Issue 16 August 2016

Woodworking CRAFTS

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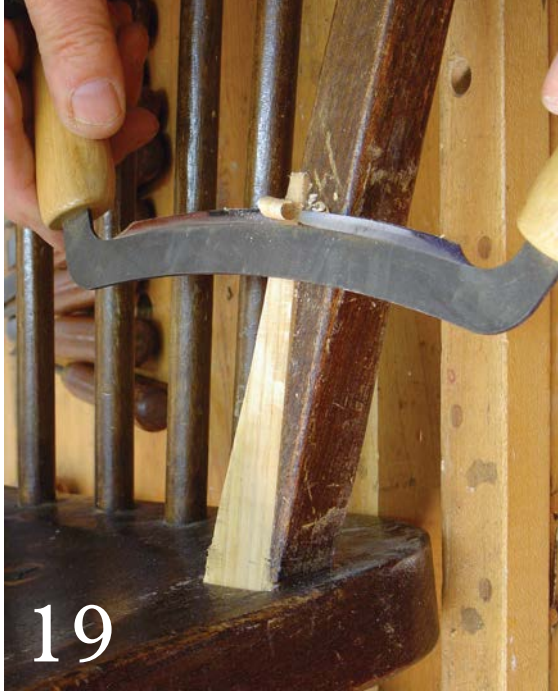

In the August issue...

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Welcome

to the August issue of *Woodworking Crafts*

Take a break, and read your favourite magazine. August is the traditional month for annual summer holidays and a chance to relax and escape from the rigours of work and everyday life.

We have some interesting, and indeed thought provoking, articles for you to read while you hopefully take things easy.

The Mission-style chest is a challenge and not for everyone, but it shows how a piece of functional furniture can be both pleasing to the eye and impressive to boot. Louise Biggs' commemorative box tells a story that resonates with many, at a time when the First World War is being remembered across the land. There is the story of a wheelwright who holds the Royal Warrant, as well as hand made furniture, green woodworking and so much more. Plenty to get your teeth into, but only once you have had a good read. There is no rush to make things – that is for the next month or even the month after that.

About now, I'm going to be taking my own well-earned break, but you can bet it won't all be lying on a sandy beach soaking up the sun. I'm never fully off duty – always looking out for interesting things I can put in the magazine or inspire me to have a go at something new. Anyway, see you again after the holidays. Have a safe and relaxing time.

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com

hand tools and wood chisels specialist

Ashley Iles - Henry Taylor - Robert Sorby - Joseph Marples
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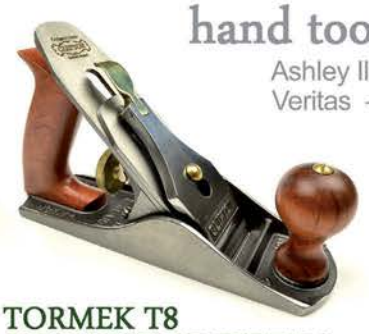

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PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Seven-drawer Mission chest

Anthony Bailey adds a chest to his Mission-style bedroom furniture

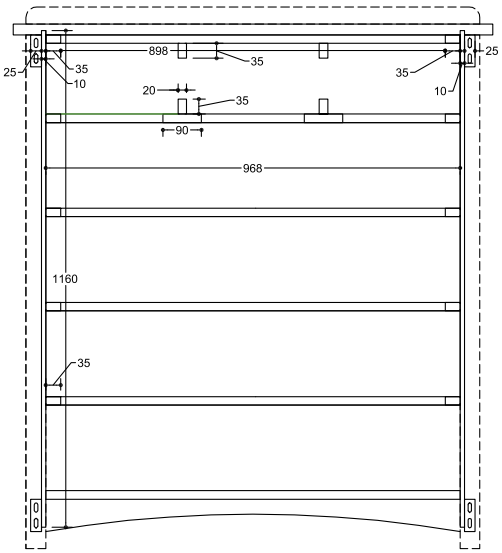
This is a substantial and imposing chest of drawers. Unlike a typical Georgian or Victorian chest, which would have drawers graduated in size, with the smallest at the top and the largest at the bottom, this chest has equal-height drawers apart from the top row. The timber is American white oak (*Quercus alba*). It is finished with a sealer coat and waxed to keep the look as natural as possible.

Preparation

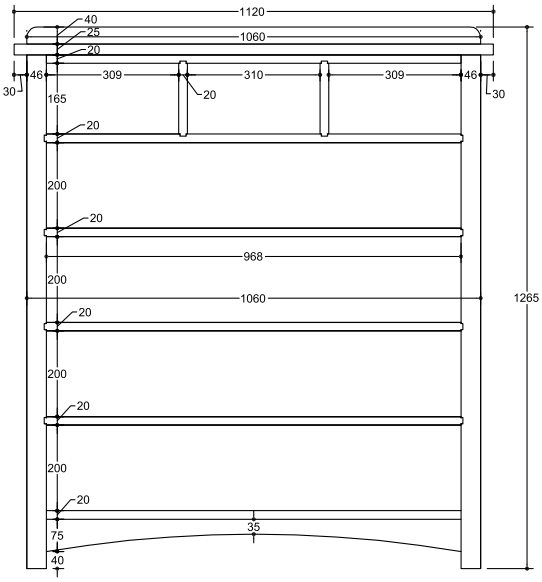
This project uses a very large amount of timber and there is wastage because even American oak suffers from splits, shakes and knots. Keep your best boards for matching colour and grain for the drawer fronts, and find good matching boards for the top. The back panel, end panels and drawer bottoms are all oak-veneered ply – not authentic but it looks fine and saves on cost and preparation time. Study the plans carefully and make up what is a substantial cutting list. ➤

What you will need:

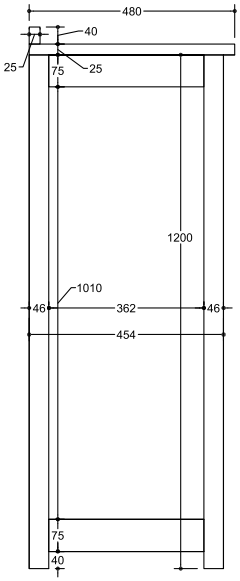
- Planer thicknesser
- Domino jointer
- Sander
- Bandsaw
- Tablesaw
- Router table
- Biscuiter
- Block
- Mallet
- Fine-tooth saw
- Plane
- Chisel
- Sash
- Deep-throat clamps
- F- and G-cramps
- 8 x 50mm Domino components
- '0' and '20' biscuits
- PVA glue
- Cloth
- Protective pads
- Router cutters, including 19mm diameter dovetail
- ½in collet router + 30mm guidebush
- 6.4mm groover + arbor and 9.5mm straight bit
- Sub-table surface + high fence facing
- Screws



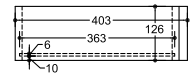
Long Section

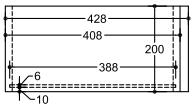


Front Elevation

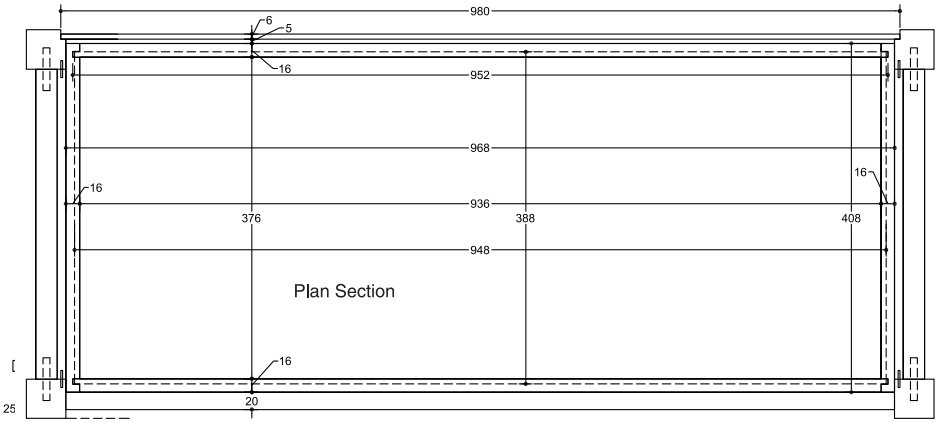


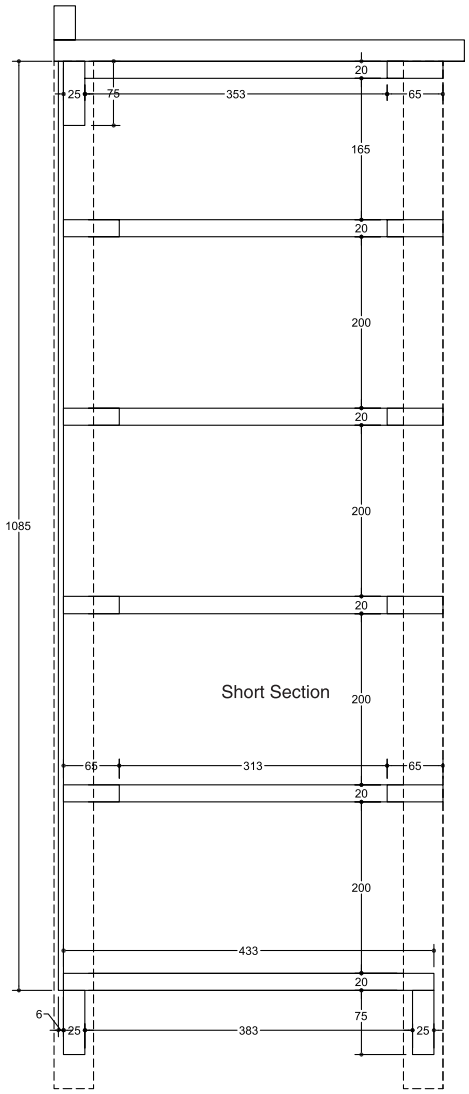
Side Elevation



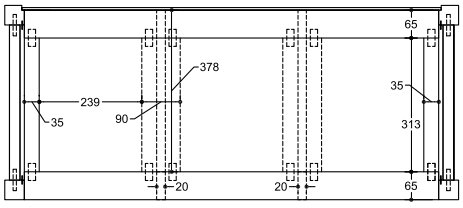


Drawer details

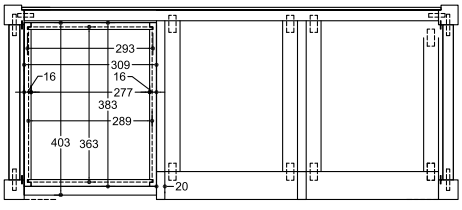




Plan Section



Plan Section



Plan Section

Cutting List

TOP..... 1 @ 1120 x 480 x 25
TOP UPSTAND..... 1 @ 1060 x 40 x 25
LEGS..... 4 @ 1200 x 46 x 46
SIDE RAILS..... 4 @ 362 x 70 x 25
SIDE PANELS..... 2 @ 1160 x 362 x 10
BOTTOM RAILS..... 2 @ 968 x 75 x 25
TOP BACK RAIL..... 1 @ 968 x 75 x 25
TOP FRONT RAIL..... 1 @ 968 x 65 x 25
BACK..... 1 @ 1085 x 980 x 6
BOTTOM SHELF..... 1 @ 968 x 433 x 20
DRAWER RAILS..... 8 @ 978 x 65 x 20
SIDE RUNNERS..... 10 @ 313 x 35 x 20
DIVIDERS..... 2 @ 175 x 65 x 20
GUIDES..... 2 @ 353 x 35 x 20
GUIDES..... 2 @ 378 x 35 x 20
MID RUNNERS..... 2 @ 313 x 90 x 20
MID KICKERS..... 2 @ 353 x 90 x 20

SMALL DRAWERS
DRAWER FRONTS..... 3 @ 309/310 x 165 x 20
BOX FRONT/BACK..... 6 @ 293/294 x 165 x 16
DRAWER SIDES..... 6 @ 383 x 165 x 16
DRAWER BASE..... 3 @ 363/364 x 289 x 6
LARGE DRAWERS
DRAWER FRONTS..... 4 @ 968 x 200 x 20
BOX FRONT/BACK..... 8 @ 952 x 200 x 16
DRAWER SIDES..... 8 @ 408 x 200 x 16
DRAWER BASE..... 3 @ 948 x 388 x 6

Cut out all major components first, especially if they need to be wide boards – with any luck narrows can be cut from the waste sections. Keep component lengths down to only what is required plus wastage or you will end up planing boards bowed from end-to-end down to less than acceptable thickness!

Overhand plane one face and one edge and check all boards for square. The top needs to be made from four boards, slightly overwidth, as does the bottom board in the carcass. All the other boards can then be thicknessed to width.

CARCASS ENDS

Assemble the ends first as these match and form sub-assemblies, thus breaking down the whole procedure for carcass assembly into bite-size pieces. I used Domino components, but you can mortise and tenon, in which case add tenon length to the top and bottom rails. Cut the stiles and rails to length.

The 10mm oak-veneered MDF panels butt between both stiles but go up behind the top and bottom rails; note how the MDF extends 10mm above the top rails so it can slot into the top when that is fitted on.

Firstly, joint the stiles and rails together using a Domino jointer and 8 x 50mm Dominos; the position of the joints is important so the inside of the rails and MDF lie flush together.

1 Dry assemble and carefully measure the gap width as it is critical for a neat fit. Cut the MDF to the measured width and to length then biscuit slot into the stiles.

1 The assembled end panel; note the 10mm upstand

Sand all awkward-to-get-at edges and faces, glue and assemble. Check for square and leave to dry after cleaning off any excess glue.

RAILS, BOTTOM BOARD

2–3 The front and back carcass rails are now cut to fit between the carcass ends and Domino-ed using two per joint. The bottom end rail curves are 'pack cut' on the bandsaw to a line and then belt sanded to get a smooth curve. ➤

2 Using clamps and a strip of MDF to create a curve to mark against

3 Pack-cutting: both lower rails are held together with double-sided tape

Mistakes, I've made a few

Let's face it, no one is perfect, least of all me! In this case I forgot the ply panels went between the end stiles, and Domino-ed the rail flush with the inside face of the stiles. Wrong!

A–C The answer, as with mis-slotted biscuit positions, is simply to glue and plug the wrong holes, in this case with Dominos, then saw off the projecting part with a fine-tooth saw and trim flat with a plane. Re-joint in the correct position and the old plugged holes will be completely hidden and this mistake kept a secret – just between you and me...

A Fitting Dominos cut in half to make the repair

B Cut the waste off flush before planing or belt sanding

C Almost invisible and strong repair

4–7 Dry assemble and cramp up in order to measure accurately the space between the ends for all the drawer rails. The size should be consistent throughout. Measure up for the carcass bottom board; this can now be cut exactly to size. Dry fit it in place, mark biscuit positions where it meets the carcass ends and onto the front and back rails; note the end slots must be '0' biscuits to avoid showing through the end panels. Knock the assembly apart, then biscuit and glue the bottom board to the front and back rails only.

DRY ASSEMBLY

8–9 Now dry assemble the carcass with rails in place, using a block and mallet. Get the rails flush on the front and the back ones knocked forward to give the correct gap for the back panel; note that you will need to cramp across the carcass middle to allow the dovetails to go in easily without damage as the carcass will almost certainly bow a little.

DRAWER SUPPORTS

Measure the gap between the front and back drawer rails; this should be consistent. Cut the drawer supports to fit this measurement. There are two narrow outer supports and one wide middle one, except for the small top drawers where there are two wide supports with uprights to separate the drawers; note that these uprights can be biscuited and glued in the centre of the supports to make small sub-assemblies.

10–11 At the same time measure up for the two drawer stiles that go between the small drawers. These are housed exactly as the rails are; if you leave your router table set up these can be quickly machined.

12–13 Mark all drawer supports ready for Dominos, one slot for each narrow support and two for the wide ones, using 6mm-thick Dominos. Make a marking jig to ensure consistency, then it won't matter where each component goes when it comes to final assembly. The narrow components will simply butt-glue against the carcass sides. All the carcass components, bar the top itself, have now been cut, jointed and where appropriate made into sub-assemblies. Everything can now

The carcass dry-assembled in order to measure up the drawer rails

A narrowed-down Domino is easier to extract when test assembling

Making the '0' biscuit slots for the carcass bottom

The glued-up carcass bottom and rail; note the block used to keep it square

A trial assembly of a housing joint

The back panel allowance – shown on the finished piece

Cutting a drawer stile housing

11

The stile in situ before sanding to remove fluff

12

Checking that all the housings fit – carcass rails not present

13

Drawer supports are machined using a Domino 'bench hook'

be knocked apart and all internal or hard-to-access surfaces sanded prior to assembly. Machine the back panel rebate with a large straight cutter.

GLUE UP

This is more than a little stressful so get everything ready first. You will need plenty of long sash cramps and several long deep-throat clamps to span the carcass width plus a number of shorter sash cramps. PVA glue will give the best working time as it won't start setting too quickly. ➤

DOVETAIL HOUSINGS

A

For accurate housings, mark across both back panels

B

The tablesaw gives a precise template opening

A Place both end panels face down on the bench with the inside faces upwards. Mark up where the drawer rails will be, across both end panels; this will then allow you to accurately mark out for the housing joints.

B You need a large 19mm-diameter dovetail router cutter and a big ½in collet router with a 30mm or similar guidebush. Make up a housing jig using the tablesaw to give a precise gap just large enough for the guidebush to slide through.

C–E As always, do a trial cut first to get the correct depth for the housing which will be about 7–9mm. The housing slot needs to be either the same as the rail width at the front but deeper at the back to account for the 10mm back panel or, as I did it, the same slot length but with the dovetails on the rail ends cut back by the thickness of the back panel.

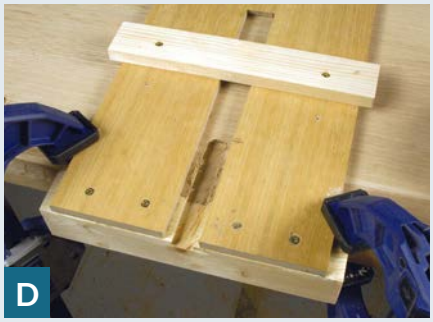
Machine all slots but note that the top front rail isn't housed as it is too close to the end of the board; this is better biscuited to help hold it in place.

Now machine the dovetails on the end of each rail. This is done vertically on the router table using a sub-table surface and a high fence facing to stop the components dropping into the cutter opening. Take your original measured drawer rail length and add the depth of the dovetail housing x 2 to give the finished rail length. Cut all rails exactly to this length bar the top front one, which is a biscuited butt-fit in between.

Do some test cuts, machine both rail faces and try fitting in a housing and adjust until it is a good tight fit. Use a fine saw and chisel to round the 'inner' end, keeping the dovetail angle. Tap the rail home then, once satisfied with the fit, machine all rail ends in the same fashion.

C

The stop screwed to the template limits the cut length



D

The finished housing; sanding will remove the fluff

E

All the housings and Domino joints have been machined

14

The drawer grooves that will hold the front, back and base

15

Using a sliding sub-base to machine a wider rebate

16

An assembled drawer box ready to have its front planted on

First, glue and cramp the carcass rails and bottom shelf assembly in place.

Next, glue and fit the front drawer rails then the drawer supports and finally the back drawer rails.

Your longest cramps are used to hold the carcass together crosswise, with the shorter ones pulling the drawer support frames together from front to back. You will almost certainly require help and plenty of pads to protect the wood from crushing.

Check the whole assembly is square and all joints closed properly, then carefully remove excess glue using only a slightly damp cloth to avoid stain marks on the oak.

MAKING DRAWERS

The drawers are simply tongue and grooved construction and will slide on the drawer supports in the carcass.

Measure the openings to ensure you get the drawer box sizes correct. The front and back fit within the sides; add the tongue length x 2 to the length of the internal front and back measurement in each case.

Machine all parts to width and thickness. The width, which will be the height of the drawer, should be a tight fit in the carcass; it will be trimmed later. The bases are oak-veneered ply to be cut to size later.

Cut all solid parts to their respective lengths and mark them – sides or front and back – to avoid any confusion.

14 Set up the router table with a 6.4mm groover on an arbor and do test cuts for the groove until you have it exactly right. Machine all grooves including the drawer bottom grooves, leaving the groover at the same height. Now do the tongues; as the groover is not thick enough, use a piece of ply or MDF as a sliding sub-table on one pass to increase the effective cut width. The resultant tongue must be a nice tight fit in the grooves.

15–16 Assemble a couple of drawers, measure the size of drawer bottom required and cut out the ply to suit. Sand all drawer components, then glue, assemble and cramp. The drawer fronts need to be carefully sized and 'gapped' to fit in their respective positions in the carcass. Trim each drawer box to fit its particular position and fix on the drawer front when the handles are fitted in place. The handles must be aligned neatly from top to bottom on all drawers, apart of course, for the top middle one. Screw each front onto its respective drawer box from the inside.

THE TOP

Loosen the two projecting tongues from the MDF end panels and house them into the top, using either the previous housing jig if it is long enough or making up another one if not. Bear in mind that a 9.5mm straight cutter will be used to make a 10mm or thereabouts slot, so either the slot in the jig needs to be slightly wider or the jig needs to be moved over between cuts.

Make sure before you start that the MDF upstands are square to each other and mark their positions accurately onto the underside of the top, then clamp on the jig and machine the slots.

Try fitting the top and adjust the widths of the slots a fraction if needed.

17 Now sand the top thoroughly and glue and fit to the top of the carcass using plenty of clamps to pull it down hard onto the carcass top. Lightly bevel the edges with a handplane.

Rubbing strips

Rubbing strips are glued onto the underside of the top. This avoids adding them to the general carcass assembly, but they are necessary to prevent the top drawers from simply hanging down at an angle when the drawers are pulled out.

18 Lastly, sand the entire carcass exterior, apply a clear sanding sealer and wax thoroughly. ■

17

The completed bare carcass awaiting back panel and drawers

18

A simple but pleasing piece of functional furniture

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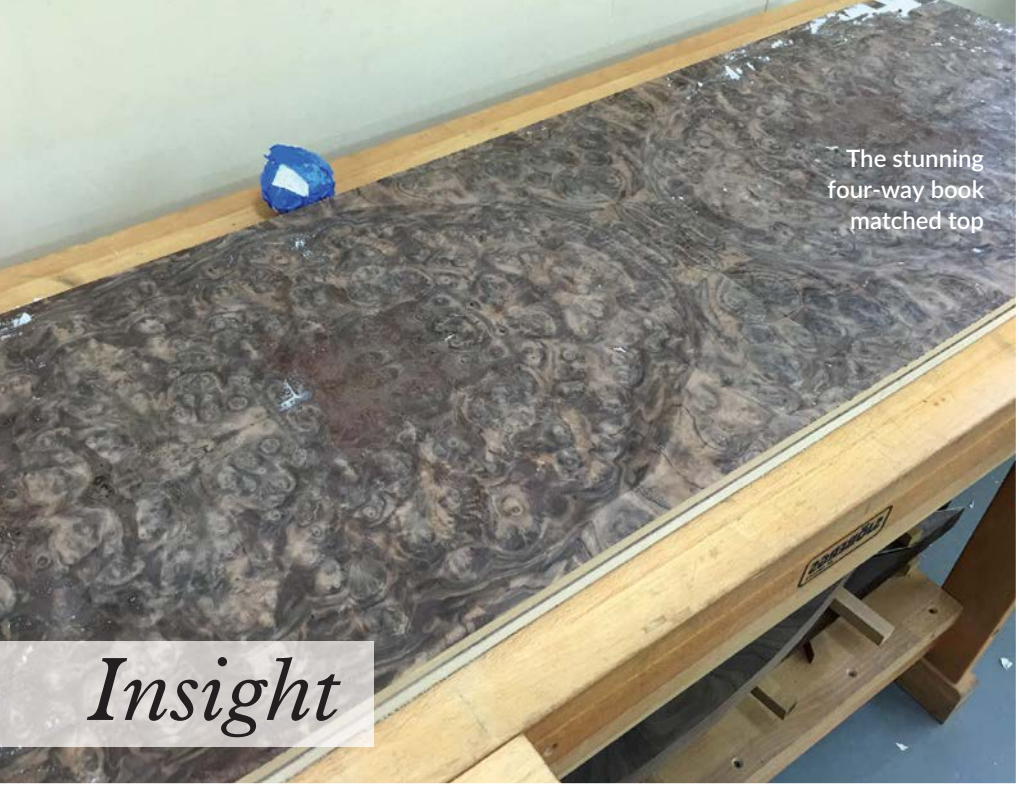

The stunning four-way book matched top

Insight

‘Sam’s Veneer’

Being able to mix both solid timber and veneer within a project opens up a whole variety of design possibilities

Sam Carter is a past student, who joined my School at 18 and was awarded the Alan Peters Award at last year’s Celebration of Craftsmanship and Design exhibition in Cheltenham. Sam is now my young workshop assistant who, while helping me, is also undertaking commissions for clients. He is presently reproducing his ‘Overarching’ console table for his latest customer to house their canteen of cutlery within the pair of drawers.

