Issue 12 April 2016

Woodworking CRAFTS

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

GARDEN SPECIAL

PROJECTS
Scrollsawn mobiles
Pergolas & arches
Garden benches
Trellis obelisk
Patio planter
Plant labels

Perfect decking *made easy*

FEATURE: Sussex trug making

Walnut writing slope restoration

TWX7

Workcentre

TWX7 CT001

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Optional Modules

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TWX7 CS001

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Contractor Saw Module (Option)
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In the April issue...

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HAND WOODWORKING

RECYCLING & RESTORATION

COVER IMAGE: DECKS COMPLETE BY SCOTT GRICE AND JOHN ROSS, PUBLISHED BY TAUNTON. PHOTOGRAPHY BY JOHN ROSS.

Woodwork on the web

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

Welcome

to the April issue
of *Woodworking Crafts*

Spring has well and truly sprung!

Hello Everyone and welcome to the April issue of *Woodworking Crafts*. Spring has well and truly arrived and thoughts for many of us have well and truly turned to our gardens. With this in mind we have made this issue our gardens special, with plenty of garden themed projects, plus book reviews and a fascinating feature about expert trug maker Richard Bingham. There is also plenty of our more usual woodworking topics to keep your interest as well.

The stuff of life

The scrollsawn garden mobile and pyrographed plant labels projects in this issue are what you might term transferable skills and ideas, which you can put to good use elsewhere. One of the great things about woodworking for me personally, is that there are no 'seams', no 'edges' to learning or application of knowledge and experience. Whatever you do now, will inevitably be useful again and lead on to new possibilities. I started baking bread at home again recently, I used to do it a lot many years ago, but domestic clamouring and the influence of 'Victorian Bakers' on TV a while ago persuaded me to revive my breadmaking skills. It occurred to me while kneading the wholemeal dough that in the past, society was heavily dependent on both wheat and wood. The former for vital nourishment in impoverished times and wood for burning and for making utilitarian items. Without either, society as we know it would have collapsed long ago. Quite a thought really…..

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com

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Installing DECKING

In an abridged extract taken from Taunton's *Decks Complete*, we take a look at the preparation needed when building and installing a deck

PHOTOGRAPHS BY JOHN ROSS

What you'll need

Installing decking requires only a few tools. You'll need a saw to cut the boards to length and another to scribe the boards around posts. Beyond that, you really need only a driver for fasteners and an assortment of hand tools.

- Circular saw or chopsaw
- Jigsaw
- Drill driver
- Bits
- Basic hand tools

Installing decking requires some logistical considerations, such as where to store it and how best to move it around the site.

Above: A picture-frame border runs perpendicular to the field decking. On this deck, the borders visually tie together the deck and wrap-around steps.

Right: A Herringbone pattern is an attractive way to intersect two sections of decking that have perpendicular deck boards. Here, the picture frame on the right becomes part of the deck pattern on the left.

Practical considerations

As with all phases of deck building, staging your building materials and fasteners ahead of time will help the process go smoothly. Also, make sure to give the framing a once-over to check for joists that aren't aligned, fasteners that protrude, or other details that need to be buttoned up. It is much easier to correct flaws in the framing before the decking installation begins.

Installing decking is a repetitive job and takes a surprisingly long time, so if you have some people to help who are good with detail and have some basic DIY skills, now's a good time to call them in. You'll also appreciate their help when moving and staging materials. Most decking comes in lengths up to 16 ft., and it can be a challenge for one person to navigate the job site while carrying these boards. In addition, depending on the material, it may be impossible for one person to do the job – some types of synthetic decking are so floppy that both ends touch the ground even when hoisted up on your shoulder.

The type of decking will also determine the tools you'll need. Deck fasteners often have specific bits or driver attachments that need to be purchased along with the materials, and you will want to identify these and purchase them well in advance.

If the decking material is rough, like a natural softwood, crosscutting the lengths with a handheld circular saw will often be sufficient. To improve the cut accuracy with a circular saw, you can use it in combination with a Speed Square or crosscut jig.

Hardwood decking and some types of synthetic materials, especially those that mimic hardwoods, have tighter tolerances for installations. In these situations you'll want to consider setting up a chopsaw station to make accurate cuts quickly.

Finally, you'll need to consider material flow when setting up the staging and cutting areas. Try to set up your process so the material will move lengthwise from station to station. It will slow you down considerably to have to turn the long boards when carrying them from the staging pile to the cutting station and then to the deck for installation.

Before you begin

Before any decking goes down, you'll need to decide on any special features you may want to include and install the proper framing to support. Some common enhancements are adding a picture-frame border, varying the width of the deck boards, adding fascia boards to the outside framing and installing a herringbone pattern where runs of deck boards intersect.

Another task to complete before installing decking is layout. With layout, the goal is to determine exactly how many deck boards will fill a given run and to adjust the gap between boards to avoid having to install a partial piece of decking.

Cut spacers from ½-in. pressure-treated plywood. The angle top will help shed water and prevent rot.

Fasten the spacers to the doubled rim joist every 3 ft. to 4 ft. Align the top flush with, but not above, the top of the joists.

Place the third joist to the inside. This joist will help support the ends of the field decking.

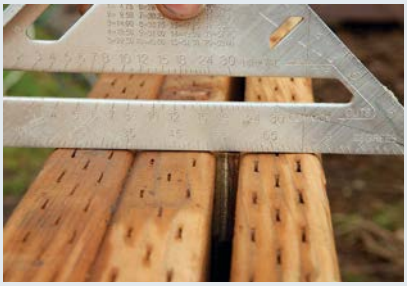
Secure the joist with 3 ½-in. screws at the space locations.

Framing for a picture-frame border

One of the features that can significantly upgrade a deck's appearance is a picture-frame border. A picture frame is easy to construct and consists of decking boards installed around the perimeter of the deck and perpendicular to the field boards at the sides. At the corners, the deck boards are mitered or lapped, depending on personal preference. To add framing for a picture-frame border, begin by cutting a series of spacers from ½-in. pressure-treated plywood (the spacers create a drainage gap). Cut each spacer 3 in. wide and just a little shorter than the width of the framing lumber. For example, if the joist is a 2 x 8, cut the spacer to 7⅜ in. At one end of the spacer, cut the corners at 45° to form a point. When installed, this point will shed water off the top of the spacer and help prevent rot. Cut enough spacers to allow for one spacer every 4 ft. along the length of the run. Attach the spacers along the inside of a doubled rim joist with a single screw through the spacer's middle. Over the spacers, add a joist to the inside of the existing joists; this joist will help support the ends of the field decking. Secure this joist along the face with two 3-in. screws through each spacer. Then secure the joist through the end with three screws through the adjacent framing. ➤

Trade secret

To prevent problems when installing the decking, take care to make sure that the spacers don't extend above the top of the joists.



Secure the joist at the end with 3-in. screws through the adjacent joist. Be sure to align the joist tops to avoid bumps in the decking.

Mark the perimeter board's final position. Use the combination of the overhang and fascia thickness to locate the perimeter board.

Establishing the layout

By adjusting the gap between the boards you can prevent the need to split a plank of at the end of the run. To lay out a run, place the last plank in position with the correct overhang to account for any fascia. Here, we used a ¾-in. fascia with a 1 ¼-in. overhang for a total of a 2-in. overhang from the framing. While we're at it, we mark the board's edge to use as a reference. From the edge of this board, measure back to the building to determine the overall run. Make sue to measure from exactly where you want the first plank to start. Here, we opted to start the measurement from flashing under the trim. However, different situations call for different strategies. Once you know the overall run, simply divide that distance but the measurement of one plank and one space. For this deck we used 3/16-in. plastic spacers that wouldn't compress. Many people like to use a construction pencil to gap the boards, but pencils are made of softwood and will compress as the deck progresses, changing the gap. An alternative is to cut hardwood spacers from scrap. A trick to get more accurate estimate is to measure across several and spaces. This limits the errors caused by variations of an individual board. For a short run of decking you may not be able to have an even number of planks. In that case, use a partial plank against the house. With longer runs, only a small difference in the gap will give you enough flexibility to have an even number of boards. It's not necessary to mark the layout of every board in a run. Instead, mark intervals of 5 or 10 boards, so you can check the progress and make corrections if you get off track.

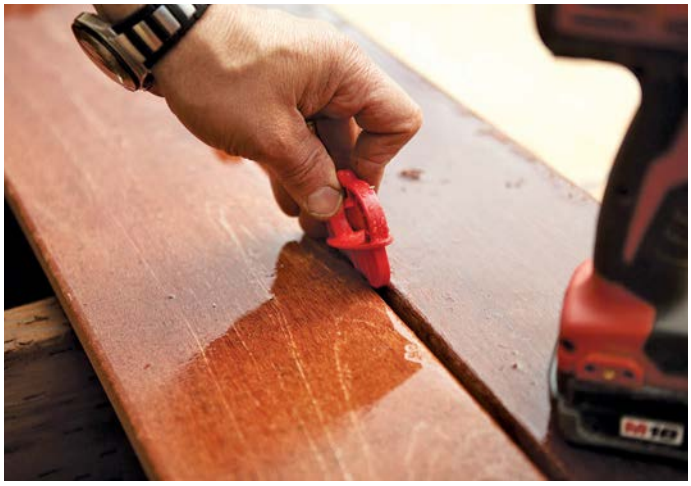
Measure the overall distance for the decking layout. Each section of decking will require a slightly different set of calculations.

Reference your measurements from the farthest point from the perimeter. In this case, the farthest point was under the door trim.

Divide the overall distance by the width of a deck board plus the gap. Here, the gap was 3/16 in. so we divided by 5 3/8 in.

Cut custom hardwood spacers to help reduce error in measuring and to keep the layout on track.

Check the progress against the layout to ensure that the calculations are accurate.



Use spacers to align the board. If the board has a bow, orient the arch toward the adjacent board already installed.

Fasten one end of the board with your chosen fastener system, using spacers at the side and end to align it.

Installing deck planks

The basic steps of installing deck planks are not difficult. Cutting planks to length, spacing them correctly, and securing them are all operations that anyone with limited DIY experience can easily accomplish. The difficulty comes in the repetition. Not only will you repeat these operations *ad nauseam*, but you will also need to keep your focus so you repeat them correctly from beginning to end.

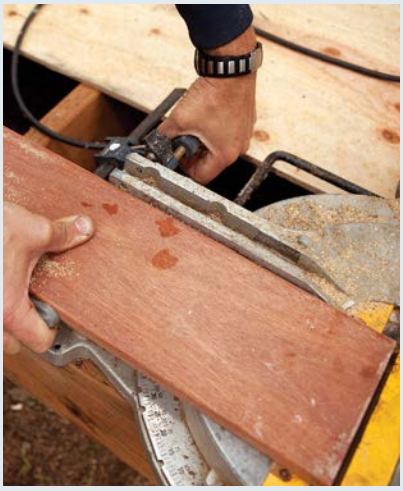
When measuring for field boards remember to account for the spacing on both ends of the board. To secure the boards on this deck, we opted for a fastening system developed by Kreg, which is famous for its pocket-screw systems. We have used many different types of hidden fastener systems and found this system to be among the best for both ease of use and fastening ability.

Whether you are using this system or another type, the general steps are the same. First, position the board and align the spacers. Check the gaps at both ends to make sure that the board length is correct. If there is a bow to the board, orient the board so the bow pushes the ends away from the adjacent plank. This way you will always be pushing the board into place instead of trying to pull it. Align and fasten one end of the board to begin the installation. Once the end is secure, slide the spacer down to the next joist, push the deck board tight to the spacer, and fasten it in place. Periodically check both what has been installed and what is left to be installed to ensure that the calculated layout is accurate.

For wide decks with runs of longer planks, use multiple spacers across several -fastening points. This will help the work go faster and even out variations of individual boards. If a plank has a bow to it and needs to be pushed or pulled into place, a bar ➤

Trade secret

It's worth investing in some plywood to lay over exposed joists while you're installing decking. You will more than make back the cost of the plywood in time saved.



Continue fastening the board at each joist location. The more consistent you are with your process, the neater it will be.

Check your progress every couple of boards to make sure that your are on layout and make any necessary adjustments.

Place spacers at each joist location. If the board is bowed, keep the spacers in place while securing the adjacent joist.

Use bar clamps to pull a board with a more drastic bow into alignment.

Trade secret

The flat end of a cat's paw is a great tool to use to gently pry two boards apart if the gap needs to be widened. To narrow the gap, pound the cat's paw into the joist top adjacent to the plank and pry the board until the gap narrows the desired amount. Sometimes you may need to overcompensate to allow for some springback once the board is secured.

clamp can apply a significant amount of persuasion. If you don't have a clamp long enough to hook the edge of the deck, try reversing the clamp so it's pushing instead of pulling. To hold a board in place under tension, predrill and toe-screw the plank from the side.

Most hidden fasteners secure the deck boards by mounting to a groove in the side. While there are many variations on the theme, the basic sequence is the same. Each fastener secures the edges of two adjacent boards. Some manufacturers of composite and synthetic decking require proprietary fasteners, while many hardwood suppliers mill a groove in the side that will accommodate a variety of aftermarket fasteners. If you are not confused yet, get ready.

The number of generic and brand-name fasteners available, combined with how they interface with the available brands of decking, can be dizzying. To wade through the madness start by identifying the decking you want and then ask the manufacturer or supplier which fastening systems will work. That will significantly cut down the options you'll need to consider. Thankfully, the installation steps for side-mounted hidden fasteners are similar.

To install a basic fastener, secure the fastener in the open groove. Fit the adjacent board in place so the fasteners seat in both slots. Install the fasteners in the open slot. Some fastener systems require the additional step of then backtracking and driving the fastener hidden between the boards into its final position. Another variation includes a clip system that does not require any backtracking. ■

What can go wrong?

Mental fatigue triggered by repetition can cause you to cut corners, to skip steps in the process, or simply to make a mistake like cutting a board to the wrong length or gouging the face with a drill driver. Take enough breaks to remain focused and motivated.

Toe-screw a board under tension to prevent springback. To prevent splitting, pre drill for the fastener.

Measure the board length and make the adjustment to account for the gaps at either end. Also if you haven't done so already, take measurements for the first and last board to ensure they are equal.

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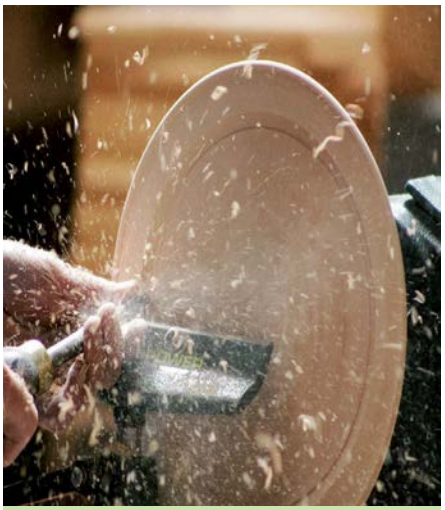

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QUICK MAKE

Plant labels

Plant labels are a handy reminder and also good to give with a plant as a present

Pyrography – the process of deliberate burning can be done as both a craft and an artform. You can buy a simple one, shaped like a soldering iron for as little as £25, so it can be a cheap and easy way to learn. It will come with a variety of shaped tips to create various patterns on wood, leather, etc.

Safety

Like a soldering iron, the tip gets very hot and can cause a nasty burn or even risk starting a fire. The mains cable is vulnerable for the same reason, common sense in using, placing down and tip changing is essential.

1 Use a fine grained wood to 'burn'. Switch on and wait for the tip to heat up, do some tests like this one using a wide-bladed tip and a giving a swirl to the lettering.

2 These are the variety of tips you can get with a pyrography tool. They screw in place easily, but you can use a pair or pliers to gently remove – especially if still warm. It is sensible to switch off the tool to do tip changes.

3 Apart from lettering, pyrography is very much about creating patterns and artwork. These patterns are ready-made using the correct tips.

4 It is best to do your plant label 'writing' before cutting to length as it is easier to alter the positioning of the cuts once you know how much space is taken up.

5 The bottom end needs to be a blunt tip that will allow the plant label to push into the potting compound. Leave enough blank section to go into the soil.

6 Herbs are an obvious one for labelling if you aren't sure which variety is which. You can add some decoration around the label edges to make them more attractive. ■

BOOK OFFERS

This month we have four great book offers for you!

All New Backyard Idea Book

by Sandra S. Soria

This completely revised and updated edition brings together hundreds of fresh ideas and unique solutions for making the most of all garden outdoor spaces. New photography and up-to-date information make this the most complete and timely design guide for both urban and suburban settings.

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by Fine Gardening

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Wonders of the Plant Kingdom

by Wolfgang Stuppy, Rob Kesseler & Madeline Harley

A ground-breaking collaboration between an artist and two botanists, this book tells the story of how flowers disseminate their pollen and how the flower turns into a fruit, beginning a whole new chapter. This book combines extraordinary images with a clear, easily accessible, yet scientifically accurate text explaining the different forms of pollen, seeds and fruit and their role in preserving the biodiversity of our planet.

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Stanley Multi Angle	Clamped	72/60/40	£16.99	£20.39
Record V75B	Clamped	75/50/32	£19.98	£23.98
Clarke WV7	Bolted	180/205/78	£24.99	£29.99

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16/1010*	3 HP	14.5	100ltr	£259.98	£323.98	£311.98

Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock
- Quality Induction 300w motor

£64.99 EX.VAT £77.99 INC.VAT

CBS1-5

Clarke ELECTRIC POWER FILE

- Variable belt speed
- Tilting head

*Black & Decker

CPF13

FROM ONLY £44.99 EX.VAT £53.99 INC.VAT

MODEL	MOTOR	EXC.VAT	INC.VAT
CPF13	400W/230V	£44.99	£53.99
KA900E*	350W/230V	£59.98	£71.98

Clarke CORDLESS DRILL/ DRIVERS

BOSCH Power Tools

Clarke CONTRACTOR

CON18Li

powered by Li-Ion

FROM ONLY £36.99 EX.VAT £44.39 INC.VAT

PSR18

MODEL	VOLTS	BATTS	EXC. VAT	INC.VAT
CCD180	18V	1	£36.99	£44.39
CDD240	24V	1	£39.98	£47.98
Bosch PSR18	18V	1	£54.99	£65.99
CON18Ni	18V	2 x Ni-Cd	£59.98	£71.98
CON18Li	18V	2 x Li-Ion	£84.99	£101.99

Clarke ROTARY TOOL KIT

CRT40

£29.98 EX.VAT £35.98 INC.VAT

Kit includes:

- Height adjustable stand with clamp
- Rotary tool
- 1m flexible drive
- 40x accessories/consumables

Clarke 4" BELT/ 8" DISC SANDER

- Includes two tables
- 550W 230V motor

£139.98 EX.VAT £167.98 INC.VAT

CS4-8

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

FROM ONLY £129.98 EX.VAT £155.98 INC.VAT

METABO ALSO AVAILABLE

- Powerful 750W motor
- 56 litre bag capacity
- Flow rate of 850M3/h

MODEL	MOTOR	FLOW RATE	BAG CAP.	EXC.VAT	INC.VAT
CDE35B	750W	450 M3/h	56Ltrs	£129.98	£155.98
CDE7B	750W	850 M3/h	114Ltrs	£149.98	£179.98

Clarke ELECTRIC HEATERS

Honeywell

Huge range of quality electric models – From DIY, trade to Industrial

DEVIL7003

FROM ONLY £39.98 EX.VAT £47.98 INC.VAT

CZ-2104EV1

NEW RANGE

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
CZ-2104EV1	230V	2.5	£39.98	£47.98
DEVIL 6003	230V	1.5-3	£49.98	£59.98
DEVIL 7003	230V	3	£54.99	£65.99
DEVIL 6005	400V	2.5-5	£74.99	£89.99
DEVIL 7005	400V	5	£79.98	£95.98
DEVIL 6009	400V	4.5-9	£119.00	£142.80
DEVIL 7009	400V	9	£137.99	£165.59
DEVIL 6015	400V	5-10-15	£179.00	£214.80

Clarke STAPLE/ NAIL GUNS

- All models include nail/staple pack and tough moulded case

LITHIUM-ION

CONSN18LiB

PRICE CUT NOW FROM ONLY £18.99 EX.VAT £22.79 INC.VAT WAS £23.98 inc.VAT

NEW

SPARE NAILS / STAPLES IN STOCK

* was £23.98 inc.VAT
• was £35.98 inc.VAT

ELECTRIC AND CORDLESS MODELS IN STOCK

MODEL	TYPE	STAPLE/NAIL GAUGE	EXC. VAT	INC. VAT
CESNG1*	Electric	22/18	£18.99	£22.79
CCT48 •	Cordless 4.8v Ni-MH	22/18	£24.99	£29.99
CESNG2	Electric	18/18	£39.98	£47.98
CONSN18LiB	Cordless 18v Lithium-Ion	18/18	£99.98	£119.98

NEW

Clarke STATIC PHASE CONVERTERS

PC60

- Run big 3 phase woodworking machines from 1 phase supply
- Variable output power to match HP of motor to be run

ROTARY PHASE CONVERTERS ALSO IN STOCK

CONVERT 230V 1PH TO 400V 3PH

FROM ONLY £209.00 EX.VAT £250.80 INC.VAT

MODEL	MAX. MOTOR HP	FUSE	EXC.VAT	INC.VAT
PC20	2HP	10Amps	£209.00	£250.80
PC40	3.5HP	20Amps	£249.00	£298.80
PC60	5.5HP	32Amps	£299.00	£358.80

Clarke DISC SANDER (305MM)

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

£119.98 EX.VAT £143.98 INC.VAT

CDS300B

Clarke POWER PLANERS

BLACK & DECKER

FROM ONLY £23.99 EX.VAT £28.79 INC.VAT

- 82mm cutting width

CEP1

MODEL	MOTOR	DEPTH OF CUT	EXC.VAT	INC.VAT
Clarke CEP1	650W	2mm	£23.99	£28.79
Einhell RT-PL82	850W	3mm	£49.98	£59.98
B&D KW750K - GB	750W	2mm	£57.99	£69.59

Clarke CLAMPS

FROM ONLY £3.99 EX.VAT £4.79 INC.VAT

HUGE CHOICE OF SASH, SPRING, SCREW, SPREADER AND G-CLAMPS

UP TO 1800mm CAPACITY

Clarke SHEET SANDERS

CON300

FROM ONLY £13.99 EX.VAT £16.79 INC.VAT

*110V in stock

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS200	190X90mm	150W	£13.99	£16.79
CON300	230X115mm	330W	£32.99	£39.59
Makita B04555*	112X102mm	200W	£54.99	£65.99

Clarke QUALITY CAST IRON STOVES

£89.98 EX.VAT £107.98 INC.VAT

OVER 22 QUALITY STYLES ON DISPLAY

POT BELLY 11.8kW

6.9kW

BARREL

LARGE & XL MODELS IN STOCK

6kW

£209.00 EX.VAT £250.80 INC.VAT

SAVE £60 inc.VAT

FLUES, COWLS & ACCESSORIES IN STOCK

PRICE CUT NOW ONLY £199.00 EX.VAT £238.80 INC.VAT WAS £298.80 inc.VAT

BUCKINGHAM

Clarke HARDWOOD WORKBENCH

- Includes bench dogs and guide holes for variable work positioning
- 2 Heavy Duty Vices
- Large storage draw
- Sunken tool trough
- LxWxH 1520x620x855mm

CHB1500

£129.98 EX.VAT £155.98 INC.VAT

Clarke CONTRACTOR BELT SANDERS

Makita

- Ideal for surface removal, sanding and finishing

ABRASIVE SANDING BELTS IN STOCK

BS1

FROM ONLY £29.98 EX.VAT £35.98 INC.VAT

MODEL	MOTOR	M/MIN	EXC.VAT	INC.VAT
Clarke BS1	900W	380	£29.98	£35.98
Clarke CBS2	1200W	480	£69.98	£83.98
Makita 9911	650W	75-270	£94.99	£113.99

Clarke CIRCULAR SAWS

- Great range of DIY and professional saws
- Ideal for bevel cutting (0-45°)

CON185

FROM ONLY £34.99 EX.VAT £41.99 INC.VAT

*Includes laser guide

MODEL	MOTOR	MAX CUT 90/45 (mm)	EXC.VAT	INC.VAT
CCS185B	1200W	65/44	£34.99	£41.99
CON185*#	1600W	60/40	£54.99	£65.99
CCS2	1300W	60/45	£59.98	£71.98

was £68.39 inc.VAT

Clarke PORTABLE THICKNESSER

- Max thickness cap. 125mm and 250mm wide
- Planing depths adjustable from 0-2.5mm
- Powerful 1250W motor
- 8000rpm no-load speed

£189.98 EX.VAT £227.98 INC.VAT

CPT250

Clarke BOLTLESS SHELVING BENCHES

- Simple fast assembly in minutes using only a hammer

FROM ONLY £29.98 EX.VAT £35.98 INC.VAT

SAVE 10% WHEN YOU BUY ANY MIX OF 5 FROM THIS RANGE SAVE AT LEAST £17.99 INC.VAT

CHOICE OF 5 COLOURS RED, BLUE, BLACK, SILVER & GALVANISED STEEL

150 KG PER SHELF (evenly distributed) Strong 9mm fibreboard shelves

350 KG PER SHELF (evenly distributed) Strong 12 mm fibreboard shelves

ALSO EXTRA WIDE INDUSTRIAL UNITS AVAILABLE

MODEL	DIMS WxDxH(mm)	EXC.VAT	INC.VAT
150kg	800x300x1500	£29.98	£35.98
350kg	900x400x1800	£49.98	£59.98

Clarke PLANERS & THICKNESSERS

CPT800

- Ideal for DIY & Hobby use
- Dual purpose, for both finishing & sizing of timber

FROM ONLY £169.98 EX.VAT £203.98 INC.VAT

MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CPT600	6"	120mm	£169.98	£203.98
CPT800	8"	120mm	£199.98	£239.98
CPT1000 NEW	10"	120mm	£269.98	£323.98

Clarke OSCILLATING BOBBIN SANDER

Provides exceptional finishes for deep & wide work pieces, front edges & narrow inner curves

- Dust collection port • Inc. 6 sanding sleeves /bobbins
- 330mm table height • 16mm oscillating stroke

COBS1

ONLY £119.98 EX.VAT £143.98 INC.VAT

24868LH

Clarke 10" (254MM) SLIDING COMPOUND MITRE SAW

- For fast, accurate cross, bevel & mitre cutting in most hard & soft woods
- 1800W motor
- Laser guide
- 78mm max. depth of cut

£129.98 EXC.VAT
£155.98 INC.VAT

CMS10S2

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MITRE SAWS

Makita
FROM ONLY £56.99 EXC.VAT £68.39 INC.VAT

TH-SM 2534

- Quality Range of Mitre saws and blades in stock

MODEL	BLADE DIA/ BORE (mm)	MAX CUT DEPTH/CROSS	EXC. VAT	INC. VAT
Einhell TH-MS 2112	210/30	55/120mm	£56.99	£68.39
Evolution Fury 3	210/25.4	60/220mm	£119.98	£143.98
Einhell TH-SM2534	250/30	75/340mm	£159.98	£191.98
Makita LS1040	260/30	95/130mm	£199.98	£239.98

Clarke MORTISING MACHINE

£149.98 EXC.VAT
£179.98 INC.VAT

CBM1B

- Accurately creates deep square recesses
- Table size 150 x 340mm
- Max. chisel stroke 76mm
- Robust cast iron base & column ensures stability & accuracy
- 95mm depth of cut

CHISELS AVAILABLE FROM £8.39 INC VAT

"..fast and accurate with a good solid feel...Excellent value for money." See www.machinemart.co.uk

Clarke MITRE SAW STAND

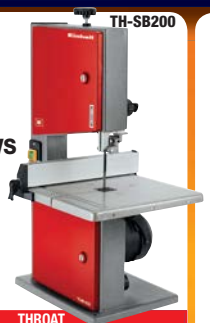
CFMSS1

PRICE CUT NOW ONLY £59.98 EXC.VAT £71.98 INC.VAT WAS £77.99 INC.VAT

- Suitable for most sizes/makes of saw
- Inc. outriggers & rollers

NEW FOLDING MITRE SAW STAND IN STOCK – CONMW1 ONLY £119.98 INC VAT

Clarke BENCH BANDSAWS



TH-SB200

FROM ONLY £99.98 EXC.VAT £119.98 INC.VAT

- Produce fast, precise mitre & longitudinal cuts
- Cuts in wood, plastic, etc.

