting to make and it doesn't always keep to the same cut line after the first pass when I plunge deeper for the next pass.

A We rather kid ourselves that machines such as the router are accurate time after time, but that often isn't the case. Cheaper routers ought to be worse but that isn't always true either. The US pattern fixed-based routers don't create a slightly deeper spot as you describe, because they cannot plunge, but they aren't all that practical to use, I feel. Make sure your plunge action is smooth and well lubed and lower the router gently as you start the cut. As regards 'offline stepping', this is often worse when using a trammel to cut circles, but can happen with straight cuts as well. Make sure your whole setup is locked tightly for a start, e.g. fence rods and plunge lock, as routers can waggle on the columns when unlocked. If one face is more critical than another, i.e. a 'seen face', then unlock one fence rod and tap the unplunged router over fractionally, lock and re-pass at full depth for a full-depth clean finish.

Coming next month in
Woodworking CRAFTS

ISSUE 49 ON SALE 17 JAN

Making sash windows

- Working with lap and stick shaves
- Make a garden gate
- Vintage hacksaw restoration

PLUS: *Ask the Experts, News & Events, Woodland Ways, Trees for Life and more...*

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Linenfold panels

Paul Bignell shows you how to carve a simple linenfold design on oak panels

This design, known as linenfold, goes back, I believe, to the 16th century when frame and panel chests were the storage choice for top homes – I presume the chests with the linenfold embellishment were used for the storage of linen and blankets etc.

For this project I have chosen measurements that allow me to carve the lower half of a panel on some reject oak panel that I usually purchase on our class trips to Yandles – they are cheap and particularly useful for lettering lessons. You can, of course, scale the drawing to suit your own size and material requirements.

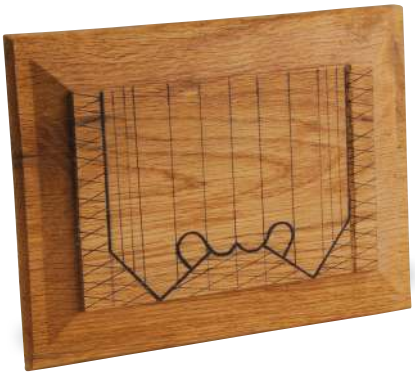
Getting started

Once you have chosen your workpiece and dimensions, mark out the design with the lines, and with centrefolds and drapes (see **photo 2**).

The first stage of this project is to chisel away all the surplus wood from the outside lines and cut out the two flat-bottomed channels (see **photo 3**). For this part of the exercise, I used a ¾in and a ⅝in flat chisel, and a ⅜in No.7 gouge.

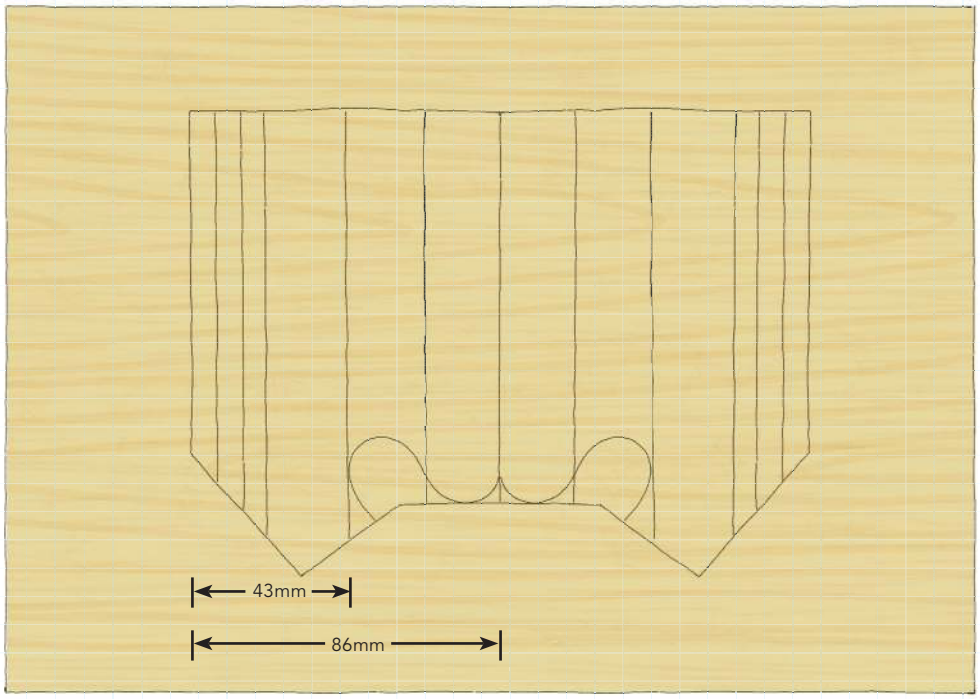
Next, gouge out both deep channels of the centrefold – I used a No.7 and No.8 gouge for this part of the job (see **photo 4**). With the two centrefolds gouged out, I carved in the open