Sam’s table

Sam’s table top design is 1100 x 400mm and will be veneered with a four-way book matched burr walnut veneer. He selected the veneer when on a buying trip to Mundy Veneers, as it had a wonderful grain pattern. Although the veneer’s figure was stunning it needed a lot of flattening to remove the buckle, which is very common with burr veneer. After cutting and matching the grain it was time for gluing and pressing.

The adhesive we use is a urea formaldehyde (UF) glue; this one is particularly good for veneer work and combines three Borden products: F120 resin, UH21 fast set Hardener and 99 Extender, which reduces bleed through. Burr veneers generally have some holes within it – if the holes are 3mm or larger, we will cut in a piece of veneer disguised as a knot. Small pip holes of 1 or 2mm left in the veneer will fill up with the glue when being laid. To overcome this, and to avoid the white glue showing through and causing us problems, we colour it with earth pigments. A pigment is added into the glue mix-up to match the veneer’s colour. This fills any small imperfections and will be lost completely when finished.

Sam’s glue mixture is rolled on with a gravity-feed roller which gives a very consistent coating; the reverse balancing veneer is laid first, the board is flipped over and the top surface is rolled on. The veneer is laid in place and secured with Tesa tape, and then put into the veneer press and the Acme-threaded patterns wound down.

The glued panel is later removed from the press after a few hours, glued down, and is then ready for construction. ■

Wood

Walnut (*Juglans* spp.)

PHOTOGRAPHS BY PETER SEFTON

The Borden F120, UH21 and 99 Extender, all elements of the UF glue

Earth pigment added to the glue mix

The .6 millimetre walnut burr, prior to being pressed

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

NEWS & EVENTS

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

IMAGE COURTESY OF WOODLAND TRUST

Commemorative re-enactment for planting

Tree planting at Langley Vale for future generations

Langley Vale in Surrey, on the edge of the Epsom Downs, is at the heart of an ambitious woodland creation plan, forming part of this year's First World War Centenary commemorations.

The site will be transformed through the planting of 200,000 trees. Local volunteers and school children have already been hard at work, and so far have planted 10,000 specimens. The area, which spans 640 acres, still features plenty of open space, preserving the stunning views of the downs and Central London in the distance. Carpets of wild flowers continue sweep across the habitat.

A representative of the Woodland Trust, said of the project: "For us, this initiative perfectly captures the ethos of the Woodland Trust – creating new woodland, restoring a rare landscape, protecting exiting ancient woodland, and bringing people with us in this work."

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

READER LETTER

I would like to share a 'tribute' to my woodwork tutor, Andrew Willatt, who is retiring after 38 years in adult education teaching.

I've had the pleasure of learning with Andy for the last 18 months. He introduced me to the first issue of *Woodworking Crafts* magazine when I started the course. While I've always been relatively handy, learning from him has improved the quality of my work, taught me many new skills and given me the confidence to try more complicated projects. This has included my first attempts at woodturning, when I made a garden dibber, as inspired by the magazine.

IMAGE BY SIMON CLARK

My interest in woodwork has become a passion, thanks to Andy's skills as a teacher and a woodworker, his encouragement and him being a genuinely nice chap. Wednesday nights won't be the same without him, but Andy certainly deserves his retirement!

The magazine continues to be excellent, thank you.

Best wishes
Simon Clark, Derby

Forestry Commission grows living ash trial in National Forest

Forest Research, the research agency of the Forestry Commission, has begun a trial to look for tolerance to ash dieback (caused by the fungus *Hymenoscyphus fraxineus*, commonly known as chalara) in different varieties of ash tree (*Fraxinus excelsior*). These trials will be carried out in The National Forest near Ashby de la Zouch, Leicestershire.

Over 4000 trees have been planted across two hectares of land in an experiment that will extend over the next five years. The trial is part of the Living Ash project sponsored by Defra and co-ordinated by the Earth Trust.

The project aims to identify genetically tolerant trees and bring these together to form a new breeding population. Simon West, NFC Head of Forestry said: "Ash is a magnificent, valuable and irreplaceable tree in our landscape, with between one to two million in The National Forest, and lots more across England."

Dr Jo Clark, Earth Trust Forestry Research Manager and Living Ash Project lead, said: "Ironically, it is only by hoping that many of the trees in this trial will succumb to ash dieback, that we'll be able to identify the tolerant individuals from which to breed the next generation of healthy ash trees."

Contact: Earth Trust
Web: www.livingashproject.org.uk and www.earthtrust.org.uk

IMAGE COURTESY OF NATIONAL FOREST COMPANY

Sapling of ash

Fellowships help British crafters voyage afar

IMAGE COURTESY OF HERITAGE CRAFTS ASSOCIATION

The Winston Churchill Memorial Trust (WCMT) will award 150 Travelling Fellowships in 2017, under a 'Crafts and Makers' category. The funding available will directly support British citizens wishing to travel overseas to gain knowledge and experience in their field. The application process for these Fellowships is now open.

An estimated 11,620 businesses are involved in craft industries in the UK, helping to make key contributionS to the economy, as well as to the preservation of traditional skills.

Two Travelling Fellowships will be awarded to carpenters and joiners, thanks to a partnership with the Worshipful Company of Carpenters. WCMT also continue to collaborate with the Heritage Crafts Association. These partnerships have so far seen 20 Fellowships awarded, resulting in an investment of over £115,000 in British craftspeople.

Edmund Jacobs, a furniture designer and maker from London, will be travelling across Europe this year to explore sustainable manufacturing and design techniques for bespoke furniture, funded by a Fellowship grant.

Successful applicants must show commitment, character and tenacity to travel globally in pursuit of new and better ways of tackling a wide range of current challenges facing the UK.

Successful applicants will receive an average Fellowship grant of £6000, to cover airfare, daily living costs, insurance and travel within the countries visited.

Contact: Winston Churchill Memorial Trust
Web: www.wcmt.org.uk

FAIRS AND FESTIVALS

Art In Action

Artists, crafters, performers and musicians gather together to show their work and demonstrate skills. Join practical classes to have a go yourself, with the guidance of an expert teacher.
When: 14–17 July, 2016
Where: Waterperry Gardens, Oxford
Web: www.artinaction.org.uk

CLA Game Fair

Celebrating country life and British field sports, this fair includes a Woodland and Forestry area with stalls providing machinery, services, advice and equipment demonstrations.
When: 29–31 July, 2016
Where: Ragley Hall, Alcester, Warks.
Web: www.gamefair.co.uk

Lammas Festival

Eastbourne's annual free festival of music, dance and entertainment on the Western Lawns. The Sussex Pole-Lathe Turners and Green Woodworkers will give craft demonstrations and the site will be packed with food and craft stalls.
When: 30–31 July, 2016
Where: Western Lawns, Eastbourne
Web: www.lammasfest.org

Blists Hill Country Fair

The atmosphere of a traditional country fair will be recreated at Blists Hill Victorian Town. Play games on The Green with the Town's residents, watch traditional skills in action and be entertained by the Prince Albert Players.
When: 30–31 July, 2016
Where: Blists Hill, Shropshire
Web: www.ironbridge.org.uk

Other Forthcoming Events

- **Wales Woodcraft Festival**
When: 20–21 August, 2016
Where: National Botanic Garden, Wales
Web: www.botanicgarden.wales

- **South Downs Show**
When: 20–21 August, 2016
Where: Queen Elizabeth Country Park, nr Petersfield, Hampshire
Web: www.southdownsshow.co.uk

- **Biddenden TractorFest & Country Fair**
When: 20–21 August, 2016
Where: Biddenden, Kent
Web: www.tractorfest.co.uk

- **Charcoal and Woodyard Weekend**
When: 26–29 August, 2016
Where: Weald and Downland Museum, Singleton, West Sussex
Web: www.wealddown.co.uk/events/charcoal-woodyard-weekend/

- **Rudgwick Country Show**
When: 27–29 August, 2016
Where: Rudgwick, West Sussex
Web: www.woodlandcrafts.co.uk/rudgwick-country-show/

- **Stock Gaylard Oak Fair**
When: 27–28 August, 2016
Where: Stock Gaylard Estate, Sturminster Newton, Dorset
Web: www.stockgaylard.com

- **Treefest**
When: 27–29 August 2016
Where: Westonbirt Arboretum
Web: www.forestry.gov.uk/westonbirt-treefest

IMAGE COURTESY OF APTGW

West Midlands Bodgers playing the part at Blists Hill

IMAGE BY ALAN MARSHALL

Woodcarving with Andrew Pearson at Art in Action

IMAGE BY GRAHAM HUNTLEY

Green lady celebrating 'loaf mass' on Eastbourne's Western Lawns

Machine Mart

NOW 65 SUPERSTORES NATIONWIDE

WHERE QUALITY COSTS LESS

Clarke TABLE SAWS

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

LEG STAND KITS FOR CTS10D AND CTS11 ONLY £27.59 INC VAT

INCLUDES LEFT & RIGHT TABLE EXTENSION

CTS10D

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£69.98	£83.98
CTS11	1500W	254mm	£139.98	£167.98
CTS10D	1500W	254mm	£159.98	£191.98

Clarke 4" BELT/ 6" DISC SANDER

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

CS4-6D

£84.99 EX.VAT £101.99 INC.VAT

Clarke 6" BELT/ 9" DISC SANDER

- Includes stand
- 1 HP/ 230V/ 1ph motor

CS6-9C

£209.00 EX.VAT £250.80 INC.VAT

Clarke TABLE SAW WITH EXTENSION TABLES (250mm)

CTS14

- Ideal for cross cutting, ripping, angle and mitre cutting
- Easy release/locking mechanism for table extensions
- 0-45° tilting blade
- Cutting depth: 72mm at 90° / 65mm at 45°

SHOWN WITH OPTIONAL LEG KIT CLK5 £19.98 EXC.VAT £23.98 INC.VAT

£119.98 EX.VAT £143.98 INC.VAT

Clarke RANDOM ORBITAL SANDER

£29.98 EX.VAT £35.98 INC.VAT

- For sanding & polishing
- 125mm diameter sanding discs
- 4000-11000 opm

CROS1

INC 5 DISCS

Clarke WOODWORKING VICES

STANLEY Record

FROM ONLY £13.49 EX.VAT £16.19 INC.VAT

WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
Clarke CHT152	Bolted	150/152/61	£13.49	£16.19
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

airmaster TURBO AIR COMPRESSORS

FROM ONLY £79.98 EX.VAT £95.98 INC.VAT

8/250 • Superb range ideal for DIY, hobby & semi-professional use

HUGE RANGE OF AIR TOOLS IN STOCK

* V-Twin

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT	INC.VAT
8/250	2HP	7.5	24ltr	£79.98		£95.98
7/250	2 HP	7	24ltr	£89.98		£107.98
11/250	2.5HP	9.5	24ltr	£109.98	£143.98	£131.98
8/510	2HP	7.5	50ltr	£119.98	£155.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£179.98	£167.98
16/510*	3 HP	14.5	50ltr	£209.00	£263.98	£250.80
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
CCD240	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 DRILL BIT SHARPENER

CBS16

- Great for 3mm to 10mm HSS drill bits
- 70W motor
- Drill bit guide ensures sharpening at the correct angle
- Saves cost of new drills

PRICE CUT £19.98 EX.VAT £23.98 INC.VAT WAS £26.36 inc.VAT

VIDEO ON-LINE

VAC KING WET & DRY VACUUM CLEANERS

FROM ONLY £47.99 EX.VAT £57.59 INC.VAT

* SS = Stainless Steel

- Compact, high performance wet & dry vacuum cleaners for use around the home, workshop, garage etc.

MODEL	MOTOR	CAPACITY WET/DRY	EXC. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£47.99	£57.59
CVAC20SS*	1400W	16/12ltr	£59.98	£71.98
CVAC25SS*	1400W	19/17ltr	£64.99	£77.99
CVAC30SSR*	1400W	24/21ltr	£86.99	£104.39

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 NEW	18v Lithium-Ion 18/18	£99.98	£119.98

Clarke STATIC PHASE CONVERTERS

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

PC60

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 6kW

LARGE & XL MODELS IN STOCK

£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

25218LH

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

GREAT NEW WEBSITE

NOW OVER 17,000 PRODUCTS ONLINE!

For hard-to-find, specialist items visit the Xtra section on machinemart.co.uk

FREE 500 PAGE CATALOGUE

Over 1250 PRICE CUTS & NEW PRODUCTS

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MITRE SAWS

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

TC-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 TC-SM2534	250/30	75/340mm	£159.98	£191.98
Makita LS1040	260/30	95/130mm	£199.98	£239.98

DETAIL SANDERS

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

CDS-1V

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

ALL MODELS INC. SANDING SHEETS

MODEL	WATTS	EXC.VAT	INC.VAT
PS105	105W	£17.99	£21.59
RT-0S13	130W	£22.99	£27.59
CDS-1V	280W	£24.99	£29.99

JIGSAWS

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

BISCUIT JOINTER

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

£49.98 EXC.VAT £59.98 INC.VAT

BT-BJ900

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

MITRESAW 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

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

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

SCROLL SAWS

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

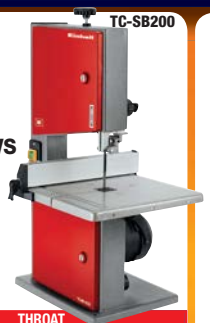
CSS16V

- 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	120W	400-1600	£79.98	£95.98

BENCH BANDSAWS

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



TC-SB200

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

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

DRILL PRESSES

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

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

NEW RANGE

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

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)

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 EX.VAT £59.98 INC.VAT

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

MAGNIFIED MITRE GUIDE
QUICK RELEASE FENCE
DRIVE-BELT TENSIONING
SOLID GROUND CAST IRON TABLE
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

ROUTERS

CLARKE CONTRACTOR BOSCH

- Powerful heavy duty machines ideal for trade and DIY use

CR2

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

FROM ONLY £39.98 EX.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

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 EX.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
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Windsor chair repair

Don't do a 'bodged' chair repair – **Iain Whittington** shows you the correct way

PHOTOGRAPHS BY IAIN WHITTINGTON

Chairs are misused and abused by all of us and, as a result, are prone to failure. Unfortunately, unless the chair is one of a special antique set, the commercial cost of repairing a single chair often far out-weighs its value. As a result, most woodworkers have been accosted by friends and family, bearing gifts and broken chairs for repair. Unless you are a skilled restorer, should the chair be an antique of value, I would strongly suggest you decline, as chair structural restoration (rather than simple repair) is fraught with hidden dangers – hence the high prices quoted.

In this case, the chair is one of the many thousands of general purpose elm (*Ulmus procera*) and beech (*Fagus sylvatica*) hoop-backed utility chairs that were mass-produced in places like High Wycombe with the woodland bodgers making the turned components by the gross (144 in old money) and the seats and assembly done under factory conditions in the town. These were the IKEA chairs of their time and were the common type of seats used throughout the 19th and 20th centuries. They featured widely in chapels, schools and pubs, so have little commercial value. This one is part of a 'set' that was bought as a job lot, so it will cause some inconvenience to match up the remainder with a replacement. As a result, a straight repair is justified, rather than restoration, hence bringing with it no worries about effects on value – just the need to observe the general protocols of furniture restoration. ➤

Restoration notes

An old Windsor chair is a complex structure where a combination of pre-planned wood movement, plus wear and tear makes for an entertaining combination when trying to disassemble. There should be no mechanical fixings in the chair, but the main holes in the seat were designed to distort with drying, hence lock the main structural parts, i.e legs and backs, firmly in place. So broken pieces will have to be cut or drilled out. However, it's not uncommon to find these have been repaired before and if you're lucky with hide glue that you can reverse with heat.

When re-assembling any old furniture, never use metal fasteners. If a mechanical fastener is unavoidable, use a cocktail stick instead of a panel pin and a peg or wedge instead of a screw. Please think of the next person who will have to fix the item and only use reversible hide glue, as modern glues are so effective that they can only be cut out, together with the adjacent timber, for any future repair.

The process

1 One end of the beech hoop back had broken off at the junction with the seat, leaving a small stub sticking up. As this was firmly wedged by the use of differential wood movement, the first step was to carefully drill through from the top to create a hole large enough into which to break the remainder of the waste with a gouge, although careful use of a chisel would suffice. Care was taken to get the angle right with the drill, so as to not end up with a damaged hole in the seat. A thin pilot hole was used to make sure it was going through the centre. The pilot hole was then followed by a larger hole about half the original diameter of the chair back.


1

2 With the bulk of the waste removed, the hole could be tidied up with a rasp. I found this was where the microplane series actually out-performed the traditional rasp, but this may be unfair on my old rasps – if I had spent as much on a new quality rasp as I had done on the microplane, it might have done a better job!


2

3 A bit of over-engineering saw a small billet of oak offcut roughly sawn to 25mm square, which was then put on the lathe to turn the tenon to size. This was followed by a quick test fit, at which stage the shoulders were marked for adjustment for the contour of the seat.


3

4 With the shoulders trimmed to shape, the square oak peg was temporarily driven home and the broken end of the back-hoop lined up on it to mark the required angles for the dovetailed scarf to meet with the back-hoop.


4

5 The scarf on the peg was then trimmed to shape, after which the oak peg was firmly driven home and could probably have been left to chance. However, in line with the earlier over-engineering, either a wedge could have been inserted from below, or some hide glue could be applied before final fit.


5

6 The back hoop was then offered up and marked, as the new peg was not going to move during the rest of the repair. Some care and ingenuity was needed to clamp the chair firmly to enable the scarf to be cut accurately in-situ without inflicting new damage


6

to the chair en-route. This was where the large twinscrew front vice on an old carpenter's bench came into its own, as once secured, the chair was going nowhere. I am sure ingenious configurations of other styles of vices and clamps will serve just as well.

7 The usual routine of test fit and adjust then followed, before the back hoop was glued and clamped to fit. In this case, modern glue was necessary on the scarf, as the scarf joint is a repair that will never need to be reversed but needs to be as strong as it possibly can.

8 Before the protruding peg was trimmed, the gap-filling properties of hide glue were employed by pouring it into the joint to fill any voids created in the removal of the old broken end. I made sure it was not running straight through and gave it plenty of time to set before topping it up as necessary.

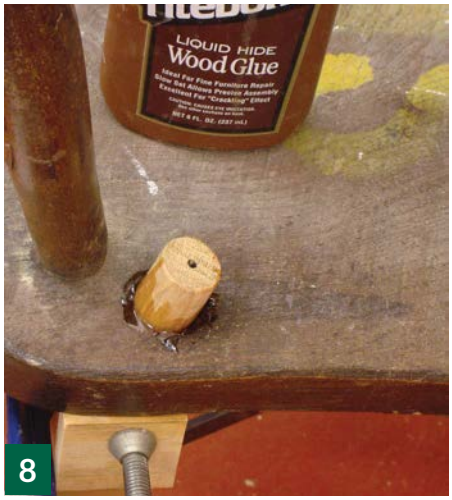
9 When all the glue was firmly set, I then trimmed the bottom of the peg flush to the underside of the seat.

10 As the top of the peg was left oversized, I then trimmed it all round to fit the hoop.

11 Once the join was flush and when I was finished with edge tools, the final surface was achieved with abrasive, leaving a flush finish. Inevitably the original French polish on the hoop was damaged by the trimming and sanding, so I made sure it was feathered back along the grain.

12 Staining the finished work to match the original, I preferred to use a solvent-based stain as it sets into the grain better. Finally, I applied French polish and a suitable wax for an effective and discreet repair. ■


7



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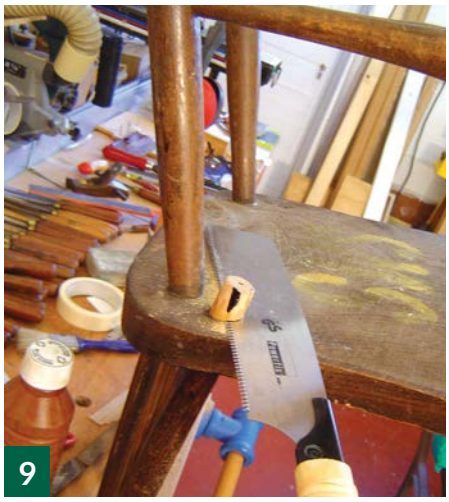
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Iain Whittington

Iain Whittington is a retired army engineer who started woodworking as a lifelong hobby under his father's guidance in the family's garage, expanding his skills as he moved round the world with the army. Iain has shared some of his experiences by writing about woodworking, restoration and carving for various magazines.

Colour matching

The art of colour matching is subjective and is a result of building up of the colours of wood stain, plus the hue of the over-laid French polish. This can be tweaked by the colour of the wax polish used to finish it all. As I needed a dark oak finish, I used the darkest Garnet polish. Button polish gives a brighter red/brown finish, better suited to mahogany, while Garnet polish is richer and darker, more suited to old oak. Blonde polish is available to be used as a transparent seal coat. I applied several coats over a number of days, as a new coat would re-dissolve underlying coats. I kept going until I achieved an acceptable colour match and allowed the finishes to fully harden off before touching the surface up with coloured wax polish.

Hints, Tips & Jigs

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

SWING CATCH

Space was a problem in my tool cabinet. Every time I buy a new hand tool, I keep running out of room to put it in. I've been buying drawknives and spokeshaves and the latest one, a Morakniv blade, posed a slight storage issue.

I came up with a good wheeze: I cut a slit in a block and then glued the block to the top of the cabinet. The problem was safely holding the drawknife in the slot. Rifling through my old restoration box, I found two little brass swing catches. I screwed them loosely in place so I just flick them up to remove or replace the tool and they automatically drop downwards again – problem solved.

Jenna Morrison

An ingenious storage solution

HINGE AND BRACKET

STAR TIP

Bob customised these plates to solve his friend's wardrobe hinge problem

I didn't realise until recently that a 'non-woody' friend of mine had been searching for months trying to find pressed steel mounting plates for 26mm diameter euro hinges. The original ones fitted to his wardrobes are made of casting metal, which is basically quite weak and a couple had snapped apart and the door had to be left demounted. The trouble is there are so many different hinge versions with various mounting plates. When he told me he was in a quandary about what to do, I did a web search and also drew a blank as I couldn't find an exact replacement mounting plate.