MODEL	MOTOR	THROAT SIZE	EXC.VAT	INC.VAT
TH-SB200	180W	8"	£99.98	£119.98
CBS190	350W	7.5"	£114.99	£137.99

Clarke PROFESSIONAL BANDSAWS

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

- Table tilts 45° • Adjustable blade guide • Supplied with stand, 4TPI wood cutting blade, rip fence, mitre guide, mitre gauge and push stick

CBS300 £349.98 EXC.VAT £419.98 INC.VAT

CBS350 £449.00 EXC.VAT £538.80 INC.VAT

MODELS ALSO FEATURE:
MULTI-STEP DUST EXTRACTION OUTLET • REMOVABLE DUST TRAY • FLEXIBLE LED WORKLIGHT • BLADE TENSIONING CONTROL

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC.VAT	INC.VAT
CBS300	305mm/12"	165mm	115mm	£349.98	£419.98
CBS350	340mm/14"	225mm	160mm	£449.00	£538.80

Clarke DETAIL SANDERS

- Perfect for smooth and fine finishing along with hard to reach areas or curved surfaces

CDS-1V

ALL MODELS INC. SANDING SHEETS

FROM ONLY £17.99 EXC.VAT £21.59 INC.VAT

MODEL	WATTS	EXC.VAT	INC.VAT
PS105	105W	£17.99	£21.59
RT-OS13	130W	£22.99	£27.59
CDS-1V	280W	£24.99	£29.99

Clarke 12" DOVETAIL JIG

- Simple, easy to set up & use for producing a variety of joints • Cuts work pieces with a thickness of 8-32mm • Includes a 1/2" comb template guide & holes for bench mounting

CDTJ12

£49.98 EXC.VAT £59.98 INC.VAT

Clarke BENCH DRILL PRESSES

- Range of precision bench & floor presses for enthusiast, engineering & industrial applications

NEW RANGE

FROM ONLY £59.98 EXC.VAT £71.98 INC.VAT

CDP152B

B = Bench mounted
F = Floor standing
V = Variable speed

MODEL	MOTOR (W) SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350 / 5	£59.98	£71.98
CDP102B	350 / 5	£69.98	£83.98
CDP152B	450 / 12	£119.98	£143.98
CDP202B	450 / 16	£159.98	£191.98
CDP10B	370 / 12	£169.98	£203.98
CDP352F	550 / 16	£199.98	£239.98
CDP350V	550 / V	£219.00	£262.80
CDP502F	1100 / 12	£449.00	£538.80

Clarke CONTRACTOR ROUTERS

BOSCH

- Powerful heavy duty machines ideal for trade and DIY use

CR2

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

FROM ONLY £39.98 EXC.VAT £47.98 INC.VAT

CR1C

*DIY

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
CR1C*	1200	0-50	£39.98	£47.98
Bosch POF1400ACE	1400	0-55	£79.98	£95.98
CR2	2100	0-60	£109.98	£131.98

Clarke BENCH GRINDERS & STANDS

- Stands come complete with bolt mountings and feet anchor holes

STANDS IN STOCK FROM ONLY £37.98 EXC. VAT £47.98 INC. VAT

CBG6SB

FROM ONLY £29.98 EXC.VAT £35.98 INC.VAT

6" & 8" AVAILABLE WITH LIGHT

CBG8W features 8" whetstone & 6"drystone.
With sanding belt
‡ was £67.19 inc.VAT

CBG6RP

MODEL	DUTY	WHEEL DIA.	EXC.VAT	INC.VAT
CBG6RP	DIY	150mm	£29.98	£35.98
CBG6RZ	PRO	150mm	£39.98	£47.98
CBG6RSC	HD	150mm	£49.98	£59.98
CBG6SB#	PRO	150mm	£49.98	£59.98
CBG6RWC	HD	150mm	£54.99	£65.99
CBG8W (wet)‡	HD	150/200mm	£49.98	£59.98

Clarke JIGSAWS

BOSCH

FROM ONLY £12.99 EXC.VAT £15.59 INC.VAT

*DIY #Professional

CJS380

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EXC. VAT	INC VAT
Clarke CJS380*	420W	55/6mm	£12.99	£15.59
Clarke CON750#	750W	80/10mm	£24.99	£29.99
Bosch PST700E*	500W	70/4mm	£44.99	£53.99
Einhell RT-JS 85 NEW	750W	85/5mm	£49.98	£59.98

Clarke SCROLL SAWS

FROM ONLY £69.98 EXC.VAT £83.98 INC.VAT

CSS16V

- 50mm max cut thickness
- Air-blower removes dust from cutting area
- Table tilts 0-45°

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400B	85W	1450	£69.98	£83.98
CSS16V	120W	400-1700	£79.98	£95.98
TH-SS405E	1200W	400-1600	£79.98	£95.98

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

- Great for sawing, cutting, sanding, polishing, chiselling & much more
- 250W motor
- Variable speed

£36.99 EXC.VAT £44.39 INC.VAT

CMFT250

Clarke 13" MINI WOOD LATHE

£134.99 EXC.VAT £161.99 INC.VAT

CWL325V

- Ideal for enthusiasts/ hobbyists with small workshops
- 325mm distance between centres • 200mm max. turning capacity (dia) • 0.2HP motor

BISCUIT JOINTER

- 11000rpm Operating Speed
- 860W Motor • 14mm Cutting Depth • Inc. dust bag and storage case

BJ900

£49.98 EXC.VAT £59.98 INC.VAT

Clarke ROUTER TABLE

CRT-1

Router not included

BEST SELLER

£59.98 EX.VAT £71.98 INC.VAT

- Converts your router into a stationary router table • Suitable for most routers (up to 155mm dia. Base plate)

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		SWINDON 21 Victoria Rd. SN1 3AW	01793 491717
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www.classichandtools.co.uk

GARDEN OBELISK

PHOTOGRAPHS BY STEVE BISCO

Steve Bisco shows us how to make a trellis obelisk to create a focal point in the garden

A garden needs a few focal points to lead your eye around, and some of these should be well above ground level. A tall obelisk with a shiny gold top is like an exclamation mark shouting 'look over here!' It can add some height among the shrubs and flowers, and give vines and roses something to climb up.

This trellis obelisk is easy and cheap to make from studwork timber. You can, if you like, buy a round fence-post finial for the top, or you can apply your woodworking skills to making this simply carved pineapple finial using ordinary carpentry tools. ➤

Key figures

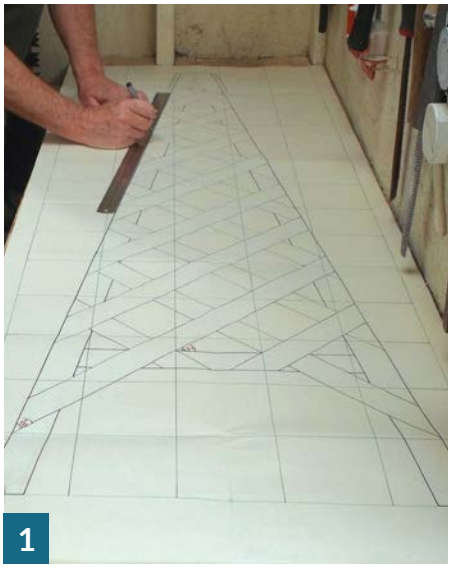
Overall height (excl. finial) 1,450mm
Width across base 460mm

4 legs @ 1,470mm each
4 cross-braces @ 330mm each

64 pieces of lath totalling around 24m (cut 10 strips @ 2.4m) all at 6 x 38mm

Angle of legs 83° to the vertical
Angle of trellis 45° to the horizontal

Angles at end of laths 38° and 52°
Finial 120 x 120 x 215mm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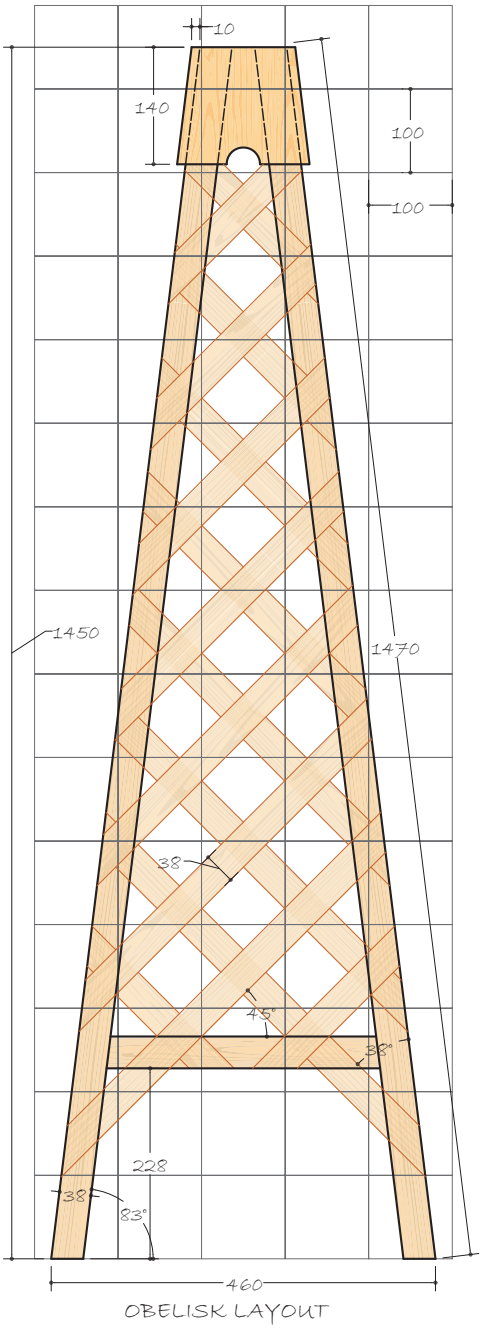


OBELISK LAYOUT

Making the obelisk

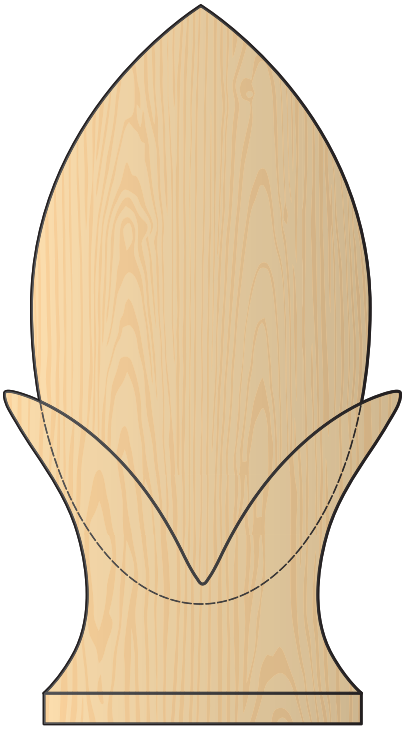
1 It is best to make a full-size drawing on a piece of lining paper to help you sort out the geometry of the many different-sized pieces. There are few square angles – the sides slope inwards at an angle of 83°, the trellis laths are 45° to the horizontal and their ends are cut at 38° and 52° angles where the 83°and 45° angles meet. Each lath gets shorter as you progress up the obelisk, and it is easier to lay the wood on the drawing than scratch your head trying to work out each measurement. The squares on the pattern provided equate to 100mm when scaled up to full size, so you can use this as a guide to create your drawing.

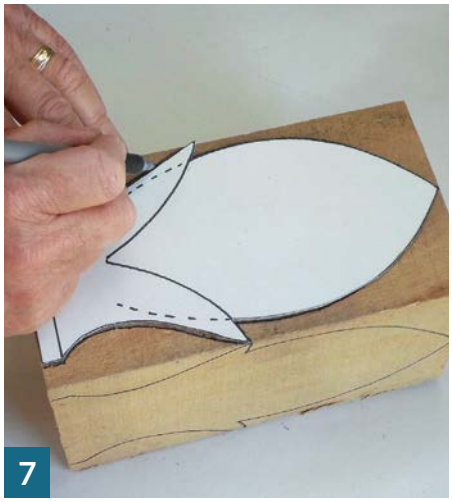
2 The cheapest way to make the laths for the trellis is to cut them from studwork timbers 38 x 89 x 2,400mm. Mark up parallel lines 8mm apart and cut the laths with a circular saw. Allowing for the width of the saw cut, each lath should be about 6mm thick. You will need to clamp one end of the timber to the bench while you cut halfway from the overhanging end, then turn it round to finish it from the other way. Leave 38mm thickness on one side of the timber to use for the leg. Make at least 10 laths, four legs and the four cross-braces from three 2.4m lengths of studwork timber.

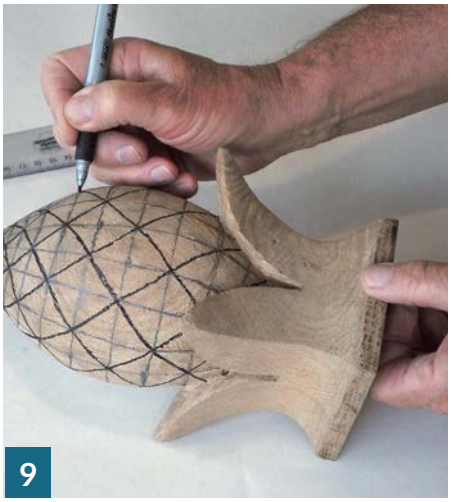
3 Use the full-size drawing to mark out the lengths and angles for the four legs, four cross-braces and all the laths. Note that there are eight identical pieces for each of the eight sizes of lath – the crossover pairs on each of the four sides are identical and reversible.

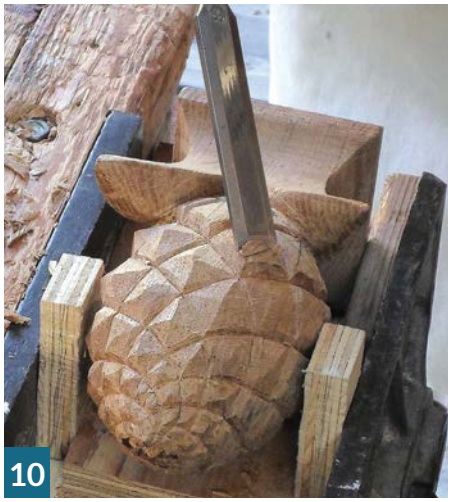
4 Use some 10mm exterior plywood to cut out the top braces that hold the tops of the legs together. They are all 140mm deep, and two sides are 20mm wider than the other two as they cover their edges when assembled. In total there are 76 individual pieces in the obelisk!

5 Give all the pieces one coat of paint on both sides before assembly. Lay two legs on the drawing, put their tops together, and fix the plywood top brace (the narrower one) to hold them together. Fix the bottom cross-brace where shown on the drawing. Then take one set of laths and nail them in place using the drawing to position them, making sure they are equally spaced and parallel. Repeat the process with the second set of laths that crosses over the first.









6 Fix two finished sides together with their top and bottom braces, then fix the laths onto the last two sides by lining them up with those on the finished sides. The structure is now complete and ready for its final coat of paint.

Making the finial

7 Make a full-size drawing of the finial on a piece of card (see finial pattern) and cut it out to make a template. Use this to mark up four sides of a block of any suitable wood. I have used a piece of oak (*Quercus robur*) 120 x 120 x 215mm tall, but if you can't get a block this thick you can make a slimmer version with 100 x 100mm timber.

8 Cut out the profiles of all four sides of the block with whatever saws you have. The base needs to fit the top of the obelisk. Use saws and chisels to separate the four corner leaves and round off the pineapple. Be careful not to break off the points of the leaves. You can use a rasp and abrasives to work the leaves to their final finish and form the rounded shape of the pineapple.

9 Draw 16 vertical lines equally spaced around the sides of the pineapple running up to the point. Then, draw horizontal lines spaced at the same distance as the vertical lines to form rough squares, widest in the middle and getting progressively closer as the vertical lines get narrower. Now 'join the dots' by drawing diagonal lines across the 'squares' to form a series of contra-rotating spirals converging at the top point. This is how nature arranges the segments of the pineapple.

10 Secure the finial in a vice, with packing pieces to ensure the leaf tips don't get crushed. Use flat chisels to cut a V-groove about 5mm deep along each of the spiral lines, Then cut a slight chamfer on each side of each segment to form it into a shallow pyramid. The segments get progressively smaller towards the top point.

11 Paint the leaves, and fix the finial to the obelisk with a double-ended screw dowel. Paint the pineapple with a good-quality exterior metallic gold lacquer so the sunlight will glint off its faceted surfaces. The obelisk is now ready to stand in your garden and show off! ■

Garden planter

PHOTOGRAPH BY ALAN HOLTHAM

Alan Holtham's planter has plenty of garden style – and it won't break the bank

One of the hazards of being a professional woodworker is that you are continually at the mercy of friends and family who don't appreciate how much time, effort and materials are involved in even the simplest of jobs. I have come to dread the phrase, 'But it would be dead easy for you to knock one up', as roughly translated this really means, 'Make it for us on the cheap'! No one ever considers the material cost that is assumed to be carried by someone else's job. Yes, it might only take you a few hours to 'knock up', but it has taken you 25 years of hard graft to learn how to do it this quickly, as well as a considerable tool and machinery investment, probably amounting to several thousand pounds.

But sometimes it is hard to say no and the request for this modern-style planter was one of those jobs that just might lead to more work – but in most cases doesn't – so once again I had to smile sweetly and say 'no problem'.

Choose plants that will 'bush' and create an interesting form as they develop. Evergreens (such as box) last all year round, but for a summer display pick a variety with plenty of flowering potential. In the summer months make sure you water the plants regularly as dictated by species.

The only answer was to use scrap timber to keep material costs down to a minimum. This is always a good chance to use up some of those offcuts that seem to accumulate under the bench, and which you keep saving for a job 'one day'.

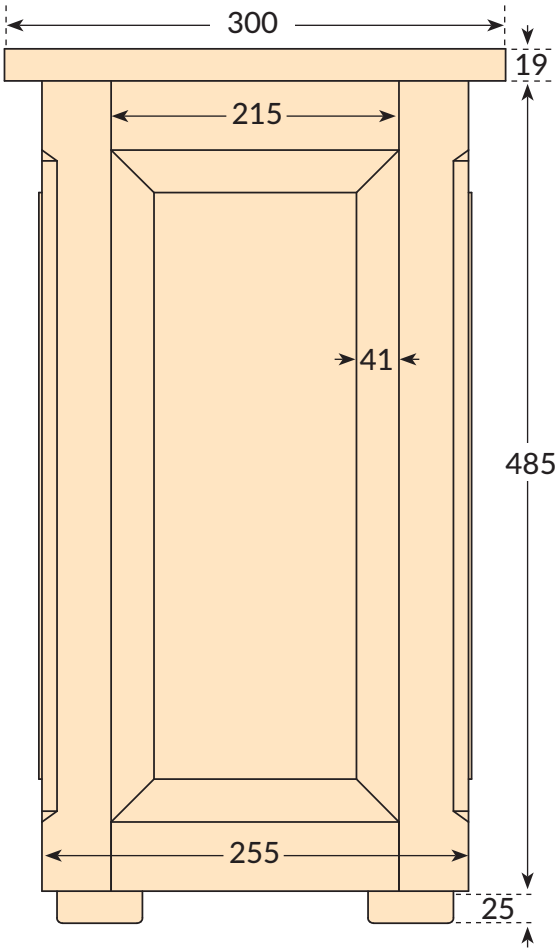
Preparation

1 I managed to find a selection of leftover bits of softwood and two old shelves, which although superficially very tatty would be magically transformed after a few minutes' work with the bandsaw and planer.

1

2 With a decent-quality 6tpi blade in the bandsaw you can quickly slice up all the odd-sized pieces into the standard dimensions you require.

2



4 feet
50 x 50 x 19

Handy Hint

This planter is one size, but there is no reason why you cannot resize it. Two shorter versions next to this one or even a taller version would make a good triangular planter display. Never place a planter on grass or soft ground as wet rot will surely follow. If you want a planter on the lawn, neatly cut a square of turf out and place a paving slab level with the lawn 'base' so you can mow over it if needed.

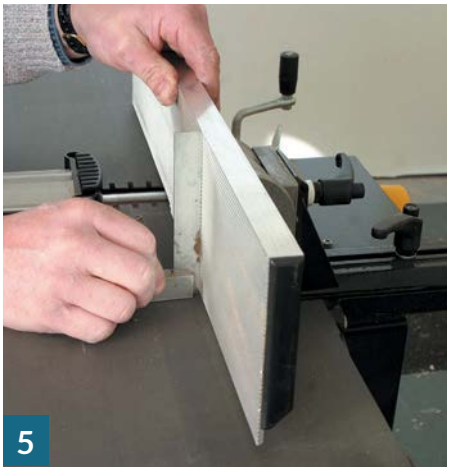
3 Cut out quite a bit more than you theoretically need, as a few spare pieces are really handy for trial cuts when setting the machines to the critical dimensions required for joint making and panel raising later.

4 Softwood often has a lot of large dead knots which will seriously weaken the timber so you need enough spare material to be able to work round these. You will never be able to cut out all the knots but try to avoid the largest of them. ➤


3


4

5 For accurate joint making it is vital that the timber is prepared true, so spend a little time making sure that your planer fence is set perfectly square. Just because it was right last time you used it doesn't necessarily mean that it is square now, so do check it before each job.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6 Once you have prepared the face side and edge on each piece, pass it through the thicknesser to get it all fully dimensioned. To minimise the amount of finishing work later, check the grain direction on each piece before passing it through the thicknesser.


6

7 Use a chopsaw with a fine-tooth blade to cut everything to length, cutting out as many knots as possible. Because you are working with offcut material, which is by definition usually short in length, there is inevitably a lot more waste, but as the original material was effectively free anyway this doesn't really matter.


7

8 The best way to ensure consistency of size for matching components is to cut them all together. You don't stand a chance of getting the joints to fit properly if the components vary in length, even by a very small amount.


8

9 Lay out each frame to check the overall dimensions. Notice that the uprights for two of the frames are reduced in width, so that when they are joined together at right angles the finished dimensions on each frame will match.


9

Routing grooves

10 The central panel is set into a groove in the frame and the same groove also forms the joint for the frame. One of the best ways of grooving is by using a dedicated grooving cutter mounted on an arbor in the router. Although the width of a groove is fixed you can vary the depth by altering the diameter of the bearing.


10

11 Although this arrangement can be used freehand it is much more convenient to use it with a router table, but select a table insert that will provide maximum support while remaining clear of the cutter.


11

12 Bring the router table fences in as close as possible to the cutter, again to provide maximum support,


12

and make sure they are locked up tight. Use a straightedge to level them through with the bearing on the cutter.

13 For safety, set up some form of hold-down mechanism to keep the work pressed against both the table and the fence. I find a simple featherboard arrangement is often the most effective way, as seen here.

14 This business of holding firm against the fence is particularly important with the narrower frame components which are prone to chattering unless they are supported properly.

Making panels

15 The panels themselves are cut from the old shelves and run through the thicknesser to clean up any surface marks – it is amazing what lies within even the scruffiest-looking piece.

16 The raised profile of the panel can be created in several ways, but once again the router provides the most efficient method. While dedicated cutters are initially quite expensive, if you use them carefully and look after them they should last for years. I opted for a plain angled shape to be more in keeping with the contemporary look I was after.

17 It is very important with these large-diameter cutters that you check carefully on the packaging for the maximum recommended speed and make sure that your router is set to this before you start. Working at high revs risks damaging the cutter, the router, the work or yourself, so take care.

18 Big cutters should never be used freehand, only ever in the router table, but do check to make sure there is enough clearance in the table aperture. If not, you can often still use the cutters by making up a false tabletop from MDF and cutting a larger aperture in this.

19 Start profiling the panel, making the end-grain cuts first. It is not good practice to try and achieve the finished profile in one pass, so take several to reach the required depth.

20 The end-grain cuts usually result in some breakout... ➤


13


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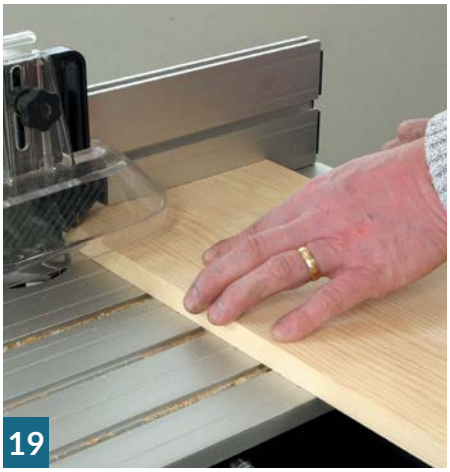
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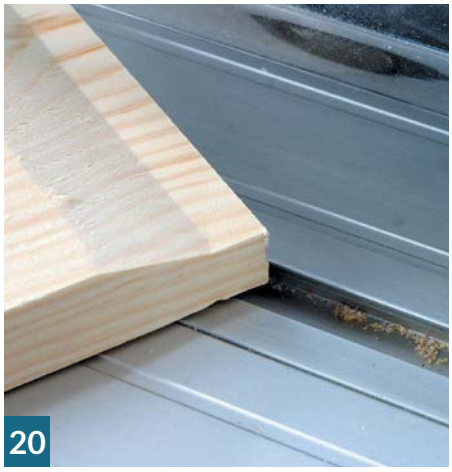
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21 ... but this is all removed by the cut down the length of the grain.