1 This is my practice piece before starting out on the oak panels



2 Mark out the design

3 Remove waste and cut the two flat-bottomed channels



Initial cut lines with bandsaw, fretsaw or scrollsaw

Primary detail sections

PHOTOGRAPHS BY GMC/ANTHONY BAILEY. DRAWINGS BY ROBIN SPRINGETT

Carve with Paul...

Paul Bignell teaches woodcarving at Bognor Community College on Wednesday evenings, 7-9pm.
For further information, contact the college.
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Website: westsussex.gov.uk/adulteducation

ends of the centrefolds to create the impression of the open tube-type ends.

With a ¼in No.11 gouge, take out the two end folds. For this demonstration I have only carved the left-hand end fold and the left-hand open end of the centrefold. With both the left-hand and right-hand folds carved out, the basic layout is now complete.

Finishing

It is now time to round off the upper edges of the folds and undercut the lower folds (see **photo 5**). As a visual guide, the 'end-on' profile of the panel is illustrated and will show the extent of rounding off and undercut needed to achieve the finished article (see **illustration below**). I used a palm skew chisel and detail knife to tidy up the undercuts prior to the final finishing.

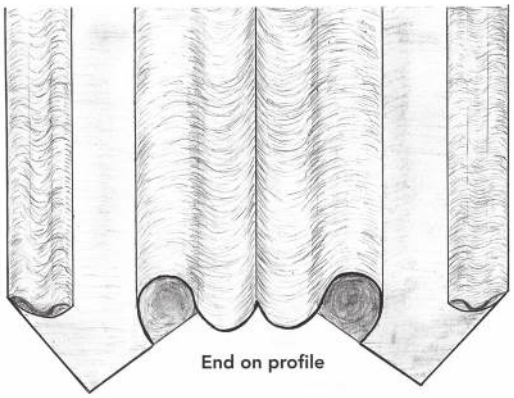
The final finish on the panel shown is achieved with Flexcut detail scrapers and two applications of Ronseal natural oak furniture oil.

Helpful hints...

Mark your design on acetate. When carving, you will naturally carve away your drawn lines on your panel but if you have the design drawn on a simple sheet of acetate, then you will easily be able to transfer the lines once again on to your carving.