However, in a workshop drawer I found some pressed plates that would fit but the hole alignments were wrong. So I tried turning one around and punching and drilling a new hole for the locking screw. I filed two notches on the screw so it would wind its way into the steel and cut the thread it needed. The hinge fitted in the correct place so the holes in the mounting plate would line up with the carcass holes. The last problem was the wardrobe stile was right next to the carcass side, so I just hacksawed the projecting end of the mounting plate off so it would fit inside the carcass. My friend was very pleased to see the door back on his wardrobe. It has just taken a lot longer to write about than it did to cut and fit the new plates!

Bob Inglis

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CUTTING REMARKS

Standard polycarbonate sheet from my DIY store can be scored and snapped a bit like glass. However, I got some redundant clear sheet from a factory clearout and it didn't want to score properly or snap. Maybe it was acrylic sheet, I'm not sure.

After several experiments, I found that a standard fine-tooth hardpoint saw worked, but the trick was to hold it at a low angle to get it to cut properly. I drew a line in felt-tip against a steel rule and simply followed that. The edge finish wasn't too bad, just a coarse sanding block was needed to remove the roughness.

Chris Hamshar

Cutting acrylic sheet can be tricky

Andy came up with a way to test his tablesaw

SAW GUIDE

I wanted to be sure my tablesaw was running true (or not) because I was getting some slightly burnt tooth marks on the side of timber I was ripping down. I tried using a combination square in the mitre protractor slot as the edge will sit in it. Then I rested the end of the rule part against the TCT tip of a blade at one end of it and then moved it along to see whether it touched at the other.

In fact there was a slight but definite gap so I now have to find out how to jiggle the motor mount slightly to align it. I found I needed to press the stock firmly against the mitre slot so I could get an accurate measure. If I can sort the motor mount out, then I should be able to check the fence for parallel as well.

Andy Hayes

LOOSENING YOUR GRIP

I thought when I bought a hook and loop kit for my big 305mm disc sander my troubles with trying to remove old abrasive discs and messy clean-ups would be over. The idea seems fantastic but trying to get the old disc off and then the new one on when there is the fitted sanding table in the way was a nightmare. The old disc won't let go and the new one would stick too quickly, half off the face of the sander. I even tried using a steel rule to slide between the two, to try and release the contact. The answer came to me; I found an offcut of worktop laminate sheet and cut it to disc width and drew the disc shape at one end. Then I scored and cracked the waste away and sanded the edges smooth. Now all I have to do is push the sheet between disc and plate and the old disc separates completely so I can pull it away and then the reverse operation to mount the new disc – easy peasy!

Will Evans

Sliding a thin piece of shaped laminate behind the disc will separate it completely

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GREEN WOODWORKING

PHOTOGRAPHS BY PETER WOOD

Making a travisher

Peter Wood gets to the bottom of Windsor chair seating by making a travisher

In this article, I'm going to show you how to make my favourite tool for shaping Windsor chair seats. With the travisher, you can rough out a seat blank very quickly, taking large shavings, or take the finest of shavings for a finishing cut. It's the tool that students like to use on my courses and perfect if you want some texture to any sawn surface that doesn't need to be planed flat. A medium- or heavily-curved travisher will produce a highly textured surface to a rustic shelf or the finest of chair seats.

You can source old travishers online, but they usually need a lot of remedial work to get them functioning properly, so in this article I'm aiming to enable you to either be able to replace the body of an old travisher you already have, or to fashion a new body to match a new blade.

Things you will need

- One travisher blade
- Assorted drills and chisels
- Spokeshave

Wood

- One block of hard wood – sycamore (*Acer* spp.), ash (*Fraxinus* spp.), beech (*Fagus* spp.), maple (*Acer* spp.), or apple (*Malus* spp.)

Health & Safety

If you decide to have a go at making one yourself, please be aware of how sharp the blade can be. You can cover the blade with some tape to reduce the risk of cutting yourself while making your travisher.

1 Here is a selection of old and new travishers – the older tools are darker and have longer handles while the lighter ones are my own design. I find this design more comfortable and it reduces the chance of scraping your knuckles across the work.


1

2 Travisher blades can be found in a number of curves. Working from left to right we have, a No.6, No.4 and No.3, the number denoting the degree of curvature. It can be useful to have a range of curves, but the middle curve No.4, works in most situations, so if I was only making one travisher that would be the curve to use.

3 The tangs are at 90° to the blade and tapered, so with careful fitting you should aim to create a friction-fit, which will hold the blade secure when using, but is easily knocked out when you need to sharpen the blade.


2

4 I have used a nice block of sycamore which is hard wearing and good for the travisher body. This block is 140 x 70 x 180mm. From this I should be able to make three travisher bodies approximately 45 x 70 x 180mm. Reduce the size to 35mm if needed. If fitting the No.6 blade, you will need to increase the depth of the body.

5 First, plane the block smooth and square on the sides as well, so you start out with an accurately-prepared workpiece.


3


4

6 Use the blade as a template for marking. On the wider face, mark the centre point of each tang. The blade needs to be seated in the middle of the block.


5


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7 Turn the block over to the adjoining face with the tangs lining up with your previous marks and draw in the curve of the blade.

8 The tangs of your blade may be different to mine, but I've used a range of bits from 7mm to 9.5mm. A cordless drill or bit and brace work well when drilling the tang holes, but if you have a pillar drill, it does make life a lot easier still.

9 My drilling point for the tangs was 20mm from the back of the body. This gave a nice sole on front of the blade and enough 'body' behind to hold the tangs. Drill a pilot hole with your smallest dill bit and check that the holes line up.

10 Work the tangs into the holes by gradually increasing the diameter of the hole. As the diameter of each drill bit increases, reduce the depth of cut and you will end up with a tapered hole. For the final fit use a file to open up the tapered hole. Note this will result in a tight fit.


10


11

11 Once the blade is seated, remove the blade and cut out the previously-marked curve. With the body curved, enlarge the tang holes again until the blade sits onto the wood. You can now mark the outline of the blade. The wood inside the line is waste and needs to be removed.

12 Start by sawing slots out of the waste and then use a chisel to cut the waste away.

13 Knock away most of the waste using the chisel and mallet, using the chisel to pare away the rest of it. You need a smooth surface where the shavings will travel away from the body. Shavings will catch on any rough areas and quickly clog up the travisher.


12


13

14 Next, use a small chisel to chop out the area where the tang meets the blade. Care is necessary to avoid chipping out the slot.


14

15 Check again to see if the blade is seated properly, it should fit tightly fit, needing a sharp tap with a small hammer above each tang to seat fully. I like to have a small throat between the sole of the wooden body and the blade. This gives a much cleaner cut, but if you're after rapid stock removal, carefully pare away more wood, opening the throat. Use a spokeshave to clean up the saw marks, adjusting the curve to finally match the curve of the blade to the body. The sole of the travisher should slope slightly away from the blade edge.


15

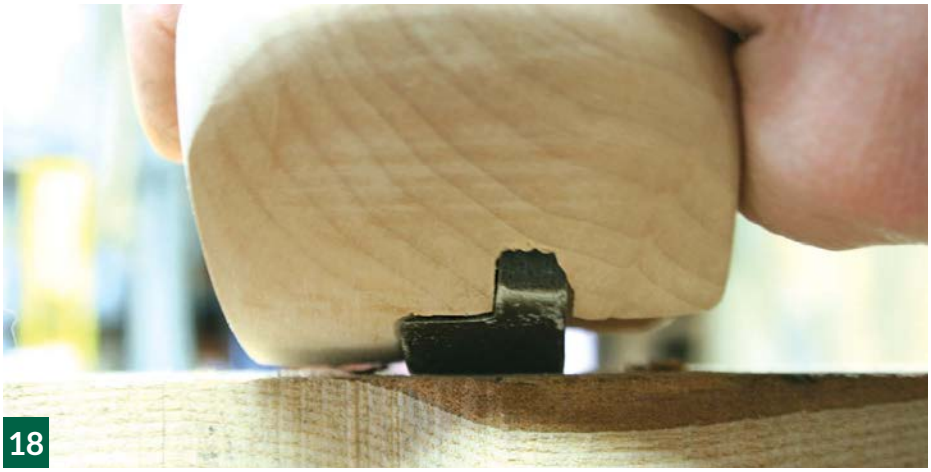
16 Once happy with the shape, round off the corners and smooth all edges. Remove some of the travisher body until you're content with how it feels in your hands.

17 The travisher takes a little getting used to, but you can control the depth of cut by rolling your hands forwards, riding on the sole, for a shallower cut. By pushing the tool away from you and rolling your hands forward as you come to the end of the cut, the cut then lightens until it stops cutting. This can be done with the travisher askew for a more slicing cut.


16


17

18 By rolling your hands backwards, the tool then rides on the blade for a deeper, more aggressive cut, so it will then dig in. With a little practice and fettling of the travisher shape, it is a joy to use. ■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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 currently the world champion pole-lathe turner!

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PHOTOGRAPHS BY LOUISE BIGGS

Tools used

- Veneer tape and dispenser
- Hotplate and bain-marie or similar
- Very fine drill bits and drill
- Short and long arm piercing saws
- Very fine piercing saw blades
- 'V' block support
- Scalpel
- Tablesaw
- Straps clamps and corner blocks
- Router and router table
- Straight and core box cutters
- Chisels – various sizes
- Squares – various sizes
- Mitre saw
- Drill guide or drill stand
- Drill bits
- Dovetail/gents saw
- Junior hacksaw

Wood

- Cherry (*Prunus avium*)
- Sycamore (*Acer pseudoplatanus*)

World War I commemorative box

Louise Biggs

makes a beautiful commemorative box, in memory of her great-grandfather

Some years ago my father received various family papers and among them was an envelope marked 'Letters 1916'. Inside were letters from my great-grandmother, Maud to my great-grandfather, Charles who, like many, was away at war. There were letters from three of their children, birthday cards, plus several other documents and photographs.

Two letters, folded very small on a different paper, stood out. Once unfolded and read, they were the letters sent from the field hospital chaplain in France, notifying Maud that her husband had died from his wounds. 100 years later, it was time to treat the letters with respect, so the idea for a commemorative box was born. The medals and Essex Regiment Cap badge date from WWI, but they are only representative of those Charles would have worn and been awarded. The box was to be veneered in cherry with coloured sycamore veneers forming the marquetry.

Right: Private Charles John Colley
1st Battalion Essex Regiment
25 June, 1878 – 4 July, 1916
Died as a result of wounds sustained at the Battle of the Somme, 1 July, 1916

Poppy marquetry

1 Having worked out the size of box required, the next stage was to work out a suitable poppy design for the marquetry, which would grow up the front and across the top.

2 Several marquetry packets were formed as the grain direction of the veneers would represent the different petals and leaves. I used a slightly different method to how I have cut marquetry before but one, timely described by Amber Bailey in issue 241 of *Furniture & Cabinetmaking*, along with other useful tips. In between the layers of veneer and waste veneers there was a layer of paper (papier suiffe) coated in animal fat. I had always used beeswax to lubricate the blade but this method worked much more efficiently.

3 With the packets formed and the design mounted on the top, the smallest hole possible was drilled at key points of the design to allow the blade to pass through.

4 In the absence of a marquetry donkey I have always used jewellers piercing saws with the finest blades. With a 'V' support cramped in a vice the blade was passed through the packet, which was then rested on the support with downward pressure applied by one hand while turning the packet to follow around the design.

5 Once each element had been cut out the pieces were laid out on a board. Working in reverse, each element was taped together using the different grain directions and saw cuts to highlight the curves and bends of the petals and leaves.

6 With all the elements formed, minus the stalks, they were laid in position and then mounted onto the main veneers for the front and top. As with cutting out the marquetry packets, small holes were drilled at key points and using the jewellers saw each element was cut round and inserted into the main veneer.

7 The stalks were then cut from the veneers and positioned before being cut into the main veneers with a scalpel. The top and front veneers were taped together so the positions of the stalks met at the front top edge of the box. ➤

The letters to be stored in the box

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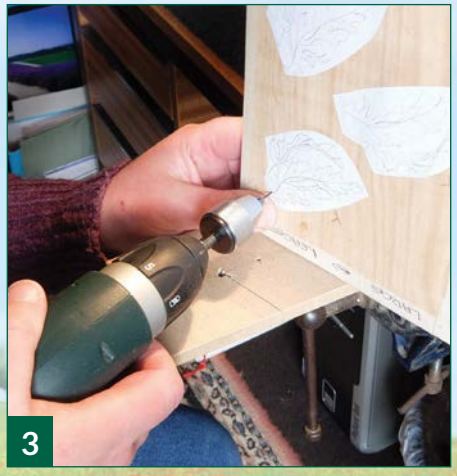

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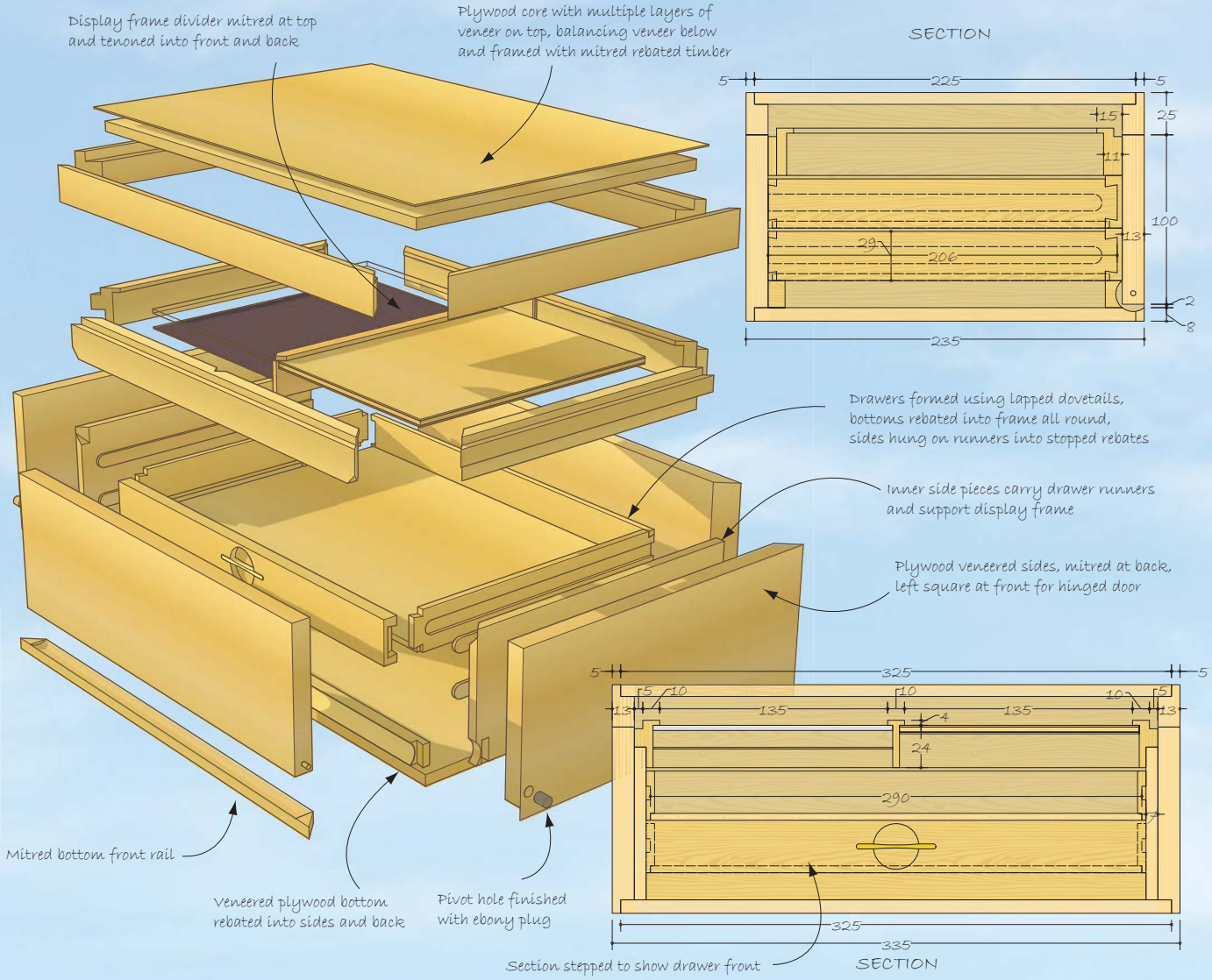

Box construction

8 Next, the lid of the box and the piece for the inner inscription had to be prepared so they could be inscribed. These areas needed three layers of veneer so the inscription could be cut deep enough to pick up the wispy ends of the characters of the font I prefer. The lid had two layers inset into the ply top cut out using a router and moving from the edge in so as to always have the router base supported. The third layer was the main veneer. The inner piece was veneered and counterbalanced.

9 The ply to form the box was cut and the back corners and front top corners mitred using a tablesaw. The front edges on the base were left square as the front of the box will drop down. The inside faces of the box sides were then veneered before the rebates were cut for the top panels.

10 A 10mm thick bottom front rail was mitred and cut into the bottom front edge of the sides. When the box was glued up a pin was inserted to strengthen the joint.


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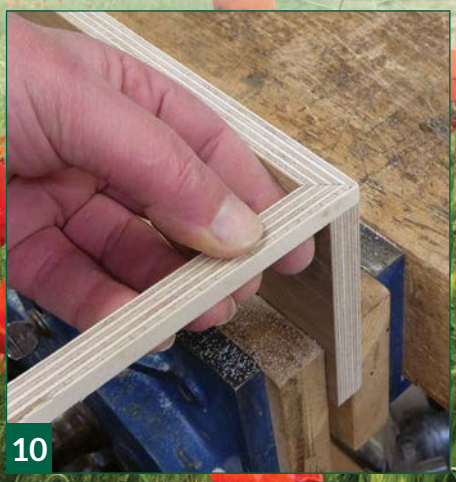
10

11 A thin tongue-and-groove was formed with the router to join the bottom panel to the front rail, keeping it flush on the top to allow for a fabric lining to the bottom at the end. With the rail glued in position to the bottom panel this was veneered before a rebate was cut to fit the bottom to the sides and back. The router was set up using a test piece to check the position of the groove to the rebate on the bottom panel to make sure it would align with the rail.

12 The box was glued up with a spacer piece to hold the top front of the base in line. The inner edges were then veneered followed by the back, then the sides and lastly the front. The main front veneer was cut using a sharp scalpel and straightedge to separate the pieces for the lid and base. The lid's front veneer was positioned and clamped into place. The positions of the marquetry were marked on the block so the top veneer could be aligned and laid, taped into position on the front edge, only before being pressed between two boards.

13 The ply for the door was cut to size, veneered on the inner side and edged, the lid was placed on top and the door aligned so that the position of the marquetry could be marked. A tape hinge was put in place on the top edge to keep the veneer in position so that it could be lifted and glued. The remaining overhanging edge was then carefully cut away to be glued to the front of the box to keep the grain pattern following through.

14 With timber prepared for the inner frame, it was rebated to leave a 5mm square step on the outer edge. The inner edge was cut to leave a 3mm sight edge where the medals and inscription would be fitted. As this would leave only a small edge when routing out the rebate, two supporting pieces of timber were taped to the router fence.

15 The frame was cut and mitred to fit tightly within the box before a centre division was rebated into the frame while allowing the front face to be mitred. The frame could then be screwed into place holding the top front edges of the box square.

16 Before going any further the cap badge and medals were mounted, so as not to cause any damage, onto card covered in faux suede. Once mounted, the inscription plate was cut to size and both were fitted into the frame. 'Bendits', which are sometimes used in picture framing, were inserted to hold both the panels in place, so when the box was finished they could easily be put in place as with limited space screws or pins were not going to be possible. ➤


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17 Two veneered side pieces of ply were rebated into the sides of the frame which then allowed a bottom rail front and back to be jointed and fitted to allow clearance for the drawer over the door. When the unit was glued up it was then wrapped in cling wrap/film to stop it sticking to the box and screwed in position to keep everything square.

18 Next, the door was wedged and taped in position so the pivot point could be marked and drilled. This was worked out on test pieces first, so as not to make a mistake. Brass rod 3mm in diameter was used to form the pivot pin. The first hole would be filled with a 7mm plug followed by the 3mm hole for the rod passing through the side into the door. Fitted to a drill guide the holes were drilled upright. The door was held by magnets, with small steel screws behind the veneered front of the inner frame.

19 To allow clearance for the bottom edges of the door rounded grooves had to be cut with the router in the front of the rail on the inner frame and the bottom front edge of the box, with the restriction of the router base, the remainder of the groove was cut with a carving gouge before being veneered.

20 The lock and hinges were fitted in the same way as those in my article in issue 8 of *Woodworking Crafts*. With the box together the two inner drawers were made with lapped dovetails cut at the front and through dovetails at the back. The veneered bottom was rebated in before being veneered on the underside. Grooves were cut along the sides using a router and corresponding runners fitted within the inner frame. A Forstner bit was used to cut the finger hole before fitting the small handles into a rebate.

21 To tie everything together the plug over the pivot point, and the point formed in the finger hole by the Fortsner bit were plugged with small pieces of ebony. These small plugs were also used to form the black centres of the poppies. Once the inside of the box was cleaned up and polished, the brass rod could be cut to length and the plugs fitted.

22 The outside was then cleaned up and polished and the linings added to the inside of the top and the bottom. It only remains to thank Amber for her informative article and my friend for explaining how to mount the cap badge and medals. The letters and photographs are now safely protected for future generations. ■

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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FORSA SERIES

FORSA 3.0 • 4.0 • 4.1 • 8.0 • 9.0

Scheppach Forsa Series professional panel sizing saws are distinctively German from head to toe. German technology - German innovation - German quality - and five models to choose from offering between 1.6m and 3.2m length of cutting stroke. All Forsa Series come complete with patented integral motorised cast iron pre-scoring unit whilst still retaining a 107mm depth of cut for ripping solid timbers plus micro rip fence setting to within 1/10mm. (Additional rear support table and clamp supplied as standard with Forsa 8.0 & 9.0 P3 models only).

Forsa 9.0
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1.6m & 2.1m Panel Sizing Saws

Forsa 8.0
2.6m Panel Sizing Saw

Model	Product Group Series	Specification Includes (as per quoted price)	Machine HP / Scorer HP / Volts	Depth of cut & length of stroke	Price Exc VAT - Plus Carriage POA	Price Inc VAT - Plus Carriage POA
Forsa 3.0 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	5.2 / 1.0 / 415v	87 mm x 1.6 m	£2,600.00	£3,120.00
Forsa 4.0 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 1.6 m	£3,000.00	£3,600.00
Forsa 4.1 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 2.1 m	£3,500.00	£4,200.00
Forsa 8.0 - P3	Professional	As Illustrated above	6.5 / 1.0 / 415v	107 mm x 2.6 m	£4,650.00	£5,580.00
Forsa 9.0 - P3	Professional	As Illustrated above	6.5 / 1.0 / 415v	107 mm x 3.2 m	£4,895.00	£5,874.00

STC = Sliding Table Carriage. TWE = Table Width Extension. TLE = Table Length Extension. P3 models inc extra support table & clamp.