22 Repeat the procedure several times, progressively increasing the depth of cut until the flat section is a nice sliding fit in the frame grooves. If you find that the cutter is burning, particularly on the end grain, try reducing the speed of rotation and/or hone it lightly with a diamond file to restore a sharp cutting edge.

23 When you are forming the groove in the cross-rail components of the frames remember to groove across the end as well, as this is used to form the joint. I actually forgot and had to reset the grooving cutter – another half hour wasted for a moment's inattention!

Panel assembly

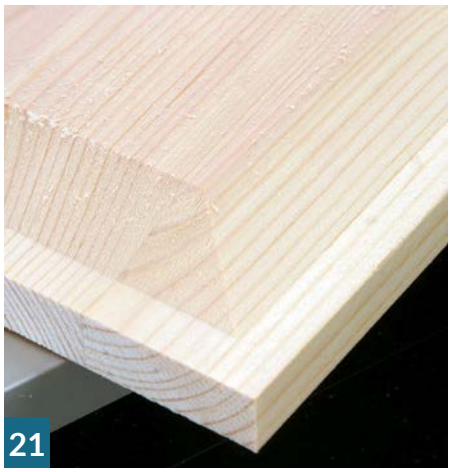
24 Try a dry assembly of the panel to make sure the frame will pull together without any gaps.

25 If it is all okay, apply some glue to the end of each cross rail and clamp it all up around the panel. Do not apply any glue to the panel itself as this needs to be free to move with changing weather conditions. Any attempt to fix the panel permanently in place will almost certainly result in it subsequently cracking. Cut some small tongues to fit into the grooves to complete the joint, and tap these in place.

26 The foaming polyurethane type of glue provides a completely weatherproof bond and also expands to fill in any small gaps. It dries in about half an hour but if you leave it several hours the excess foaming can be cut away cleanly with a sharp chisel. With this glue there are none of the staining problems normally encountered with PVA.

27 The four completed panels are biscuit jointed together to form the planter box; I used three biscuits per side to maintain the alignment.

28 For the final assembly you will need plenty of clamps, but keep checking that the box is remaining square as it is so easy to pull it out of alignment with a carelessly applied clamp.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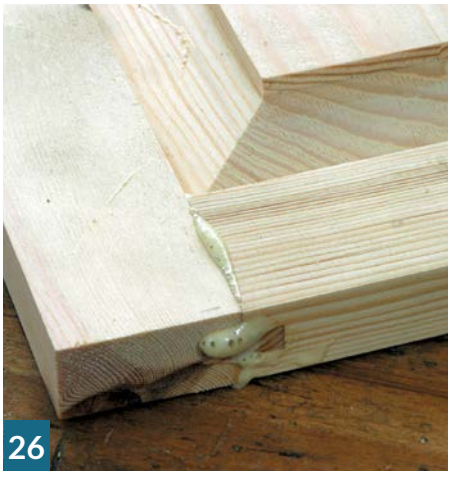
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28

Braces, feet, corners and top

29 Corner braces are glued into the bottom of the planter to add strength and to provide a seating for the loose base.


29

30 To prevent the base from rotting it is best to raise it slightly off the ground on feet, and for this purpose. I used some small squares of oak which is far more weather resistant than pine.


30

31 These are simply glued in place and then routed with a tiny radius to form a neat, unobtrusive foot.

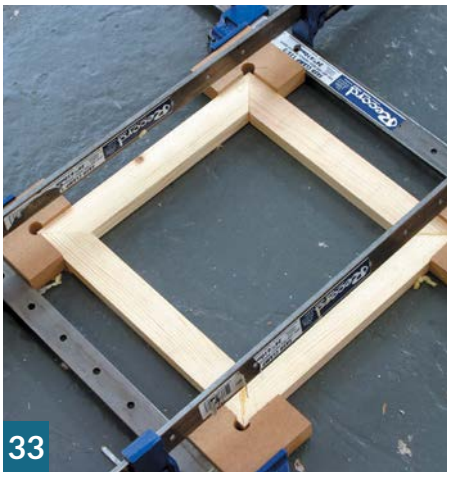

31

32 The four corners of the planter box are chamfered with the router, finishing the chamfer in line with the cross rails.


32

33 The top of the planter is covered with an overhanging frame made from the same-sized material as that used for the panel framework.

34 The corners are biscuited together and the whole assembly is just glued in place, using weights to hold it in position while the glue cures.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34

35 Once everything is set, any excess glue can be cleaned off with a sharp chisel and the planter can be sanded thoroughly ready for finishing.

Finishing touches

36 There are dozens of different decorative clear and coloured finishes available for outdoor use. I used a silver-coloured waterproof stain, applying two coats with a brush...

37 ... to give a cool, contemporary result. ■


35


36


37

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GREEN WOODWORKING

PHOTOGRAPHS BY PETER WOOD

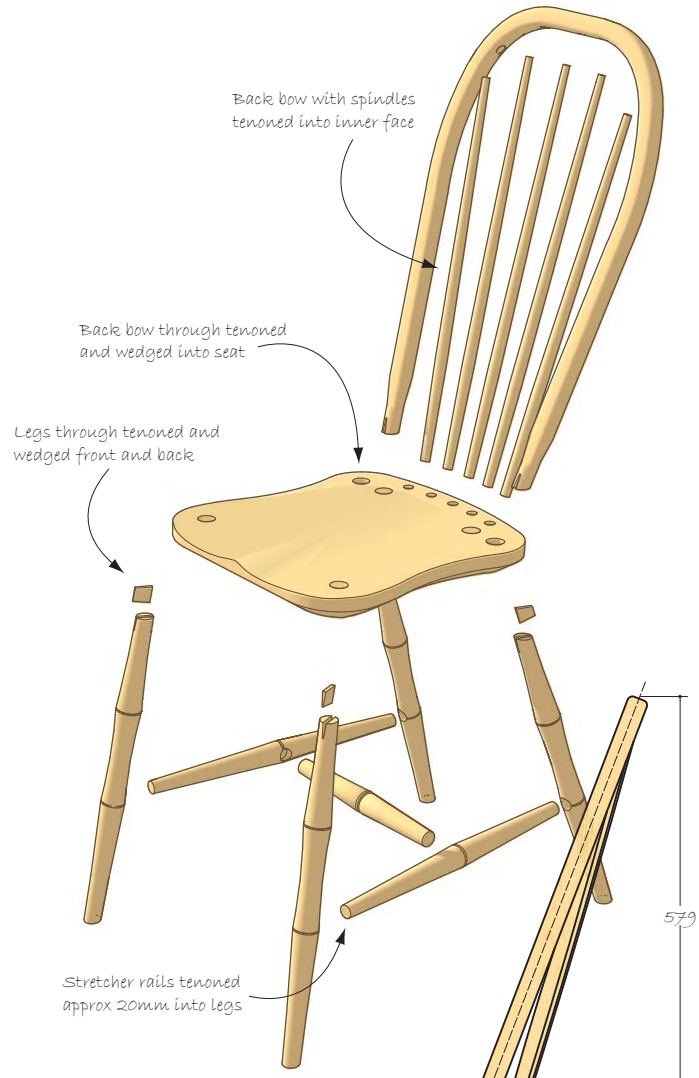
Making a Windsor chair – part 3

Peter Wood brings his Windsor chair project series to a close with the final assembly

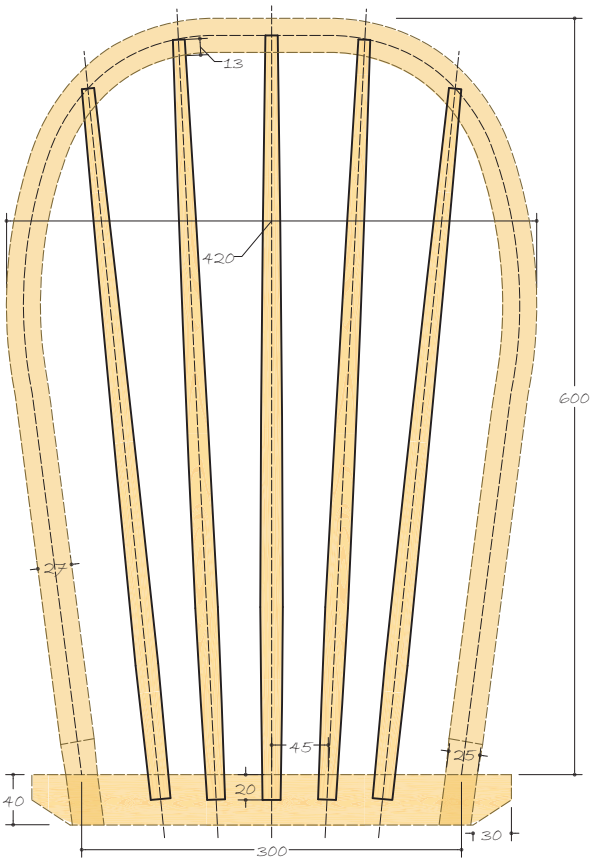
This is the last part of my series of articles on how to make a Windsor chair, in which I cover fitting the back and legs and final assembly. All three articles should give enough information to complete the project, but also some leeway to make the project to your own specification. We will concentrate on fitting the back first, though it's just as easy to start with the legs and finish with the back. ➤

What you will need:

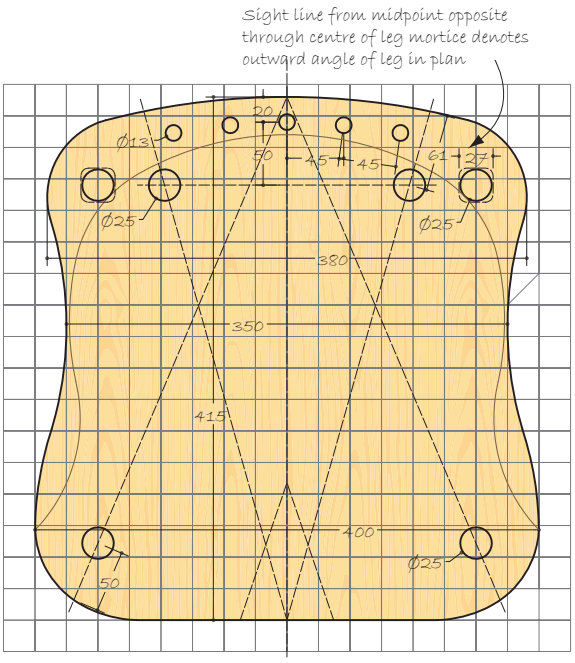
- Drills:
- 1in diameter
- 22mm diameter
- ½in diameter
- Sliding bevel, square
- Veritas rounder
- Ashem Crafts rounder or a spokeshave



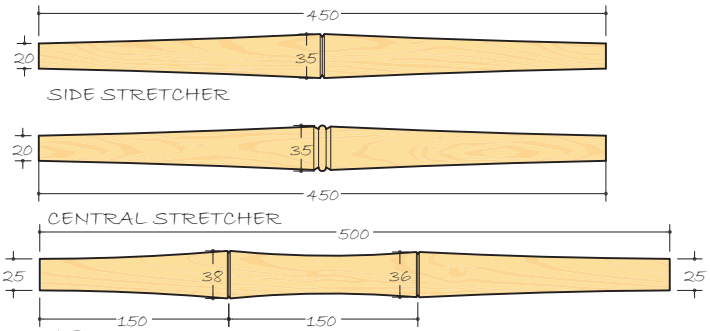
SIDE ELEVATION
Scale 1 to 10

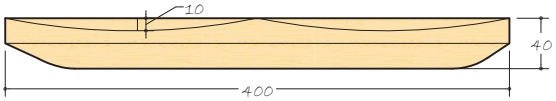


BACK LAYOUT
Scale 1 to 6



SEAT LAYOUT
Scale 1 to 6





SPINDLE
Scale 1 to 6

1 Here we have two Veritas rounders, a wooden one from Ashley Iles and an Ashem Crafts rounder. Correctly set up they all perform well and speed up production, but are expensive tools. Alternatively, you can use a spokeshave to whittle the tenons or turn the tenons for the legs on the lathe.


1

2 First, even up your bow as it may look lopsided when put upright on a flat surface. I had to cut 45mm from one side of this bow before it looked right.


2

3 Using the Ashem rounder, form a 50mm tenon on each of the ends of the bow. You can do this with a spokeshave as well.

3

4 Use a range of different drills and bits for forming mortices. From left to right; a powered saw-tooth bit and flat/spade bit, then with the brace a Jennings pattern bit and a large spoon bit. The powered bits cut aggressively, but leave little time for adjustment, the hand bit and brace is slower but more controlled.


4

5 Mark a line approximately 25mm from the back of the chair. The centreline from front to back will be the centre for the middle spindle. Using dividers and following the line you've drawn, mark the drilling point for the other four spindles. I've made them 45mm apart, but it's up to you. Remember though, too far apart and the top tenon will hit the side of the bow. Mark where the bow will enter the chair, this needs to be at least 50mm in front of the spindle holes to give sufficient triangulation for the spindles to support the bow. Drill the mortices for the bow with a front to back angle of 20°. Use the bow to give the side-to-side angle. This angle can vary depending on how evenly the back has bent. Notice on my left tenon there is a more upright angle. Using the bit and brace gives more time to adjust angles when starting to drill. You may want a more upright back, or more of a lean.


5

6 Trial fit the bow. At this point attach the spindles to the bow using elastic bands. It enables movement of the spindles around until you achieve a nice 'look' for the chair. The spindles can go straight up or slowly fan out. Once happy, mark the angle of drilling on the back of the bow. ➤


6

7 Using the drilling point on the seat and the line drawn onto the bow, drill the bottom mortices for the spindles. Now form the tenon on the bottom of each spindle. This is ½in diameter as the rounding plane is imperial rather than metric. Fit each spindle (make sure you mark each spindle to match the corresponding hole) and mark 1–5 from left to right, looking from the front of the chair.

8 With the spindles dry fitted, mark where they hit the underside of the bow.

Hidden marking

Mark each part on its top or bottom, you'll not sand it off (if sanding) and the marks will be hidden when you've glued up so there's less cleaning up.

9 Take out the spindles and, from your mark, add the depth of the mortice to be drilled into the bow (at least 25mm). Be sure to mark from the longest point of your pencil line. Cut the spindles to length and round the ends. This tenon is smaller at 9.7mm.

10 While the bow is in place, set up a sliding bevel for the mortice. Put the bow in a vice and using the pencil line you've marked and sliding bevel as a guide, drill the mortices. You'll have to start each hole perpendicular to the bow, then slowly move the drill (while cutting) up to the appropriate angle. Practice on some scrap wood first.

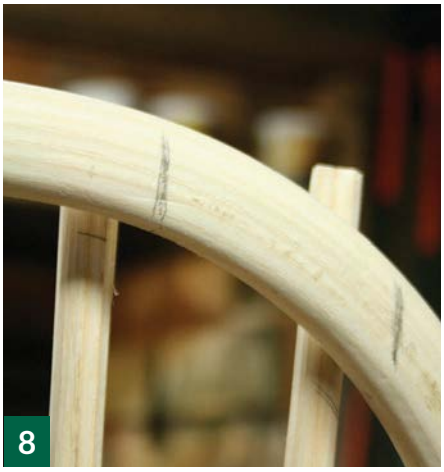
11 Trial fit the bow and either give yourself a pat on the back if it fits or adjust the length of tenons and height of bow until it does fit.

12 Once you're happy with the fit, turn the seat over and mark where to cut a slot ready for a wedge. Make sure it's at right angles to the grain.

13 Now to fit the legs. Form tenons on each of your chair legs (I use the Veritas cutter so it's an imperial 1in diameter). You want the tenon long enough to just come through the seat.

14 It's easy to cut the tenons too long, so put a depth stop into your cutter. A dowel the right length works well to do this.


7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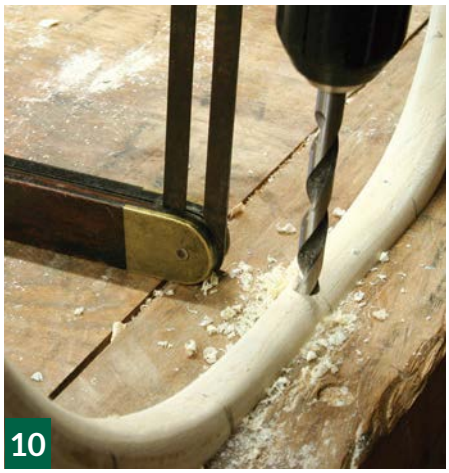
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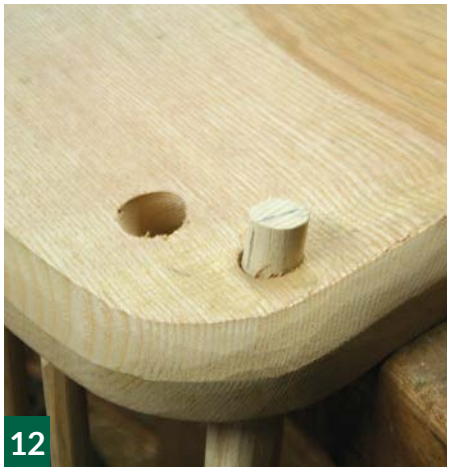
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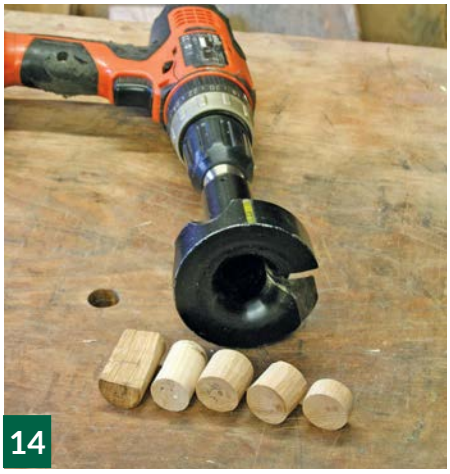
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15 I've marked the sight lines for the leg mortices on the top of the seat. I'm drilling from the top to avoid the drill bit tearing were you will see this. Start the sight lines from the centre point of the front and back of the chair and draw through where you're drilling the mortices.


15

16 Because you're drilling from the top, move the drill point back 15mm. Due to the angle of the mortice the exit point will end up too close to the edge.


16

17 The front legs are set at 10°, the bevel is in line with the sight line and have a square set perpendicular to the sight line. Drill all the way through.


17

18 Before drilling the matching mortice, put a leg into the first hole you can 'match up' the front legs using the leg as a guide for drilling the second hole.


18

19 The back legs should be at 24°, a much steeper angle than you would imagine. Repeat the same sequence as for the front legs.


19

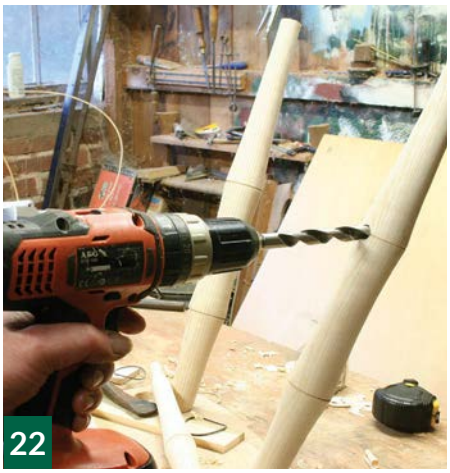
20 Fit the legs into the seat and using elastic bands set the stretchers where you want them to join the legs. Make sure they are level, the middle swelling match on each side and the central stretcher is parallel to the front of the chair.


20

21 Mark where the stretcher tenon hits the leg, add the tenon depth at each end (approximately 22mm) and mark each stretcher to match each leg. Cut to length and form the tenons.


21

22 With the legs still in place use your marks on the legs to set the angle to drill the mortices. Depth is 20mm and note the extra 2mm tenon length will 'stretch' the legs apart when assembled. ➤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Observations on making a Windsor chair

Windsor chairs are quite sophisticated pieces of construction that have stood the test of time, but do not be put off. Work through the construction process logically and you will find it to be quite a 'doable' project. Beware, however, having made one, you may get tempted – or even asked – to make more!

23 Trial fit the stretchers and mark where to drill for the central stretcher and the stretchers' length. Make sure the pattern is central. Add 22mm to each end for the tenons, cut to length and shape the tenons.

24 Drill the mortices using the marks as a guide. I find it easier to hold the drill upside down.

25 All the parts should now fit together and should be ready to 'glue up'. Now is a good time to clean up or sand your chair parts. Before gluing arrange the parts in their correct orientation.

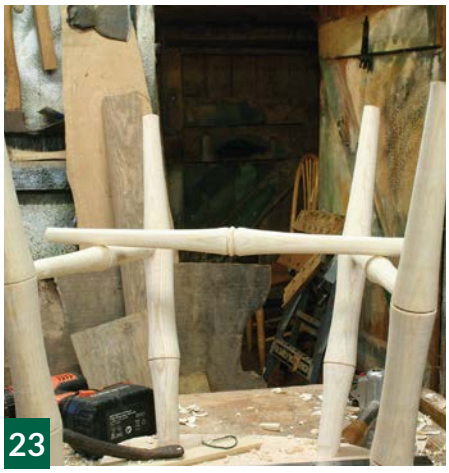
26 Glue the stretchers, then knock into the legs. Before you tap them home, check they are at the right angle. Knock into place and wedge.

27 It's easier to smooth off the leg tenons before gluing the back into place.

28 Glue the back spindles in place, before hammering home (make sure they are how you want them orientated).

29 Now, glue the back into place. It's easier with a helping hand and you may need to use a sash cramp to persuade the joints home. Don't over tighten the cramp as it's possible to break the bow! When the bow is fully home turn the chair over and knock a wedge into each tenon then saw flush.

30 Level the chair, sand again if needed. Then apply a finish of your choice. Stand back and enjoy your chair! ■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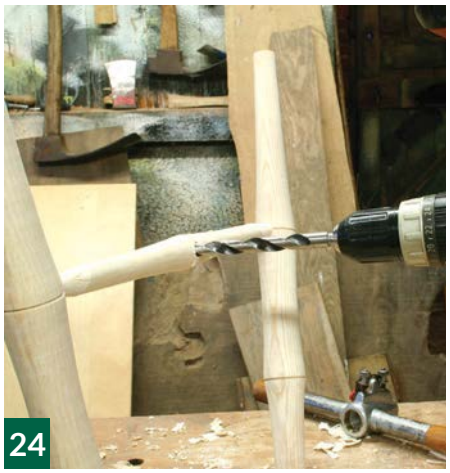
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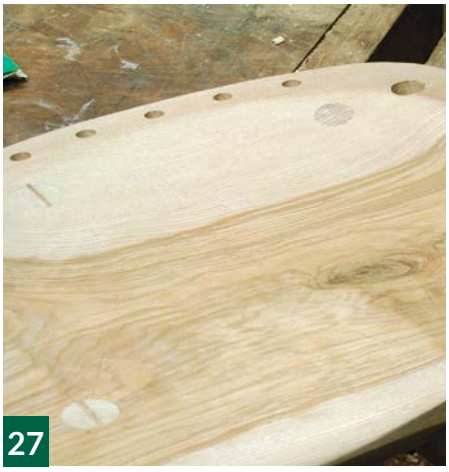
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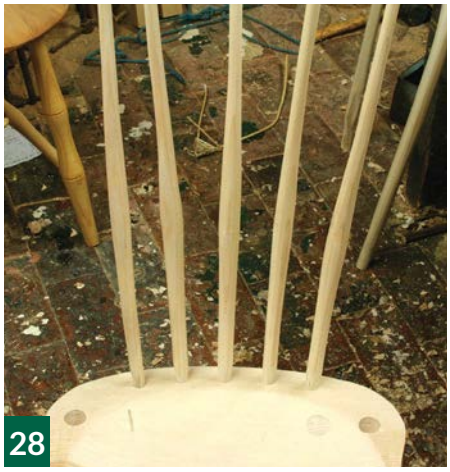
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29


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Peter Wood

Peter has been a skilled green wood craftsperson making Windsor chairs and other creations for over 25 years. He demonstrates these skills around the country, gives lectures and runs hands-on workshops for all ages. He set up Greenwood Days in the National Forest as a centre to teach a range of traditional and contemporary crafts. He is also the current world champion pole lathe turner!

Web: www.greenwooddays.co.uk

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The flexidisc sander gives a superb finish on wood, metal, fibreglass, car body filler and all hard materials.