4 Gouge out both deep channels of the centrefold

5 Round off the upper edges of the folds and undercut the lower folds



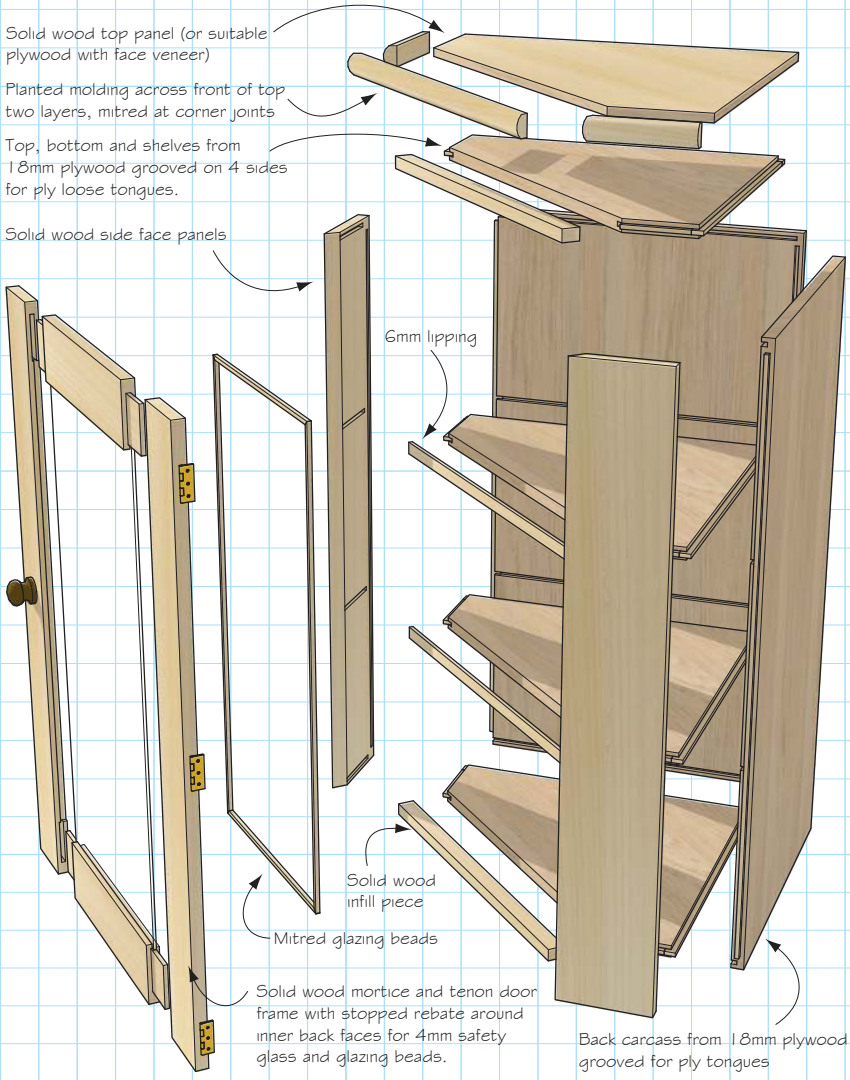
PLANS 4 YOU

Corner cupboard

Simon 'hang 'em high' **Rodway** brings us a traditional furniture design

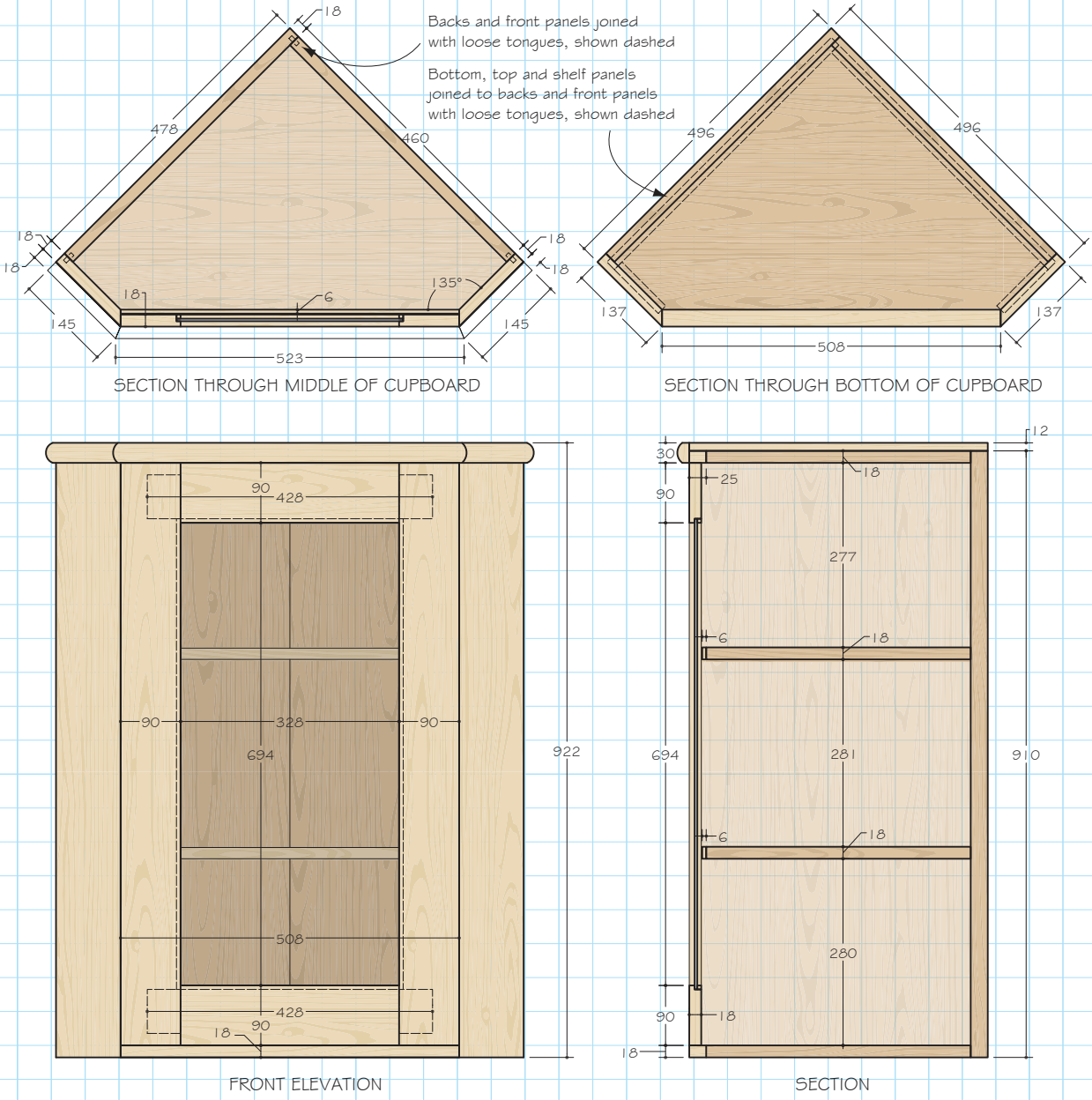
Cutting list

Back	1 @ 910 x 460 x 18
Back	1 @ 910 x 478 x 18
Bottom/top/shelves	4 @ 460 x 460 x 18
Top	1 @ 496 x 496 x 12
Moulding	2 @ 145 x 30 x 18
Moulding	1 @ 523 x 30 x 18
Shelf lipping	2 @ 508 x 6 x 18
Top/bottom lipping	2 @ 508 x 25 x 18
Front panels	2 @ 910 x 137 x 18
Door stiles	2 @ 874 x 90 x 18
Door rails	2 @ 428 x 90 x 18
Glazing and beads to fit	



From a design point of view, corner cupboards are always a bit tricky, for the simple reason that the main carcass is rotated 45° from normal. You then have the problem of cutting the exposed corner off and inserting a door, which is then itself at 45° to the body of the cupboard, leaving the angle between the door and carcass to be resolved. There are a number of ways of doing this, including a matching bevel on the outside of the door stiles and the carcass, or extra intermediate vertical pieces on either side of the door and in the same plane, with the angled joint between these verticals and the main carcass. I have gone for a slightly simpler solution, putting the angle on the ends of the two outer carcass sides, and keeping the door stiles square at the corners.

The construction of the cupboard can essentially be divided into two parts – the front panels or sides and