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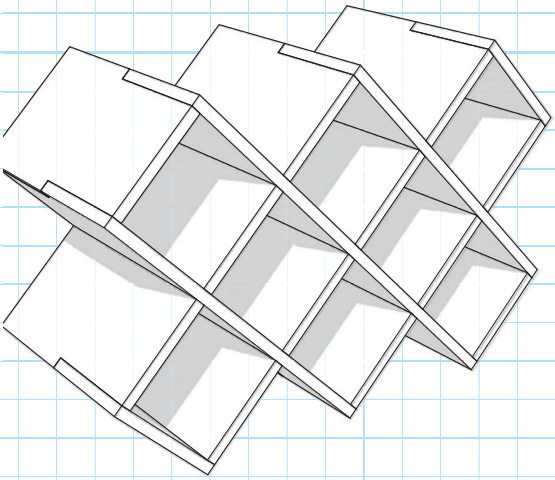
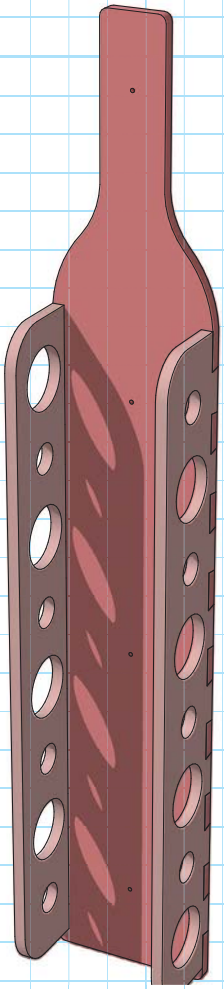
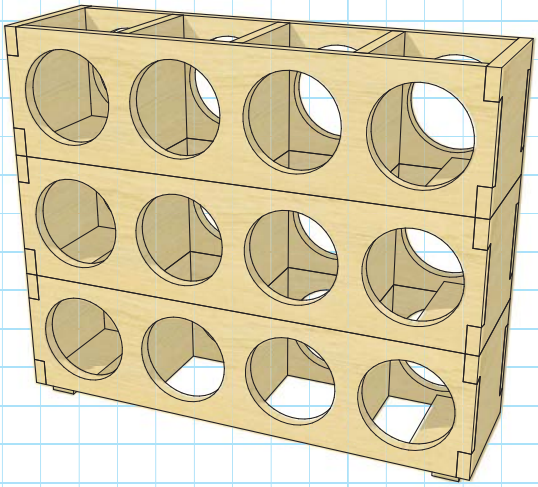
PLANS 4 YOU Wine racks

Simon Rodway shows you how to squeeze your wine collection into a neat and stylish storage solution







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

Cutting list

VERTICAL DESIGN

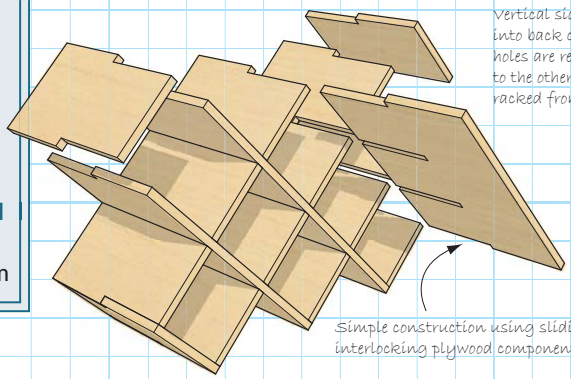
Back: 1 @ 1245 x 210 x 15mm
Sides: 2 @ 866 x 130 x 15mm

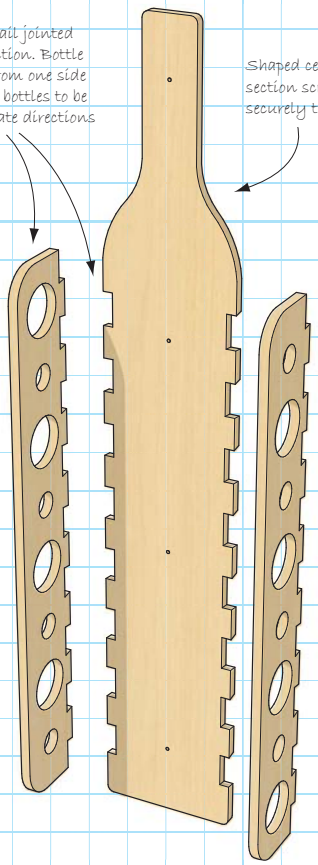
MODULAR DESIGN (per module)

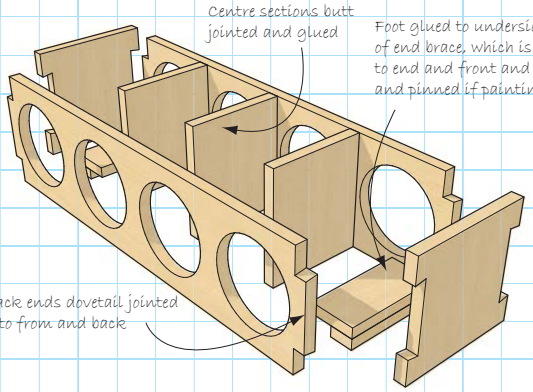
Front/back: 2 @ 460 x 124 x 12mm
Ends: 2 @ 130 x 124 x 12mm
Dividers: 3 @ 106 x 124 x 12mm
Brace/foot support: 2 @ 106 x 50 x 12mm
Feet: 2 @ 106 x 25 x 12mm

GEOMETRICALLY-SHAPED DESIGN

Long sections: 2 @ 405 x 180 x 9mm
Middle sections: 4 @ 306 x 180 x 9mm







A quick glance at any catalogue or web page selling storage for your wine bottles will reveal that wine racks come in a very wide variety of sizes, colours and shapes. The three examples I've put together here represent a small cross section of those types. As well as differences in appearance of course, some variation in method of storage is also possible, and with that in mind, I've included a wall-mounted, vertical rack, a modular design which can be stacked and a simple, geometrically-shaped rack, which is more sculptural in look.

Wall-mounted, vertical design

With space at a real premium in many homes these days, wine rack designs which not only can be hung from a wall, but can also fit in awkward corners or alcoves where height can be used to an advantage, have become increasingly popular. Whether or not you stick with the wine bottle shape on the wall-mounted type I've drawn, is up to you. It is a very simple thing to adapt this to your own design, but the principle of a single section screwed to the wall and two vertical sections dovetail jointed to it along either edge, holds good.

I've shown the holes for the neck and body of the wine bottles alternating on each side, which means they would be reversed in turn up the rack and the weight is more evenly distributed. The holes on the vertical rack are really only for standard wine bottle sizes, as sparkling wine bottles generally have a slightly larger diameter around the body, and also the neck.

This rack uses 15mm plywood, but you could quite easily use slightly thicker, solid timber instead. To get an even and symmetrical shape for the back, make a half template, trace the outline on one side and flip it over. The neck could have a hook or two added to hold corkscrews and other useful accessories. I've shown a nominal four fixings to the wall, in a vertical line, but adapt this to suit and space them horizontally if required.

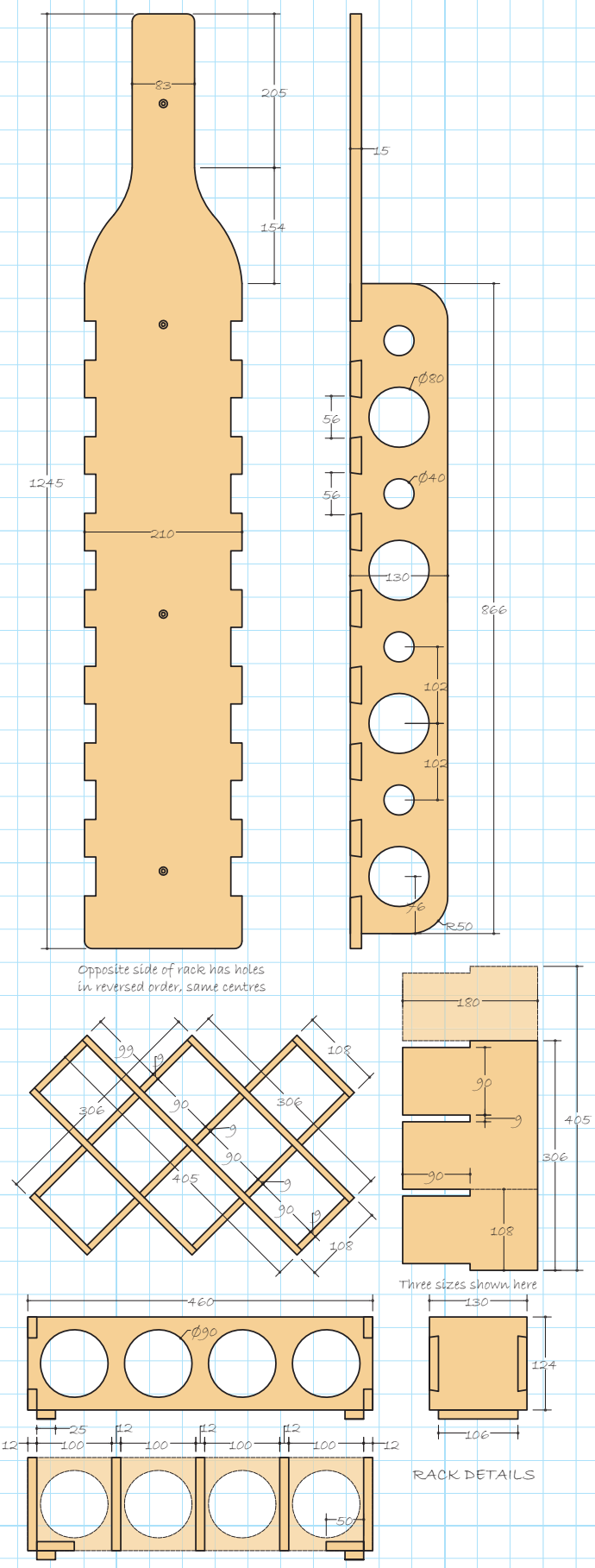
Modular design

The second rack of the trio is a stacking, modular type, all made from 12mm plywood or solid timber of similar thickness, and is essentially an open box with a dovetail joint at either end, butt jointed vertical dividers which are glued in place and small horizontal braces at the bottom corners to carry the feet and stop the box racking. Although I have also shown these braces with a butt joint as well, this should be strengthened by pins if you are painting the rack. If not, I would suggest adding a small stopped rebate along the bottom edge of the box ends to glue the brace into, so that the weight from each foot on the bottom module is transferred to the strong carcass of the box. The feet of course also act as locators when the boxes are stacked, and need to be sized and sited accurately at the ends so that they fit snugly inside the box below.

The modular design should fit larger bottles and uses the same diameter hole front and back so that only the body of the bottle sits inside the rack. Repetitive cutting of holes which are generally of a bigger diameter than usual could pose a bit of a problem, especially if you don't happen to have something like a hole saw in your tool kit. However, hole saws are available for under £10 online, so this might be a worthwhile investment at this point. Alternatively, a good old coping saw will do the job, albeit a bit more slowly!

Geometrically-shaped design

The third rack uses slightly thinner, 9mm plywood, and although it is really simple in construction, needs to be accurately set out and cut. I have drawn what is essentially a template for the components, and you can see from the elevation that there are only three sizes in length: 108, 306 and 405mm. These all have slots of 90mm depth (half the depth of the rack) as shown. In the case of the smallest component, the slots become notches along the leading edges. Essentially, one 'family' of components is angled one way and inserted from the front, and a mirror set is inserted at 90° to this and from the back. The interlocking structure provides the strength, so simple glued butt joints are sufficient throughout. Painting would be my preferred finishing method on this rack, helping to hide the joints and enhancing the crispness of the shape. ■



KITTED OUT

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

Tormek T-8

£499.96

The T-8 provides the best design possible for successful sharpening. Tormek have integrated the previously-mounted sleeves for the Universal Support into the fully cast housing, guaranteeing minimal play and improving control when sharpening, which ultimately increases the accuracy of the final results. The efficient drive system maintains a constant speed, even under full load and the user can sharpen all qualities of steel, including HSS (high speed steel). The SE-77 upgraded jig is used for square-edge tools, and it now has a movable side that allows for fine adjustment of the setting, ensuring a 90° corner or the option to create a shape with a camber.

Contact: BriMarc
Tel: 03332 406967
Web: www.brimarc.com

Printmaking micro tool set

£106.46

The set comprises six mixed-profile micro tools of 1.5mm, including MT11 chisel, MT15 skew, MT19 sweep, MT27 deep U, MT31 45° vee and MT39 90° vee. These tools are exceptionally useful for cleaning up ridges created by gouge cuts or getting in to tight corners. They are particularly good for carving fine details such as mouths and eyes or adding texture such as hair, fur and feathers.

They are fitted with comfortable ash handles and each has an overall length of 142mm.

Contact: BriMarc
Tel: 03332 406967
Web: www.brimarc.com

MINI TEST

Crown-registered mortise chisels

£25–45

These are a range of 10 sizes of traditional registered mortise chisels, featuring lacquered ash handles with double steel hoops to prevent splitting. The ground square section blade is fitted by a tang into the handle with a leather washer in between to reduce shock when struck with a mallet.

Verdict

If you need something heavier duty than a standard bevel chisel, that will chop out nice square mortises, then these will suit you fine. They are designed for taking a beating with a mallet. They have a steeper bevel than normal; I found the backs didn't require flattening first when putting an edge on them. Blade widths are available from 6 to 51mm. Good beefy chisels for serious work.

Visit: www.crownhandtools.ltd.uk

MINI TEST

Makita DHS680 18V brushless circular saw

Makita have a vast portfolio of powertool products and some recent additions really stand out, like this brushless model. The lack of brushes means the motor can deliver more power and a higher no-load speed than a traditional cordless tool of the same configuration. It is a powerful saw and capable of a wide range of tasks with its 165mm diameter rip blade. With a guide rail adaptor, it can work with Makita's guide rails, which come in 3 and 1.4m lengths, plus connector and clamps. In theory, with suitable work supports, you have an on-site combination that can tackle full panel cutting as well as cutting through 57mm timbers. It has a flip away tool hanger and 'fuel gauge'.

Verdict

A nice machine, with loads of staying power. Of course if you want dust extraction then you still have the inconvenience of a hose and a need of a mains supply. The guide rail system is as good as any other brand, but the fixed 3m rail poses handling and storage problems and could get damaged, whereas two of the short sections plus connectors are a better proposition.

I do have one gripe: those Makita saws which have a dedicated guide rail slot are fine, but some like the DHS680 need an adaptor. This is okay, except it comes with two short-pressed steel connectors and only one gets clamped. With the other one being short, the saw tends to 'yaw' from side to side, reducing the precision otherwise inherent in guide rail control. The simple answer is to make one connector long enough so it reaches the other clamp. Are you listening, Makita?

Technical specifications

- No load speed 5000 rpm
- Blade diameter 165mm
- Max cut depth 57mm 0°/41mm 45°
- Weight 3.3kg
- Accessories supplied include MakPak case, 2 x 4Ah Li-ion battery, guide fence, fast charger

Prices: £532.80
- 1.4m guide rail £55.20
- 3m guide rail £132.60
- guide rail adaptor £51

Visit: www.makitauk.com

Artisan safety razor kit

Featuring solid brass components throughout and a full-sized handle that can be trimmed to length if desired, these razors accept all standard double-edge shaving blades and are compatible with most razor stands. The exclusive threaded rod design of the Artisan Safety Razor Kit allows you to disassemble the handle as needed for cleaning or refinishing. Turn the body of the razor on a standard pen mandrel using a set of bushings.

Contact: Craft Supplies USA
Tel: (001) 800 551 8876
Web: www.woodturnerscatalog.com

MINI TEST

Stix Waterborne Bonding Primer

This is a premium quality acrylic urethane primer sealer which is claimed to adhere to hard-to-coat surfaces. It is certainly a heavy tin, suggesting a high concentration of solids, which do require thorough stirring to ensure they are at an even consistency. Being waterborne means low toxicity and brushes are very easy to clean up using warm water.

Verdict

For this test I tried two 'difficult' surfaces: one was shiny clear plastic display packaging, the other was clean white glossy tile. I found the coating would adhere in both cases, but could be scraped back with a fingernail from both surfaces. I then used 240 grit abrasive on other face of the plastic and coated that. This time the dried Stix wouldn't budge at all. The advantage over other primers is the density and propensity of the material to cling all over a surface that might normally reject some other materials. So it will hold on glossy surfaces, but is immovable on those with matted surfaces.

Prices: £34.50 for 946ml
Visit: www.generalfinishes.co.uk

The BESPOKE WHEELWRIGHT

The trade has been in decline since the early 1900s but **Mike Rowland & Son,** home to the world's only father-and-son Master Wheelwrights, is ahead of the curve, finds **Catherine Kielthy**

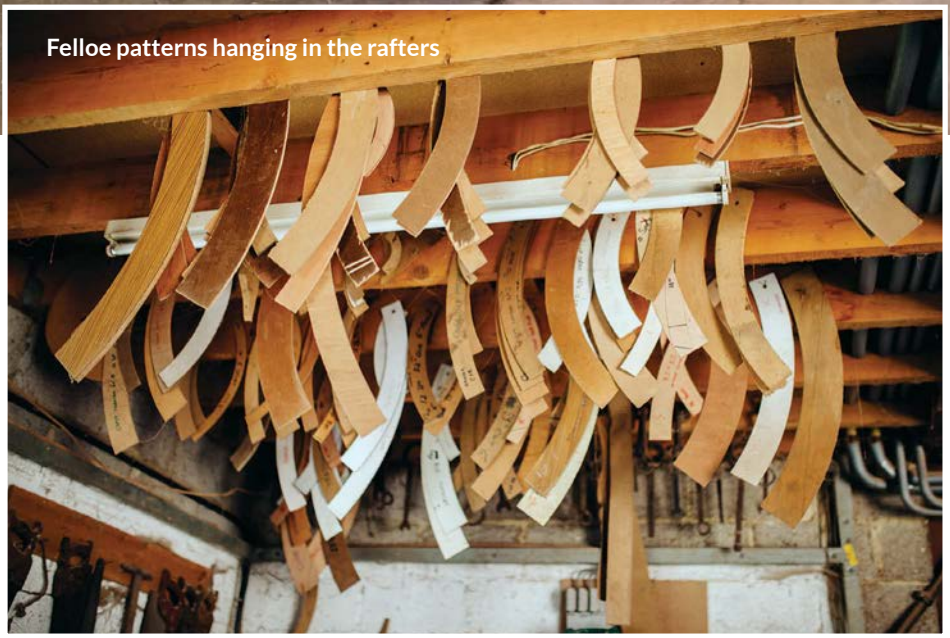
PHOTOGRAPHS BY MIKE ROWLAND & SON

If they hailed from the animal kingdom, they'd undoubtedly be protected under the Endangered Species Act. Why, they might even warrant an online petition and a mention in parliament. As it is the UK's largely unsung and sadly all-too-small band of wheelwrights rolls on unsung. Among this age-old breed is Devon-based company Mike Rowland & Son. The reference may at first appear derogatory, but fear not. It is, instead, a matter of historical fact. For this wheelwright to the Queen has a lineage that goes back nearly 700 years.

"My dad, Mike, started this business in its current form in 1964," explains master wheelwright Greg Rowland, "but it's traced in our family in a direct line back to 1331. We skipped a few generations in the 1700s and during the two world wars, but we've got the records since the early days because our forebears made the carts and wagons that carried the stone destined for Exeter Cathedral."

An impressive lineage and a royal warrant, about which Greg remains furiously tight-lipped, divulging only that the firm 'generally does any wheels and repairs to the vehicles as and when they are requested to by the head restorer at the team at Buckingham Palace Mews. All the painting and upholstery is done up there.' These aren't the only things marking the Rowlands out from the ➤

Wheels in various stages of restoration and build in Mike Rowland & Son's workshop



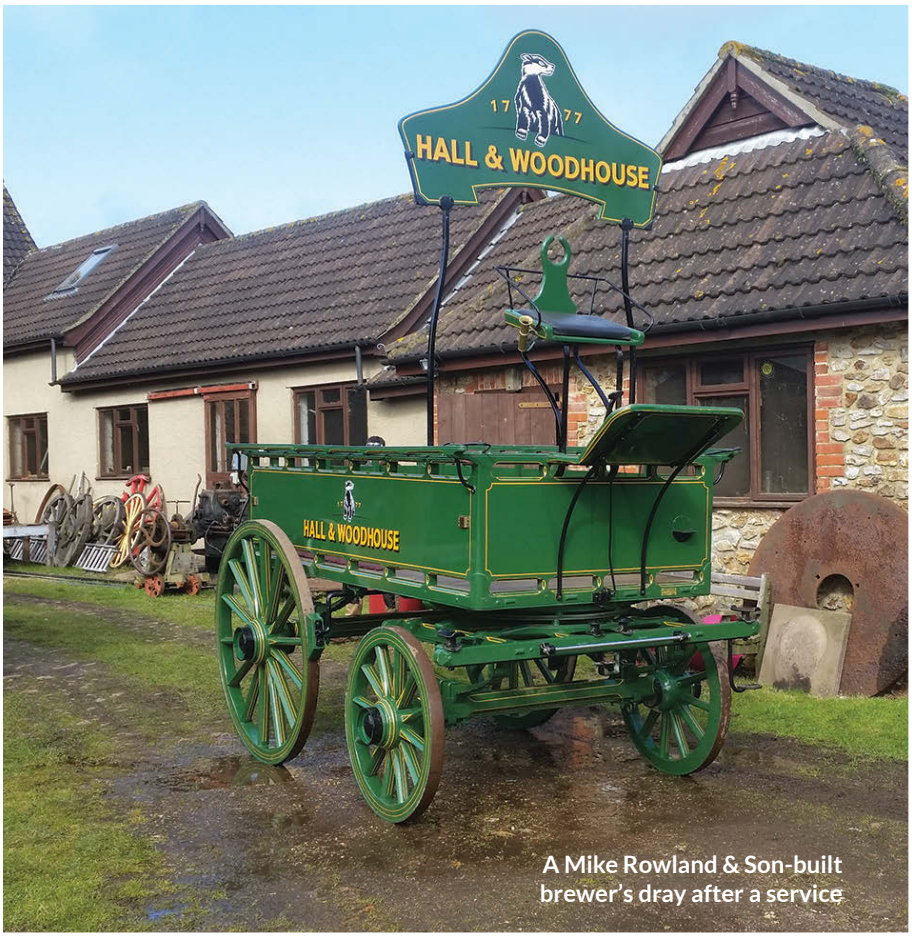
Felloe patterns hanging in the rafters

Greg tightens the wheel to the bonding plate

crowd either. At a time when fewer than 50 wheelwrights are listed by The Worshipful Company of Wheelwrights, Greg and Mike can boast that they are the world's only father-and-son master wheelwrights. No easy feat given the accolade is only awarded to those who have been in the trade for 10 years, who earn their living at it and who show exemplary work within it.

"The fact that me and dad are masters is lovely, as is the fact he got his after me!" laughs Greg, but quickly goes on to explain the unexpected timing. "Although dad is still fully involved in the company, as the lead partner I was granted my royal warrant in 2011 [only one person at a firm looks after the warrant at any given time; Mike received the honour in 2005]. Also, to have an apprentice, you have to be a master and I was responsible for training our new recruit George Richards. So, in 2014, I became a master. And then this year dad became a master in recognition of his lifetime in the trade."