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Tel: 01628 5488840

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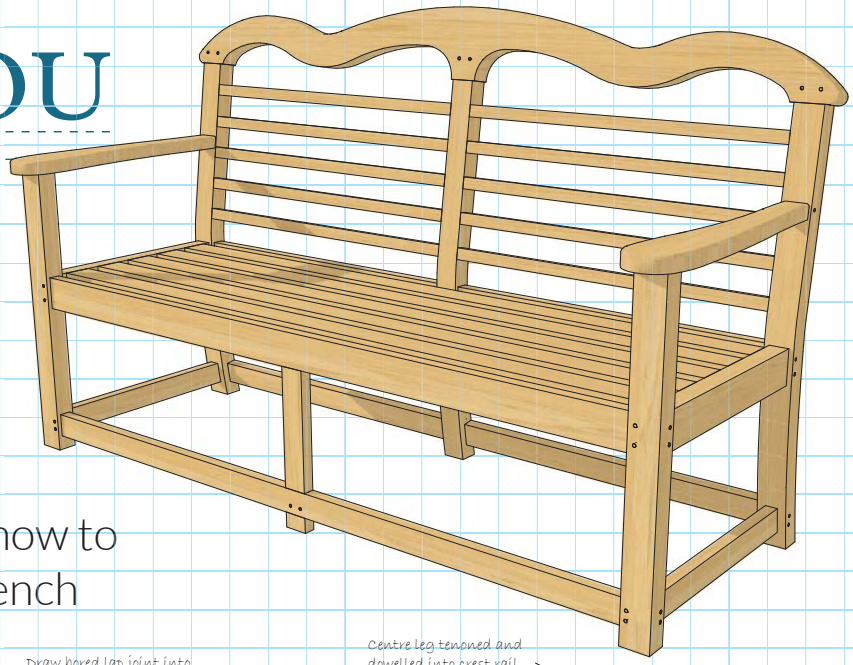
Garden benches

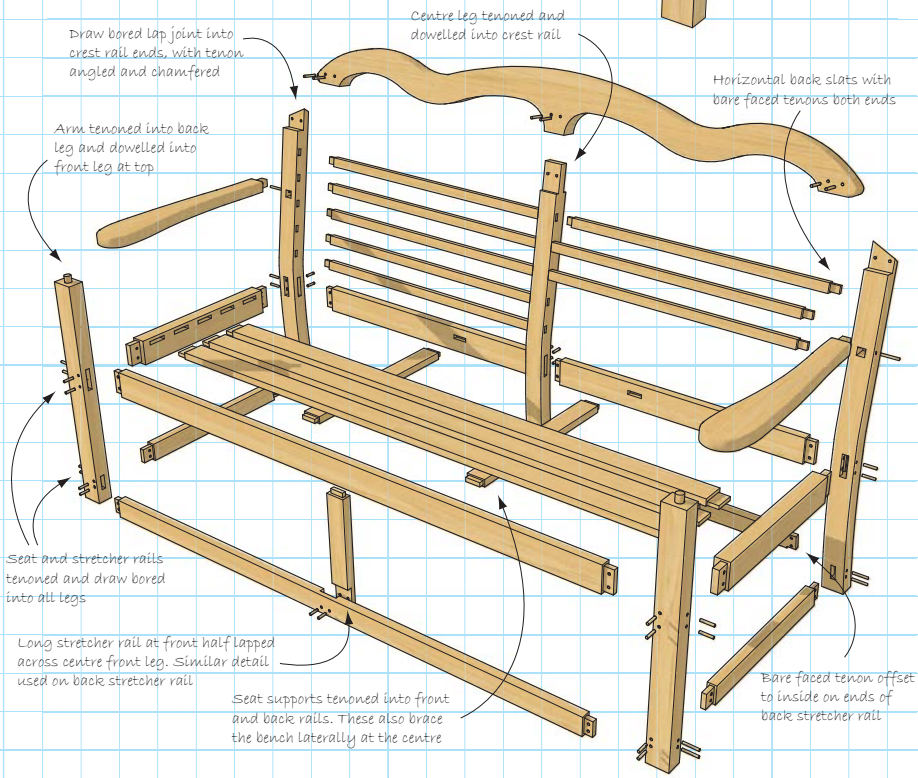


Simon Rodway shows you to how to make your very own garden bench

CUTTING LIST

Crest rail	1 @ 1626 x 150 x 42
Back legs	2 @ 880 x 57 x 42
Back leg	1 @ 880 x 50 x 42
Front legs	2 @ 632 x 57 x 42
Front leg	1 @ 342 x 50 x 24
Back seat rails	2 @ 754 X 70 x 24
Front seat rail	1 @ 1512 x 70 x 24
Side seat rails	2 @ 511 x 70 X 38
Back/front stretcher rails	2 @ 1512 x 50 x 24
Side stretcher rails	2 @ 529 X 50 X 24
Back slats	10 @ 745 x 19 x 16
Seat slats	5 @ 1536 x 60 x 19
Seat slats support	2 @ 488 x 50 x 19
Arms	2 @ Ex 590 x 105 x 28

Dowels not included; arm dowels – approximately 20–25mm diameter, 50mm long.



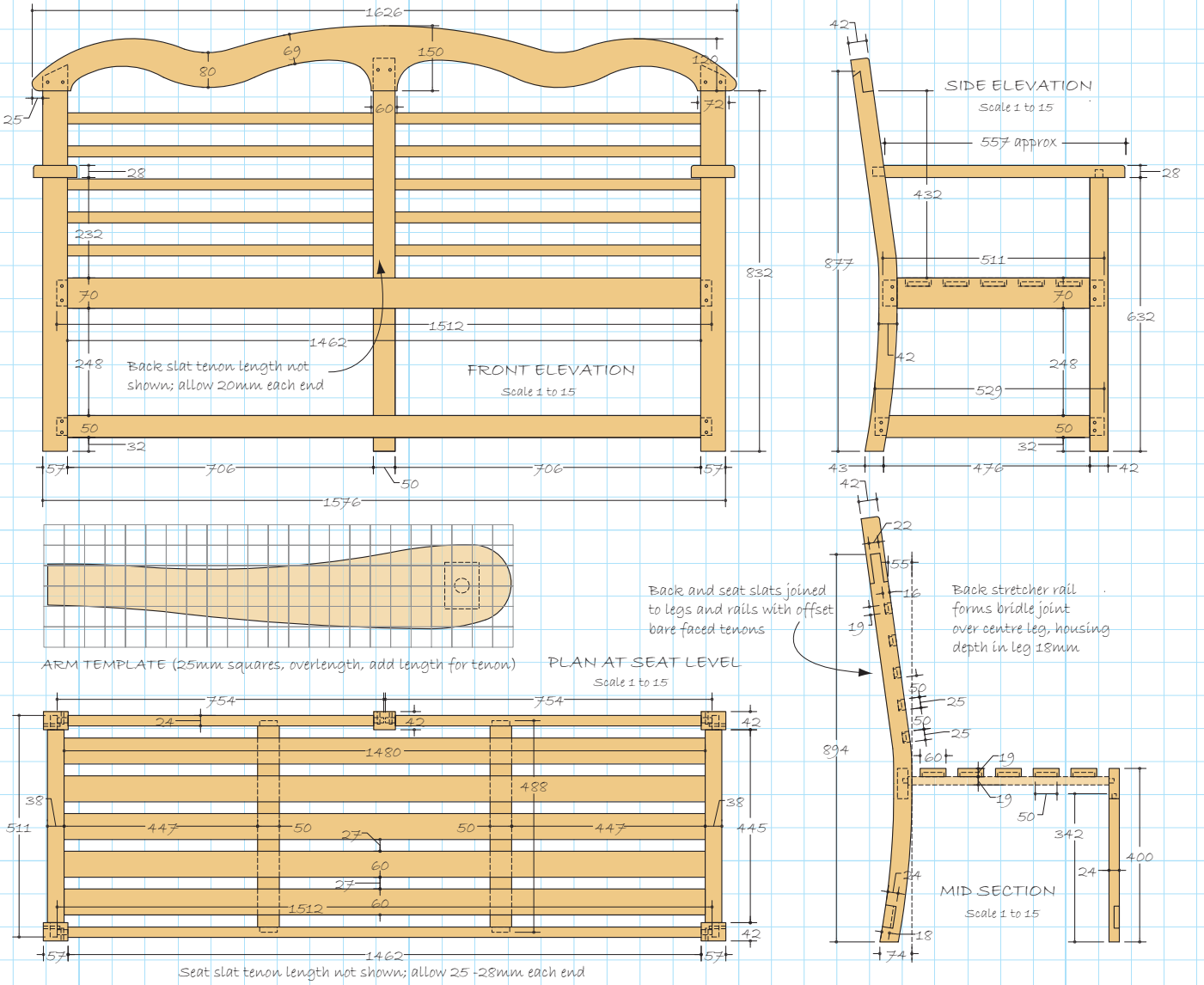
The prototype for this garden bench was designed by Edwin Lutyens, better known for his gracious and inventive houses than outdoor furniture. It's quite common, however, to see copies of Lutyens benches dotted around the catalogues of manufacturers and they are classics that have retained an appeal over the last century. One of the things I particularly liked about this design is its relative lightness, using a centre leg and supports to break spans so that the section sizes, particularly of the back slats, can be significantly smaller. The original has a much more elaborate crest rail and a splayed seat with the front legs wider than the back and I have tried to simplify the overall design to make it more contemporary and also easier to build.

I also set myself the additional challenge of constructing the bench without any screws or metal fixings of any kind. This is something you will find in top quality garden furniture, as it will give a much longer life, so nearly all the primary joints – the ones that hold the structure together – are draw bored mortice and tenons.

The technique of offsetting the outer and inner holes so that the tenons are pulled into the mortices as the dowels are inserted will reap benefits particularly given the tendency for the joints on outdoor timber furniture to open up over time. Of course, you can use waterproof glue throughout, but almost certainly some of this will fail eventually and your bench will fall back on its traditional jointing techniques to hold together.

Construction

The back frame is probably the best and trickiest place to start. The crest rail will need a template cutting out and I would do this for one half and flip it over, so that you get a good symmetrical outline. The central leg is located in a deep mortice in the rail. The two outer legs are lap jointed,



but with angled ends looked at from the front, echoing the upward curve of the rail and giving the tenon maximum length. The ends of these tenons are also bevelled, so that the joint effectively locks together when the dowels are driven home. The bottom stretcher rail has the tenons offset to the inner face of the rail at both ends, as it runs continuously across the back of the centre leg, forming a bridle joint with the leg. I would notch out the rail to a shallow depth of about 6mm, taking the rest from the leg itself. Strictly speaking this joint and the matching one at the front need to be held together by more than dowels and there is no room here to offset the holes, so make this joint as snug as you can and it should be fine.

The seat rails at the back are a simpler proposition, with tenons which are centred on the legs. The horizontal back slats have offset tenons at either end, as they are flush with the front face of the legs. This, together with a similar technique on the seat slats, which are flush with the seat rails, helps to give the bench its distinctive and stylish appearance. You will need to cut mortices in the seat rails for the seat slat supports, which run front to back.

The front frame is a bit simpler in construction, the only peculiarity being the centre leg which is tenoned into the seat rail and bridle jointed with the stretcher rail. At this point, you need to cut out the arms using another template; I allowed extra length on the template at the back of the arms for cutting the angled joint, but you need to add a bit extra for the tenons. Round over the top edges of the arms and then drill holes in the tops of the front legs for the large diameter dowels which join them to the arms. Use the template to locate the dowel position on the underside of both arms so that they match; just drilling a small pilot hole at the centre point is sufficient.

Now you need to mark the angle and position of the back leg on each arm and cut the joint, including the tenon. This is tricky and you may need to dry assemble the front and back frames temporarily to get an accurate marking, but this is the last stage in the job – apart from the final assembly of course, when you slot it all into place, including the slat supports and seat slats, arms and side rails. This is ideally a two-person job given the number of components involved. ■

Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is proving really popular. For details and to get discount coupons, see website details below.

Email: sjr@linemine.com

Web: www.linemine.com/courses

KIT & TOOLS

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

MINI TEST

Mini test – Niwaki pruning ladders

These lightweight, highly unusual tripod ladders are brilliant for pruning work which is what they are primarily designed for. Unlike ordinary step ladders they are inherently stable and cannot topple over. The third slim leg can be placed close to the hedge or bush being dealt with and can be chained at different angle settings. The welded aluminium construction means they mean they meet the EN-131 commercial safety standard. At last, on often quite uneven ground these ladders keep me safe and make access to all areas very easy indeed.

Verdict

They aren't cheap but will outlast your lifetime. A tip though, buy taller than you think you need as you will need to lean against the top section of the ladder and if you want the very tallest 15ft model – that cannot be delivered, so you'll just have to discover the beauty of Shaftsbury in Dorset and collect it yourself instead.

A range of six sizes are available – 4ft (1.2m) at £159 up to 15ft (4.5m) £369 (inc VAT) but delivery is extra.

Web: www.niwaki.com

Thingamejig scribing tool

Scribes; painted items, stone, soft metals, laminates, timber, veneers plus much more. The scribe has been designed for single-handed use, freeing up one hand to steady the item you are scribing. It also enables accurate retrace of lines for added precision and confidence. Reducing the chipping of paint/laminate and across timber grain when trimming, the Thingamejig scribing tool comes with adjustable height blades and is constructed from anodised aluminium with blades of tungsten carbide.

Contact: Ironmongery Direct
Tel: 08081 682828
Web: www.ironmongerydirect.co.uk

UJK technology deluxe variable angle worktop jig

The UJK technology deluxe variable angle worktop jig combines the latest innovations to form an exceptionally versatile worktop jig. The deluxe variable angle worktop jig will accept a worktop up to 1,000mm wide with a jointing facility at 22.5°, 45° and 90°. The guide slots and preset angles are located with 10mm dowel pins to ensure exact positioning against the edge of your worktop and encompass the principal angles required, plus there is positioning for worktop connectors.

Current techniques to overcome non-square walls are not accurate and guesswork can result in poor joints. The jig is supplied with full instructions, a pack of four aligning pins and two flush clamping adaptors. Users will also need ½in router, 12.7 x 50mm router cutter, 30mm guide bush and two clamps.

Contact: Axminster Tools & Machinery
Tel: 0800 371822
Web: www.axminster.co.uk

BO6050J random orbit sander

The new Makita BO6050J random orbit sander has two modes of operation. In the traditional random orbit mode for fine finish sanding and buffing the motion of the pad is orbital action plus random action or free-rotation. This stops when firm hand pressure is exerted on the tool. The alternative roto-orbit mode is ideal for stock removal, coarse sanding and polishing. Here the motion of the pad is a combination of orbital action and power driven rotation.

This mains powered sander, with 750W motor, will run the 150mm pad up to 6,800 orbits per minute and deliver up to 13,600 sanding orbits per minute. The maximum orbit eccentricity is 5.5mm. Dust extraction is a firm requirement in any sanding operation and the new Makita BO6050J has through-the-pad extraction and a neat, slim connection tube below the body which is positioned so it is not intrusive for the operator and simply connects to a vacuum dust extractor.

MINI TEST

Trend snappy drill and countersink and quick chuck

The Trend Snappy range continues to grow apace with a vast range of bits and drills and cases. It offers tradesmen the ability to keep changing tooling quickly without having to resort to slow chuck changes or having extra cordless drills on hand. The four I tried out covered a range from No.6 up to No.12 sizes in metric bit, although I note the larger three cover two sizes each depending on whether you are drilling into hardwood or softwood, so a little bit of cheat if you like. Being able to pilot drill and countersink in one go is really useful although they will make plug holes if pressed deeper. A key feature is compatibility with Festool's centrotec snap-in holder that replaces the chuck on their cordless drills. The Quick Chuck will take longer bits, short ones disappear inside it.

Verdict

Nicely made, they make drill countersinking quick and easy. The smaller three bits have a shoulder large enough to act as a depth stop when plugging. A special non-marking depth stop collar is available on a more expensive TCT version. The Centrotec system will be lost to anyone not using Festool but all the bits locate easily in a hex holder.

Web: www.trend-uk.com

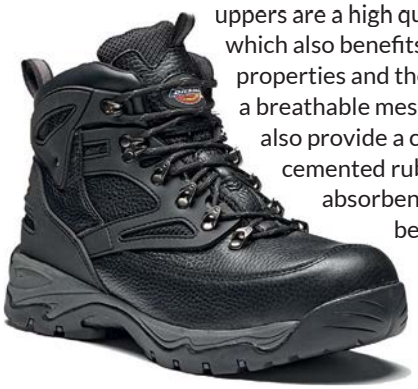
Dickies have 2016 covered

Dickies are introducing a number of exciting new products and ranges for 2016, with style, functionality and quality being paramount in driving the Dickies' business forward. With over 90 years' experience in workwear manufacturing, generations of workers have found Dickies to be a brand they can trust. Employing the latest developments in fabric technology and clothing manufacturing techniques, Dickies' high performance workwear is suited for even the harshest working environments.

Dickies are focusing on their new ED24/7 trousers, which was launched late last year they are not only practical for the everyday working environment but also comfortable and stylish. Also new for this year is the Eisenhower Premium shorts which follows the popular Eisenhower premium trouser. The fit has been ergonomically designed to be able to move and provide maximum comfort.

Following on from the popular two tone range is the two-tone high visibility range, which includes a jacket, hoodie, trousers, T-shirt and waistcoat. The new styles are all certified to the new high-visibility standard EN ISO 20471.

Lastly is the Dickies Preston in black and brown, which is a steel-toe cap boot, with steel midsole. The uppers are a high quality full grain leather, which also benefits from water resistant properties and the product also feature a breathable mesh lining. These boots also provide a comfortable walk, with a cemented rubber outsole and a shock absorbent heel. Dickies will also be launching their 2016 catalogue in March this year.



Contact: Dickies
Tel: 01761 419 419
Web: www.dickiesworkwear.com

Triton T12 oscillating multi-tool

This is one of the T12 12 volt range from Triton featuring a common li-ion battery type with a high capacity battery available as an extra item. The kit comes in the usual tough zip case with hook and loop fastenings inside. You get the machine plus two batteries and a charger and one each of a selection of wood and metal cutting tools and a masonry tool and of course a delta sanding head and a stack of hook and loop abrasives in 60, 80, 120 and 240 grits. The tooling all features an open 'neck' so you can fit and remove quickly without taking out the allen screw completely. However it is still tightened by allen key so you need to ensure it doesn't vibrate undone. The tooling fitting seems to match Bosch and similar machines so obtaining a variety of tooling shouldn't present a problem.

Contact: Triton Tools
Web: www.tritontools.com

£107.57

$29.99 plus p&p

Compact router sub-base with handles

The compact router sub-base with handles has a 6in diameter plate that provides a larger surface area for increased stability and ergonomic handles that enhance control by allowing two-handed routing. Made from ¼in thick clear acrylic, the plate also offers excellent visibility of the cutting area.

The plate's stepped center opening fits standard guide bushing inserts for easy template or pattern routing, and the plate is predrilled for quick mounting to the fixed bases of the most popular Bosch, DeWalt and Porter-Cable compact routers.

Contact: Rockler Woodworking and Hardware
Tel: 1-877-ROCKLER
Web: www.rockler.com

£13

EasyAirWedge

The is an inflatable wedge that replaces the need for carpenters and craftsman to use wedges in woodworking and cabinet making projects. The innovative, cost-effective device helps with levelling and fitting of cabinets, carcases and worktops as well installing and fixing windows and doors. The EasyAirWedge makes the awkward task of fitting, levelling and adjusting heavy doors and other weighty objects a thing of the past. It will safely lift an impressive 120kgs.

The EasyAirWedge is a handy tool-box essential which is also ideal for lifting, levelling and adjusting white good and kitchen units, cabinets and office equipment, water tanks, furniture and much more.

Contact: EasyAirWedge
Tel: 01227 712833
Web: www.easyairwedge.com

MINI TEST

2⅜in premium blade and chipbreaker set

Made in Canada by IBC and endorsed by Rob Cosman and others this complete set is designed to upgrade Stanley and Record planes. It is also available as a 2in set for narrower bench planes. At a stroke you can go from a thin blade and chipbreaker to something really rigid and reliable made from superb A2 tool steel with a Rockwell hardness between RC 60-62. Along with some general plane fettling you can then transform your hand plane and create superior results.

Verdict

There is no way this set will fit a Stanley or Record without some serious work, filing the plane mouth because of the combined thickness of both components so bear that in mind. However, once that is done it should sit in snugly and give excellent results. I found both blade and chipbreaker needed minimal honing on a 1000 mesh diamond plate to bring them to a state of perfection such is the quality of manufacture.

£69.95

Web: www.johnsontools.co.uk

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A trug for all seasons

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Sales of the ancient and humble trug have blossomed over the past year, but expert maker Richard Bingham has his feet planted firmly on the ground, as **Catherine Kielthy** finds out

There are no airs and graces about Richard Bingham, a statement he would most likely say is equally as true of his handcrafted traditional Sussex trugs, and in many respects he would be right. They are utilitarian pieces for carrying fruit and veg from the garden or the fields. Yet trugs are also handsome, tactile and versatile.

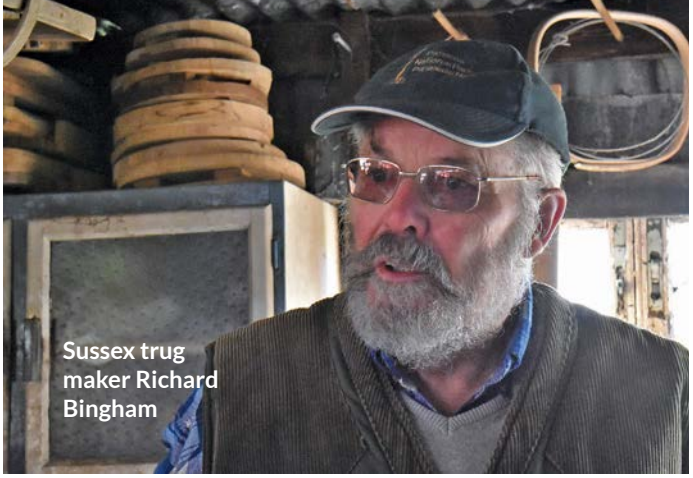
We meet Richard on a cold January morning at his farmhouse in Herstmonceux, East Sussex, the home where he has been living for the past 50 years with his wife Dilys and a stone's throw from the cottage where he was born. In the distance lies Pevensey Castle and Richard insists that on a clear day you can see ships sailing off the coast. Not that you need to travel the eight miles to get a taste of the promenade; there's a beach hut not 50 yards from the front of the farmhouse. "It's from [nearby] Bexhill, I think," muses Richard.

Aged 15, Richard joined the RAF as an apprentice engineer at Halton, Buckinghamshire, before being posted to RAF Wittering where he worked on Vickers' Valiants, then to Singapore and RAF Gan in the Maldives. He took up farming after his father retired and sold the farm to Richard and his three siblings. We can't help wondering what motivated his decision to start making trugs. "You're in the centre of where they're made," he tells us, "and I must have felt: 'Let's do something different.' And progression because the farm was then [in 1979] mainly arable and that left me a bit of time in the workshop, so it was an alternative enterprise, not that I did huge amounts. I kept myself busy."

The Picasso of trugs

Richard's trugs have gone to customers as far flung as the USA, grace historical properties such as Anne of Cleves House in nearby Lewes and can be found at the Ditchling Museum of Art and Craft. He keeps a close eye out for them on TV programmes. "I leave the end [of the feet] rough – that's my mark. You occasionally see them." At Farley Farm House in Chiddingly some smaller ones share a shelf with a Picasso. "The old man, [surrealist artist] Roland Penrose, used to go to craft shows and he bought some."

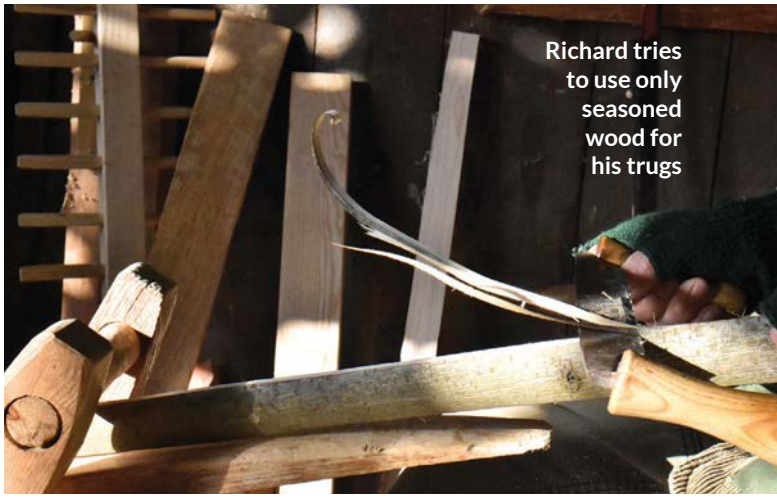
Traditional Sussex trugs comprise two woods, sweet chestnut (*Castanea sativa*) and willow (*Salix spp.*). As we enter his crammed workshop, he smiles: "I'm happy to leave this to the next generation to sort out. I go through occasionally to remind myself where things are." Asked how best to look after a trug, he says: "They don't take much. They don't need preservative and they can get wet, just don't leave them outside. If they get covered in mud, just wash them off and dry them properly. And use them."



Sussex trug maker Richard Bingham

Seat of the action: the shaving horse where Richard shapes the pieces

Cleaving the sweet chestnut poles



Richard tries to use only seasoned wood for his trugs

THE MAKINGS OF A TRADITIONAL SUSSEX TRUG

The first thing to say is that Richard makes the whole process look amazingly easy – take a peek at the YouTube video his niece, Helen Pope, posted if you don't believe us (**www.youtube.com/watch?v=txmIw6vGojc**) – but it's clearly anything but the case. It's just that Richard, by his own admission, has had 'years of practice'.

Handle – with care

He starts by cleaving the seasoned sweet chestnut poles for the handle and rim. He does this with a handmade froe and apple maul on a cleaving brake that's been in situ since Richard began making trugs in 1979. He gives the chestnut a 'wallop' and then controls carefully the direction of the split by applying pressure – 'always on the bottom not the top' – and turning. The aim is to get a fairly even split down the middle. The chestnut is then quartered before being dried as quickly as possible.

The face is then taken off the trug's handles and rim. This is done using a bandsaw and Richard cautions that: "the smaller the handle, the greater the chance of getting it wrong". He then moves to the shaving horse where all the pieces, one for the handle and two for the rim, are shaped using a drawknife. Next up is a 20-minute spell in the steamer until the timber is pliable.

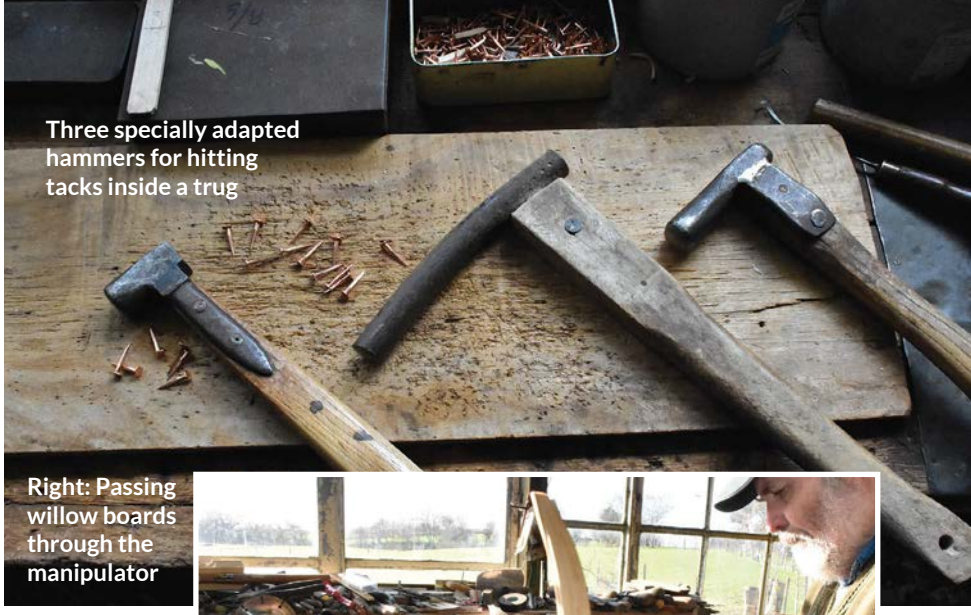
The handle is the first part of the trug to be shaped. It is manoeuvred onto the former, before being carefully rotated. "Sod's law is the knots always comes on the bend," says Richard rather ruefully, "but you don't want to be too precise anyway; you want to be rustic."