the door, and the carcass behind. The front is all solid timber, and the door is constructed using traditional mortise and tenon joints, with a rebate running around the inside back edge to allow 4mm safety glass to be inserted. A mitred glazing bead pinned into the frame behind secures the glass. The two solid wood carcass panels on either side have the 45° bevel where they meet the door. This does result in a fairly sharp corner and these side pieces could be thickened slightly to 20mm and then planed off parallel to the face of the door, giving a very narrow bevel on the front face.

The back section of the cupboard is made from 18mm ply, joined throughout with splines or loose tongues. The front edges of the two shelves have 6mm lipping, and the inner top and bottom pieces have a thicker lipping. The top, which could be visible depending on the height the cupboard is fixed at, is either 12mm ply faced with an acceptable veneer, or a solid timber panel to match the front. In the event that the cupboard is wall mounted so that the bottom is visible, this arrangement could be reversed and a panel added below the bottom, with a deeper lipping below the door.

The front edges of the two top pieces are finished with a moulding of your choice.

The door is fixed with three hinges, a handle added and a small magnetic catch inserted into one of the shelves to prevent the door swinging open. ■

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Romantic baths are the ultimate sanctuary in which to soak and soothe weary bones. White – my go-to colour for the loo – creates a bath that is crisp, neat, tidy, and inviting

A vision in white

Ladderback chair bathroom caddy, by Sue Whitney

Chairs have been painted and hung on walls before. I know this. The impetus for my version was to make the chair work hard in a different form than it was intended for while maintaining its simplicity of design. This charming chair is both high functioning and drop-dead gorgeous.