We laugh about Greg and Mike as *Masters of the Universe*, but the achievement is awe-inspiring. And it's no fluke. It's taken blood, sweat and determination, especially given that Mike launched the business at a time when the trade was on its knees. "Back in '64–'70 nobody was doing it," explains Greg. "There were the old wheelwrights, but no new people because there wasn't a future in it – everything went to motor vehicle bodies." But Mike,



A Mike Rowland & Son-built brewer's dray after a service

who served his apprenticeship with Hansfords in Honiton, could see a way through the gloom. Today, the company builds and restores around 200 wheels a year, making it one of the UK's top wheelwrights. "To survive as a wheelwright you have to have a spectrum that is broader than making cart wheels, wagon wheels and cannon wheels from start to finish. We are also coach builders and can produce a complete vehicle from the ground up. Our brewers' drays are completely made here, from the bare wood and the length including finishing, painting, the lot. You end up with fully horse-drawn working vehicles like the drays and wagons for which we're famous."

Green credentials

Environmental factors have also climbed the priority list. "There is traditional timber set out for wheels and we use English wherever we can depending on availability. I do buy in some timber if I haven't got what I need. And if I'm being honest, I think that's normally American. But we keep a wide berth from rainforest timber because it's just not ethical. A lot of restoration work used to demand iroko, but people are shying away from that, too, because some of its sources can't be truly verified. We do use sapele – as people would know it's poor-man's mahogany – as it looks nice in a vehicle when it's finished and it's environmentally friendly. We also have a shavings-burnings stove in the 'shop, so all the shavings are swept up and ➤

Several fire engine wheels have been worked on by the Rowlands, including those for the Wiltshire Fire and Rescue service wheeled escape here and a set for a 1880 hand-drawn emergency vehicle (*inset images*)

Hot wheels – and how to make them

With a wooden cart wheel, Greg starts by turning the nave or hub – generally seasoned elm. Marks are then applied where the oak spokes are to be mortised into the hub. The mortises are angled for the spokes, which are dished, or slanted outwards from the centre. Tenons are sawn (if square) or a hollow augur is used (if round). The spokes are shaped with a drawknife and spokeshave and then carefully driven into the hub. The ash felloes, i.e., the band-sawn shaped blocks that make up the rim of the wheel, are bored and dowels fitted to hold them together. The felloes are then positioned onto the spokes with a spoke-dog tool. Next the wheel's circumference is measured and Greg calculates how much needs to be taken away (this is done by adding all the gaps that have to close together and then adding 'the nip' or the amount to shrink it). The iron tyre hoop is then bent with a roller and cut to length. The ends of the iron are welded together before Greg and his father Mike place it in a fire. Mike and his wife Doreen wait for the hoop to reach the right heat – which Greg describes as a dull cherry temperature or just hot enough to burn wood if it touches (never white hot as the tyre would melt or buckle and twist). When it's ready, Greg and Mike remove the hoop and it is fitted over the wheel as quickly as possible. Mike uses tyre dogs to pull the tyre over the wheel, while Greg taps with a sledgehammer as soon as it is in place and Doreen holds it securely with a heavy steel tamper so that the men don't end up chasing themselves. The wheel is cooled with water and the hot expanded metal contracts and shrinks with the cold, pulling everything together under massive pressure. Greg rolls away the finished wheel.

burned to convert into energy to heat mum and dad's flat which is above the 'shop! Nothing is wasted."

Even with expertise, experience and environmental factors ticked off, the firm needs to be innovative and adaptable to survive. "I also specialise in guns and cannons and get a lot of work from the military. I have work for various gun restorations and private customers' gun collections."

Heavy metal

This specialism links into Greg's former career. "I joined the army when I was 16. By trade, I was a vehicle mechanic, but I also learned blacksmithing. When I left the army I set up a blacksmith forge and then, when I was 21 or 22, moved back to dad's workshop and did an apprenticeship. But I also brought the metalworking in-house. Everything about making wheels for carriages, wagons and cannons uses metalwork and it's a major way in which we differ from a traditional joiner's shop – we produce rather than buy things in. And we're always making tools for different jobs because the tools and machinery we need are gone."

Perverse as it may seem, another factor affecting the business is the sheer robustness of the team's work, which is the very opposite of built-in obsolescence. "When we make something it doesn't break or wear out. So you don't get it back in to repair it. Also, we use modern techniques, such as roller bearings, so we're sort of doing ourselves out of a job really. It's always about generating new business and new customers."

Some of the firm's previous projects have involved commissions for BBC2's mini-series *Gormenghast*, for which the team had to make 10ft-high, watertight barrels; a request to make all the barrels and buckets for hit 2000 film *Gladiator;* and making the wooden bicycle wheels for C4 show *How Britain Worked*. Greg also enjoys his gun and cannon commissions, but whatever the work, the process ➤

One of a pair of Showman's caravans built from scratch by the Rowlands

is time-consuming and complicated. A general wagon wheel, for instance, might take Greg, his dad and George a day and a half to make; a full set of four wheels would take one wheelwright about seven days to complete. It's hard, physical labour, but 79-year-old Mike is still working full-time. "He's down at 7.30am every day – and he might only work until 4pm… I don't poke him with a stick, but I do deliberately give him things to do. I've only got 25 years' knowledge, you see, whereas he has more than 50 years behind him."

'It's all great'

Looking to the future, Greg is optimistic. He has around two years work lined up and "no sign of any let-up in business coming in". And he clearly intends to carry on in the trade he clearly loves. "There's always something different, you're never going to get bored. It is hard, hard work; all wheelwrights have tennis elbow and bad backs. But there's so much enjoyment – and seeing an old 1902 car going down the road on things you've made, or seeing a gun fired that you've restored, it's all great."

Contact details

To enquire about a commission or one-day 'interest' courses, where visitors can get to make and bond a wheel, go to www.wheelwright.org.uk, email enquiries@wheelwright.org.uk or call 01297 552562

Above: A cadet cannon set tailored to enable 11–18 year olds to participate in a form of the Navy's field gun run

Left: Apprentice George Richards hones his skills in the workshop

Behind the wheel

In its solid form the wheel dates back to between 5000 and 3500BC in Mesopotamia. But the structure really began to make inroads with the advent of the spoked wheel, in existence in Asia Minor by 2000BC, which lightened the structure while retaining its strength. From this time, responsibility for building and maintaining these spherical wonders has fallen to the wheelwrights, described by The Worshipful Company of Wheelwrights as those who 'make and repair all types of wooden wheels and the vehicles they go on including carts, carriages, veteran motor cars, hand carts, wagons, drays, trollies, Romany caravans, traction engine living wagons, bicycles, artillery pieces, wheelbarrows, traps and wagonettes'. With the exception of using more commonplace materials, their basic means of making wheels for horse-drawn vehicles has changed little since the 17th century. What has shifted dramatically, however, is the demand – or lack of it – for the wheelwright's skills. From a figure of some 23,000 wheelwrights at the beginning of the 20th century, there are now fewer than 50. As The Worshipful Company of Wheelwrights explains: "With the development of the first bicycle and then the motor car, not only did the craft rapidly diminish, but also its very language has almost been forgotten."

For more details about the history of the craft as well as The Worshipful Company of Wheelwrights, visit www.wheelwrights.org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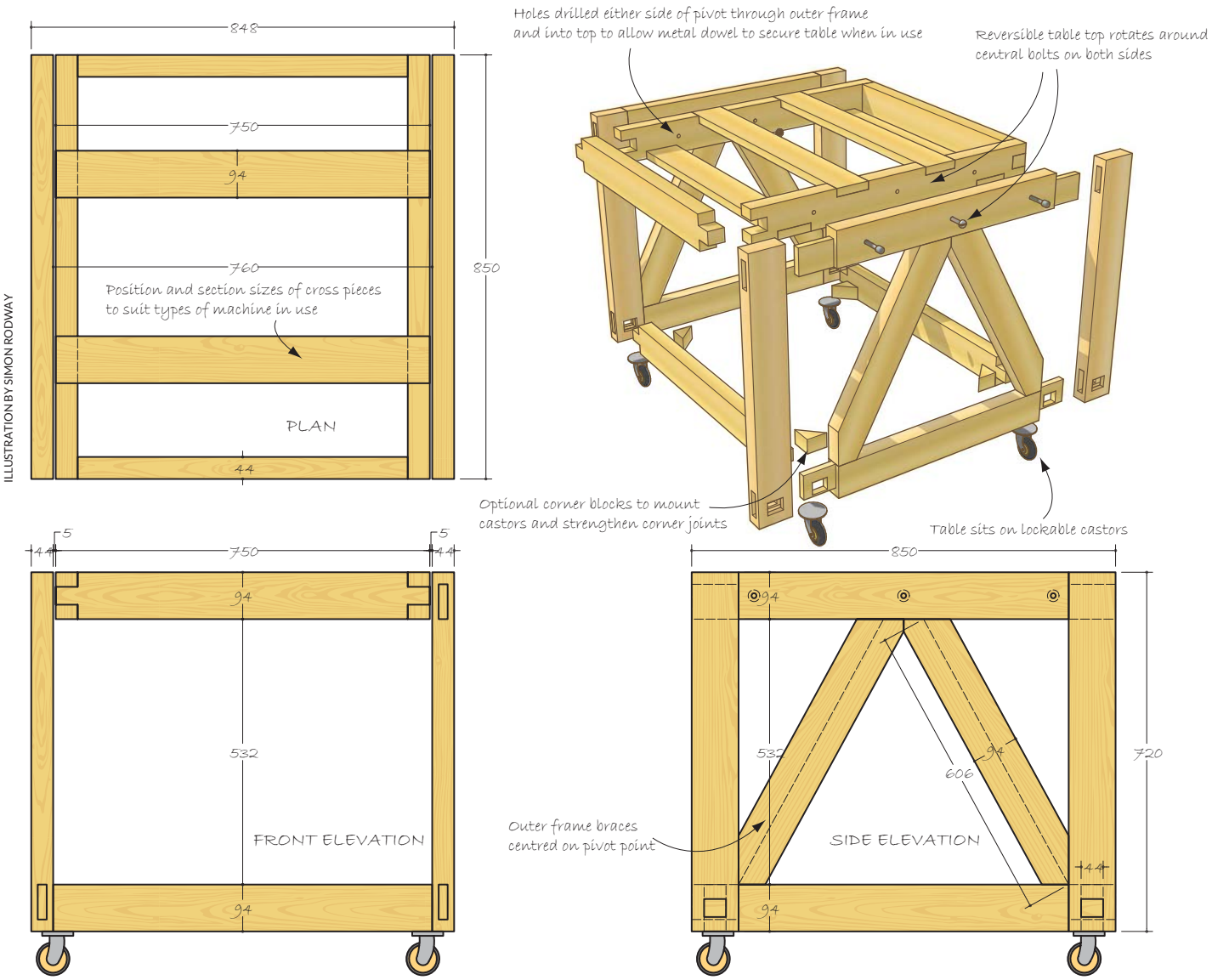


ILLUSTRATION BY SIMON RODWAY

Tip-over machine table

If you're in a tight corner then this device could flipping well work, as Alex Burnett explains

Irrespective of the extra 3.7 metres added to the length of my workshop it still seems to lack space and is getting too congested with large tools and other stuff that shouldn't really be there. The larger things, such as a planer/thicknesser and a 405mm drum sander take up space, so it was time to sort these two machines out and make room for some more miscellaneous stuff. The answer is having two tools occupying a single space with the tip-over table.

Making the table

This is the first table I have made, there will be at least one more to follow. The table is constructed with the two outside rectangles joined together with mortise and tenon joints, I made these out of recycled 100 x 50mm softwood. The frame is designed to resist the tendency for the vertical legs to spread under the weight of the machines mounted on the table. Any holes in the recycled wood were filled up with car body filler, which works very well, and were then sanded down and painted. The table is fitted with 100mm swivel castor, braked wheels. Taken together these two items are quite heavy, so as well as the spread-resisting mortise and tenon joints I have added the inverted ➤

When the sander is underneath it sits in the space between the table frame sides. The base moves on lockable castors

PHOTOGRAPHS BY ALEX BURNETT

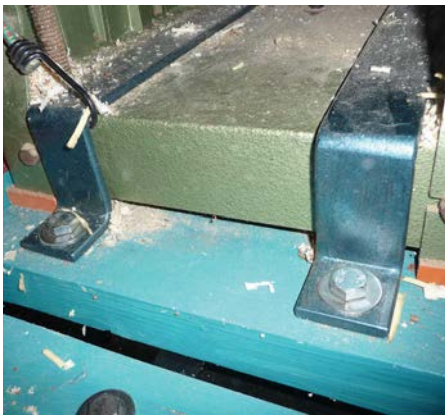
Rotating the table to bring the planer uppermost ready for use. Care is needed when rotating this load

'V' shape to take the weight, which is concentrated on the two bolts at the centre of the top rail one each side. It wasn't likely the two items were going to be equal in weight so I just balanced them on a roller dowel to find the centre of balance for each and used that for locating each item on its respective table. Given the freedom to decide this is where the table would finish up, plainly the planer/thicknesser is heavier than the drum sander so care had to be taken when revolving heavy items. Note the two holes on the top rail and almost matching holes on the rotating table. There are knobs attached to a metal dowel that passes through the top rail and the rotating table to hold it securely in place, there are two holes on each side to allow for securing from either side.

Another important consideration when planning such a table was to make sure that the extremities of the tools that were to be rotated would clear the cross rail that joins the two rectangular frames together, this was determined by measuring from the point of balance to the furthest point the tool has from that point. I added a couple of inches to allow for the distance to the bolt around which the table rotated, which was below the point I used to determine the balance point. To find the point of balance, I slid a length of dowel under the tool and rolled it back and forth until I achieved balance and then marked the spot with a marker pen.

Measuring the distance from the pivot point to the furthest point and then drawing this radius provides confirmation that the tool will rotate and not interfere with the cross brace. Small discrepancies with clearances could be overcome by moving the bolt holes up a little.

I used long M10 bolts with enough unthreaded shaft to clear the rotating table to prevent the threaded portion cutting into the wood. They are fitted with penny washers at the outside, between the table and frame and on the inside where they are secured with lock nuts. It didn't really matter what size the table was, as long as it was wide enough to be stable and not top heavy, which could be a problem. The power leads need sorting out – you can see them under the table – I have now shortened them to stop the ends flapping about and avoid the danger of them getting damaged as the table is rotated. The planer/



In this case the planer fixing points weren't convenient so steel straps were made up to hold the planer base securely on the table

The all-important pivot point with bolts and washers. Note the red paint used to indicate a finger trapping risk

thicknesser has a dust collection attachment. I need to find a place to attach it on the planer side of the table to make it available when needed as well as being out of the way when not needed. This photo above shows the table with the sander on top and the red paint to warn of finger trapping danger. The sander is operated at right angles to the planer/thicknesser. Note also the size of the table in relation to the tools mounted on it, they are at fairly close tolerances to prevent the table getting too large. Because of the inconvenient location of the mounting bolts for the sander, I had two brackets made, which slipped through the unit and were bolted in place on the appropriate cross beam.

I have been using the table for a few months now and all seems well, of course I have managed to fill up the space gained leading to my next tip-over table! Good luck with yours and please MIND YOUR FINGERS. ■

Swapping over to the drum sander, which is perpendicular to the planer feed direction. Note the planer mains cable wrapped around the infeed table

The sander now ready for use. The two locking pins that keep the table fixed are visible on the table frame

Alex Burnett

Joining the army at 16, Alex later became a Yeoman of the Guard, completing some 25 years on the active list. He was presented with the Royal Victorian Medal by Her Majesty the Queen, for his duties with the Yeomen of the Guard. He also joined the Defence Courier Service after leaving the army. In the intervening time, he has refurbished a cottage in Cornwall and completed a woodworking course.

Woodland ways

When is a stove not a stove? When it's a 'log' stove, of course!

Swedish Flame
Travellers Candle
Canadian Candle
Swedish Fire log
Nordic Lumberjack's Candle
Canadian Swedish
Log Candle FireTorch
Swedish Log Candle

A dry log and a chainsaw are all you need to keep warm and cook, as Gary Marshall finds out

Having had my attention caught at the Weald Woodfair some years ago by some upright logs burning away to themselves, I've always fancied seeing if I could use one to cook on – initial failure…

I saved a couple of seasoned silver birch logs and further dried them out indoors, for some months. Using a chainsaw I then made the customary cross-shaped cuts these natural stoves require, about three-quarters of the way through the length and filled the cuts with flammable wood chips and dust. To encourage burning I melted some candle wax into the 'punk' (flammable mixture).

Initially, I found the log burned well, but disappointingly it slowly smouldered and then went out. This, despite considerable blowing on and modifying the embers. I was never going to be able to cook anything on this.

Here's how I eventually succeeded, stage-by-stage:

I visited one of my log piles and selected a dry, well seasoned chestnut log to position in the ground. I cut a cross deep into the length of the log, it could have been cut deeper for a lengthier burn.

I gathered lots of dry material (as shown) – dry stems of cow parsley, bramble and nettle, plus a few small dead dry twigs and some papery birch bark.

I set fire to the log and kept feeding the cross-shaped cut with dry material until the flames really got a hold.

PHOTOGRAPHS BY GARY MARSHALL

I started cooking – a bit like boy scouts all over again...

Eggs-actly as planned, the frying pan was heating up nicely.

With the pan removed you can see how effective the flame really is.

After an hour's burning, my make-do stove finally burnt itself out. ■

A burning desire

Gary mentioned he saw Swedish fire logs at the Weald Woodfair – well I saw them at last year's Surrey Hills Wood Fair and I was impressed, but as Gary has had a go I didn't want to be outdone.
I found some pine logs near the GMC workshop going begging.
I chose ones that weren't too big in diameter and cut a long and a short piece. I don't have or use a chainsaw, so I used our big Record bandsaw with a coarse Tuffsaws blade intended for cutting wet or deep wood to make the cross slots.

The pine seemed very dry, I placed it on our very own 'pebble beach' at home and tore up some thin strips of dry birch bark, pushing it deep in the cross shaped gaps. It took one match and the birch caught alight immediately, then waiting pensively I was rewarded with the inner corners of the pine starting to blacken, then glow. Fairly quickly the flame took hold, it seemed almost unstoppable.

A bit more bark and a match and the log candle took off like a rocket!

Eventually it calmed down enough to boil a kettle and make tea. The next morning the reduced embers were still gradually smouldering away to nothing. I'm so impressed I'm going to prepare more log candles for parties or sitting outdoors to add warmth to the late evening air....

The Editor

Next month...

Gary Marshall discusses part III of a woodland management plan

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.

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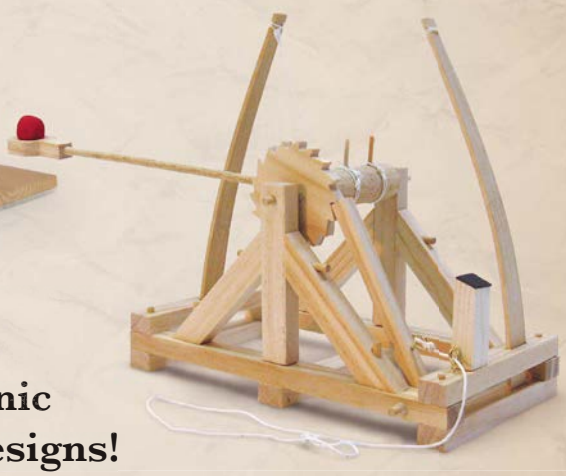

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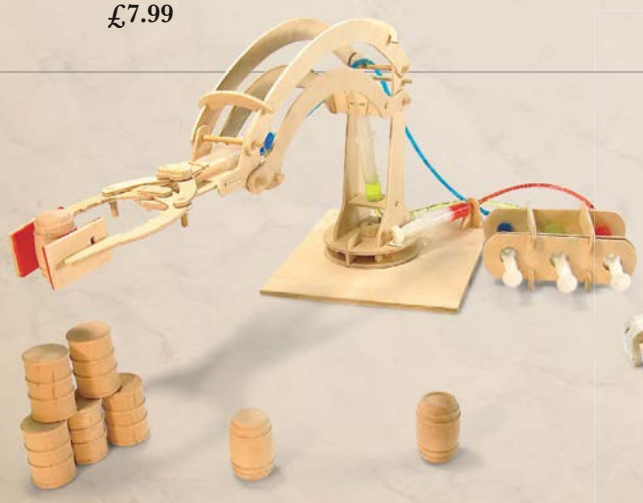

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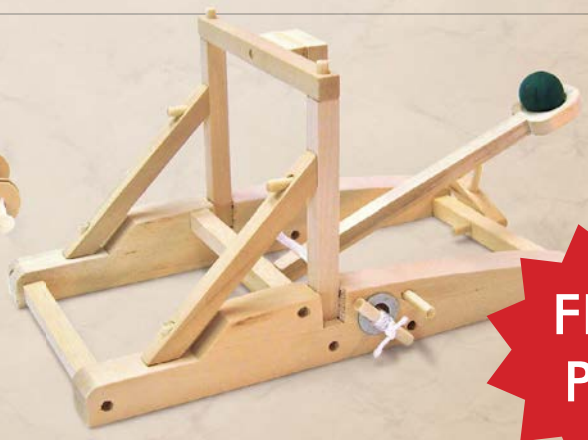

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The Record TS250RS tablesaw

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Record TS250RS tablesaw

After 18 months the Editor finally dusts off his Record TS250RS user report

A 'planer' cut is very easy to achieve with a general purpose blade

It's arguable what the most essential workshop machine should be, but if you have space and money, a tablesaw makes so many things possible. We have had this newest version of the TS250 in the workshop for some time and had plenty of use out of it. It comes with a dimensioning table which can be added or removed as required. Fortunately when it first arrived in 2015, I took a series of assembly photos which show what was involved in getting it into action.

Assembly

The base and outrigger are fairly easy to bolt together, then the basic machine sits on top of that. What the photos show is the fact that the bolt holes didn't line up properly due to a miscalculation at the factory sheet metal bending stage. It wasn't by very much, but it took some force with clamps to bring the holes into line.

At least, once properly seated, the machine wasn't going anywhere! After that, fixing the other components such as the switch/socket and tables wasn't tricky, apart from extension table alignment with the cast table using a straightedge for checking. One improvement over the original version we had, was that the sliding table fitted with minimal adjustment to level it end-to-end. You definitely need help to put the whole thing together and manoeuvre it into the desired position in the workshop. If you want to work without the dimensioning table, it has to be unbolted from the swinging support arm which is inconvenient. It also sits noticeably higher than the other table surfaces.

Fine tuning

Apart from levelling the tables the fence slide bar needs setting at the right height end-to-end so the fence will slide smoothly across both the cast table and the right hand extension. The fence scale is fixed and cannot be adjusted, but more on that later. There really is nothing else to tweak, the table saw is ready to go.

Usage

The rip blade that comes with the machine gives a fair cut but we are fussy about blades in the GMC workshop. We have a fair selection available ➤

The base is four parts bolted together


I used clamping to align the Allen bolt holes


The switch block is flipped out of the casing before screwing in-situ


The sliding table sits on adjustable grub screws, the packing pieces in-between not needed


There is a risk of the arbor washer and nut disappearing down the chute


Slim strips easily get caught around the blade or lower down causing blockages

and usually mount top-grade Irwin Marples blades as they give a very good result. This choice also helped to show whether the machine was set up axially correct, which I'm pleased to say it was. After trying out the dimensioning fence, we decided that with space being an issue, most of the time we wouldn't use it as we could fit the mitre protractor on the sliding table.