The ends are then nailed together with steel-cut tacks. This process is repeated with the two strips of chestnut that will make up the rim. These fit on either side of the former and Richard works quickly and effectively to ensure the first part of the rim doesn't cool to the point where it becomes too cool and inflexible to be shaped. The handle and rim are then aligned by eye and nailed in place. ➤

Shaping the handle using a former

Aligning the handle and rim by eye

This is how trug makers used to take their wares to market



Three specially adapted hammers for hitting tacks inside a trug

Right: Passing willow boards through the manipulator

The willow is dunked and put in a plastic bag to make it pliable

Shaping the boards with a Stanley knife

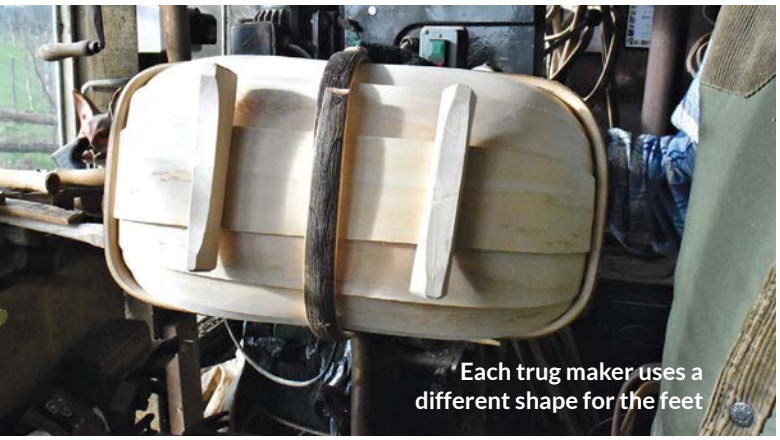
Boarded up

Richard then moves on to the willow boards. These have been 'dunked' twice in water and kept overnight in a black bin bag that keeps them pliable but not sopping wet. He chooses a centreboard, two second boards and four sideboards for our trug. The centreboard is the first to be positioned lengthways along the bottom of the trug, but not before a spin through the handmade manipulator. After pressing the centreboard into position, it is then nailed to the rim and handle using American copper tacks (a rare nod to aesthetics from this immensely practical man). The second boards are next through the manipulator followed by the sides. Once again, these are pressed into position before being nailed securely to the rim and handle. Richard does all this by eye. Boards in place, the ends are trimmed and the corners removed to give a neat appearance.

The feet begin to take form

Feet last!

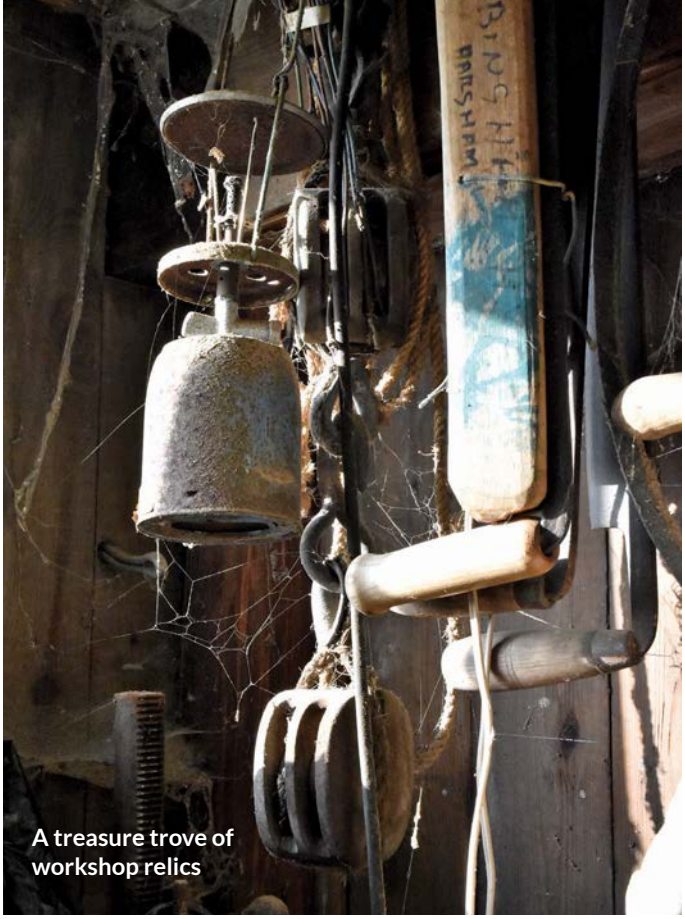
Last but not least come the feet, which are made from willow left over after the boards have been cut. Richard uses an edge tool to cut a fairly deep angle into the willow: "I end up with a triangular shape as it's what they tended to do years ago." The pieces are then bandsawed and trimmed before being nailed into position. Any wobble will be fixed once the wood has dried and it will then get its stamp to mark its authenticity as a traditional East Sussex trug.



Each trug maker uses a different shape for the feet

Made – in Chelsea...

On average, Richard makes about 100 trugs a year. "I tend to do them in batches. But I'm not pushed for time in my age group, so I don't rush." There was a fillip last year after the BBC featured the Chelsea Flower Show's gold medal-winning 'A Trugmaker's Garden' on its highlights programme. "In the two hours after the show finished all the trug makers received so many orders – more or less the same quantity that they get in a year – that they haven't caught up yet. Last Christmas I ended up selling about a dozen, which I wouldn't have done normally."


A treasure trove of workshop relics

The trugs, which are lightweight and cost between £35 and £60, are handy indoors, too. They're great for displaying fruit, storing needlework or as a magazine tidy. The 'diddy' ones, meanwhile, would make pretty bridesmaids' posies. As we sip a welcome cuppa, Richard begins nailing the trug's boards to the rim: "I'm lucky my joints are still good. Some makers get thumb ache." He then unexpectedly hands me our (as yet) footless trug. "It's a delight to hold," I venture (and it is) only to endure a look of disappointment. "It's not yet," he insists, taking it away to fettle the underside of the handle. "Now try it." It feels polished and silky and I know it would become indispensable in my garden.

"That's the most important part of the basket," adds Richard. "When people pick it up, if it feels nice, then the rest of it is nice. If you make them too thin, like the bamboo ones, then each edge is cutting into your hand. But if you make it wider and smooth it feels good. Therefore the basket is good to use."

Thankfully, Richard intends to pass on his skills and has high hopes for his grandson: "Hopefully, I'll last long enough." He has built a child-sized shaving horse to make it easier for the younger ones to try woodworking. I'll take it to the shows with me this year." It's a testament to Richard's resourcefulness and inventiveness and one can only wonder what he will make – and do – next. But one thing's for sure: his humble trugs will outlive us all. ■

Past glories


A hand-painted Mollie Reed trug

'Trug' is a modern derivation of the Anglo Saxon word 'trog', meaning a hollow wooden vessel or boat. They date back to the 16th century and were used by farmers to measure feed or grain. While some 'trogs' were woven baskets, many were hewn from solid timer and were heavy. Their progression into the lightweight wooden constructions we know today is largely down to two factors: the plentiful supply of coppiced sweet chestnut and willow in Sussex and the entrepreneurial spirit of Thomas Smith (1811-1868) and his wife Ann. A resident of Herstmonceux, Thomas developed the Sussex trug as we know it today and exported it to the wider world. In 1851, he pushed a cart of trugs 60 miles from his workshop to the Great Exhibition of London. On the first day they attracted the eye of Queen Victoria, who swiftly placed a large order.

Royal patronage

The story goes that Thomas constructed the entire order himself before making a second journey to London to deliver the trugs to Buckingham Palace. Demand for the trugs grew and orders began to come from further afield thanks to the Royals' European visitors. Such was the trug's popularity in Victorian times, when they were often used to hold needlework or knitting, that several other makers set up business, among them Reuben Reed and his son Thomas. During our visit, Richard proudly showed us a beautiful trug that was hand painted by Thomas's daughter Mollie.

While they continued to be made in Sussex throughout the two world wars, the advent of plastics as well as modern farming methods took their toll on the business. "Fifty years ago, we were making far more of the agricultural sized trugs [no.8]," explains Richard. "We had 30 or 40 on this farm. When we were picking potatoes by hand everyone had to have a trug and hordes of kids used to come from Hailsham to pick our potatoes."

Demand from gardeners and allotment holders continues, however, and thanks to its appearance at last year's Chelsea Flower Show, it has made something of a comeback. At the same time, Richard and his fellow trug makers are joining forces to ensure that only baskets made in the classical way, using traditional materials, will be allowed to bear a stamp saying Association of Sussex Trug Basketmakers.


A collection of Richard's 'diddy' trugs

Contact details

For more information about Richard Bingham's Sussex trugs, or to enquire about his occasional one-day trug-making courses, email: binghamrd@btinternet.com or phone 01323 833538.

PHOTOGRAPHS BY MICHAEL T COLLINS

WHAT YOU WILL NEED:

Tools

- Rip saw
- Cross cut saws
- 6mm and 19mm bevelled chisels
- 6mm mortise chisel
- Jack plane
- Block plane
- Combination plane

Optional tools:

- Round moulding planes – 12mm, 19mm and 25mm
- Router plane with 6mm cutter or shop-made router

Wood

- Straight grained cherry (*Prunus avium*) – 25 x 200 x 1200mm (Prepare the wood as per the cut list – marking all face and edges)

Cherry mantle clock

Micheal T Collins makes a traditional mantle clock, in cherry wood

Every home I have lived in has had a clock hanging in the kitchen and one in the living room, ticking away the hours. Whether an eight-day carriage clock or a wall hanging shaker clock, each has had the same familiar and reassuring tick and that unmistakable Westminster chimes ringing in the hours. In this article I will be making a Mission-style mantle clock. I will be using many of the tools and techniques that you have learned over the past 11 issues.

Making the top and bottom

1 First rip and cut all parts to size – if you are ripping thick boards it is best to leave them stickered for a few days after ripping, to allow them to dry out. The top and bottom are attached to the sides using a modified tongue and groove.

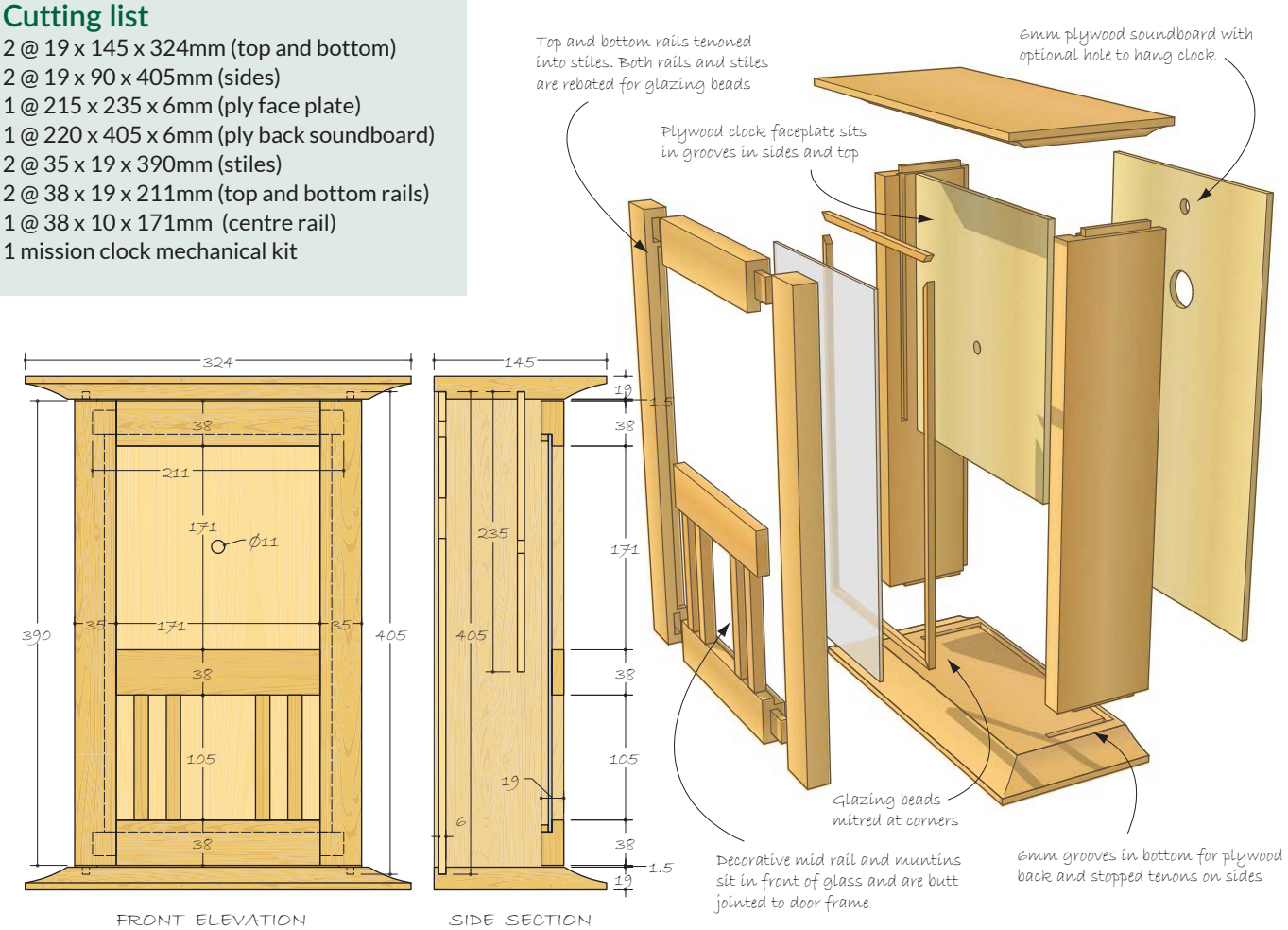
2 Using a marking knife and mortising gauge, layout the groove so that it is 6 x 6mm and about 60mm long and positioned 48mm from the sides.

1

2

Cutting list

2 @ 19 x 145 x 324mm (top and bottom)
2 @ 19 x 90 x 405mm (sides)
1 @ 215 x 235 x 6mm (ply face plate)
1 @ 220 x 405 x 6mm (ply back soundboard)
2 @ 35 x 19 x 390mm (stiles)
2 @ 38 x 19 x 211mm (top and bottom rails)
1 @ 38 x 10 x 171mm (centre rail)
1 mission clock mechanical kit



FRONT ELEVATION
Scale 1 to 6

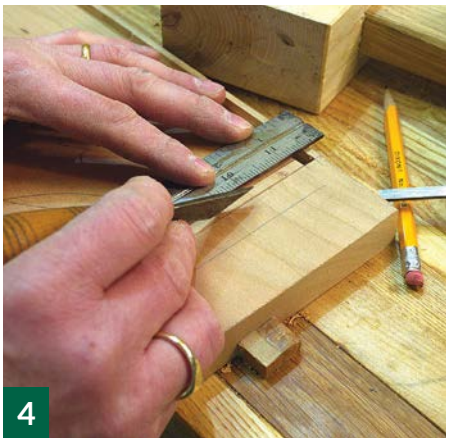
SIDE SECTION
Scale 1 to 6

Chopping the grooves

3 There are two methods that can be employed in chopping out these narrow grooves. Because some are stopped grooves, sawing down the walls is out of the question. Treat the long grain grooves as regular mortises and chop accordingly. Go slow when chopping close to the edge in any wood, but especially cherry which is very brittle and easily chipped.


3

4 For the short grain grooves you need to apply a different technique since chopping mortises the long grain way may result in splitting the wood. Deeply score the boundaries of the stopped grooves.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5 Then, with a 19mm chisel (bevel facing the groove), chop down the score lines. Do this on each side. Then carefully chop parallel to the score lines towards the score lines and remove the waste – repeat until you have reached the correct depth.


5

6 Now with the 6mm mortice chisel clean out the waste. Continue this process until you have removed all the ➤


6

waste. This is where the router plane would be a great asset.

7 If you do not have a router plane the simplest method to flatten the bottoms of the grooves is to make yourself a router/scraper.

8 Use the 6mm combination blade set in an 'L' shaped scrap of wood. Hold the cutter in place with a nut and bolt.

9 Clean up all the corners, keeping the chisel perpendicular.

Cutting the tongues/tenons

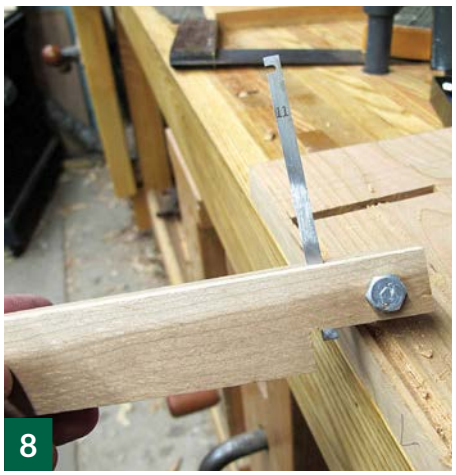
10 The 6 x 6mm tongues/tenons are located in the centre of the top and bottom of the sides. Using a mortise gauge from the face side, mark the location on the end grain and 6mm on the edge sides. Use a marking knife or cutting gauge to locate the shoulder. Using a chisel cut a 'V' notch, giving the saw a place to run and providing a very clean shoulder. Cut down to the gauge marks and repeat this on all ends. Because the tongues are so small you can get away with just breaking the waste off. If you have less than straight-grained wood then you can place the wood in the vice and use the chisel to chop down the 'cheeks' on the waste side. Clean up the tenon with a chisel from both sides of the tenon – we want the tenon to remain centred. Be sure to test fit the tenon every so often – you want the fit to hold without forcing it together – too tight and glue will be squeezed out; resulting in a poor joint.

Cutting the profile on the top and bottom

11 The profile can be either convex or concave – it is much easier to plane a convex profile. To do this you need the planes already have in the tool box. On the face edges, draw a thumbnail profile. Then, starting with the jack plane on the end grain, work from the back to front remove the bulk of the wood, refining the profile with a block plane. Any tear out will be removed when the same profile is cut on the front edge. Repeat this process for the top. However, this series is about developing your hand tool skills, so let's make a concave profile. Draw the profile on the top and the base.

12 Then, remove the waste using the combination plane creating the shoulder first.


7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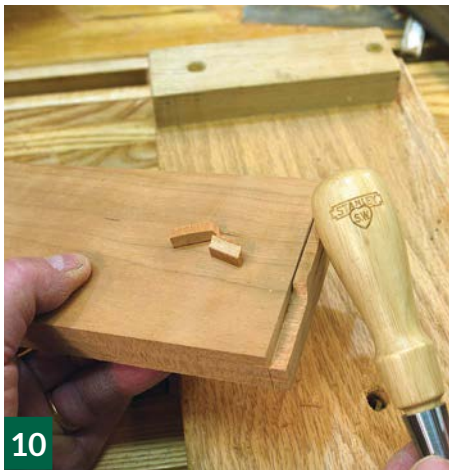
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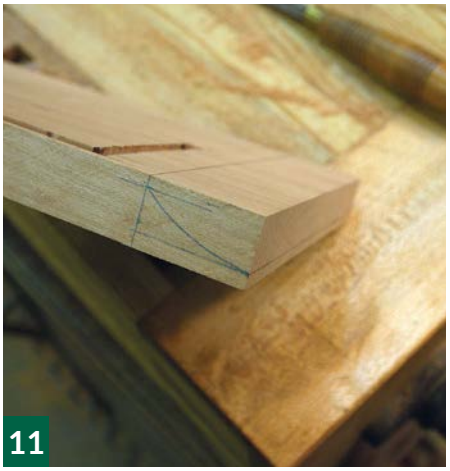
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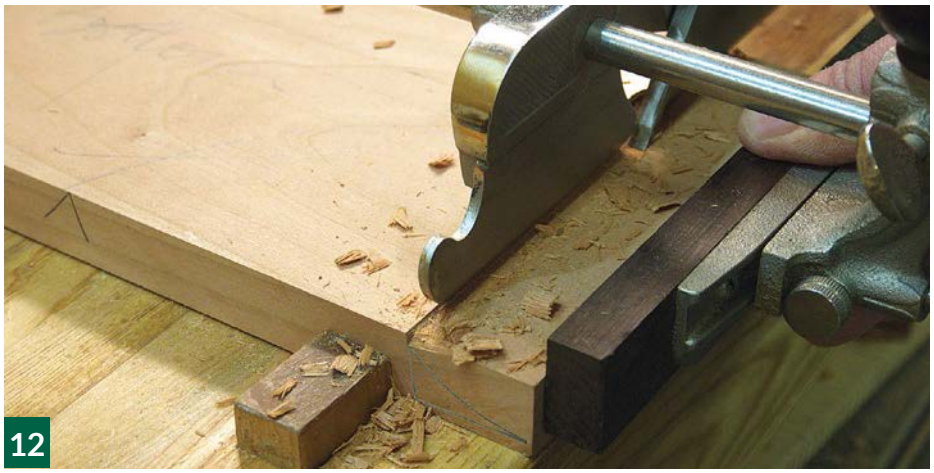
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13 Remove more waste with successive passes of the combination plane.

14 Finally, use the round moulding planes to refine the profile.

15 If you do not have a combination plane – remove the bulk of the waste with the jack plane, creating the shoulder with a saw kerf. Then with the 12mm round plane remove more of the waste. Switch to the next size plane refining the profile as you plane with the next largest plane. Final clean up can be achieved with increasingly finer sandpaper ending with 600 grit.

Cutting the rebate on the sides

The sides have a 10 x 10mm rebate running the length – this is cut using the combination plane and a 10mm cutter – mark the edge to be rebated (it's easy to get confused and plane the wrong piece!) How do I know this, you might ask…

16 I like to gauge the rebate with a marking knife as this will prevent any splintering if the grain is running the wrong way. Using the combination plane, adjust the depth stop to 10mm. Start at the end farthest from you and plane working back towards yourself. This prevents the cutter from removing too much wood and potentially splitting out large chips. At some point you will be going against the grain, in this case the sharper the cutter and the finer the cuts the better.

Face plate groove

The clock's faceplate is housed in grooves on the sides and top. The grooves can be cut with the combination plane as they are open at the top – alternatively, use the method described earlier.

17 Dry fit the case and make any adjustments. The face plate has an 11mm hole centred horizontally and 105mm from bottom.

The door

18 I like to take all measurements off the case. The door is composed of three rails and two stiles – the upper and lower rails are mortise and tenon construction. For a refresher on this joint see issue 1, pg.68 and issue 5, panel doors. There is nothing to stop you, using other joints: through mortise and tenons and even bridle joints could be used. The centre rail is 10mm thick and having no structural strength is simply butt jointed into place.

19 A 10 x 10mm rebate is cut on the inside edge of the upper and lower rails. Cut this after the mortises are made. When the tenons are cut this difference in depth from the front to the back needs to be taken into account. ➤


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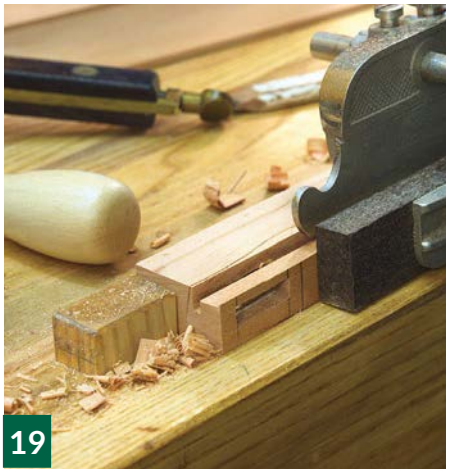
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20 For the upper and lower stile, set the mortice gauge to 6mm putting the mortise in the middle of the 6mm stock.

21 Lay out the mortises using the gauge and a pencil and chop the mortises using a 6mm mortise chisel – because the mortises are so close to the end support the sides of the stile with wood.

Cutting the tenons

22 Once all the mortises are cut, cut the tenons allowing for the rebate in the rails. The back of the rails is offset by the depth of the rebate.

23 Glue and square up the door frame.

24 Clean up all the surfaces with a block plane.

Door fitting

The centre cross member needs to be positioned so that the top 'window' is square. Once the frame is made the hinges can be installed – the hinges are positioned one hinge length from the top and bottom of the door these are no-mortise hinges – the door is held closed with a magnet. The lower half is composed of four pieces of wood butt jointed in place – again these have no structural strength and so butt joints are quite acceptable. The glass is held in place with 6mm square moulding that is mitred and pinned into place.

25 The back panel has two holes one 13mm to hang the clock (if desired) and a 34mm to allow the chimes to clearly ring out. Sand the whole clock before installing the movement with 120, 240, 320 grit and then finished with a couple of coats of natural Danish oil. Lastly, the quartz movement can be installed following the detailed instructions. Ah! Finished, it's 4 o'clock and time to pour a cuppa and listen to the Westminster chimes.