Accommodating caddy

Bathrooms tend to be on the small side and don't typically have a ton of available wall space. Then why litter up your bathroom walls with an army of organisers when just one will do the trick? Bath caddies are at their best when they are devised and assembled to perform a legion of everyday duties. This multi-tasker came to fruition as well as I had imagined it would. It's a hip-hooray kind of day when that happens.

Chairs of this type are abundant in the marketplace, with good reason. Their small seats and rigid, straight backs make them incredibly uncomfortable for sitting. I refer to them as in-law chairs. Pull one out when the in-laws come for a visit, and they won't stay long. With a seat that's not suitable for sitting, I chose a new chair chore. This organiser holds towels, bath scrubbies, soaps, loofahs, and more. Don't forget to notice the available rungs on the chair. They could be used to hang your robe, jammies, or a fresh set of clothes for the day. Don't you just love options? ➤

Extract from:
Junk Beautiful – Furniture Refreshed
By Sue Whitney
ISBN: 978-1-63186-837-5
PRICE: £21.99
Published by Taunton Press
Available from: www.gmcbooks.com
01273 488005

Know how

When choosing wall hangers, check the packaging for weight recommendations. I purchase ones with more weight capacity than is needed. Better safe than sorry!

Materials needed

- A simple toolkit
- Vintage ladderback chair
- Annie Sloan Chalk Paint in Pure White
- Three decorative single 2in porcelain hangers with screws included

MAKE IT

Ladderback chairs are a dime a dozen and can be used in a variety of projects. Normally, I would hesitate painting one of these beauties, but the wood was heavily chipped, marred, and stained in some areas, diminishing any true monetary value. Painting and adding hardware put this chair back to work as a bathroom accessory.

Method

1 Clean the wooden parts of the chair with a rag and warm, soapy water. Let dry, then sand the surface using a medium-grit sanding block or sandpaper **(A).** Remove sanding residue with a tack cloth.

2 Apply primer in three light coats **(B).** Once dry, sand any drips using a fine-grit sanding block or sandpaper.

3 Apply Annie Sloan Chalk Paint, following the manufacturer's directions. I recommend two or three coats. Allow the paint to dry overnight before proceeding.


A


B

4 Distress the paint where desired with a fine-grit sanding block or sandpaper **(C)**. Clean up sanding residue with a light sweep of a tack cloth.

5 Wearing a protective mask or respirator and working in a well-ventilated area, apply a coat of chalked matte clear protective topcoat. Apply one or two more light coats a few minutes apart. Let dry **(D)**.

6 Drill two pilot holes on the chair back for D-ring hangers. Choose a bit that matches the inner diameter of the threaded part of the screw, not the diameter of the threads.

7 Position the hangers over the pilot holes and attach to the chair with 1in. wood screws.

8 Measure and drill pilot holes for each of the porcelain hangers on the front of the top back slat. Position the hangers over the pilot holes, and attach with screws **(E)**. ■

The vintage pitcher and basin duo is a perfect fit for the chair seat and lodges plenty of bath goodies. Porcelain hooks allow for at-hand storage of larger bathing essentials

Gussied-up vintage bottles come into play as shampoo and bath gel containers. They are so much prettier than plastic

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Ask the experts

ANTHONY BAILEY
Editor,
Woodworking Crafts magazine

Another batch of awkward questions for the Editor to answer

GETTING HOT UNDER THE COLLET

STAR QUESTION

I've got a big Trend router which takes ½in shank cutters. It came with a ½in collet, I bought a ¼in collet and more recently an 8mm collet to take vertical panel-raising cutters. It is really difficult snapping the collets in and out of the collet nut but I don't want to keep spending on those. Am I doing something wrong or aren't we supposed to keep swapping collets over?

Tom Nelson

Anthony replies: My first observation is that, for speed and convenience, it is worth investing in a second collet nut – it makes changeovers much quicker and simpler. However, swapping collets is a fact of life when routing and it isn't easy. Indeed, some of us find we cannot apply enough finger pressure to spring the collet out of the nut. My simple answer is to drill a neat 16mm-dia. hole in a tough material such as MDF. Then push the collet nut/collet assembly firmly down into the hole and voila! The nut is instantly released. Use the tip of a screwdriver under the rim of the collet to pull it up and out of the hole. If the hole gets worn over time, just drill another one.