Opinion

This machine is very well-behaved, cutting wood nicely. However, let's not forget this isn't a professional model, so it lacks certain things you would have on a more expensive model. It has adequate motor power but on maximum thickness solid timber, it can be brought to a halt if you feed too quickly or use a blade finer than a rip blade. Certain timbers like oak are notorious for binding on a blade; I often whack a wedge into the cut as it passes the riving knife. The TS250-RS fence can be withdrawn to the ripping position which helps.

The scale cannot be adjusted which is perverse as not all sawblades are the same thickness and there is no means of visual fine setting of the cut although it does have fine fence adjustment. Test cuts are needed for an exact setting check. It would be possible to file the scale mounting holes to give a degree of lateral adjustment.

The most awkward feature is blade changing. This should be the easiest thing, and while removing the infill plate is easy enough, like the original model, the plastic housing around the lower part of the blade which feeds the extraction, is quite restrictive to the hands when removing and refitting the arbor nut and plate. If these drop down the chute, you need to access the extraction pipe from the outside to retrieve them. To get the best from this machine, it is important to change blades to suit the material, so Record really need to look at this issue. Slim rippings can get lodged in this housing and must be removed to keep the extraction clear.

Crown guard extraction rarely works well on tablesaws and this one is no exception. However, my colleague Derek Jones fitted a powertool extractor to the machine and the difference was noticeable, while the main outlet delivered waste to our large extraction unit.

Verdict

If space is an issue, an alternative would be the version without the sliding table. Overall, despite several gripes, this is a very capable machine which we use almost daily in the GMC workshop. It is a relatively low-cost solution compared to the much better-specified professional machines.

I frequently use it to square off stock so it can go straight through the portable thicknesser, so it must be pretty accurate. I think it's fair to say I actually enjoy using it because it does what I want it to. ■

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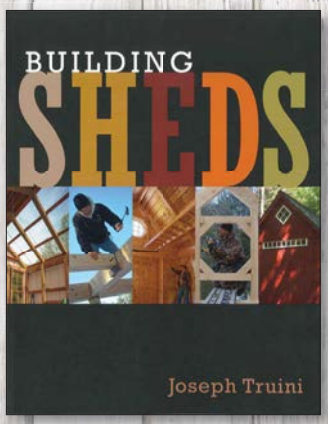
BOOK REVIEWS

This month, Vanessa Sutcliffe reviews three books for you to enjoy

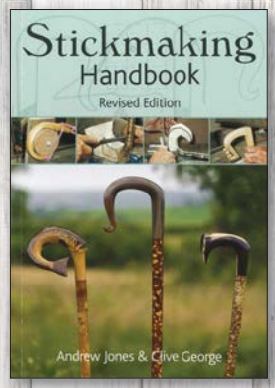
Building Sheds
by Joseph Truini



These are sheds, but not as we know them! The humble allotment-style UK garden shed pales into insignificance alongside these American beasts. Even the first project for a timber-frame garden shed looks more like a roomy summer house. However, this is by no means a criticism of the book; the reader should not be daunted by these seemingly ambitious projects. The five designs are stunning and the process for each is clearly laid out, starting from laying the foundations through to final finishing techniques. High resolution images, each of which is numbered and referenced from the text, guide the reader throughout, along with Helpful Hints and Tool Tips on almost every page. Diagrams provide structural dimensions, with all measurements given in feet and inches. Further reassurance on technique and equipment is supplied in side panels that appear regularly through the book. The Design Details at the end of each project give close-up images with captions, of the finished design. The introductory chapter of the book provides an insight to methods and materials for shed-building. Overall, this seems an easy-to-follow and inspiring resource.

ISBN: 9781627107709
Price: £16.99
Web: www.thegmcgroup.com

Stickmaking Handbook
by Andrew Jones and Clive George



This revised edition is based on the handbook published in 2007. Although undoubtedly most appealing to stick enthusiasts, this will also become an essential guide for any amateur craftsperson, interested in learning the techniques involved in making a range of traditional sticks. The processes are shown in a clear, straightforward manner, using a wealth of diagrams and photographs. There is a lovely initial section on the woods used for stick making, with images and descriptive text for tree identification. Valuable information is provided on where to source raw materials from and how to cut and season the wood. A total of 21 projects are included, featuring different materials and styles of stick.

ISBN: 9781861086389
Price: £10.99
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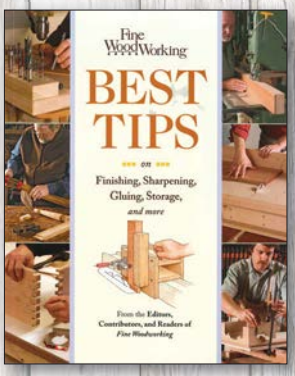
Best Tips on Finishing, Sharpening, Gluing, Storage and more
by the Editors, Contributors and Readers of Fine Woodworking



Woodworkers are always on the lookout for clever tips or new twists on techniques. As with other Fine Woodworking publications, this book is compiled from the perspective of sharing knowledge between all levels of woodworker. The wide range of tips included are derived from the Methods of Work column, featured in Fine Woodworking magazine since 1976. The tips are given under a comprehensive list of chapter headings and sub-headings, which help to direct the reader to exactly the section they need. Jim Richey suggests in his Introduction, that users of the book will be led to exclaim, "I wish I thought of that." Clear images and beautifully simple diagrams enhance the concise blocks of text under each subject. It is pleasing to see that no distinction is shown between tips given by professional or amateur woodworkers. This collection of woodworking ideas will certainly become a useful reference for any workshop.

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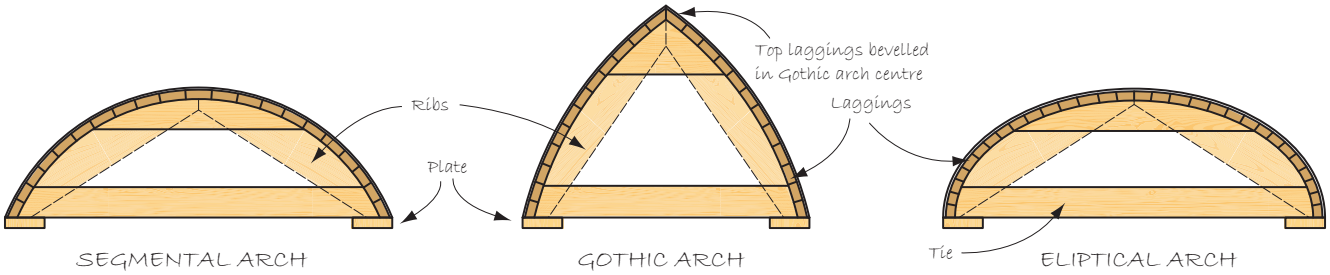
WOODWORKING GEOMETRY

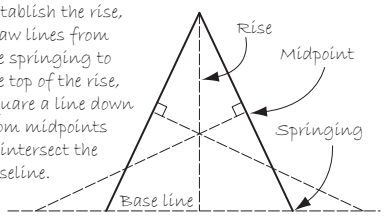
Simon Rodway takes a look at formwork for arches

One of the biggest challenges in building arches from masonry, lies in providing temporary support whilst construction proceeds. It took the engineering expertise of the Romans to really develop this technique. The mighty aqueducts and domes we associate with Roman civilisation would have been impossible if they had not first learned how to build the timber-supporting structures or formwork required. The simplest type of 'form' or support is the turning piece, which is just a shaped section of timber. However, arches with a greater span and rise than simple door-sized openings, will usually require the construction of a 'centre' or framework, examples of which are shown below. ■

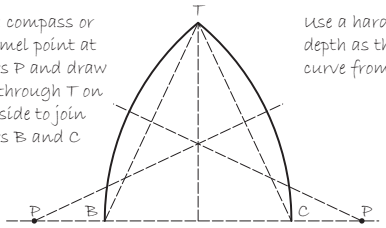


SETTING OUT A GOTHIC ARCH

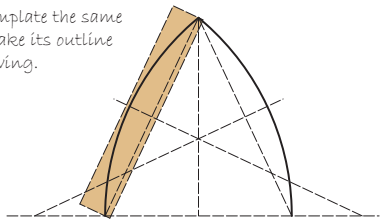
Establish the rise, draw lines from the springing to the top of the rise, square a line down from midpoints to intersect the baseline.



Set a compass or trammel point at points P and draw arcs through T on each side to join points B and C

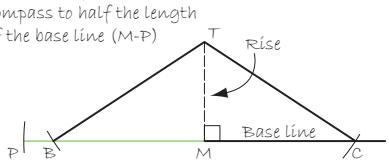


Use a hardboard template the same depth as the rib to take its outline curve from the drawing.

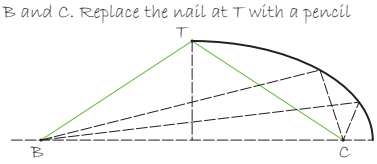


SETTING OUT AN ELLIPTICAL ARCH

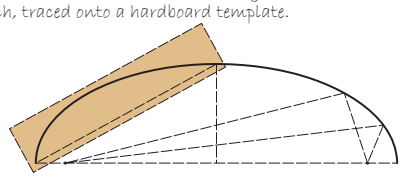
Draw a line perpendicular from the midpoint of the base line (springline) to the top of the rise (T). Set the radius of the trammel or compass to half the length of the base line (M-P)



With the trammel or compass point on T, draw two arcs to intersect the base line, at B and C. Place a nail or screw firmly in the board at B and C and also at T, and stretch a piece of string from B through T to C (green line), securing at ends B and C. Replace the nail at T with a pencil



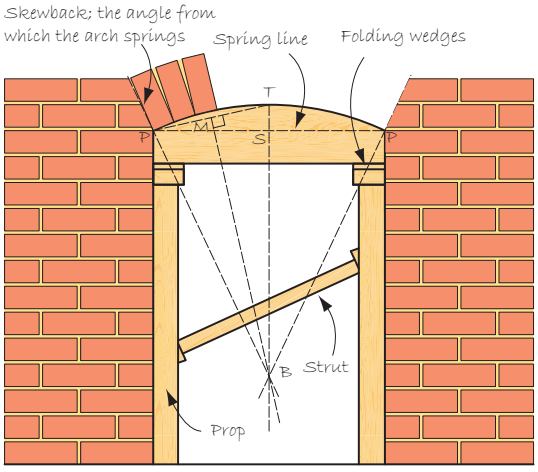
Moving the pencil inside the stretched string, draw an arc using the string as a guide and keeping outward tension on it throughout. Rib outlines can be transferred in the same way as the Gothic arch, traced onto a hardboard template.



Skewback; the angle from which the arch springs

Spring line

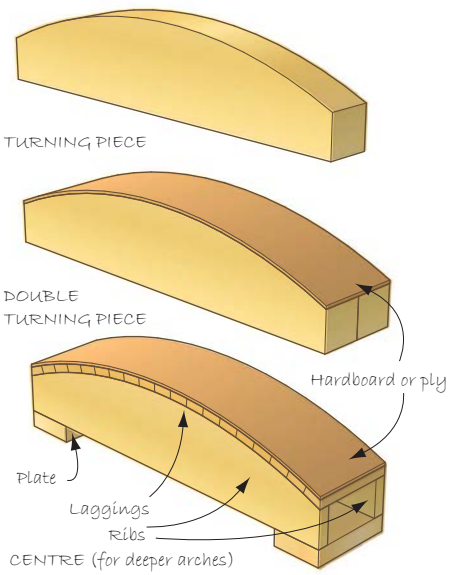
Folding wedges

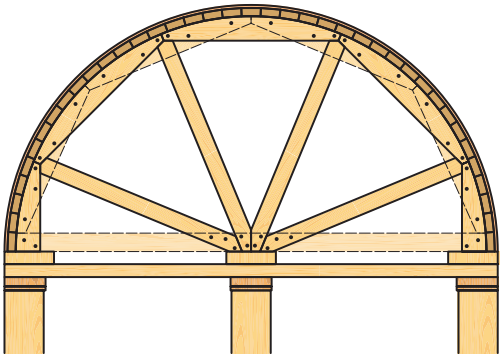


SETTING OUT AND CONSTRUCTION OF A SIMPLE SEGMENTAL ARCH

For smaller spans with a relatively small rise, simple turning pieces, a shaped solid timber section, can be used, paired up for deeper arches. If the arch is too deep for this, a simple centre can be constructed, as long as the rise and span remain small, with ribs at 300mm centres, and noggins between to prevent twisting.

To set out this type of arch, establish the span and bisect the baseline up to the top of the rise (T) and also downwards. Draw a line from T to the springing point P. Bisect this line with a perpendicular from the midpoint M and where it intersects the centre line is the centre or striking point of the arch. Lines drawn from B through P on either side give the angle of the skewback.

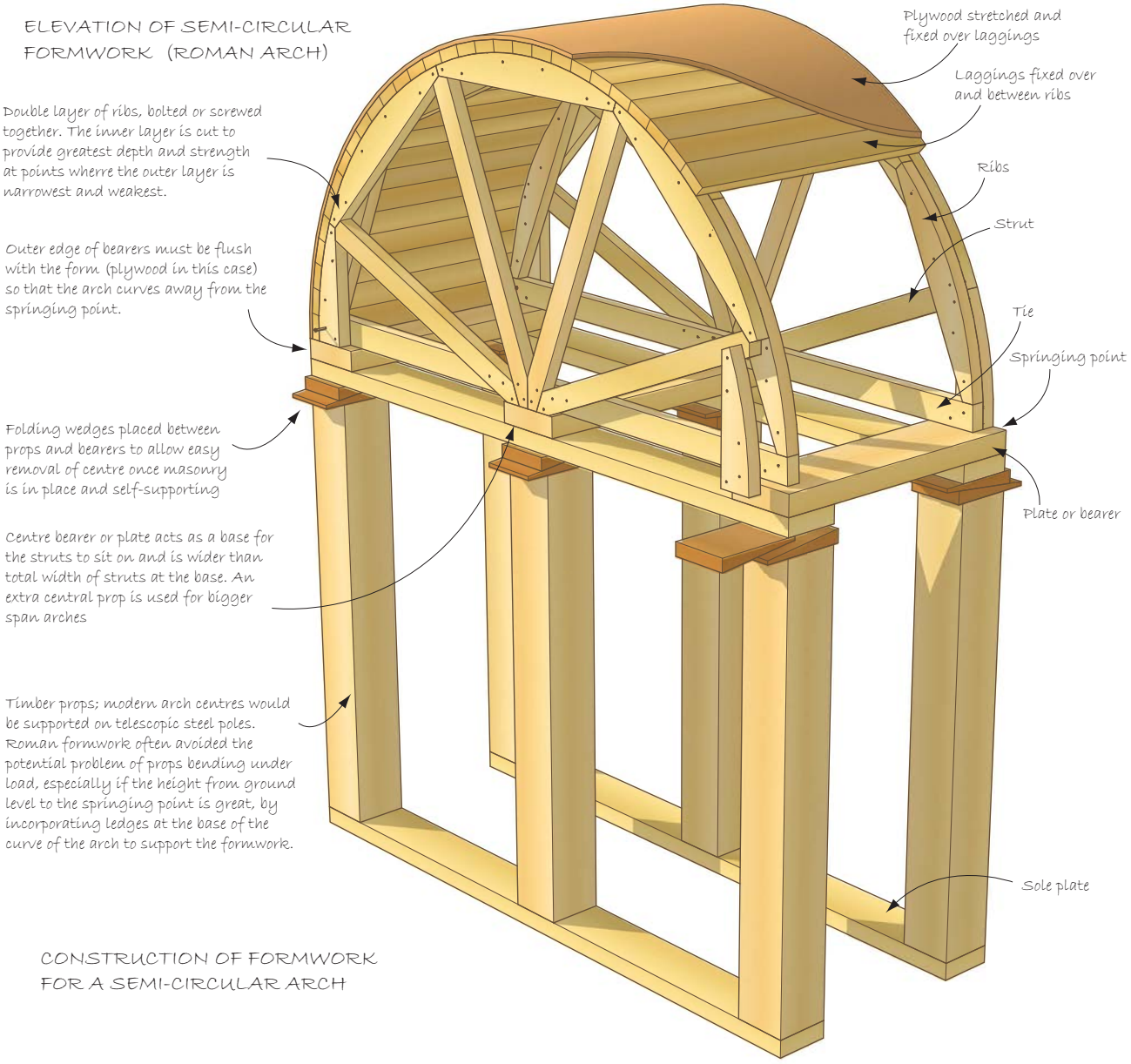




The semi-circular formwork shown here produces an arch seen so often in Roman architecture and engineering that it has given its name to the shape. The Romans were not the first to construct arches and domes of this type, and examples dating back to 2500BC have been found in the Sumerian city state of Ur, amd in the ancient Etruscan area of Italy that pre-dates the rise of Roman engineering.

In a semi-circular arch, the framed "centre" has a rise half the length of the span. For smaller span arches, simpler structures with a few ribs (see Segmental centre here) are sufficient, but as the span increases the complexity of the construction and the number of ribs required increases, with the addition of struts to increase the rigidity.The semi-circular cente shown here is designed for a span of up to 3.5 metres approximately.

ELEVATION OF SEMI-CIRCULAR FORMWORK (ROMAN ARCH)



CONSTRUCTION OF FORMWORK FOR A SEMI-CIRCULAR ARCH

Masonry is often capable of withstanding enormous compressive stresses, but relatively little tensile stress. Timber, on the other hand, has the reverse property, and is a very efficient material in tension; put simply, you can apply a bending force to timber, which it will resist, and even deform before breaking, whereas masonry will simply shear or break. These complimentary properties make the two materials (masonry here covers a wide range from stone to concrete) ideal companions in the construction of arches and domes. Once an arch is complete, it is what is known as a compression form, eliminating tensile stresses and the forces acting in an arch are carried to the ground in the form of thrust; an arch will always push outwards at its base, and the lower the rise or to put it another way, the flatter the curve, the greater the thrust outwards. Gothic arches were developed to take advantage of this, as the pointed arch can have a much greater height relative to its span, and thus has much smaller outward thrust at the base. The construction of many of our best known cathedrals and churches depended on this property and would have been impossible with semi-circular arches.

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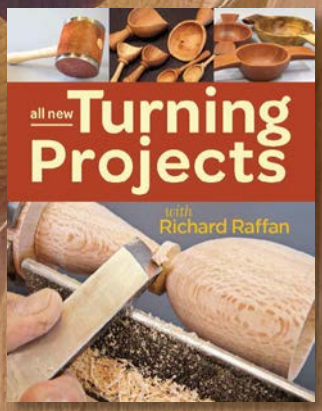

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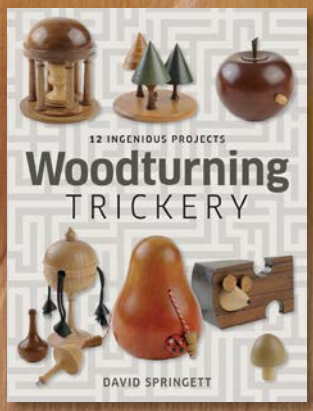

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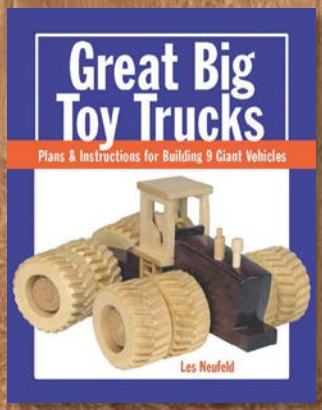

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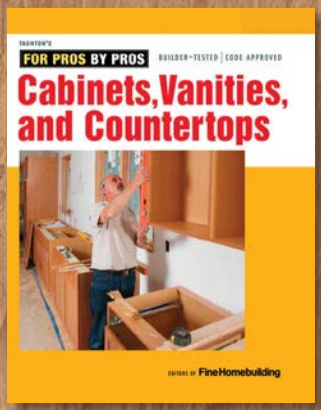

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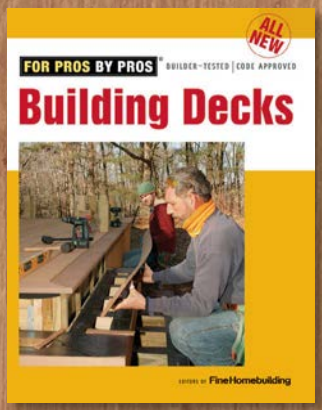

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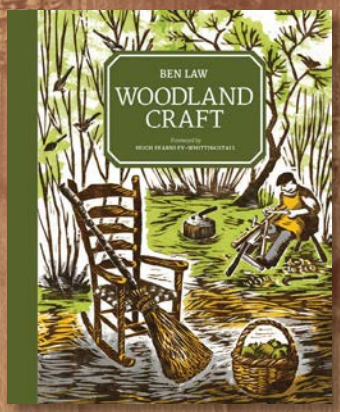

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PHOTOGRAPHS BY AMBER BAILEY

Kitchen sign

Amber Bailey makes a fun kitchen sign, using marquetry techniques

Growing up in the beautiful rural countryside of Sussex, I have developed certain ideals as to how a house interior should look. Living in a full house, the heart of the home was always the kitchen, a vision of traditional white and blue and the occasional farm animal motif. For friends everywhere I have found the perfect gift to be a kitchen sign that emulates this 'home-sweet-home' vision. A simple but extremely effective project that adds a welcoming rustic feel to any décor. Why not get inspired and see what other designs or household signs you could create?

Preparing the groundwork

1 Using a bandsaw or similar cut a plywood groundwork to approximately 227 x 107mm. Sand down the edges and the back surface to remove any rough splinters. With all the edges prepared, apply a spirit-based dye of your choice to all surfaces other than where the marquetry will be adhered. Unlike paint, spirit dye will allow for the wood grain to remain visible. This is especially important if you are making use of recycled material and wish to highlight this fact.

Cutting the marquetry

2 The assortment of veneers can be based on the colour scheme of the kitchen it will be displayed in. ➤

Health and safety

This project involves using a scalpel to cut the veneers. To avoid the blade slipping and causing any nasty accidents, make sure to cut at an angle, away from yourself.

1


2

WHAT YOU WILL NEED:

- Photocopies of the paper template/design
- Selection of veneers
- Scalpel (10A blade)
- Cutting mat
- Veneer press
- Bandsaw
- Fish glue
- Plywood (approximately 12mm thick) 227mm x 107mm
- Sanding equipment
- Spirit dye and brush
- Osmo oil and cotton cloth
- Light coloured wax

Suppliers

Materials:
www.axminster.co.uk,
or any well stocked DIY store
Veneers:
www.originalmarquetry.co.uk
or from your local veneer merchant

The background

3 Begin by cutting out a series of uniform squares in two alternating coloured veneers. Tape the squares into the appropriate pattern following the original design. Overlay onto the background veneer, using a scalpel to cut around so that the squares can be tightly slotted into place.

4 The rest of the design needs to be cut out of the background, as this will help create a tight template for the inner detail. Overlay a paper copy of the template and secure with tape to the background. Use a scalpel to cut out the outer lines.

The lettering

5 With the lettering veneer temporarily taped in place, flip the marquetry over so it is face down. Using the background as a template, cut out the lettering with the scalpel.

The chicken

6 For the chicken marquetry, follow exactly the same process as for the lettering, making sure to work from the inside edges outward. The paper template will be needed for cutting out the detail of the chicken.

7 For each individual piece of veneer, fit the veneer into its correct position in the background and then overlay the template to cut out any necessary extra detail.

Preparing the design

8 Before jumping straight into cutting the design, it is important to have decided on the angles of grain direction as this will affect the aesthetics of the piece and help enhance its three-dimensionality. As a general rule the grain should follow the longest lengths of each section in the design. To help plan this, draw the according lines onto a master copy for reference.