26 Your final piece should look something like this. ■


20


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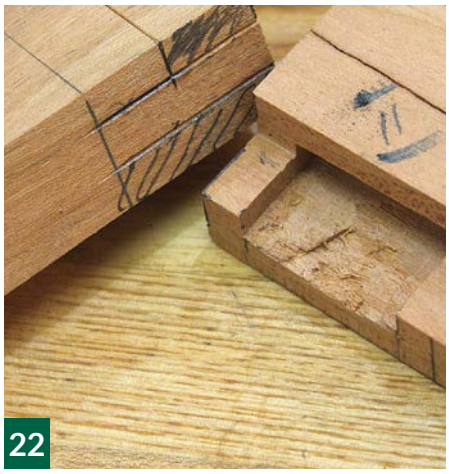
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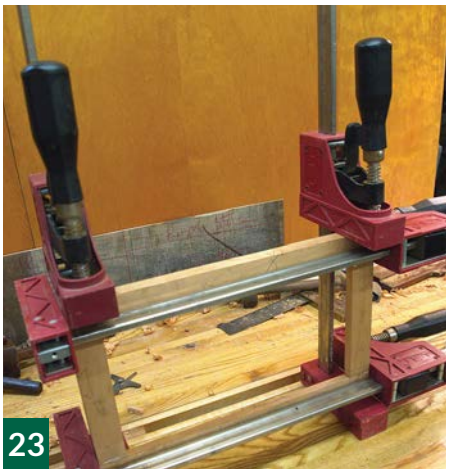
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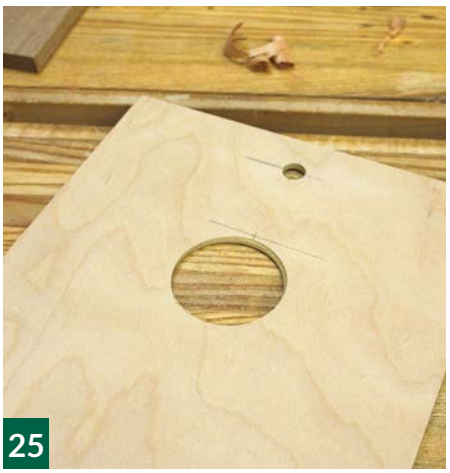
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Supplier list

Mission clock mechanical kit available from www.klockit.com

Michael T Collins

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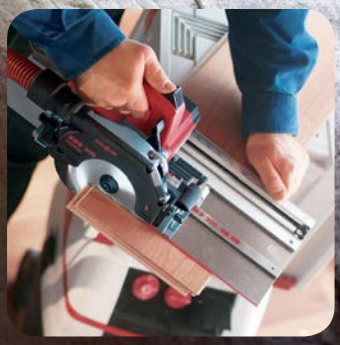

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KSS60	408mm	61mm	47mm	-60° to +60°	Yes (36v)
KSS80	370mm	82mm	55.5mm	-60° to +50°	No

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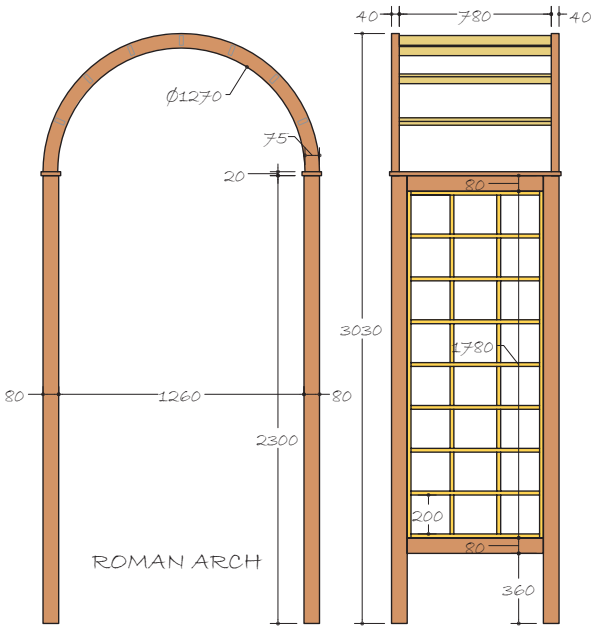
WOODWORKING GEOMETRY

Simon Rodway takes a look at building garden arches

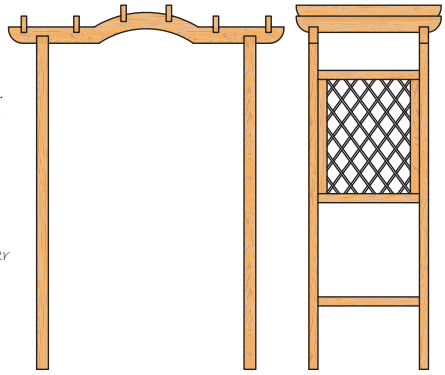
The garden arch is potentially one of the simplest structures to build, but its addition can transform a garden, providing both a framework for climbing plants and an entrance to outdoor spaces. Both these elements can be seen in all three main types of garden arch; the roman, pergola and pitched arches, and the sense of transition, from one space to another that even the simplest of arches gives has been employed by religions throughout the world to remind us that we are entering somewhere special. The designs of many modern garden arches owe a debt to this tradition and even in our secular age it is hard not to feel a sense of something subtly changing as we walk through an arch, whether it's a simple post and beam construction with a few roses growing across it, or an Arts and Crafts influenced structure complete with proper joints , roof and side panels. ■



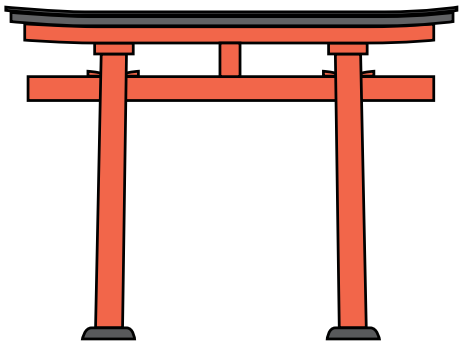
ROMAN ARCH

Some of the earliest documented use of arches in gardens can be seen in frescoes, murals and mosaics, dating back to Ancient Rome, Greece and Egypt. Although these early examples would often be made of marble or other stone, they also performed at least one funtion in common with their more modern counterparts, as it was common to use them to train vines and other plants, providing shelter from the sun.
The influence of Roman architecture in particular is evident in the timber and iron semi-circular arches common nowadays, sometimes formed into longer structures or walkways. With their more open structure and curved tops these arches are ideally suited for training roses and other climbing plants with perfumed flowers.

Probably the most common type of arch is a simple combination of posts, cross beams and rafters similar in construction to pergolas. These often employ angled bracing at the top corner joints and a wide variety of side panels and beam profiles, and are easier to build in timber than the other two main arch types. The roman arch in particular with its large diameter curves presents a greater challenge to the woodworker, and thus is more commonly seen in metal.

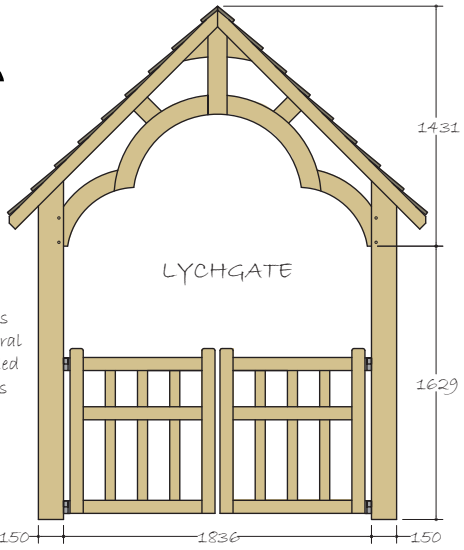


PERGOLA ARCH



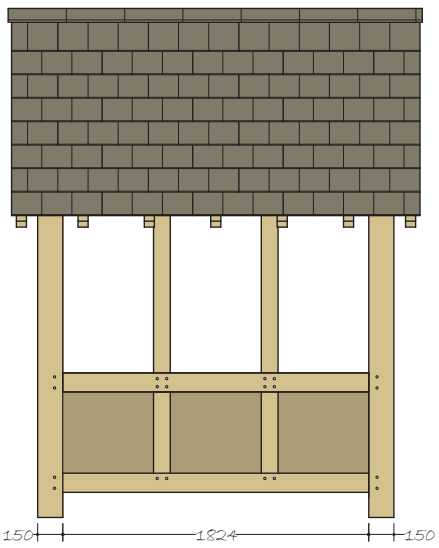
JAPANESE TORII

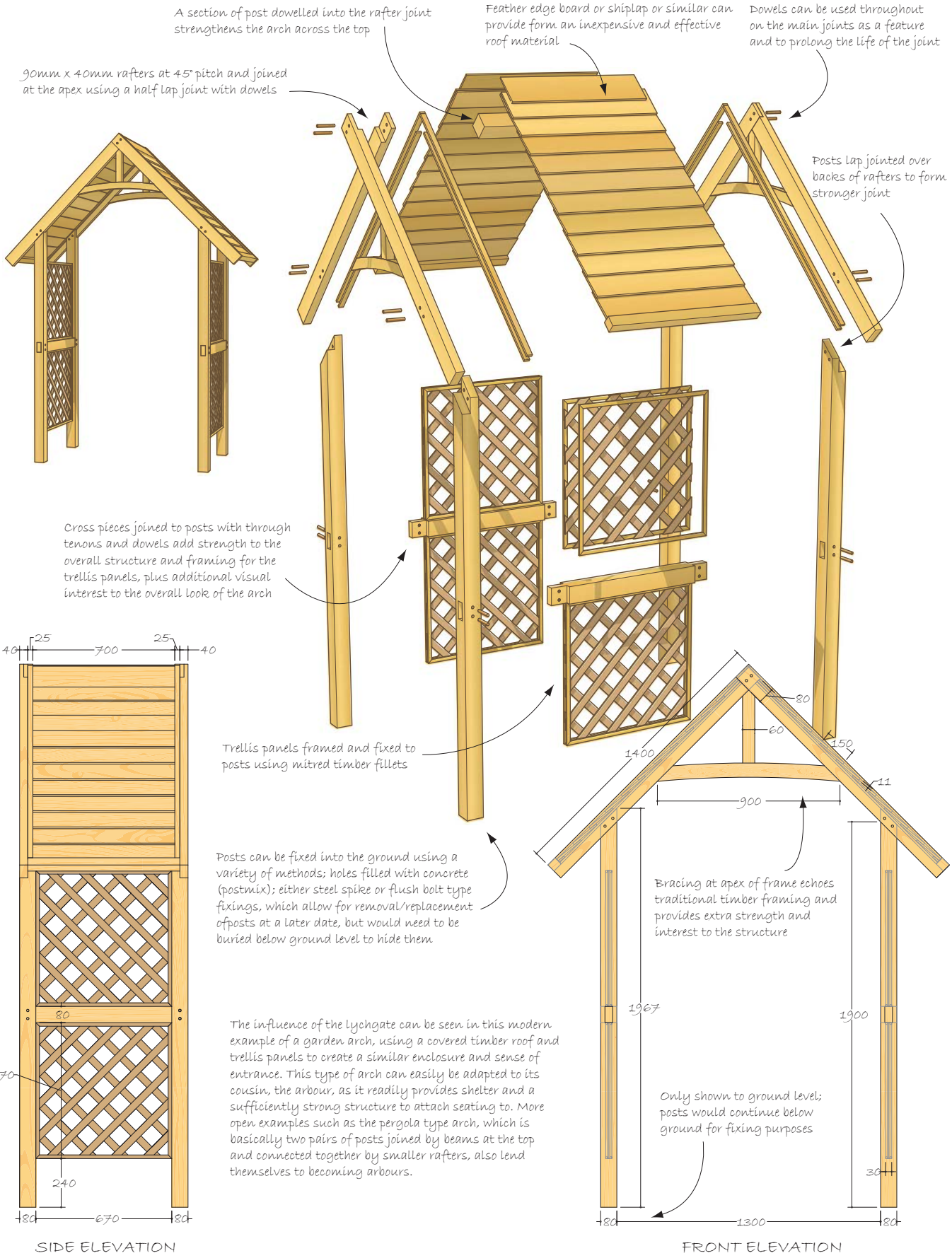
Although the function of arches in modern gardens is primarily decorative and allows us a structure for growing plants up and across, in cultures right across the world they have had a more profound and sometimes religious significance.
The japanese Torii, for example, placed traditionally at the entrance to a Shinto shrine, marks the boundary from the everyday to the sacred, and there are similar structures in other parts of Asia including India and China. Even without this spiritual meaning, garden arches can still powerfully convey a sense of transition and this is probably one reason for their enduring popularity.



LYCHGATE

A European equivalent perhaps to the Torii, usually found at the entrance to churchyards, the lychgate dates back to early medieval times when it was used as shelter for part of the funeral service before burial. Many lychgates were added to churches during the Victorian period, and its influence on garden architecture and the development of covered archways during this period can be still be seen in modern garden arches like the construction example here.





The influence of the lychgate can be seen in this modern example of a garden arch, using a covered timber roof and trellis panels to create a similar enclosure and sense of entrance. This type of arch can easily be adapted to its cousin, the arbour, as it readily provides shelter and a sufficiently strong structure to attach seating to. More open examples such as the pergola type arch, which is basically two pairs of posts joined by beams at the top and connected together by smaller rafters, also lend themselves to becoming arbours.

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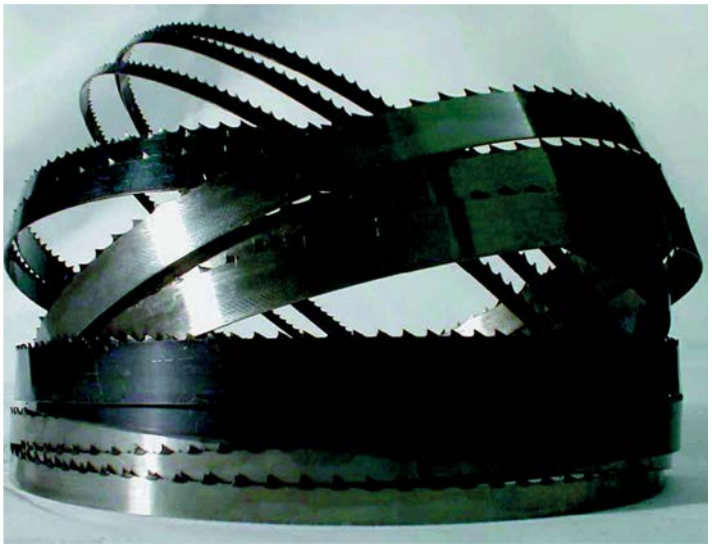

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Woodland ways

The blossom clock

Main pic: Gorse
Above: Hazel catkins

Gary Marshall skips gaily into spring with a look at nature's early bloomers

Many daffodils were in bloom as early as December last year. Nevertheless, no matter how skewed – running fast or slow spring and summer may be – these seasons always arrive, in sequence. With them unfurls, usually in a roughly reliable order, the first and last blooms on the hedges and trees throughout the British Isles. Remembering that spring usually advances from the south and west and that there are distinct regional variations, here's my take on the sequence.

First there's the old country adage 'kissing is in fashion when gorse (*Ulex spp.*) is in bloom' – which is more or less always! As the pigeons are scoffing winter ivy (*Hedera helix*) berries, hazel (*Corylus avellana*) catkins dangle down so that the wind can blow pollen into the January or February air. These are shortly followed by darker alder (*Alnus glutinosa*) catkins, on the tree at the same time as their false cones that bear the seed. Next comes the distinctive 'pussy' willow (usually *Salix caprea* or *S. cinerea*). Upright catkins open furry at first and then become covered in yellow pollen. Other catkin bearing trees follow: birch (*Betula spp.*) and poplars (*Populus spp.*), where the catkins dangle downwards as leaves unfurl. Our three native conifers and plantation conifers also shed pollen in catkin time – allergy sufferers take note!

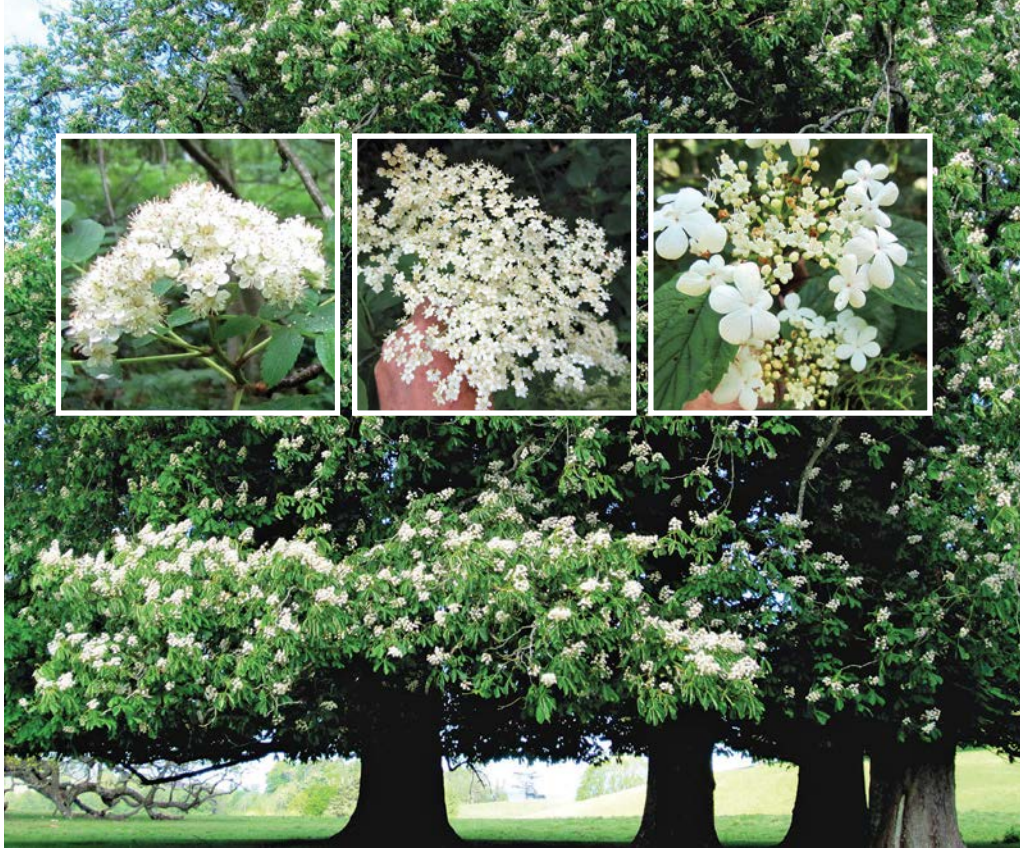
During this time, between January and March, the tight and tiny buds on the strong, black, spiny twigs of blackthorn (*Prunus spinosa*) have been slowly swelling. During a few, mad weeks whole hedgerows can suddenly change, from sombre grey-black to bridal white. To me it's almost as transforming as a fall of new snow on muddy fields. By this time too, domestic relatives of blackthorn will be blooming: plum, damson and gage orchards in Kent, Gloucestershire and Worcestershire. There'll be other well-dressed relatives too, popping up all over the countryside such as bullaces and other wild plums all in white and up to 20 feet high.

Cherry blossom time

As the blackthorn fades, spring advances. Great suds of wild cherry (*Prunus avium*) blossom will adorn many an ancient woodland edge or canopy. Remarkably, the 'gean' with a hard 'g' can grow as large as the native oaks (*Quercus robur* and *Q. petrea*) and beeches (*Fagus sylvatica*) with which it often grows. Around the same time wild pears (*Pyrus communis*) bloom tall with rosettes of creamy white upward facing flowers. By the

PHOTOGRAPHS BY GARY MARSHALL, UNLESS OTHERWISE STATED

Blackthorn



Main image: Horse chestnuts

Inset left to right; rowan, elder, guelder rose

time the pink tinted crab apple (*Malus domestica*) blossom is out, orchards and gardens will also be abuzz with bees. May blossom – hawthorn (*Cretagus monogyna* and *C laevigata*) bursts forth as the leaves unfold. To distinguish hedgerow hawthorn (also known as quickthorn) from blackthorn: look, are the leaves out with the blossom? Yes – then it's hawthorn, no – then it's probably blackthorn. In some years we're lucky and a lot of these blossoms will be out together – but blackthorn nearly always leads the way.

Flowering trees

Look for harder to spot tree flowers such as elm (*Ulmus* spp.). Very early in the year there's a flowery fuzz that can often be seen on elm way before the leaves appear. Then there's ash (*Fraxinus excelsior*) with flowers breaking out of black buds, again before the leaves. Hornbeam (*Carpinus betula*) catkins appear around the same time as oak with dangling loose catkins among emerging lime green leaves as the hedgerows turn green. Sycamore, Norway Maple and Field Maple (*Acer spp.*) have Christmas decoration like catkins that attract bees and are eaten by dormice. Look out for spectacular candles of horse chestnut (*Aesculus hippocastanum*) too. By May, wild service, rowan and whitebeam (*Sorbus spp.*) will have flowered as well as the wayfaring tree (*Viburnum lantana*).

Later, in early summer, plate like cream umbrels grow lush on elder (*Sambucus nigra*) and guelder rose (*Viburnum opulus*). Lime (*Tilia vulgaris*) trees are awash with bees and scented bloom and one of the last large trees to bloom is the sweet chestnut (*Castanea sativa*) with rosettes of greenish-cream firework like catkins bursting from glossy foliage.

As late as July and August dogwood (*Cornus samguinea*), alder buckthorn (*Frangula alnus*), buckthorn (*Rhamnus cathartius*) and spindle (*Euonymus europaeus*) bloom rather diminutively, while privet (*Ligustrum vulgaris*) blossom sends out its distinctive aroma. Of course, there are many exotic introductions to the countryside and town that I've omitted – I'll just mention one here for the butterfly lovers – buddleia (*B. davidii*) a somewhat invasive but rich summer nectar source.

Holly (*Ilex aquifolium*) and ivy come into bloom in autumn – then set their berries ready to feed the birds in the depth of winter. This is when the hazel catkins are just about to start the cycle off again. Whether the clock is running fast, slow – or on time, be sure to get out there and enjoy the show. ■

Buddleia

Hawthorn

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.

Small space woodworking

Garden mobiles

Rather than just hanging around, the **Editor** decided on a garden project which was a breeze to make

Sometimes it is fun to 'dress the garden' with ornaments, mirrors and hanging, twirling things like this garden mobile. It's fun to make and introduces a new skill if you haven't used a scrollsaw before. You can use a coping saw if you don't have access to a powered fret machine.

Preparing a scrollsaw

If you manage to acquire a scrollsaw, you will find it doesn't need a lot of space so it is perfect to use in a flat, box room or even on the kitchen table! There are various models on the market from cheaper to expensive, the more you pay the better the machine inevitably. There are several things I did to optimise the Scheppach before using it.

1 The hold down foot and guard just get in the way of things and make small work in particular, impossible to do. You can wear safety glasses instead and place your fingers sensibly away from the blade. The platen or table on this machine is adequate, but I didn't like the big blade slots as small pieces can get caught. I decided to fit a sub table over it which would be safer and easier to use.

2 Firstly, get a big piece of 6mm MDF and mark and drill a tiny hole to accommodate the blade. You must use premium quality blades, such as this Pegas progressive skip tooth type. Tension the blade and switch the machine on, so you can make sure the board is correctly placed and the hole won't be enlarged by cutting.

3 Next, glue and clamp some fillets of wood in place so the board is fitting around the platen tightly. The idea is to give a larger working surface with a hole just big enough for the blade to pass through. Note the corners have been removed for comfort. ➤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4 Underneath it looks like this. Just three fillets are enough to stop the board moving around and it can be easily removed to facilitate blade replacement.

5 Because some turns are very tight it can help to lightly round the back edges of the blade with a fine file. It also helps when backing the workpiece off the blade if the kerf (saw cut) is narrow.

Making the mobile

6 You can choose any theme for your mobile, but ones that revolve around nature are obvious of course. If you Google 'vector art' you can find plenty of examples that are copyright-free. However, by the time you have cut the wood out it won't look anything like the original artwork in any case. You can set your printer's commands so the images can be resized as you want before printing out. In this example, 70% gave a sensible size to match the other elements of the mobile.

Use a spray mount adhesive on the back of the printout and place it down on 6mm ply and smooth it out. Cut off any overhanging paper and it is ready to cut on the scrollsaw.

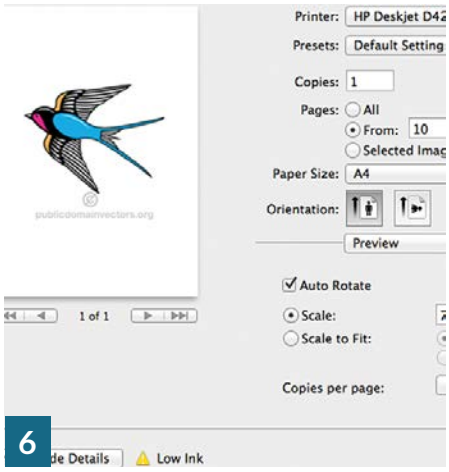
7 There are several ways to deal with cuts. First, you can make two meeting cuts where it comes to a point so the waste piece is easily released.

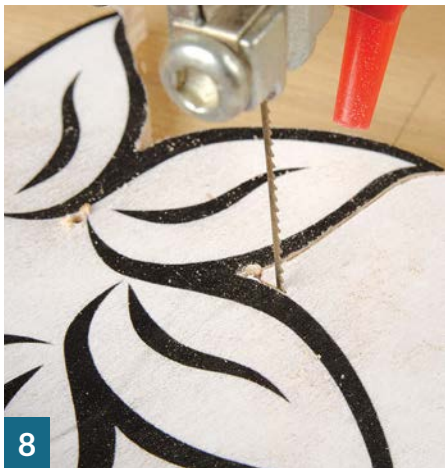
8 Second, you can drill a tiny hole so the workpiece can be rotated and then make the cut outwards to release the waste.

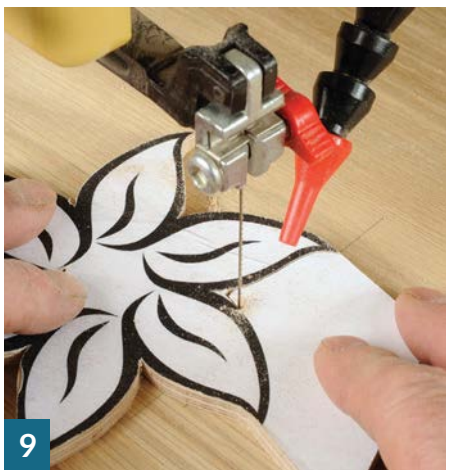
9 Third, you can do a slight scoop cut at the end leaving a small section behind and come back to it later to clean up the shape. It very much depends on the shape you are cutting out as to which method you adopt.

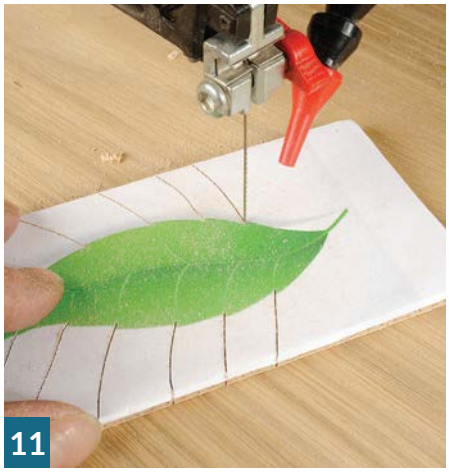
10 Finally, a quick smoothing of any roughness on the edges to finish off the shape ready for applying a finish.