1 First drill a 16mm-dia. hole deep enough to easily accept the length of the collet. This can be done straight through a 19mm-thick board, for instance.

2 Push the collet nut assembly in smartly so the nut nearly touches the board surface and the spring steel segments of the collect are pressed together. The nut will now lift off easily.

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

3 Use a screwdriver tip under the rim to prise the collet up and out of the hole. Do not use pliers or grips as these will damage the collet. Now you can click the alternative collet into the empty collet nut.

LOSING YOUR RAG

I do various job around the house, workshop and garage and need to clean up messes, wipe surfaces, degrease and various other mucky jobs. I've tried industrial paper wipes – they break up easily, kitchen wipes are a bit tougher. Is there something you would recommend for general clean-ups?

Den Harris

Anthony replies: I prefer anything that doesn't cost money and is truly effective. Old cotton sheets are, to my mind, the best. They get a bit softer and thinner with age and tear more easily as they wear. It's well worth half an hour of my time tearing an old sheet into strips, then again into rectangles so I have a ready supply waiting whenever I need them. Cotton is absorbent and well-worn cotton is perfect for making the cover for a French polishing 'mouse', because it will absorb the French polish and won't scratch the surface you are working on. When ragging becomes contaminated throw it away fairly promptly if it has finishing oils on it, as they have been known to self-combust without warning. Only use true cotton sheeting as artificial fabric is 'scrapier' and develops 'pilling' – those little bobbles on the surface – and it isn't as absorbent as cotton fibres.

A handy supply of rags always ready to use

MEASURE FOR MEASURE

I find measuring small sizes a pain. I bought a digital Vernier callipers to make it easier but it always needs zeroing for me to be sure it is reading accurately each time and the battery seems to die quite quickly. I have never tried using the old-style Verniers as it seems a bit off-putting trying to work out the reading. Is there a more reliable way to measure things such as mortise widths, router bit sizes etc?

Vick Richards

Anthony replies: It's good to be precise when it matters with woodworking. If you lined up a lot of different makes of the same size router cutter both the cutter diameter and shank diameters would vary very slightly. Once you get down to very precise measurements it can be surprising to find the differences and sometimes it matters. In any case, you can't just rely on a flat steel rule to give you precision. There are various ways to deal with accurate measuring. If you are transferring a measurement than simple bow-type callipers, which are often used by woodturners, will give you the 'truth'. Drill bits in marked sizes can be used as reference sizes and are handy for things such as setting the plunge depth on a router. Then we come to taking measurements. I have both digital and traditional Vernier callipers and I would agree that the digital type are a wee bit of a nuisance resetting zero to be sure of accuracy and battery life. Other users may disagree of course.

However, if you use traditional Verniers they really need to be high quality to be reliable and not give any zeroing errors. Explaining the complexity of using them can get complicated, although I use them quite naturally as I always have done. You can find a detailed explanation here: **www.miniphysics.com/how-to-read-a-vernier-caliper.html**

Once you know how to interpret the scale, traditional Verniers are easy to use

Using the internal jaws for fine measurement on the lathe

You are battery dependent using digital Vernier callipers

CHAINSAW CHALLENGE

I'm not sure which way to go with my next choice of chainsaw as my petrol model is increasingly unreliable. Not so much the brand but whether an electric chainsaw is worth investing in. A lot of people seem to give them good reviews but I'm not convinced, your opinion please?

Derry Unsworth

Anthony replies: The minuses – If you are used to using a chainsaw safely, then you will realise there are several limitations to using an electric chainsaw. A cordless model with a short bar is only adequate for log and branch cutting, is limited by battery life and is not cheap to buy at the present time. A mains-motored chainsaw is only good for ground-based operations because of the lead and you need to be within reach of an electricity supply, not suitable for emergency clearance after a storm-induced power failure. Some users have commented on the additional weight, depending on which model you compare it to.

The pluses – In my view, for ground-based work the decision is no-brainer. An electric chainsaw makes no noise when at rest, it starts every single time and, with a chain in good condition, it has a very high cut rate. No messing about with spark plugs or fuel and oil mixture, no petrol or exhaust fumes, just press the trigger and go.