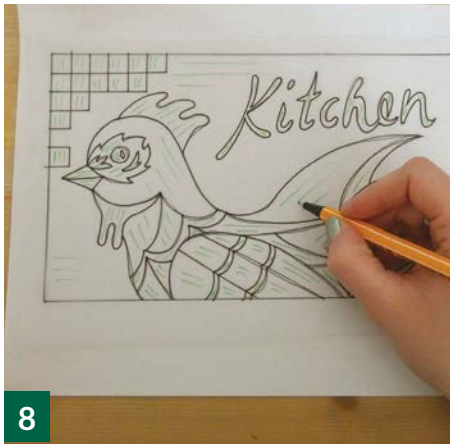
Gluing up

9 With the marquetry taped up into one piece, it can be glued down in its entirety. Apply an even layer of fish glue or other adhesive of your choosing onto the groundwork and press the marquetry into place. Temporarily tape down if necessary to stop it moving out of position, however this should only be for the first hour and removed after some adhesion has occurred to prevent dents damaging the surface. The marquetry needs to be pressed for at least 12 hours to allow for it to dry, it is advisable to have the marquetry between sheets of acetate to avoid any excess glue sticking to the press. Once dry, any excess glue or waste veneer can be cut away and all tape can be removed ready to prepare for finishing.

Smoothing

10 It is likely that using Sellotape to temporarily adhere the marquetry will leave sticky residue on the veneers. Removing these marks can be achieved through a mixture of cabinet scraping and lightly going over the surface with a portable sander. It is extremely important to keep the sander straight and only press very lightly as it is far too easy to wear down the surface of the marquetry.


7



8

9


10

11

12

11 This is also a good method to use if there is any serious difference in veneer thickness. With the surface clean, the marquetry can be scraped and have a final smoothing with fine grade abrasive wrapped around a block.

Finishing

12 With a piece of soft cotton cloth, apply a layer of Osmo oil to the marquetry and then buff off any excess oil with a clean piece of cloth. Repeat this process a number of times until you are happy with the appearance of the finish. The first will be acting as a sealant and furthers will be needed to build up colour and sheen. At least several hours drying time will be needed between each layer then a minimum of 12 hours should be left after completion before finally buffing the panel up with a clear or light coloured wax. ■

Fixtures

When adding fixtures to the back of the panel, ensure they are as strong as possible so there is no danger of breaking under its weight.

Amber Bailey

Amber is a skilled marquetarian and surface design artist who graduated from Bucks New Uni in 2014. She is now based in Paris at the École Boulle where she will complete her studies in the art of marquetry and Boulle metalwork, continuing with this traditional decorative skill.
Web: www.abmarquetry.com

A homemade extraction sub-base and outlet pipe

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

ROUTING EXTRACTION

The Editor has the 'not so dusty' answers to the perennial problem of wood dust extraction

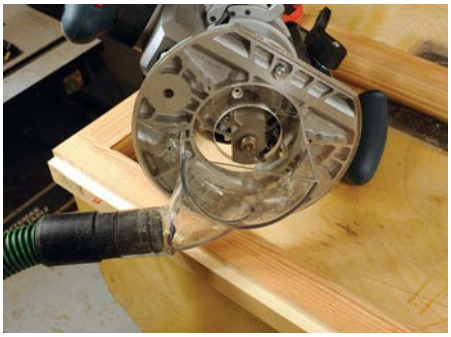
We often show photos of routers in use without extraction fitted so you can see what is going on. In fact, extraction is necessary wherever possible but there are issues around using it, including restricted vision of the work area, cumbersome hoses, ineffective extraction and incompatible components. Here are some ways you can work and breathe more safely.

Visible dust is choking but finer dust particles of one micron or less are damaging to health as they can penetrate skin and lung tissue. Therefore, dust should always be removed at the source as much as possible with any dust creating operation.

Most routers and other power tools come with some means of extracting dust and chippings. It pays to check before purchase how good these devices really are. Most are clear plastic add-ons, but better extraction is built into the machine.

You need an HPLV (High Pressure Low Volume) extractor which may look like an industrial vacuum cleaner but has filtration designed to deal with wood dust. The better ones have auto-switching that comes on when you start the power tool and runs on afterwards to clear dust fully from the extraction pipe.

Working overhand the router's own extraction will generally work quite well, but the router needs to be guided properly as vision of the cutter on the workpiece may be restricted.



Edge machining is messy unless the fence is fitted with an extraction bowl, which is then connected to the extractor. It may be possible to create a homemade solution that will fit on your fence so long as it doesn't contact the cutter at all.

Router tables come with an extraction port fitted in the middle of the fence, which is satisfactory for operations where the workpiece runs against the side of the cutter as the chippings are thrown towards the extraction port.

There are other table operations when you might need to adopt other solutions. These can either be overhead or to one side and may consist of just a pipe and a collection spout placed where most waste is being ejected.

Always maintain and use a kit of PPE (Personal Protection Equipment) as necessary. Use safety glasses and good quality dustmasks, not simple 'monkey masks' which don't stop fine dust from passing through.

Woodworking is always going to be a somewhat messy activity but there is a big difference between 'lying dust' and 'flying dust' – the latter being the risky stuff. You get special workshop air filters that are designed to remove very fine dust particles from the atmosphere and are left switched on all the time you are working. ■

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PHOTOGRAPHS BY GMC/ANTHONY BAILEY

DIY

Window repair

The Editor had a rotten time trying to see his way to doing a window repair, but the answer soon became very clear

Being 'Mr. Helpful', I answered a call for help about a rotten window by coming up with a crafty solution that didn't entail replacing the entire window casement (the frame the glass is mounted in when side hung). I don't like just making new; I prefer to repair and restore if I can and this window wasn't as bad as it looked at first sight. It just needed some ingenuity to repair it without managing to break the glass in the process. This sort of joinery needs similar care and attention to detail as furniture restoration – believe it or not!

1

1 There was some heavy putty work that concealed some hideous wood rot in the bottom rail where water had penetrated behind the original dried-out putty. Modern window installations tend to use silicone which is much more flexible.

2

2 The first task was to remove the window stay from the defection bottom rail. The screws in the frame weren't very keen to come out, so a pair of pliers did the trick once they were partly extracted.

3

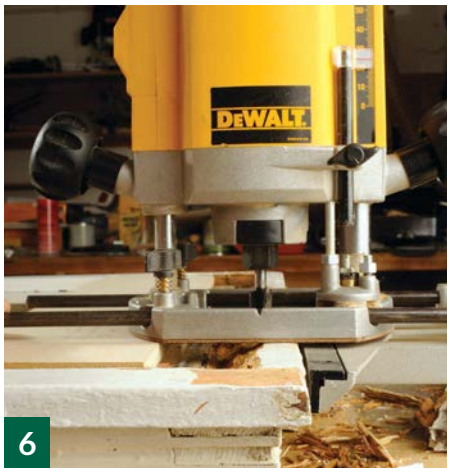
3 Now the putty could be gently prised away to reveal the disaster zone. Maybe I had miscalculated and a completely new frame might be in order after all?

4

4 Normally the joints would be held with a star dowel or a nail but in the absence of my metal detector I used a chisel held vertically to scrape the paint back to bare wood. I did this on both sides to find the errant metalwork that was holding the frame together, but without any luck. ➤

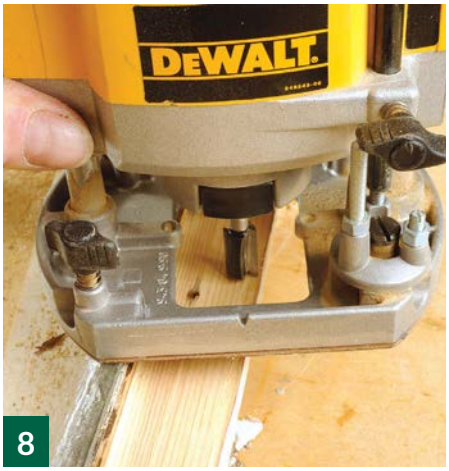
5 I soon found a single panel pin that held the glass when it was first installed. I didn't want any metal present in the frame that could damage tools during the work.

6 I had a cunning plan; I decided to try to rout the rot damage away, back to 'clean' wood. That was the idea anyway. So I laid a piece of MDF on veneer packers on the glass so the router could sit level while machining.



7 The router with a 12mm straight cutter and fence was placed against the edge of the bottom rail as it still had enough integrity. I wasn't sure exactly what would be left of the rail after this operation, it was a bit of a leap in the dark.

8 Here, you can see the first run. Carefully pressing the fence against the rail seemed promising except it revealed rather alarming rot closer to the glazing. More machining to go before I could really see what decent wood was left.



9 During the second pass with the router I finally found the pins holding the frame together. Fortunately, they didn't damage the router cutter. I machined along both sides of the frame to remove the remaining rot and then cleaned up with a chisel.

10 This left a standing strip of wood under the glass, which I flush cut away using a Japanese pullsaw, leaving a 'level playing field' which I could lay a new piece on.

11 By careful measuring I was able to work out a glazing rebate size and machine a section for the bottom and the sides of the frame. I opted for tulip poplar (*Liriodendron tulipifera*) usually dismissed for exterior work in the UK, but often used as such in North America.

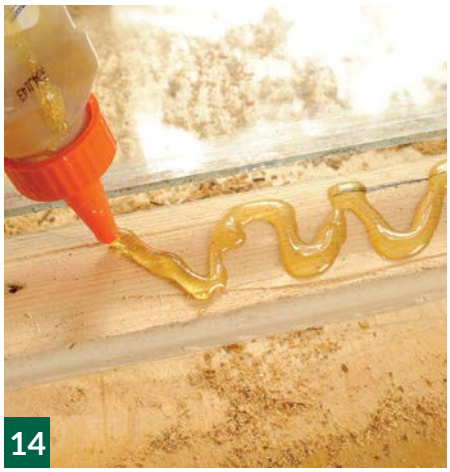
12 First of all I tried the bottom section in place and increased the rebate slightly on the router table. The ends would be cut off slightly once repairs to the sides had been done.

The left side had a new piece let in, with a bevelled top end following the line of the chopped out damage. I made sure it was a tight fit to prevent water penetration.

13 A larger piece was fitted into the right hand side, the top end in this case was bevelled downwards to prevent water getting into the joint. Then the new bottom rail piece was cut step fashion at each end to hold the side pieces in place.


13

14 The only glue I felt was suitable was PU (polyurethane) which is strong, cures with moisture and is gap filling. All meeting surfaces had some on them to ensure good bonding.


14

15 Plenty of quick clamps were used to ensure nothing sprang apart as the glue started foaming. The exuded adhesive would be trimmed off once the glue had cured.


15

16 Where the side repair pieces projected from the existing frame I chiselled it flush using a sweeping motion rather than paring downwards which could have broken the glass.


16

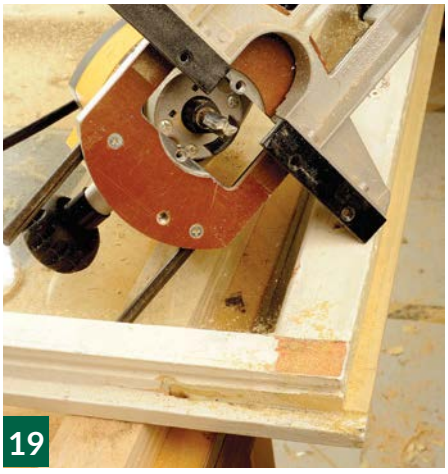
17 The bottom rail infill was levelled using a small rebate plane and the ends finished off with a chisel where the plane couldn't get into.


17

18 Now the faces and edges needed levelling and blending into the frame profile. Here, my Record No.3 plane was ideal for trimming off flush. Tulip poplar is a rather dull looking wood but it does cut cleanly and easily off a sharp blade.


18

19 At the rear of the bottom rail I needed to machine a weather rebate to match the sides. Fortunately, the router fence had removable facings that could be refitted so they projected low down to run along the new edge of the bottom rail.


19

20 The glass needed careful re-puttying using the curved edge of a putty knife after pushing freshly kneaded putty into the glazing rebate and making neat corners. The putty was then undercoated and left to dry prior to applying top coats of white gloss. The paint needs to run on to the glass in a neatly 'cut' line to seal the joint between the putty and the glass as this is where water will eventually get in. Well, now this window should be good for a few more years yet! ■


20

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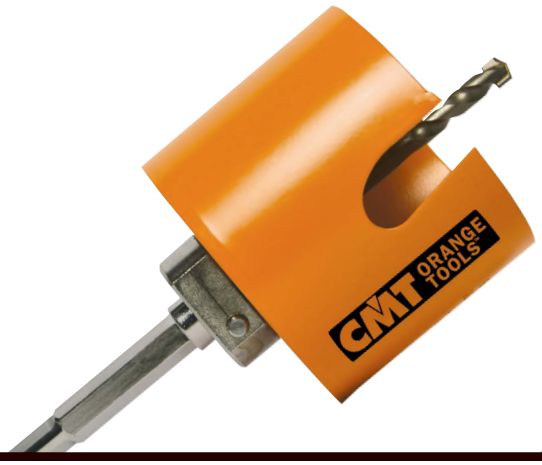

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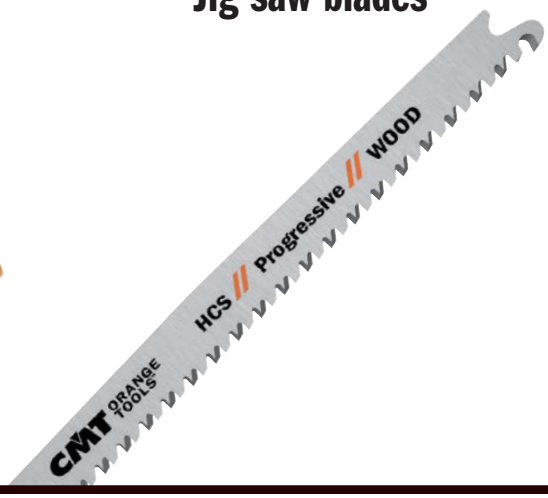

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Shaker-style Wall shelf with pegs

Michael T Collins pegs his reputation for quality on this Shaker-based project

PHOTOGRAPHS BY MICHAEL T COLLINS

WHAT YOU WILL NEED:

Tools

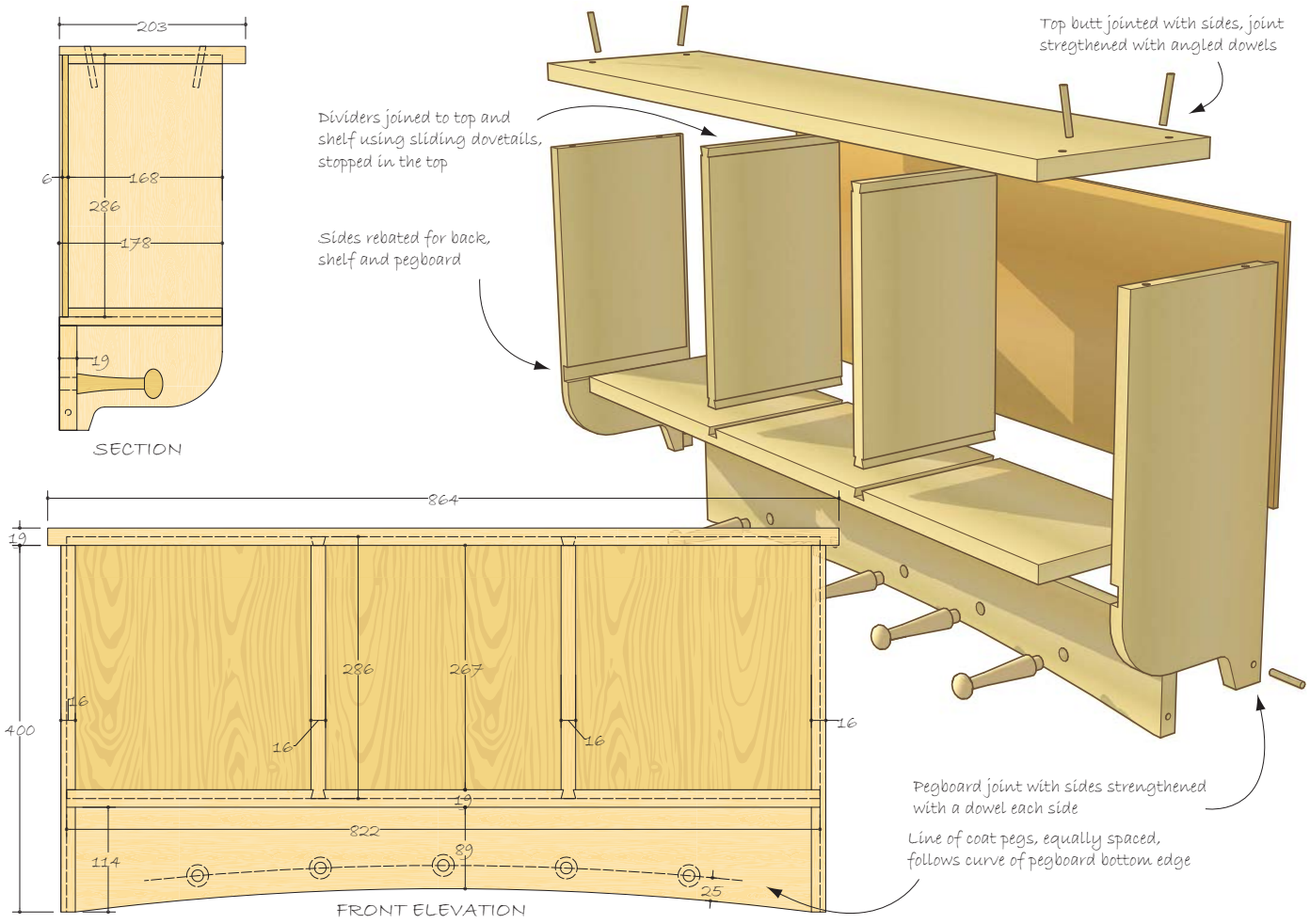
- Crosscut saw
- Router plane and ¼in cutter
- Chisels – 10mm, 20mm & 25mm
- Mallet
- Combination or shoulder plane
- Bevel gauge
- Carpenters square
- Cutting and mortise gauge
- Marking knife

Wood

1 top – 19 x 200 x 860mm
1 bottom – 19 x 180 x 820mm
2 sides – 16 x 180 x 390mm
2 shelf dividers – 16 x 170 x 285mm
1 peg board – 19 x 100 x 820mm
1 piece Baltic birch back – 6 x 285 x 822mm
5 screw-in shaker pegs available from **www.rockler.com** (or can be turned on a lathe)

We have lived in our house for over 20 years and the entry-mud room can get very cluttered with coats, gloves and scarves, especially during the long winter months. Several years ago I made a simple coat rack with a few hooks, but it came time for a change. We needed something that could not only handle the number of coats my wife has, but also the keys and other paraphernalia that just get dumped on entering the house. It was decided that we needed a new shelf and coat rack.

The Shakers had a very minimalist lifestyle and this way of life was reflected in the style of their furniture; minimalistic, no frills and elegant, which centuries later is still very popular and highly sought after. Most Shaker furniture is now in private collections or in museums. It has a long and detailed history, one that continues to be remembered by those who appreciate fine furniture as works of art as well as highly functional objects. ➤



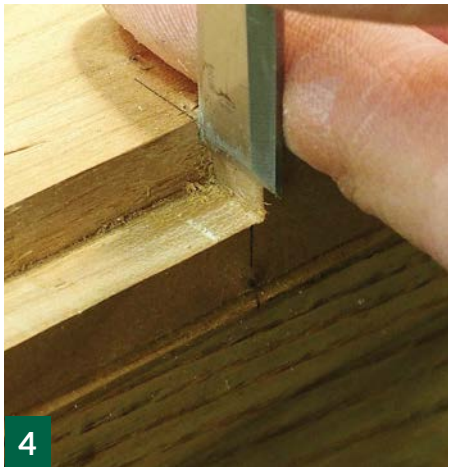
Cutting the rebates

1 Prepare the wood to the finished dimensions, square and plane all ends. I like to mark all rebates with a cutting gauge, this provides a clean shoulder when planing the rebate. The back panel is housed in a 9 x 9mm rebate on the inside of the side, bottom and top boards.

2 Create the rebate on the bottom and side boards with a combination plane. Place the wood flush with the edge of your bench – this gives additional support and stability and is more likely to create a square shouldered rebate.

3 The top board has a stopped rebate which can be planed just like the other pieces, but some additional work is required. Mark and gauge the limits of the rebate as before and then chop out and pare out a 50mm section at the left end.

4 Set the depth stop at 10mm and plane the rebate. You will need to clean up the section of the rebate on the right end with a chisel.



Peg board rebate

5 Once the rebate is planed on the side pieces, mark a section that is 19 x 115mm on the lower end, for the peg board ends, which can be cut using a chisel.

The sliding dovetail socket

6 The top and bottom sockets are made in essentially the same way but the top board is 25mm wider and the dovetail sockets do not go all the way through. In this situation, simply rip 25mm off the front edge, joint the two pieces then cut all the sockets and glue the piece back on. Take the bottom board and evenly space the two dividers along the length. Don't forget to allow for the 9mm housed in the side's dado. With a combination square and the dividers, lay out the position of the sockets – carry the lines down the front and back edges.

7 Next, position the top board so that it is centred on the bottom board and transfer the socket locations – this removes the need to measure the positions, and avoids introducing error caused by inaccurate measurement.

8 This dovetail is only 180mm long and affords an opportunity to try sawing angles freehand. Practise on some scrap material if you do not feel confident. Mark the 9mm depth of the socket and come in 3mm (approximately 18°) then connect this inner line with the lower corners – repeat this for all the joints at both ends of the joint.

9–10 Continue the lines across the board and deeply score with a marking knife, then with a chisel create a 'V' notch. You can do this in two ways – draw the chisel towards you or pare away the waste.