11 This leaf shape needs a different technique to prevent the shape getting spoiled. A series of side cuts help emphasise the sawtooth edges on the leaf.









12 Now each section is cut away leaving a crisp profile. At all times when scrollsawing you need downward pressure on the workpiece so it doesn't jump as the blade comes upwards with each stroke.

13 The swallow's tail is vulnerable to breakage, so holding it down behind the blade for safety of your fingers will avoid problems.

14 The next job is to find the balance point for each component. Pinch gently between the fingers and see if it will hang at the correct position. Then use a tiny drill to make a hole for nylon fishing line.

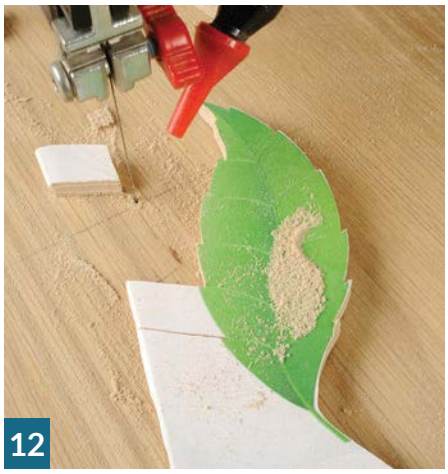
15 Next, make two hangers to carry all the objects you have cut out. One needs to be longer than the other and roughly symmetrical although there is scope for curved shaping.

16 You do not need to have everything to scale, it just needs to look 'right'. Rub all faces on medium abrasive and lightly rub the edges so all fluffiness is removed, ready for painting.

17 First, a coat of water-based primer undercoat on all surfaces and particular attention to the edges. However, wipe away any excess so there are no drips, lumps or runs.

18 Use a set of waterproof hobby paints to give a base coat on each object. These are water-based paints so cleaning up is easy. Rather than just have blank primary colours you can confer more interest and detail by overpainting to create effects. Use different brushes, amounts of paint and adopt stroke patterns to emphasise the 'look' of the object e.g. folds on leaves, feathers on a bird, a face of the man-in-the-moon and so on.

19 To hang you mobile use angling line, which is incredibly tough compared to ordinary nylon thread. Tie each object to its hanger and have a central line to hang the mobile in the chosen position in the garden. A welcome splash of colour even on a dull day! ■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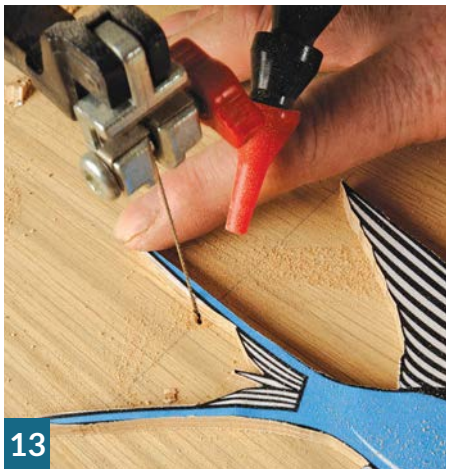
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NEWS & EVENTS

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

PHOTOGRAPHS COURTESY OF CHIPPENDALE SCHOOL

Passions come together in shotgun restoration

A young British woodworker studying at an international furniture design school has completed the restoration of a dilapidated shotgun. The meticulous restoration, by 18-year-old Adam Bragg, studying at the Chippendale International School of Furniture in Scotland, took over 50 hours to restore both the gun's mechanism and its wooden stock and fore end.

"Since I was very young, I have always had two main passions; country sports and woodwork. So after leaving school in 2015, I wanted to make something before moving to Scotland to study at the Chippendale School," said Adam. He decided to restore an old Baikal over-and-under 12 gauge shotgun, whose mechanism had rusted solid and whose woodwork was entirely rotted.

First, he stripped, cleaned and polished all the metalwork back to working condition, then started on the wooden components. He managed to locally source a beautiful piece of figured English walnut (*Juglans nigra*), the preferred wood for gun stocks and using one of his other guns as a template, transferred the dimensions to the walnut blank.

Adam did an extensive amount of research, including speaking to professional gunsmiths on how to marry the metalwork of the gun to its new wooden stock. Once the stock and fore end were fitted, he carefully shaped and sanded them. All of the woodwork was then French polished to a beautiful gloss finish, and the checkering on the grips were then all hand cut.

"I learned a huge amount from completing this project, and it has inspired me to pursue it further as a possible career option. It unites my two passions in life and the skills I'm learning at the Chippendale School are providing additional expertise," said Adam. "Not only do we learn modern woodworking techniques, but also the intricacies of furniture restoration – an important part of learning how to make bespoke gun stocks for individual customers or simply restoring their old shotguns or rifles," he said.

Adam with the restored Baikal shotgun

Each year, the Chippendale International School of Furniture takes students from around the world for an intensive 30-week furniture design, making and restoration course. This year's students are from the UK, Ireland, France, Germany, the USA, Canada, Australia and New Zealand.

Contact: Chippendale International School of Furniture
Web: www.chippendaleschool.com

PHOTOGRAPH COURTESY OF YANDLES

Yandles Woodworking Show

Always a highlight on the woodworking events calendar. Thousands of visitors come from across the country, to enjoy the informal and friendly atmosphere that is created within the surroundings of this historic timber yard.

The usual working site is transformed with marquees which host a vast array of leading craftspeople. Live woodworking demonstrations will keep you entertained with new techniques to learn, useful advice on tools and handy tips.

The Sawmill itself is converted for use by international manufacturers, traders and publishers displaying the hottest new product lines as well as the usual show sale and discounted timber.

Contact: Yandles & Son Ltd
When: 8–9 April, 2016
Where: Yandle & Son Ltd, Hurst Works, Hurst, Martock, Somerset, TA12 6JU
Web: www.yandles.co.uk

Craft Show at Fort Purbrook

The ever-popular Craft Show at Fort Purbrook will be returning in 2016, for its 25th Year.

Visitors to this event will have a great opportunity to see what talented designers, craft-makers and specialist retailers have to offer in 2016. It's a great chance to browse the stands and find some great products for your home, yourself or a gift for someone special. There's a superb range of wonderful crafts and specialty foods.

Enjoy watching talented makers demonstrating, who'll be on hand to talk to you about their craft and their latest creations.

Contact: Woodland Crafts
When: 26–28 March, 2016
Where: Fort Purbrook, Peter Ashley Activity Centre, Portsdown Hill Road, Cosham, Nr Portsmouth, Hampshire, PO6 1BJ
Web: www.woodlandcrafts.co.uk/craft-shows-fort-purbrook/

Part of the disused Montgomery Canal on a frosty Winter day

PHOTOGRAPH COURTESY OF WOODLAND TRUST. BY WTPL/RICHARD BECKER

Charter for Trees, Woods and People

The Woodland Trust are calling to create a Charter for Trees, Woods and People that will redefine the relationship between trees and people in the UK for the future. Since Woodland Trust began inviting organisations from across the conservation, environmental, business and social sectors to join in 2015, more than 40 organisations have answered. The organisations have been working with the Woodland Trust to create a national moment for woods and trees, and a legacy of lasting change for the relationship between trees, woods and people.

PHOTOGRAPH COURTESY OF WOODLAND TRUST. BY WTPL

The Charter will bring trees and woods back to the centre of public consciousness and political decision-making in the UK.

The final charter will be launched in November 2017 – the 800th anniversary of the 1217 Charter of the Forest.

Contact: Woodland Trust
Web: www.woodlandtrust.org.uk/get-involved/tree-charter/

Thinning Chawton Park and Bushy Leaze

On 11 January, the Forestry Commission began working in Chawton Park and Bushy Leaze woodlands, felling some of the trees in order to allow native trees more room to grow and encourage the wildlife and habitats beneath to thrive. More than 2,600 cubic metres of wood is expected to be harvested from the two areas and will be used in a range of ways – from woodfuel to construction. The work is expected to last up to ten weeks and a range of specialist skills will be used, from harvesting machine operators and mechanics to engineers and supervisory staff.

Beat Forester, Michael Ullman, explained: "Some people worry that tree felling is bad, but sustainably managed, it's a key part of good woodland management. Harvesting trees provides the wood that we all use in our daily lives and thins forests to promote new growth. Directly after felling at Chawton Park and Bushey Leaze, the area may look quite messy, but seeds will soon blow in from surrounding native trees and take root on the woodland floor." He added, "Once the work is complete the area will appear much more open and ground vegetation will begin to grow as light levels increase so the woods will become more diverse in terms of plants and creatures."

The UK still imports a large percentage of timber, but there's a fantastic opportunity to grow and actively manage more woodland here in the UK for use in heating our homes and building new ones.

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Wood harvesting is also an important source of income for the Forestry Commission. The income from harvesting at these sites is reinvested to help protect and improve the woodland for people, wildlife and future timber production.

Contact: Forestry Commission
Web: www.forestry.gov.uk

PHOTOGRAPHS BY BOB ADSETT

THE SPINDLE MOULDER part 1

In part 1, powertool and machinery expert **Bob Adsett** demystifies a versatile machine that tends to strike fear in the heart of even the most seasoned woodworker

Let me start by saying this is my favourite machine because of the amount of things that it can be used for. A two pronged question often pops up when a spindle moulder is mentioned – is it or isn't it dangerous?

This is easy to answer. First, a spindle moulder is a dedicated machine with a shaft that is vertically adjustable onto which various rotating cutter blocks can be mounted, this might be a single speed machine or a machine with adjustable speeds. Is it dangerous? Like any machine, only if not used correctly. The guarding on the modern machines is designed to give as much protection as possible and the regulation on tooling under EU law is designed to make tooling almost idiot-proof.

There are a number of sizes on spindle moulders from many manufacturers, from small home workshop size that starts at about £800, right up to computer controlled machines costing many thousands of pounds. Most of you will never use the larger expensive machines as they are industrial production machines. The mid range costs up to about £2,500 and they are all used very much in the same way.

Spindle moulder safety

- Always isolate the machine as per the manufacturer's instructions before making adjustments
- Use push sticks or push blocks, not fingers, to push the work through the machine
- Never run the machine without the front guards or hold down units in place
- On a machine with reverse rotation option, ensure correct direction is set
- Always go through a pre-startup routine and check the following:
  - Cutters and their cut limiters correctly mounted in cutter block
  - Cutterblock correctly fitted and tightened on spindle
  - Fences locked in position and clear of cutters
  - Guards correctly positioned

A basic spindle moulder

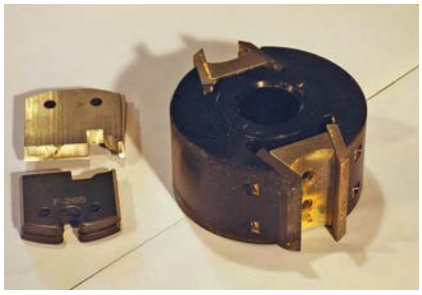
This Charnwood Machinery spindle moulder shows the basic machine and tools that come with it. The optional wheels make moving the machine in a small place easier, all the wheels can be locked to keep the machine stable.

TOOLING

Here are some typical examples of spindle tooling. There are many more types available depending on the capacity of the machine and your tooling budget.

Grooving cutters and a set of solid spacer and fine brass shims, allowing a wide range of spacing between the two groovers.

A two-bladed rebate block and the other with four blades. Both work well on small machines at the correct speed and can be bought in different sizes. The four blades will give a faster, cleaner cut than the two, due to twice as many cuts per revolution. There are also disposable double-sided TCT (tungsten carbide) blades and corner spur blades, which scribe the cut limits and help prevent split out on the face of the wood and keep the inside corner of the rebate clean and square.



This is a moulding block and cutters with anti kick-back counter profiles (cut limiters) that are readily available on the market. There are many blade shapes available for these blocks and, as can be seen from the photo, the blades are located on pins in the block and are kept in place with locking wedges. This stops the blades from coming loose while being used and gives very positive location.

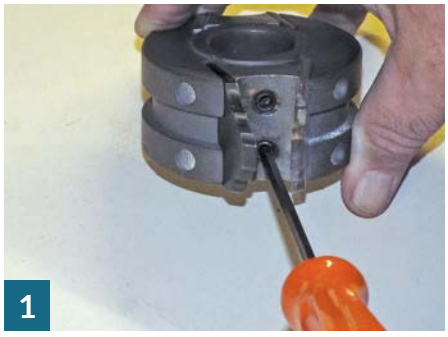
CUTTER BLOCK SET UP

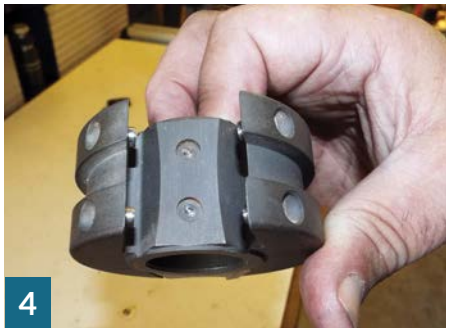
1 To remove the blades from the block, release the locking screws in the wedge and slide it out (sometimes a slight tap is needed to free it from the suction caused by the air being pushed out when it was tightened). Now remove the blades from the pins.

2 If the blades need sharpening, do not touch the bevel or you will alter the angle. These blades can be sharpened by placing then flat side down on a whetstone. I use diamond stones as they remain flat.

3 Simply rub the cutter along the stone making sure that only the cutting half is in contact, until there is a sharp edge back on the blade. I have one set of blades that I've had for 30 years, which have been sharpened like this and the end is now about three-quarters of the original thickness and needs to be replaced.

4 To refit the blades into the block, first clean all the dust and resin from the surfaces. Now place the blade over the pins with the bevel edge of the cutter outwards, making sure that the blade is facing in the correct direction of rotation. ➤





5 Next, place the cut limiter opposite it on the pins. Now slide the wedge between the two and with a finger and thumb, feel the wedge and cut limiter to get them equal distance. Now, tighten the locking screws into place (do not over tighten them, they only need a good pinch as the wedge system will hold it all together). If over tightened it is possible to strip the threads. In an extreme situation the locking screws are located in recesses in the block and even if the wedge was just loose and the screw located when the machine is started, the centrifugal force would tighten the wedges and lock the blades.

Safety Note – I am not suggesting you should try this. It is just an example of how the safety system works.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SPINDLE SET UP

1 Adjusting the fences before mounting the block. I have always found it easier to get the tooling set right by setting the fences about 5mm forward on the fence adjustment control. This enables fine adjustment back or forth for fine setting.

2 The block is mounted on the spindle shaft with the spacer rings and locking cap to lock it all together. The larger blocks should be set low down on the shaft keeping the weight close to the bearings. A heavy block set high with a large cut can cause extra stress on the bearings and under some conditions a degree of whip and vibration.

3 I use a 20mm spacer first and then the block followed by extra rings to fill the shaft. The last ring on this machine has a pin in it, that fits into a slot in the shaft to stop any rotation between the shaft and the rings when the machine is stopped.

4 There should be about 4–6mm of the top ring above the shaft pics…

5 …then the recessed cap is placed on top and bolted down tight with the spanners or a spanner and spindle lock.


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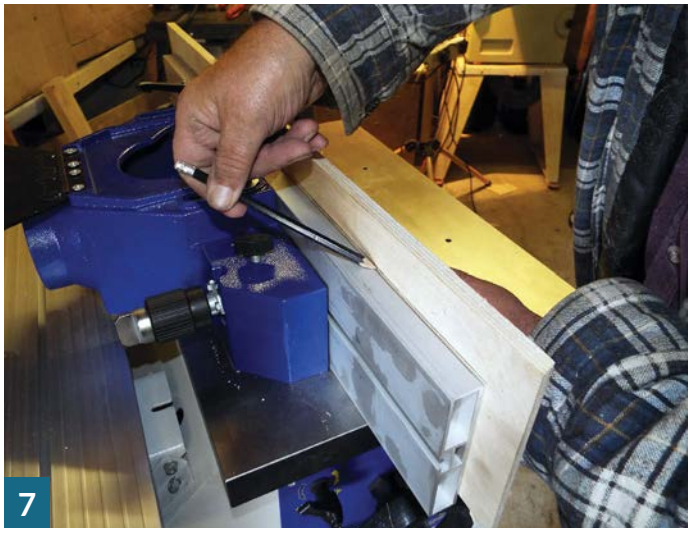
6 If this is not set correctly it is possible for the tooling to feel tight, but not tightened enough to stop the block from slipping under load. If this happens quite often the first indication that something is wrong is a strange screaming sound shortly followed by a bang as the block, collars and shaft friction weld themselves together – a very expensive repair job.

Safety note

Never use a MEC stamped block on a spindle moulder even with a power feed fitted, as the spindle moulder is still considered a hand fed machine. Only fully enclosed self-feeding industrial machines should use MEC stamped tooling.



7 Most modern machines come with aluminium alloy fences, these are rigid and remain square but are not forgiving if they touch the cutters accidentally, also they cannot be closed around the cutters close enough to reduce the gaps, therefore wooden sub-fences are used to solve this.

8 A one piece wooden fence can be used with just the tip of the cutter coming through, but if the full edge of the work is being removed this can lead to a dip in the last 25–30mm of the machined face of the workpiece. So I make my fences in two parts, which allows me to offset the outfeed fence by the amount being removed giving a smooth cut right through to the end of the work.

9 Wooden fences should be smoothed off at the inside ends with slight lead-in and lead-out where they meet in the middle and also bevel the inside edge at about 45° to allow the fence clearance on the cutter to be about 3mm.

10 Mark out and set the height and depth of cut required by winding the spindle up or down and adjusting the fences in or out. Then, lock the fences down. This is where the fine adjustment on the fences comes in to use for very slight setting movements.

11 Set the front and top pressure hold downs to the work, so that the work is held firm but still slides when fed through the machine.

12 Select the correct RPM (revolutions per minute), there should be a good clear chart showing the belt positions either in the manufacturers instructions or as in this machine on the body of the casing. All cutters should have the safe RPM max – minimum speed range stamped on them. Never exceed these speeds, there can also be a MEC or HAND stamp on the block.

Next issue, Bob Adsett does some machining to demonstrate just what the spindle moulder is capable of doing. ■

Insight

Veneer

Peter Sefton and his students use burr walnut veneer to make boxes

Veneer is very much the domain of the furniture maker and here at the Furniture School we have just been using some very ornate burr walnut (*Juglans regia*) during a short box making course. I selected a couple of packs of burr oak (*Quercus robur*) and walnut burr butt (also known as root burr) to be used for the lid of the box. I laid them out for the students so that they could choose which veneer they thought best suited the pigskin suede we would be using to line the interior of the box.

We collectively opted for the walnut, which was stunning and worked very well for the size of the box we were making, with very little wastage. Each student was given two consecutive leaves that would be cut in half to produce the outside of the lid and the internal counterbalance veneer.

I cut a piece of white card to the full size of the lid and folded it in half – by laying the card on the veneer we could use the window method to see how the veneer would look once on the box. We also book-matched the veneers and the best way to see how the veneer would look when the two leaves were jointed, was to use a mirror sat on edge on the proposed central joint line, so that you could see the reflection of the veneer. It is amazing to see the different grain effects that can be produced by moving the mirror into different locations on the veneer.

Once the best repeat pattern had been found, the veneer was cut and jointed together. If the veneer cut cleanly it was jointed straight from the knife; otherwise we used a veneer shooting board with a No. 7 plane or a long sanding block.

The veneer was cut and jointed together

The joints were held with veneer tape

The veneer was taped together with veneer tape to hold the joints while they were pressed in either my sturdy Platen veneer press, or by using a vacuum bag. We used urea formaldehyde glue and added some brown umber earth pigment within the mix to fill any very small pinholes within the veneer.

Once the veneer had been laid on the MDF substrate, the board was cut to size and fitted to the box's rebated top. It was then removed and masked up around the edges where it would later be glued in place. The internal side was sanded, polished and waxed, and it's only at this point that the full beauty of the natural veneer can be appreciated. ■

The window method was used to check how the veneer would look on the box

Holding up a mirror is a great way to check different grain effects

Peter Sefton

Peter Sefton is a well-known furniture maker who runs courses in fine woodworking, teaching and mentoring students at the Peter Sefton Furniture School. He also owns Wood Workers Workshop and he is a Liveryman of the Worshipful Company of Furniture Makers.
Web: www.peterseftonfurnitureschool.com

Walnut writing slope

Louise Biggs makes some much-needed repairs to a family heirloom

PHOTOGRAPHS BY LOUISE BIGGS

Over the years I have restored many items of furniture for a family of customers, all of which have been handed down from their relatives and this high-quality writing slope is one of them. Through their family history is can be dated to ca. 1850, possibly earlier. The slope is covered with a lovely walnut (*Juglans regia*) veneer inlaid with brass lines with ebony (*Diospyros spp.*) lining surrounding the slopes and mahogany (*Sweitemia macrophylla*) within, in each half. ➤

Assessment

- Brass line missing and loose on the front.
- Quadrant brass strip on the front corners had been pinned through the front but was lifting.
- Minor veneer damage to the bottom edge of the base.
- Joint at the back right-hand corner of the box bottom was split open.
- The leathered slopes would not lie flat due to shrinkage and the hinge formed by the faux leather not leaving enough clearance.
- The faux leather needs to be removed and replaced with a leather skiver and new tabs.
- Damage to the ebony edging around the interior, especially in the area around the clips which kept the flap in place.
- Cover piece over the mechanism for the secret drawer cover was damaged and loose.
- Centre division between the two secret drawers was loose.
- Sticky-back plastic inside the secret drawers needs to be removed as does the replacement self-adhesive baize on the bottom.

Front corner with loose brass line and quadrant corner

The interior slopes did not lie flat due to shrinkage and the faux leather hinge

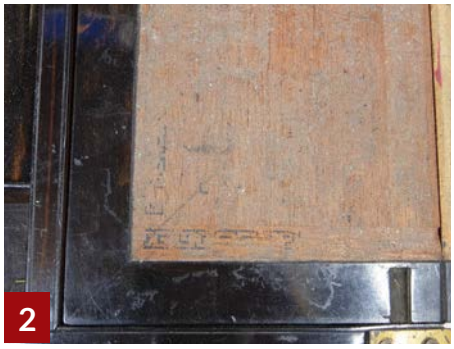
The secret drawers with the sticky-back plastic

With the cover piece removed, the mechanism for the secret drawer cover can be clearly seen

What you will need

- Glue pot and animal/hide glue
- Sash and 'G' clamp
- Dovetail saw
- Screwdriver
- Knife
- Jeweller's piercing saw
- Chisels – various sizes
- Pliers
- Needle files
- Cabinet scraper
- Abrasives
- Polishing equipment
- Personal protection equipment – breathing protection and gloves


1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Removing the old materials

1 To start with I removed the self-adhesive baize on the bottom and the sticky-back plastic within the secret drawers. On the interior writing surfaces the faux leather was well stuck except through the hinge area. I started by carefully cutting through with a knife to separate the sections. With one loose corner the faux leather was then rolled off using a piece of large diameter dowel. By rolling diagonally and with some pressure the leather was eased off without tearing.

2 Once the faux leather was removed it revealed an impression of the tooling that would have been on the original leather. This was photographed to see whether it could be matched on the new leather.

3 With the materials removed the surfaces were carefully cleaned up with hot water and an old scraper. The inside of the secret drawers and the bottom were cleaned with white spirit to remove any adhesive residue and all were left to dry. The front brass corners on the bottom of the box and the loose brass line were carefully removed to prevent further damage to the line and to enable the veneer repairs to be carried out.

Construction and veneer repairs

4 With the hinges removed the joint at the back corner could be repaired. Although having taken a hefty knock the veneer was still intact so a utility knife was used to ease the corner up until it was level and a fine wedge of old softwood timber inserted in the resulting gap before the veneer on the adjacent corner was repaired.

Jeweller's piercing saw

Readily available from tool and jewellery making suppliers. Traditionally used by jewellery makers for cutting metals, they are ideal for cutting veneers, bone, mother-of-pearl, etc. They use a fine-toothed blade that is held under tension. Saws start from £3.50 and blades start from £2.90 per pack of 12 depending on supplier.

5 With the corner lifted the joint was levered open as much as possible and the old glue, dust and grime cleaned out before animal/hide glue was brushed into the joint and the corner clamped back into position. Once dry the existing screw holes were plugged with timber ready for the hinges to be remounted.

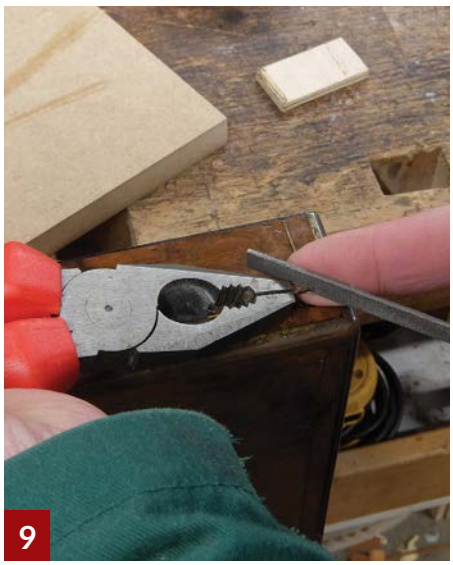
6 Pieces of old walnut veneer and thin ebony were cut in around the bottom edges of the box and the inner edges keeping as much of the original as possible. As ebony tends to be brittle the infill pieces were cut to shape using a jeweller's piercing saw. The broken corner on the slope that covered the mechanism was repaired with a small section of ebony. Once dry the veneer repairs were, where necessary, levelled off using a cabinet scraper and abrasives taking care not to touch the original surfaces. The partition between the two secret drawers was cleaned up and glued back in place. Wrapping the sides of the drawers in cling film, the drawers were pushed into place and the correct position of the partition achieved avoiding it sticking to the drawers.


7


8

Brass corners and lines

7 With the veneer repairs completed my attention turned to the brass work. The veneers and ground wood had shrunk over the years but the brass remains the same length causing the brass lines to pop out of their grooves, so each individual piece needed to be checked for length. The lines in the bottom front had at some stage been filled with some kind of filler, which had to be removed. The replacement brass was obtained from a specialist supplier so that the correct width of brass was used. Years ago when I carried out a lot of brass inlay restoration I made up some small chisel points that could be used by hand or inserted into a homemade scratch stock, these can then be altered in width as required.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10

8 Very carefully, I ran a knife point down either side of the channel, then using the chisel point I eased the old filler out of the groove. They were also used to clean the grooves for the loose pieces of brass.