An Oregon CS1500 mains chainsaw with self-sharpening feature and 45cm chain bar – clean, quick start and less noisy than a petrol model

They come with a chain brake and guard and the chain should stop in milliseconds. You can even get some which have a self-sharpening feature built in or as an accessory.

STAR QUESTION PRIZE

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N.B. If you do need help or advice you can email me: anthonyb@thegmcgroup.com or visit: www.woodworkersinstitute.com where there are lots of useful articles, either way the service is free!

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Tricks *of the* trade...

Pencil gauge

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Here's a very useful alternative to a standard marking gauge

Michael T Collins has shown you how to make a marking gauge but what if you want clearer, easy-to-read lines – especially on a difficult wood such as oak – or don't need absolute line accuracy? If you own an old marking gauge you can convert it quite easily to a pencil gauge. It needs less skill drawing it along the grain and it is very easy to see the resulting lines. Simply sharpen a pencil with a medium hardness lead insert into the gauge and off you go.

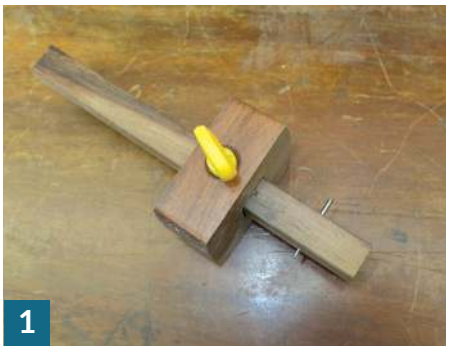
1 A slightly unloved marking gauge with a standard scribing pin.

2 The pin withdrawn using a pair of pliers. The gauge will need a good clean up.

3 A very neat 8mm-diameter hole has to be drilled where the pin hole is, sufficient to grip a hexagonal pencil shaft.

4 A quick rub-down with fine abrasive and oiling brings it back to life.

5 The completed gauge ready for use.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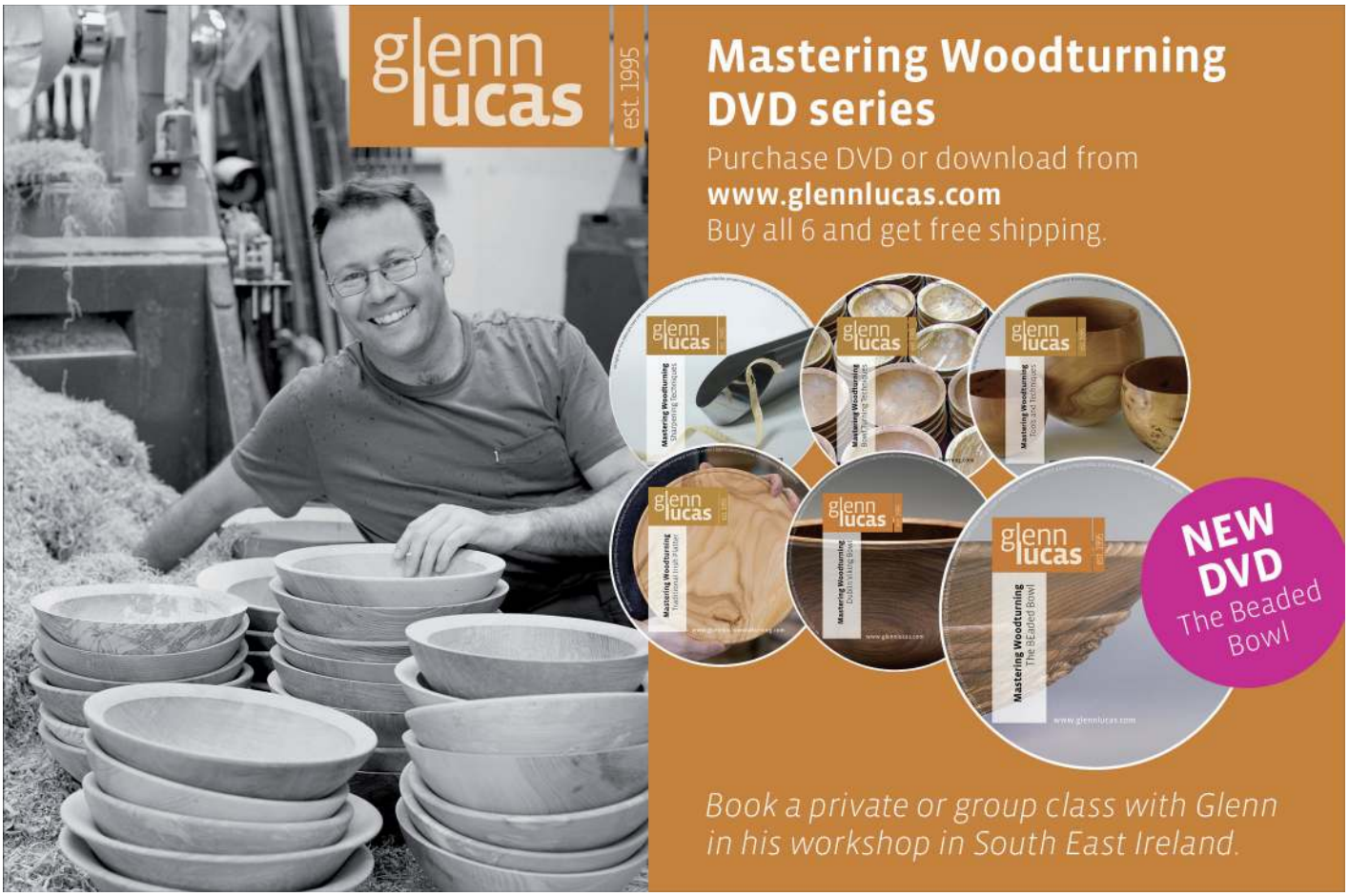
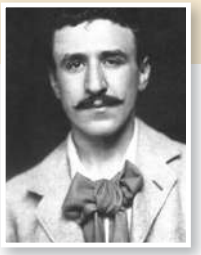