11 Now saw down on the waste side of the line. Check the saw's location at the back edge.

12 Pare away the bulk of the waste with a narrow chisel.

13 Clean up the socket with a plough plane (adjusting the depth gradually). Here, you can see I have put some masking tape on the sole to protect the wood. Because of the nature of this joint too much cleaning up with a plane will change the fit of the joint.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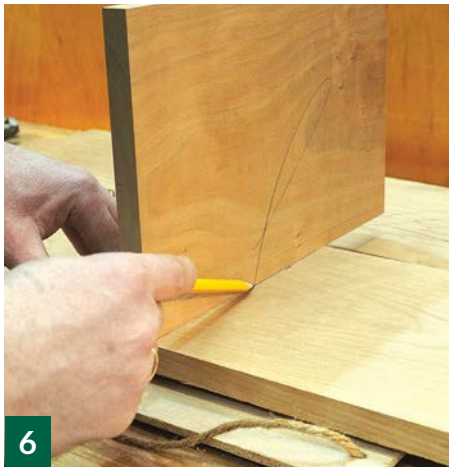
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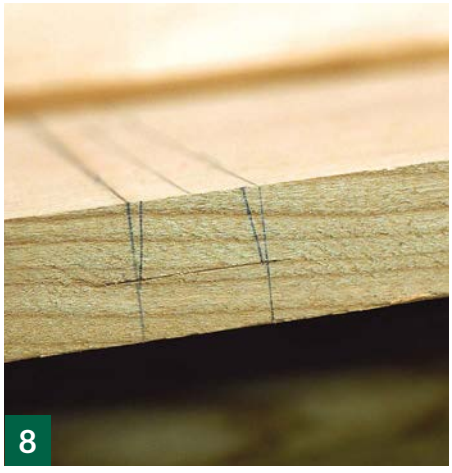
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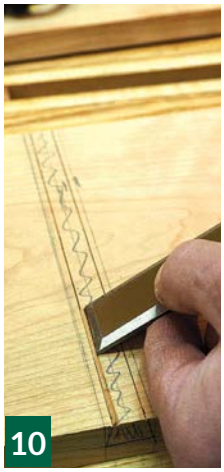
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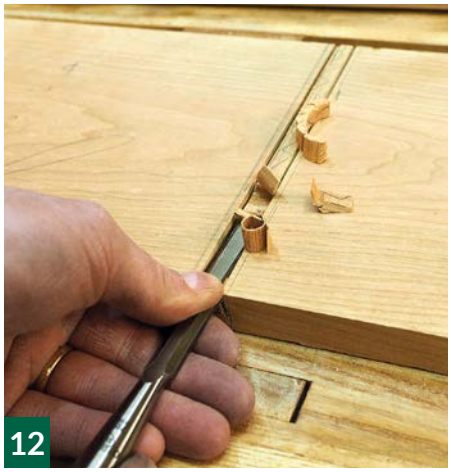
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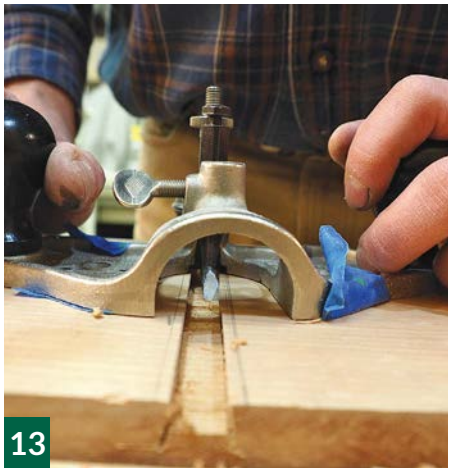
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Cutting the tail

14 Take the depth of the socket and using a cutting gauge, mark the ends of the dividers.

15 Using a bevel gauge take the same angle used for the socket and transfer it to the divider.

16 Saw down to the 'root' of the tail, then remove the waste by whatever means you like.

17 In step 16 you can see that I am paring from the corner to the bottom of the saw kerf. Test fit the joint, it should slide together with just a little resistance, too much and you are likely to split something, too little and it will be a sloppy joint.

Handy hint

To remove the joint it is sometimes easier to push the dovetail all the way through – this way you are not trying to reverse the direction of the crushed fibres.

Cutting the dados

18 The dados are cut using the same technique as the dovetail sockets – only sawing vertically down. Pare away and use the plough plane to clean up the joint.

The peg board

19 The curve on the peg board is easy to achieve with nothing more complicated than a piece of 25 x 6mm straight grained wood and a piece of string. Select the desired curve and draw the profile. Saw the profile using a coping or bow saw.

20 Then, clean up the surface with a spokeshave or compass plane (remember to always plane 'downhill'). Leave a slightly flat area at each end – this will blend in with the bottom of the ends.

21 It was at this point I decided that rather than a squared off finished to the bottom of the sides, I wanted a curved profile. This was cut using a bow saw.


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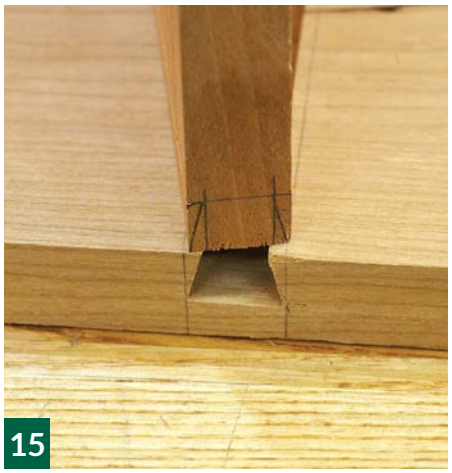
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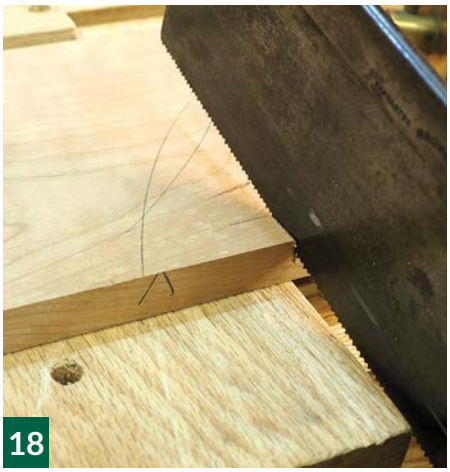
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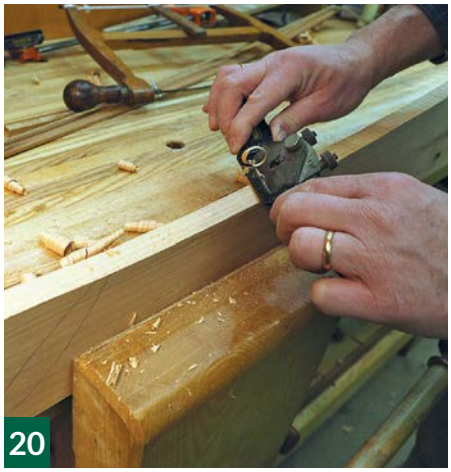
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22 Test fit the parts to make sure they go together well.

Glue up

23 Start by gluing the dividers into place. Spread glue in the socket only at the entry end – this way the glue will be smeared the length of the socket as the joint is brought together.

24 Now glue the side pieces into place. The top is a glued butt-joint and is pegged at an angle, creating a strong joint. The top of the shelves could also be nailed.

25 Glue the piece that was ripped off the top back in place, making sure that you get the grain direction correct. Glue the pegboard into place. Both these joints are long grain to long grain and will form a strong joint with just glue, however because the pegboard will be taking a lot of weight (at least in our household…) I also pegged the lower end to the sides. Glue the back panel in place and add a few nails to secure it.

Installing the pegs

26 I used screw-in pegs for this project and used a combination square to position them 25mm from the bottom of the curve. This way the pegs match the curve of the board and add a little visual interest.

27 Pre-drill the holes and then screw the pegs home. The shelf is supported with a couple of brass picture hangers – remove enough wood from the rear so that the hangers lie flush with the back of the shelf.

The finish

28 Sand all the surfaces with 180 through 320 grit paper. Wipe off the dust, then flood the surface with natural Danish oil and let it sink in for about 45 minutes. Remove any excess and allow it to dry fully. Give the whole piece a light sand with 320 grit and then apply another coat of Danish oil. Depending on the degree of lustre you want, you can repeat this a couple more times. Rub out the final coat with 0000 wire wool. Finally, apply a good quality furniture wax and buff to a shine. The next step is to make three boxes that fit on the shelf, but that's for another time…

Now step back and admire the minimalistic lines and style of your Shaker shelf and at the same time help create a simpler, minimalistic life for yourself by sorting out all those winter coats, gloves and scarves. Now, where did I put my keys? ■


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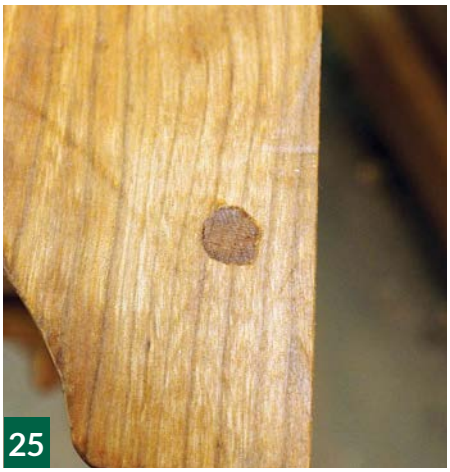
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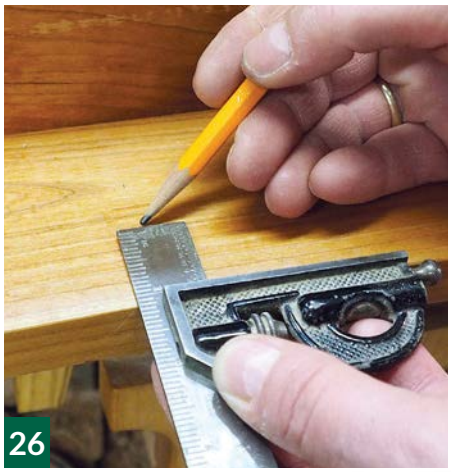
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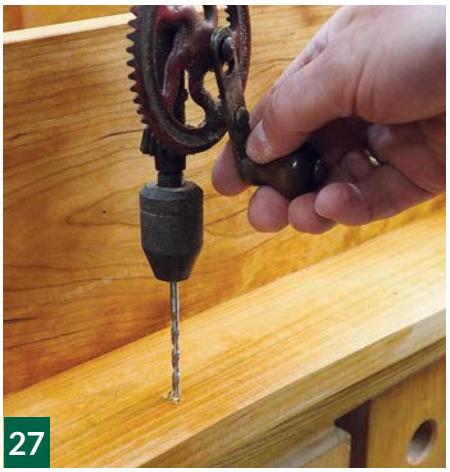
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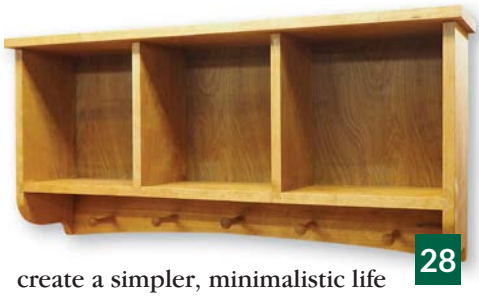
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Next month…

Michael makes a Shaker bench

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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CLIMB CUTTING

STAR QUESTION

Running end grain against a bearing guided cutter can cause an unexpected kickback

"Your last routing article mentioned 'climb cutting'. I've found several references on the web, but I'm not sure if I should be doing it or if it's even safe? Occasionally when I'm routing, if I slip, the router races backwards which can be alarming. Is that climb cutting, going the wrong way? How do I avoid doing it accidentally?"

Barry Smales

Anthony replies: Climb cutting is where either the material or the router is fed not into the direction of rotation of cut, but with the same direction of rotation. Where you machine around a corner shape and then across the end grain the router can 'kick back', going suddenly in the wrong direction which is what you have described and is rather like controlled climb cutting.

I used the term controlled because climb cutting can only be done safely if it is under some form of control or the result can be alarming and possibly cause unexpected damage to the workpiece.

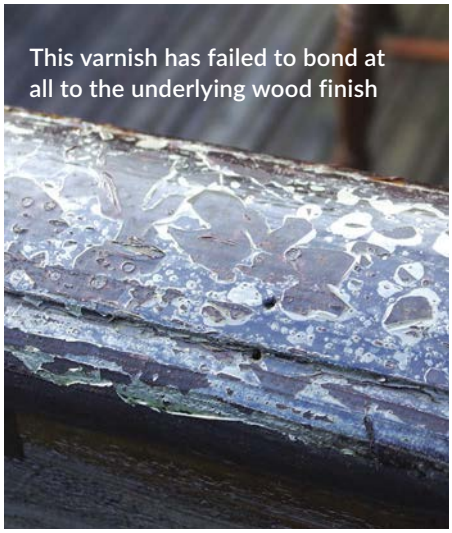
There are a few times where it may be of use. An obvious one is obtaining a smooth finish on grain where conventional cutting might tear it up, using a relatively light cut or cuts. It can also be used like this if you get burning on end grain. Just run the router backwards after the last cut and it may be enough to take off the superficial burn marks. However, deep climb cuts are out of the question because the cutter is entering the wood in a way that it is not intended to do and consequences could be serious. The answer is it is much safer to stick with conventional cutting technique.

PEELING OFF

"Last year I decided to improve the look of some dark finished exterior woodwork by putting a coat of varnish over the top of it but it has just peeled back and looks terrible. What have I done wrong and can I do anything about it now?"

Susan Cunliffe

Anthony replies: Normally you would expect exterior quality varnish to stick to anything but if you try to apply it to an 'unlike' material then it may well not want to bond properly. Varnish forms a skin of its own and needs to be able to grip properly. This is fine on bare wood where it enters the grain although the first coat can benefit from thinning down slightly using the correct thinning agent, for oil based varnish this would be white spirit. Whatever was used before – it looks like Sadolin or something similar, it would have been much better to recoat using the same product. Another point to bear in mind is a new coat of finish will grip far better if the old finish is 'keyed' using abrasive paper to roughen the surface. Unfortunately I think you will have to wait until the varnish has largely peeled off before attempting this although rubbing down with abrasive paper may help to loosen and remove it.



This varnish has failed to bond at all to the underlying wood finish

TURN OF THE SCREW

When I helped clear out an elderly neighbour's shed recently I found lots of screws and fittings. I use modern twinfast screws most of the time but this was a really messy assortment of Pozidrive headed screws and traditional steel and brass slot headed screws, nails and panel pins plus all these fittings, hinges, etc, etc. There were loads and loads and the thought of trying to sort them all out made my heart sink but I don't like the idea of just chucking them away, this guy was a real hoarder though. Do they all have a use?

Most of this is junk but it can be recycled

Anthony replies: If you think of all the millions of screws, nails and fixings down the years that have been wasted and just thrown away, it is quite an alarming thought. It seems a real shame but you have to be realistic about what is worth keeping. I'm quite fussy and have settled on certain brands and types principally screws with a deeper modified crosshead that drive in really well using an 18volt cordless drill. However for decorative or important visible fixing I still use brass screws. I rarely use nails these days only panel pins. This illustrates how fixing methods have come on over the years. Fixings and hinges might be useful but when? Unless you have a definite need for all these different screws and nails and endless time to sort them into sizes and types, I would suggest a trip to your local recycling centre where they can enter the recycling chain and be turned into something more useful.

FOOD SAFE FINISH

I have been trying to work out what finish I can use on chopping boards and serving boards, that will not taint the food smell-wise and, of course, one that will be food safe. Do you have any suggestions?

Gina Richards

Mark replies: Firstly, use a timber that is close grained and does not have a discernable smell that lingers. Common close-grained hardwoods like sycamore, beech, fruitwoods and also olivewood would be good to use if you can get some. But, as far as finish, you can buy food-safe ones, that will not taint your food's flavour. I typically use oils, or oil and wax mixes, as the finished surface can be easily sanded and refinished if it gets grubby or damaged. Food grade mineral oils work well. Steer clear of using cooking oils as some have begun to smell odd over time, so I tend to stick to those that are tested and marked as suitable for such use. I hope this helps.

Right: Use finishes that are sold as 'food safe'

CLOCKWISE

I've acquired a full length cheval mirror for my wife, that is a long oval mirror on a stand which needed a bit work gluing veneers in place and a touch of French polish, I left that to a professional to deal with as I'm just a beginner at woodworking. However, my wife has complained that the mirror keeps tipping forward when she tries to tighten the drop handles at the side. One seems to have worn loose and won't grip properly.

Dave Newman

Anthony replies: Now this sounds silly and I certainly wouldn't want to embarrass any reader of the magazine, but has she tried turning the handle in question the other way? Both screw threads should be clockwise, so each one is tightened up that way, even though standing in front of the mirror you would think they would both tighten either towards or away from you, they don't in fact. Hopefully this advice should sort out the problem.

Turnscrews always have clockwise threads

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.

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Postbox

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Things you will need

- Hardwood and plywood pieces
- Sliding bevel
- Plane
- Aliphatic resin glue
- Damp cloth
- Drill and drill bits
- Screws and screw cups
- Flush hinges

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

The lid won't hinge at the back, as the wall is in the way, so hinge the front edge instead!

This exterior postbox can be fixed inside a porch or bolted to a garden wall, using two screws and wall plugs.

I used sapele (*Entandrophragma cylindricum*) but any decent hardwood will do, using a varnish finish to weatherproof it. You could also paint the house name or number on it.

The postbox external dimensions are: 380 x 230 x 100mm, excluding the lid which overhangs at the front and sides. Most postal items should fit in the box.

1 First, mark a rainwater runoff angle on the side pieces with a sliding bevel; the angle isn't critical. Cut the sides to shape then cut out the back and front pieces. Use plywood for the bottom if you don't have enough hardwood left after making the other components. The bottom fits inside to keep the postbox weatherproof. Plane the edges smooth.

2 Glue all of the pieces together using weatherproof aliphatic resin glue. Carefully fit the box components together and weight them down until the glue has set. Wipe away excess glue with a damp cloth.

3 Carefully mark, drill and use screw fixings to ensure it all stays together, whatever the weather. Add screw cups for the front fixings as these look better than just screws on their own.

4 Add a bevel at the back edge of the lid, so it will fit neatly against a wall. Use a smoothing plane for this and take care to make it even from end-to-end.

5 Lie the box on its back so the lid sits flush at the back before marking the hinge positions. Fix the hinges to the lid first then to the box. Finally, apply several coats of exterior varnish. Remove the lid to drill and then screw through the back and into the wall. ■


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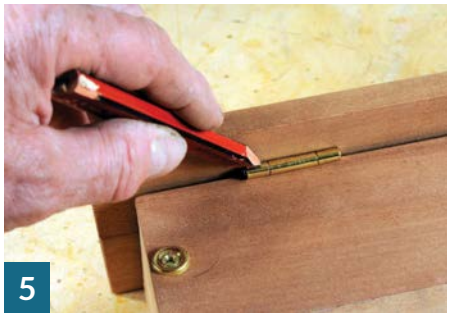
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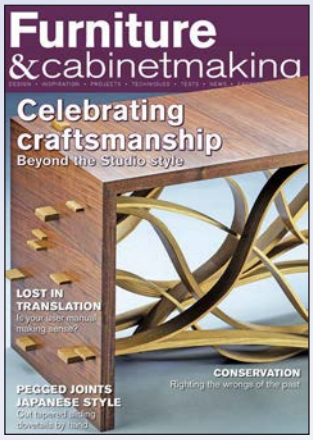

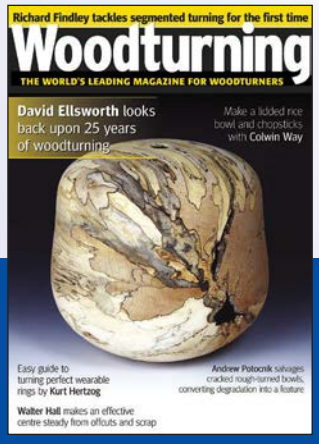

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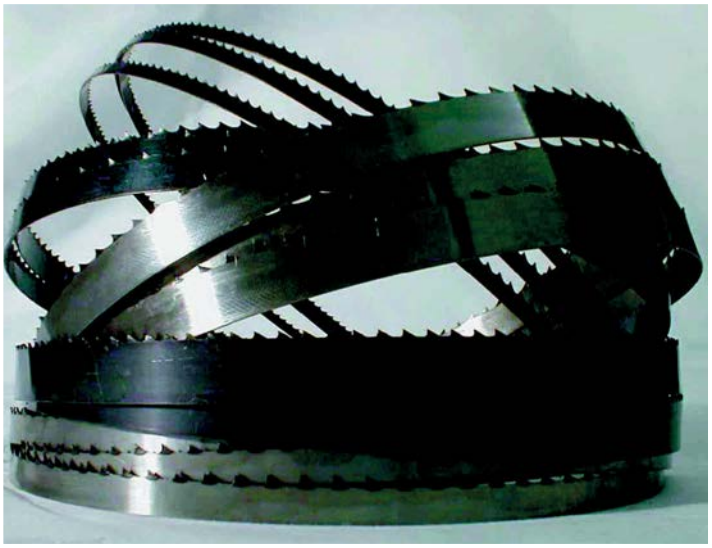

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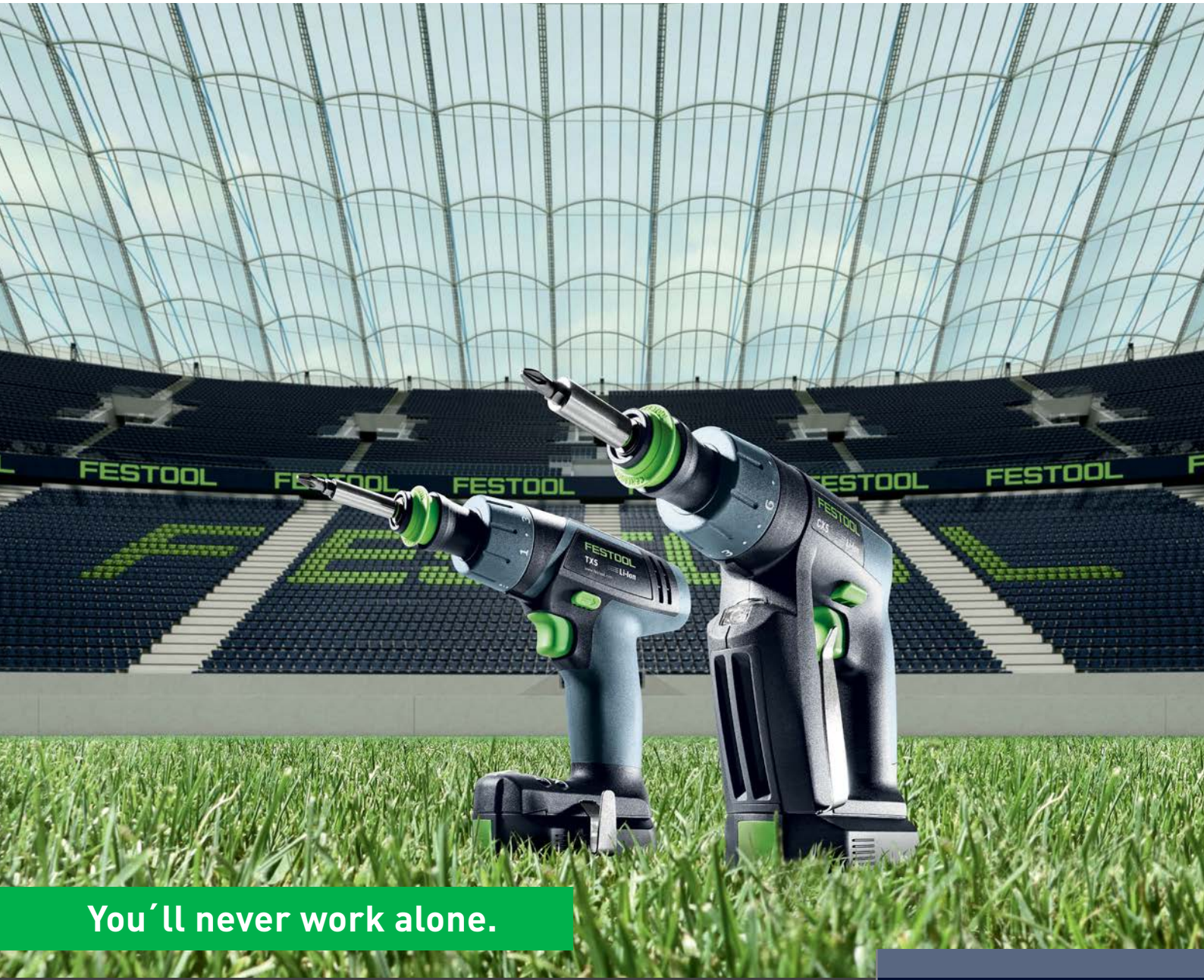

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