9 The principle of fitting the brass is the same whether fitting replacement brass, as in the bottom front, or refitting the loose brass as in the top front. Starting with the short lengths the square cut ends were pushed tight to the inner veneer edges and checked for length. The mitres were then adjusted to reduce the length using a small needle file.


11

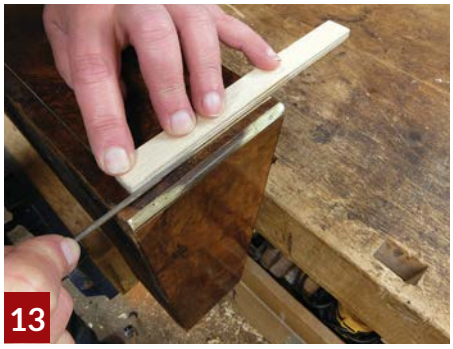

12

10 The next tip I learnt from an elderly restorer many years ago; don't ask me why it works because truthfully I can't answer you, but from much experience it aids fixing the brass. Taking a fresh clove of garlic cut in half I pulled the section of brass through the garlic. I then ran the edge of the garlic along the groove to squeeze the garlic juice into the groove.

11 With the animal/hide glue applied the brass was pushed into the groove using the head of my small pin hammer. For the long lengths I glued two thirds of the length into place then adjusted the mitre, with the length correct I glued the last third.

12 The quadrant corners, when originally made, had small pins fitted into the back to enable them to be fitted. As with many pieces, these pins get broken off and instead of being replaced they are drilled for a small pin from the front. In this case the large pin heads were proud of the brass quadrant. In order to refit them I slightly countersunk each hole to level the pin heads as much as possible. The brass quadrants and pins were coated with garlic and glued in place, I then taped each corner to create a bit more pressure until the glue had set. ➤

13 The pin heads and any edges that were proud of the veneer were levelled with a needle file before being finished with metal abrasives. Unfortunately this does tend to destroy part of the antique patina. With the quadrant back in place any raised areas of line were eased down with the needle file while protecting the polished surface.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14 The areas of replaced brass line and brass quadrants were then treated with an antiquing fluid to tone the brass down. Applied with a cotton bud it was left to work until the tone was right and then neutralised with cold water on a clean cotton bud.

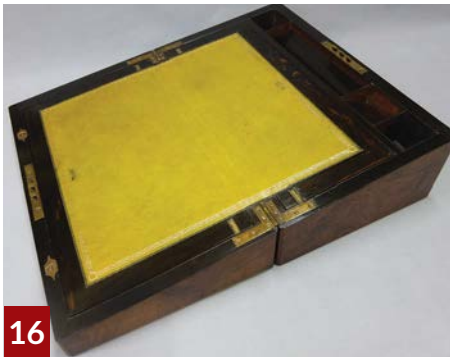

14

Finishing

15 The veneer repairs were stained before being polished to match. The antiquing fluid on the brass was also sealed with a coat of polish before the whole writing slope inside and out was revived with a coat of 'Bald's Balm'. Once dry the repairs were gently wired with 0000 wire wool to finish toning them in before the whole writing slope was waxed.


15

16 The hinges were refitted before the writing slope was sent away to be relined by a specialist who hand-colours the leather to an antique green and lays the fabric hinge before laying the leather and adding the lifting tabs. Once this was dry he tooled the Greek key pattern around the edge with gold leaf.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17 Fabric pulls were added to the secret drawers by passing a loop of fabric through the hole and spreading the two ends on the back and gluing them down with a touch of animal/hide glue.


17

18 Once the mechanism for the secret drawer was corrected so that it caught properly the cover piece was glued back in place. Again I placed a small piece of cling film between the partition that lifts the mechanism and the cover to ensure the two pieces did not get stuck together.


18

19 New baize was fitted to the bottom and the writing slope was then ready to be returned to the customers. ■


19

Suppliers

Leather replaced by Desktop Leathers
www.desktopleathers.co.uk
Replacement Brass from Rod Naylor
www.rodnaylor.com

Louise Biggs

Having completed her City and 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

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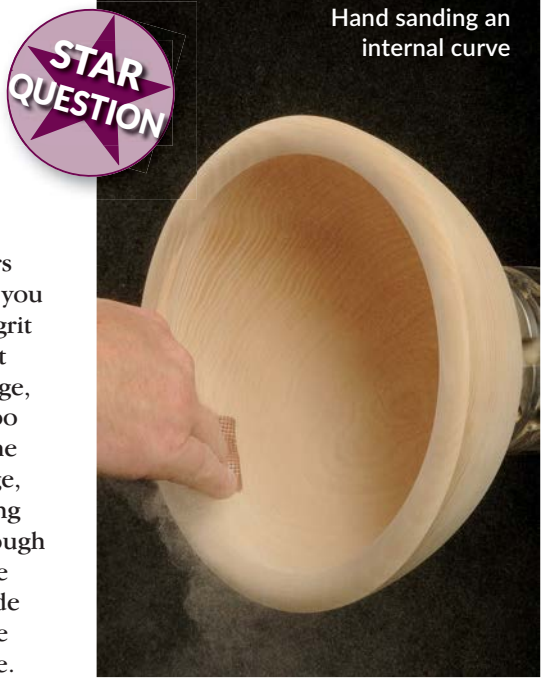
SANDING INTERNAL CURVES ON BOWLS



Hand sanding an internal curve

"I am having trouble with sanding the internal curved sections of bowls. There is always some form of tear out and I spend a lot of time trying to clean up the areas and get a nice evenly smooth finish. Any help in speeding and making the process easier would be very helpful."

Alan Jones

Mark replies: One particularly vexatious area of sanding is internal curves. Typically, because one has to cut against the grain on the top parts of the curve, before one then cuts the lower section with the grain. The two end grain areas of the upper curve often suffer from grain tear out – although to what degree is dependent on the timber used and also the tools used. Sanding gentle curves used on bowls can be tackled easily in a couple of ways.

One method is to hand sand and the other is to power sand using arbors held in a drill. But before starting, you need abrasives. The start abrasive grit grade you must be the coarsest grit grade needed to remove the damage, if it is 80 grit, so be it. If you use too fine a grade to start, just 'polish' the surface and not remove the damage, so pick the right grit. After removing the damage work sequentially through the grit grades to create the surface finish required. Each finer grit grade used after the first just removes the scratches from the one used before.

Sanding arbors – which are fitted into a drill – onto which is affixed abrasives, available in various sizes and densities

You can buy soft interface pads to fix on to sanding arbors that enable you to alter how the arbor fits against the work

You need to get as much surface contact as possible to ensure a nice even curve without ridges

The curved internal profile being power sanded. With any sanding make sure you extract the dust properly

When sanding you also need to have as much surface contact as possible with the abrasive against the curve being sanded. If you do not fit to the curve so to speak, sand the ridges and not create a smooth continuous curve. When hand sanding shape the abrasive to fit the curve. If power sanding, the arbors come if different densities, but if you have a hard pad that will not fit against the curve, but a softer pad to fit on the arbor – they are called interface pads, this will enable you to fit the arbor against the curve. Also consider using squares of abrasive rather than circles. The corners will sand up and around the top curve, whereas circles can at times dig in on the upper curve. Of course, if going up against any bead or raised detail using squares is a problem due to the corners possibly sanding always the raised details so in this instance a circle of abrasive is better.

Always remember that wood dust is hazardous to health. Always wear appropriate personal protective equipment and have at source extraction as close as possible to the work to minimise any escaping.

WHAT TOOLS DO I NEED?

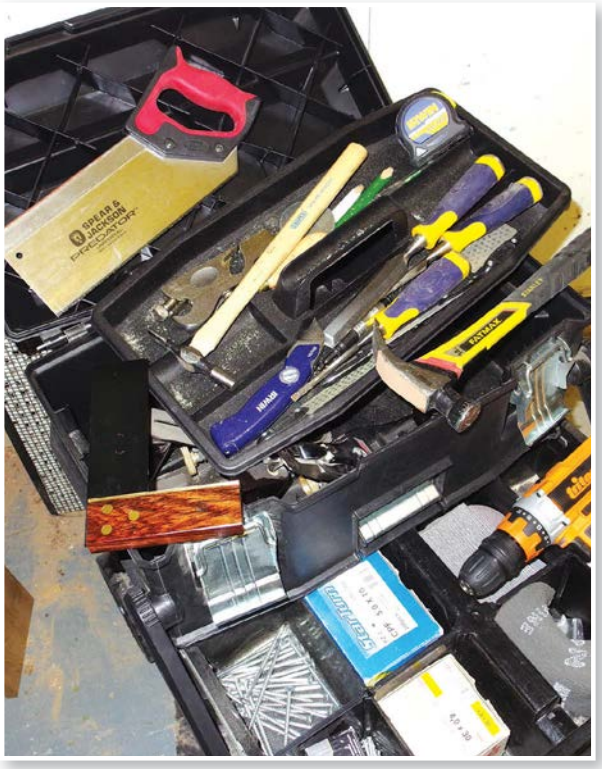
"I read and liked your first Quick Make project in Issue 11. I'm new to woodworking of any sort really, as I used to leave that all to my husband but things have changed and now I want to try my hand at various practical things, including fairly easy projects like the key rack. My question is – how many and what sort of tools do I need?"

Miriam Conte

Anthony replies: You have asked a big question, which can't be answered briefly, but I'll try. In a future issue we will look at basic tools to help newcomers but for the moment; tape measure, steel rule, try square, claw hammer, pin hammer, several wood chisels, a handsaw, block plane, pliers, cordless drill and drill bits, slot and pozi screwdrivers and safety googles and dustmasks.

That is a very short list indeed, because you need to keep adding to that as you do each job (especially if you start doing DIY where you need things like a spirit level and masonry drills and much else besides). I would suggest you check to see if there are local adult education classes in woodworking and DIY, as you really need first hand teaching. Reading this magazine will help fill in many of the gaps in your knowledge. It is a big subject and I wish you luck learning about it.

Anthony Bailey



The more jobs you do the more tools you need!

SLIPPING JAWS

"I have a big vintage No.53 Record vice fitted to a bench I acquired recently, which belonged to my grandfather. It needs some TLC, but the worst thing apart from the sliding action (which is a bit stiff) is the quick release. It releases when I put the clamping pressure on. Is it faulty or can I do something to make it work better? It is quite well fixed in the bench and looks like a challenge to remove it for servicing."

Barry Goodfellow

Anthony replies: Well Barry, the big thing is to give it a really good clean, but as you say it is hard to get at all of it. I suspect the bench is a heavily built one if it sports a No.53 model, which is quite large. I would get help and turn the bench upside down so you can get better access to the workings. Use an engine cleaning compound or a wax cleaning fluid and a wire brush and coarse wirewool to scrub the rods and the buttress thread of the quick release mechanism. Do this thoroughly, turning the tommy bar so you can get at the entire thread. Wear goggles to avoid splashes in the eyes when using a wire brush, a brass one will follow the thread shape better. To do the outer rods on the top side you will need to right the bench again.

A working vice is essential, regular maintenance will keep it in good order

Use plenty of rag to remove all the debris and hardened grease. Any rusting on the rods will impede the sliding action so you may need to use a fine abrasive to level the damaged surfaces. Finally, use generous amounts of medium grease and work the vice jaw back and forth and remove any surplus grease. With any luck the correct jaw locking action will be restored!

Anthony Bailey

STAR QUESTION PRIZE

The Tool Marketing Company, or TOMACO, as it is known, who sell a variety of tool brands, including COLT, Sharp Edge and Narex Tools, are pleased to be sponsoring the 'Ask the experts' section in collaboration with GMC Publications. Each issue's 'Star Question Prize' will receive a Narex six-piece chisel set worth £79.95 and all other published questions will receive a 20mm half-round fine cut Narex rasp worth £20.95. For more information see www.tomaco.co.uk

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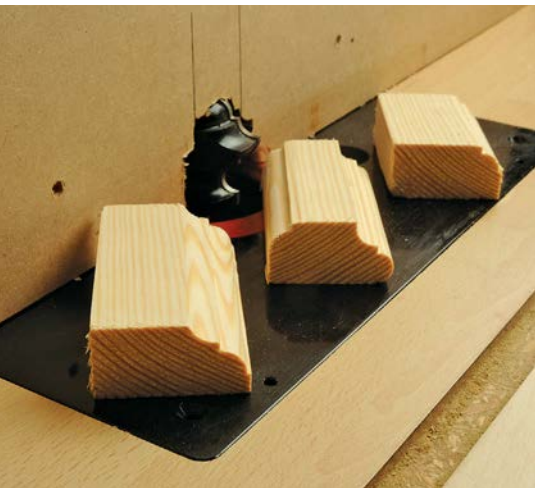
Advanced CUTTER CHOICE

Our very own whirling dervish – **the Editor**, takes some fancy cutters for a spin

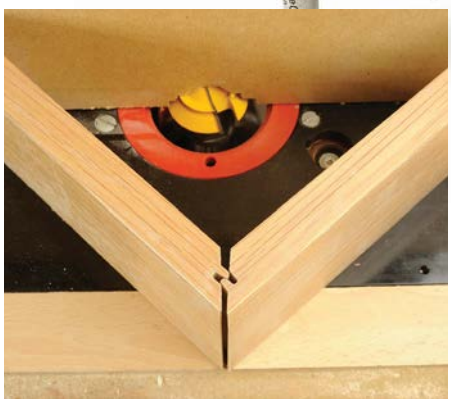
PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Everyone has a basic selection of router cutters, but where do you go beyond that? What are your aspirations? What jobs are you likely to undertake? Here are some of the answers. Router cutters do one of three things; create moulded shapes, make joints or both, in some cases. Big routers can accept many more and bigger cutters than small routers, which can still carry out some of the more complex machining procedures.

Three different kinds of cutter; a multi-profile cutter, a biscuit joint cutter and a profile and scribe cutter for making frames. It is hard to differentiate between the usefulness of each as they are all handy to have if you do a variety of router based work.



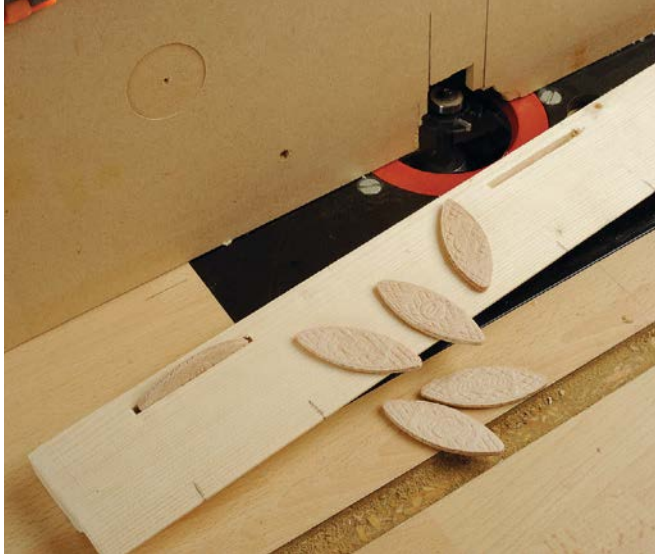
A multi-profile cutter can give different results depending on what are of the profile you use. If it cuts away the face of the workpiece, extra outfeed support will be needed. Deeper cuts will require multiple passes to avoid overtaxing the router and cutter combination.



Jointing cutters cannot generally create deep joints apart from the mortise and tenon but for most purposes the joints are strong. This lock mitre cutter is used for creating drawer boxes but you can used other methods such as tongue and groove or biscuits.

The much vaunted traditional frame and panel construction is something the router does well. You need a well ordered machining sequence to avoid mistakes and get the best results.

Examples of cutters that fit small routers compared to big cutters for big routers. Smaller cutters obviously cannot take on the larger tasks but are still useful. The large rebate cutter for example comes with a full set of bearings to alter the rebate size.



A static biscuit cutter setup makes repeat slotting easy to do, whereas freehand biscuiting can be done on curved edges. Marks on the sub-fence and on the top edge of the workpiece show where the start and finish of each slot must be.

A complex moulding profile in a big router and table can be substituted for simpler cutters in stages with a small router. You can add successive sections until you have created a full size complex moulding without the need for a big cutter.

Creating the panel for a frame and panel construction can be done with a vertical cutter so long as an anti-breakout sub fence is fitted. Such a cutter will fit the larger 8mm collet usually supplied with a small router.

There are lots more specialised cutters to choose from but only buy what a job needs as you may not need lots of fancy cutters most of the time. Clockwise from top left; butterfly dovetail joint, Grecian ogee, groundwork trimmer, roundover with quirk, multi-bead, bead and cove.

Hints, Tips & Jigs

Your chance to pass on all your crafty hints, tips and jigs to the readers and maybe even win a prize!

Send your tips to: The Editor, Woodworking Crafts, 86 High Street, Lewes, East Sussex BN7 1XN. Alternatively Email: Anthonyb@thegmcgroup.com

USEFUL SMALL PROJECTS

STAR TIP

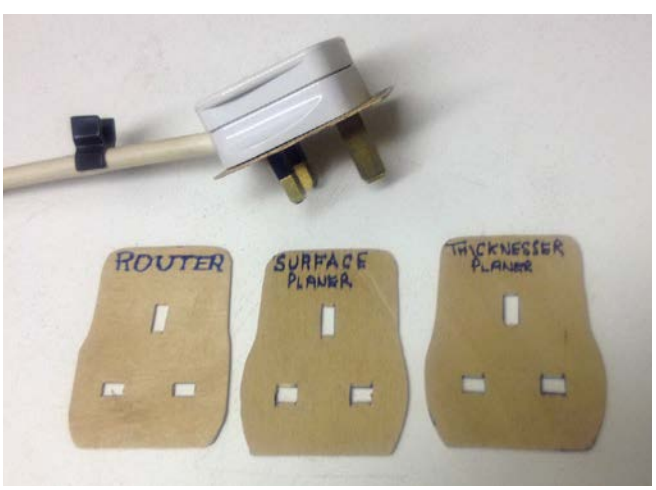
I'm enjoying your magazine and as an old timer (aged 71) I have a few tips that might help those like me, having to wear hearing aids and glasses, etc. No longer can I fit the pencil behind my ear and I was always losing it, so I carved a 'Helping Hand' and fastened it to my workshop wall. I now know where my pencil is!

If I have various tools to plug in – single socket – instead of losing the plugs of the ones not in use, try this 15 minute exercise: cut out a piece of plywood 165 x 90mm and mount it on a suitable baton. Then, fix this little shelf below the single socket. Feed two or three cables into the slots from the various tools. The tool plugs are now high and dry and not lost, hidden in the shavings. As an added measure, use up some very thin scrap 2ml ply and make some indicators to fit on the plugs. You will always know what you have plugged in.

Kind regards, **George Willmore**

George's 'Helping Hand'

This board is a great idea for keeping your plugs to hand



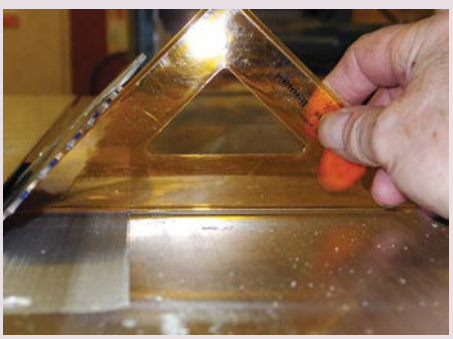
Wooden labels are useful when there's lots of plugs around

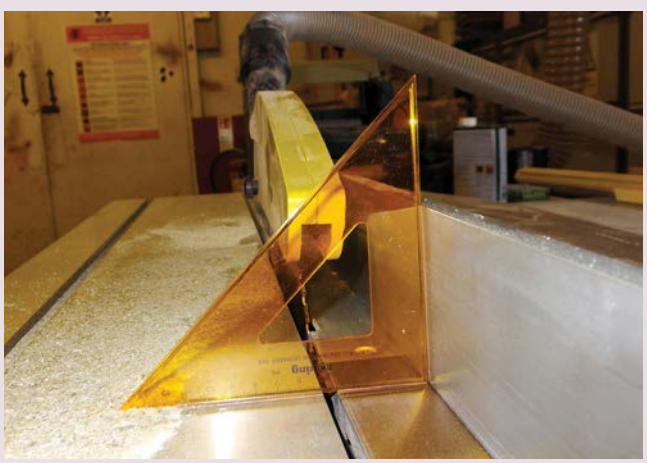
PERFECT ANGLES

I don't do much drawing these days, it's all on the computer instead. However, my redundant set square has proved incredibly useful for checking the tablesaw blade is at 90° or 45°, which are the settings I am most likely to use. I have to remove the crown guard first, but that is no faff, easy enough to put it back on knowing the saw is now dead accurate.

Guy Fortune

Below and right: Use a set square to determine the angles of your tablesaw blades



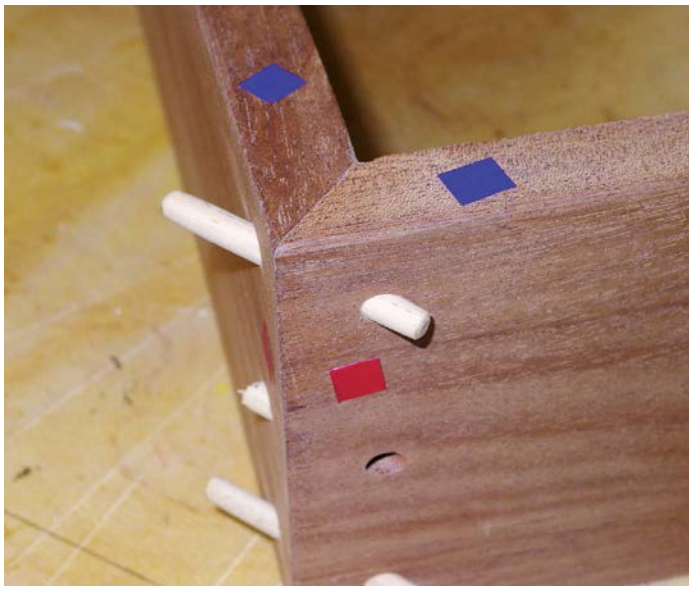


THE RIGHT ANGLES

I picked this tip up from an old engineer, I always have trouble getting the correct grind angles on drill tips when I resharpen them. His suggestion was gluing two nuts together and using this as the correct angle setting. I check it after each visit to the grinding wheel. It works for me!

Ron Pennington

Gluing two nuts together will help you find the perfect grind angle



Self-adhesive stickers come in handy when marking out joints

EASY-TO-SPOT MARKING

I don't understand why there's such a big deal about marking out joints and then having to sand away the same marks before assembly? I do lots of admin work at my office and we use coloured self-adhesive stickers for charts and documents. They are perfect for marking joints clearly. I should just say I gave this idea to my husband who's a weekend woodworker. Call it feminine logic!

Sylvia Crimpney

*(Ooh, that's dangerous talk – **Ed**)*

To open a glue bottle lid, find your nearest pair of nutcrackers

GETTING A GRIP

I often have trouble getting caps off glue bottles to clear them of hardened glue. The easy answer I found, was to use a pair of old nutcrackers. The serrated teeth and the leverage wins every time. I also found with large jars that a thick piece of old rubber cut into strips makes the job of opening lids easy too. I should add that I am 72 years old, so I think I can be excused for not having such a powerful grip as when I was young!

Ron Askew

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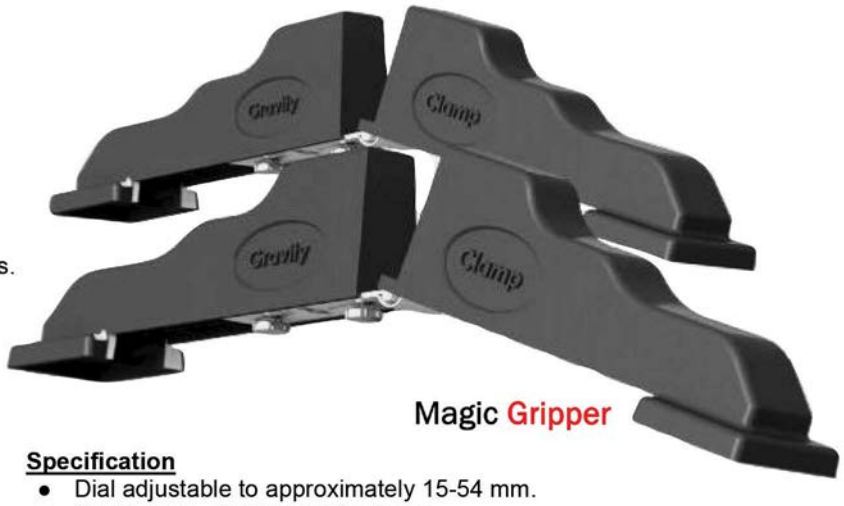

Magic Gripper

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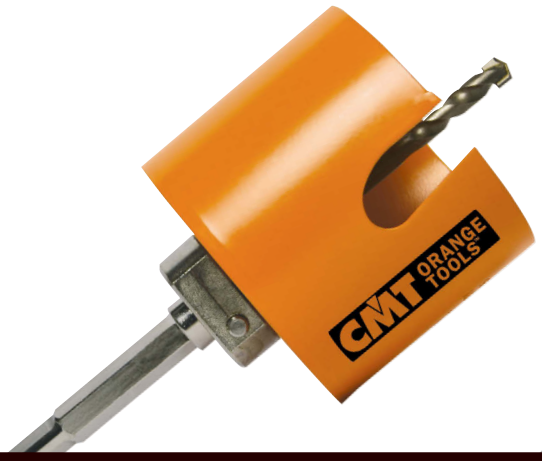

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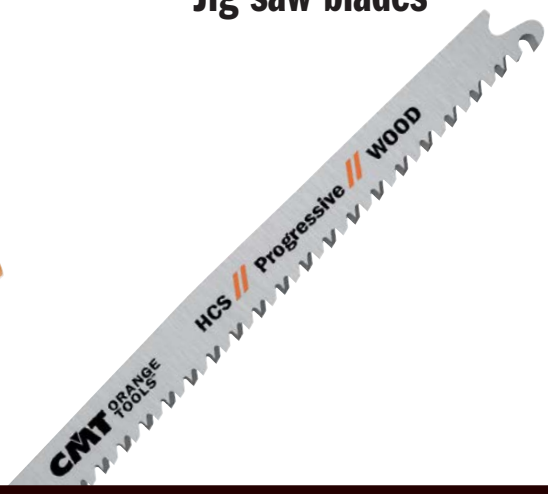

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Shaker candle table by Michael T Collins

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John Swinkles makes a salt and pepper dispenser

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