Focus on…



CHARLES RENNIE MACKINTOSH

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

The Willow Tea Rooms in Sauchiehall Street

There can be few people who have not heard his name, especially after the latest and most disastrous fire at the Glasgow School of Art

Charles Rennie Mackintosh was born as McIntosh, in Townhead, Glasgow in 1868. The fourth of 11 children, his influence on architecture and design outweighs the relatively short span of his output, with his most major commissions taking place between 1895 and 1906. He and his architect wife, Margaret Macdonald, had a profound influence on European design movements such as Art Nouveau and Secession. He was an architect, designer, water colourist and artist. His influences sprang from a number of things – Glasgow was a powerhouse of the Industrial Revolution, located as it was on the River Clyde and involved in shipbuilding and heavy engineering. At the time Japan was becoming less isolationist and its connections to Glasgow, and particularly its artistic expression, influenced Mackintosh.

Modernist ideas also played a part but he eschewed the brutalist forms, instead creating designs that were on a much more human and personal scale. This is very much reflected in the interiors of the buildings he designed, where furniture, glass and other fittings all had a very close, personal feel to them, often with straight lines interrupted by flowers and other irregular shapes, subverting the 'straight and square'.

Despite all the well-known buildings he did create, he is perhaps almost better remembered for all the ones that never actually got built, but still form a substantial body of architectural design work. Eventually, he became disillusioned with architecture and moved south with Margaret to Walberswick in Suffolk, concentrating on his art. He was arrested and briefly held on suspicion of being a German spy before moving to Port-Vendres in the French Mediterranean before an enforced return to London due to cancer. He finally died in December 1928 at the age of 60 and was buried in Golders Green cemetery.

The Glasgow School of Art

The Glasgow School of Art is perhaps Mackintosh's best-known building, now in a sad and decimated state, but thankfully with a strong commitment to rebuild in its entirety.

Glasgow has latterly recognised the importance of his contribution to the city and one other significant restoration project is well worth mentioning – the Willow Tea Rooms at 217 Sauchiehall Street, the subject of a four year restoration, undertaken by the Willow Tea Rooms Trust, to recreate in minute detail Mackintosh's vision, which he created for local entrepreneur Miss Kate Cranston in 1903. Now it's open to the public, drinking in the unique beauty of amazing craftsmanship and design as you enjoy high tea or lunch is a special experience. There is also a visitor centre where you can learn more about this incredible project.

To find out more visit:
www.mackintoshatthewillow.com
Mackintosh 150
www.glasgowmackintosh.com

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Hill House, Helensburgh

Mackintosh cabinet, Royal Ontario Museum

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